

**Fox Valley Electric Auto Association**  
PO Box 214  
Wheaton, IL 60189-0214

***Meeting: Friday, August 17th***

**Doors open at 7:00PM**

**Meeting starts at 7:30PM**

**Packer Engineering**

**1976 N Washington St, Naperville, IL 60563**

Directions: Packer Engineering is the 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.

<b>August 2007</b>	<b>FVEAA NEWSLETTER</b> <b>Fox Valley Electric Auto Association</b> A Not-For-Profit IL Corporation & Chapter of the Electric Auto Association (eaaev.org)	
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Meeting Agenda

*Ted Lowe*

**Call to Order** – Ted Lowe

**More Expression of Gratitude to Packer Engineering** – All

**Introductions** – 15 seconds by all attendees

**Approval of Minutes**

**Treasurer's Report** – Dale Corel (**New format:** round to nearest dollar)

**Bylaws Vote** (see article below)

**Yearly Officer and Director Nominations Open** (see article below)

**Old Business**

- Charging Infrastructure Committee Report – Chair, Todd Martin
- Outreach Committee Report – Chair, Rich Hirschberg
- Club Car Project 2007 Update – Ted Lowe (much more in Programs)

**New Business**

- Anyone ?

**INTERMISSION – Networking, Refreshments and Raffle Tickets!**

## Raffle Winners

**Show/Tell/Ask** – Anyone can show, tell, and/or ask something for 1-2 minutes.

## PROGRAMS

### **Pioneer Conversions Overview and Plans – Rich Carroll**

Rich will talk about the new company that has been formed by six FVEAAers and their exciting plans.

### **Porsche 944 Motor Mounting Design – Wayne McGuire**

Wayne will present details of how the Warp 9 motor will be attached to the 944 drivetrain and mounted to the frame. He will show AutoCAD diagrams that he created detailing the custom parts and discuss his design process.

### **Porsche 944 Battery Design – Gerry Jackson and Ken Berglund**

Gerry and Ken will discuss their progress on design and fabrication of the 944's battery system.

### **Hybridfest 2007 and PHEV Developments – Todd Dore**

Todd will talk about his trip to Hybridfest 2007 and any of the latest developments in the emergence of PHEVs.

### **Close Look at the Zivan NG-3 Automatic Charger – Ted Lowe**

Ted will present technical details of the Zivan NG-3 charger and how it meets some of the modern-day battery charger requirements and leaves others to be desired.

## President's Words – Its All In The Chemistry

*Ted Lowe*



As the Earth spins faster on its axis (seems like it anyway:-), energy issues are increasingly penetrating into the mainstream consciousness. Nowadays its Lithium-Lithium-Lithium-this, Fuel Cell and Carbon Nanotube that. Geesh... i wish now i had paid more attention in HS and college Chemistry class! As i read various articles about the latest innovations in the energy field, i often wish i understood more of the details. I have a pretty good

grasp on basic chemistry and physics; enough to generally comprehend how things work, but definitely NOT how things are made! And i'm finding as i get older (w/b 50 this year BION:-), i want to be more of a mad-scientist /inventor /entrepreneur, so i'm falling into the holes in my education more frequently.

However, it is said: "It's not what you know, but who you know that counts."

This gets me back to the FVEAA. I am so impressed with the FVEAA membership's breadth and depth of expertise and knowledge! Nobody knows everything (and we wouldn't likely want to hang with them if they did:-), but collectively, we FVEAAers know so much about so many energy and technology related areas. It is also said, that: "Successful people surround themselves with experts". I'm happy to know that when i need to know or do something, that i

can count on an FVEAAer to know it or be able to help out. And if anyone of you ever needs to know something i know or can do, just ask. This can-and-will-do attitude is a big part of FVEAA history and our future as well!

## July 2007 Meeting Minutes

*James Zukowski*

Minutes of FVEAA Meeting for 20-July-2007:

Call to order at 7:42pm by President Ted Lowe at the Packer Engineering facility in Naperville. Minutes taken by James Zukowski due to Rich Carroll being taken to hospital. Total attendance 57 by the end of the meeting. After calling the meeting to order, introductions by those in attendance were provided, about 10-20 seconds each.

