

EERE-PMC News

You are here: [EERE-PMC Home](#) > [Newsletters](#) > [PMC News November, 2007](#)

November, 2007

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From race tracks to showrooms, ethanol is becoming more prevalent in vehicles, such as with this '63 split window corvette that runs a quarter-mile in 6.93 seconds at 196 miles per hour.

Ethanol goes racing video ([Windows Media file 7 MB](#))

Ethanol goes racing video ([Quicktime Movie 7 MB](#))

EERE's [FreedomCAR and Vehicle Technologies Program](#) helps chart the course for tomorrow's vehicles. This month's Features section explores the technologies and fuels that will power our cars in the near future.

In News, the nation's first commercial cellulosic ethanol plant is now being built, and DOE has opened new funding opportunities for energy entrepreneurs and will also partner with 15 universities and six companies to advance PV research.

In other news, EERE has agreed to collaborate with Spain to develop a European Solar Decathlon.

We have also changed the format of PMC-News to include two new, quick-reference sections: 1) **EERE Press Releases**, and 2) **Recent Speeches**.

EERE Press Releases includes titles and links to current press releases, and **Recent Speeches** includes links and brief summaries of recent speeches concerning energy efficiency and renewable energy.

Index

News

- [Nation's first cellulosic ethanol facility being built](#)
- [\\$21 Million slated for next generation PV research](#)
- [DOE announces EcoCAR competition](#)
- [DOE opens new opportunity for energy entrepreneurs](#)
- [U.S. and Spain will launch Solar Decathlon Europe](#)

Features

- [Quick look at Vehicle Technologies and FreedomCAR](#)

Clean Cities saves 375 million gallons of gasoline

- [Biodiesel conquers cold weather](#)
- [E85 gets boost in Ohio](#)
- [Boston explores hybrid cabs](#)
- [Idaho lab to test plug-in hybrids in Seattle](#)



EERE Press Releases

Nov. 19, 2007

[New energy efficiency standards for residential furnaces & boilers](#)

Nov. 8, 2007

[DOE investing \\$21 million in next generation solar energy projects](#)

Nov. 6, 2007

[Range Fuels breaks ground at Georgia cellulosic ethanol plant](#)

Nov. 2, 2007

[White House honors federal agencies for saving taxpayers \\$133 million in energy costs](#)

Nov. 1, 2007

[Secretary of Energy recognizes federal employees for saving \\$18 million in energy costs](#)

Oct. 30, 2007

[NREL to dramatically increase use of clean, renewable energy](#)

Oct. 24, 2007

[DOE's Entrepreneur in Residence \(EIR\) Program](#)

Oct. 23, 2007

[Have you seen the light? Nearly 1 million take pledge to make energy efficient change](#)

Oct. 22, 2007

[DOE recognizes six leading organizations for helping the U.S. 'Go Green'](#)

Recent Speeches

Nov. 13, 2007

[DOE Deputy Secretary Clay Sell's remarks to the EE Global Forum, Washington, DC.](#)

"...World demand for energy worldwide will increase almost 60 percent over the next 25 years. ...In order for us to bring electricity to the 1.6 billion people in this world that don't have it today, that don't have access to the modern conveniences of this world, in order to do that, EIA estimates that world electricity supply may double in the next 25 years...."

Nov. 7, 2007

[EERE Chief Operating Officer Paul Dickerson's remarks to the NREL Industry Growth Forum, Denver, Colo.](#)

"...Capital investments in [clean energy] technologies aren't keeping up.... In the U.S. today the private sector is pumping in about \$5 to \$10 billion a year in capital investments.... Sounds like a lot, but that pace of investment is going to fall well short of what's required.... It's going to take an estimated \$1.4 trillion in capital investments by 2030...."

