

EEVC NEWSLETTER

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Now affiliated with EAA

FINAL RESULTS OF THE 21ST CENTURY AUTOMOTIVE CHALLENGE 2008

This month's issue fills in a lot of information on the 21st Century Automotive Challenge that we didn't have last month.

BATTERY POWERED VEHICLE COMPETITION

Grand Champion Over-All-Best Electric Vehicle

EEVC member Alan Arrison, VW Rabbit
Pickup Truck

Winner of the Efficiency Competition

Considering mass of cargo and speed over 5
mile course

EEVC member Alan Arrison, VW Rabbit
Pickup Truck

Winner Acceleration Test

Burlington County Electech Team, The
Olympian, a converted 86 Ford Escort.

Winner Electric Vehicle Autocross

Burlington County Electech Team, The
Olympian, a converted 86 Ford Escort

Winner Range Event

Methacton High School, Converted three
wheeled British Sports Car called the Lomax

Winner Braking Event

Saint Mark's School, Converted Ford 150
Pickup

Overall Placement

1st Place: VW Rabbit Pick up Truck

2nd Place: St. Mark's School

3rd place: Methacton High School

4th Place: The Burlington County Electechs

The 21st Century Automotive Challenge was initiated two years ago to provide American Tour de Sol participants an annual event to participate in and to keep the Tour de Sol flame alive. School teams always played a major role in the Tour de Sol and continued to do so in the 21st CAC.

Premier Award

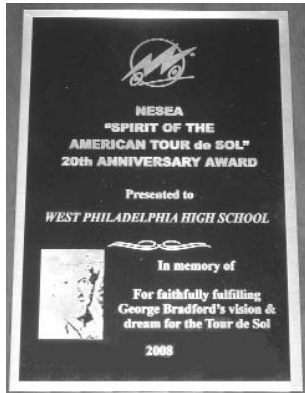


*Representatives of Methacton, West Philly, St Marks
receive the award*

The Premier Award of the 2008 21st Century played a major role in the Tour de Sol and continued to do so in the 21st CAC.

The Premier Award of the 2008 21st Century Automotive Challenge week end was selected with the school teams in mind. The Award was called the Northeast Sustainable

Energy Association (NESEA) “Spirit of the American Tour de Sol” 20th Anniversary Award.



This premier award was originated to honor twenty consecutive years of the Spirit of the Tour de Sol electric and hybrid car competition, in memory of George Bradford, one of the celebrated individuals who devoted many years of his life to compet-

ing in and serving the American Tour de Sol. The traditional Bradford Teacher Award has been given yearly since 2000 in his memory. Only school teams with a history of Tour de Sol participation were eligible to receive the award.

The winner of the Award was expected to have demonstrated a history of excellence in both past and present performances in the American Tour de Sol as well as in their team’s ability to sustain their programs into the 21st Century.

It was impossible to fairly determine an outright winner, so three schools, each with a different flavor, were chosen to each receive the award. The following three winners were: West Philadelphia High School, inner city public high school; Methacton High School, suburban public high school, and St Mark’s School, a private parochial New England boarding school.

Best Student Presentation



St. Marks Student Turner Bohlen addresses the crowd

It has been one of the 21st Century Automotive Challenge (21st CAC) goals to focus on student teams. One of our major awards which we present is the Best Student Team Presentation Award.

The Best Student Team Presentation Guidelines reads as follows. “The goal of the student presenta-

tion is to address all of the goals of the 21st CAC.”

“Design and develop a vehicle that practically reduces a highway vehicle’s carbon footprint and provides for greater fossil fuel efficiency in transporting passengers and cargo from point A to point B. Special attention is given to highway payload efficiency. Speed and cost efficiency is also included. Passenger safety, preservation of cargo, and the over-all environmental impact of vehicle production, cradle to grave, should also be included as important factors. “

Scoring for the selection of the Best Student Team Presentation should consider the following:

Meeting the goals of the 21st CAC	60%
Relative size of carbon footprint	10%
Fossil fuel payload efficiency	10%
Speed and cost efficiency of vehicle	10%
Environmental impact	10%
Safety of passengers, security of cargo	10%
Other	10%
The communication skills reflected in the presentation	25%
How well the presentation attracts future sponsors	5%
How well the program promotes involvement of future students	10%

Professor Jack Martin, a member of the Triad Electric Vehicle Association in Burlington, North Carolina, and an instructor of Sustainable Transportation at Appalachian State University, volunteered to supervise the judging of the three student teams. Approximately ten adult volunteers and participants in the 21st CAC filled out the prepared judging forms which were originated by Professor Tom Houck from Burlington County College, New Jersey. Eight of the judges submitted full and complete scores.

