

FVEAA NEWSLETTER

September 1994

President	Vice President & Editor	Secretary	Treasurer & Librarian	Director	Director
Ken Woods 1264 Harvest Court Naperville, IL 60564-8956	Bill Shafer 308 South East Ave Oak Park, IL 60302-3512	Dave Aarvold 915 Oak Street DeKalb, IL 60115-3470	Dale Corel 595 North Gateshead Elk Grove Village, IL 60007-3433	John Emde 6541 Fairmount Downers Grove IL 60516-2919	John Stockberger 2 S 643 Nelson Lake Rd Batavia, IL 60510-9762

NEXT MEETING - September 16 at 7:30 PM

Will be in Room 1046 in the Student Resource Center at
the College of DuPage, southeast corner of 22nd Street & Lambert Road

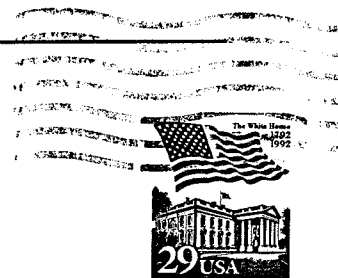
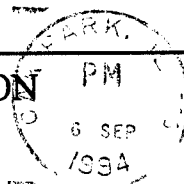
DISCUSSION TOPICS - Member Bob Munroe's cooperative construction
proposal and an "Open Topics" opportunity.

MEMBERSHIP INFORMATION

Any person interested in electric cars is welcome to join the FVEAA. The cost for a full year's dues is \$15 which will entitle the member to receive our monthly Newsletter which contains useful information about electric car components, construction, policies, and events. Dues for new members joining in September will be \$ 2.50

NEWSLETTER

FOX VALLEY ELECTRIC AUTO ASSOCIATION
308 South East Avenue
Oak Park, Illinois 60302



First Class

Dale Corel
595 Gateshead North
Elk Grove Village IL 60007 -3433

ADDRESS CORRECTION REQUESTED

MINUTES OF 8/19/94 MEETING

The meeting was called to order by President Woods at 7:44 PM. Nineteen members, and five guests attended. Minutes of the July meeting were approved as published.

VP Shafer reported that the Aug Newsletter was mailed to 70 members and 27 exchange organizations. In July there were 17 inquires.

President Woods introduced Kevin Taylor from the Chicago Area Transportation System (CATS) who presented elements of the Employee Commute Option (ECO) ozone reduction requirements. The plan, developed with business participation, is aimed at a 25% reduction in the number of persons driving solo to their jobs during the 6-10 AM rush hour time. There are no penalties for the failure of an employer of over 100 workers at a worksite achieve the 25% reduction, but there are fines for a failure to try. Current car occupancy is 1.09 persons per car. The objective is to raise this to 1.36. Success will require changing driver's attitudes toward work commuting.

There was a discussion concerning Member Mitchell's efforts to get his employer to install an opportunity recharging outlet at his worksite in Des Plaines. The FVEAA may choose to get involved in this.

After the break, Member Emde played a VCR tape of the Formula "Lightning" race held between midget car races in Cleveland.

Members Emde and Woods conducted a preliminary inventory of EV components John Newton accumulated. Included were such items as a 200- amp and 500-amp aircraft generator, a MG set used for applying a variable DC voltage to determine a DC motor no-load saturation curve, a 180-

amp, 5000 rpm motor-evidently from a forklift truck, a metal lathe, and an extensive collection of hand tools and other parts.

On September 10th at 9:30 AM, usable equipment will be removed from Newton's basement and moved to the barn of new Member Alan Potyen, who lives nearby at 2 S 211 Park Blvd in Glen Ellen. Members wishing to join the 9 persons volunteering for this endeavor should call Ken Woods.

Member Bob Munroe presented a preliminary proposal for the cooperative construction of a EV conversion. Details may be read in an article in this Newsletter.

Approved was a request by VP Shafer to represent the club, at no FVEAA expense, at an Oklahoma City event October 25-27.

