EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

Peter Cleaveland, Editor **Vol 30 No 10**
Club Address: P.O. Box 134, Valley Forge, PA 19481-0134 **OCTOBER, 2010**
email: easternev@aol.com. Web site: www.eevc.info
President: Oliver Perry, 5 Old Stagecoach Turn
Shamong, NJ 08088, (609) 268-0944

Now affiliated with EAA

THE 2010 PENNSYLVANIA SUSTAINABLE ENERGY & SUSTAINABLE LIVING AT KEMPTON, PA: A SUCCESS

Oliver Perry

The EEVC once again participated in the transportation event and display coordinated, for the annual September Kempton Pa. Sustainable Energy Fair, by EEVC member Phil Jones. The fair is sponsored and put on by MAREA (Mid Atlantic Renewable Energy Association). Phil once again did an outstanding job providing workshops, speakers, presentations, and seminars for alternative transportation over the Friday-Sunday three day event. Jenny Isaac was present with her annual Bucks County Renewable Energy EV conversion workshops. Brandon Hollinger not only came with his sharp looking blue Saab conversion but supervised the hybrid EV display area. Brandon added neat car information placards mounted on appropriate posts that provided information about the vehicles positioned behind them. Allan Arrison and Paul Kydd made appearances with their respective VW rabbit and F-150 pickups. Don Auker came with his electric lawn mower, electric motorcycle, and Tesla. Don Young brought vehicles as did the president John Belak of the EAA Three Rivers Chapter from Pittsburgh and the president of the New Jersey EAA chapter, Doug Stanfield.

President of the New Jersey Chapter of the EAA, Doug Stanfield, passionately presents the features of his conversion to one of the festival attendees.

The weather was outstanding for the full three day event, hot sunny days with very cool evenings. The transportation section of the fair had a good number of display vehicles, from GM's hydrogen fuel cell vehicle, Toyota's line up of Prius hybrids, to a large number of home conversions. A motorcycle conversion kit company (motor in hub design) and the Electrac lawn mower extend-

EEVC President's wife Dorothy Perry takes John Belak's (President of Three River EAA Association) three wheel Zapcar for a test ride. This vehicle won first place in its category at last June's Power of DC drag event.

ed the range of practical EVs displayed.

Entertainment was held each night in the large open auditorium. Most of us chose to watch a feature film put out by Bullfrog Films which documented the controversy created by "fracking" for natural gas. The film was very timely since the process has begun to expand rapidly in Pennsylvania and New York states. The film stressed the enormous amount of heavy vehicle traffic to and from the drilling sites resulting in noise, dust, and road wear as well as the poisoning of some local well water. Locals who have their wells ruined are then paid to truck in fresh water from outside.

EEVC EXHIBITS AT GSA ZERO ENVIRONMENTAL FOOTPRINT EVENT IN DOWNTOWN PHILADELPHIA

Oliver Perry

above: The EEVC display at the the GSA Zero Environmental Footprint event in the Crystal Tea Room of the Wanamaker Building in Philadelphia.

On September 22nd four officers of the EEVC — Oliver Perry, Norman Flojo, Michael Manning, and Dan Monroe — attended a morning workshop in downtown Philly referred to as the GSA Zero Environmental Footprint event. The affair was sponsored for its employees by GSA (US General Services Administration) and held in the Crystal Tea Room of the Wanamaker Building. GSA provides workspace for government agencies and the office facilities and services that they need in order to carry out their duties throughout the nation. They also maintain government transportation fleets and provide technology and resources that enable the federal government to function.

The EEVC was asked to be one of number of exhibitors that provided the GSA workers information on how attendees of this event could reduce their personal fossil fuel footprint. The event began at 9:30 AM with a formal presentation by GSA's Administrator, Martha Washington, followed by a number of speakers who spoke via an internet large screen connection, plus several who addressed the group in person. The message of the morning was straightforward: our nation and world are facing an energy and global warming crisis. All government workers were encouraged to begin to find ways to reduce their carbon footprint immediately, beginning by conserving energy in their work place. A number of practical suggestions were provided. Use open windows for cooling instead of air conditioning whenever possible, turn the lights out when they are not in use, and car pool to work. Considerable statistical data was presented to support the need for conservation of energy in order to combat global warming.

