EEVC NEWSLETTER

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RON GROENING DIES AT 71

Ronald Groening, a founder and one of the most active members of the EEVC, died on January 31 following a long illness.

Ron was EEVC president back in the early days, and later put in many years of effort as membership coordinator and maintained the club's mailbox in Valley Forge, with all the sorting and forwarding that went with it. He had several EVs over the years, starting with a home-converted VW and moving later to a Prius. He then did a comparative study between that car and his Volkswagen Jetta, publishing the results in the pages of this newsletter. Back in the early 80s he delivered a paper featuring his electric VW research to the Electric Vehicle Symposium in St Louis.

Ron Groening, past EEVC president and long-time EV advocate

Ron was active in more than just the EEVC; his support of local schools and young people was unstinting, as shown by his participation in the Junior Solar Sprint and Physics Olympics. He was also a Schuylkill Township auditor for many years and a participant in a local theatre group (often doing it side by side with his wife of 30 years, Peg), and and the Ursinus College Choir. He had worked for General Electric and Lockheed Martin for 49 years.

In his own words

When he was named clubmember of the

Ron and Peg in Philadelphia, 2006

year in 2005, Ron penned some thoughts concerning the state of the EV world:

"During the 80s the EEVC was a group of EV hobbyists. The environmentalists dominated and encouraged EV enthusiasts as fellow activists. We were 'tolerated.' Our message was curious, interesting, clever, and even cute. It was not a serious message with a dark foreboding forecast for the future.

"Today, after 9/11, and with the surge of SUVs and total disregard by society for the realities of the petroleum economy, petroleum society, and blind dependence on petroleum, the situation is now the 'elephant in the living room.' As with all 'substance abusers' change will not start to happen until the abuser decides to change. I've heard figures like $3.50 per gallon of gas may trigger that; but I don't think it is that low. People seem so entranced by their big all-purpose cars that they will go bankrupt before they will adapt to fuel efficiency. The same is true of nuclear power where the trivial disposal of used fuel rods becomes a political cause that is more important than immediately and directly solving the energy problem that has the potential for causing economic collapse.

"This is an exciting time for EV enthusiasts because we are now more relevant. Every year that we politicize the issue and fail to take action makes real differences as the world tries to extend or look for sources of petroleum. Yet, we know that there are solutions just around the corner that involve a cultural change. So, the excitement is accompanied by frustration. We can only watch with futility as society seems to stupidly go over the cliff like lemmings.

"This is not a pleasant message. It reflects some of our discussions at monthly meetings that are more than just a "bunch of guys shooting the BS"."

Ron Groening

Member comments

We asked long-time clubmembers for comments; here's what treasurer Tullio Falini wrote:

"I remember Ron as a very dedicated charter member of EEVC. He has always been the gatekeeper of our intriguing Valley Forge P.O. Box. Ron, in the early days of the club always kept me on my toes with his interest in diesels, which was his more practical approach to using less gas than the all electrics. This, of course, proved prophetic, as there are diesel models now out that get as good a gas mileage as the hybrids and are getting cleaner and quieter with each generation. I remember Ron's VW Rabbit diesel in the early days of the club, which he was proud of and dedicated to for many years. A gentlemen always and always with some interesting, insightful perspective at meeting discussions. My only regret is that my life's commitments got into the way of knowing Ron better."

From Carey Rowan:

"As you will recall, our founding dinner meeting at the George Washington Motor Lodge was in January, 1980. I'm quite sure Ron was there, and he actively participated in the founding discussions. Our first regular club meeting was in March, 1980, at PECO's Berwyn transport facility. Ron was our first speaker, talking about his converted 1980 VW Beetle. I think he exhibited his car at the Plymouth Meeting Mall in September of that year at an EEVC car Expo. Over the years he exhibited his car, and spoke of it at many club events and meetings.

"Ron was always an extremely active member of the EEVC, participating with a great deal of energy and intellect throughout the club's history. He will really be missed."

From Ed Kreibick

"My biggest memory of Ron was when I succeeded him as president of the EEVC. The vote was tied between us, but he gra-

ciously suggested that a new face as president would be good for the club. He was always helpful and offered his valuable opinion on all subjects. He was a good friend and I will miss him and the EEVC has lost a great supporter of our cause."