Each student team was allowed approximately 20 minutes presentation time including fielding questions from the audience.

The Saturday evening portion of the student presentations was won by Methacton High School. Five judges posted scores which outscored second place St Mark’s School by an average of 15 points each. Three judges favored St Mark’s School over Methacton High School by an average of six points.

The student team presentation award also includes the Sunday Earth Fair display. Since circumstances prevented West Philadelphia High School and Methacton High School from participating Sunday, St Mark's School easily forged ahead in the scoring to win the 2008 21st Century Automotive Challenge Student Team Presentation Award, basically uncontested. This is the second year in a row that St Mark's School has won this award. Credit should be given to their instructor Ken Wells for his many years of leadership to the St Mark's team. The student team, however, functioned well on their own Sunday, and did an outstanding job of presenting their project to the passing crowd.

Congratulations to St Mark's School from Southborough, Massachusetts!

Tour to the Shore

Below we see Jack Martin, champion of the 2008 Tour to the Shore division of the 21st Century Automotive Challenge. Jack demonstrated an amazing 124.62 mpg with his Insight over a distance of 143 miles.



Jack Martin (r) is the 2008 Grand Champion of the Tour to the Shore competition. Jerry

Asher (l) is the Run to the River Plug in Hybrid Champion (see below).



Both are celebrating 20 years of the Spirit of the Tour de Sol which the EEVC and the 21st Century Automotive Challenge help to make possible.

An Important Sponsor



PSE&G was a major sponsor of the 21st Century Automotive Challenge, for which we thank them.

Bio-Diesel winners



Simon Hauger, instructor at West Philadelphia High School, won over Ken Wells (r), instructor at St Mark's School from Massachusetts, in the mpg Tour to the Shore Bio-Diesel division with 66.83 mpg. Ken Wells averaged only 45.32 mpg, but won the Autocross event with a time of 23.73 seconds, while Simon's was 24.10. Both were driving Volkswagen Jetta Bio-diesel cars.

Electric Autocross division



EEVC member Richard Krog won the electric car autocross division of the 2008 21st CAC driving for the Burlington County Electech team in the converted 86 Ford Escort, the well known “Olympian.” Richard’s time was 29.77 seconds.

Prius Division



Al Walker, known as “The Hobbit,” won the Prius Division of the “Tour To The Shore” with a performance of 68.97 mpg.

Diesel Winner



Former EEVC President Ed Kreibick, winner of the Diesel category of the Tour to the Shore 2008 21st CAC.

Reflecting on it all



Dr. Paul Kydd seated in front of our display table at the Burlington County Earth Fair, the second day of our 2008 21st Century Automotive Challenge. Paul is reflecting upon the success of the event. To the right is Nancy Hazard, long-time Tour de Sol honcho.

PHEVS AND MORE ON THE LEFT COAST By California Pete



Despite the recent fall-off in energy prices, California continues to pursue alternate energy, conservation of all kinds, and the usual mix of weirdness and political wrangling.

On the alternate energy side, the recent Plug-in 2008 hybrid expo in San

Jose attracted lots of useful attention from both aficionados and the public in general, and industry seems to be on board. The *San Francisco Chronicle* quotes GM’s vice president of global program management Jon Lauckner: “We increasingly believe that the ultimate solution involves the electrification of the auto as quickly as possible.” The *Chronicle* did point out that some people consider GM’s credibility on the EV front to be something less than stellar, but we shall see.

Also giving presentations were representatives from Ford, Toyota and Nissan, as well as various academics and people from the power industry, including the Electric Power Research Institute.

Andy Grove, ex-CEO of Intel, was quoted

as suggesting a government program to retrofit existing trucks and SUVs with plug-in technology, which seems a little far-fetched.

Tesla cars now available, to be built in CA

In July Tesla Motors president and CEO Ze'ev Drori announced that a dozen Tesla Roadsters had arrived in the U.S., and that more would be coming at the rate of four a week, with a goal of 100 per month by December. This followed an announcement in June that the company would be building a production facility for its upcoming sedan model in California.

Oil baron invests in ZAP cars

On August 5 EV maker ZAP (Santa Rosa, CA) announced that the Dubai-based Al Yousuf Group is providing a \$10 million financing arrangement for future working capital, enabling ZAP to meet growing demand.

