

EERE Program News

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January, 2008

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Click any hot spot on [San Francisco's new Solar Map](#) and get the details on the city's almost 600 solar installations.

With this issue "PMC-News" has morphed into "EERE Program News." The name change reflects our expanded content started last month.

The new format, including quick links to EERE press releases, speeches and energy industry events provides easy launching points into the vast sea of energy information now available on the web.

Please e-mail us to let us know whether we are meeting your energy information needs or to suggest topics of interest.

Solar has really taken off in San Francisco as evidenced by a breakthrough, [interactive map of the city showing all solar installations](#), including installation details, comments from the owners and power capacity of each site. Individuals can quickly go to the site to enter their own installation on the map. Solar efforts within the city now generate over 3,500 megawatts of electricity annually.

DOE Secretary Samuel Bodman recently laid out the world's new energy challenges when he spoke to refiners in [Port Arthur, Texas](#). "World energy demand will increase by 55 percent between the years 2005 and 2030," Bodman said. "This will trigger the need for a minimum of \$22 trillion of investment in new infrastructure."

Indeed, renewable energy and building a new clean energy infrastructure will play key roles in meeting this demand. Our Features section examines how, in 2007, [Colorado leaped from thirteen E85 stations to 50](#). ([View video](#).) Other states are now looking at this success as a model for ramping up their own biofuels, refueling infrastructure. Meanwhile, [Minnesota leads the nation with 320 E85 stations](#).

Interest in, and [funding for geothermal energy](#) has recently picked up. According to a Massachusetts Institute of Technology (MIT) study, the amount of geothermal power that could be recovered from deep drilling would equal 3,000 times the total energy used in the U.S. each year. Cal Energy Generation has produced a series of [excellent videos](#) that show how a geothermal energy plant actually captures heat from the earth's magma to produce clean electricity. [EERE's Geothermal Technologies Web Site](#) also holds a wealth of information on the the

topic.

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Air Force base builds nation's largest solar PV system



America's largest solar photovoltaic system is now up and operating at Nellis Air Force Base in Nevada. The system will generate more than 30 million kilowatt-hours of electricity annually.

[Nellis Air Force Base](#) in Nevada recently celebrated completion of North America's largest solar photovoltaic (PV) system. The new system will generate more than 30 million kilowatt-hours of clean electricity each year, supplying 25 percent of the total power used at the base, where 12,000 people live and work.

The project combines technology and systems expertise from SunPower Corporation and Nevada Power Co. with financing by MMA Renewable Ventures. SunPower designed and built the PV power plant using its proprietary single-axis SunPower T20® Tracker solar tracking system that follows the sun throughout the day and delivers up to 30 percent more energy than fixed-tilt ground systems.

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Geothermal energy funding restored in 2008 budget



Geothermal energy, capturing heat from the earth's magma is capable of providing vast amounts of clean, electric power.

Congress restored \$20 million in funding for geothermal energy in the 2008 budget signed by President Bush. The money is to be used for large-scale enhanced geothermal systems; it includes accelerated development of subsurface technologies such as geological and geophysical data collection and synthesis. Geothermal energy advocates are hoping this marks a new beginning of renewed interest in this renewable energy source.

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Palo Alto, Austin and Alabama Power add more Green Power

Across the nation, the popularity of green power continues to gain momentum as consumers see environmental advantages and utilities offer more purchase options.

The [City of Palo Alto](#), Calif. recently announced that more than 20 percent of its residents have enrolled in the city's [PaloAltoGreen](#) voluntary renewable energy program, making it the first green pricing program to reach the 20 percent participation threshold. In December 2006, then-Mayor Judy Kleinberg challenged the community to strive for a 20 percent participation rate and the goal was achieved in less than 12 months. Program participants currently purchase 41.4 million kilowatt hours (kWh) of wind and solar power annually.

[Austin Energy](#), in Texas, an early adaptor of Green Power, has procured new wind energy supply to expand its [GreenChoice](#) program. About 8,700 residential customers and 450 businesses already participate in the [GreenChoice](#) program.