From Oliver Perry,
who wrote to Ron's family:

To Peg, Lindy, and family,

It was not even a year ago that Ed Kreibick, Tullio Fallini, Ron, you, and I attended the burial of Guy Davis, as officers representing the Eastern Electric Vehicle Club. It was a beautiful spring day, saddened by the loss of Guy, but warmed by the sunshine and the togetherness of "The EEVC Team." At the time we had no idea just how precious our togetherness would turn out to be as the five of us lingered for a spell quietly remembering Guy. We even snapped a few pictures in that beautiful restful spot. Of course both Ron and you knew that Ron was also fighting his own similar battle. We were not likely to fully comprehend the seriousness of Ron's condition because he always focused attention upon others and not upon himself.

On behalf of the EEVC I would like to express our deepest regret that Ron is no longer physically walking with us and extend our sympathy to Ron's family and you. Ron will be greatly missed but never forgotten. He fulfilled his officer duties graciously with pride and enthusiasm. Ron's role in the EEVC can never fully be replaced.

A battery powered car,
traveled very far.

Its driver moved on,
'Twas a trooper named Ron

Ron, we will meet you at the finish line.

Oliver H.Perry
EEVC President

Ron has passed on his interest in EVs to at least one of his four children: his daughter Malinda, a commercial artist in California, manages the EEVC Web Site.

TRIBUTE TO RON GROENING
An Original Officer Of the EEVC
Oliver H. Perry

"Down Memory Lane"
The Eastern Electric Vehicle Club was founded January 30, 1980. As I swiftly glanced through my early EEVC Newsletters, looking for the first entry of Ron's name, I discovered his name in the January 1981 First Anniversary Issue, page 4. Ron's name appeared at the end of a long sentence in the first column, third paragraph under the heading "Four club members have converted VW Beetles." "Bill Conrad, a Springfield resident, drives his 1960 conversion 16 miles every day to and from work at WPHL-TV and Club secretary Ron Groening, a Phoenixville resident, also has a 70 conversion."

In the March 1981 issue, on page one, the note is made that Ron had recently written an article explaining how to mathematically analyze and quantize the performance of one's electric vehicle without knowing the motor specifications. It was implied that the article would be forthcoming. For some reason the article didn't appear until after Ron Groening was elected EEVC president for the 1982-83 term. Ron's article was published in the August 1982 Newsletter over a year later. The article was laced with many mathematical equations and showed how one could get sufficient information with just a few simple electrical instruments. His first printed EEVC Newsletter "President's Message" appeared in the October 1982 issue, which Ron proclaimed to be "the Neshaminy Mall Expo Issue." Ron encouraged everyone to come to the mall and participate in the upcoming EEVC electric car show.

In December of 82, Ron wrote an article for the EEVC Newsletter discussing battery problems in the winter time and offered some tips for EV owners. In the January 83 issue, Ron wrote our first "State of the Club" article entitled, "Where are we going and where have we been?" The good news Ron stated was the success of the Neshaminy Mall electric vehicle show which the EEVC had sponsored. The bad news was the subsequent

financial crisis brought on by a $400 insurance bill and a lack of the membership dues from new members "expected to be stimulated by the event." The club found itself $200 in the red. In March of 1983 Ron wrote another article in the newsletter entitled, "Where are we Going?" One of his statements reads as follows: "The EEVC is now one of a dwindling list of EV organizations able to provide a stable promotion base for EVs." "We are surviving, and by surviving as an EV club we are helping to ensure that when the time for EVs arrives there will be a viable skill/technology base. Hence the goal is survival and nurturing EV enthusiasts."

Ron initiated a short-lived column in April of 83 called "From the Mailbox." In the article Ron included three notes from subscribers which had been included with their membership and newsletter subscription checks. These notes described their home EV projects.

The first picture of Ron to appear in the EEVC Newsletter appeared in our June 1983 Newsletter. It was one of Ron handing something to someone who was seated at the head table at the May 4th annual dinner meeting, which was held at the American Legion Post in Fort Washington, Pa. In the same issue there is a picture of Ron's wife drawing the first raffle ticket at the dinner, while Guy Davis held the basket of entries.

Moving to the Present, 2005

In the Gospel of John, the writer states that his book did not have room to contain all of the things Jesus said and did while he was here on earth. Likewise we lack room to cite all of the many references to Ron Groening in the EEVC newsletters between 1983 and 2005. But jumping to the January 2005 issue we once again find Ron's smiling face on page one, under the title "Ron Groening 2005 EEVC Club Member of the Year." The article pays tribute to Ron's many years of unselfish and inspiring service to our organization. A few months later, in April of 2005, Ron was pictured among the distinguished officers who gathered with other EEVC members in Boyertown to celebrate the EEVC 25th Anniversary.