Nov. 6, 2007

[EERE Chief Operating Officer Paul Dickerson's remarks to the Cleantechnologies & Sustainable Industries Fall Summit in Washington, DC.](#)

"...Our contacts in solar told us that demand for silicon feedstock was driving up prices for crystalline silicon PV. So we partnered with firms to produce thinner wafers with the same performance. ...With cellulosic ethanol, they told us banks were unwilling to finance their first plants. Today we're supporting six companies for cost-shared commercial scale biorefineries that will produce 130 million gallons of cellulosic ethanol in the next five years..."

Oct. 19 , 2007

[Chief Operating Officer Paul Dickerson's remarks to the Border Energy Forum in San Diego, California.](#)

"...To facilitate trade across our borders, we can work together to build a strong biofuels market in Mexico. We're looking to team up in some key areas, from establishing continent-wide standards and certifications, to enhancing crop yields, to exchanging information on the development of biorefineries. And we're also exploring ways we can harmonize our energy efficiency standards and vehicle fuel efficiency standards...."

News

Nation's first cellulosic ethanol facility being built



Secretary Bodman, Georgia Governor Sonny Perdue, and others break ground on the Range Fuels' biorefinery in Georgia that will make ethanol from cellulosic feedstocks.

On Nov. 6, DOE Secretary Samuel Bodman attended a groundbreaking ceremony in Georgia for the Range Fuels biorefinery, one of the nation's first commercial-scale cellulosic ethanol biorefineries. The Range Fuels biorefinery is one of six cellulosic biorefineries that will be constructed with DOE's support. See the [DOE press release](#), the [DOE press release about other upcoming biorefineries](#), and [Secretary Bodman's speech](#) at the Range Fuels groundbreaking.

[return to index](#)

\$21 Million slated for next generation PV research



Researchers continue to make improvements that allow solar panels to more efficiently capture the sun's power to generate clean electricity.

DOE will invest \$21.7 million in next generation photovoltaic (PV) technology to help accelerate the widespread use of advanced solar power.

The 25 projects that DOE selected as part of the Next Generation Photovoltaic Devices & Processes announcement are part of the President's Solar America Initiative, which aims to make solar energy cost-competitive with conventional sources of electricity by 2015.

According to DOE Secretary Samuel Bodman, "These projects help create a pipeline for the development of next generation solar technology. The Department is helping change the landscape for how this nation utilizes its resources and produces energy."

[More](#)

[return to index](#)

U.S. and Spain will launch "Solar Decathlon Europe"

DOE Assistant Secretary Alexander Karsner and Spain's Undersecretary of Housing Fernando Magro Fernández have signed a Memorandum of Understanding (MOU) to collaborate in the development of a Solar Decathlon Europe competition to be held in 2010.



EERE Assistant Secretary Karsner announces agreement with Spain to collaborate on developing Solar Decathlon Europe.

The original Solar Decathlon, launched by DOE in 2002, challenged university-led teams to build the most attractive and energy efficient, solar-powered homes possible, for display on the National Mall in Washington, D.C. Under the new MOU with Spain, DOE will help develop a similar event in Europe.

"The twin challenges of increasing energy security and confronting climate change are global in nature," Karsner said. "The solutions will require multilateral action. We look forward to lending our experience to encourage the same innovation and entrepreneurial spirit across the Atlantic and around the world."

[More](#)

[return to index](#)

DOE announces EcoCAR competition

DOE has announced a Notice of Program Interest for colleges and universities with accredited engineering programs to compete for the opportunity to participate in EcoCAR: The NeXt Challenge — a new international collegiate vehicle engineering competition.

EcoCAR seeks to advance the level of vehicle technology capable of reducing petroleum consumption and greenhouse gas emissions while demonstrating real-world performance of a range of technology options. Schools interested in receiving a Request for Proposal (RFP) detailing the requirements for competing for one of the 16 available slots in the competition should [contact EcoCAR organizers](#).

The EcoCAR Challenge is a three-year competition that builds on the 19-year history of advanced vehicle technology competitions the Department has held to give engineering students the opportunity to design and build advanced vehicles.