Old business: John Emde brought the neon FVEAA logo sign from the hanger at Clow Airport. A new place to hang the sign will be determined at a later time. Todd Martin was not in attendance to provide an update on the infrastructure project.

Rich Hirschberg updated everyone about the Midwest Alternative Fuel Vehicle (AFV) Expo. It was canceled this year due to coordinators feeling that the two programs had too much overlap. Rich is already planning for next year's program. He anticipates that it can be held at the college where he works, which avoids the possibility of being canceled for this year's reasons.

The presentation of "Who Killed the Electric Car?" at the Elgin Library on June 28 included four members with their EV's and a lively Q&A session afterward. There is also a general Car Show in Downtown Elgin scheduled for September 8 from 10am-4pm. Having member cars there is requested.

Ted Lowe updated the group on the club car project. Eric has the car and is buying the parts. This is a great learning opportunity for all FVEAA members. There are many unique challenges due to the transaxle transmission and the small compartment sizes. Thanks to Ted Sanders for the cardboard battery replica, and to Chuck to the two wooden replicas. They were extremely helpful in sizing the spaces.

Break at 8:10pm for Look/Ride/Drive opportunities while there was still daylight. Reconvene at 9:22pm.

Raffle sales brought in \$54. Two magazines were donated by Ted Lowe; winners were Patrick O'Hara and Ken Simmermon. Two LED flashlights were donated by Mike Bodine; winners were Ray Deboth and Ken Berglind. Several new members joined, bringing total membership over 150.

Old Business: Minutes of the June meeting were approved. Treasurer's report from Dale: \$604.47 in the checking account and \$5326.56 in savings.

FVEAA received second place in the Evanston July 4<sup>th</sup> Parade for four members in their cars.

Ted Lowe showed a copy of the National newsletter "Current Events", and recommended it as a valuable resource.

Ted Lowe has created a new award: "FVEAAer of the month", awarded by self-proclaimed unscientific method. The first recipient was Ted Sanders (84 years old), who had a melted battery post rebuild for \$10 (while-you-wait), and posted the info on the listserve. This was used by Chuck less than a week later.

Due to the increased space now available, a literature table is being set up for each meeting. Anyone having information to distribute is encouraged to place it there. Everyone is encouraged to review what is there, and take one if there is more than one of an item available. Please don't take the last one.

A question had been raised as to whether we want to approve the minutes and treasurer's report at each meeting. The consensus was that since it doesn't take very long, we should continue as we are.

Ted Lowe proposed several changes to the bylaws. Details will be provided for voting by the next meeting in August. Summarizing:

1. To change the specification for the annual meeting date from the third Friday in September to the regular September meeting.
2. Change mixed references of "Association" or "Corporation" to be just "Corporation".
3. Remove references to "Special Meetings".
4. Change references to membership dues from specific amounts to control by the board of directors. This will allow for changes when postal rates change without having to submit it to a vote of the membership.
5. Modify requirements for changes and amendments to bylaws. Currently, this calls for 2/3 of the current full membership to approve of changes. The proposal was to change this to a simple majority of those at the meeting that vote regarding the proposed change would take place. After discussion, the consensus was for 2/3 of those attending the voting meeting.

Ken Simmermon donated a talking electric charger to Packer Engineering for installation and use by EV owners. Accepted on behalf of Packer by two staff members in attendance.

Presentations:

Ted Lowe: Consumer Battery Chargers. He presented his "collection" of chargers that he has owned over the years, including a self-build Ni-Cad "zapper", which can "re-awaken" Ni-Cad batteries that have totally discharged. His latest favorite is a microprocessor-controlled 4-cell unit that has programs to cycle individual Ni-Cads and others. Brands include LaCrosse and Maha. Some available through Amazon.com. The purpose is to relate how this technology can be up-scaled for use in Evs. Also demonstrated new-technology NiMH "Eneloop" batteries that are pre-charged, and discharge at a much slower rate than standard NiMH.