Bill Visher, who also served as president of the EEVC, was present at the 25th anniversary celebration. When recently asked, Bill had this to say concerning his early recollections of Ron. "I first met Ron at the second or third meeting of the EEVC. There were usually 30 to 40 guys that came to a meeting in those days. I always liked Ron and admired him for actually converting a gasoline car to electric. As one of the former club presidents, I found Ron to be always a great helper. The club is going to really miss his service. Maybe it's time to consider closing down, who is going to replace him?"

In May of 2006, both Ron and his wife Peg were pictured on the EEVC newsletter front page with several Junior Solar Sprint winners at the Franklin Institute in Philadelphia, where both had served as judges in the annual Junior Solar Sprint solar car contest, sponsored by the Philadelphia Solar Energy Association. The EEVC provides judges for this event, held for middle school students, and also presents an "Over-all Best Car" award. For many years Ron has served as a judge, including last year. Again his picture in the June 2007 EEVC Newsletter documents his participation. Alan Arrison, one of our younger members who often worked the same event with Ron, quietly told me that in light of his health issues Ron has behaved "most admirably" over these past few years.

Readers of our newsletter are aware that the EEVC has also awarded a plaque annually to a student who constructs what we judge to be, the "Best Over-all Electric Car" in the Southeastern Pennsylvania Physics Olympics League finale. Ron not only participated in selecting and presenting the award for many years, but also donated his time to helping his local high school team from Phoenixville Pa. prepare for the Olympic competition. In memory of Ron we are going to present an award for Excellence in Engineering to a Phoenixville High School Student at the upcoming February Physics Olympic meet, to be held Saturday, Feb 23 in Penncrest High School in Media, Pa. If any of you wish to be present for that award please contact Oliver Perry (609-268-0944) or perrydap@aol.com for further information.

In June 2007, Ron and Peg competed in the "21st Century Automotive Challenge" driving their diesel Volkswagen Jetta in the Drive to the Shore event. Attending the

awards ceremony afterward, Ron and Peg were proud to receive first place in that category.

Parting thoughts

As Ron participated in our organization's activities for these past few years he showed few signs of reducing his service. But some of us noticed that he seemed to be fighting some sort of physical battle. Ron briefly and quietly shared with several of us that he was dealing with a cancerous type immune system invader, one that required a lot of chemical balancing. We could see some signs of the struggle that Ron put up with during the past few years, but never perceived a pessimistic dying attitude in his outlook. Time and time again Ron fought back the attacks, giving everyone the impression that he fully intended to win. Ron never implied he was suffering nor asked for sympathy. With his ever winsome smile, he never let on that he was approaching the finish line. He crossed that line sooner than we expected and much sooner than we wanted. If accomplishing all that Ron accomplished in life is required before we arrive at the finish line, it will be a while before many of us get there. Long live the memories of Ron Groening. We are greatly indebted to his many years of distinguished service. Ron inspired us all and he will be greatly missed.

AN AMATEUR'S VIEW OF INVESTING IN SOLAR POWER
Tullio Falini

This month we welcome a new columnist, EEVC treasurer Tullio Falini.

As I am not an investment advisor, I must state my qualifications as only someone who passionately, since the 1970s took a keen interest in alternative energy. It became clear to me back when we had gas lines in the 1970s that our psyche of burning gas to power cars will have to change. EEVC founder, the late Guy Davis said many years ago if it's not reducing our dependence on foreign oil that changes the way we propel cars, the pollution problem will.

Speaking of founding members, I was very sad to hear of the passing of Ron Groening, who has done so much for the club since its inception. Ron also had a dedication to seeing a better world by using less fossil fuel to propel cars. His ambitions led him to put many miles on Diesel powered cars, and more recently, his Hybrid. Make no mistake about it, the world is a better place today because of contributions from people like Ron and Guy who dedicated a part of their lives to doing their part toward solving this huge energy problem we all have to endure.

One of the most promising alternatives to fossil fuel is solar. I am shocked that here we are 35 years later and we have made little progress on changing the way we propel our cars. But at the same time, I welcome what progress we have made. That is Hybrids and cleaning up Diesel engines. We have a very long way to go. But one area I am very happy in the progress we have made is solar panels, which will eventually work there way into cars or into charging units. Until recently, solar panels were controlled by a few large companies (BP, Siemens, Shell, etc.) and the money to keep the progress going was mainly the space program. We now see many smaller companies successfully manufacturing solar panels. When a respected investment service like Value Line now has a separate section called "Power Industry" that is mostly alternative power companies, we know we have come a long way.