At the end of the session a number of GSA employee awards were given to individuals who had promoted affective means for footprint reduction in their workplace. At least one of the award winners was commended for conserving energy in personal transportation.

After the lecture portion was complete the attendees mingled among the exhibitor and snack tables. Our table had several EEVC promotional videos displayed on a computer screen and handouts of old EEVC Newsletters. The videos showed the conversion process of Dan Monroe's Saturn and the major EEVC contestants that attended the 21st CAC at Penn State. We handed out old copies of EEVC newsletters to those interested and encouraged people to join the EEVC.

We gratefully accepted cash to pay for our parking fees when we left. The cost of parking in downtown urban cities is enough to encourage anyone to use public transportation.

POWER DENSITY OF THE WHITE ZOMBIE'S LITHIUM ION BATTERY PACK
John Wayland

[Dan Monroe included a recap of the White Zombie's most recent performance on the drag strip in his weekly online list of interesting EV related articles. To read the full article go to: Wayland's 2010 Comparo – Exotic Cars vs the Zombie!, at www.plasmaboyracing.com/blog/?p=256. What follows are John's comments in the article, with some important technical information for those interested in putting together a lithium ion battery pack.]

I wanted to assemble these cells into modules. I worked closely with Rich Rudman on this with many brainstorming sessions over pie and scribbled-on napkins, and also with him back in Missouri where we ran the concept past the Kokam engineering team. The idea was to keep the design clean, simple, and accessible. It's the accessible part that dictated a modular design, because having a large assembly of cells all ganged together in the trunk space of the car makes a package that, although small compared to the lead acid pack, is still too heavy and bulky to work on. It also makes it difficult to quickly get to cells if there's a problem.

With a possible TV show in the works and with Kokam interested in being a supplier of cells for that project, I wanted the modular design so other packs could be configured by adjusting the numbers of and the placement of modules for a given vehicle. Other factors that shaped the module's design were weight, physical size, shape, current carrying ability, and cell numbers per module.

I wanted each module to not be too heavy, so 35-37 lbs. was the goal. Rudman's newest BMS board is an 8 channel unit, meaning it can keep track of 8 cells (or 8 paralleled groups of cells). At 1.8 lbs. per cell, and needing to have pairs of cells in parallel, a 2P X 8S, 16 cell module made sense. Each module would be made of tough clear Lexan, and the cell's output tabs would be tied together with high current nickel plated copper buss and clamp bars. With just shy of 29 lbs. of active material (cells) and the heavy 3-4 lbs of copper interconnects (needed to pass 2.4 kiloamps), hitting that 35-37 lb goal would be a challenge. At 29.6 V, 64 Ah @ C2, and ~36 lbs per module, and with pack voltage, space constraints, and a pack target weight including cabling and hold-downs of 450-460 lbs, I went with a 12 module, 192 cell design for a 355 V nominal, 22.7 kWh @ C2 power package capable of outputting 2.4 kiloamps for 10 seconds!

The very low voltage sag at high currents is very impressive with these particular cells. Graphs provided by Kokam reveal that for every 5C rate of discharge, the cell sags ~0.1 V, so beginning at 3.8 V if one were to extract 150 amps, the cell drops to 3.7 V, and at 10C or 300 amps, it goes to 3.6 V, so at its continuous rating of 20C or 600 amps, the cell drops and stays at 3.4V. This is very impressive stuff! In theory, at the 10 second rate of 40C — 1200 amps — the cell still hangs at 3 V! Do the math for our 2P96S pack, and this equates to a staggering 691 kW! It's amazing, that 345 lbs. of Kokam cells will generate 926 battery hp! This is terrific power density.

