

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

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January 2012 FVEAA Newsletter

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

Next Meeting

**Friday, January 20th, 2012 - 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
- Miodrag Zubic - 3rd in a Series on Motor Controllers
- Keith Baubkus - Solar Powered EV Charging Stations
- Intermission: Refreshments, Networking and EV Viewing. [Ask the Experts!]
- Program: Ken Adams - 350Green

HAPPY NEW YEAR

I hope everyone had a great New Years, and welcome back. The warm weather stayed long enough for my family and me to enjoy the week of wedding activities for my daughter and now we're plunged back into winter cold and snow. My thanks to V.P. Rich Hirschberg for filling in for me last meeting. Big thanks to Miodrag Zubic for his 2nd controller presentation, Scott Fauque for his presentation on the Volt and Mike Alderson for presenting the Ford Transit Connect van, one of the first to arrive in the area.

EV FUTURE

The next two years will be a key growth period for plug-in electric vehicles (PEVs). Sales in 2011 were a bit less than predicted, but at last count, around 41 electric or plug-in electric models will be hitting the show room floors during 2012 to 2013. Everyone from Hyundai to Bently and perhaps (shades of Back to the Future) a DeLorean electric. In my mind however COSTs are the biggest factors moving this industry in two ways - cost for fuel, and cost of the PEV itself.

FUEL

Research shows that gasoline costs will remain high and steadily inch higher as time goes on, due to the world demand for oil, especially in Asia and developing nations. Those economies are growing fast, developing a middle class which demands petroleum. This puts increased pressure on gasoline prices across the globe. So here in the U.S. gas will continue to go up over time, motivating drivers to switch from gas to electric, or other lower cost options.

CARS VS. PEVS

PEVs look expensive up front compared to standard vehicles. And many people don't see the PEV advantages due to initial sticker shock. Certainly expiring tax credit incentives will put a damper on sales this year, but if drivers take into account the on-going cost of fuel and maintenance, then cars with internal combustion engines will be more expensive assuming gas prices continue to rise over time. . . which they undoubtedly will. For a driver that travels 15,000 miles a year, the break-even point for an internal combustion engine vehicle at \$29k versus PEV at \$41k is about 5 years. From that point the PEV is less expensive due to the cost of gas vs. electricity. So car buyers should look at a PEV knowing on-going fuel costs are much lower and long term benefits are higher, and they get the benefit of lower pollution thrown in. I have generated the detailed figures so please let me know if you want to see the assumptions and the calculations.

SPEAKERS THIS MONTH

Ken Adams is both the regional infrastructure director and Chicago sales director for 350Green. He (and possibly Hali Settig) will be here to provide a final review of the EVSE rollout for the city of Chicago. We also have Miodrag Zubic to provide the 3rd talk in his series on Controllers for all you build it yourself fans, he'll refresh and finish on MOSFET vs. IGBT, then talk about DC vs. AC motors/controllers in EVs. Keith Baubkus has technical details on EV charging stations powered by solar panels. Should be a great evening, well see you on Friday!

Battery fires, now reportedly Fisker Karma?

There was significant press over the holiday weekend about a recall that Fisker had made with regard to 'fires' in their battery packs. Fisker reportedly 'had to replace' battery packs in all their production so far, including cars sold to customers. But what is the real story? Two months ago, we looked at the reported Volt fires, and found that one car that had been crash tested and the GM deenergization protocol for post accident battery procedures had not been followed at all, and one Volt did catch fire three and a half weeks after being

improperly stored in a storage yard. The press had picked up on the fact that one Volt had caught fire, and many members of the press sensationalized this info so as to get additional readers (and hopefully more advertiser income.)

So, is the Fisker Karma another electric car that can catch fire at any time? Read the headlines, and you will assume it is possible. Let's look behind the headlines, courtesy of an interview by Bill Moore of EV World, with Roger Ormisher of Fisker. Fisker did recall the 50ish cars that are in customer hands along with about 250 cars that are not yet sold. This is a recall of all 297 cars made to date. It was noted on two cars on the assembly line that there was a very small leak from one of the battery coolant clamps, and the clamp was in a difficult to reach position. This leak was described by Fisker employees as a small, fine mist. Because this involves coolant near the cells, Fisker contacted A123, the maker of the battery packs, and described the problem. Close inspection determined that one inexpensive clamp was incorrectly installed. By December 23, several solutions had been tested and the most effective was to remove the clamp and turn it around, and reinstall it.

