

Fox Valley Electric Auto Association  
1522 Clinton Place  
River Forest, IL 60305-1208

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Address Correction Requested

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**NEXT MEETING:** Friday, February 21 at 7:30PM in Room K-161 at the College of DuPage, SW corner of 22nd Street & Lambert Road in Glen Ellen

**DISCUSSION TOPICS** - 1. Auto Show Report 2. Design of the Nissan battery charger by Ed Meyer. 3. Election of three Directors. 4. Owners Manual preparation.

**MEMBERSHIP INFORMATION**

Any person interested in electric cars is welcome to join the FVEAA. The cost for a full year's dues is \$20 that will entitle the member to receive our monthly Newsletter that contains useful information about electric car components, construction, policies and events. Dues for new members joining in March will be \$ 17.

To obtain information about the FVEAA, you may contact either President Woods or Vice President Shafer:

President - Ken Woods  
1264 Harvest Court  
Naperville, IL 60564-8956  
(708) 420-1118  
E-mail Casa Zeus2@aol.com

Vice President & Editor - Bill Shafer  
1522 Clinton Place  
River Forest, IL 60305-1208  
(708) 771-5202  
E-mail WHShafer@aol.com

**FEBRUARY 1997 PRESSEZ**

A big thank you to the 16 members who helped man our exhibit at the World of Wheels Auto Show. It was a great opportunity to reach a selected audience. The Nissan with its finished buffed by the crew at Clow Airport and new wheel covers looked great. The first discussion item at the February meeting will be a debriefing report on the Auto Show by those who participated.

For the remainder of the meeting, Ed Meyer has agreed to tell us about the battery charger he designed and built for the Nissan. We will elect three directors. Finally, Bill Shafer will lead a discussion of a draft copy of the Nissan owner's manual.

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## JANUARY, 1997 Meeting Minutes

The Jan. 17th meeting at the College of DuPage was called to order by President Woods at 7:37. Fourteen members and three guests attended. Mike Kalagian joined the FVEAA at his first meeting.

The December meeting minutes were approved. The Treasurer reported \$ 2322.42 in the Savings account and \$ 1877.91 in the checking account.

Bill Shafer led a discussion of the final details for the World of Wheels Show participation next Friday. Gary Krol, our contact person, was unable to attend this meeting. ComEd will provide vehicle transportation and a poster.

Stanchions and ropes are not provided as a part of our registration. Members approved a maximum expenditure of \$ 60 for these items with Ed Meyer to handle.

Printing of 1000 copies of an updated, four-page handout was approved. It was also decided there would be no FVEAA Newsletter freebie.

The members agreed to reimburse necessary parking expenses for FVEAA cars that must be off the show floor Sunday night, but cannot be picked up until Monday.

Member Bob Barrett reported on his attendance at the EPA public hearing on proposed new standards for air quality.

Guest Dennis Melton, who has converted cars and trucks to use compressed natural gas described the process. Most conversion have been for Peoples Gas, North Shore Gas, and NIGAS. The storage tank is bulky with gas stored at 3600 psi. This requires fueling stations or a compressor costing about \$ 15,000 to buy and requiring about the same kWh as used by an electric car.

Project Manager Bob Munroe discussed the Nissan conversion. The most recent balance sheet shows expenditures of \$ 4888. There are 47 Participation Shares @ \$ 100 and \$ 1888 of FVEAA funds spent.

Members approved a motion to set a June first completion time. The Treasurer was requested to send a letter to Participation Shareholders asking each if he wishes immediate redemption of the his share(s). Savings account funds would be used for those who opt for redemption now.

Punch list work will be completed before June first. A look-and-drive opportunity will be scheduled in May for members to inspect and drive the car. After this, it will be auctioned to a FVEAA member for the highest bid exceeding a minimum price to be set later. This will complete the Project.

Preparation of an Owner's Manual for the car was also discussed. Member Andy Redpath offered to prepare the document, after being provided with the schematics and a text. Dana Mock has the the diagrams and Bill Shafer will update the 1986 Owners Manual, written for the Club Fiat, to apply to the Nissan. This will be a discussion subject at the February meeting.

