Sponsorship Packet

(2011-2014)
The Purdue “EcoMakers” are part of EcoCAR 2: Plugging In to the Future, which is a three-year collegiate engineering competition and the only program of its kind. The EcoMakers are an international, diverse team of undergraduate and graduate students and faculty advisors across various colleges at Purdue University. Over 50 students are involved from the College of Engineering, College of Technology and Krannert School of Management. To be successful in this competition, our team is in need of sponsors.

The competition’s mission is a vital one: offer an unparalleled hands-on, real-world experience to educate the next generation of automotive engineers. The competition challenges 15 universities across North America to reduce the environmental impact of conventional vehicles without compromising performance, safety and consumer acceptability.

Established by the U.S. Department of Energy (DOE) and General Motors (GM), EcoCAR 2 builds upon a successful 24-year history of DOE Advanced Vehicle Technology Competitions (AVTC) that exemplify the power of public/private partnerships in providing invaluable experience and training to promising, young minds entering the North American job market. EcoCAR 2 follows the widely acclaimed competition series EcoCAR: The NeXt Challenge.

Shaped by the greatest design changes in the history of the automotive industry, EcoCAR 2 requires students to explore a variety of powertrain architectures focusing on electric drive vehicle technology. EcoCAR 2 teams will utilize a 2013 Chevrolet Malibu, donated by General Motors as the integration platform for their advanced vehicle design.

During the three-year program EcoCAR 2 teams will follow a real-world GM Vehicle Development Process (VDP). The VDP serves as a roadmap for designing, building and refining advanced technology vehicles.

![Technical Goals](image)

- Reduce fuel consumption
- Reduce well-to-wheel greenhouse gas emissions
- Reduce criteria tailpipe emissions
- Maintain consumer acceptability in the areas of performance, utility, and safety
Purdue Architecture

The EcoMakers have selected the Parallel-through-the-road (PTTR) Plug-in Hybrid-Electric Vehicle (PHEV) as their final EcoCAR 2 powertrain architecture (see the diagram below). PTTR hybrid electric vehicles utilize electrical energy to power one axle, while an engine drives another axle. Purdue’s architecture is a PHEV which uses electricity from the grid stored in the on-board battery pack to reduce fossil fuel use. The battery can be recharged using a standard wall outlet. Once the plug-in range of the battery is depleted the vehicle can still operate as a regular hybrid. Purdue will use B20 fuel to further reduce environmental impact since B20 is a blend of 20% biodiesel and 80% petroleum diesel.

"The parallel-through-the-road architecture allows us a lot of flexibility in our control strategy, to leverage direct propulsive power from the 1.7L diesel engine as well as the Magna E-drive motor, but without the control and integration complexities associated with a conventional power-split device or a pure parallel architecture. With this architecture the Purdue vehicle will have a significant pure electric driving range which is crucial to the EcoCAR 2 competition goals," Ashish Vora, Controls Team Co-Leader.
Publicity

The EcoCAR 2 competition is an international competition promoted by Department of Energy and General Motors globally. The EcoCAR 2 organization publicity and public relations is managed by large public relations firm Greenough. In year one, EcoCAR 2 has already been featured in many national and international publications, such as the *New York Times*.

EcoCAR 2 is sponsored by several government institutions, such as the Department of Energy and the National Science Foundation, as well as large corporations such as General Motors, Freescale and Mathworks. EcoCAR 2 blogs, website, Facebook and Twitter reach thousands of people.

- Purdue University has nearly 40,000 students and 7,000 faculty members and over 400,000 alumni.

- *The Exponent*, Purdue’s newspaper, which often features articles about the Purdue EcoMakers distributes 17,000 copies during the school year and 8,500 copies during the summer.

- Press releases about the Purdue EcoMakers' progress and accomplishments will be sent to various media outlets.

- Sponsor logos may be prominently displayed on the Purdue EcoCAR 2 vehicle, on the team website and at tradeshows depending on sponsorship package.

- Major contributors will have logos located in the EcoMaker lab, which can be featured in photos taken by the team and media.

- The EcoMaker Facebook, Twitter and Blog reaches thousands of people interested in the field.

