



ELECTRIC VEHICLE ASSOCIATION OF SAN DIEGO (EVAOSD)

An affiliate of the ELECTRIC AUTO ASSOCIATION (EAA), 2031 Ladera Ct., Carlsbad CA 92009 Ph: 760.753.2949

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Regular Meetings: 4th Tuesday of every month (January thru November), at 7:00 pm,
Location: San Diego R.T.C. (Pearson Plus), at 4001 El Cajon Blvd. and Interstate 15
Place: In the Autotorium
Next Meeting: Tuesday, May 23, 2006 @ 7 p.m.
Topics: 3 each: Vehicle Energy Source; Source and Use of Energy in a Pure Electric Vehicle; Source and Use of Energy in a Parallel Hybrid Vehicle. From the EV conversion class
Speaker: Russell Lemon, Treasurer/Webmaster of EVAOSD & EAA Member.

The President's Message

For our April EVAOSD meeting we had more attendance but not as many as I had expected after the Earth Fair. We had a surprise guest Jerry Pohorsky, EAA Board Member PHEVSIG Chairman. Some that participated in Earth Day activities were taking a well deserved rest. We give **Thanks** to all that helped get the EV word out.

Jim Burns and Frank Falcone gave two presentations about turning my hybrid into a tribrid and the Challenge X university completion. Parts were available including ultra-capacitors and the Chevy Equinox that is being modified.

Things have not slowed down since Earth Day as the gasoline prices raise. After the meeting Lisa and I drove the 13 used charger past Sacramento and passed them on to EAA. The chargers are going to be placed on the reconditioned Ford Ranger EV for shipment to the new owners. Thanks again to EVAOSD members that helped save these chargers.

We had another parade on Saturday, April 29, 2006 where Paul Marshall and Abran Quevedo drove and showed their EV convertibles.

Greg Newhouse of San Diego Regional Clean Fuel Coalition has step forward funding the Conversion Workshop that is being held this summer.

We have yet another Clean Car Show (for freeway capable cars using electricity as a power source) in conjunction with CALPIRG Student Chapter UCSD on May 31, 2006. This EVent is being held during the work/school day and we **really** need your support to make this happen.

During the meeting I mention a new project. John Coplin is working on seeing if we can get a used EV from El Cajon to refurbish. Mean while I have been talking to EAA about starting up the first EVer university education chapter, we should have something to discuss and to vote during the May meeting.

Also mentioned during our meeting things are changing where we meet. Nothing that will affect or effect EVAOSD however. I dropped by and the Enigma has a new Show Room Home. Other cars will be on display and Fords will be at the main dealership, down the street.

For our May 23, 2006, meeting Russ Lemon will be giving three presentations that he will be giving to the EV Conversion Workshop in June.

Continued to next page...

President's message continued...

In conjunction with EAA we are working on changing the status of our chapter possibility from unincorporated to incorporated chapter. So this might be something else that we may need to vote on during our next meeting, depending on the information available.

I just returned from the "Clean Cities Congress and Expo 2006" in Phoenix. The Phoenix EVA chapter showed two of their EV and handed out "CE" publications. Specific information can be found at the following links. <http://domesticfuel.com/?cat=25> and presentations are on the www.afvi.org website. There is plenty to discuss about the convention but for now the next "Clean Cities Convention" is scheduled for L.A. from 4/29 to 5/2/07.

Thanks to Paul Marshall we have a Monster Garage video where a 1962 Chevrolet Bel Air becomes an electric speed machine, using lithium power tool batteries. We

will be showing this tape during one of our meetings as time allows.

Keep in mind that our June Barbeque & EV display meeting will start at 6 P.M. on June 27, in an effort to maximum daylight.

I look forward to seeing you at our meeting on Tuesday, May 23, 2006 @ 7p.m. The meeting will be at the RTC (Regional Transportation Center), [in the autotorium] at 4001 El Cajon Boulevard in San Diego. Located on the southwest corner of the main building.