The meeting was adjourned at 10:11 PM

Submitted by,
Dave Aarvold
Secretary

EV COMPONENTS FOR SALE

Member Jerry Mitchell (708) 299-3497 has the following EV components for sale:

West. 400-amp DC aircraft shunt generator	\$ 200
GE "	100
24-volt golf cart motor	50
24-volt, 50-amp generator	50
12-volt battery charger	25
36-volt "	25
Five DC motors	make offer
Heavy duty repulsion start AC motor	" "

RECENT EV ARTICLES

PROTOTYPE VEHICLES

"Supercar Initiative-Breakthrough or Boondoggie? Engineering Times, July 1994.

Is the Federal Government partnership formed in 1993 with the auto industry to accelerate development of a high mileage (80 mpg), low emission car justified? Critics contend the government assumes most of the financial risk in the joint venture and that most of the technology for building such a car already exists.

Wheels Kane County Chronicle September 10, 1993.

This article featured photos of the Renault Zoom electric, Ford's Sub-B concept and Mercedes city concept. These cars were exhibited at Frankfort (Germany) auto show.

Scramble's on for hydrogen-fueled car Aurora Beacon-News (Date unknown)

An experimental hydrogen-fueled car will be unveiled in March by a Florida company, Energy Partners. Hydrogen is used for fuel cells to provide electricity for this electric car.

Smart system bring electric car concept closer to reality. Publication and date unknown.

Chrysler and Norvik Technology have developed a smart charger that samples the batter state of charge six times per second and adjusts the charging current. This system is proposed for use in converted Chrysler minivans.

Chrysler rolls out first safety-certified vehicles. Publication and date unknown.

The electric version of the Chrysler minivan has been safety-certified and delivery is started to utility companies participating in the Electric Power Research Institutes 50-vehicle tests. Northeast Utilities received one of the first vehicle and will test them in the hilly terrain and cold weather of New Hampshire, Mass.; and Conn.

GM juices up EV Batteries. Daily Herald - March 12, 1994 - Section 6, Page 4.

GM is testing the Ovonic nickle-metal hydride battery in their IMPACT. Robert Stemple, former GM Chairman and technical advisor to Ovonic is included in the agreement between the two companies.

PUBLIC POLICY

Electric challenger. Sun-Times August 10, 1994, page unknown.

Edison Electric Institute fleet managers at A Detroit conference discussed measures needed to incorporate EVs into utility fleets.

California Dreamin' The Environmental Magazine (E) August, 1994 - Pages 26-33

The future of California's personal transportation sits in a parking garage at Southern California Edison's Rosemead Headquarters. The writer observes that GM and Ford did a good job of designing EVs, but are trying just as hard not to build them in any quantity. The California mandate for 2% ZEV sales by 1998 has spread to 12 other states. Automakers have maintained an intense lobbying effort in Sacramento to repeal this measure. CALSTART, a state-funded company in a Burbank, has developed a new bodyless electric car chassis that can be used to make a range of finished cars. Job development is a big factor in California's EV interest. They see it as a business that could employ the talents of aerospace workers whose jobs are being phased out by the defense downsizing.

EPA cuts commuter restrictions Crains's Chicago Business 8/22/94, page 38

Crain's reports that EPA chief Carole Browner has decided that ozone protection programs will require action ONLY during the summer months. This is good news for 9200 Chicago-area employers of more than 100 workers.

America's auto future may lie in hybrid cars Peter Bohr - Kane County Courier 5/21/93, P-4
The Federal government may include hybrid car development in the high-mileage partnership. A test drive of the Swedish turbine-powered hybrid, the ECC, convinced the Road & Track engineering editor that hybrids are a distinct possibility. The ECC accelerates 0-62 in 23 seconds as an electric and in 13 seconds with the turbine functioning.

Events

Third Annual Iowa Renewable Energy Expo September 10-11 Cedar Rapids (Hawkeye Downs)
Workshops, Speakers, Displays and Demonstrations. Contact Tom Snyder, Iowa Renewable Energy Association, 611 Second Street SE, Dyersville IA 52040 (319) 875-8772.

