EEVC NEWSLETTER

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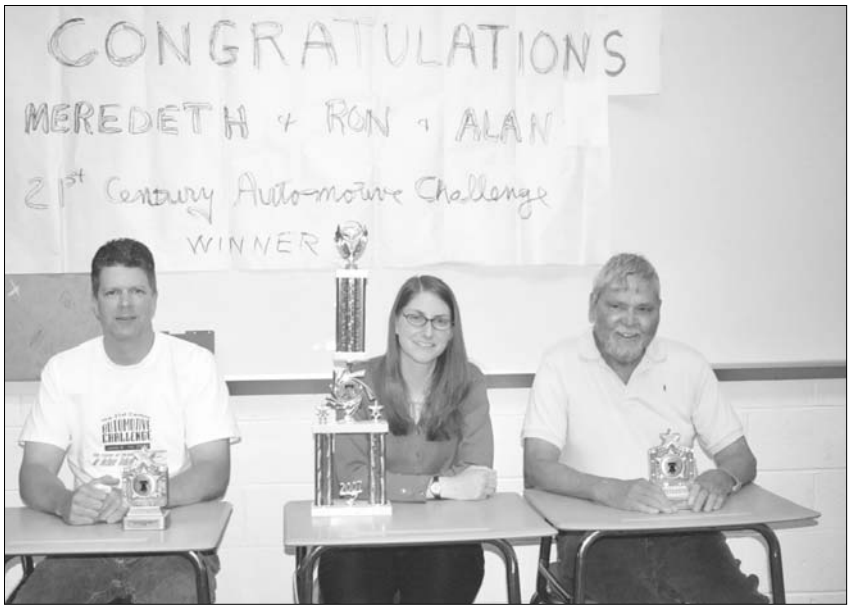
21ST CENTURY AUTOMOTIVE CHALLENGE
June 7-8, 2008

With only a month to go before our second annual Tour de Sol event under the banner of the 21st Century Automotive Challenge, how are things shaping up?



Winners in the 2007 21st Century Automotive Challenge, l to r: Meredith Murphy.. grand champion of the Drive to the Shore Alan Arrison winner technical merit battery electric,Ron Groening winner Diesel category Drive to the shore.

Rob Wills, the former American Tour de Sol technical director and Nancy Hazard the former TdS director will both be present.

Saturday June 7th will be devoted to the Drive to the Shore for the hybrids, diesels, and regular fuel vehicles. There will be a shorter range event for the plug hybrid vehicles and electric cars. Efficiencies and mpg will be measured.

Battery powered vehicles will be measured and scored for braking, acceleration, handling, and overall energy efficiency per pound of cargo carried.

Awards will be given for top performance in various categories for all competitors.

A Saturday evening buffet will be followed by the awards and prepared presentations.

Student Presentations will be scored and awards presented for the best. The following high schools have agreed to participate: Methacton High School, St.Marks Academy, West Philly High School, BCC and BCIT combined team called the Burlington County Electechs, and the New Haven

Community School from Maine.

Vehicles will go on display the next day Sunday at the annual Smithville Earth Fair. A Town Hall meeting discussing the future of the event will be conducted on the display site at Smithville Park. The Hobbit plans on attending again this year demonstrating the Prius Hybrid technology.

For updated information call Mr. Oliver H. Perry 609 268 0944, perrydap@aol.com and check out our web site www.eevc.info

It has been a somewhat frustrating year. The passing of Ron Groening and Guy Davis, both at one time active officers in the EEVC, did not help our mission to keep the Spirit of the Tour de Sol alive. Several key individuals in other organizations also unexpectedly withdrew their interest and support of our event. Both Paul Kydd and I had unexpected family interruptions thrust upon us. Overall instead of picking up additional help and resources we actually lost volunteers as well as sources of funding. In discussing our situation with several other similar event leaders I found it to be the same within their organizations. Fewer individuals and sponsors are as interested in supporting competitive events like ours as they formerly were. Although everyone wants to see the event continue everyone finds their lives too busy to provide much help. Times have changed. It is too expensive for competitors to compete, too much work for organizers to do, and there are too many other conflicting activities to draw reliable crowds. Publicity for such events is also much more difficult to acquire in spite of the increased use of the web and the increased interest in alternative fuels.

The search for a means to make this very worthwhile event sustainable continues.

ARE YOU READY TO LOOK AT THE SCIENCE?