SCIENCE HONORS STUDENTS EXPLORE ALTERNATIVE ENERGY OPTIONS
Oliver Perry

Houghton College, located in Western New York State, recently experimented with inclusion of an alternative energy project in its exclusive liberal arts program. Although Houghton College offers majors in science and math, it's reputation has historically been focused on undergraduate liberal arts.

It was encouraging to read an article in a Houghton College publication about a science honors program where the students engage in a small alternative vehicle program. The stu-

dents built four prototype vehicles for a project geared toward addressing the problems of reducing our nation's dependence upon oil.

The article stated that "Real world problems like the current energy dilemma make up the the core research questions of the program." In addition to addressing the questions regarding the sources of fuel the students had to participate in the building a prototype of one of four vehicles. The four choices for fuel were solar, ethanol, bio-fuel, and hydrogen. During the semester the GM hydrogen fuel cell team appeared on campus, interacted with the students and allowed them to actually drive the GM hydrogen fuel cell Chevrolet Equinox.

The test day car rally placed the four vehicles in a demonstration showcase on campus. It turned out that the fuel cell protype constructed by the students ran the slowest time trial, only achieving 10 mph.

The following conclusions were reached: Biodiesel is a viable option for today, adaptable and very clean. While there were problems in achieving acceptable charging times for the solar car and there are other details to be solved in making them practical, the students concluded that since solar is sustainable and has zero emissions it provides a positive future hope.

The hydrogen fuel cell car team concluded that although the cost to produce decent hydrogen fuel cell cars today is prohibitive due to the lack of a suitable infrastructure, the infrastructure problems are solvable and worthwhile to pursue.

As for the ethanol team, little was mentioned other than they had no trouble meeting the minimum 32 mph speed requirements, but after hitting a tree they didn't have a working vehicle left to demonstrate the advantages of ethanol.

Mark Yuly, director of the Science Honors Program and chairman of the physics department, stated, "We all learned a great deal about alternative energy through this experience."

Earlier in the year I wrote Houghton College offering advice, counsel, and encouragement. I made them aware of the 21st CAC competition at Penn State. I even offered them Ben Fratto's converted S-10 pickup truck which Ben said he would consider donating to an educational institution. Typical of busy college departments I never received a reply. However, I hope to eventually establish dialog with somebody in the program. It is good to read that activities like this are still happening on college campuses.

NEW EV DRAG RACE GROUP

Douglas Stansfield, president of Trans Atlantic Electric Conversions, writes to inform us that he has teamed up with Ron Adamowicz from Connecticut to start, organize and form ECEDRA, the East Coast Electric Drag Racing Association. The group already has gotten together with NEEAA to schedule its first racing event, The New England EV Car Show Event, to be held November 14th at 770 Newfield Street, Middletown, CT. Admission is free to all, and all EVs are allowed with no membership in NEEAA or ECEDRA required. For more information on the event go to www.ecedra.com, and to join ECEDRA send an email to ECEDRA-subscribe@yahoogroups.com with "subscribe" as the subject.

You can reach Doug Stansfield at Doug@TransAtlanticElectricConversions.com or by phone at 973-875-6276.

SHUTTING DOWN A PRIUS AT 91 MPH ... ONE MAN'S PERSPECTIVE

Jesse Rudavsky

The following appeared on the cleanmpg.com forum on March 14; Jesse and Ollie suggest that it would be useful for all drivers to know what to do in an emergency — ed.

I was driving a tractor-trailer yesterday when I decided to pull into a Dunkin Donuts to grab a bagel. The TV was on and a news story caught my attention. A driver of a 2008 Prius on I-8 in California had a case of sudden acceleration. As a long time Prius owner, I was fully aware of the situation with Toyota but this was the first situation of its kind that occurred in a Gen 2 Prius that I heard about first hand. I haven't been very concerned about my car at least as of yet since I have nearly 216k miles on my 2005 Prius and nothing has happened yet. I also had no problems with my Gen one up to 350k when that idiot went through a red light and totaled it. I know how to shift the car into neutral and I know

how to shut the car down by holding the power button down for 5 seconds or so. My girlfriend knows how to do this as well.