[return to index](#)

DOE opens new opportunity for energy entrepreneurs

DOE is offering a new Entrepreneur in Residence (EIR) Program to bring venture capital sponsored entrepreneurs into three of DOE's national laboratories to develop commercialization plans for new clean energy technologies.

The entrepreneurs in residence will identify technologies that, when commercialized in private sector companies, will contribute to DOE's mission to promote America's energy security through reliable, clean and affordable energy.

DOE will initially support the work of three entrepreneurs by providing up to \$300,000 in funding. Applications are due Dec. 21, 2007.

[Funding Opportunity Announcement](#)

[return to index](#)

Features



Clean-burning, alternative fuel buses lead the way to the future at Zion National Park.

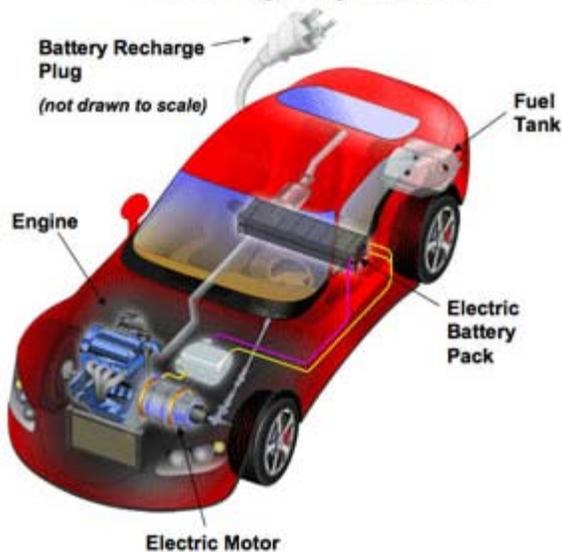
Quick look at Vehicle Technologies and FreedomCAR

EERE's [Vehicle Technologies and FreedomCAR program](#) helps develop energy efficient and environmentally friendly highway transportation technologies that will use less petroleum. The long-term goal is to develop "leap frog" technologies that will provide Americans with greater freedom of mobility and energy security, while also reducing petroleum consumption and increasing energy efficiency in passenger vehicles.

The program acts in nine areas:

- [Hybrid and vehicle systems](#);
- [Energy storage](#);
- [Power electronics and electrical machines](#);
- [Advanced combustion engines](#);
- [Fuels and lubricants](#);
- [Materials technologies](#);
- [Energy Policy Act \(EPAAct\)](#);
- [Clean Cities](#);
- [Research partnerships](#).

How a Plug-In Hybrid Works



The plug-in hybrid electric car is likely to be the next step on the road toward more fuel efficient vehicles.

The [FreedomCAR and Fuel Partnership](#) brings industry, government and university players together to explore high-risk research needed to develop tomorrow's fuel efficient, affordable cars and light trucks. It also examines the requirements for building the necessary fueling infrastructure to reduce our nation's dependence on imported oil and to minimize harmful vehicle emissions — without sacrificing freedom of mobility and freedom of vehicle choice.

The "Freedom" principle is framed by:

- Freedom from imported oil;
- Freedom from pollutant emissions;
- Freedom for Americans to choose the kind of vehicle they want to drive; and to drive where they want, when they want;
- Freedom to obtain fuel affordably and conveniently.

Program partners have established challenging timetables to meet these goals. They have accelerated research and development (R&D) in both improved fuel efficiency and fuel diversity in passenger vehicles and light trucks.

[return to index](#)

Clean Cities saves 375 million gallons of gasoline

A recent National Renewable Energy Laboratory report showed that the nation's Clean Cities coalitions displaced the equivalent of 375 million gallons of gasoline in the U.S. during 2006, a 50 percent increase over 2005 savings.