There are four solar companies in this section that are holding their own. In general this industry is high risk, and the companies depend on government subsidies to grow. However the developments are very encouraging. Energy Conversion Devices (ENER), of Rochester Hills, MI had high hope with a fuel cell product, and their right to the Ni-MH battery. But these ventures have brought disappointment after disappointment. ENER's Cobasy joint venture probably only supplies less than 5% of total Ni-MH automotive batteries worldwide. ENER solar venture is a different story. Their United Solar Ovonics venture is growing and expanding capacity in the manufacture of their thin-film photovoltaic modules. While ENER is still operating at a loss, 2008 may be the year they

turn a positive cash flow.

Evergreen Solar (ESLR), of Marlboro, MA makes solar panels, which includes the option of wireless, rural electrification, and grid connected applications. Their patented String Ribbon wafer production is a crystalline silicon technology, which uses half the silicon (without the sawing) of conventional methods. ESLR resorted to taking on a partner because they were having trouble getting raw materials and handling the growth on their own. They appear to be doing very well with revenues projected to increase five-fold over the next five years.

First Solar (FSLR) of Phoenix, AZ is a stock that went from around 15 to near 300 in 1 year's time. Such volatility is not for the average investor. FSLR makes solar modules with their patented thin-film semiconductor technology. They have succeeded in reducing manufacturing costs to a low, profitable level. Unlike most other solar companies, FSLR has strong sales, profit and cash flow growth. In addition to their presence in Phoenix, they have plants in Germany and Malaysia. The company is 57% owned by the Estate of John Walton.

Sunpower (SPWR) of San Jose, CA makes high efficiency silicon solar cells, which generate more power per unit than other solar methods. The company's class B shares are 100% owned by Cypress Semiconductor. SPWR has improved their manufacturing process in that it uses much less silicon (a costly raw material) than they used to. This has earned them the same status as First Solar in being a profitable company with strong sales, profit and cash flow growth.

There are some smaller, higher risk solar companies I am looking into (not covered by Value Line, or at least not yet). I do not own any of these but am watching them. My favorite is Canadian Solar (CSIQ) subject of a recent article in the financial press "Why Canadian Solar is the Best Solar Stock." This stock is not considered overvalued like the other pure-play solar companies. The others are semiconductor company Emcore (EMKR) who is achieving 39% conversion efficiencies with a fraction of the photovoltaics as other companies use (not a pure-play solar-only company). Xsunx Inc. (XSNX) is badly in need of financing but their thin film technology looks every bit as good as First Solar.

I am personally invested in the former four stocks I mentioned and plan to hold them long-term and try not to get too caught up in their roller coaster up and down movement. So far, so good, there has been more up than down. If the price of oil stays high, these companies should be very busy for a long time.

ISRAEL EMBRACES EVS

The state of Israel has agreed to partner with Renault-Nissan and an organization called Project Better Place to begin mass deployment of electric cars. The Israeli government would provide tax incentives to customers, Renault would supply the EVs, and Project Better Place would construct and operate an electric recharge grid across the country. Plans call for EVs to be available for customers in 2011.

As evidence of the practicality of EVs, Project Better Place points out that in Israel 90% of car owners drive less than 70 km (44 mi) per day, and all major urban centers are less than 150 km (94 mi). Since similar arguments apply in much of the U.S., another reason may be needed. How about not buying so much oil from their Arab neighbors?

CHRYSLER SHOWS CONCEPT EVS

Trevor Creed, Senior Vice President - Design, Chrysler LLC, left, and Lou Rhodes, President - ENVI, Chrysler LLC, unveiled the Jeep Renegade Concept, left, Chrysler ecoVoyager Concept, center, and the Jeep Renegade Concept vehicles at the North American International Auto Show.

While there were many hybrids and other "green" vehicles on display at the Detroit International Auto Show in January, Chrysler seemed to have gotten the message more than most, with three alt-fuel concept vehicles: the Chrysler ecoVoyager Concept, an EV with a fuel cell range extender; the Jeep Renegade Concept, an EV with a diesel range extender; and the Dodge ZEO Concept, a pure EV with a 250-mile range.

ecoVoyager

The ecoVoyager (above) is a high-end four-passenger sedan, intended, says the company, "for customers wanting a travel experience on par with a private jet, but without a lot of fancy gadgetry." It's powered by a 200 kW (268 hp) electric motor and a 16 kWh lithium-ion battery designed for a 40 mile all-electric range. Supplementing this is a 45 kW hydrogen fuel cell that boosts the range to 300 miles when needed, drawing from 10,000 psi tanks. Listed zero-to-60 time is 8.8 s, top speed is 115 mph, and quarter-mile time is 12.s.