- Sponsor logos will be displayed at events and tradeshows on a ‘team sponsors’ poster. Some of these events can have more than 10,000 visitors.
Sponsorship Levels

Five categories are proposed as sponsorship levels based on capital values, and some benefits to each are listed. However, each sponsor is given the opportunity to work closely with the EcoMakers to create a specific promotional package which fits their needs. Sponsors which donate materials, components or time will be put into the level which corresponds with the value of the donation. Some standard packages are as follows:

Gigawatt ($20,000 or more)
Benefits include: Company logo displayed prominently on the rear of the vehicle as designated by the EcoCAR 2 organization. Gigawatt sponsors may choose exact location in this area. In addition, logo will be displayed as a banner in the team laboratory wall, at tradeshows and events on a “major team sponsors” poster and on every page of team website. Gigawatt sponsors will be featured on our blog and in social media. Team will re-tweet company tweets related to the competition. Sponsors will be featured in Purdue EcoCAR 2 press releases. Lastly, the team can be available for events as requested by the sponsor to present their project and discuss it’s significance. Sponsor will receive updates on all EcoMaker accomplishments and progress and subscription to the Purdue EcoMakers Newsletter.

Megawatt ($10,000 to $19,999)
Benefits include: Company logo displayed prominently on the rear of the vehicle as designated by the EcoCAR 2 organization, as chosen by sponsor. In addition, logo will be displayed on team website. Sponsors will be featured in press releases put out by the EcoMakers. Sponsor will receive updates on all EcoMaker accomplishments and progress and subscription to Purdue EcoMaker Newsletter.

Kilowatt ($1,000 to $9,999)
Benefits include: Company logo displayed on the rear of the vehicle as designated by the EcoCAR 2 organization. In addition, logo will be displayed at tradeshows and events on a “team sponsors” poster, and on team website. Sponsor will receive updates on all EcoMaker accomplishments and progress and subscription to Purdue EcoMaker Newsletter.

Watt (Less than $999)
Benefits include: Logo will be displayed on team website. Sponsor will receive updates on all EcoMaker accomplishments and progress and subscription to Purdue EcoMaker Newsletter.
Logo Locations

Vehicle Location
As set by EcoCAR 2 organization rules, team sponsor logos can only appear once on the designated sponsor logo location shown on the vehicle picture in the previous page.

Website Location
Gigawatt sponsors' logo will appear on every page of the EcoCAR 2 website.

Budget
The EcoMakers have an estimated budget of approximately $200,000 for the course of the three year competition. Building, testing, and improving the vehicle as well as attending events to attain publicity requires significant capital. Many components are not provided with the car, and can be expensive. Since hybrid-electric vehicles are still new in the market, components for such vehicles are very costly. With sponsorship, the team will be able to purchase tools, hardware, software, team banners, and promotional items in order to ensure success in the competition. We will also be able to send more students to training sessions, which will increase the knowledge and capabilities of our team.

Lab Support
Tools, instrumentation, auto-lift, air drops, wiring, connectors, test equipment, material (steel, aluminum, ...)

Vehicle Components
Exhaust system, suspension components, radiators, pipes and connectors

Team Support:
Student support, travel funds, accommodations, team apparel

Business/Outreach:
Events, Promotional Items, Trade Shows
Team

Our team is overseen by a group of faculty advisors from the College of Engineering and College of Technology. Graduate student team leaders and faculty form the steering committee, which help and manage undergraduate students in subteams.

We have approximately 40 undergraduate students and 10 graduate students from the College of Engineering, College of Technology and Krannert School of Management. The following diagram shows our team structure:
"We are looking at an approach that is unique because of components selected and the integration of them. Some things have been done and some tools have been used, but the way all the components work together is different than what has been seen before."
-Haley Moore, a graduate student in Mechanical Engineering Technology, and serves as Project Manager of the team.

“One of the competition’s goals is to educate the next generation of engineers by giving us hands-on experience to what is needed to design a hybrid vehicle. The automotive industry will benefit from the competition by the knowledge that (will be) gained from the students going into the automotive field.”
-Chris Rhoades, a PhD student in Mechanical Engineering Technology, and serves as Powertrain Packaging and Integration team leader

“Whether the students are involved in the engineering, business or communications aspect of the competition, it is truly real world experience and the students, and industry, will benefit greatly.”
-Dylan Schmitter, a graduate student in Industrial Technology, and served as Outreach and Business Coordinator for the team.

"Students get a perspective on what it takes to build a real-life car. This has all of the complexities of real-life design. They’re going to be able to see their accomplishments. Putting this on their resume not only gives the students more confidence, but they can demonstrate that they’ve been involved with an actual car and use the exact protocols used at GM to put a car together."
-Peter Meckl, Professor of Mechanical Engineering, who oversees work in power train controls and diagnostics.
Thank you for taking the time to read through our sponsor information packet. We look forward working with you in the future.

For more information:

Purdue EcoCAR 2 – [http://www.purdue.edu/ecocar2/](http://www.purdue.edu/ecocar2/)

Like us on Facebook: Purdue EcoCAR 2
Follow us on Twitter: @PurdueEcoMakers

**Contact**

Please do not hesitate to contact us with any questions.

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