George Krajanovich want to sell his MI Towncar (See Cars For Sale in this issue) so he can proceed with a Plymouth Horizon.

Ed Meyer presented energy use data for the first 1000 miles of driving the Nissan. Average consumption was 0.334 kWh/mile. Data will appear in a future Newsletter.

Editor Shafer stated the 1997 Membership Roster will be published in the February Newsletter. Inclusion of FAX number and e-mail addresses was requested.

Submitted by

Secretary Dave Aarvold.

## RECENT ARTICLES ABOUT ELECTRIC VEHICLES

Articles about the GM EV-1 appeared in many newspapers during the initial release of cars in California and Arizona. Former President Lyndon Johnson once noted that if he could have the headline writer, the cartoonist, and the editorial page editor you could have the rest of the paper. In that spirit here are EV-1 headlines.

The Chicago Tribune said that, "GM has a good shot at establishing the car as a viable retail product". The Columbus (OH) Dispatch headline read, "Costly and impractical, GM's electric car charges into showrooms". The Daily Herald (IL) headline stated "General Motors electric vehicle charges up for maiden journey". The Chicago Sun-Times headline was "GM hopes it isn't burned by new electric car". The Copley News Service had a banner reading "General Motors boldly charges into electric car race". The 12/6/96 Chicago Tribune story on the car headline says "Electric car sets off sparks". The same story noted that coincidentally with car deliveries, Mobil Oil ran ads saying, "Consumers and legislators should ask if mandated electric vehicles are solving a problem or if, in fact, they are contributing to the problem".

A useful bit of information was provided by a letter to the Chicago Tribune editor from Wendy James, Manager of Electric Transportation at Southern California Edison (SCE). It announced that with a separate meter being provided by SCE, the electricity for charging an EV-1 will cost the equivalent of 33 cents per gallon. (Editor's note - that is with no road taxes. These are likely to be added later.)

The Chicago Tribune on 11/17/96 reported that Toyota will offer a gas-electric car in 1997. It is expected to be the world's first mass-produced hybrid car. It will get 70-84 miles per gallon.

The Daily Herald and Sun Publications in January reported that Chrysler is developing a fuel cell system for vehicles. (See article about this that follows under Other EV Newsletters). They are not sure the system will be cost effective.

The March 1997 issue of REASON magazine on Page 17 had a short article entitled Shock Therapy for Taxpayers. It reported that the California Air Resources Board has mandated Zero Emission Vehicles. This fiat forces automakers to build a car that needs (battery) technology that doesn't exist. The measure gives lots of taxpayer money to cram 70 years of R&D into 15 years. It caused the EV-1 to be built. To lease one you have to have to earn at least \$100,000/year, have a garage (and wallet) big enough for a \$ 2500 charger. The program also envisions building a bunch of \$ 20,000 charging stations at taxpayer expense so the likes of Jay Leno and Ed Begley can catch a quick charge. Finally each car qualifies for \$ 8400 in tax rebates and credits that ease the pain of the \$ 34,000 price tag. ZZZZZaaaaaappppp!

Tech Update reported the Israeli Electric Fuel Corp. crossed the Alps in a converted Mercedes van using their zinc-air battery. The route included a 93-mile continuous climb over a 6874-foot peak followed by a 68 mph sprint on the highway to Turin, Italy.

## RECENT ARTICLES ABOUT ELECTRIC VEHICLES - Concluded

The Winter 96-97 copy of *Issues In Science And Technology* (National Academy of Sciences) on page 29 has a five-page article entitled **Rethinking the Car of the Future**. It is an analysis of the Partnership for a New Generation of Vehicles (PNGV) federal program. The goal of this joint venture with the Big 3 automakers is to develop a car that will achieve a fuel economy of 80 miles per gallon. It is an outgrowth of Amory Lovins' initial work.