Note: If you arrive late the building may look dark and closed for business. We meet after normal business hours in the "Autotorium" and the public is welcome to attend our meetings.

Bill Hammons, President EVAOSD

The EV Grin

"EV'ers know about the grin that someone has just after driving an EV." Here are some notes for the San Diego EV Community.

Calendar of Events:

5/10-14 18th Annual Tour de Sol – Saratoga Spa State Park, NY

5/12-14 5th EVer EAA Chapters Conference – Fox Valley in Chicago/Juliet, Illinois. **EVAOSD representative needed to report back to our group.**

5/19 National Bike to Work Day

5/23 EVAOSD Meeting – 3 each EV Conversion lessons

5/31 EVAOSD & UCSD CALPIRG Student Chapter Clean (freeway able) Car Show 10 A.M. to 3 P.M.

6/19-30 EV Conversion Workshop
Notes are in newsletter below.

6/28 "Who Killer the Electric Car?" EV1 Movie to be released. <http://www.whokilledtheelectriccar.com>

6/27 @ 6 P.M. EVAOSD Annual Picnic & EV Display

7/25 EVAOSD Meeting 7 P.M.

9/27 & 28 Solar Conference, San Diego

10/12 National AFV Day Odyssey



May 12-14 , 2006 ** Chicago/Juliet, IL ** 5th Annual EAA Chapters Conference

Hosted by the [Fox Valley EAA](http://fveaa.org). The conference will include various events to promote EV discussions and social events to promote communication between EAA Chapters. This conference will coincide with the Midwest Alternative Fuel Expo. Time during the conference has been reserved to attend the NEDRA High Voltage Nationals on May 13. <http://fveaa.org>

Who Killed the Electric Car? 2006 Review by Dave Goldstein, President EVA/DC

Subtitle: "Ripped Off at the Gas Pumps? You Must See This!"

"Who Killed the Electric Car?" is a remarkable film that could only have been made by an independent producer. Even "60 Minutes" refused to touch this one, because it exposes the rank underbelly of the American automobile industry, which happens to be THE major advertiser on TV, radio, newspapers, magazines, and yes, even in film "placements."

This is a Turn of the Century story about what happened when a remarkably innovative and efficient sports coupe that could have freed America from its Oil Addiction, was introduced to a small segment of the American public that fell in love with it - only to have it ripped from their hands and crushed into the dust by its corporate parent.

There is something very universal and frightening about this tale, which tells us much, in "Whodunnit" fashion, about what happens when American innovation, government policy and old line corporate America collide, and especially how the world's largest - but dying - corporation, managed to kill the world's most innovative product, the EV1, and how *everyone* - including the public - became the ultimate loser.

But this is not just about corporations killing their own products, nor are General Motors and Ford, the prime suspects, the only ones held culpable. The cast of characters - and accomplices - in this murder is huge, and the story is told in a fascinating mélange of first person accounts including company insiders and double talking automotive executives, honest and corrupt government officials, passionate car owners and disinterested observers, interspersed with long lyrical shots of EV1s cresting over hills with huge wind turbines in the background. And then there are the sad and shocking death scenes of the crushed hulls of the cars that could have saved America - the jet streamlined Model T's of the 21st Century - stacked like cord wood and left to rot in the desert.

Who killed the Electric Car? The film draws its own conclusions, but ultimately you and I will have to decide. There will be detractors of course, who will simply accept the corporate alibi that "no one wanted these cars because their range was too limited," or because "they took too long to charge." But the evidence from this film clearly tells us otherwise.

But in all good tragedies there is a sense of hope, or at least a message for the future. America has not died, although GM and Ford are now hanging on the ropes, crushed by massive debt, unable to build the kinds of cars and trucks that Americans demand, still ignoring their customers as they did in the EV1 Saga. The lesson is plain for whatever, or whomever, replaces these dying behemoths, who have become the ultimate murder victims, having *killed themselves.*

The Electric Car is dead. But if you listen to the survivors who loved these technological creatures like members of their own families, you will know that the Electric Car, or some variation on it, will emerge again, like the Phoenix rising from the ashes in the desert.