I got to thinking when I heard about the guy on I-8 the other day who did not know what to do in this situation and his car all of a sudden rocketed to 94 mph. He was fortunate that a highway patrol car was able to get in front of him in time to slow him down and bring his car to a stop. Otherwise he could have been killed as have many other people have been killed or injured in these incidents. Most likely because they did not know how to shift into neutral or hold down the power button. It made me think as many people with these new push-button start cars have not been educated on what to do in an emergency. Toyota is not the only company to go this route as Nissan and other brands have started to go this way.

Taking it to the Streets

I decided to start a safety campaign on my own because I do not think there is any reason people have to get injured or killed over this.

Today I pulled into Herb Chambers Toyota in Auburn, MA. I introduced myself as a Prius owner and mentioned CleanMPG and that I wanted to test the Gen 3 Prius to determine if there was still a problem with the brakes on a bumpy road. I also said that I wanted to go along with a sales person to go over emergency procedures in case of sudden acceleration. A few minutes later I was on the road with a sales guy and we hopped on I-395 south in MA. The first test I did was to accelerate the car to over 80 mph and at full throttle shift into neutral. Everything went as planned as the engine cut right out down to 1000 rpm or so and acceleration ceased. Sadly many people apparently do not know how to shift into neutral. The next test was to hold down the power button as I was getting off the highway at 45 mph and the car shut down like I predicted. Most people with push-button start do not know how to do this. I then did a braking test on a bumpy road to determine what was going on with the supposed braking problem. The Prius I drove had only 112 miles on it and likely already been reprogrammed. However Wayne's mom has a Gen three and has done the recall fix but still reports problems so I figured it would be a good test. In every case, the Gen 3 I drove showed no lapse in deceleration, even when shifting to neutral during deceleration to simulate the switch from regen to mechanical brakes.

I did the exact same tests with a Camry Hybrid with 7600 miles on it and a Gen 2 Highlander Hybrid with 23,000 miles on it and got the same results. In the Highlander Hybrid's case, it should be noted that with the neutral test, I had the needle to 100 mph and full throttle when shifting into neutral and it still worked as it should! The engine kicked out right away. Another test I did exclusively in the Gen 3 Prius was to take it to full throttle at 80-85 mph with the gas pedal to the floor. I depressed the brake with my left foot and within a few seconds the car was down to 50 mph. This is very different than some of the stories when the brakes supposedly did not work. The other car I took out was a conventional Rav4 V6 with a push button start. I did the same tests with neutral and emergency shut down and that vehicle also passed with flying colors. For the HiHy and the Rav 4, a sales consultant went with me instead of a sales person. Both agreed that something is going on here and Toyota can no longer hide it. They also agreed that education is the best tool to prevent more people from getting hurt or killed regardless of what Toyota can and or will do in the intermediate and longer term. My hope is that the two people who I took out in these cars with educate the other sales people on what to teach potential buyers. I plan to visit other dealerships in the area as well as time goes on and hope to get this on the radio and on camera, maybe getting TV stations involved so more people will know what to do.

With just under 216 k miles on my Prius-II, so far so good and the same batteries. I am hoping this whole thing with Toyota does not mess up the hybrid movement.

ANOTHER TURBINE HYBRID CAR

Ed Kreibick has directed us to http://crave.cnet.co.uk/cartech/jaguar-c-x75-hybrid-concept-is-part-electric-part-frickin-jet-50000966/ for a writeup on the Jaguar C-X75, a hybrid supercar powered by a 145 kW (195 bhp) motor in each wheel. It will go 68 miles on its Li-ion battery pack, and can then be plugged in or fire up its two 70 kW (94

bhp) micro gas turbines. Jaguar, the article goes on, believes the car should be able to "do 0-60 mph in 3.4 seconds and hit a top speed of 205 mph."

But Jaguar isn't the only one with a turbine-powered high-performance hybrid. Richard Hilleman (left), chief creative director at Electronic Arts and a member of the home chapter of EAA, has a carbon-body car called the Blackbird he built himself that uses an AC Propulsion drive train, enough batteries for 60 miles of electric-only driving, and a 30 kW C30 Capstone gas turbine running on diesel fuel.