Jim Dawson talked about transmissions, clutches, and driving clutch-less. This included illustrations about basic manual transmission design. Linked this to the current Porsche conversion project.

Meeting adjourned at 10:55pm.

### Proposed Bylaws Changes - IMPORTANT

*Ted Lowe*

I presented the following proposed Bylaws changes at the July meeting and am repeating them here (with the adjustments suggested by the members at the July meeting) for all members to read prior to the August meeting when the vote will commence per our Bylaws.

## PROPOSED CHANGE 1

OLD:

ARTICLE III: MEETINGS A. ANNUAL MEETINGS The annual meeting shall be held on the third Friday of September.

NEW: ARTICLE III: MEETINGS A. ANNUAL MEETINGS The annual meeting shall be at the September regular meeting.

RATIONALE: In case the day of the September meeting is changed.

## PROPOSED CHANGE 2

Change all occurrences of word 'Association' to 'Corporation'

RATIONALE: To use consistent terminology throughout.

## PROPOSED CHANGE 3

Strike all mentions of 'Special Meetings'.

RATIONALE: The Special Meeting terminology no longer has meaning to the FVEAA.

## PROPOSED CHANGE 4

OLD: ARTICLE 5 - Membership A. DUES Dues shall be \$20.00 per year payable at the regular November meeting. New members joining after November shall pay a prorated discounted membership rate as published in the monthly newsletter. Renewing members who elect to receive the monthly newsletter in electronic Email format only are entitled to a \$5.00 discount off their annual membership dues.

NEW: The Corporation shall charge dues for membership. The Board of Directors may decide to change the dues structure (levels and amounts) as necessary to support the Corporation's mission and operations. Changes in dues will not take effect until a member's renewal date.

RATIONALE: We decided to remove the details about the dues at the March BoD meeting because it hamstrings us from introducing different approaches (like Lifetime, family and business memberships), handling changes in postal rates, etc.

## PROPOSED CHANGE 5

OLD: ARTICLE VII: AMENDMENTS TO THE BY-LAWS - snip... An adoption of an amendment shall require a two-thirds affirmative vote of the entire membership. Members may vote on an amendment to the By-laws by proxy.

NEW: An adoption of an amendment shall require a 2/3 majority affirmative vote of the members voting at the regular meeting in the month following the regular meeting where the amendment was proposed.

RATIONALE: If the By-Laws need to be changed, a 2/3 majority of the **active** members should be sufficient to approve the change. Requiring a 2/3 majority of the entire membership (currently 155 members) is unduly restrictive, and operationally expensive and time consuming.

### Voting On Proposed Bylaws Changes

*Ted Lowe*

An affirmative vote by a 2/3 majority of all of FVEAA's 155 members must occur for the above described proposed changes to take effect. You will vote to approve all 5 proposed changes or none of them.

The ballot will look like this:

Do you approve of the five proposed changes to the FVEAA Bylaws as described in the August 2007 newsletter ?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

The vote will take place in two stages:

Stage 1) At the August Meeting, all FVEAA members in attendance may cast their vote. I will bring the ballots and mailing labels for all members. When you cast your vote at the meeting, cross out your mailing label.

Stage 2) After the August meeting, those members not in attendance will then be sent a paper ballot requesting their vote.

If you'd rather not receive the paper ballot, you may grant me the proxy for your vote (the right for me to vote on your behalf) at anytime via email ([ted.lowe@fveaa.org](mailto:ted.lowe@fveaa.org)).

The results of this vote will be announced in the September newsletter and at the September meeting.

### Yearly Officer and Director Nominations Open

*Ted Lowe*

Per our Bylaws, nominations for our yearly elected officers and directors will officially open at the August meeting and will remain open until the election

at the September meeting.

The FVEAA Board of Directors is comprised for four officers (President, VP, Secretary and Treasurer) and three directors.

