

EcoCAR 2008 - 2010
Public Relations Request for Proposal



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I. Introduction

EcoCAR: The NeXt Challenge is a new three-year collegiate advanced vehicle technology engineering competition established by the United States Department of Energy (DOE) and General Motors (GM) and is being managed by Argonne National Laboratory. More information is available at www.ecoCARchallenge.org.

The competition challenges 17 universities across North America to explore vehicle solutions to minimize energy consumption and reduce emissions. Students use a real-world engineering process, modeled after GM's Global Vehicle Development Process (GVDP) and integrate their advanced technology solutions into a Saturn Vue. The university teams participating in the 2008 – 2011 EcoCAR competition are:

Embry-Riddle Aeronautical University (Daytona Beach, FL)
Georgia Tech (Atlanta, GA)
Howard University (Washington, DC)
Michigan Technological University (Houghton, MI)
Mississippi State University (Starkville, MS)
Missouri University of Science and Technology (Rolla, MO)
North Carolina State University (Raleigh, NC)
Ohio State University (Columbus, OH)
Pennsylvania State University (University Park, PA)
Rose-Hulman Institute of Technology (Terre Haute, IN)
Texas Tech University (Lubbock, TX)
University of Ontario Institute of Technology (Oshawa, Ontario, Canada)
University of Victoria (Victoria, British Columbia, Canada)
University of Waterloo (Waterloo, Ontario, Canada)
University of Wisconsin-Madison (Madison, WI)
Virginia Tech (Blacksburg, VA)
West Virginia University (Morgantown, WV)

II. Background

Rising fuel prices, combined with a national obsession for going green are creating fundamental changes in what Americans expect from their cars. The freedom that personal mobility provides has been a building block of North America's culture and strength. However, in recent years the U.S. automotive market has been trending toward the purchasing of smaller vehicles as a result of increasing fuel costs and an emphasis on reducing vehicle emissions. The issues of energy efficiency, global climate change and cleaner air pose challenges not only in the U.S., but across the globe.

To address these concerns, government, industry and academia sponsor several student-engineering competitions to demonstrate and extend the progress toward a common goal: sustainable mobility.

Since 1987, the DOE, the Government of Canada and various academic and domestic auto industry partners have sponsored more than two-dozen engineering competitions with the most recent competition, Challenge X, concluding in May 2008. Information about Challenge X is available at www.challengeX.org.

These student-engineering competitions have given the participants valuable experience in real-world engineering practices. EcoCAR builds on the success of these programs and raises the bar even higher.

III. Program Design

EcoCAR challenges university engineering students across North America to reengineer a Saturn Vue to achieve improved fuel economy and reduce greenhouse gas emissions, while retaining the vehicle's performance and consumer appeal.

Students will design and build advanced propulsion solutions that are based on the vehicle categories from the California Air Resources Board (CARB) zero emissions vehicle (ZEV) regulations. They will be encouraged to explore a variety of cutting-edge clean vehicle solutions, including full-function electric, range-extended electric, hybrid, plug-in hybrid and fuel cell technologies. In addition, they will incorporate lightweight materials into the vehicles, improve aerodynamics and utilize alternative fuels such as ethanol, biodiesel and hydrogen.

Teams will follow a real-world approach modeled after GM's global vehicle development process (GVDP), giving students valuable experience in real-world engineering practices, resource allocation and meeting deliverables. While previous student engineering competitions focused primarily on hardware modifications, EcoCAR includes a unique focus on modeling and simulation, as well as subsystem development and testing.

During the three-year program, General Motors will provide 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, will provide competition management, team evaluation and technical and logistical support. Through sponsoring such advanced vehicle engineering competitions, GM and the U.S. Department of Energy are helping to develop the next generation of scientists and engineers.

Year One

In the first year of EcoCAR teams will develop their vehicle designs through the use of GM's GVDP – the modeling and simulation process currently used to develop all of GM's vehicles. Year One is an essential foundation for establishing a successful vehicle by emphasizing the use of math-based design tools – such as Powertrain Systems Analysis toolkit (PSAT) or similar vehicle models – and the development of software-in-the-loop (SIL) and hardware-in-the-loop (HIL) simulation techniques.