The car will do 104 mph; maybe not as fast as the Jag, but at $115,000 for components and 4000 hours of labor it's probably less money.

For more on Rich's car go to http://electric-vehicles-cars-bikes.blogspot.com/2010_06_01_archive.html.

UPDATES FROM THE *WALL STREET JOURNAL*

Oliver Perry

"Driving Detroit Out of Its Ditch," by Steven Rattner, former Obama-appointed Car Czar; Saturday/Sunday September 18-19 page W9

In 1995 it took GM 46 hours of labor to build a car, Chrysler 43, Ford 38, and Toyota 29. By 2007 according to the Harbour Report, an authoritative statistical source of auto making, the Detroit Big Three needed just over 32 hours of labor to build a car and Toyota was up to 30. And given that the US made cars were larger and more expensive to build, that was quite significant. US automakers were not quite as inefficient as people thought. in addition, by February of 2009 GM had succeeded in reducing its active employee labor costs from $60.64 per hour down to $52.89 per hour vs $51.62 per hour for Toyota. This was accomplished by trimming employee benefits and starting new workers at lower pay. In his article Rattner states that the US automakers were not totally stupid or inept. But, the fact that by 2007 Toyota products sold thousands of dollars more than GM counterparts and that within thirteen years GM had lost one third of its share of the US auto market, made it clear that new management was needed to revive GM.

So how does Rattner feel about the new GM?

"To be able to pick up on Aug 18, 2010 a newly filed 734 page initial public offering prospectus was for me an emotional moment. This thick legal document symbolized like no other development thus far, the transformation of so called Government Motors back into General Motors. Page after page told of a remarkable turnaround." "If we ultimately lose $10 billion or $29 billion on the auto rescues, that seems a small price to pay for averting a major economic calamity in the industrial Mid-West and helping to keep the nation's economy from spiraling from deep recession into outright depression."

"GM Plans New SUVs Ahead of Fuel Goals," by Siobhan Hughes and Sharon Terlep, Saturday/Sunday Oct 2- 3 section B

"As the US government Friday urged auto makers to offer car and light truck fleets that average up to 62 mpg by 2025, GM said it was speeding up production of a new line of big SUVs, hoping to have new lines of the Chevrolet Tahoe and the Cadillac Escalade by 2014, just a year after the company plans to roll out new pickup trucks. The current models have combined city and highway mileage ratings of 17 mpg and 15 mpg respectively. The GM SUV factory in Arlington, Texas is presently working overtime to keep up with the demand for the vehicles. It was thought that GM has been rushing to make more SUVs before the deadline for higher mileage standards kicks in, but management says this is not true. The next generation of vehicles is much more compressed than before and an honest attempt to meet the

new fuel requirements. According to GM the early debut is due to production line improvements, not an effort to beat the fuel standards. However, the article points out that profitability right now is very important to GM if GM expects to meet the government timetable for paying back the bailout funds. Solid truck and SUV sales are critical to GM's profitability as it aims toward public offering of stock."

(editor's comment) Earlier this year I read that GM management publicly told the Obama administration that they were going back to producing the vehicles that made them money, and were given approval. A recent rebound in the sales of trucks runs counter to the direction that the Obama administration fuel economy proposals point the industry, which was supposed to have been pointed toward smaller engines and wider use of electric propulsion.

"In Shift, GM Now Pursues Partners," by Sharon Terlep, Monday, October 4 Section B

"The new management of GM now believes that partnerships can help navigate a company turnaround. GM has needs and GM feels it has things to offer. GM is interesting in partnerships that would help fill holes in its global product lineup as well as broaden its engineering base and speed development of new technologies, according to Vice Chairman of the board, Stephen Girsky. So far, according to the article, GM has invested in an Indiana electric car company and a Michigan based battery start up company. GM recently had preliminary discussion with Carios Ghosn who is CEO of Renault-Nissan. A deal is NOT in the making at this time. In the past GM has a worked with Ford and Chrysler in some joint operations such as building truck transmissions and exploring hybrid technology. GM sees a benefit in using partnerships to lower costs and fill product and technology gaps."