Oliver Perry

For those of you who have expressed appreciation for me sparking controversy, not heresy, I am quite taken aback that so many people who themselves have not studied the science now believe that science has proven we can affect climate change. Ads on radio and TV ask us to join organizations proclaiming that we can affect climate change.

Carbon Credits are becoming big business, but are we being politically manipulated by the carbon credit brokers instead of thinking scientifically?

I salute Mr. William McClenny, a California licensed professional geologist and registered environmental assessor. He was appointed the first certified environmental auditor in Victoria, Australia in 1991. Compared to Al Gore Mr. McClenny is an obscure personality when it comes to voicing concerns regarding climate change. He is just a little guy like the rest of us who simply publishes factual information pertinent to his trade, even if those facts fly in the face of popular opinion.

Geological History reveals regular, frequent and dramatic natural climate change.

Not that creationists will agree, but according to the prevailing view shared among geologists today, there have been 16 regular deep freezes followed by global warming in the past 1.6 million years. There seems to be conclusive evidence that these changes have resulted in 400 foot sea level changes. Did humans have much input regarding these cycles? Why do we think that we can suddenly affect these cycles?

How much heat does CO_2 actually hold in comparison to other gases?

99% of our air is made up of nitrogen and oxygen. 1% is made up of everything else. We are told that CO_2 makes up only 0.04% of the earth's gases. According to McClenny climatologists assigned 20% of the green house gas (GHG) effect to CO_2 and 80% to water vapor. If CO_2 only makes up 0.04 % of all of the gases and it holds 20% attributed to GHG effect, then it must be one of the best known insulators known to man. He then asks why Anderson Windows uses Argon for thermal insulation instead of CO_2? McClenny believes the 20% figure for CO_2 is in error and hidden in the mathematics for "black body" calculations used by climatologists, which most people do not analyze because of its difficulty. Is it possible there have been some unwarranted assumptions or erroneous mathematical speculations at work here?

If we do quick web searching, according to McClenny we will discover that concentrated

Here is Jessie's Prius that traveled over 340,000 miles with no major repairs or battery replacements. Can anyone determine approximately how much this car slowed global warming? We can however determine precisely how many barrels of oil it saved.

water vapor in the form of clouds attributes to 95% of the GHG potential. And he rightly raises the question if we double the concentration of CO_2 in the next 300 years, raising its percentage to 0.08%, how much more heat will it hold in? Compared to the remaining gases, an insignificant amount!

Can anyone prove his assumptions to be incorrect?

The fact is, according to McClenny, NASA's well known 11 year solar cycle known as the sunspot cycle results in 0.1% variation in the amount of solar energy that we receive. And this may play a greater role in climate change than human-produced CO_2. In 2008 we have had no sunspots whatsoever and it was the coldest January that we have had in about 100 years! (It was not the coldest in New Jersey but could have been in China. If you remember, China was in an unprecedented deep freeze this past winter.)

Reducing man-made CO_2 levels may not make a dent in preventing climate change

I am not in a position to take sides as to whether or not we can slow down global warming by limiting CO_2 production. However, there is a danger when we let others do the science, math, and experimentation for us and then we blindly accept their consensus. The food scientists are changing their minds regularly on what foods are harmful or not harmful for us. Can we fully trust them?

Please do not fall into the well-intended but misleading proclamation that if everyone drove a Prius we would slow global warming significantly and prevent climate change. The percentage of CO2 reduced via cars with better gas mileage, in the overall picture is like claiming that if you took off a shoelace you would cool off quicker. There are more important factors to consider in the total global warming situation than reducing automotive CO2 production. (Remember that reducing fossil fuel usage and limiting other emissions have merit apart from CO2 emissions. But, in order to save energy, a wise policy indeed, do we have to first convince everyone that adding more CO2 will kill the planet, even if it may not be true?)

Why do I stress this? Because too many of us have lost credibility taking stands on issues that are not necessarily scientifically correct. A teaching friend of mine proudly claimed that her reason for driving a Prius was to reduce her carbon footprint. But what did she mean by carbon footprint? She is a physics teacher. Hopefully she knows what she is actually accomplishing. Although a politically correct statement, her stated effort to reduce her carbon footprint was misconstrued as addressing global warming. Hopefully she understands that reducing her carbon footprint will not provide any effect on climate change? A better reason to have given for driving her Prius would have been to save energy. Conservation of energy makes sense. (Sadly however, the truth is that Al Gore's home and jet plane even make her Prius's energy savings pretty insignificant in the overall picture. But I do admire everyone who does their part. Driving a Prius is a noble thing to do.)