Fisker had not trained technicians on taking the pack apart, but had trained techs on how to replace the entire pack. Fisker and A123 decided on a recall that had Fisker (and A123) replacing the pack. Replacing the pack at a Fisker dealership is only a couple of hours, but disassembling the pack is needed in order to reach the incorrectly installed clamp, and this would take many hours more. Fisker made the decision to issue the recall such that the remedy was the most convenient way for their customers, and simply replace packs in all Karmas. By 1/2/12, all cars had had packs replaced or repaired.

The NHTSA (National Highway Traffic Safety Administration) takes a number of days to post recalls, and by the time the NHTSA posted the recall, all Karmas were fixed. So, by the time you likely read about the issue, it was no longer an issue. A correction is already in place on all Karmas. So, let's review the facts:

- Not one Karma has ever had a battery fire.
- Not one owner or dealer has ever noticed any such leak.
- The recall was about the incorrect positioning of a sub-\$1 part.
- Fisker and A123 did not 'have to replace the battery pack.' They chose to replace it (an expensive choice) as repairing it would take longer.
- The decision to swap packs vs. repairing individual connections was made for customer convenience and customer loyalty.
- The recall took place starting 12/23, and every car was serviced within two weeks. No remaining cars have to be serviced.
- Fisker has crash tested over 30 cars, between the US standards and the European standards. Of these crashed cars, not one has ever caught fire in the months after the tests.

But, the news that the cars are completely safe and no fires have ever been reported in Karmas, and the news that the problem has been completely corrected don't make for very good headlines.

Now, why do I report this? Your friends, neighbors, and colleagues look to you for honest information. I would urge that you keep familiar with the truth behind the major stories, and be able to discuss these issues. You do need to evaluate which sources of news you can feel comfortable with. The news I get from EV World and others helps give a balanced view.

Suggested reading:

<http://evworld.com/index.cfm> which offers free newsletters and premium newsletters (\$49 per year)

Meeting Minutes -

Called to order at 7:01 by guest host Rich Hirschberg.

Todd Martin reported that representatives wanted a confirmation that the charge station conversion to the J1772 plug at the Elgin location functioned properly and Todd is looking for a member to try it out. Todd also talked about the proposed charge station in Lombard next to the train station. The one point of consideration that we want to be assured of is that the station is open and free to the public.

Rich Carroll talked about Walgreens stores being a major focus of the 350 Green Charging Station installation plan. About 350 stations will be installed in and around Chicago including the toll plazas. The target for 273 completed stations by 4-12 is on schedule with the north plaza being first, followed by level 2 stations at the others.

It was noted also that the 'trim' packages on the Nissan Leaf also determined the type of charger that was installed on your car. The high speed charger is installed with the upgrade trim package and the standard trim is the low speed charger.

Miodrag continued his detailed discussion of motor controllers by comparing 6 types of popular controllers the Raptor, the Curtis, the Zilla, the Warp, the Maxforce, and the Soliton. Talking points were Peak Current Rating and how long can it be maintained, Kilowatt Rating, Type of Cooling-usually air for mosfet transistors and liquid for IGBT transistors, type of Power Components, and Price.

It was pointed out that MOSFET systems have lower resistance so the air cooling is adequate while IGBT uses voltage drop and so losses are greater

Mike Allison of Hawk Ford brought a Transit Connect that is going to be available. A Canadian firm Zur Dynamics is providing the electrics for the conversion. The vehicle is built in Turkey and imported to Canada where the Electrics are installed. A 6-8 hour recharge at 240 volts will get 50-80 miles with a 1/2 ton payload. Peak kilowatts from the motor are 105 and it is rated at 140 HP. The DOE fuel economy rating is 62 MPG.

Only 3 dealerships in the region will offer the Transit Connect Electric. There will be a Hybrid truck with 13,000 lb payload available too according to mike. Hawk Ford is at 6100 W. 95th st. in Oak Lawn.

Scott Faugue presented his Volt Report. The vehicle was about \$36,500 after a \$7,500 rebate. The battery range in summer is about 50 miles and the winter is 1/4 less. His typical charge is 3 hours 33 minutes for 11.28 kilowatts at 220 volts on a 20 amp circuit. the 16 kilowatt battery uses 65% of the middle portion of the charge cycle. There are 3 modes of use-sport uses 22% to 87% and mountain mode will only allow the charge to drop to 40%. The warrenty on the battery is 8 year/100,000 miles. Newer warrenty is 10 year/150,000 miles. See myvolt.com

Also of interest is the gasoline system. Since the gas tank has a possible supply of many weeks, the engine will be sure to force the owner to fill up. It also has a maintenance mode that runs the engine if the car uses the electric only mode for too long. Adjourned 9:35

Meeting Pictures -

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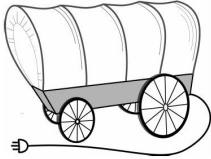





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