

# EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

Peter Cleaveland, Editor

Club Address: P.O. Box 134, Valley Forge, PA 19481-0134

email: [easternev@aol.com](mailto:easternev@aol.com). Web site: [www.eevc.info](http://www.eevc.info)

President: Oliver Perry, 5 Old Stagecoach Turn

Shamong, NJ 08088, (609) 268-0944

Copyright © 2010, Eastern Electric Vehicle Club, all rights reserved

Vol 30 No 5

MAY, 2010



Now affiliated with EAA

## REPORT FROM THE MACUNGIE EV SHOW

Jenny Isaacs

Members of the EEVC joined forces with the New Jersey Electric Auto Association and independent EV owners from across the region to attend a very successful second annual all-EV show in Macungie, PA on Saturday, May 1. We had gorgeous spring weather and a great turn-out admiring and asking questions about the dozen electric automobiles, two converted lawn mowers and electric tractor & go-kart on display.

EEVC member vehicles featured included Alan Arrison's Green Rabbit and Bucks County Renewables' 1985 Volkswagen Vanagon. In addition to the half-dozen other converted ICE automobiles and trucks on show, we had a vintage 1967 Mars II and a circa-1980 Comuta-Car, plus examples of presently-available production EVs: the



*Electric vehicles on display at the second annual all-EV show in Macungie*

Cooper mini-E and two Teslas! Their enthusiastic drivers joined our panel of experienced EV conversion experts (including Mike Manning and Ollie Perry of the EEVC) for a wonderful question & answer session that ranged from the why's to

the how-to's of building and operating an electric vehicle and the history and future of battery chemistry. It was great stuff!

Among the board-mounted displays the working 144-volt open source controller built by Adam Brunette and Kyle Gibbons of Worcester MA attracted a lot of attention. One of our attendees, Macungie resident Chris Freyman, turned out to have designed the circuit panel for this internationally-developed project. It's a small EV world! Word is that anyone who can solder can construct this



*144-volt 144-volt open source controller built by Adam Brunette and Kyle Gibbons of Worcester MA and designed by Chris Freyman of Macungie*

controller for a few hundred dollars. All DIYers should take note; visit [www.evvette.com](http://www.evvette.com) and [www.paulandsabrina-sevstuff.com](http://www.paulandsabrina-sevstuff.com) to get the scoop on these kits.

In attendance along with State Representative Doug Reichley was Dan Brown, the president of the Mid-Atlantic Renewable Energy Association, at whose annual fall Energy Fest in Kempton, PA the organizers of the EV-ent first met and hatched up the plan for a spring EV-only celebration. The MAREA gave financial support last year to launch the EV-ent and provided publicity this year, so thanks are due to them as well as to the EAA chapters represented: the EEVC and the NJEAA <http://njeaa.webs.com/>

Most exciting for those of us who organized the initial EV-ent in Macungie last year is the fact that last year, neither the mini-E nor the Teslas had come into their current drivers' hands. There was not a single contemporary, real-world production EV on the road in Pennsylvania. This year, we were able to showcase three of them. Next year, we'll be bringing you showroom examples of two full-size, mid-price-range plug-ins from major manufacturers: the mostly-electric Chevy Volt and the 100% battery-powered Nissan Leaf. These three years — 2009, 2010, and 2011 — are like a window onto a turning point in history. Hope you will join us for next year's front-row seat at the Macungie EV-ent!

If you attend, the founding committee of the EV-ent plans to have ready for dedication an official EV charging station — only the second in the Lehigh Valley. Yes, in addition



*EVs on parade*

to preparing for a third and, we hope, even bigger electric vehicle show, our ad hoc organizing group has committed to the project of installing EV-friendly parking and charging at Macungie Memorial Park! We expect this to attract a lot of publicity. Retired Judge Bob Young originated and will be spearheading this effort, and credit must also be given to him for conducting a personal lobbying campaign to change Pennsylvania's complex and confusing alternative fuel tax in advance of the advent of EVs on PA roads.