"Why We Could Be Driving Fiestas," by Joseph B. White, Wednesday, Sept 29 page D3

"The new Ford Fiesta is a perky subcompact four-cylinder car that with the right transmission option can get an impressive 40 mpg on the highway. It might also represent the future of the American car if California succeeds in its push to make cars two to three times fuel efficient by 2025 as they were in 2009. The Obama administration is expected to start soon the process of setting the fuel efficiency targets auto makers must meet in the US market for the years 2017 to 2025. Washington and California lawmakers seem to have made an agreement regarding the rules. California wants auto makers to boost their average fleets' fuel economy by 3% to 7% per year from the 35.5 mpg set for 2016. That would put the nation on track for a 50 to 60 mpg target by 2025. The average car increased its fuel efficiency by 67% between 1975 and1987, from 13 mpg to 22 mpg. But for us to get there more people would have to choose cars like the Ford Fiesta, Toyota Prius, or the upcoming Nissan Leaf. The Ford Fiesta is a new kind of sub-compact car. It has big car features like side and knee airbags and a voice activate sound system.

"Stimulus for Clunkers," editorial staff, *WSJ*, September (date unsure) Opinion section A

"Economists Atif Mian of the University of California Berkeley and Amir Sufi of the University of Chicago have examined the cash for clunkers 2.85 billion dollar program that subsidized consumers to buy new cars and destroy older cars. They found that it boosted sales for two months by about 360,000 cars but then it hurt sales by the same amount by stealing purchases from the future. The program was a wash in a mere seven months. MIan and Sufi found that there was no noticeable difference in economic outcomes among the 957 metropolitan areas they studied."

In a letter to the editor regarding the Cash for Clunkers article, Mr. Frank Kingston Smith from Scottsdale Arizona added, "Auto dealers count on trade-ins to generate some kind of cash even if the cars are wholesaled to secondary used car dealers." When new car sales were compressed into several months in the cash for clunkers program there was no future cash on their used car lots. A second market equally harmed, according to Smith, was the used parts or junk-yard business. The clunkers were destroyed and their major parts could not be re-sold.

"Perhaps Gasoline's Finest Hour," Rumble Seat by Nan Neil, Sat-Sun Sept 25-26 page

D6 (Gear and Gadgets)

"We need to be sensitive to the fact that at some moment soon, if not already, we will see the the finest gas-powered automobile in history.

"This is the other side of Peak Oil. Tractive technology is changing fast, and two or three decades hence, automobiles will be powered by some variety of hybrid-electric or fully power train, bottling energy from the grid, algae-spawned hydrogen, or some other calorie-rich pitchblende.

"For your epoch-marking convenience, consider the 2012 Porsche 918 Spyder. Zuffenhausen's standard-bearer in the next decade will be a plug hybrid, a malevolent shadow of a supercar with a 3.4 liter, 500 horsepower V8 midships and two 109 hp electric traction motors on the front and rear axles. It will go from 0 to 60 mph in 3.2 seconds and have a top speed of 198 mph. Fuel efficiency will be 78 mpg.

"Pedigreed manufacturers from Mercedes to Ferrari are settling the next generation of mind-blowing sports cars and they all have the same kind of whopping battery on board. The age of pouring liquid petrochemicals down the throat of a stove-hot machine will soon be over."

"China Spooks Auto Makers: Foreign Companies Fear New Rules on Electric Cars Will Erode Intellectual Property," by Norihiko Shirouzu, Fri-Sat Sept 17-18 Front Page Headline

"BEIJING- China's government is considering plans that could force foreign auto makers to hand over cutting-edge electric-vehicle technology to Chinese companies in exchange for access to the nation's huge market, international auto executives say. China's Ministry of Industry and Information Technology is preparing a 10-year plan aimed at turning China into "the world's leader in developing battery-powered cars and hybrids, according to executives at four foreign car companies who are familiar with the ministry's proposal.

