

For Immediate Release May 26, 2016

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The Ohio State University defends their title and wins second year of EcoCAR 3 competition

Virginia Tech and Embry-Riddle Aeronautical University finish second and third

SAN DIEGO, May 26, 2016 – The <u>U.S. Department of Energy</u> (DOE) and <u>General Motors Co.</u> (GM) today crowned The Ohio State University this year's winner of the EcoCAR 3 – Advanced Vehicle Technology Competition during an awards ceremony at the Hotel del Coronado in San Diego. This is the second stage of an ongoing 4-year competition that culminates in 2018. Ohio State took first place last year, and in the final year of EcoCAR 2, making this the third consecutive win for the team.

"EcoCAR 3 supports the Energy Department's mission to accelerate the development of advanced technologies to reduce vehicle emissions and to increase efficiency so Americans use less petroleum," said David Friedman, Principal Deputy Assistant Secretary, Energy Efficiency and Renewable Energy at the Energy Department. "American energy holds the promise for job creation and a growing economy, and nothing could be more evident than the efforts made by these creative and talented students in the EcoCAR program. These brilliant minds are the pathway of the nation's automotive industry, and their dedication and results are an indication of the bright future ahead of us."

The Buckeyes will return to Columbus with an extra \$10,000, the coveted Year Two trophy and bragging rights heading into the third year of the competition. The team earned 880 out of 1,000 overall points, had an impressive 11 first place category finishes, and placed top 5 in 30 out of 36 categories. The team was also first to drive their vehicle at Competition. The team has set the groundwork for continued development in Year 3 by demonstrating industry grade processes for embedded controls and software development.

EcoCAR 3 is the latest Energy Department Advanced Vehicle Technology Competition (AVTC) series and challenges 16 North American university teams to redesign a 2016 Chevrolet Camaro to further reduce its environmental impact, while maintaining the performance expected from this iconic American car. Teams have four years (2014-2018) to harness those ideas into the ultimate energy-efficient, high performance vehicle.

The competing teams began the finals at GM's Desert Proving Grounds in Yuma, Arizona for a week of rigorous safety, technical, drive quality and emissions testing mirroring those used for real-world production vehicles, followed by several days of scored presentations in areas including consumer appeal, project management, mechanical integration and innovation topics judged by industry and government officials in San Diego.

"The second year of the four-year competition added a level of complexity that definitely tested each of the 16 EcoCAR 3 teams in reworking the propulsion system of the 2016 Camaro," said Al Oppenhesier, Chevrolet Camaro Vehicle Chief Engineer. "Even with these new challenges, the students from Ohio State displayed an exceptional ability to integrate their Series Parallel Plug-in Hybrid Electric Vehicle (PHEV) system, transforming this high-performance vehicle into a uniquely eco-friendly alternative. Achieving such results is an impressive feat given the short time that they had with the vehicle."

In the second year, the teams worked with EcoCAR 3 organizers to secure hardware, software and industry mentors needed to help them integrate their hybrid-electric designs into the Camaro, with the end goal of making the vehicle even more energy-efficient without losing high-performance and safety features Camaro buyers expect.



"This year's overall winner, Ohio State, demonstrated all-around excellence by using the research and data gathered in the previous year and successfully applying it during Year Two of the vehicle development process for their Series Parallel PHEV 2016 Chevrolet Camaro," said Kristen Wahl, director of the Advanced Vehicle Technology Competitions at Argonne National Laboratory. "Most impressively, the OSU team's Camaro was the first to meet all safety protocols even though they only took possession of the vehicle a few months ago."

Virginia Tech and Embry-Riddle Aeronautical University took second and third place respectively.

The student teams have now developed and started to integrate their energy efficient powertrains to maximize performance, while retaining the safety and high consumer standards of the Camaro. In the remaining years of the competition, teams will focus on integration refinement and market engagement. Additional sponsors joining DOE and GM include: MathWorks; National Science Foundation; California Air Resources Board; NXP; Clean Cities; AVL Powertrain Engineering; Robert Bosch, LLC; ETAS; PACCAR; dSPACE, Inc.; Snap-on Tools; Siemens PLM Software; GKN Driveline; Transportation Research Center (TRC, Inc.); DENSO; Champlain Cable Corp.; Woodward; Proterra; Ricardo; Mentor Graphics; New Eagle; tesa tape; Vector CANtech, Inc.; Delphi Foundation; EcoMotors; Electric Power Research Institute, Inc.; A123 Systems; and Flextronics.

EcoCAR 3 sponsors have provided more than \$915 million in software, hardware and cash donations to the 16 participating universities in the first two years.

To learn more about the EcoCAR 3 program, please visit www.ecocar3.org.

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