Austin Energy currently has contracts in place for 439 megawatts (MW) of wind energy and 11 MW of landfill gas generation.

Additional electricity will be supplied to the expanded program by procuring additional power from two new wind farms in west Texas, one currently operational and another coming on-line at the end of 2008.

New participants in the [GreenChoice](#) program will pay a green power premium of 1.85 cents per kWh over standard electricity rates. However, the price differential may change over time, as the green rate will remain fixed through 2023, while the standard fuel charge can go up or down each year depending on the cost of power plant fuels such as natural gas.

Also, further east, [Alabama Power](#), which provides electricity service to more than 1.4 million customers, is lowering the price of its green power and making it available to business customers as well as residential customers.

As of January, residential customers can opt to pay the [Renewable Energy Rate](#) and purchase renewable energy in 50-kWh increments each month for \$2.25, or a premium of 4.5 cents per kWh over standard electricity rates. The new price is 25 percent lower than the previous renewable energy rate.

Commercial and industrial customers can now purchase renewable energy in 100-kWh monthly increments or "blocks" for \$4.50, the same rate premium paid by residential customers.

Power for the program is supplied from co-firing switchgrass and other types of biomass, such as wood chips, used in coal-fired power plants.

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Examining the new Renewable Fuels Standards



Renewable crops such as switchgrass may be capable in the near future of providing good feedstock supplies for cellulosic ethanol plants.

Renewable fuels got a real boost in the 2007 Energy Independence and Security Act signed into law in December. It boosts the requirements for renewable fuel use to 15.2 billion gallons by 2012 and 36 billion gallons by 2022.

This is up from a total of a required total of 7.5 billion gallons by 2012 required by the previous legislation.

Additionally, biodiesel must contribute 0.5 billion gallons in 2009, and 1 billion gallons by 2012.

Advanced biofuels, defined as fuels that cut greenhouse gas emissions by at least 50 percent, are to provide at least 21 billion gallons of the new total. These fuels could include ethanol derived from cellulosic biomass as well as biodiesel, butanol and other fuels from waste products.

The new act gives the U.S. Environmental Protection Agency one year to revise the RFS regulations to include the new standards. See Title II of the new [energy act](#) on the Library of Congress Web site, and for comparison, see the Renewable Fuel Association's summary of the [previous standard](#).

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Stanford study outlines benefits of connecting wind farms

A recently released [Stanford University study](#) points to wind power as a steady, dependable source of electricity that can be delivered at a lower cost than at present. The key is using transmission lines to connect wind farms throughout a given geographic area, thus combining the electric outputs of the farms into one powerful energy source.

"If interconnected wind is used on a large scale, a third or more of its energy can be used for reliable electric power, and the remaining intermittent portion can be used for transportation, allowing wind to solve energy, climate and air pollution problems simultaneously," said Cristina Archer, the study's lead author and consulting assistant professor in Stanford's Department of Civil and Environmental Engineering and research associate in the Department of Global Ecology at the Carnegie Institution.

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Features



In October, the Biojet I, an Aero L-29 Delfin aircraft burning biodiesel and originally built in 1960s Czechoslovakia, took off from the Reno-Stead Airport and flew to an altitude of 17,000 feet. While the first tests were done with a mixture of Biodiesel and regular jet fuel, the last flight was done entirely on 100 percent renewable biodiesel fuel. The test program was carried out by Green Flight International and Biodiesel Solutions. Photo courtesy of Inhabit.com.

Colorado jumps from 13 to 50 E85 stations in one year



Customer fills SUV with E85 at Colorado's 50th biofuels station celebration ([View Video](#))

One year ago, more than 200,000 Colorado vehicles were flex fuel ready, but only 13 stations offered either E85 or biodiesel. This year in Jan., the state celebrated the opening of its 50th flex fuel refueling station. The rapid growth was a major accomplishment stemming from newly elected Governor Bill Ritter's commitment to renewable energy and the hard work and investment of many people and companies.