After researching, comparing and selecting advanced technologies that meet the competition goals, teams will procure hardware to develop and test their powertrain and other subsystems which they will later integrate into a vehicle. The emphasis is on optimizing a practical, realizable solution that will meet the goals of the competition. Vehicles are evaluated on a well-to-wheels approach, which highlights all the issues involved in energy efficiency and emissions including the fuel source, the propulsion system and the vehicle's real world utility and consumer appeal. By broadening the technical focus of the competition to include more aspects of the entire vehicle development process, the university teams will have a greater

opportunity to expand their learning and refine their vehicle solutions. Teams that successfully complete this first year of EcoCAR will earn their keys to a new Saturn Vue and a place in the second phase of the competition.

Although this real-world approach will better educate students about automotive engineering, not having a vehicle in year one does make it more challenging to generate media interest and press coverage. The selected agency will develop a media relations plan based on these parameters.

Years Two and Three

During the second and third years of the competition, students will build the vehicle and continue to refine, test, and improve vehicle operation. At the end of Years Two and Three, the re-engineered student vehicle prototypes will compete in a week-long competition of engineering tests. These tests will be similar to the tests GM conducts to determine a prototype's readiness for production. The Greenhouse gas, Regulated Emissions, and Energy in Transportation (GREET) model, developed at Argonne National Laboratory, will be used to assess a well-to-wheel analysis of the greenhouse gas impacts of each technology approach the teams select.

During the week-long competition, student teams will demonstrate the vehicles so when compared to stock production vehicles they meet or exceed the following goals:

- Incorporate technologies that reduce petroleum energy consumption on the basis of a total fuel cycle well-to-wheel (WTW) analysis
- Increase vehicle energy efficiency
- Reduce criteria and WTW greenhouse gas (GHG) and criteria emissions
- Maintain consumer acceptability in the areas of performance, utility and safety

IV. Communications Program - History

The DOE-sponsored advanced vehicle technology competition programs have attracted major media coverage in the past, with an audience reach of more than 92 million for the Challenge X program from when it was initially launched in 2005. Coverage includes: *Los Angeles Times*, *New York Daily News*, *Popular Mechanics*, *Automobile Magazine*, *Motor Trend*, *AutoWeek*, *New York Times*, *MotorWeek*.

V. EcoCAR 2008 - 2009 Communications Overview

The goal of public relations efforts in the first half of the EcoCAR program (January 2009 – June 2010), solicited by this RFP, is to increase the public's awareness of the program and its sponsors. Key audiences focus on the general public, local team media markets, national print and broadcast media, automotive trade media, software/math-based trade media, tech media, environment/energy media and social media.

DOE and General Motors are the headline sponsors of the 2008 – 2011 EcoCAR Program.

An EcoCAR Steering Committee comprised of appointed executives from DOE, GM, the Government of Canada and Argonne National Laboratory meets at least monthly to review and execute the program initiatives.

The EcoCAR Steering Committee intends to hire a public relations firm to execute a minimum of one and one-half (1 ½) -year public relations program targeted at increasing public awareness of EcoCAR and manage media relations and public relations activities. At the end of the second year of the competition (June 2010), the program's effectiveness will be evaluated to determine if a new RFP will be developed or if we will continue working in year three with the agency selected. The program may continue past year three but that has not been determined at this time. A general list of Year One and Two activities is listed on pg. 7 although we welcome any additional ideas and encourage creativity for maximizing the program's exposure.

To simplify the management of our communications efforts, the Steering Committee has identified one contact for all communications activities (Kimberly DeClark, Argonne National Laboratory). See Section XI., pg. 10, for reporting contacts.

