



August 2014 FVEAA Newsletter

Fox Valley Electric Auto Association

The FVEAA is a Not-For-Profit Illinois Corporation and the Chicago Area Chapter of The Electric Auto Association

Next Meeting

August 15, 2014

Community Christian Church

1635 Emerson Ln

Naperville, IL 60540

[Google Map](#)

Agenda

- 6:30 Doors Open
- 7:00 Call to Order, Welcome and Introductions
- Committee Reports
- Old Business / New Business
- Open the Nominations - for next month's elections
- Presentation: Ted Lowe - J1772 Details and the OpenEVSE project
- Break - Leaf Ride n Drive
- Presentation: Damian Herd - Electric Vehicle Business Development Manager
- 9:15 Close

President's Words

Bruce Jones

Hi EVeryone,

Porsche Prelude

Before last month's meeting - for those who could make it - Mike Willuweit showed the excellent progress he has made on the Porsche 944 conversion from Lead acid to Lithium. Of special note were the Kevlar and polystyrene foam board battery boxes that Jeff Miller helped build with Mike and Ted Lowe's assistance. Jeff has been involved in the airline industry and prepared the three boxes (one in front and two in back) which are extremely sturdy. The car will hold 52 cells and run at 168 Volts. It's going to be zippy!

BMS

John Jeide presented various aspects of BMS battery management systems that he picked up over the last 8 years of experience on the subject. Thanks John!

Dodge Dakota Progress

David Zygmunt was unable to make the meeting as a sudden business trip took him to Seattle. Filling in for Dave (who will present his Tesla trip west another time) was Ted Lowe and Bruce showing progress on the Dakota quad-cab pickup truck conversion from lead acid to Lithium.

Ice Arena Commemoration

The meeting at the Fox Valley Ice Arena went very well last month as we commemorated the dual Chargepoint EVSE with Laurie Metanchuck, the Director of Community Affairs for the Kane County Park District. FVAA Secretary Grant Gerke called the Chargepoint help desk number listed on the unit, and they immediately sent a command to remotely unlock one of the ports, which he plugged into his Tesla Model S. The charger is FREE and located at the south parking lot at the Ice Arena 1996 S Kirk Rd, Geneva, IL. Check it out and charge up!

Road Trip! Wanxiang New Energy Division Solar Panel Manufacturing Facility Tour Wednesday July 30

Eleven of us had a great time at Wanxiang on July 30 in Rockford touring their solar panel manufacturing facility and solar farm. Thanks to Daniel Li, Senior Project Manager and Brent Anderson, Operations Manager of Wanxiang who coordinated with us. Brent was extremely knowledgeable about all aspects solar panels and the solar panel manufacturing process. He took us onto the manufacturing floor, showing and explaining how the panels are made. We had about a 45 minute plant tour + 45 minute solar farm tour.

<I'll show a few slides of the trip if there is time at the Sept. meeting.- Bruce>



FVEAA Attendees at the Wanxiang solar panel manufacturing facility near Rockford, IL



Brent Anderson of Wanxiang describes the construction and operation of their 3 MW, 10,000 panel solar farm near the Rockford airport.

Nominations

Officer Nominations will be opened at the August meeting, to be concluded with the elections at the September 19th meeting. Think about who you want to nominate for President, Vice President, Treasurer, Secretary, and the three members of the Board of Directors.

Backup

Rich Hirschberg and I will both be out of town this August 15th due to separate college trips for our daughters but the meeting will be in the capable hands of Ted Lowe. Thanks Ted!!

Sincerely,
Bruce

FVEAA is on Facebook - Like Us!

Grant Gerke

<https://www.facebook.com/FoxValleyElectricAutoAssociation>

This Month's Presentations

- **J1772 Details and the OpenEVSE project**

Ted Lowe will introduce the OpenEVSE project, an open-hardware EVSE. He will go through the J1772.pdf file from that project which presents many excellent details on the J1772 standard. Here's a link in case you want to prepare before or study afterwards: http://www.fveaa.org/fb/J1772_386.pdf

- **Nissan Presentation and Leaf Rides**

Damian Herd, the Electric Vehicle Business Development Manager, EV Sales Operations, Nissan North America, Inc. will be speaking at our next meeting. Thanks to Rich Hirschberg for connecting with Damian via Linked-In and arranging with her to present. She's coming all the way from Irving Texas to be with us, so hope all LEAF owners can join us this meeting... she'll also have a LEAF there to drive.