Jeep Renegade Concept

The Jeep Renegade Concept (above) has one 200 kW (268 hp) motor per axle, with low range and locking differentials, a 16 kWh li-ion battery pack, and a 1.5 liter 3-cylinder BLUETEC diesel as a range extender, supplied by a 10-gallon fuel tank. With this much power it has a bit more performance than your average jeep, going zero to 60 in 8.5 s, and the quarter mile in 13.6 s. Top speed is 90 mph, electric range is 40 miles, and overall range is 400 miles. Estimated combined fuel mileage is 110 mpg.

Dodge ZEO Concept

The Dodge ZEO Concept (above) is an all-electric "2+2" sport wagon with rear wheel drive, what looks like the same 200 kW motor as the other two, but a 64 kWh li-ion battery that gives 250 mile range. With a curb weight of 3400 lbs it hits 60 in 5.7 s, does the quarter in 11 s even, and hits 130 mph.

Not a bad lineup. Now if they build them...

BIOFUEL A DEAD END?

While there has long been suspicion that corn ethanol was a bad energy bet, a pair of studies released February 7 indicts almost all biofuels, according to a story by Elisabeth Rosenthal in the *International Herald Tribune*. The studies, published in the journal *Science*, report that the CO_2 released in growing plants for biofuels is just a fraction of the overall release. Clearing land to plant the biofuel crops releases vastly more; one study says that clearing grassland "releases 93 times the amount of greenhouse gas that would be saved by the fuel made annually on that land," according to study author Joseph Fargione of the Nature Conservancy. "Together, the two studies offer sweeping conclusions: It doesn't matter if it is rain forest or scrub land that is cleared, although the former releases more emissions than the latter. Taken globally, the production of almost all biofuels resulted in such clearing, directly or indirectly, intentionally or not." says the *IHT* article.

Algae the answer?

Help for biofuels may come from Arizona.

PetroSun BioFuels Refining has entered into a joint venture to construct and operate a biodiesel refinery near Coolidge, Arizona. The feedstock for the refinery will be algal oil produced by PetroSun BioFuels at company owned and operated algae farms to be located in Arizona. The refinery will have an annual production capacity of thirty million gallons.

The company plans to establish algae farms and algal oil extraction plants in Alabama, Arizona, Louisiana, Mexico, Brazil and Australia during 2008. The algal oil product will be marketed as feedstock to existing biodiesel refiners and planned company owned refineries.

Another company, Valcent products, Inc., has developed a system for growing crops in vertical arrays that can produce 20 times the normal production volume using 5 percent of the normal water. While originally developed to grow food crops, the Vertigro system has also been adapted for growing algae. Ninety percent by weight of the algae is carbon captured from the atmosphere. *Energycurrent.com* reported in December that "A pilot project in El Paso, Texas, was producing algae at a rate capable of delivering 33,000 gallons of algae oil per acre per year for biodiesel production.

"During a 90-day continual production test, algae was being harvested at an average of one gram per liter from the Vertigro Bio-Reactor System, a closed loop continuous production system that uses little water and may be built on non-arable lands. The production volume will equate to algae biomass production of 276 tons (250 tonnes) of algae per acre per year." This compares to some 49 gallons oil per acre per year for soy beans and 630 gallons for.palm oil — without plowing up or chopping down any existing ecosystem. The company, says *Energycurrent.com*, plans a 1-acre test site in New Mexico.

Numerous other ventures are also experimenting with algal biodiesel, including a joint venture with Chevron.

BETTER LITHIUM BATTERIES

Stanford University has been experimenting with nanostructured electrodes for lithium-ion batteries, and reports that it has succeeded in increasing their capacity by an order of magnitude. The new technology uses silicon nanowires, and was developed through research led by Yi Cui, assistant professor of materials science and engineering.

Lithium battery capacity is limited by the amount of lithium that can be stored in the anode. A silicon anode —often in the form of a thin layer or fine particles on a substrate — can hold much more lithium than the usual carbon, but it swells up when it absorbs lithium during charging, then shrinks as the silicon is removed during discharge. This repeated mechanical distortion causes fracturing and eventual disintegration of the anode material.

The Stanford researchers replaced the particles with a paper-thin layer of silicon nanowires on a stainless steel substrate. The nanowires grew to four times their normal size when they absorbed lithium, then shrank back during discharge, but did not break.

The researchers have applied for a patent, and are considering forming a company or an agreement with a battery manufacturer.

This could be the breakthrough we've been looking for. How about increasing the range of an EV from 40 miles to 400 with the same size battery?