The EV Parade can be seen on video (along with other photos and video of the day) at <http://sites.google.com/site/www-eveventcom/>, while anyone interested in getting on our mailing list should email [macungieevent@gmail.com](mailto:macungieevent@gmail.com)

EV-ent Organizing Committee: Anna DiGate, Jenny Isaacs, Val Bertoia, Bob Young, Don Young

### **PETE GRUENDEMAN'S STORY**

*Editor's note: Several years ago Pete Gruendeman left the Delaware Valley for rural Wisconsin. He had hoped to live entirely off the grid, and to that end put in considerable effort on designing and building a high-power alternator that he hoped to drive with a Stirling engine or a windmill. Pete never made it completely off the grid, but he's living a lot closer to the land than most of us. We last heard from him January, '09. Here's his latest report on what he's been up to.*

Readers might remember that in 1996 I converted a '88 Ford Escort to battery electric, drove it for about two months before battery



*Aerial view of the Gruendeman homestead, with solar heating panels and greenhouse visible*

problems shut me down for the winter; put another set of [Pb-A] batteries in it and didn't get much life out of them either. In October of 2000 I bought the Prius that I still have. It gets excellent mileage though I drive very little at this point as my workplace and playshop are at home. I walk 165 feet to get to work. At one point I became concerned about all the coal being burned to generate electricity to power electric cars. I was sure that I would once again drive an on-road EV (not just the electric bicycles I have now) when I could generate my own clean electricity. It turns out that cars use a large amount of energy and it takes a phenomenal amount of \$\$ to buy the PV to generate the electrical energy needed to power an EV.

It also takes a large amount of energy to heat a house here in WI, or anywhere else in the northern tier. Fortunately, it does not take that much money to provide the equivalent amount of energy in the form of heat. That heat is used to heat water and our space. Making things warm with sunlight is not as difficult as people might think. And the energy not used in providing heat can be used to power a car. Note that both propane and natural gas have excellent track records in powering vehicles. While I don't yet have a propane powered vehicle, the solar heat system heating this house is saving between 350 and 400 gallons of propane/year, which is more than I could use in my car.

So here I am, thinking I would stick it to the man by generating my own electricity to power a car for free, only to use the sun to heat my water and space, and use the left over propane to power the car. When one looks at the small details, it is appealing to put up a bunch of PV and power an EV.

When one looks at the big picture, it makes as much environmental sense and costs a great deal less \$\$ (so more people can do this) to heat with solar and power the car with the propane or natural gas not used to heat the house.

Almost related is that during the summer of '09 I built a 10' x 18' lean-to greenhouse. The greenhouse provides heat to the house on sunny afternoons, even in January and February. As a space for plants the greenhouse is abandoned from about December 1 to the 1st or 2nd week of March. The heat loss over 24 hours is far greater than the solar gain of the early afternoon hours on sunny days. We are still getting used to gardening in the greenhouse. No firm information yet on how we are saving any resources by taking advantage of produce from our own greenhouse or backyard. Without question we have the freshest spinach, peppers, carrots and radishes.

## **THE NEW JERSEY VENTURER WILL RETURN! Oliver Perry**



Our older readers will remember a hydrogen fuel cell car from the state of New Jersey by the name of The Venturer. The Venturer competed for several years in the American Tour de Sol after a "press release" drive around the capitol by former governor Christy Whitman. It competed in 1999-2000, setting a first for hydrogen fuel cell car range competition.

I first met the founder of the Venturer Project and the leader of Team New Jersey, Mike Strizki, an engineer working for the New Jersey Department of Transportation (NJDOT), in 1998. Christy Whitman was governor.

Whitman asked NJDOT to provide assistance to Cinnaminson High School's electric car entry in the American Tour de Sol. Mike was assigned by the NJDOT to provide valuable support for the Ford Escort Olympian team during the whole competitive week. He single handedly came to our team's technical rescue numerous times. The competitive event traveled from New York City to Washington DC with the Olympian (converted 86 Ford Escort) neck and neck for first place throughout that week. The excitement enticed Mike to form his own team the following year representing the NJDOT. Strizki had an infatuation with hydrogen fuel cells and quickly organized a New Jersey based team consisting of education, business, and government partners. The goal was to convert a 1996 Geo Metro car to a hydrogen fuel cell vehicle and enter it into the 1999 Tour de Sol. (Although I was involved part time in the project I do not remember for sure if the car initially was a Solectria Force with AC drive, which I believe it was, before Mike and his team took over, or whether they began from scratch. In either case, the Venturer's basic design package was that of a Solectria Force.)