The 2007 Board of Directors consists of:

Ted Lowe, President  
Todd Dore, VP  
Rich Carroll, Secretary  
Dale Core, Treasurer  
John Emde, Director  
Rich Hirschberg, Director  
George Gladic, Director

Please submit your nominations to myself or any other officer or director anytime before the election begins at the September meeting.

Newsletter Editor

*Rich Carroll*

What kind of car show do you like? I go to several each year, and usually show something, frequently my Elcar. Some are in great places, some have interesting folks, and some have truly great cars. I usually go to the one in Berwyn, even though it is mostly street rods. I appreciate street rods, although I have never owned one and likely never will. But the people in Berwyn talk to you and ask lots of questions. And not dumb questions, like how many cylinders does it have, and what did it cost new? Their questions are more like, "What is it like to drive?" and "how do you get to the batteries?" and "can you still find that size tire?"

Two of my favorite shows come up in the month of August, one on the second Saturday (now last Saturday) and one on the third Sunday. While wildly different, they seem to share a common theme. If you ever consider a car show in August, you are crazy to think about an asphalt parking lot. Even an open grassy field is too hot. But in a park-like setting, with lots of trees and shade, and good grass underneath, this idea becomes much more appealing. Add to that, a requirement for a gentle breeze, and you have an enjoyable day.

We just finished the Momence Gladiolus Festival. Their recipe:

- Start with an Island Park in the middle of the Kankakee River
- Add 300 or 350 Flea Market vendors
- Add 300 or so antique cars. Advertise that you are looking for "stock vehicles, not street rods." Accept a mildly modified car if it shows up.
- Use good judges, and use Antique Auto Club of America rules.
- Keep putting it on until you have done this 46 years in a row, so that really interesting people keep coming back.
- Encourage diversity, like steam powered cars.

- Judge liberally, give lots of trophies.
- Charge a \$2 admission for adult spectators, let the kids in free.

And this Sunday is the Orphan Auto Picnic. Take their recipe:

- Start with a 5 acre spread on the banks of the Fox River in Aurora.
- Add 150 – 200 unusual cars. Only accept for the show area, cars which are “orphans,” no longer made, or no longer sold in the U.S.A.
- Do no judging, this is a picnic, not a competition.
- Encourage kids and pets.
- Offer free soda, and free beer, and lots of kid games with prizes.
- Provide lots of charcoal grills in operation, but provide no food.
- Rent numerous port-a-potties, as the small home on the land could never accommodate the crowd.
- Encourage lots of businesses and individuals to donate prizes for a raffle.
- Tell the folks who come, that the beer, soda, beverages and cooking grills are free, they should bring their own food.
- Tell the folks who come that they should buy some raffle tickets, as this is how the entire day gets funded.

Now, the Orphan Auto Picnic has people who attend and drive out in their Honda or Toyota. They park in a more remote area. The “orphan cars” park near the games, the grills, and the cool drinks. The cars range from Isettas to Messerschmidts to Elcars to Auburns to Packards to Fiats, etc. Oh, I likely can't name them all, but go to: <http://www.ccecorvair.com/OAP> and/or download the flyer: <http://www.ccecorvair.com/OAP/flier2007.pdf> (if you download the flyer, be sure to read all the edges)

By the way, this event is held at one of the FVEAA members homes, thanks to Rick Korthauer. Rick and his good friend Mark Hardy and lots of folks from the host club, the Chicagoland Corvair Enthusiasts put a lot of effort into a truly fun day. The Orphan Auto Picnic is only in its 17th year, but in many ways rivals the 46th Annual Gladiolus Festival Car show as the best. If you're a car geek, come to Rick's house on Sunday to find out why.

## Ken's Korner

*Ken Simmermon*

### EV Tips for the Month

1. Remember to check your tire pressures regularly and the higher the pressure the better (but stay within the manufactures specs).
2. Check your battery cable connections for tightness and water levels once a month. Do not over tighten and use only distilled water not tap.
3. Keep an extra battery cable on board in the event a battery post melts or internal failure (not likely) so you can get back on the road.
4. Remember Safety First when working on and driving your EVs.