PNGV was authorized in 1993. The timetable calls for selection of the most promising technology this year, creating a concept prototype in 2000, and building a production prototype by 2004. This schedule will require use of technology currently available. One consequence is the likely selection of a diesel-electric hybrid: a direct-injected diesel engine combined with an electric driveline and a small battery pack. This would be only a very modest technological step. European companies are presently working on advanced versions but these will not be available to meet the schedule.

The author, Daniel Sperling, criticizes the Partnership administrative structure. The Big 3 controls contracts awarded to National Labs and independents. Funding last year was \$ 238 million, with \$70 directly related to PNGV. The Big 3 lack expertise in advanced PNGV technologies and routinely delay commercialization of significant energy and emission measures for fear that regulators will codify these as a technology-forcing mandate.

Much of the existing car manufacturing plant and human capital could be made obsolete by new technologies such as composite bodies, small-scale production, decentralized manufacturing, and changes in the marketing and distribution systems. These shifts will probably accompany adopting a PNGV. The Partnership is likely to adopt technologies that are closest to commercialization. Companies do not wish to share proprietary innovations that might be central to their future prospects.

The author recommends changes in the design and organization of the Partnership. He recommends more stringent emission requirements and less-demanding performance standards. He also recommends removing the 1997 deadline but retaining the 2004 goal to allow consideration of new technologies. A third recommendation is to direct all funding to independent technology companies, including the National Labs. Eliminating management and contracting oversight from the Big 3 will leave these programs with more funds and a greater likelihood of progress. He believes the Big 3 will be willing to accept a program monitoring role to benefit from early access to developments.

## ELECTION OF DIRECTORS

The election of three directors for 1997 was postponed from the November meeting because of the uncertain status of our founder and director, John Stockberger. Three members have agreed to serve as directors: Steve Clark, Ed Meyer, and Bob Munroe. The election will in February.

## FROM OTHER EV NEWSLETTERS

**EEVC, The Eastern Group** in their January Newsletter announced that Peter Cleavland, their Newsletter Editor, was honored as "Club Member of the Year" His picture appeared on the cover with a "Grumpy old man revealed" caption. President Oliver Perry had a long article about 1996 developments and events. He reported on a conversation with a New York Power Pool Analyst who believes the Federal government has expected power utilities to lead the country in the use of electric vehicles. Impending deregulation of this industry makes this an unlikely prospect. He pledges the EEVC to continue their role as dispensers of information, providers of EV news, and support of members.

The issue includes a description of Chrysler's hybrid effort. They have retained the consulting firm Arthur D. Little to develop a system that will make the \$ 200 billion gasoline infrastructure usable by EVs. They hope to display the system within two years. The key component is a reformer process that will convert gasoline into hydrogen, carbon dioxide and water. The fuel first goes through a vaporizer that converts it from a fluid to a gas. It then goes to a partial oxidation reactor where sulfur is converted to hydrogen sulfide and filtered from the vapor. Since CO poisons fuel cells, it is removed by introducing steam where the mixture flows over a copper oxide and zinc oxide catalyst that converts CO to carbon dioxide that is discharged. The remaining gas is then passed over a platinum catalyst that leaves only a trace of CO in the stream. A fuel cell then uses the gas to produce electricity. They hope that fuel cells can be mass-produced for \$ 200/kW compared with engine powertrains today that cost about \$ 30/kW. The system keeps only the hydrogen in the gasoline fuel and throws away the carbon, wasting a great deal of energy. (Editor's note - it sounds to me like putting wheels under a refinery.)

**Electric Grand Prix Corp.** in their Jan-Mar issue takes the latest study by Lester Lave of Carnegie-Mellon to task. You may remember he was one of the authors who concluded that the recycled lead in EV batteries posed a serious environmental threat. Their latest conclusion, published in *Environmental Science & Technology*, restates the theme that EVs will provide only a marginal benefit to air quality. The issue also has a summary of many articles from CALSTART.