An additional RFP will be issued for an outside production company to manage marketing/promotional video production, webcast updates, technical production of the annual awards ceremony and annual music video. Another RFP will also be issued for an outside production company to manage potential video news releases, satellite media tours and other electronic/broadcast needs as it relates specifically to media. Please include broadcast ideas in this submission, and notify the EcoCAR representative if your agency or a subcontractor to your agency would like to participate in the video RFP process.

An outside graphics designer will also be contracted to develop all promotional print materials and the website will continue to be managed by Argonne National Laboratory. It is expected that you will work closely with these contractors as many of your deliverables will overlap and compliment each other.

Below is a list of expected deliverables for Year One and Two of EcoCAR (2008-2010). You are requested to propose the creative content for various activities to obtain consistent media coverage throughout the year. Please see the timeline of events for guidance (See Section VI, B for proposal requirements).

After the PR/Media firm has been selected, a final contract and list of deliverables will be developed with the selected agency. The final deliverables will depend on your proposal, final determination of key audiences and the support of our sponsors and their funding commitments.

The selected PR/Media Firm will be expected to:

- A. Communications Plan – Develop a comprehensive communications plan that focuses on communicating the key messages of the EcoCAR Program (see page 11) to key audiences and includes a detailed strategy for achieving media coverage to a minimum of the events listed below and includes a timeline of media pitching/outreach and final budget. This communications plan shall be submitted for the timeframe of January 2009 to July 2010.

- B. Media Relations Campaign – Organize and execute a media campaign aimed at maximizing the visibility and building the EcoCAR momentum with the general public throughout the year. Pitch topics should include EcoCAR key messages and have relevance to current energy and transportation/technology-related issues. Ideas for news releases with national and local angles to promote each participating university will be required, with a specific plan on how this will be accomplished. Additional ideas to promote sponsor partnerships, specific technologies and other topics should be included in the proposal. Emphasis should be put on creative ideas and strategies for achieving media coverage throughout the program.
- C. Public Relations – Organize and promote special PR events throughout Year One and Two, in addition to both competition final events tentatively scheduled for June 2009 and June 2010. This may also include opportunities during other events such as Fall and Winter workshops, conferences throughout the year, etc. Typical tasks may include developing targeted media lists, talking points and Q & A for speakers, coordination of logistics for special events, securing media coverage, etc. See Section VI for the tentative timeline for Events.
- D. Outreach Program – Coordinate with each team’s designated Outreach Coordinator and provide media relations/public relations guidance as well as work with teams for local events/outreach with various target audiences: media, students/youth/ k-12, government policy makers, consumers, influencers. Annually, provide each team with a localized media list for their use in outreach efforts. In addition, help mentor each team as they develop their three-year communications plan with their first draft due to organizers in January 2009 and a final version due at Year One competition finals in June 2009.
- E. Reporting/Communication – The selected PR/Media firm will be an agent of the EcoCAR PR Sub Committee. Regular reporting to Kimberly DeClark, EcoCAR communications and logistics manager, is required and the method by which this will be maintained will be established at the beginning of the contract.

Although Kimberly DeClark will serve as your primary contact and Kristen De La Rosa your secondary contact, it will be necessary for the selected PR firm to work cooperatively with the PR staff from GM, DOE and other sponsoring organizations throughout the year as well as other contractors who are providing related services to the program.

It will also be necessary for the selected PR firm to work with other sponsors to ensure that their separate PR activities are both complimentary to the overall PR/Media program and that the messages and information they are communicating to the media is accurate.

It is critical to the success of the program that the selected PR firm continue through the span of the contract to gather feedback after each major activity. This includes soliciting feedback from teams, sponsors and key organizers. This allows us to continually improve the PR/media program and respond to our “customers” needs.

A media coverage summary report will be required following each event detailing the audience reach and at least one copy of all the print and online clips.

VI. Events Timeline

The following events are currently scheduled in the EcoCAR program, and should be considered in your communications plan. Your communication plan should at a minimum outline the strategies you envision for achieving media coverage through the events in Year One and Two. Though not required, you may also provide additional ideas for the subsequent years. Locations have not been finalized and suggestions for events can be included in your proposal. Since the competition is based on the CARB regulations there is strong consideration by the committee for California based events.

