

**Fox Valley Electric Auto Association  
PO Box 214  
Wheaton, IL 60187-0214**

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## **April 2011 FVEAA Newsletter**

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

### **Next Meeting**

**Friday, April 15th, 2011 - 7:00PM (doors open at 6:30PM) at  
Packer Engineering, 1976 N Washington St, Naperville, IL 60563**

**Packer Engineering is the on East side of Washington St, just North of the I-88 Tollway (North of Diehl, South of Warrenville Rd). Turn off of Washington onto Bighorn at the Packer Engineering sign, then take the first right into Packer Engineering and then an immediate left. Park in the lot between the buildings. 1976 is the new building up the hill. Enter the building in the middle of the North side.**

### **Agenda**

- Call To Order
- Old Business
- Committee Reports
- New Business
- Intermission: Refreshments, Networking and EV Viewing.
- Program:
  - The projected impact to utilities by EVs in the Chicago area over the next 20 yrs
  - Photos from the past FVEAA meetings and have the group choose which ones they might want to show at the upcoming Green festival. Let the audience help decide which ones and then I'll get the photos blown up for display at the show.

### **President's Words**

*Rich Carroll*

What is being 'green'?

From our viewpoint, we know EV's are green. They tend to use a more efficient propulsion system when viewed from an engineering standpoint. Comparing EV's to gasoline cars, it certainly makes more sense to generate the power centrally and have methods in place to reduce emissions, rather than to have the power generated in 3 million different places. Some of our electric power is hydro generated, some nuclear, and some from Illinois coal, but all these plants have advanced systems or scrubbers that are monitored 100% of the time to reduce atmospheric emissions. On the gasoline car side, Illinois only tests tailpipe emissions in a few counties (Chicago and collar counties, and East St. Louis) , and only certain years are tested. (Currently 1996-2009). The most recent Illinois numbers available show that in 2009 Illinois tested 1.67 million cars, and more than 100,000 failed the emission test. With most counties not tested at all, and some automobile years not tested at all, and many large trucks not tested, Most estimates are that more than a quarter million vehicles in Illinois are not meeting pollution standards. But 100% of EV's are meeting standards where the power is generated. With other factors, including no evaporative emissions, etc. the electric vehicle is truly green. But you already knew that.

What about the rest of the population and other industries. I followed an SUV into a recent green fair in Orland Park. However the owner of the SUV needs it for her business and family obligations, and she pointed out that her business, cut stone and marble is green in other ways. They use remnants of cutting to make countertops like Rinato, which is recycled glass, ash and slag. So, rather than judge someone's 'greenness' by what they drive, we need to view their approach to life in general.

I looked through the list of vendors at the upcoming Green Festival where FVEAA is going to be an important part. Some of these exhibitors have found new ways of being 'green' and some are using the 'green movement' to put a spin on their business. Some are actually working at conservation, some are not making many changes, but acting like they are on the bandwagon. So, who is exhibiting with us at the Chicago Green Festival? Some inclusions: (you get to evaluate their greenness) *I would urge you to visit the vendor's booth, and talk to them before you make any decisions. You may be surprised!*

- Vendors of homemade soaps and therapy oils
- Makers of sustainable bio-composite construction materials
- Makers of ethnic jewelry
- Vegan restaurants and vegan bakeries
- Chiropractors promoting total wellness
- No Kill animal shelters
- A Jamaican Kitchen in Wisconsin Rapids
- A baker of gluten free crackers
- . . . and many, many more

Some of these are an obvious fit to a green theme, some are not so obvious. I would encourage every FVEAA member to stop and visit most of the vendors, and get a new understanding of how they are being (or at least think they are being) green.

What is my definition of being green? Sometimes, it is finding a better, more environmentally friendly way to make or use your existing product. Sometimes, it is a way of using your cast-offs, or finding better ways of finding a second use for things. I just wish there was a really nice, high performance car that was green. Like a Porsche. Oh, wait . . .

## **Program**

*Todd Martin and Rich Carroll*

Bruce Jones has been working on two presentations for several months, and we'll take him up on this for the program this month.

- The projected impact to utilities by EVs in the Chicago area over the next 20 yrs
- Photos from the past FVEAA meetings and have the group choose which ones they might want to show at the upcoming Green festival. Let the audience help decide. which ones and then I'll get the photos blown up for display at the show

President Rich Carroll opened the meeting at 7:00 p.m.  
First time attendees introduced themselves, and then Rich described excellent benefits of joining the FVEAA for only \$15. He expounded, "It's the best money you'll ever spend!"

#### NEWS

The CEVC is composed of various members and executives from companies like ComEd, Ford, Nissan, Clinton foundation, Green Groups, IGO Cars and others. Our FVEAA is well represented on the CEVC with three members including chairman Dave Habiger, Ted Lowe and our own FVEAA president Rich Carroll.

According to Rich, the Chicago Electric Vehicle Consortium (CEVC) met before our last meeting and since then there have been two subcommittee meetings, one on education and another on promotion. A bill is coming that will identify Electric Vehicle (EV) parking spaces by posting penalty signs next to them, like handicapped warning signs.