Working through almost 90 coalitions, Clean Cities partners with government and industry, auto manufacturers, car dealers, fuel suppliers, public utilities, public and private fleets, community business groups and professional associations to reduce petroleum consumption in the transportation sector. The program is currently on track to displace 3.2 billion gallons of gasoline by 2020, exceeding the established goal by 700 million gallons.

- Seventy-one percent of the 2006 savings came through switching to alternative fuels; 30 percent was compressed natural gas, used mostly in heavy-duty vehicles;
- Substantially more E85 was used in 2006 than previously, largely because the number of E85 stations doubled – from 436 to 995;
- E85 accounted for 24 percent of gasoline displacement in alternative fuels in 2006.
- Almost 44,000 hybrid electric vehicles were put into service during 2006, displacing approximately 9 million gallons of gasoline;

- Idle reduction efforts saved 8.4 million gallons of fuel during 2006, including 1.2 million gallons from truck stop electrification;
- Almost 2 million gallons were saved by reducing the number of vehicle miles traveled.

"The significant progress Clean Cities made in 2006 shows impressive commitment by our coalition members," DOE Clean Cities Director Dennis A. Smith said.

The Clean Cities program is managed through the Project Management Center (PMC) by the National Energy Technology Laboratory (NETL).

[Complete report](#)

[return to index](#)

Biodiesel conquers cold weather

After attending a Granite State Clean Cities Coalition (GSCCC) forum, Jim Mersereau of New Hampshire's Cranmore Mountain Resort brought back the idea of utilizing biodiesel in equipment at the ski resort.

The company pursued grant funds from the GSCCC to cover the incremental costs of the biodiesel to be used at the resort over the course of one ski season, as well as expenses related to the rental and installation of a 4,000-gallon above-ground fuel storage tank.

Cranmore Mountain Resort became the first ski area in the eastern U.S. to use biodiesel—specifically B20—in its snow-grooming fleet. Three seasons later, the resort has not experienced any problems with the biodiesel. "We used B20 that first winter and had nothing negative to report —no cold weather problems," Mersereau said. B-20 was used in four Bombardier snowcats, two John Deere auxiliary generators, and other diesel-powered equipment.

Recently, the resort was the subject of a case study carried out by Jennifer Schroeder of Clean Air-Cool Planet (CA-CP), a non-profit environmental organization. The study found the B-20 has performed well, with Cranmore reporting no additional wear and tear on equipment.

It was noted that during oil changes, filters appeared cleaner and that there were fewer fuel filter failures. After burning more than 60,000 gallons, Cranmore has found the fuel to be as efficient and reliable as straight diesel.

[Biodiesel Magazine story](#)

[return to index](#)

E85 gets boost in Ohio

Late last summer, as part of the **E85 Days of Summer Tour**, General Motors (GM) along with VeraSun Energy, Kroger, and Enterprise Rent-A-Car announced a partnership in Cincinnati, Ohio, to expand the availability of E85 ethanol throughout Ohio and Kentucky.

VeraSun Energy plans to offer E85 at more than 20 Kroger locations.



A General Motors Team member pumps 85-cents-per-gallon E85 fuel at a Kroger store in Cincinnati, Ohio in August.

"Cincinnati residents could save 120,000 barrels of oil per year if they regularly filled their GM FlexFuel vehicles

with E85 ethanol instead of gasoline," said Mary Beth Stanek, director of GM Environment, Energy and Safety Policy.

Kroger has partnered with the local Clean Cities coalition, Clean Fuels Ohio, for assistance in their E85 efforts across the state.

Clean Fuels Ohio has assisted Kroger in obtaining state funding for the E85 fueling infrastructure, and has also collaborated in an outreach program targeting FlexFuel vehicle owners living or working close to Kroger's E85 locations. The purpose of the program is to educate the owners on the energy security and environmental benefits of using E85 in their vehicles.