Year One

- Winter Workshop – a comprehensive workshop for university students on the overall competition program; teams will meet with GM mentors, and competition sponsors will give overview sessions about product donations, etc.
January 2009, Detroit, MI
- Competition Finals – June 1-7, 2009 Chicago, IL (proposed)

Year 2

- Fall Workshop – September 2009, Boston, MA (proposed)
- Winter Workshop – January 2010, location TBD
- Competition Finals – Milford, MI or Yuma, AZ (GM Proving Grounds), June 2010

Year 3

- Fall Workshop – September 2010, Boston, MA (proposed)
- Winter Workshop – January 2011, location TBD
- Competition Finals – Northern Calif. June 2011 (proposed)

VII. Proposal Requirements

The successful contractor will be selected based on a combination of agency/employee background, proposed execution of PR/Media activities and estimated budget.

A. Agency/Employee Background –

1. List the names and titles for each employee involved in the execution of the contract. Because additional tasks and/or projects may be added after the contract is initiated, please include an hourly rate for all employees involved in the project.
2. Provide background description for each employee listed above, with specific attention to their related professional experience. For instance, does the writer have a familiarity with hybrid-electric and/or advanced vehicle technology? And/or list strong relationships with media organization or with individual reporters that could potentially cover EcoCAR.
3. Provide an overview of your agency's history and expertise with specific focus to previous or current automotive/tech-related clients and the general services you have provided for them. Contractors responding to this solicitation must

demonstrate that they are firms or corporations regularly engaged in the public relations business; shall possess a demonstrated financial stability; have the capacity to ensure satisfactory completion of approved programs; and have a satisfactory record for handling similar programs.

4. Please provide a list of any firms you plan to subcontract with in regards to this program.

B. Proposed execution of PR/Media Activities

1. Provide a detailed plan for executing the deliverables listed in Section V. Your plan should at a minimum cover the Year One and Year Two events listed in Section VI.
 - a. Detail the format and features of the communications plan you would develop if contracted.
 - b. Explain how you would assist the teams in outreach efforts.
 - c. What kind of PR event or activity would you plan in conjunction with the Winter Workshop? How would your activity generate media coverage for the program?
 - d. What strategies would you suggest for the overall media campaign and sustaining coverage throughout both years? Please provide examples of previous releases or specific pitches and the type of coverage you have achieved as a result.
 - e. What ideas would you propose for Year One and Two final events (where results and winners are announced)? Provide additional ideas for Year Three events if so inclined.
 - f. How would you ensure that sponsors and key Steering Committee members stay up to date with the PR/Media activities? How will you solicit feedback from your activities from sponsors, team members, key organizers, etc.? Will you allocate the resources to travel to Steering Committee meetings as requested? What kind of final report would you propose?
 - g. What additional ideas do you have for maximizing the visibility and publicity of EcoCAR based on the descriptions in this proposal? This may include an integrated strategy to leverage the Saturn Vue brand. How would your ideas benefit the program?
2. Specify the number of estimated hours each employee would commit to execute your proposed plan and their specific assignment or role in the contract.
3. Highlight any services that will be sub-contracted to outside parties.

C. Estimated budget

1. Provide an estimated budget for your proposed PR/Media plan using the attached PR Agency Budget Template. Make sure to provide cost estimates for each activity. If you are a GM agency supplier, please assume their negotiated rates in your budget considerations.
2. Please use a general budget range of \$200,000 - \$350,000 for your overall budget.

3. Your budget should include incidental expenses, including overhead, travel, etc.; and any sub-contracted services such as clipping services, advertising fees, media travel expenses.
4. Please outline monthly tracking strategies to ensure contract deliverables are met within budget.
5. After a contractor is selected and deliverables and objectives are clearly defined, the selected PR/Media firm will be expected to provide a final budget.