A considerable sum of money and resources were poured into the car before its debut in the 1999 Tour de Sol. The team that accompanied the car from Waterbury Connecticut to Lake George, New York was the largest car team in the history of the TdS. The following year Strizki again led the N.J. Venturer team southward as the team traveled with the Tour de Sol from NYC to Washington DC. But at the end of the Tour, with another fuel cell car called the Genesis added to his plate, cooperation between Strizki, some of his team members, and the NJDOT, began to unravel. When Strizki decided it was time to leave NJDOT for another job opportunity, NJDOT assumed complete control over the Venturer team. We were told not to even allow Mike to sit in our meetings. Nobody knew what to do with the vehicle. It is unclear exactly what happened, or who took over what, but the car ended up several years later in the possession of NJDOT minus its fuel cell and battery pack. (I hope to do a research project soon and refresh my memory as to the sequence of events and exactly what hap-

pened with the car during those years.)

After a period of several years or more, I managed, after a number of serious attempts, to convince the NJDOT to let the Boyertown Museum of Historic Vehicles borrow the car for display. Christy Whitman had long since left N.J. as well as the original power brokers of NJDOT, and nobody around knew much about the vehicle other than it didn't run and it was taking up space in the NJDOT garage. The directors of the NJDOT drew up a contract between the Boyertown Museum and the State of New Jersey. Ken Wells, the director of the Museum, came to Trenton and the car was hauled off to Boyertown, for what Ken Wells and I thought would be for life.

Then several months ago, and out of the blue, both Ken and I received calls from the NJDOT that they wanted the Venturer back. I was told that the treasury department had been ordered by the new Christy administration to require all NJ departments to make cuts in their operating budgets. The supervisor of the NJDOT fleet of cars discovered that the Venturer was still listed by the treasury department as an operating vehicle on their books. Since the person speaking to me was required to cut a certain percentage of his fleet, he saw an opportunity to cut a car that really was not in operation from his fleet and still get credit without really harming any of his employees whom he said used their cars like they were offices. I tried to explain to him that the vehicle was historic and belonged in a museum, not on an auction block. Unfortunately his mind differed in outlook.

I immediately attempted to reach the governor's office and the NJ Archives office to stop the transfer of the vehicle. My argument was that the vehicle had absolutely no economic value to the NJDOT but it had plenty of historic value either to the state or an automotive museum. I contacted several NJ Senatorial offices and wrote several e-mails to a number of supposedly influential government officials, all to no avail. Before I could count to 15 days the car was transferred back to Trenton and the department of the NJDOT. I was informed again that it was going to put up for public auction. My NJDOT contact was not overly clear as to when and where the auction would be and his overly short replies simply informed me to keep an eye

open for the public auction format thirty days down the road. I still thought there was time for legislative action to block the auction sale. Finally, after more phone calls and e-mails I stopped into my local N.J. Senator's office and managed to find him actually present. He listened intently and asked his secretary what she had been doing to help my cause. She replied that none of her requests were being answered by the treasury department. I left the office feeling that finally some action was going to be taken and that we were going to score a win now that I had a real political leader on the hunt. When I got home the phone rang and the Senator's secretary said that she had discovered that the car was already being auctioned off on an e-bay type government auction block. The good news was that there were several more weeks before the final bidding deadline. So much for trusting the NJDOT employees to keep me posted as to exactly when their next auction would take place or providing me the website to find out.

I called Ken Wells and let him know the situation. Both of us got on the Govdeals.com web site immediately and discussed our plans for acquiring the winning bid. Eventually Ken placed Joe Alackness, project manager of the Boyertown Museum of Historic Vehicles, in charge of entering a last minute bid to get the car back. After placing the 39th bid for the car myself, for about \$1100, I spoke with Joe. Joe informed me that he had plenty of experience bidding for cars and other historic items on e-bay. He assured me that he knew how best to outbid anybody, providing Boyertown Museum would allocate the funds. I sighed a sigh of relief and took off for upstate NY for Mother's Day.