Political agendas may or may not support good science. I mean, let's get serious. Should we kill our pets and sick relatives to reduce our carbon footprints, if by that we imply preventing climate change? Should we stop running? When we breathe harder we are putting more CO2 into the air. And, I ask, what is the harm in doing that? Oh, you have heard that every bit of CO2 we put into the atmosphere is raising the sea levels! And yes, let's not forget the Polar bears, our breath is killing them too. Let's go back and re-think the facts printed above and reconsider the total picture. If I take a bucket of water from the ocean I will lower the sea level. Are you

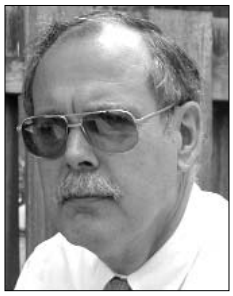
concerned? No, because you understand the percentages involved. Will arsenic kill you? Depends what percentage enters your blood stream.

If we lose credibility by prematurely championing a wrong side or making mountains out of mole hills we lose opportunity to make a difference down the road.

The truth of the global warming issue does make a difference. The price we are going to pay for limiting CO2 reduction is going to be gigantic. And if there is no real scientific proof that we are going to be successful in affecting the natural cycles, and CO2 turns out not the culprit we claim it is, we will have wasted our resources chasing after folly. And, millions of people in third world countries may die as a result of a lack of funds that were directed for CO2 reduction instead of being allocated for medicine, food, and modern agriculture.

It is my hope that members of the EEVC will play heads up in regard to this issue and advocate electric vehicles for valid reasons, other than preventing climate change.

CALIFORNIA VERSUS THE FEDS REDUX
By California Pete



The fight continues

The disagreement between California and allied states and the feds over greenhouse gas emissions and vehicle mileage standards shows no sign of slowing down. On April 22 the National Highway Traffic Safety Administration issued a Notice of Proposed Rulemaking that included proposed vehicle mileage standards that many considered to be simply moving the goal posts farther down the field. But, as reported by the *San Francisco Chronicle*, hidden within its 417 pages was a provision stating that "more stringent limits on tailpipe emissions embraced by California and 17 other states are 'an obstacle to the accomplishment' of the new federal standards and are expressly and impliedly preempted' by federal law."

The next day Governor Schwarzenegger and the governors of 11 other states sent a letter to the President "expressing disappointment that the administration has chosen not to support the states' efforts to control greenhouse gas emissions," promised to resist, and threatened a lawsuit. In addition to the letter to the President, these states also sent a letter to Congressional leaders urging them to protest this provision and insist on a CAFE regulation that is consistent with Congress' intent.

On May 7 Arizona announced steps towards adopting California's proposed mileage standards — subject, of course, to the Feds granting California its long-sought waiver of EPA rules that otherwise would prohibit such a change. Good luck with that.

Making use of methane

On April 30 the *Chronicle* reported that Waste Management Inc. (WMI) had entered into a $15 million joint venture with the U.S. arm of German firm Linde to build a facility to convert gas from WMI's Altamont landfill in Livermore into 13,000 gallons per day of liquefied natural gas to power vehicles. WMI already has 358 trucks in California fueled by purchased LNG; this would save the money spent on purchased LNG and allow more trucks to be powered by it.

WMI already uses gas from the landfill to generate 8 MW of electricity, but more is produced than can be used, with the excess flared.

One company most definitely not making use of naturally-produced methane is the Harris Ranch, which owns, among other things, 800 acres of feedlots in the Central Valley town of Coalinga, along Interstate 5. Anyone who has driven along that stretch of I-5 remembers the overpowering stench of the tones of manure produced by the 70,000 to 100,000 cattle at the facility. We don't know what eventually happens to all that poop, but apparently methane capture is not involved.

Good news on the conservation front

About 120 miles south of Coalinga Interstate 5 passes over 4144-foot Tejon Pass in a spot called Grapevine. Signs announce the historic Tejon Ranch, but they do scant justice to the magnitude of it. Tejon Ranch dates back to Spanish lands grants in 1843, and comprises 375 square miles of grasslands, forest, wet-

lands, desert, mountain and valley land.

A recently-announced agreement will save more than 240,000 of the ranch's 270,000 acres from development, preserving a number of fragile and unique wildlife habitats. Conservationists hail it as the largest and most ecologically crucial acquisition of public land in state history.