See this film. See it more than once. And turn it over and over in your head as you head to the gas pumps and *pay the piper.* You know . . . the one who took away the children and murdered them?

That is the message of "Who Killed the Electric Car?"

Taking Turns ‘- - -, _ _ _ Messages from our members . . .

Abran Quevedo is setting up an EV Conversion Workshop this summer...

Commuter Conversion Electric Car Class for Teachers is set for June 19 – 30, 2006. This is the perfect class for auto shop instructors, science teachers, industrial technology teachers, industrial arts teachers and EV enthusiasts. Contact abran.quevedo@sduhsd.net an EVAOSD member. More information along with info on the “Little Red EV” can be found at www.evaosd.com.

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Abran Quevedo also has an EV battery charger for sale...

FOR SALE : RUSSCO: Safety Electric Vehicle Battery Charger-Model SC 18-120. NEW \$600/OBO contact quevedo@cox.net

Type.....AC to DC Current& Voltage Regulated Charge
Algorithm.....Constant1, Constant V. Min.1 Voltage,
Input.....110-130 VAC, 60Hz.
Voltage, Output W/O Boost.....80-170VDC (Adjustable)
Voltage, Output W Boost.....100-212 VDC (Adjustable) Amperage, Input AC.....15
Max. RMS amps (Adjustable) Amperage, Output W/O Boost.....15 Amps
Amperage, Output W Boost.....12.5 Max. Amps. (adj) Amperage, Output
Finishing.....1-4 Min. Amps.
Amperage, Output Fuse.....ABC 15 Amps Capacity,
Input.....1800 Max. Watts Charge Time 220 AH Battery, 50%
DOD.....10 Hrs.
GFCI Fault Current.....4-6 ma.
Charger Output Resistance.....40 K(ohms) Efficiency,
Typical.....80%
Power Factor.....0.6-0.95
Crest Factor, Typical.....1.8
Temperature, Safety Shutoff.....180F (80C) Timer, Variable Shut Off
(Opt.).....0 dv/dt
Enclosure.....Safety Red, 14 Gauge Steel
Size.....7-1/4 inch D x 6-3/8 inch L
Weight (with cables).....13 pounds

CalCars/Frank Welcome **Ford's "Keen" Interest in Plug-In Hybrids**, Disclose Proposal for a First Step

Palo Alto, CA, May 11, 2006: The California Cars Initiative and University of California at Davis Professor Andy Frank today welcomed Ford Motor Co (NYSE: F) CEO Bill Ford Junior's acknowledgment that the company is exploring plug-in hybrid electric vehicle (PHEV) technology.

The non-profit group and the engineering professor/inventor of the modern plug-in hybrid disclosed that they have been in private discussions with top business and technical executives of the company since meeting in Dearborn last November. After Mr. Ford responded to questions about PHEVs and Prof. Frank at the company's annual meeting by saying, "We have nothing to announce today, but yes, we are keenly looking at it," CalCars and Prof. Frank released their recent letter to Bill Ford.

The group plans to rapidly build a small prototype/demonstration fleet of plug-in hybrids using Ford's Escape Hybrid as a platform. First customers for the conversions of several dozen SUVs would be cities, utilities, CEOs, entrepreneurs and celebrities. The vehicles would demonstrate a range of energy storage and propulsion components, flex-fuel (E85) capability and other design solutions.

Asking for no money or other resources from the company, the group has asked Ford to release a statement giving permission to begin independent work:

"A consortium that includes UC Davis engineering Prof. Andy Frank and the non-profit California Cars Initiative is starting a project to demonstrate the potential of the Ford Escape Hybrid to operate as a plug-in hybrid. There's a growing national interest in this technology, especially among fleet buyers, to further reduce oil consumption and greenhouse gases. While Ford focuses on expanding the adoption of hybrid technology throughout our line, we applaud their choice of the Escape as a development platform, and we will support this independent, innovative effort. We delegate Ford advisor and designer/architect William McDonough to participate in this project."