"The draft suggests that the government could compel foreign auto makers that want to produce electric vehicles in China to share critical technologies by requiring the companies to enter into joint ventures in which they are limited to a minority stake, the executives say. The plan is tantamount to China strong-arming foreign auto makers to give up battery, electric motor, and control technology in exchange for market access. Business people and government officials say that Beijing's so-called indigenous-innovation efforts discriminate against them and are aimed at gaining control of foreign intellectual property.

"China's market is becoming indispensable for many companies. China, set to surpass Japan as the world's second largest economy this year, is already the world's largest vehicle market. Sales in China have become an important source of profit for many multinational car makers. But China has yet to produce a home-grown car company that can compete on the global stage. The government sees the emergence of electric vehicles as a chance to put its auto industry into the world's top tier. The government's electric- vehicle plan is aimed at building three to five Chinese companies into globally competitive makers of all-electric cars or plug-in hybrids by 2020. It would also promote the growth of two to three global suppliers of key components, such as advanced battery and electric-motor technologies.

"Toyota has postponed the rollout of the latest version of its Prius hybrid, which has been on sale in Japan and the US since 2009, in China until the government's policies become clearer, people close to Toyota said. In the coming decades, "China is going to go from following the industry to leading the industry in automotive technology," said Zhang Baolin, president of Chang'an Automobile Company, a state owned enterprise in Chongquing.

"The key objectives in China's proposed 10-year plan to develop electric or new-energy cars.

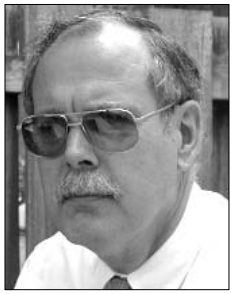
"Average Fuel Economy: By 2015 40 mpg; By 2020 52 mpg

"Number of battery and plug-hybrids on the road: By 2015 500,000; By 2020 5 million

"Annual production capacity for gas-electric hybrid vehicles : By 2015 N/A; By 2020 3 million cars

pictured: an E6 electric vehicle developed by China's BYD Co. at April's Beijing Auto Show.

HAVING A BLAST IN CA
By California Pete



The town of San Bruno, on the peninsula south of San Francisco, was jolted on the evening of September 9 as a 28-foot section of 30-inch high-pressure natural gas line blew out of the ground and was hurled 100 feet, followed by a fire that killed four people, injured more than 50, and burned down the neighborhood. The investigation is still under way, but, as with most disasters, several factors seem to have combined: when the line was installed in 1956 it was a fair distance from any houses, but the town developed around it. Despite inspections, there is some evidence that the metal of the pipe had been degraded by corrosion. And there were no automatic or even power-operated shutoff valves; crews had to go out and turn off the flow of gas by operating manual valves (closing a valve on a 30-inch pipe is not like turning off the faucet in a bathtub), which took more than an hour. Authorities are making noises about requiring inspections of all such lines, and PG&E has released a map showing all in the Bay Area. It's comforting to know there's one not far from my house. And this isn't the only explosion of a PG&E gas line; a 16-incher in Sacramento blew in 1981.

Padding the payroll

In a move that should make small-town politicos worry (there but for the grace of...), the city manager, mayor and six other officials of the Los Angeles working-class suburb of Bell were arrested after it was learned that they had been systematically fleecing the town for years; the city manager (whose name, Robert Rizzo, should make Philadelphians smile) had reportedly been able to take home in excess of a million dollars a year — all in a town of 36,000 people with a median annual income of less that $35,000.

Tesla in the news

Tesla Motors has announced a recall of about a third of its Roadsters for a wiring defect that can cause a low-voltage cable to rub through against the body and catch fire. On a happier note, the company has begun to move some workers into the recently-purchased NUMMI plant in Fremont, and on September 21 announced that it would open a store in Paris in time for that city's auto show.

Will pot be legal?