Representatives from Enterprise announced that its Glenway location in Cincinnati will be an official FlexFuel branch, where 25 percent of the fleet will be GM FlexFuel vehicles.

Bobby Willard, vice resident and general manager of Central Southwest Ohio Group for Enterprise Rent-A-Car said, "Part of our goal as a company is to reduce the environmental impact of our own fleet."

[Complete article](#)

[return to index](#)

burning more than 60,000 gallons, Cranmore has found the fuel to be as efficient and reliable as straight diesel.

[Biodiesel Magazine story](#)

[return to index](#)

Boston explores hybrid cabs

The Massachusetts Clean Cities Coalition recently investigated the inefficiencies of vehicles in Boston's taxi service. A local environmentalist, John Moore, approached the coalition with the idea to evaluate the current taxis and suggested comparing them to a hybrid vehicle.

The coalition arranged for Moore, driving a Ford Escape hybrid, to shadow a typical Boston taxicab for one week. He drove exactly when and how the cab drove, and found the cab (in this case, a Ford Crown Victoria) used 10.25 gallons of fuel in 9 hours of driving while the Escape used only 3.77 gallons.

Moore noted one-third of his time was spent at stops, where his hybrid vehicle was able to switch to more efficient battery power, saving fuel and reducing emissions compared to the standard taxicab.

Moore presented the data to the Public Health Commission, which subsequently approved two hybrid models, the Ford Escape and the Toyota Camry, for use as cabs in the Boston area. Additionally, the commission approved a retrofit of the existing Crown Victoria sedans to be powered by compressed natural gas.

Following up, Mr. Moore suggested that the Boston Cab Association consider using these new cleaner and more efficient vehicles. As part of his sales pitch, Moore traveled to New York City with the association owner to observe hybrids in use as taxis. This convinced the Boston Association owner to purchase and put into service ten new Toyota Camry hybrids.

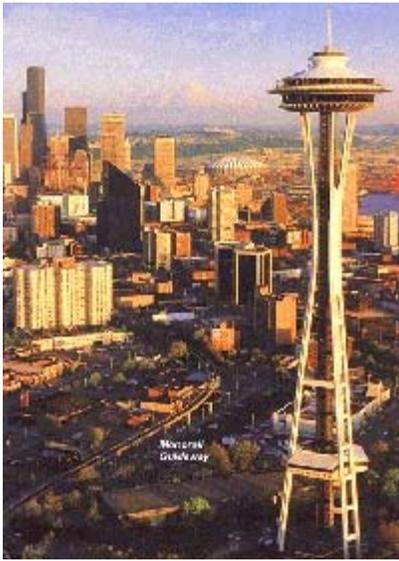
In the fall of 2006, Boston Mayor Thomas Menino announced a new incentive program and unveiled the city's first "CleanAir Cab". A 28-day study indicated an average fuel usage of 33.6 miles per gallon, a 70 percent savings over the traditional cabs. Moore credits the success of the program to the partnership with the Clean Cities Coalition.

[Mass. Clean Cities Coalition](#)

[Complete article](#)

[return to index](#)

Idaho lab to test plug-in hybrids in Seattle



Urban Seattle has been chosen by the Idaho National Laboratory as a testing ground for plug-in hybrids.

DOE's Idaho National Laboratory is joining with the City of Seattle to test the performance of 13 plug-in hybrid electric vehicles (PHEV) used in urban driving over the next year.

The project will test advanced technology that converts second generation Toyota Priuses to 100 miles-per-gallon vehicles. It will also help evaluate PHEV-electric grid integration issues and promote electricity as an alternative fuel for transportation.

The vehicles, owned by the City of Seattle, King County, Port of Seattle and the Puget Sound Clean Air Agency, are equipped with lithium plug-in batteries and have already doubled mileage rates, achieving 125 miles per gallon in city driving conditions.

Visit the [City of Seattle](#) or [Idaho National Laboratory](#) to learn more about the study.

[return to index](#)

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