



Mississippi State University Wins Top Honors in Year Two of EcoCAR Competition

Student-Designed and Built Vehicles Put to the Test, Virginia Tech, Penn State Finish Second and Third

SAN DIEGO, California (May 27, 2010) – Today, students from [Mississippi State University](#) placed first in the 2010 [EcoCAR: The NeXt Challenge](#) finals in San Diego, Calif. after designing and building an exceptional biodiesel extended-range electric vehicle (EREV). [Virginia Tech](#) earned second place with an ethanol EREV design and [Penn State](#) came in third place building a biodiesel EREV vehicle.

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West Virginia University

Mississippi State University competed against 15 other universities to win first place in Year Two Finals of the three-year competition sponsored by the U.S. Department of Energy and General Motors (GM). The competition challenges university engineering students from across North America to re-engineer a GM-donated vehicle to minimize the vehicle's fuel consumption and emissions, while maintaining its utility, safety and performance. The winning teams will come together to answer questions about their work and vehicles during an online chat on **Friday, June 4 at 3 p.m. EDT.**

During the second year of the EcoCAR competition, the teams utilized cutting-edge automotive engineering processes, such as Hardware in the Loop (HIL) simulation, to move their designs into the physical vehicles. Once the vehicles were built and rolled out of their respective [Green Garages](#) – or design and construction shops – they went through a series of safety and technical tests at GM's Desert Proving Grounds in Yuma, Ariz., similar to those conducted on production vehicles. Each of the cars was evaluated based on the ability to decrease fuel consumption and greenhouse gas emissions, and maintain consumer acceptability in the areas of performance, utility and safety.

The Mississippi State University EcoCAR team chose to design an EREV hybrid with a 21.3 kWh A123Systems battery pack which provides an electric range of 60 miles. It's also equipped with a 1.3 L GM turbodiesel engine and 75 kW UQM generator in a series plug-in configuration. During testing, the vehicle's fuel economy stood out, achieving 118 miles per gallon gas equivalent (combined city/highway cycle). In addition to the overall winner's award, Mississippi State won nine additional awards including performance events in auto-cross and acceleration.

"This was our most challenging year and stakes were high to have our vehicle ready for inspections. To finish a year of hard work and long hours in first place is an incredible honor for me and my teammates," said Matt Doude from Mississippi State University. "We look forward to the next chapter of the competition – with so much talent among the schools it will not be an easy road to another victory. But it's this rigorous, hands-on process that gives us the valuable experience we'll need in the workplace."

"During the last 12 months, these teams faced a difficult challenge – to build an innovative vehicle and continually refine and improve its operation. These students demonstrated extreme determination and commitment to make their vision a reality, and it is with great pleasure that I congratulate Mississippi State on its outstanding work and well-deserved first-place finish," said Pat Davis, program manager of DOE's Vehicle Technologies Program. "The students' hard work goes beyond this competition – each EcoCAR team member's contribution and innovation is also helping to build a cleaner energy future."

"These students worked tirelessly in their Green Garages building the next generation of clean vehicles and their progress has exceeded our expectations. Each team experimented with technologies and made great strides towards optimizing fuel efficiency and minimizing emissions," said Karl Stracke, Vice President, Global Vehicle Engineering for General Motors. "With critical and successful testing under their belts, we're excited to see the teams refine and improve their vehicles in the last leg of the EcoCAR competition."

The Virginia Tech EcoCAR team designed an EREV vehicle with a 40 mile electric range using a 90kW Ballard electric motor, 16 kW belted alternator starter and 21.3 kWh battery pack in a split parallel architecture. They chose to build the vehicle with a 2.4 L Ethanol engine and use 78 percent less petroleum compared to the baseline vehicle.

Penn State's EcoCAR vehicle is also an EREV design which includes a 12.8 kWh battery pack coupled with a GM 110 kW Electric Traction Motor and 75 kW UQM generator. It includes a 4-cylinder 1.3 L biodiesel engine and achieved more than double the fuel economy of the baseline vehicle, or 57 miles per gallon gas equivalent.

For photos, video and updates from Finals, and information about the online chat on Friday, June 4 at 3 p.m. EDT, please visit the [Inside the Green Garage blog](#) or for more information about the EcoCAR program please visit www.ecocarchallenge.org.

About EcoCAR

EcoCAR is a three-year competition that builds on the 20-year history of DOE advanced vehicle technology competitions by giving engineering students the chance to design and build advanced vehicles that demonstrate leading-edge automotive technologies. General Motors provides production vehicles, vehicle components, seed money, technical mentoring and operational support. The U.S. Department of Energy and its research and development facility, Argonne National Laboratory provides competition management, team evaluation, technical and logistical support. Through this important partnership, EcoCAR aims to inspire and support the next generation of scientists and engineers to unite around the common goal of sustainable mobility.

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