The CEVC incentives committee has been busy working on several plans which are underway in the city of Chicago, including a program for the city to charge an EV owner nothing (\$0) for a city sticker.

#### 350 GREEN

The CEVC has been actively involved with 350Green, who was awarded the city of Chicago's contract to install EV charging stations. 350Green expanded the initial \$2M award with \$6.5M of investor funding, and is currently installing the charging stations around the city of Chicago, at toll way oases and at a sprinkling of locations in the surrounding collar counties.

The next \$13M of federal grant money will be awarded in Phase 2.

#### PACKER ENGINEERING CHARGER?

The effort to install electric vehicle charger(s) here at Packer Engineering where we meet, has stalled since Packer does not have time to handle the project. But we still get a great meeting place on Friday night, with open bays to pull cars inside the building, electric charging, and a well equipped room with overhead projector.

#### COMMITTEE REPORTS

FINANCIAL ASSISTANCE – None

INFRASTRUCTURE - None

OUTREACH - None

NEWSLETTER – None

TREASURER – According to Todd Dore there has been no news since last meeting

GREEN FESTIVAL - Todd Dore was charged up about preparations which are well under way by the 10 committee members working on the upcoming Green Festival scheduled for May 14 – 15 at the east campus of McCormack place. We have a nice corner booth layout showcasing a 944 Porsche converted to electric by this group a few years ago. The current owner is allowing us to borrow the car for the weekend which is awesome. Photos, information, video loops and movies on Electric Vehicles will generate lots of attention as 30 thousand people are expected to get a huge charge out of the show. To keep us rolling and on track, Todd Dore is doing a great job managing weekly calls on Sunday evenings at 7:00 p.m. to prepare us for the event.

Dave Aarvold suggested bringing enough brochures, a few hundred at least.

We are a big club with a large geography now and our club calendar is getting full with things to do. Several upcoming events were mentioned such as the University of Chicago Earth Festival, Elgin Green Expo on May 7<sup>th</sup>, the Oak Park farmers market and an event at Morton's Arboretum.

#### MEMBER PROJECTS

Bob Baker – The Honda conversion project is finished! He'll try to bring it to an upcoming meeting.

Dio Vesselinov – started his conversion project.

#### CLUB PROJECTS – None

#### GREEN FESTIVAL – More Planning

A discussion was then held on what information should be displayed, and also what should be in the tri-fold brochure. Todd Dore listed what was important on the display board for the display and the brochure.

Display

1. Club member cars from meetings
2. Activity pictures
3. EVs/ drag racing
4. Pictures of charging stations (actual stations?)
5. Picture of club Porsche (before and after)
6. Ad – logos
7. Carbon footprint
8. Chargers (stations) – picture of solar and wind
9. Warp motor
10. Lithium battery/lead acid
11. FVEAA business cards

#### Brochure

1. Speaker lists
2. Myth & facts
3. 5 “Ws”
  - a. Website info
  - b. Who
  - c. Where
  - d. What
  - e. When
  - f. Why
4. Member benefits – including dues
5. Cost analysis of gas vs. EV
6. Advertisers – logos (who may potentially pay for brochure)
7. EVs beating sports car
8. EV sales projections
9. Charging station locations
10. Social responsibility - Carbon footprint
11. Average conversion price

#### PROGRESS

We can see progress being made in the world of Electric Vehicles, as Todd Dore now competes with two other electric cars for the charging stations at the downtown Chicago parking garage where he works. Besides his electric VW, a Chevy Volt and a Nissan LEAF are gathering at the electric watering hole.

NEW BUSINESS - None

OLD BUSINESS - None

#### IIT

Illinois Institute of Technology was well represented tonight as several members were in attendance. Rich says Ray DeBoth of IIT should get a “Spirit of FVEAA” award for the work being done there on electric cars and battery technologies.

#### SPECIAL PRESENTATION – BATTERY MANAGEMENT SYSTEMS (PART I)

Brothers Chris and Andrew Ewert of Ewert Energy Systems have a long history in battery management systems (BMS) and they spoke a few minutes about their system for EVs and plug-in hybrid cars. They later explained their company’s BMS product in a Toyota demo car at the break.

#### BREAK

Chris and Ed Ewert described their BMS system in a demo car  
And Todd Dore had his faithful electric blue VW bug

Door prizes were handed out!

#### SPECIAL PRESENTATION – BATTERY MANAGEMENT SYSTEMS (PART II)

Chris and Andrew went into depth about their battery management system and compared it with other BMS systems. A BMS protects the battery from the car charging system, and monitors current so it doesn’t exceed the battery rating. A BMS monitors health of the batteries, health of the charger and the maximum current that should be drawn. It also limits how much current the motor controller draws, turning off the charger and throttling it when necessary.

Their BMS is isolated, able to detect faults, and is software programmable for large format Nickel metal hydride or lithium ion batteries, but not lead acid. They explained why balancing batteries is extremely important and how their system works.