VIII. Scope of Work

To be considered for this contract, you must submit your proposal by 6:00 p.m. (CDT) on **October 17, 2008** to Jackie Papiernik (contact information on page 10). The selection of the PR/Media contractor is anticipated to be no later than November 10, 2008 and the term of the contract is anticipated to run through June 30, 2010. Firms may be invited for a stand-up presentation prior to November 10, but is at the discretion of the Steering Committee to deem if necessary. The contract may be renewed for an additional year but is not certain. The selected contractor will be required to attend 3-4 in-person Steering Committee Meetings per year in either the Chicago, Detroit, Austin, Washington, DC, or other areas throughout the year, as well as additional conference calls, which have not been identified at this time. Travel will be paid separately, but must first be approved by Kimberly DeClark.

IX. Payment

Payments will be based on agreed upon quarterly installments. All quarterly invoices must be sent to Kimberly DeClark for approval and should include a general description of the services performed. However, budget summary sheets should be sent every month. Normal payment processing time is 30 days after the acceptance of service and a valid invoice of work is submitted.

Payments will be made by the American Society for Engineering Education (ASEE), which manages the finances for the competition.

The final invoice, no less than ten percent of the total contract, will be approved and awarded to the contractor upon completion of the final report pending the feedback from teams and sponsors and the overall success of the deliverables performed in the overall contract. All other payment terms (quarterly is preferred) are negotiable.

X. Cancellation

The contract resulting from this solicitation may be canceled without penalty at any time, in whole or in part, by ASEE for Argonne National Laboratory (ANL) providing written notice is given to the contractor. In the event of cancellation, work should cease immediately. ASEE will be liable for payment limited only to the portion of work completed prior to receipt of the written cancellation notice. All work products produced by the contractor at the expense of ASEE prior to cancellation become property of ASEE/ANL and shall be tendered upon request.

XI. Contact Information

Contractor Representative: _____

Title: _____

Phone Number: _____

Fax Number: _____

E-mail: _____

Primary Steering Committee Contact:

Kimberly DeClark
Communication and Logistics Manager
Advanced Vehicle Technology Competitions
Center for Transportation Research
Argonne National Laboratory
3797 N. Adams
Bloomfield Hills, MI 48304
Phone (947) 517-5709
Mobile (202) 441-0096
kdeclark@anl.gov

Proposal Submission Contact:

Jackie Papiernik
Argonne National Laboratory
9700 S. Cass Ave., Building 362
Argonne, IL 60439
Phone (512) 252-9681
jpapiernik@anl.gov

XII. EcoCAR Key Messages

- EcoCAR: The NeXt Challenge is a new competition series that will challenge engineering students from seventeen universities throughout North America to design, build and demonstrate a wide range of advanced automotive technologies using alternative fuels that can meet the much higher energy efficiency and lower levels of green house gas emissions that will be expected for future cars and light trucks. The solutions will emulate the vehicle categories from the California Air Resources Board (CARB) zero emissions vehicle (ZEV) requirements. CARB will be a sponsor and will provide technical support.
- EcoCAR: The NeXt Challenge is a unique three-year program that brings together the resources of industry, government and academia in a cooperative effort to address important environmental and energy-related automotive issues.

- Students will be encouraged to explore a variety of solutions including electric, hybrid, plug-in hybrid and fuel cells. In addition, they will use lightweight materials and alternative fuels such as hydrogen, ethanol, biodiesel and electricity. Students will be encouraged to explore a variety of cutting-edge clean vehicle solutions, including full-function electric, range-extended electric, hybrid, plug-in hybrid and fuel cell technologies. In addition, they will incorporate lightweight materials into the vehicles, improve aerodynamics and utilize alternative fuels such as ethanol, biodiesel and hydrogen in order to significantly reduce green house gas emissions and improve energy efficiency.
- The U.S. Department of Energy and General Motors are sponsoring “EcoCAR: The NeXt Challenge.”
- GM will give each Challenge X team a 2009 Saturn Vue, a compact vehicle that already provides confident performance and competitive fuel economy, to develop their vehicle solutions.
- Students will follow an approach modeled after General Motors real-world Global Vehicle Development process and explore vehicle solutions that will minimize energy consumption and reduce emissions.
- The competition provides students hands-on, real-world experience that will prepare them to lead the automotive industry in the 21st century.