**VEVA, the Vancouver Group** in their January Newsletter covered Honda's EV PLUS that will lease for \$ 500/month. They also cover AC Propulsion's new "t-ZERO" electric roadster, a 2-seat, 2400 pound car that will do 0-60 in just five seconds. The drive system is a 220 horsepower, ac drivetrain. Single-charge range is 100 miles @ 70 mph. Cars' cost - \$ 60-100,000.

The issue also reports that the Northeast Alternative Vehicle Coalition has devised insulated and fuel-fired heated battery compartments for EVs to overcome the cold weather affect on range.

The **GLEAN** Executive Report of December reported on EPA's proposed tighter air standards. They also state the USABC is putting money into NiMH battery cost reduction by both GM-Ovoincs and SAFT. They also had an account of a speeding ticket issued for driving a Solectria converted Geo Metro 77 mph in a 55 mph zone. Since the driver knew he was driving with a depleted battery, he knew that was wrong. Faced with a thick sheaf of evidence and calculations,

the prosecutors refused to proceed and the judge dismissed the case.

Copy of a sign placed on the controllers of cars the FVEAA exhibited at the Car Show

**ACHTUNG ! ALLES LOOKENSPEEPERS**

DAS ELECTRISHENMACHINE ISS NICHT FUR GEFINGERPOKEN UND MITTENGGRABBen. IST EASY SCHANAPEN DER SPRINGWERK, BLOWENFUSEN, UND POPPENCORKEN MIT DER SPITZENSARKEN IST NICHT FUR GEWERKEN BY DAS DUMMKOPFEN. DAS RUBBERNECKEN SIGHTSEEREN KEEPEN HANDS IN DAS POCKETS. RELAXEN UND DER QUESTIONASK.

Poster made for our Auto Show Exhibit

**FOX VALLEY ELECTRIC AUTO ASSOCIATION**

**POWER FROM ComEd**

**CLEAN**  
**68% NUCLEAR GENERATION**  
**29% LOW SULFUR COAL**

**ECONOMICAL**  
**RESIDENTIAL MARGINAL RATE**  
**= 8 CENTS/KWH**

## ELECTRIC CARS FOR SALE

### Category A: Cars that are running

1. Member George Krajanovich's MI Towncar. Built in 1982. Fiberglass body on VW "BUG" platform (Chassis parts readily available) Seventy two volt electrical system, 12 horsepower GE series-wound motor. Includes a 5 hp engine-generator. Performance: Top speed - 55 mph. Range - 35 miles. Energy use - 0.40 kWh/mile. Weight - 2700 pounds. Batteries are 5 years old. Great for someone wanting to try an electric car at a modest cost. A tinkerer could improve performance. George lives in Oakbrook Terrace and has started conversion of his second car. Sale Price - \$ 2500. Call him at (630) 834-0370
2. Member Tom Kaminski's 1975 Citicar. 48-volt system. Probably will need new batteries. Tom lives on the northwest side of Chicago and will negotiate a reasonable offer. Call him at (773) 282-4828.
3. Former member Ed Ahern's 1974 Fiat. It is in fair condition and has a 48-volt system. New batteries in 1993. Ed doesn't use it much. He lives in Wheaton, lists the car for \$ 1000, and will negotiate a reasonable offer. Call him at (630) 260-3712 between 4-8PM.

### Category B: Cars not running

1. Hank Fiere's 1974 Citicar. Bought two years ago for \$ 1800. Fair condition. Includes shop manual. Needs rewiring and new batteries. Car at his business, 2919 South Halsted in Chicago. Will consider a reasonable offer. Call him at (312) 326-4499 (Daytime)
2. Bob Sach's 1978 Honda Civic that he bought from Everett Harris. This car was converted by John Stockberger and Ken Meyers. Bob is a Chicago fireman who used the car to drive 5 miles between home and the firehouse where he had plug-in priviledges. Fifty-four volt system with aircraft-type starter-generator used for motor. Top speed- 43 mph. Range 18-20 miles. Needs new batteries. Sale price - \$ 1800 or best offer. Phone (312) 463-8410.
3. Member Frank Pietrolonardo wants to sell his 1977 VW. He also has a few motors, an aircraft starter-generator, two Elcars and two Renaults that could be electrified. If you are interested in any of this material call him in Arlington Heights at (847) 259-0570. No asking price is listed.
4. Member Dale Corel has a 77 VW that needs batteries. Will sell cheap or give to a FVEAA member willing to get it operable. Call him at (708) 228-5952 - weekends only.