S/EV 94 October 3-5 - Providence RI (Solar & EV Symposium)
Sponsored by Northeast Sustainable Energy Association. Keynote speakers are Amory Lovins, David Freeman, and Robert Stempel. Workshops, Tutorials, and Paper sessions. Nancy Hazard, Northeast Sustainable Energy Association 23 Ames Street Greenfield MA 01310. (413) 774-6051

Central Electric Vehicle Symposium October 25-17- Oklahoma City
Sponsored by Oklahoma University, Electric Vehicle Research Institute, and Electric Power Research Institute (EPRI) Speakers, Paper sessions, and Exhibits. Oklahoma Gas & Electric, PO Box 321, M/C 902, Okla City OK 73101. (405) 3225-4721.

EVS-12 - Anaheim Convention Center (12th Biennial International Symposium)
SHO (Electric Power Research Institute) 167 South San Antonio Rd, # 10, Los Altos CA 94022
(415) 949-2050

FROM OTHER EV NEWSLETTERS

The Aussies (AEVA) report an EV Task Force for Australia (EVTRANZ) has been established to develop an EV market and component manufacturing endeavors. They also report initiation of a government rewrite the present Motor Vehicle Industry Plan to include the development of an electric vehicle industry. A delightful excerpt in this article reads, " We can retard the deskilling of Australia by avoiding th wharfie-to-waiter, teacher-to teller, construction worker-to croupier scenario". They observe the US EPA has declared war on "back-yard" polluters that include lawn mowers, golf carts and even snow blowers. The small engines used in 89-million yard and garden work are a significant source of air pollution according to EPA head, Carole Browner. Mowing the lawn produces the same amount of volatile organic compounds as driving a car for 30 Km.

World Electric Transportation published the preliminary GE Automotive Shunt Motor Controller specifications. The unit operates 96-144 volts, can handle 500 amps, and includes field weakening and regenerative braking features. Specifications for a GE 5BT1346B104 shunt reaction motor rated 20Kw -5000 rpm -96 volts - 250 amps- 170 pounds- 9" diameter x 18" length. WET also reports Solectria has a \$ 1.1-million contract to build their "Sunrise" EV that will weigh about 1400 pounds and sell for an estimated \$ 15,000.

FROM OTHER EV NEWSLETTERS - CONTINUED

The Sacramento EV Assn. (SEVA) had an article by member Tony Cygan about starting his conversion of a Porsche 914 and another article by a member concerning his trip to the airport in his EV that required "opportunity recharging".

EV CIRCUIT in Ottawa (EVCO) described how one of their members developed an electric heater using the elements from 3 hair-dryers and battery-warmers that can be plugged into the charger ac supply circuit. (I still like my 40-watt, 12-volt seat heater purchased for \$ 35 from COMB - Editor)

Great Lakes Electric Auto News (GLEAN) reports on a new 32Kw traction motor with an 8000 rpm rating. Info on this can be obtained from Unique Mobility, Golden Colorado (303) 278-2002. There was also an informative article on EV power requirements that are similar to the "Standard Conversion Package" article in the FVEAA August Newsletter. GLEAN reports two California utilities will be testing EVs from Honda.

Southern Cal EVA (EVAOSC) has completed actions necessary to become a non-stock, non-profit California corporation. The August issue has 2 pages of EV photos and 1 1/2 pages of EV classified ads. The issue also has the location and phone numbers for 22 individuals and businesses willing to provide opportunity recharging.

HE WHO DOES NOT LEARN FROM HISTORY IS DOOMED TO REPEAT IT

From FORBES Magazine, October 27, 1980

The once and future car

Like space travel, synthetic food and the four-day week, the electric automobile has been one of those ideas whose time never seems to come. Four years ago, FORBES (Oct. 15, 1976) proclaimed that "the electric car's rebirth is as sure as the need to end our dependence on imported oil." A year later, after Congress had approved a project—but appropriated no money—for a government-sponsored electric, Washington did scrounge enough funds for a 200-car program (Follow-Through, Oct. 15, 1977). Twelve months after that, some of the new electric vehicles ("EVs" in federalese) were actually on the road though they hardly added up to a fleet. AT&T had 20, New York's Consolidated Edison was using the first of its allotted 40 and so was Long Island Lighting. More importantly, Jimmy Carter's budgeteers had raised the EV ante from \$37.5 million in fiscal 1979 to \$41 million for 1980.