XIII. EcoCAR Questions & Answers

Q. What is EcoCAR: The NeXt Challenge?

A. EcoCAR: The NeXt Challenge is a collegiate automotive engineering competition that challenges 17 North American universities to reduce the environmental impact of vehicles by minimizing the vehicle’s energy consumption, emissions and greenhouse gas emissions while maintaining its utility, safety and performance.

Q. What is the engineering challenge for participating students?

A. Students will design, build, and integrate advanced propulsion technologies into a 2009 Saturn Vue, donated by General Motors.

Q. Who are the major sponsors of EcoCAR?

A. The US Department of Energy and General Motors are the headline sponsors of EcoCAR. Natural Resources Canada, dSPACE, National Instruments and The MathWorks are providing major support. Other competition-level sponsors are currently being solicited.

Q. What is the duration of the EcoCAR competition series?

A. EcoCAR is a three year competition, that kicked off on May 21, 2008 in Washington, DC. The competition is currently planned to conclude in June 2011, however a fourth competition year will be evaluated after the conclusion of the second competition year.

Q. How were teams selected to participate in EcoCAR?

A. All accredited engineering departments at universities throughout the U.S. and in selected schools throughout Canada and Mexico received a notice of public interest (NOPI). More than 400 schools received the official request for proposal. Proposals were evaluated based on vehicle design, program description, facilities, financial plans, and previous experience and the selected 17 universities and were announced at the EcoCAR Kick Off event in Washington, DC on May 21, 2008.

Q: How do the California Air Resources Board (CARB) Zero Emissions Vehicle (ZEV) regulations align with EcoCAR?

A: The vehicle categories defined in the CARB ZEV regulations are similar to vehicle categories that EcoCAR teams must choose for their advanced propulsion technologies, including:

- Hybrid Electric Vehicles (HEVs) < 50 kW peak electric motor power
- HEV > 50 kW peak electric motor power
- Range-extending and full-function electric vehicles
- Hydrogen Fuel Cell Vehicles

Q: What is the focus of each of the three years of EcoCAR?

Year One: The student teams receive \$10,000 in seed money to begin the project. They will be tasked with overall vehicle design using GM's Global Vehicle Development Process– the modeling simulation process currently used to develop all of GM's vehicles. They will also utilize math-based design tools – such as the Powertrain Systems Analysis Toolkit (PSAT) and the development of software-in-the-loop (SIL) and hardware-in-the-loop (HIL) simulation techniques. Not only do these activities form the foundation for year one, they serve as useful tools for the vehicle development and refinement tasks in year two and three of the competition. Teams will develop a “mule” vehicle in year two and will refine their vehicle to near-production level readiness for the third year.

Year Two and Three: Students will build the vehicle and continue to refine, test, and improve vehicle operation. At the end of Years Two and Three, the re-engineered student vehicle prototypes will compete in a week-long competition series of engineering tests. These tests will be similar to the tests GM conducts to determine a prototype's readiness for a production decision.

XIV. EcoCAR Student Competition Announcement Press Release
For Immediate Release

May 21, 2008

Contacts:

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Dave Darovitz, GM
586-596-0871
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**U.S. DOE AND GM SELECT 17 COLLEGE TEAMS FOR “ECOCAR”
VEHICLE ENGINEERING COMPETITION**

Teams to Re-engineer Saturn VUE SUVs with Advanced Propulsion Technologies

Washington – The U.S. Department of Energy, General Motors and Natural Resources Canada today announced the 17 teams selected to participate in *EcoCAR: The NeXt Challenge*, a collegiate vehicle engineering competition set to begin in the Fall of 2008. *EcoCAR* will challenge university engineering students across North America to re-engineer a Saturn VUE to achieve improved fuel economy and reduced green house gas emissions, while retaining the vehicle’s performance and consumer appeal.