But before I left I took the time to read the description of the vehicle that was posted on the Govdeals.com web site. Whoever was in charge of writing up the description from the NJDOT made a royal mess of it, most likely out of total ignorance. It was stated that the car could run on either natural gas or electricity. The car's hydrogen tanks were called CNG tanks. CNG tanks fuel an internal combustion engine! Didn't they look under the hood and wonder where the internal combustion engine was? And the description stated

that the car (although it was not operable) was electric and could charge from either 110 or 220 in 2.5 hours. (ridiculous, as we know it is impossible) They pointed out it had a solar panel on the roof and implied that the car was partially solar. (The solar panel was required by the Tour de Sol for advertising purposes and only had to put out about 50 watts.) It was obvious that whoever was responsible for auctioning off the vehicle knew nothing about it. It became painfully obvious that my earlier calls to inform the NJDOT as to the real history of the car had been totally unheeded. The persons on the listening end either didn't have the capabilities to comprehend what I was talking about or they lacked the motivation to care. If they were not in charge then my information as well as questions should have been passed on to the person or persons who were responsible. Maybe there is a reason the term "State Worker" brings up a less than favorable image in many tax payers minds. If they work for the state they ought to be our advocates and helpers, not just someone entitled to a pay check.

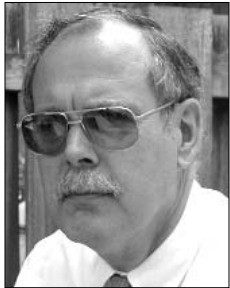
### **So what is the latest?**

It is with great pleasure I can inform you that Joe succeeded an hour ago, 2:45 PM Tuesday May, 11. He was about the 89th bidder and took the car back for somewhere around \$2500. It is a shame that we had to buy an inoperable, parts missing, car back, (... aged carbon fiber tanks, no fuel cell, no batteries, and questionable inverter) for historic value. But you do what you have to do when faced with an historic loss. So Pennsylvania will now preserve a piece of New Jersey's technical history while helping to meet the state's financial deficit with a contribution of several thousand dollars. It is doubtful that the state of New Jersey will even say thanks. However, maybe through our effort we can help to enlighten some of the more informed New Jersey people about one of their greater research projects, an achievement reached by a different governor by the same name as "Christy."

(We still wonder who was running the bid up and why they wanted to pay so much for the vehicle. Perhaps the Solectria motor, trans, and the Geo Metro body are worth it to

somebody who is serious about making a working electric car.)

## NO MORE HAPPY MEALS By California Pete



Living in California is a great responsibility, because it automatically makes one superior to others, and brings with it the obligation to help other benighted mortals live better and more politically correct lives — whether they like it or not (to use a line that got SF Mayor Gavin Newsom in trouble). The latest outbreak of this comes from Santa Clara County in Silicon Valley, where the Board of Supervisors has voted “to ban restaurants from giving away toys with children’s meals that exceed set levels of calories, fat, salt and sugar,” according to *The San Francisco Chronicle*. So no more Happy Meals in Santa Clara.

### The seasons turn

Well, April is over and with it the rainy season (although it did rain briefly on May 10). Fire season has officially begun, although at this point there haven’t been any fires reported. But just wait; they’ll begin soon enough, and with the larger than usual amount of rain we’ve had this year they could be pretty big.

### Spill baby spill

California’s budget woes just keep getting worse. Revenues are less than anticipated, and one factor adding to the problem is the oil spill in the Gulf of Mexico. Governor Schwarzenegger had been counting on \$140 million from a lease for an oil drilling project off Santa Barbara that was supposed to fund state parks. This had been a big pill to swallow because a disastrous oil spill in that area in 1969 had been the impetus for the state’s long-time ban on offshore drilling. But now the governor has changed his mind and decided not to allow new drilling after all. The state is broke, the roads are falling apart, we’re laying off tens of thousands of teachers, and public transit workers in San Francisco are guaranteed by contract to have the second-highest wages in the coun-

try. Greece has nothing on us.