See the full text of the three-page letter to Bill Ford, "A partnership for Ford to take the lead in innovation on plug-in hybrids": <<http://www.calcars.org/ford-calcars-frank-8may06.pdf>>

Today, Prof. Frank said, "I'm delighted PHEVs and our proposal are now getting Mr. Ford's personal attention. The next step is to let us turn the Ford Escape Hybrid into the world's cleanest extended range production vehicle -- by putting together differently the pieces we already have." Felix Kramer, Founder of CalCars.org, said, "Ford built the first hybrid SUV. We hope next Thursday at the White House meeting of the automotive Big Three, Ford can announce it's taking the lead on the next generation of advanced vehicles."

PLUG-IN HYBRIDS (PHEVs) finally make hybrid cars live up to their name by using both gasoline and electricity as fuel. They're like today's hybrids but with larger batteries and the ability to re-charge off-peak conveniently from a 120-volt plug, so local travel is electric, and they retain the extended range of any hybrid. And compared to gasoline, electricity is cheaper (under \$1/gallon equivalent), cleaner (lower greenhouse gases even on the national power grid) and comes from domestic sources (less than 3% of US electricity comes from oil).

PROF. ANDY FRANK is the recognized world leader in plug-in hybrid technologies, having built nine such vehicles since 1972, including ground-up PHEV prototypes of Ford Taurus, Sable and Explorer. As the Director of the University of California at Davis Future Automotive Technology and Engineering Center for Hybrid Electric Vehicles, Dr. Frank and his engineering students have repeatedly won high honors in the annual U.S. Department of Energy's Future Car and Future Truck Challenges. His graduates work in automotive companies worldwide. See <<http://www.team-fate.net>>.

Didn't we discuss this exact same thing at our April Meeting?

Our next opportunity to display our EV will be 10/22/06 during this National AFV Day Event.





This marks the end of our printed & mailed newsletter additional EV related stories are available in our electronic edition at www.evaosd.com under meetings.

NEW IN GRIST

Gauge Match

Push to raise fuel-economy standards gaining new support

Will \$3-a-gallon gas finally prod Congress to boost auto fuel-economy standards? Muckraker pokes around Capitol Hill and finds that both sides of the aisle are rethinking the issue, and bills to raise CAFE standards are gaining ground. The Bushies, however, aren't inclined to change their minds. Will we have to wait for \$4?

Can This Electric Super Car Save the Planet?

Source: [Business 2.0](#)

[May 05, 2006]

SYNOPSIS: Mister Wright's car burns no petroleum, does 0-to-60 in 3 seconds and can best a Ferrari.



SAN FRANCISCO - Ian Wright has a car that blows away a Ferrari 360 Spider and a Porsche Carrera GT in drag races, and whose 0-to-60 acceleration time ranks it among the fastest production autos in the world. In fact, it's second only to the French-made Bugatti Veyron, a 1,000-horsepower, 16-cylinder beast that hits 60 mph half a second faster and goes for \$1.25 million.

The key difference? The Bugatti gets eight miles per gallon. Wright's car? It runs off an electric battery.

routers and switches for Digital Equipment and Cisco.

Wright, a 50-year-old entrepreneur from New Zealand, thinks his electric car, the X1, can soon be made into a small-production roadster that car fanatics and weekend warriors will happily take home for about \$100,000 --a quarter ton of batteries included. He has even launched a startup, called Wrightspeed, to custom-make and sell the cars.

But Wright isn't some quixotic loner. He's part of a growing cluster of engineers, startups, and investors, most of them based in Silicon Valley,

have failed at for decades: Think beyond the golf cart and deliver an electric vehicle (EV) to the mass market.

Indeed, the race for the new consumer EV has already begun: Just a year ago, Wright was working for his Woodside neighbor Martin Eberhard, co-founder of Tesla Motors, a startup that has 70 employees and a major investment from PayPal founder Elon Musk, which is building a mass-market rival to the X1. Wright left, believing he had an even better idea.