Students will design and build advanced propulsion solutions that are based on the vehicle categories from the California Air Resources Board (CARB) zero emissions vehicle (ZEV) regulations. They will be encouraged to explore a variety of cutting-edge clean vehicle solutions, including full-function electric, range-extended electric, hybrid, plug-in hybrid and fuel cell technologies. In addition, they will incorporate lightweight materials into the vehicles, improve aerodynamics and utilize alternative fuels such as ethanol, biodiesel and hydrogen.

The following teams have been selected to compete in the *EcoCAR* competition:

- Embry-Riddle Aeronautical University (Daytona Beach, FL)
- Georgia Tech (Atlanta, GA)
- Howard University (Washington, D.C.)
- Michigan Technological University (Houghton, MI)
- Mississippi State University (Starkville, MS)
- Missouri University of Science and Technology (Rolla, MO)
- North Carolina State University (Raleigh, NC)
- Ohio State University (Columbus, OH)
- Pennsylvania State University (University Park, PA)
- Rose-Hulman Institute of Technology (Terre Haute, IN)
- Texas Tech University (Lubbock, TX)
- University of Ontario Institute of Technology (Oshawa, Ontario, Canada)
- University of Victoria (Victoria, British Columbia, Canada)

- University of Waterloo (Waterloo, Ontario, Canada)
- University of Wisconsin (Madison, WI)
- Virginia Tech (Blacksburg, VA)
- West Virginia University (Morgantown, WV)

During the three-year program, General Motors will provide 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, will provide competition management, team evaluation and technical and logistical support. Through sponsoring such advanced vehicle engineering competitions, GM and the U.S. Department of Energy are developing the next generation of scientists and engineers.

“We’re excited to see what these student engineers will develop over the next three years,” said Beth Lowery, General Motors Vice President, Environment, Energy, and Safety Policy. “The objectives of *EcoCAR* are right in line with GM’s strategy.”

“EcoCAR is the latest in a series of Department-sponsored student competitions that will foster the training of the next generation of engineers who will develop the clean vehicle technology solutions to enhance our energy security and reduce greenhouse gas emissions,” said Ed Wall, DOE’s Vehicle Technologies Program Manager. “It will be exciting to watch as the students work over the next three years to design, build, test and showcase their vehicles.”

Vehicle Development

In the first year, teams will develop their vehicle designs through the use of GM’s Global Vehicle Development Process – the modeling and simulation process currently used to develop all of GM’s vehicles. Sophisticated hardware in the loop (HIL) and software in the loop (SIL) systems will be utilized, and teams will be challenged to model and simulate the integration of their subsystems into the overall vehicle design. The emphasis is on optimizing a practical, realizable solution that will meet the goals of the competition.

During the second and third years of the competition, students will build the vehicle and continue to refine, test, and improve vehicle operation. At the end of Years Two and Three, the re-engineered student vehicle prototypes will compete in a week-long competition of engineering tests. These tests will be similar to the tests GM conducts to determine a prototype’s readiness for production. The Greenhouse gas, Regulated Emissions, and Energy in Transportation (GREET) model, developed at Argonne National Laboratory, will be used to assess a well-to-wheel analysis of the greenhouse gas impacts of each technology approach the teams select.

Sponsor Support

In addition to sponsorship from GM and DOE, Platinum sponsor Government of Canada is providing extensive operational support. The other Platinum sponsors, dSPACE, National Instruments, The MathWorks and Freescale Semiconductor are providing critical software and hardware components.

Gold sponsors are The National Science Foundation and MotoTron Corporation. Silver sponsors are: SnapOn Tools and Renewable Fuels Association. Bronze sponsors are: Delphi Foundation, EcoMotors, CarSim by Mechanical Simulation and Bosch.

Additional information about *EcoCAR* is available on the Web at www.ecoCARchallenge.org.

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