Happy Trails to All and Keep "Charging into Our Future"



I had a real nice visit with Bill Shafer at his home. With Bill unable to hear well on the phone and his non-email status, a personal visit was in order. I ceremoniously gave Bill a newspaper on my article in the West Proviso Herald -- only fitting as Bill was the one who convinced me to do my conversion and helped along the way. Ted Lowe is following in an honorable tradition of president as he has convinced and encouraged Eric Schoonveld on his conversion. Bill really does enjoy his lifetime subscription to the FVEAA newsletter. Also, Bill has advice on batteries (as always); He said look for Firefly to be a real contender for EV conversion battery usage. THANKS AGAIN BILL

## New Meeting Location Is Grrrrreat!

Ted Lowe

Our new meeting place at Packer Engineering is great! An excellent classroom with computer, projector, tables for the speaker, literature and refreshments and plenty of chairs. Plus all the modern amenities like bathrooms, heat/AC, plenty of plugs for the coffee pot and charging EVs, and a large lighted outdoor EV viewing area.

Note that Packer is still constructing the inside of the new building. IT'S IMPORTANT that we respect our new meeting place and don't wander around beyond the meeting area. Please help spread the word about our new meeting location!



Ken Simmermon donated a talking electric charger to Packer Engineering for installation and use by EV owners.

Eric Schoonveld's Porsche 944 conversion is proceeding well. Members are showing up, learning many things, tossing out ideas, discussing the merits of different designs and helping out anyway they can.

This stage of the project can best be described as the 'mechanical design' stage. There have been two sub-teams formed so far: 1) battery box design and implementation, lead by Ken Berglind and Gerry Jackson, and 2) motor installation, lead by Wayne McGuire.

Ken and Gerry have done an excellent job so far fitting the 8 rear batteries securely into the limited space of the 944. The rear batteries will sit in a frame that is hung from the frame support above the axle and the frame ends where the bumper attaches. Gerry has fabricated some of the parts so far which will be at the meeting for inspection.

Wayne has done an excellent job designing the custom parts for mounting the motor to the drivetrain and to the frame. He's created awesome drawings of these parts in AutoCAD!

### **Next Work Sessions:**

Saturday August 18 – 9 to 1pm

Saturday August 25 – 9 to 1pm

Saturday September 1 – 9 to 1pm

Eric's shop is at 2511 W Maypole, Chicago. The closest intersection is Lake and Western. Eric's cell is 312-618-7483. When Eric is out of town, Wayne McGuire has a key to the shop. Wayne's cell is 773-655-5092.

See many pictures and detailed descriptions at the project page:

[www.fveaa.org/projects/clubcars/2007](http://www.fveaa.org/projects/clubcars/2007)

Tim Moore and Chuck Carrington were featured in this article:

[http://www.pioneerlocal.com/pioneerpress/492083\\_pp-environment-080107-s1.article](http://www.pioneerlocal.com/pioneerpress/492083_pp-environment-080107-s1.article)

Tim Moore was featured in this interesting web presentation:

<https://www.pioneerlocal.com/flash/electriccar/>

Congrats Tim and Chuck!

Join me in extending a warm welcome to these new FVEAAers:

Peter Barounis  
 Jim Trotter  
 David Lomblad  
 Ricky Hazen  
 Mitchell Norinsky

Jermaine Baldwin  
 Bob Hill  
 Craig Dusing  
 Greg Boyk  
 Harry Ashner

Welcome aboard, folks! We hope to see you at meetings and other EVentS! Let us know if we can be of help in your EV pursuits!

## Useful FVEAA Email and Web Addresses

Ted Lowe

Keep these time saving addresses for your reference and share them with your friends and colleagues!