Proposition 19, which would legalize possessing, growing and using marijuana, seems to have a pretty good chance of passage. A fair number of local pundits have come out in favor of it, saying that it would reduce criminal activity (there were no more rum runners or speakeasies after prohibition was repealed), would reduce the number of people in our overcrowded prison system, help many young people (most of whom tend to be African-American) avoid having a criminal record, and help city and state governments by making it possible to tax the states number 1 cash crop. The election is about three weeks away; we'll let you know what happens. It's plain that more addle-pated drivers will make life around here more interesting

Your monthly dose of SF silliness

Fear not, San Francisco remains an endless source of amusing behavior. The first has to do with a proposal before the Board of Supervisors that would ban happy McDonald's Happy Meals, or at least prohibit the inclusion of a toy with any such meal that has too much sugar, fat or salt, or insufficient fresh fruit or vegetables. No action so far, but we'll keep watching.

The second is a protest by a group that calls itself the Organization for Minorities of India. They want the city to remove a statue of Mohandas Gandhi that has been in place since 1988, claiming that Gandhi was "a racist who harbored violent urges," according to the *San Francisco Chronicle*.

NEWS UPDATE

Coming Saturday April 30, 2011 — EVs in Macungie, PA — 10 a.m. - 4 p.m.

Once again we will gather at Macungie Memorial Park for an all-EV display and owner panel/q&a. This EV-ent — supported by members of the EEVC and the NJEAA — has been well-attended for the last two years. In 2011 we plan to dedicate a public charging

station at the park, garnering some local news coverage and attention.

Rain date Sunday, May 1, 2011.

New Prius models coming

An October 11 story by AP writer Dan Strumpf, AP reports that there are stories that Toyota plans to bring out two new Prius models by next year: a station wagon and a plug-in hybrid. The story says that Toyota isn't talking, but quotes a dealer who says he was briefed on the plans.

Toyota expects to sell 20,000 of the PHEVs in the U.S., says a September 14 *Bloomberg News* report, "and will show a battery-powered sport-utility vehicle at the Los Angeles auto show in November."

New Korean EV

Hyundai Motor has unveiled its first electric car. The company says that the car, called the BlueOn, is South Korea's first full-speed electric car. Based on the company's i10 hatchback, it claims a top speed of 130 kph (81 mph) nd a range of 140 km (87 miles)

Hyundai plans to deliver 30 cars to a number of government organizations for testing this month, and to build 2500 in 2012.

Solar plane flies across Switzerland

On September 22 Bertrand Piccard's and André Borschberg's Solar Impulse HB-SIA made its first flights across Switzerland, powered solely by solar energy. The prototype achieved the first leg of the mission, flying from Payerne to Geneva International Airport before returning back to its base in Payerne.

The plane flies very slowly, so many people were able to watch it go by. Plans call for an international flight next year, followed by a trans-Atlantic flight in 2012, and a circumnavigation of the world in 2013 on board the 2nd prototype.

COMING EVENTS

NHA Hydrogen Conference and Expo
Oct 13-19, Washington, DC area. Go to www.hydrogenconference.org/

SAE Convergence 2010
Oct 19-20, Detroit, MI. For info go to www.sae.org/convergence

eCarTec München
Oct 19 - 21, Munich, Germany. Go to www.ecartec.eu/

Southern Electric Vehicle Expo
Oct 29-31, Asheville, NC. Go to http://sevexpo.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

The New England EV Car Show
November 14, Middletown, CT, For info go to www.ecedra.com.

World Energy Engineering Congress
Dec 8-10, Washington, DC. Go to www.energycongress.com

Green Truck Summit
March 7-10, 2011, Indianapolis, IN. Contact Susan Romeo, sromeo@calstart.org, 626-744-5600

EVs in Macungie
April 30, Macungie Memorial Park. Contact jisaacs@buckscountyrenewables.com.

Solar 2011
May 16-21, Raleigh, NC. For info go to www.ases.org/index.php?option=com_content&view=article&id=18&Itemid=147

11th Challenge Bibendum
May 18-22, 2011, Berlin, Germany. Go to www.challengebibendum/en

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.

Nov 10

Dec 8

Jan 12

Feb 9