



June 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

June 20, 2014

Community Christian Church

1635 Emerson Lane, Naperville, Illinois 60540

is at the intersection of Ogden and Rickert Drive in Naperville.

Also called the "Yellow Box." We'll meet in the little theater on the west side, 1st floor.

Map: [Community Christian Church](#)

DOORS OPEN 6:30 p.m. MEETING STARTS 7:00 p.m. ENDS 9:15 p.m.

Agenda

- 6:30 Doors Open
- 7:00 Call to Order, Welcome and Introductions
- Committee Reports
- Old Business / New Business
- Presentation: Status of the Dodge Dakota conversion from lead acid to Lithium
- Break - Ted Lowe, Bruce Jones
- Presentation: Jeff Miller - The benefits and design of composite battery boxes
- Presentation: Open Source hardware / software and what it means for EVs.. and Tesla
by Rich Carroll and Ted Lowe
- 9:15 Close

President's Words

Bruce Jones

Hi EVeryone,

The FVEAA board members just met on Saturday 6/14 and held the annual planning meeting. There are several great events coming up.

July on ice

Usually ICE is a bad word around the electric car industry (internal combustion engine). But after Jerry Culp met with us last month and accepted the check on behalf of the Kane County Forest Preserve District for our support of the EVSE installation at the Fox Valley Ice Arena, we may try something completely different for next month's July 18 meeting location. Stay tuned as we finalize the details on this potentially fun evening. . at an ICE arena 1996 S Kirk Rd #110, Geneva, IL.

Wanxiang

If there are any EVerS out there who wish to travel to Rockford early on an upcoming **Wednesday** morning in

late July or early August please raise your hand at the next meeting or talk to an officer. We have been invited to tour the Wanxiang solar panel manufacturing facility in Rockford, but need to see if we'd have enough people interested to take that tour on a Wednesday.

CCC Charging Station

The light pole was finally installed at Community Christian Church in the new parking lot on 6/13. The board finalized the paperwork and now it's just a matter of a few weeks and the Clipper Creek CS-40 - 208/240V 30A Single Level 2 charging station will be installed.



The light pole and wiring was installed on June 13 at CCC. Next step, install the EVSE



Wiring, pulled and ready for the EVSE

Open Source

What does the term "Open Source" really mean in terms of hardware and software in the electric vehicle industry and in terms of Elon Musk's recent announcement about Tesla's patents being provided to the industry? Come to the next meeting where local experts Rich Carroll and Ted Lowe will shed some light on the subject.

Thanks
Bruce

FVEAA is on Facebook - Like Us!

Grant Gerke

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



This Month's Presenters - Ted Lowe and Bruce Jones

- Dodge Dakota progress - conversion from lead acid to Lithium.
- Jeff Miller will present on the benefits and design and his experience with composite battery boxes along with its application on the Porsche 944 conversion
- What does Open Source mean, and what does it mean for Electric Vehicles? What is the impact of Elon Musk's announcement about sharing Tesla patents? Our own Rich Carroll and Ted Lowe team up to tackle this topic

Rich's Ramblings

Rich Carroll

Fortunately, several technologies are surfacing to address the problem on the insecure communication on the CANbus communications technology used in vehicles since 1996. If you will remember, CANbus was a technology developed by a subcommittee within the Society of Automotive Engineers, and features a single wire link to all nodes or computers and minicomputers on an automotive chassis. CANbus is designed to pass mission critical signals along a bus or line, and those signals are designed to carry through in the high electrical 'noise' environment of the modern automobile. CANbus was designed to ignore signals from large magnetic fields, moving metal parts, and electrical noise from rotating parts like motors, alternators, generators, etc. CANbus has one significant flaw: It has no ability to discern whether the signal is from a valid component, or from a replacement component (which SHOULD BE electrically similar to the part it replaced) or from a new radio component that someone has introduced to the system.

CANbus by itself has no way to protect itself, no way to reject malware (or bad software), no way to isolate or detoxify viruses, and no effective way to create firewalls.

