

Hybrid and Hydrogen Vehicle Research Laboratory 21st Century Automotive Challenge April 17-19, 2009

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Automotive challenge features advanced vehicles, solar home

Imagine you live in a solar home with a high-power energy capturing capacity. Now imagine you can choose any vehicle technology you need to match your lifestyle – electric, solar electric, hybrid, pluggable hybrid, fuel cell, or alternative fuel. And imagine that you also have the ability to buy and sell energy from the electric utility grid. Sound impossible, or eons in the future?

As part of the 21st Century Automotive Challenge hosted by Penn State's Hybrid and Hydrogen Vehicle Research Laboratory April 17-19, competition participants were challenged to decide what travel choices they would make to live the most energy-efficient lifestyle on a busy day of errands and a day of leisure travel.

Operated by the Thomas D. Larson Pennsylvania Transportation Institute, the HHVRL partnered with the Penn State Center for Sustainability to integrate vehicle-to-grid (V2G) elements into the competition between competitors and the center's award-winning MorningStar solar home.

"This competition format will demonstrate the reality of car and home interconnectivity," said CFS director David Riley, "especially pertinent with the emergence of production pluggable electric and hybrid cars in the American consumer marketplace."

Competition participants included teams from the former American Tour de Sol Electric Vehicle Championship, Eastern Electric Vehicle Club, Penn State, high schools from PA and ME, and PA-based industries. Scoring officials included professionals from Penn College of Technology and Schreyer Honors College, Central Pennsylvania Institute of Technology, and the local racing community.

"We are excited to be centering this competition in Penn State's domain, where many different types of advanced alternative fuel vehicle technologies have been designed, built, and researched, and where infrastructure for various means of fueling exist," said HHVRL director and LTI research associate Dr. Joel Anstrom. The collaborators plan to make the competition an annual event with an expanded format and with the following goals:

- Promote continuing education for transportation professionals;
- Offer significant interdisciplinary educational and research opportunities for undergraduate and graduate students;
- Disseminate the results of transportation research; and
- Provide transportation related expertise to the local communities, the Commonwealth, and the nation.

www.vss.psu.edu/HHVRL

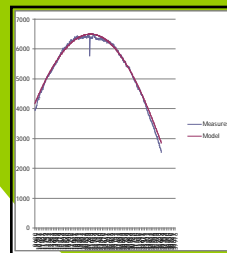
Outreach



V2G Capability



Solar Output



Technical Inspection



Autocross



Cargo MPGGE Event



CfS MorningStar Solar Home



LTI Test Track Facility