### \$529 million DoE loan for Fisker

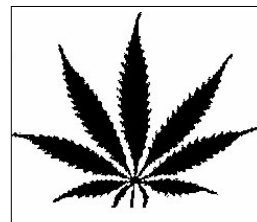
On April 23 the Department of Energy extended Fisker Automotive a loan in the amount of \$529 million towards development and production of two lines of PHEVs, the Karma sports sedan, and a new line of family oriented models under the Project NINA program. While the company is based in Irvine, CA, production of the two cars is planned for an ex-GM plant near Wilmington, DE

### More problems for SF police

Last month we reported that the San Francisco crime lab had come under fire for pilfering of drugs seized as evidence, along with an infestation of feral cats in the evidence warehouse. Now comes word that the decision has been made to shut down the drug testing lab permanently and outsource the work, while leaving DNA and ballistics tests in house.

But the SF police haven’t put all their problems behind them. It seems that as many as 80 San Francisco police themselves have criminal histories or misconduct records. While this in itself is not a terrible thing (people should have a chance at rehabilitation, after all), but the law says that if these officers testify in court the defense attorneys must be informed of their pasts. Except that the police department and the DA’s office had decided to ignore that rule. Now hundreds of felony convictions could be in jeopardy.

### Pot at the Cow Palace



Potheads were able to breath a sigh of relief (and more) at the Cow Palace in Daly City, south of San Francisco the weekend of April 17-18: The International Cannabis and Hemp Expo had obtained a permit to allow on-premises toking, although to stay within state law a medicinal use card was still required. For those without, temporary cards were available for \$10 cash on the spot. As mentioned previously, there will be a measure on the ballot in November that would legalize marijuana for recreational use, and not every-

one was pleased at the idea. Specifically, a contingent from Humboldt County complained that “it could devastate a key local industry,” according to *The San Francisco Chronicle*. Some have estimated, in fact, that prices would drop from \$2000 a pound to \$200. Hardly seems worthwhile to grow it.

## NEWS UPDATE

### GE, Nissan to research EV charging

A Reuters story dated April 26 reports that General Electric Co and Nissan Motor Co have announced a three-year agreement for collective research & development of charging stations for EVs. The work will center on “smart” charging stations that would allow for communication with utility companies to ease strain on electric power grids. Eventually, car companies and utilities hope that vehicles can form a power storage source.

### Honda developing an EV beer scooter



On April 13 Honda Motor Co. showed the latest prototype of its EV-neo electric scooter and announced plans to begin lease sales in Japan in

December 2010 to businesses and individual business owners that provide mainly delivery services.

Equipped with a lithium-ion battery and a brushless motor, it provides performance equivalent to that of mass-market under-50cc gasoline engine motorcycles. Listed range is more than 30 km (19 miles) at 30 kph on a flat road.

### Germany want a million EVs by 2010

A May 3 AP story reports that “German Chancellor Angela Merkel and top executives of the country’s main carmakers and energy companies are meeting in Berlin to

launch a new initiative to develop electric vehicles.

“The so-called ‘national platform for electric mobility’ ... comes after Merkel pledged to have one million electric vehicles on the road within the next decade.”

### Korean EVs in Hawaii

A May 7 story by AP writer Mark Niese reports that South Korean electric car manufacturer CT&T has announced plans “to build an assembly plant in Hawaii that will eventually produce up to 10,000 vehicles a year and employ as many as 400 people.

“The plant would make small two-seaters that reach speeds up to 40 mph and be deployed onto Hawaii’s city and neighborhood roads.

“Their batteries will last for 30 or 60 miles, depending on the model, and then be recharged at electric stations that are planned to begin popping up by the end of this year.

“The assembly facility is expected to be built within two years. The company is looking at four Oahu locations to build the plant, which will cost between \$35 million and \$50 million for the building alone. In all, the company expects capital investments reaching \$200 million.”

### Storing hydrogen in capillary arrays

An April 19 AP story reports that Israeli researchers are developing a hydrogen storage method that would hold much more than a standard tank.

The system, being developed at Geneva, Switzerland-based C.En Ltd., uses glass capillary tubes slightly thicker than a human hair. Bundles of 370 capillaries form a capillary array “about the width of a drinking straw. The scientists say 11,000 such arrays will fuel a car for 400 kilometers (240 miles), [and] take less than half the space and weight of tanks currently installed in the few hydrogen cars now available.”