JESSE'S PRIUS BITES THE DUST

Jesse Rudavsky

(*In recent months Jesse Rudavsky has been recounting his adventures with a 2000 Prius. As of July of 2007 the car had reached 310,000 miles and was still going strong.-- Ed.)*

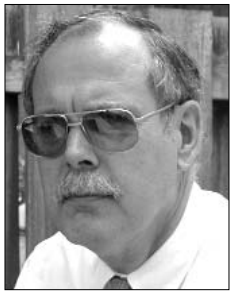
On January 30th at 6:59 pm EST, I was driving west on MA hwy 139 in Randolph. I was approaching a green light at the intersection of Hwy 28 when, at the last possible second, a 17 yr old male driver in a 1994 Mercury Sable violated right of way by taking a left turn in front of me. There was nothing I could do. He collided head on with me and both air bags deployed like they were supposed to and that, in combination with the seat belt, allowed me to walk away without

even a scratch.

The triangle came on instantly and the engine died. Fluids were pouring out everywhere. When I got out of the car, the kid said he was sorry and I explained to him what he did wrong and then called the police. The kid was cited for failure to yield by the officer on the scene. His car was totaled as well. I was picked up shortly later by a friend a few miles down the road in his new 2005 Ford Escape Hybrid he recently purchased.

I am very disappointed but I am happy to be alive and unhurt. I am confident that the car would have easily hit 400k and likely 500k or more. I tried to start the car the next morning but all I got was a glimmer of electrical noise.

PEACE AND LOVE OR ELSE
By California Pete



Berkeley vs. the Marines

The Bay Area's reputation for zaniness remains secure, as witnessed by several recent events.

Probably the best known by the public at large is the recent effort by the leadership(?) of the People's Republic of Berkeley to get rid of a local Marine Corps recruiting office. As reported by the *San Francisco Chronicle*, "The City Council voted 8-1 [January 29] to tell the Marines their downtown recruiting station is not welcome and 'if recruiters choose to stay, they do so as uninvited and unwelcome guests.'

"The council also voted to explore enforcing a city anti-discrimination law, focusing on the military's "don't ask, don't tell" policy.

"In a separate item, the council voted, also 8-1, to give protest group Code Pink a parking space in front of the recruiting office once a week for six months and a free sound permit for protesting once a week."

According to CNN, "Berkeley's declaration, which was introduced by the city's Peace and Justice Commission, accuses the United States of having a history of 'launching illegal, immoral and unprovoked wars of aggression and the Bush administration launched the most recent of those wars in Iraq and is threatening the possibility of war in Iran.'

"It adds, 'Military recruiters are salespeople known to lie to and seduce minors and young adults into contracting themselves into military service with false promises regarding jobs, job training, education and other benefits.'"

Code Pink has been taking advantage of this encouragement of their activities, holding noisy demonstrations and locking themselves to the doors of the recruiting office.

As might be expected, a number of U.S. senators were not amused, and have introduced a bill that would strip Berkeley of more than $2 million in federal funding (plus money allotted to UC Berkeley). There has also been a storm of criticism of the council's actions from all around the area, and protests were scheduled for the next meeting. Several council members have put forward a resolution that would rescind the letter that had been sent to the Marines and would attempt to express support for the troops. Since this is being written on the day before that meeting, we have no information on what, if anything, happened.

A softer Rock?

During the recent primary election San Francisco voters had a chance to vote on a proposal to convert Alcatraz island, currently a museum, to a Global Peace Center.

"Da Vid, director of the Global Peace Foundation," reported the *Chronicle,* "described Alcatraz as a 'major power point' where 'energy moves through the planet.'"

Plans for the site, which would be based on the geometry of the hexagram, "include a harmonium, employing sound techniques to impart a 'deep meditative, transpersonal and transcendent experience,' a medicine wheel and a labyrinth."

The fact that no money exists to do this, and Alcatraz is federal property in the first place, didn't seem to bother the organizers (one wonders what they've been smoking), but the voters turned down the idea 72 to 28 percent.

Just say no to yogurt

San Francisco has many neighborhoods, one of which is called North Beach. Long

Known as the city's Little Italy, it has in more recent years begun to sport trendy boutiques along with such places as the French-Italian Bakery, Caffe Trieste, City Lights Bookstore, Italian pottery shops, and my favorite, the Stinking Rose garlic restaurant.