ZAP has seen increasing order volume for its EVs, with its dealer network expanding to 50 compared to 20 a year ago, and a growing number of individuals and businesses are buying the company's three-wheeled, 40 mph Xebra, including Domino's Pizza, UPS, Coca-Cola, El Pollo Loco and others.

More and more solar

Solar continues its advance here. On July 14 Underwriters Laboratories opened a facility in San Jose for testing solar panels, where they can be subjected to temperature extremes, high-speed ice pellets and other abuse at a considerable savings compared to shipping everything to UL's Illinois headquarters.

Also on July 14 it was announced that California's solar rebate program, Go Solar California, has funded enough new installations this year to generate 59.4 MW — and that's to individual buildings, not utilities. Not bad. If the program continues at its current pace, it will help install 500 megawatts sometime next year.

Dysfunctional government

At last count the state of California had gone without a budget for 45 days, as the Republicans refuse to approve anything that increases taxes and the Democrats refuse to

cut any spending, all while there's a \$17 billion deficit. The latest move was from the governor, who attempted to lay off thousands of state workers and roll back the pay of those remaining to the federal minimum wage until there is a resolution. Maybe someday.

NEWS UPDATE

Nissan shows EV model

An August 6 AP story by Yuri Kageyama reported that Nissan has shown off a new EV with a 300 kg (660 pound) lithium-ion battery of the company's own design, scheduled for introduction in 2010. The idea, said the story, was to leapfrog Toyota and Honda, which are perceived as having made more progress than Nissan. The story went on to say that such mundane things as range have not yet been determined.

Subaru shows a concept EV



On June 27 Fuji Heavy Industries Ltd. (FHI), the maker of Subaru automobiles, announced the development of its Subaru Plug-in STELLA Concept EV. FHI will provide five cars for use at the Hokkaido Toyako Summit in July 7 through 9, 2008. The company also planned to provide one car to the Japan Post group for use in mail collection and delivery in the vicinity of Toyako during the summit.

The Plug-in STELLA combines the EV system employed in the R1e with the Subaru STELLA mini car. FHI plans to use the car in the development and test-marketing of the next generation of EV in Japan in the near future.

Specifications include a curb weight of 1060 kg, seating for four, max. speed 100 kph, range 80 km (50 miles). Power comes

from an 80 kW (max) permanent magnet synchronous motor with max torque of 150 Nm. The lithium-ion battery pack holds 9.2 kWh at 346 V.

Lutz enjoys a ride in the Volt

ON August 5 Phil LeBeau posted a story on CNBC about GM Vice Chairman Bob Lutz's test drive of the E-Flex system behind the new Chevy Volt (in a so-called mule — a car with the mechanicals in question but no relationship to the final car's body shape; in this case it was a Chevy Malibu). Lutz drove around with great enthusiasm, and reported that it was "the most exciting test drive of his career." He then assured the reporter (and the TV audience for which all this was being taped) that E-Flex would do the job.

Big EV market seen

On July 4 the market research Frost & Sullivan released a report predicting that European sales of EVs would reach 250,000 units by 2015.

"Until 2012," says the report, "EV companies are likely to target hot spots such as London, Stockholm, Oslo and Rome, and the United Kingdom, Scandinavia, France, Italy and Spain are likely to constitute 93 per cent of the sales in Europe. However, once EV manufacturers enhance the safety features and range of their products, they will widen their market's geographical boundaries."

No worries about grid capacity for EVs

At least in California the electric utilities foresee no problem with capacity as EVs proliferate, as long as they're charged during off-peak hours, according to a July 23 story by AP writer Tom Krushner. "We see the vehicle penetration levels coming at a rate that's manageable," said Efrain Ornelas, environmental technical supervisor with Pacific Gas and Electric Co. in San Francisco. "It's not like tomorrow the flood gates are going to open and 100,000 vehicles are going to come into San Francisco or something like that."

DOE announces \$30 M for PHEVs

U.S. Department of Energy (DOE) Assistant Secretary of Energy Efficiency and Renewable Energy Andy Karsner recently announced up to \$30 million in funding over

three years for three cost-shared PHEV demonstration and development projects. The selected projects will accelerate the development of PHEVs capable of traveling up to 40 miles without recharging, which includes most daily roundtrip commutes and satisfies 70 percent of the average daily travel in the U. S. The projects will also address critical barriers to achieving DOE's goal of making PHEVs cost-competitive by 2014 and ready for commercialization by 2016.

COMING EVENTS

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-Whitmarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m. As in previous years, there were no July or August meetings.

September 10

October 8

November 12

December 10

January 14

February 11