The company, which has been working on the idea from several years now, claims that the technology will meet the DOE’s 2015 targets of 9% weight, 81 g/l volume in the near future. There is no mention of the pressure inside the capillaries, but the technology is reminiscent of some work Mike Manning told about years ago using tiny hollow glass

balls called ecospheres. The spheres, being almost microscopic, had enormous bursting strength, and their walls were so thin that they became permeable to hydrogen when heated. The idea was to put the spheres in a tank filled with hydrogen at extreme pressure, then heat them up. The hydrogen would penetrate the spheres, and be captured when they were cooled down again. The tank could then be depressurized and the spheres poured out to be put into containers for use. Recovering the hydrogen would come by warming the container.

Platinum dealer Englehardt Industries gained control of the technology; we tried at the time to get information from them but they wouldn't talk to us.

For more information on C.En, go to [www.cenh2go.com](http://www.cenh2go.com).

### **GM looks to Hawaii for hydrogen infrastructure pilot**

It looks as if GM is not putting all its alternate-energy eggs in the Volt basket. On May 11 the company reported that it was cooperating with Hawaiian gas utility The Gas Company (TGC) to develop hydrogen fueling stations.

TGC produces hydrogen along with synthetic natural gas and delivers it in its utility gas stream, with more than 5 percent hydrogen content. Through a proprietary separation process, TGC plans to tap into its 1000-mile utility pipeline system at key locations and separate the hydrogen for use by local fueling stations for fuel cell vehicles.

Depending how the pricing for the hydrogen is set, it could be available at the equivalent price of gasoline or less.

In the mean time, GM is developing a production-intent fuel cell system that could be ready for commercialization in 2015, the company says.

### **COMING EVENTS**

#### **The Time Trial eXtreme Grand Prix electric motorcycle race**

May 14-16, Sonoma, CA. Go to [www.infineonraceway.com](http://www.infineonraceway.com).

#### **SOLAR 2010**

May 17-22, Phoenix. Go to <http://ases.org>

[/index.php?option=com\\_content&view=article&id=18&Itemid=147](http://www.advancedautobat.com/AABC/index.html)

#### **Advanced Automotive Battery Conference**

May 19-21, Orlando, FL. Go to [www.advancedautobat.com/AABC/index.html](http://www.advancedautobat.com/AABC/index.html)

#### **Spirit of the American Tour de Sol (21st Century Automotive Challenge)**

May 21-23, State College, PA. For information contact Dr. Joel Anstrom, [janstrom@enr.psu.edu](mailto:janstrom@enr.psu.edu), 814-863-8904.

#### **10th Challenge Bibendum**

May 30- 2 June 2, Rio de Janeiro. Go to [www.challengebibendum.com/challenge-Bib/AfficheServlet?Rubrique=20070807132926&Langue=EN](http://www.challengebibendum.com/challenge-Bib/AfficheServlet?Rubrique=20070807132926&Langue=EN).

#### **Transports Publics 2010,**

June 8-10, Paris. Go to [www.transport-publics-expo.com/en/2010/accueil/index.php](http://www.transport-publics-expo.com/en/2010/accueil/index.php).

#### **Formula Sun Grand Prix**

June 16-18, Cresson, TX. Go to <http://americansolarchallenge.org/events/asc2010/formula-sun-grand-prix-2010-2/>

#### **American Solar Challenge**

June 19-27, Tulsa, OK to Chicago. Go to <http://americansolarchallenge.org/events/asc2010/american-solar-challenge/>

#### **SAE Convergence 2010**

Detroit, MI. Go to [www.sae.org/convergence](http://www.sae.org/convergence)

#### **Southern Electric Vehicle Expo**

Oct 29-31, Asheville, NC. Go to [http://sevevpo.com/e107\\_plugins/calendar\\_menu/event.php?1288378800.event.1](http://sevevpo.com/e107_plugins/calendar_menu/event.php?1288378800.event.1)

#### **EVS25**

Nov 5-9, Shenzhen, China. Go to [www.evs25.org/event/2009ddc-en/index.html](http://www.evs25.org/event/2009ddc-en/index.html)

### **MEETING SCHEDULE**

Meetings are held in Room 49, Plymouth-Whitemarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m. Note that here are no July or August meetings.

June 9

Sept 8

Oct 13