Recently a guy named Yul Kwon, who won a million dollars on the reality TV show "Survivor," decided to open a yogurt place in North Beach. To be called Red Mango, it would be one of four scattered around the country. Kwon found a building and signed a ten-year lease. Then the local authorities discovered that the number of Red Mango places in the United States was increasing to more than (gasp) a dozen, which would put Kwon in violation of a North Beach ordinance forbidding "formula chain" stores — a law that has, the Chamber of Commerce proudly says, kept out Starbucks and Rite-Aid. Kwon's building permit was rescinded, leaving him stuck with a $7000 monthly lease payment.

NEWS UPDATE

Better magnets for EV motors

On January 14 *ScenceDaily* reported that Iver Anderson of the DoE's Ames Laboratory and his associates have have developed a high-performance permanent magnet alloy that operates with good magnetic strength at 200°C (392°F), a considerable improvement over existing magnets, many of which lose much of their coercivity at 100 to 125°C. The new material is also amenable to injection molding, which should greatly speed up large-scale motor manufacturing. Research is ongoing, and commercialization is a ways down the road, but it's good progress.

The return of the Detroit Electric

On February 7 electric car maker ZAP and China Youngman Automotive Group announced a joint venture for the production of a new line of EVs to wear the Detroit Electric brand.

The first electric cars and buses are planned for 2009, including the ZAP Alias, a high-performance three-wheeler which is currently under development. For more info go to www.detroit-electric.com.

Clean coal shut down

Last month we reported that the FutureGen project to develop a a way to produce clean power from coal while sequestering the resulting CO_2 was moving ahead. Guess again: On January 31 *The Wall Street Journal* reported that DoE was dropping its support for the project, citing cost overruns. The agency has said that it would prefer to support "a few smaller projects across the U.S. in an effort to illustrate how carbon dioxide from commercial power plants can be safely captured and stored."

PbA and supercapacitors: Perfect together

On January 18 CSIRO Australia (www.csior.au) reported that researchers in the UK had made good progress with a new battery configuration for HEVs, and had put 100,000 miles on a test vehicle. Called the UltraBattery, the new design combines a lead-acid battery and an ultracapacitor, which improves its high-rate charge and discharge capability, lengthens its life by a factor of four, and significantly reduces its cost compared to the usual HEV battery.

Toyota to test hundreds of PHEVs by 2010

On January 14 Manufacturing.Net reported that Toyota Motor Corp. plans to test hundreds of plug-in hybrid vehicles with fleet and commercial customers by the end of 2010. The exact schedule depends on progress by a joint venture between Toyota and Panasonic to produce lithium ion batteries in the necessary quantities.

Tesla gets the go-ahead from DC

On January 28 AP reported that Tesla Motors had received a waiver from the government on a federal air bag standard, giving the company a three-year exemption from the advanced air bag rule (the Tesla will carry standard air bags). This is good news for Tesla, which would have gone broke otherwise.

Big growth in U.S. wind energy in 2007

A January 17 AP story reports that U.S. wind-generation capacity grew by 45 percent

in 2007, propelled by more than $9 billion in investments, and 2008 is poised to match those gains — provided a necessary tax credit is extended.

More birds killed at Altamont wind farm

Meanwhile, says the *San Francisco Chronicle*, bird deaths at Altamont Pass wind farms have continued, despite efforts to reduce them.

Turbine operators had agreed to reduce raptor deaths by 50 percent over three years, by shutting down all turbines for two months in the winter and by retiring certain turbines altogether.

GE shows new solar cell design

On January 16 GE Global Research announced that scientists on their Nano Photovoltaics (PV) team had demonstrated a scalable silicon nanowire-based solar cell, which has the potential to achieve up to 18 percent efficiency and be produced at a dramatically lower cost than conventional solar cells.

Solar installations gained in 2007

A February 18 story by Rebecca Smith in *The Wall Street Journal* reported that the U.S. solar industry added more than 300 megawatts of capacity last year, according to data from the Solar Energy Industries Association. "Additions are expected to roughly double this year. Large commercial solar installations now exceed home installations in California, reversing a long-term pattern and likely a bellwether for other states." A good number of utility-scale projects are planned in the next few years, the story adds.

Hybrid school buses show promise

An experimental program by Iowa State University has had good results with hybrid school buses. Dan Taghon, the director of transportation for the Sigourney Community School District in southeast Iowa, said his district's new hybrid bus has been running routes since Jan. 3. And Taghon, who drives the bus on one of the district's six routes, said he likes the 65-passenger machine powered by an electric motor and a V-8 diesel engine.

The hybrid buses have better acceleration than standard buses and use considerably less fuel — by 40 percent to 50 percent, from six miles per gallon for a standard bus up to 10 or 11 miles per gallon for the hybrids.