On the other hand

California is pushing hard for improved fuel economy standards and working hard to encourage use of alternate transportation fuels, so it was something of a shock to read the state bureaucrats were going after people making biodiesel. As reported by Evan Halper in the *Los Angeles Times*, a guy who has been powering a small fleet of vehicles using waste oil from a local restaurant got a call from the authorities in Sacramento, who want to fine him for failing to obtain a diesel fuel supplier's license (which includes "reporting quarterly how many gallons of grease he burns, and paying a tax on each gallon"), not obtaining a license from the state Meat and Poultry Inspection Branch for hauling kitchen grease, not having $1 million of insurance for doing so, and "for not getting permission from the state Air Resources Board to burn fat in the first place."

Even Governor Schwarzenegger has been caught by the enforcers, and now must pay 18 cents for every gallon of cooking grease he burns in his converted Hummer.

The story goes on to say that most people who quietly convert their cars to run on waste oil are left alone; it's those who promote alternate fuels who get nabbed.

A number of states exempt drivers of waste-oil vehicles, but most do not. And don't forget that Pennsylvania has a provision in the law requiring EV drivers to pay road tax on the gallons of gasoline they don't burn.

PAUL KYDD MAKES PROGRESS

On Monday May 12, Dr. Paul Kydd made his final electrical hook up for his plug hybrid S-10 Chevy pickup truck. The electric motors turned the rear wheels at 40 mph while on the lift. "Let's quit for today," said Paul, "Let's leave while everything is working. We'll road test this Wednesday!"

Work is being done at the Burlington County Institute of Technology (BCIT). We will have more information on the project in the next issue of our EEVC newsletter.

Paul Kydd and BCIT student helper Andrew Mohabir wrestle with the instillation of the GNB advanced sealed lead acid batteries.

Paul Kydd gets set to install another battery inside the rear cab of the S-10 Chevy pickup.

Paul putting finishing touches on the two offsetting Advanced DC electric motors which are coupled to the mid point of the drive shaft of the rear wheel drive S-10 pickup. The motors are connected to a cogged pulley on the drive shaft by a serpentine belt. The pulley has a one way clutch which allows the gasoline motor to drive the shaft when the electric motors are not in use.

NEWS UPDATE

Hybrids too quiet?

An April 9 Associated Press story reported that the National Federation of the Blind is concerned that hybrid cars make so little noise that they could pose a danger to people depending on hearing to know when to step off the curb. In response two members of the U.S. House of Representative have introduced a bill calling for the Department of Transportation to conduct a two-year study on possible noise standards for hybrids.

How about one of those annoying beepers that signal when construction equipment is backing up? That ought to do it, eh?

Th!nk car coming to U.S.

On April 22 AP reported that the Norwegian company Think Global had obtained backing from two venture capital firms and was planning to assemble and sell its new Th!nk City in the U.S. beginning at the end of 2009. The two-seater car is expected to have a top speed of 65 mph and a range of 110 miles. Battery choices include a high-temperature sodium unit and an ambient-temperature lithium.

Audi planing EVs

A Reuters story dated May 4 reports that Audi, VW's luxury marque, plans to offer electric cars within ten years, but that diesel would precede them.

The report goes on to point out that BMW would decide this year whether to build an EV, while GM plans to roll out the Chevy Volt in 2010.

Israeli EV moves ahead

AP reported on May 11 that Silicon Valley-based Project Better Place showed off its prototype EV in Tel Aviv. The car was a converted Renault (the project is a joint venture with Nissan-Renault) and boasts a 0-60 time of eight seconds. PLans call for several hundred cars next year and full production in 2010.

COMING EVENTS

Fuel Cell 2008
May 21 - 22, Long Beach, CA. For information go to www.fuelcell-magazine.com/FC_2008/2008.htm.

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

Clean Technology 2008
June 1 - 5, Boston. For information go to /www.csievents.org/Cleantech2008

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

Plug-In 2008 Conference & Exposition: A Short Drive to Tomorrow
July 22 - 24, San Jose. For information go to www.plugin2008.com

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/

2009 SAE World Congress
April 20-23, 2009, Detroit. For information go to www.sae.org/congress.

Challenge Bibendum 2009
April 26-29, Rio De Janeiro. For information go to www.challengebibendum.com.

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.

June 11

September 10

October 8

November 12

December 10

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