# Window Sticker for Auto Show Exhibit

1990 NISSAN SENTRA

Fox Valley Electric Auto Association Club Project

<b>Top Speed</b>	<b>75 mph</b>
<b>Range</b>	<b>27 miles</b>
<b>Energy use</b>	<b>0.34 kWh/mile</b>

## Construction Features

Converted in 1996

120 volt system (30 twelve volt gel cell batteries)

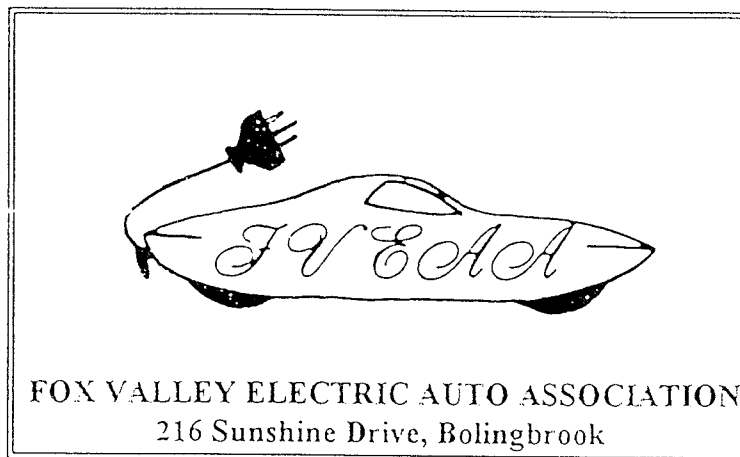
Series-wound DC Motor, 70 H. P. Peak

Pulse width, MOSFET Curtis Controller

Member-designed battery charger

Weight: 2891 pounds

Project Cost \$ 6681





FOX VALLEY ELECTRIC AUTO ASSOCIATION PAID MEMBERS FEB 97

NAME STREET	AREA	PHONE TOWN	FAX	ST	E-MAIL ZIP	SUBZP
David B Aarvold 915 Oak Street	815	748-3746 DeKalb		IL	60115	-3470
Robert D. Barrett 10261 Canterbury Street	708	865-7027 Westchester	865-0249	IL	60154	-3640
Dr Rodney Bohlmann 22300 Rolling Hill Lane		Laytonsville		MD	20882	-2338
Rob Bohnivert 811 N. Rinear	847	838-2126 Antioch		WI	60002	
Paul Bowerchuck 4107 Park Street	630	971-2599 Westmont		IL	60559	-2599
Alfred Brinkmeyer 4323 Devon Ave.	630	968-7052 Lisle		IL	60532	-1137
Jack Cahill 1 S 736 Vista Avenue	630	629-3989 Lombard		IL	60148	
Steven F Clark 4533 Downers Drive	630	963-3110 Downers Grove		IL	60515	-2727
Larry Claypool 21403 8th Avenue	815	469-2936 Frankfort	469-1354	IL	60423	
Dale Corel 595 Gateshead North	708	228-5952 Elk Grove Vill.		IL	60007	-3433
Frank Delmonico 5629 Bohlander Avenue	708	544-6312 Berkley		IL	60163	
John Emde 6542 Fairmount Avenue	600	968-2962 Downers Grove	447-4673	IL	60516	-2919
John J Enhorning PO Box 29 (3956 Stiles Rd	616	843-3093 Ludington		MI	49431	-0029
Len Fisher 6351 Amiston Drive	614	764-9733 Dublin	764-5875	OH	43017	-1917
Alexander Glowiak 101 Rumsey Road	630	968-2486 Westmont		IL	60559	-2650
Hendley Hall 530 Lawn Drive	815	877-7290 Loves Park		IL	61111	5129
Paul P Harris 546 Rivershire Place	708	793-0546 Lincolnshire		IL	60069	-3813
J E Helenowska 5754 North Elston	312	775-8775 Chicago		IL	60646	-5547
Jay Johnson 365 Meadow Lake Blvd	630	820-9252 Aurora		IL	60504	-6177
Richard Johnson 1124 South Cuyler	708	386-0082 Oak Park		IL	60304	
Mike Kalagian 3821 South Highland Ave.	708	788-5211 Berwyn		IL	60402	-4015
Thomas Kaminski 4828 West Warwick	312	282-4828 Chicago		IL	60641	-4828
James E Ketelle 1670 4th Street	715	887-3912 Port Edwards		WI	54469	-1021
Fred Kitch 171 East Burlington	708	447-6125 Riverside		IL	60546	-2147
George Krajnovich 17 W 381 Eisenhower Road	630	834-0370 Oakbrook Terrace		IL	60181	
Lad Kucera 8 Arthur Avenue	630	850-7246 Clarendon Hills		IL	60514	
Steve Leisner 1617 Quincy Avenue	414	634-4470 Racine		WI	53405	