And now?

On the private side, the Electric Vehicle Council counts 17 commercial producers that say they have sold exactly 1,771 vehicles. (Another 2,000, built years ago by a now defunct firm, may also still be ticking along.) On the government side, a \$160 million, ten-year research and development program is still alive but the money will probably all be spent by the end of the next year, half the allotted time. Uncle Sam's newest idea for expediting matters is to line up one of the major carmakers and give it \$35 million to \$40 million to subsidize the cost of getting an EV into actual production. General Motors, for one, has talked of plans to have an electric car with a GM label by the mid-1980s. Since that promise was made, however, GM has changed its top executive team and in Detroit it's not unusual for new managers to rewrite the playbook.

Tom Swift, where are you when we need you?

PRESEZ

Hi

Ken

FORBES, OCTOBER 27, 1980

A PROPOSED FVEAA PROJECT

Member Bob Munroe at the last meeting offered a brief summary of a project for FVEAA consideration. He proposes that FVEAA members buy \$ 100 "shares" to provide the initial capital needed for members to cooperatively recycle and convert a car for electric power. He proposes using the "Standard" package outlined in last month's Newsletter. Most components are commercially available.

The conversion work would be supervised by members having experience with conversions. Tools and time spent would be donated to the FVEAA.

He proposes a project budget of \$ 7000. This could be supplied by at least 70 members and/or outsiders @ \$100, a modest sum.

He observes that personally, he probably will never be able by himself to build and EV because:

1. Lack of space.
2. Technical capability.
3. Available time.
4. No experience in this field.
5. Dollars available to finance a complete project.

These barriers are probably shared by most of the FVEAA membership.

The payoff:

1. When car is completed it would be sold by bid. (This solves the insurance problem the FVEAA had with the FIAT which was once a club-owned vehicle) As an alternate, the car could be raffled with each chance being the initial \$100 advanced, and sale of additional \$ 100 chances. To be fair, members spending time on the project should be reimbursed for their time at an agreed hourly rate. Money from the sale would be used to return the up-front money advanced with any extra going into the FVEAA treasury to finance future activities.
2. Members working on a project will acquire knowledge of the conversion steps and EV principles. This may encourage a hesitant participant to proceed with his own conversion project.
3. Someone will end up owning and driving an EV.

The needs:

1. Suitable space.
2. Project management team, including financial record keeping.
3. Approval of a final plan by members.

This proposal, which requires additional discussion, will be considered at the September meeting.

Member Scott Ortiz furnished the Editor a copy of three papers published by Center for Alternative Energy.

A NEW ROLE FOR ELECTRICITY AS A TRANSPORTATION FUEL

The first of these is by the Electric Transportation Coalition, a nationally based non-profit organization that advocates electricity as a transportation fuel. This group is based in Washington and can be reached at 701 Pennsylvania Avenue, 4th Floor - East Building, Washington DC 20004 (202) 508-5995

The policy shift to EVs has come about due to three factors: the need to improve urban environment; the need to enhance US energy security; and the desire to improve the US global competitiveness. Nearly 100 cities in the US fail to meet federal standards for ozone, but some have questioned the true environmental gains from EVs because of increased power plant emissions if additional electricity from fossil fueled generating stations is considered. The World Resources Institute has concluded that EV's could reduce greenhouse gas emissions by up to 25% per mile driven when compared with gasoline-powered vehicles, based on the anticipated US generation mix six years from now. If EVs were to substitute for 22% of present cars, one million barrels of oil could be saved **PER DAY**.

The Energy Policy Act of 1992 (P. L. 102-486) authorizes \$ 500-million for federal programs to assist industry with R&D and for commercial demonstration of vehicles. It also provides tax credits equal to 10% of an EV purchase cost up to \$4000 and a business credit of \$ 100,000 per EV recharging facility. This funding is in addition to federal support for vehicle and battery R&D.