**FVEAA Email Addresses**

<a href="mailto:contactfveaa@fveaa.org">contactfveaa@fveaa.org</a>	General purpose contact address.
<a href="mailto:ted.lowe@fveaa.org">ted.lowe@fveaa.org</a>	My direct FVEAA email address.
<a href="mailto:editor@fveaa.org">editor@fveaa.org</a>	Submit articles/info for publishing in the newsletter and on <a href="http://www.fveaa.org">www.fveaa.org</a>
<a href="mailto:membership@fveaa.org">membership@fveaa.org</a>	Membership inquires.
<a href="mailto:events@fveaa.org">events@fveaa.org</a>	Submit information about upcoming EVentS.
<a href="mailto:fveaa@yahoogroups.com">fveaa@yahoogroups.com</a>	Send email to all FVEAA members on the [fveaa] listserve.

**FVEAA Web Addresses**

<a href="http://www.fveaa.org">www.fveaa.org</a>	FVEAA Website (duh:-) Login to access member roster, contact information, past newsletters and other FVEAA member resources.
<a href="http://www.fveaa.org/forums">www.fveaa.org/forums</a>	FVEAA Forums. Requires separate login. Posting messages here helps us build an organized collection of information (versus a big single email box like [fveaa]).
<a href="http://www.fveaa.org/meetings">www.fveaa.org/meetings</a>	Information about when, where and driving directions for our monthly meetings. Send this link to friends when you invite them to attend a meeting.
<a href="http://www.fveaa.org/vehicles">www.fveaa.org/vehicles</a>	The listing of all FVEAA member vehicles with links to individual vehicle pages.
<a href="http://www.fveaa.org/events">www.fveaa.org/events</a>	Listing of upcoming EVentS.
<a href="http://www.fveaa.org/join">www.fveaa.org/join</a>	Send this to your friends when you invite them to join us!
<a href="http://www.fveaa.org/renew">www.fveaa.org/renew</a>	Renew your FVEAA membership online by paying with a credit card. This is secure, fast and saves Dale and i a bunch of time!

[www.fveaa.org/contact](http://www.fveaa.org/contact)

General purpose contact page. Give this out versus email addresses whenever possible.

## Upcoming Event

*Ted Lowe*

Chicago Area Clean Cities Coalition presents an **Electric Vehicle Seminar** on Thursday September 6<sup>th</sup> at Maple Meadows Golf Course, 272 S Addison Rd, Wood Dale, IL. Let me know if you want registration information. Cost is free.

This morning seminar will highlight the many on- and off-road electric vehicles that are available for purchase in the Tri-State area: low speed Neighborhood Electric Vehicles, electric ATVs, utility vehicles and converted passenger vehicles. After hearing from several manufacturers and dealers, the vehicles will be on display and available for test drives.

Breakfast and lunch will be provided for seminar attendees. The following is the day's tentative schedule:

- 7:30 am - Registration and Continental Breakfast
- 8:30 am - Electric Vehicle Seminar
- 11:30 am - Electric Vehicle Display, Ride and Drive

## Some EV Resources

### **EV Album - [www.evalbum.com](http://www.evalbum.com)**

This excellent website shows pictures and detailed descriptions 1173 EVs of all types and sizes! Use it to learn about who is converting what, how and where. You can contact the owners to ask questions if the EV you're building is similar to theirs. And it's just plain fun to see all the "contraptions" that people convert to electric!

### **EV Trading Post - [www.evtradingpost.com](http://www.evtradingpost.com)**

Electric Vehicle Classifieds - The web's best place to buy or sell an electric car! Have an electric car, truck or other EV stuff you want to sell? Post them "FOR SALE"! Wanting to buy an electric car, truck or EV parts? Post a "WANTED" ad. Completely free service!

### **EV Convert - [www.evconvert.com](http://www.evconvert.com)**

A blog style website with lots of stories, tidbits, FAQ, EV resources, links, etc.

## GM

General Motors recently announced two new contracts to companies for the lithium-ion batteries. GM needs the Li-ion batteries for its "E-Flex" hybrid drivetrain, which uses batteries for propulsion, and has several versions to regenerate power for the batteries. They have made several announcements about the "E-Flex Hybrids" in the past, each using as its primary propulsion, an electric motor. The second part of the hybrid, the part that can recharge the Li-ion batteries during a trip, can be a gasoline engine, a hydrogen cell, an efficient diesel engine, or other new technologies.