CCC Charger Update

Bruce Jones

We will officially commemorate the newly installed CCC charger at the Sept. 2014 meeting!



It's installed! The new Clipper Creek single port EVSE at Community Christian Church on Monday 7/21/2014 in time for the new sanctuary opening the first Sunday in Aug. Installation by Continental Energy Solutions



Clipper Creek CS-40, Level 2 charger, SAE J1772 Plug, 208 VAC, 32 amps. Church's electrical contractor installed one 40 amp 2-pole circuit breaker, pulled two 6 AWG (not to exceed 230') and a ground wire to the pole, about 180 feet from the electrical room.



Matt, and David of Continental Energy Solutions start the installation early on 7/21/2014



Wired up and solidly mounted to pole

Who is Elon Musk? Is he really a visionary, or just an astute investor? After watching his early investments grow wildly in SpaceX, PayPal, Tesla Motors, SolarCity, and Zip2, he is known for his aggressive promotion of new technology. His Tesla Motors has been successful by most definitions, and is "the only successful new American car company in more than fifty years," per Business Insider.¹ (Bonus Points if you can name the last successful American car company before Tesla)² Hint: it was American, and was sold to Chrysler.

As the Tesla production inches toward their third model (the Model X), Elon has announced tentative plans for a 'Gigafactory.' This is a cooperative effort with Panasonic to produce lithium ion batteries on a scale not dreamed of in the past. Tesla projects that by 2020, this factory will be able to supply 500,000 Tesla cars a year, and employ 6,500 people. Site selection for the first two sites is progressing, but even the most recent announcements seem to indicate no firm site choices.^{3 4} But how does this gigafactory impact our EV's. Projections from Tesla indicate a reduction in the battery cost of more than 30% by 2017, and their factory will not be finished at that time.⁵ The Electric Vehicle industry has long looked at 5% and 10% price reductions as 'substantial' but a reduction of more than 30% in cost would be astounding.

The other number that was astounding was the ability to supply a half million Tesla cars. That would indicate that by 2020 this 'gigafactory' would have output exceeding the entire world output of lithium batteries in 2013.⁶ Gigafactories are being planned now, and local incentives and zoning are being considered. Based on Elon's track record, I expect his plan to build the gigafactories will succeed, and he seems to have the time and money and knowledge to ensure this success. Where is all this going? I think this is a game-changer and we need to realize that big business doesn't see EV's as a 'flash in the pan,' but an ongoing addition to our transportation choices. Elon appears to be just a bit more than just a visionary and an entrepreneur.

Membership Update

Ted Lowe

We currently have only 93 paid-up members which is very low historically for the FVEAA. We live in a large metro area with 8 million people and EVs are the latest buzz so we should be able to grow the FVEAA! Please invite your friends, neighbors, family, colleagues, etc. to FVEAA meetings and Events and volunteer to attend Events on behalf of the FVEAA (with or without an EV)! Your ideas on how to help grow the FVEAA are welcomed at anytime, thanks!

¹ <http://www.businessinsider.com/tesla-profit-2013-5> retrieved 8/5/2014.