Two technologies are coming forward to help solve this problem. Ethernet and FlexRay are both computer communications architectures that can be used. FlexRay is being promoted by Visteon, and incorporates the use of time-triggered protocols. FlexRay would add significant cost, and until this is solved, may be the downfall of this technology. FlexRay is overengineered for vehicle use, although this is seldom viewed as any significant problem other than cost. FlexRay was developed by a consortium, and the consortium disbanded in 2009 after writing ISO standards *ISO 17458-1 to 17458-5*. FlexRay has already been implemented on higher levels Audi, BMW, Mercedes, and Rolls Royce. For a clear, but technical description of how it works, see:

Ethernet also looks promising. Many current automotive sensors are being built with high speed CAN or FlexRay, although the next-generation sensors from Bosch and other suppliers will also have high speed ethernet built in. Ethernet has one vast superiority to the others. It has bandwidth that high speed CAN can't provide, which allows for vast amounts of data from multiple sensors to be fused into one valid picture that allows more discrimination by processors of what is a valid picture of current situations.

Broadcom, a major player in the low cost chip market, has implemented BroadR-Reach technology, and the now OPEN Alliance is using this as part of their One-Pair Ether-Net. Another group (AVnu Alliance) has setup Ethernet Audio Video Bridging Technology. This AVB Ethernet has a couple of advantages, the first being that Ethernet is scalable to Gbits/second. AVB also has the ability to sync nodes and do point to point connections with gateways. With the increased prevalence of cameras in several positions in safety systems (Think lane departure, blind spot monitoring, auto parking, suspension adapting to visualizations of future terrain, interior assessment of passenger size and movement, and much, much more) this AV bridge is becoming more and more important, and this AVB makes this part an integral part, and not an add-on.

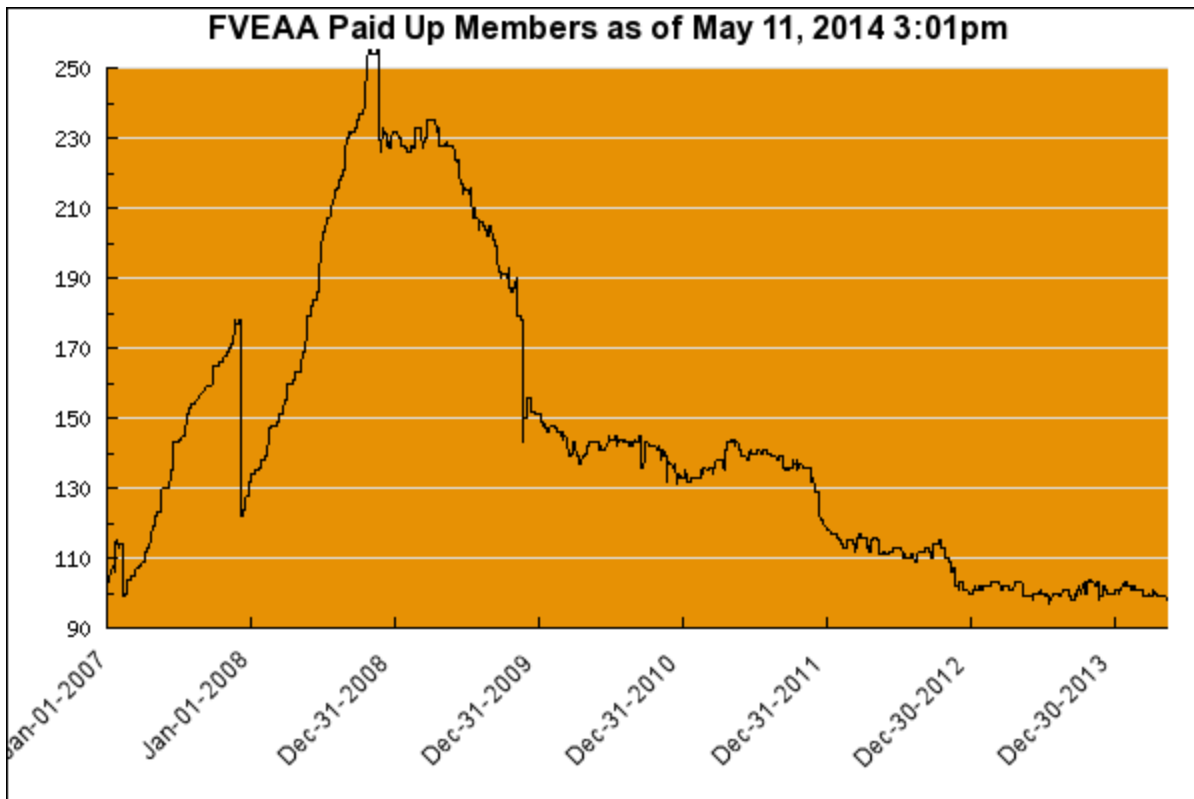
And, to think I remember back to when I used to work on my own car with just a 12 volt test light as my only tool with a wire in it.