There are two kinds of BMS systems:

- A. Distributed - with a small circuit board on each battery, and
- B. Centralized – with wiring from each cell to a centralized processing system

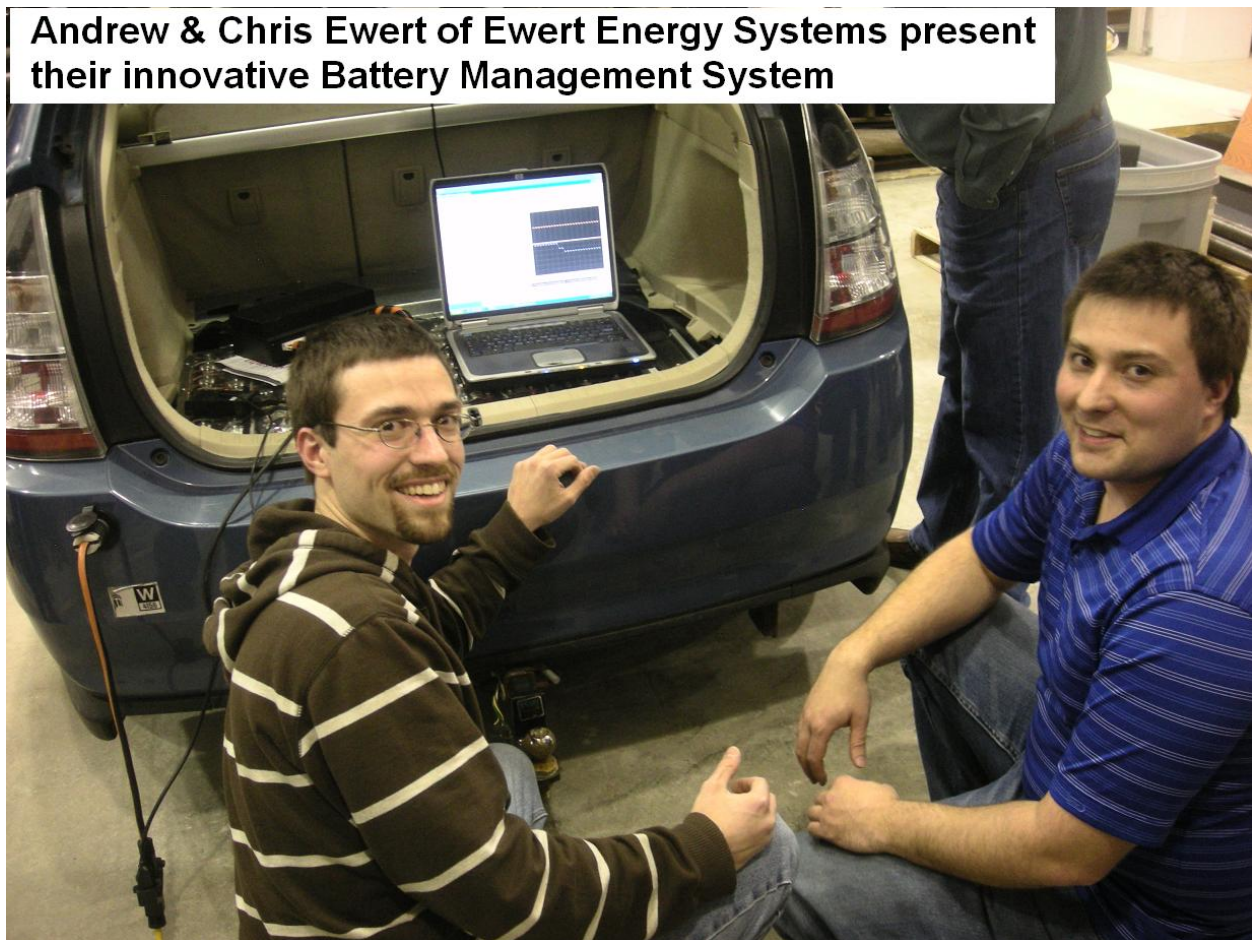
Their system is centralized, to lower costs, reduce labor and simplify processing. The current sensor keeps track of charges going into and out of the battery. Thermistors signal the motor controller and charger when it is time to turn them off. The price of their BMS is variable based on number of cells

Chris and Andrew then answered many other questions about their state of the art BMS system. Good job guys! And we'd also like to thank George Gladic for arranging to have the Ewert brothers come and talk.

To end the meeting, Rich Carroll mentioned that Ed Harris is selling a converted 2007 Toyota matrix EV that has no heater but is in excellent condition. See Rich if you are interested.

The meeting was adjourned at 9:24 p.m.

### **Andrew & Chris Ewert of Ewert Energy Systems present their innovative Battery Management System**





**Steve Grushas explains electric motors**





# Todd Dore's electric bug gets a charge



**FVEAA Membership Application Form**

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 ? \_\_\_\_\_

Member Types and Annual Dues (Please circle one)		Newsletter Delivery Types (Please circle one)	
Individual	\$15	No Newsletter	\$0
Family	\$20	Electronic Only	\$0
Business	\$100	Postal Mailed	\$15
Premier Business	\$250	Postal Mailed and Electronic	\$15
Charter Business	\$500		
Total Due from Both Columns:			

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

**FVEAA**

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**Wheaton, IL 60187-0214**

Attn: Membership



**FVEAA Business Members**

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