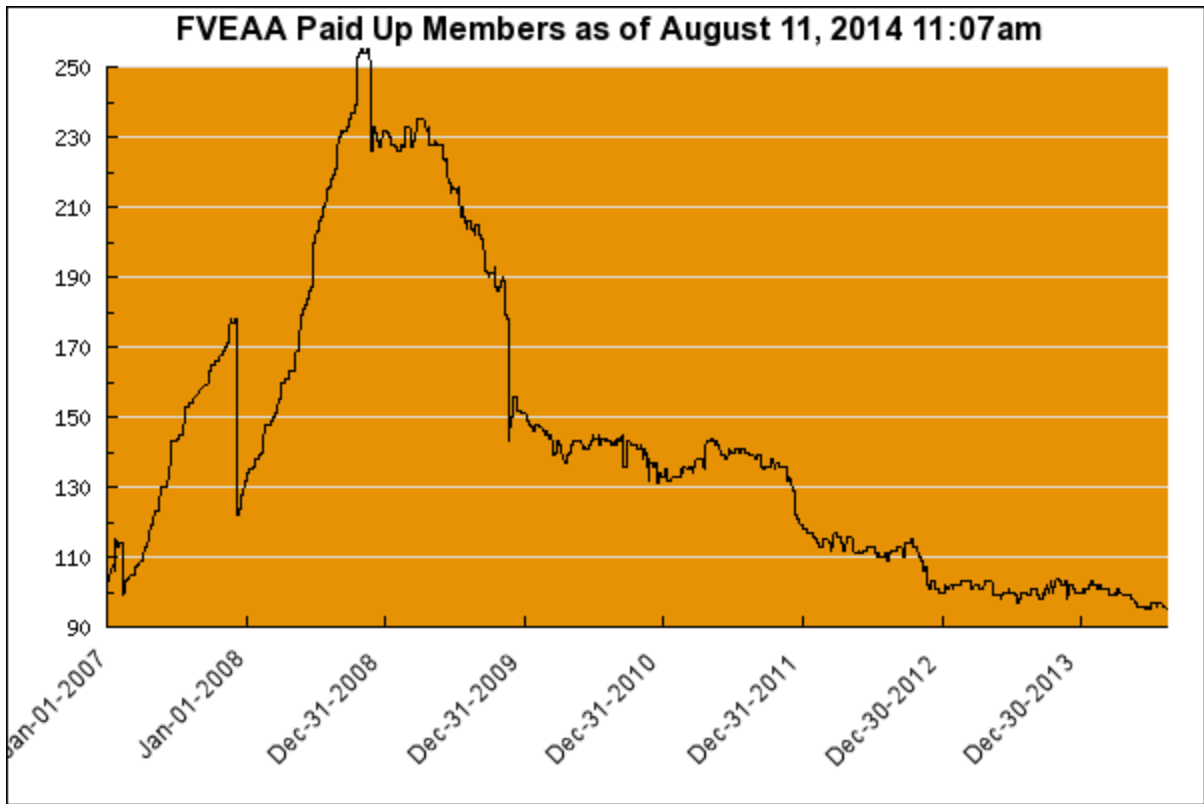
² Flory, J. Kelly (2008), *American Cars, 1946-1959: Every Model, Year by Year*, McFarland, p. 545, ISBN 9780786452309.

³ http://www.teslamotors.com/sites/default/files/blog_attachments/gigafactory.pdf

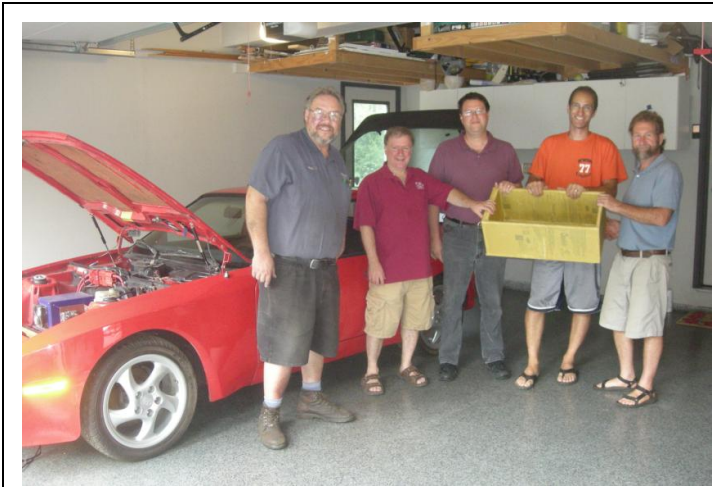
⁴ [Tesla Motors, Inc. 2014 Annual Shareholder Meeting](#), 3 June 2014, event at 52:30.