Beyond that, startups are forming to equip new "plug-in" hybrids that run almost entirely on their electric motors. And around the country, a handful of other exotic EVs are showing up on the road -- including George Clooney's new ride, a \$108,000 commuter coupe that's just 3 feet wide.

The more that cars become technology platforms, the more the future plays into the hands of people like Wright and Eberhard. "Automakers can't do this," Eberhard says. "If you drill into the complexity of an electric car, it's not the motor, it's like electronics and battery system, which car companies aren't good at."

Adds Musk, "The time is right for a new American car company, and the time is right for electric vehicles, because of advances in batteries and electronics. Where's the skill set for that? In the Valley, not Detroit."

Wright's garage-born heroics are, in many respects, long overdue. After all, electric cars predated the gasoline combustion engine. But they soon headed for museums, replaced by gas engines. A mid-1990s wave of all-electric cars was short-lived -- GM (Research) spent more than \$1 billion to introduce a short-lived electric vehicle -- and were soon replaced by Toyota's hot-selling hybrid gas-electric Prius.

So how do you build the EV of the future on a six-figure budget when GM couldn't do it with more than \$1 billion? For starters, you get all the basic parts off the shelf. By itself, all the hardware in the X1 is nothing new. The X1's real secret is how Wright engineers it all to keep the car in optimum race mode whenever you hit the accelerator.

Proving grounds Last November, Wright towed the X1 to a racetrack near Sacramento to see how his prototype would do against a Ferrari and a Porsche. On paper, a win seemed guaranteed. But he hadn't yet run the car full out.

In the first match up, the X1 crushed the Ferrari in an eighth-mile sprint and then in the quarter-mile, winning by two car lengths. In the second race, against the \$440,000 Porsche, the two cars were even after an eighth of a mile. But as the Porsche driver let out the clutch in a final up shift, his tires briefly lost traction. The X1, blazing along in its software-controlled performance mode, beat the Porsche by half a car length.

"It never occurred to me that I would lose," says Kim Stuart, the Porsche's driver. "It was like a light switch. He hit the pedal and was gone."

So what now? Wright isn't sure himself. Only 50 or so people have driven the car, and Wright has just begun to hold his hat out for potential investors. With \$8 million in funding, he says, he is convinced he can put a consumer version of the X1 into production that meets federal safety standards, has a 100-mile range, and recharges in 4.5 hours.

To bring any EV to the masses, of course, will require much improved battery technology. But a handful of startups backed by Valley VCs are claiming that big advances are just around the corner. Menlo Park-based Li-on Cells claims that its technology will double the performance of lithium-ion batteries for about half the cost.

Thus, the X1 and the Tesla could be just the things to throw the EV race into high gear. As battery prices drop and performance improves, the cars could come within reach of a wider audience. And if oil prices keep climbing, more and more consumers will demand alternatives that are punchier than a Prius.

Must see videos...

EV Beats Porsche & Ferrari...

www.wrightspeed.com

Plug-In Hybrids Finally Getting the Attention They Deserve

Source: [LA Times](#)
[May 07, 2006]

SYNOPSIS: [Chelsea Sexton's response to LA Times article entitled '0-to-60 on 40 Watts'](#).

Finally, plug-in hybrid technology is getting the attention it deserves. As a former GM employee on the EV1 electric vehicle program, we proved that the best way to get people to use less oil is to give them the opportunity to use none — without compromise in performance, safety and convenience. The public embraced that concept more easily than the automakers, and we were collectively gutted when GM abandoned its EV programs.

It has been difficult to get the large automakers to embrace plug-in hybrids because of an intangible conflict: To produce and market a car that is clean and quiet, you inherently imply that your core products — larger cars, trucks and sport utility vehicles — are none of those things.

Many automakers are learning that in order to succeed, they must build vehicles that people want to buy. What that means for the public is that there is no better time to ask for what we want. Until we do refuse to settle for less, plug-in hybrids will remain "the technology of the future."

[Chelsea Sexton](#)
Executive Director, Plug In America