Advanced Energy, a nonprofit corporation based in Raleigh, N.C., led the effort to bring the country's first 19 hybrid school buses to school districts in 11 states. Researchers at Iowa State's Center for Transportation Research and Education (CTRE) worked with Advanced Energy for more than two years to bring the hybrid buses to Iowa.

Evaluate HEVs wisely, says Toyota exec

A story by Leslie Allen in *Automotive News* online for January 23 reports that a Toyota executive has pointed out that "The environmental impact that a technology has over its life cycle must be taken into account when developing forms of green transportation." Bill Reinert, national manager of the Advanced Technology Group at Toyota Motor Sales USA Inc., speaking at the Automotive News World Congress, "said the energy required in materials production, vehicle production, driving, maintenance and final recycling all factor in to the " life cycle assessment" of a vehicle." In the case of PHEVs, this included emissions at the power plant — especially if that power plant burns coal.

GM shows hybrid for China

A January 23 AP story reports that General Motors Corp. has introduced the company's first hybrid that will be built and sold outside North America. It will be called the Buick LaCrosse Eco-Hybrid and will be built in GM facilities in China. Previously GM had built all its hybrids in the U.S., Canada and Mexico.

The car will be a so-called mild hybrid, and is expected to get about 20 percent better mileage than a standard model.

Power shortages close Chinese aluminum plants

A January 24 AP story reported that Aluminum Corp. of China had stopped production at two factories due to power shortages. Behind the power shortages is a chronic wintertime shortage of coal, which has also affected other industries, the story says, and has been exacerbated by bad weather.

GE raises renewable energy target

A January 14 AP story reports that General Electric Co.'s energy investment business has announced plans to increase its investment in renewable energy by 50 percent, to $6 billion by 2010.

"Alex Urquhart, president and chief executive of GE Energy Financial Services, cited record-high oil prices, an increased focus on environmental protection and improved technology for boosting interest in wind, solar, biomass, hydro and geothermal power."

COMING EVENTS

2nd Annual Alternative Energy NOW
February 20-21. Lake Buena Vista, FL. Go to www.upcomingevents.ctc.com/2ndAnnualAltEnergyNOW_home.html

2008 Clean Heavy Duty Vehicle Conference
February 20-22, San Diego. Go to www.calstart.org/programs/chdvc/ or call 626-744-5600.

Electric Auto Association Annual National Meeting
February 23, Palo Alto, CA. Go to www.eaaev.org/eaaevents.html

Cleantech Forum XVI
February 25-27, San Francisco. Go to http://cleantechnetwork.com/index.cfm?pageSRC=SanFranciscoForum

Fuel Cell Expo 2008
February 27-29, Tokyo. Go to www.fcexpo.jp/english

WIREC 2008, Washington International Renewable Energy Conference
March 4-6, Washington, DC. For information call 202-647-6828.

2008 SAE World Congress
April 14-17, Detroit, MI. Go to www.sae.org/congress/ or call 626-744-5600.

BCI 120th Convention & Power Mart Trade Fair
April 27030, Tampa, FL. Go to www.batterycouncil.org/120th.htm

78th International Geneva Motor Show
March 6-16, Geneva. Go to www.www.salon-auto.ch/en

Public Forum: The Boston Green Tea Party: Join the Energy Revolution!
March 11, Boston. Part of NESEA's BuildingEnergy08 Conference and Trade Show, March 11-13. For information go to www.buildingenergy.nesea.org.

SOLAR 2008
May 3-8, San Diego, CA. Go to www.ases.org/solar2008/

Alternative Fuels & Vehicles National Conference & Expo 2008
May 11-14, Las Vegas. For information go to www.afvi.org/NationalConference2008/

WINDPOWER 2008
June 1-4, Houston. For information go to www.windpowerexpo.org/index.cfm.

21st Century Automotive Challenge 2008
June 7-8, Burlington County Institute of Technology and the Historic Smithville Park in Burlington County, NJ. For information contact Oliver Perry.

2008 SAE International Powertrains, Fuels and Lubricants Congress
June 23-25, Shanghai, China. Go to www.sae.org/events/pfl/

Battery Power 2008
Sept. 4-5, New Orleans, LA. Go to www.batterypoweronline.com/bp08_index.htm

Convergence 2008
October 20-22, 2008, Detroit, MI. Go to www.sae.org/events/convergence/ or call 626-744-5600.

Electric Drive Transportation Association Conference & Exposition
Dec 2-4, Washington, DC. Go to http://edta.orchidsuites.net/sites/conf2008/

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.

March 12

April 9

May 14

June 11

July 9