FOX VALLEY ELECTRIC AUTO ASSOCIATION PAID MEMBERS FEB 97

NAME STREET	AREA	PHONE TOWN	FAX	E-MAIL ST ZIP	SUBZP
Robert Loescher N26 W27192, Hwy	414	691-3841 Pewaukee		(Work 645-3750 x 354) WI 53072	
Michael Magiera PO Box 198	317	963-5227 Sharpsville		IN 46068	
Edward E Meyer 216 Sunshine Drive	630	759-0326 Bolingbrook		IL 60440	-1545
Dana Mock 154 Denver	630	759-8033 Bolingbrook		DMock51754@aol.com IL 60440	
Bob Munroe 22 W 388 Glen Valley Dr.	630	858-7066 Glen Ellen		ROBMUNSE@aol.com IL 60137	-7066
Richard Ness 2129 North Naragansett	773	889-7757 Chicago		IL 60639	
L J Obiala PO Box 369	414	867-3445 Weyauwega	258-4125	WI 54983	-0369
Scott Ortiz 332 North Martha Street	630	495-8327 Lombard		IL 60148	
Raymond Oviyach 6800 Laramie Avenue	708	560-0715 Oak Forest		IL 60452	-4528
Jim Paulsen 848 62nd Street	708	482-3821 La Grange		IL 60525	
Frank Pietrolonardo 1122 East Thomas Street	847	259-0570 Arlington Heights		IL 60004	-5065
Paul A Polster 344 Lawn Terrace	847	740-1048 Round Lake		IL 60073	
Bob Randerson 25 South Spring	708	352-3887 LaGrange		IL 60525	-2236
Andrew Redpath 2337 Worthing Dr. # 102A	630	416-3570 Naperville		IL 60565	-3019
Ben Schmid 1315 Fitzgerald Drive	219	924-7951 Munster		IN 46321	-4203
William H Shafer 1522 Clinton Place	708	771-5202 River Forest		WShafer@aol.com IL 60305	-1208
Irwin Singh 790 Stanford Lane	630	372-6182 Carol Stream	372-6182	IL 60188	
Mark Tilton 905 Hilltop Blvd.	815	344-3066 McHenry		IL 60050	-8202
Carl Tipton 415 Briarwood Place	515	292-8493 Ames		C_Tipton@molebio.iastate.ed IA 50010	-3506
Vladimir Vana 5558 Franklin	708	246-3046 LaGrange		IL 60525	-3046
Alan V Wilson 917 White Avenue	608	362-2956 Beloit		WI 53511	-4549
Kenneth Woods 1264 Harvest Court	708	420-1118 Naperville	420-1517	CasaZeus2@aol.com IL 60564	8956