⁵ http://www.teslamotors.com/sites/default/files/blog_attachments/gigafactory.pdf

⁶ <http://venturebeat.com/2014/08/01/how-teslas-battery-gigafactory-could-change-everything-not-just-electric-cars/>



Last Meeting



At the cleanest garage around town.. FVEAA members with Mike Willuweit's 2005 Porsche 944. And super light battery box



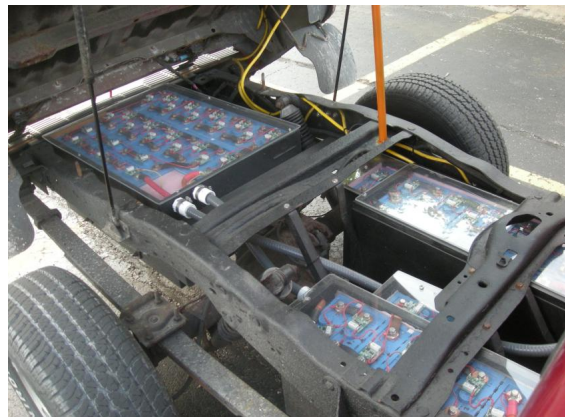
Mike Willuweit shows the strength of Jeff Miller's Kevlar and foam battery box design



Rear trunk battery boxes made of Kevlar and polystyrene foam - per Jeff Miller



John Jeide and recently converted Ford Ranger



John's battery assembly



FVEA with Laurie Metanchuck, Director of Community Affairs dedicate the new charger at the Fox Valley Ice Arena



Bruce Jones, Laurie Metanchuck and Rich Hirschberg with dual Chargepoint EVSE. Big THANKS to Todd Martin for arranging the donation for the Kane County Forest Preserve.



Fox Valley Ice Arena 1996 S Kirk Rd, Geneva, IL



Chargepoint Charger and sign

Meeting Minutes - July

Grant Gerke

OLD BUSINESS: Received a club inventory report from Rich Hirschberg, as he documented that the club has a banner, magnet sign, physical map with charge locations. A motion was made for a Assets Committee chair, no one took the bait yet.

Talked about the upcoming Wanxiang Solar Panel Manufacturing tour, see above.

Check out the Illinois Solar Energy Association (www.illinoissolar.org) and enter to win a Tesla Model S with a \$100 donation.

Talked about National Drive Electric Week, which will be held at the Naperville Test Track on Sept. 21. We will open to the public at 1 pm and FVEAA members with cars can arrive at noon. We will need help setting up and at this point are looking for any sponsorships we can find. At the meeting, we found out that dealers will probably not sponsor the event and Two Brothers Brewery of Warrentonville is out of the mix.

Rich Carroll's Blog "peeks" in on the Pikes Peak International Hill Climb.

John Jeide gave a presentation and overview on battery management systems, topics included voltmeters, multimeters, hydrometers, mini BMS and the accompanying battery types. He dove into active and passive BMS for lithium and explained differences. Active BMS example below:

Active BMS:

- Ex: Orion (Active ex. -- 72 cells)
- wire to each individual cell
- always on & balancing
- display on a screen & some leveling
- chemistry of the battery does not matter
- 1 to 5 volt cells

John also said, "I would not install LI-on batteries without some kind of reporting system."

Ted Lowe provided a rundown of the Dodge Dakota club car project, now 2 ½ sessions into the process. This is the first club car with LI-ion and Ted said it has a 1200 AMP controller and custom battery heating system. He said the Dakota truck will have reduced weighting due to removing the removing the 1700 lbs of lead acid batteries; those batteries were recycled. Onward and upward.

The meeting was adjourned at 9:30 p.m.

Membership Form

Ted Lowe

FVEAA Membership Application Form - Version 2014-01-01

Name: _____

Address: _____

City, State Zipcode: _____

Phone: _____ Phone Type: Home ___ Work ___ Cell ___

Email: _____

Please check one: New Member _____ Renewal _____

How did you hear about the FVEAA ? _____

Membership Types and Annual Dues (please circle one):

Individual	\$20
Business	\$100
Premier Business	\$250
Charter Business	\$500

Newsletter Delivery Type (please circle one): No Newsletter Electronic

Please make checks payable to "FVEAA" and postal mail it with this membership application form to:

FVEAA

PO Box 214

Wheaton, IL 60187-0214

Attn: Membership

FVEAA Business Members



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