This new powertrain was first shown at the Chicago Auto Show as the Chevy Volt concept car. Although no announcement as to which fuel source to use for the recharging has been made, GM now has contracts for the Li-ion batteries with these two companies. Compact Power, Inc (a part of LG Chem.) and Continental Automotive Systems both have GM contracts for the Li-ion cells. GM feels that the Li-ion cell has the power density, and can be produced at a reasonable cost. GM appears not to be worried about some of the recent Li-ion battery problems from batteries shipped here from the far east. It is felt that these recent quality issues can be overcome with a quality manufacturer.

GM Charman Rich Wagoner said, "Given the huge potential that the Volt and its E-Flex system offers to lower oil consumption, lower oil imports, and reduce carbon emissions, this is a top priority program for GM."

## Think City

Norway has been the site of production of prototypes of the two seat Think City. (Business 2.0 Magazine) -- Three pinstriped London investors stand outside an electric car factory in the green fields of the Norwegian countryside, waiting their turns to test-drive a stylish two-seater called the Think City. This EV uses a sterling engine which should help with recharging. This is an unusual looking car, with a new concept in sales/marketing. Where normal cars are sold, or leased, Think seems to have developed a new business model. The car will likely be sold and customers will lease the batteries, as a part of a mobility fee that may also include insurance and Wi-Fi access. Further evidence of an out-of-the box thinking includes the use of mostly prefabricated parts, and small assembly shops which are near population centers. The company plans sell cars online, built to order. Company plans have no showrooms, but the market will be seeded with some of the car-sharing concerns like Zipcar and Flexcar. Each car will be internet-and Wi-Fi-enabled, not only allowing drivers and passengers to obtain information, but allowing the car to determine the best way to recharge. Original statements offer to assemble no car before it is paid for.

Ford in 1999 acquired Pivco, a Norwegian electric car startup. It renamed the

enterprise Think Nordic. In the mid-'90s, Pivco had produced a small urban EV called the Citi, about 40 of which were sent to San Francisco as part of a pilot car-sharing program. Pivco rolled out a new version of the Citi, (with a name change to City) just before Ford purchased Pivco. Thinking the small car market was about to come to total fruition, Ford funded the development of a new City of meet European and U.S.A. standards. Later, as the California legislature appeared likely to change their regulations, Ford sold the Think company to a Swiss electronics company.

Later in a bankruptch sale, Jan-Olaf Willums, a Norwegian entrepreneur, bought Think, its factory, and Ford's nearly completed design for a new-model City about \$15 million, a true bargain. He has romanced the Google creators, Sergy Brin and Larry Page.

He plans to sell the cars for about \$15,000 to \$17,000 without batteries, and charge \$100 to \$200 a month for a mobilty fee. A variety of options will exist for purchasers.

## **Toyota**

Toyota announced with little fanfare that they will be testing a PHEV version of their Prius on the public roads in Japan. It will only get 8 miles on battery-only mode, but hey, it's a start. They are trying a modern-twist, real world testing vs. delaying their product for 1-2 years (while internally testing it). Let's reward their courage! Read more: [www.autobloggreen.com/2007/07/19/toyota-will-test-plug-in-prius-in-japan](http://www.autobloggreen.com/2007/07/19/toyota-will-test-plug-in-prius-in-japan)

## **Tesla**

In an important step in their production plan, Telsa Motors's Lithium battery pack has met UN safety requirements. Read more: <http://www.greencarcongress.com/2007/08/tesla-battery-p.html>

Telsa Motors's Roadster is ontarget to ship in Fall 2007! Read more: [money.cnn.com/2007/08/08/autos/bc.tesla.roadster.reut/index.htm](http://money.cnn.com/2007/08/08/autos/bc.tesla.roadster.reut/index.htm)

## **LionEV**

New on the scene, but planning some interesting products. Specifically, they are marketing Lithium powered 'New' Hyundai conversions and their own Lithium battery pack. Read more: [www.lionev.com](http://www.lionev.com)