Membership Update

Ted Lowe

Let's GROW the FVEAA in 2014!

We currently have 100 paid-up members and here is our membership size over time:



Last Meeting



Todd Martin (left) explains the financial support being provided to the Kane County Forest Preserve District. Jerry Culp (far right) accepted the check from the FVEAA



Sarah Gulezian from Elevate Energy who administers the ComEd Residential Real Time Pricing Program



(left to right) Daniel Li - Wanxiang Corp. Electric Vehicles with Bruce Jones, Frank Qi, Ted Kirby



Daniel Li of Wanxiang Corp. describes their electric buses

Meeting Minutes

Grant Gerke

OLD BUSINESS:

The most recent club project is the Dodge Dakota, it's a lead to lithium project (about 10K for the batteries) and the 1st work session was at Ted Lowe's house back in May. Next segment of the project will be designing the custom battery boxes sometime in mid-June.

Jerry Culp was at the meeting as we provided the check for the charging station at the Fox Valley Ice Arena, see charging image at the top of the newsletter. Todd Martin was the point person and he mentioned that's "critically important for the public to see electric car technology, as a real technology and a real choice." The Fox valley Ice Arena is located on Kirk Rd. and it's a dual-charging unit, ChargePoint CT 4000. Forest Preserve (installers) will include a sign that states the FVEAA assistance in funding the station.

OUTREACH

- Aurora Green Fest, June 14. No official FVEAA setup but some members will attend.
- Need to start promoting the National Drive Electric Week, from Sept. 15-21, 2014.
www.driveelectricweek.org

CHARGING:

Looks like the Community Christian Church will be pulling wires in late June for the electric car installation, as it will be single, level II charging station from Clipper Creek (CS-40 208/240 V 30A)

SPEAKERS:

The first speaker was Sarah Gulezian from Elevate Energy and she provided an excellent presentation on Comed Residential's Real Time Pricing program. Started in 2007, Elevate Energy is the program administrator for the real-time pricing and ore than 9,000 households have enrolled. The real-time pricing is based on the wholesale prices of energy (purely supply/demand). For more information or to see real-time pricing (very useful site), visit comed.com/rrtp

The second speaker was Daniel Li of Wanxiang America Corp., based in Elgin, Ill., and he provided an overview of his company's manufacturing capability, including automotive components and solar panels. The company's solar panel manufacturing facility is in Rockford, IL, under the name of Universal Solar, and has a 62 MW solar farm plant in rockford, IL (possible club road trip).

The company has 26 manufacturing plants in the U.S. and had a nice advantages due its American status when a solar panel tariff was instituted a couple of years ago. Daniel provided some detailed insights on its battery-swapping electric bus pilot program, very cool!

Other highlights:

- They have a 800,000 sq ft EV battery manufacturing plant
- Started the EV business in 2000
- Have a JV with City Transit Company, mass production of LiFEPO4 in 2006, hundreds of Electric Vehicles
- Bought Fisker and A123

Electric Bus Achievements/Pilot in China:

- 150 kW/h for the buses; 9 pack/15 kW/h for one bus
- Shanghai, Hangzhou, Guangzhou, Zhengzhou, Nanchang
- Supplied 100 hybrid buses and 50 pure electric buses - World Expo Shanghai
- 160 pure e-Bus and 350 other pure e-vans were running.

The meeting adjourned at 9:30 p.m.

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

 <p>Exclusive worldwide distributor of WarPTM, ImPulseTM, and TransWarPTM electric motors for use in electric vehicles and electric vehicle conversions.</p> <p>800 S State St. Suite 4 WWW.GO-EV.COM Lockport, IL 60441 630.243.9100</p>	 <p>Bob's Hillview Auto Bob Baker 4c Hillview Dr Lake Barrington, IL 60010 Work: 847-842-9543 Email: bobshillviewauto@gmail.com Web: www.bobshillviewauto.com</p>
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