SACRAMENTO PLANS TO BECOME THE NATION'S CLEAN AIR CAPITAL

The second article, abstracted from EVAmerica's Newsletter, describes plans the Sacramento (CA) Municipal Utility District (SMUD) has developed for EVs in that community.

SMUD and McClelland Air Force Base have 41 EVs in their fleet, funded partly thru federal grants. The utility has also installed 21 public EV charging stations with 70 outlets throughout the community, including one that is solar-powered. An additional 70 will be completed soon. Most stations have both 120 and 208-volt single-phase outlets, each with a ground fault protector and circuit breaker. SMUD has instituted a nighttime off-peak charging rate of 4.2 cents per kwh. Working cooperatively with the Sacramento Regional Transportation District, 30 diesel buses are being replaced with 30 electric trolley coaches.

INTERNAL COMBUSTION ENGINE FIELD EVALUATION

The third article written by J E Dean, senior engineer with Entergy Services; F J Brown (PhD) retired associate professor of mechanical engineering at the University of New Orleans; and J D Bankston (PhD), engineering specialist with Louisiana State University in Baton Rouge.

This is an extensive paper that presents a fuel cost analysis for automobile operation. It concludes that comparative fuel costs are 6 cents per hp-hr for electricity @ 87% efficiency, 5.03 cents for diesel @ 30%, and 7.64 cents for natural gas @ 20%. (To be strictly comparative the electric efficiency should be multiplied by 0.3 [=26% overall] to reflect power plant efficiency. - Editor)



Journal photo by Joe Cyganowald

Roger Sutfin of the Fox Valley Electric Auto Association proudly displays his 1959 Renault, which is powered by six-volt golf cart batteries. Sutfin of Glen Ellyn is president of the nation's largest electric car club.

Members sport electric autos

By Dorothy Weinberg
Journal Correspondent

GLEN ELLYN — If you're looking for a car that consumes no gas and provides a quiet, peaceful means of transportation, drive an electric car. That's what Roger Sutfin, Glen Ellyn, and John Ahern, two members of the Fox Valley Electric Auto Association, do daily.

Sutfin, who is president of the nation's largest electric car club, drives his 1959 Renault, which formerly contained a gas-guzzling engine, back and forth to work.

The unique form of transportation travels at a speed of between 40 to 50 miles per hour, and isn't geared to go further than 45 miles. It runs on six-volt golf cart batteries and can be charged at any 110 outlet.

"I PLUG IT in at work and it takes about four hours after I plug it in until it's ready to run" he explained.

Saving money is the reason he and his fellow club members, who now number about 200, drive their pollution-free vehicles.

"It's half the cost of a gas vehicle," he said. "To convert a gas to an electric car costs \$2,000 total. Then it only costs two cents a mile to drive, and the batteries, which are made in Geneva, cost 10 cents."

AHERN HAS been driving his 1974 Fiat since 1980. "I got it during the Middle East crisis, when I was afraid this country would be cut off from oil supplies," he explained.

He admits that most individuals still view electric cars as rather rare birds.

"People still stop and stare with wonder," Ahern said.

LAST OCTOBER, the Fox Valley Electric Auto Association members decided to enlighten their fellow community members about the joys of

owning and driving the voltage-powered vehicles.

They displayed their cars at the Fox Valley Shopping Center and last May took the autos out to West Chicago at Fermi-lab where they gave rides to adventurous souls.

Sutfin says the newer electric cars contain small gas generators and updated batteries which allow the cars to travel up to 100 miles before being recharged. He estimates the cost to be in the \$5,000 and \$12,000 range. One of the newer models is a pie-shaped creation called the U.S. Electric Renault.

MEMBERS OF THE electric auto club help each other learn more about this "wave of the future" and help one another learn how to use the converter kits.

"I changed over to transistors and cables" Ahern said. "It draws less c... t."

THE FVEAA TWELVE YEARS AGO