The state's Biofuels Coalition, originally formed in 2005, supported by the Governor's Energy Office decided to ramp up the state's commitment to a biofuels refueling infrastructure. General Motors, Western Convenience Stores, Hill Petroleum and many others stepped up and pitched in to make it happen. Meeting the goal of having E85 stations online in one year was truly the result of many companies and individuals who might not ordinarily be working together.

"In forming an effective coalition, you really have to have 100 percent buy-in from each member," said Troy Hill, vice president and general manager of Hill Petroleum. "There needs to be a balance between regulatory and state officials and operational people who are familiar with station infrastructure, construction and delivery issues."

Other key factors that have helped build the coalition's success include:

- Specific station and fuel goals;
- Clear and transparent decision-making process;
- Open meetings and published minutes;
- Commitment by coalition to be a non-lobbying group.

Working with EERE's Clean Cities Program the Colorado Biofuels Coalition and the Governor's Energy Office provided funding and partnerships to strategically place E85 refueling pumps along targeted traffic corridors. Training automobile dealers and station operators about flex fuel vehicles and biofuels was also part of the

coalition's strategy.

Initially, for a station to be considered for support by the coalition, three factors had to be met:

- Near a ZIP code with a large number of registered flex fuel vehicles;
- Close by or at a busy intersection;
- Near a major highway, thoroughfare, toll road or interstate highway.

[More on how Colorado met its 2007 E85 refueling infrastructure goals](#)

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Minnesota state agencies double E85 fuel use in 2007

Minnesota state agencies more than doubled their use of E85 last year, purchasing 412,500 gallons of E85 from retailers, nearly a 250 percent increase over the 165,500 gallons bought in 2006.

"Filling our tanks with homegrown E85 decreases our dependence on foreign oil and that leads to a secure energy future," Governor Tim Pawlenty said. "Our state agencies are leading by example with nearly 1,700 'flex-fuel' vehicles in the state fleet. And Minnesota is leading the nation with more than 320 E85 fueling stations across the state."

[Minnesota 2007 E85 Use Report](#)

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EPIC Web Site focuses on E85

The [Ethanol Promotion and Information Council \(EPIC\) Web Site](#) is a great resource to learn more about efforts across the nation to increase the use of ethanol. The site includes an [E85 station locator](#), E85 price information and information about flex-fuel vehicles.

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EERE News Releases

January 29, 2008

[U.S. Department of Energy Selects First Round of Small-Scale Biorefinery Projects for Up to \\$114 Million in Federal Funding](#)

January 28, 2008

[U.S. Department of Energy and State of Hawaii Sign Agreement to Increase Clean Energy Technologies in Hawaii](#)

January 24, 2008

[Energy Department Selects Student Teams to Compete in 2009 Solar Decathlon](#)

Jan. 17, 2008

[Department of Energy to Invest Up To \\$30 Million to Accelerate Development and Deployment of Plug-In Hybrid Electric Vehicle Technology](#)

Jan. 15, 2008

[Environmental Protection Agency and Department of Energy Spread a Bright Idea: Energy Star Light Bulbs are Helping to Change the World](#)

Jan. 15, 2008

[USDA and DOE Biomass Research And Development Technical Advisory Committee Members](#)

Dec. 21, 2007

[DOE finalizes regulations to increase energy efficiency in new federal buildings by 30 percent](#)

Dec. 13, 2007

[U.S. and China Increase Biofuels Cooperation Ahead of the Third U.S. – China Strategic Economic Dialogue](#)

Dec. 04, 2007

[Department of Energy to Invest up to \\$7.7 Million for Four Biofuels Projects](#)

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[Recent Speeches](#)

Jan. 22, 2008

[Assistant Secretary Alexander Karsner's Remarks to the Washington Auto Show, Washington, D.C.](#)

[The Energy Policy Act of 2007] fundamentally decouples the price of oil from the price of alternatives and assures the entry of [emission-reducing] renewable fuels into the marketplace. And we will assure multiple pathways... moving towards E85 and intermediate blend fuels, working together with the auto companies to see what is technically viable....

Dec. 17, 2007

[Chief Operating Officer Paul Dickerson's remarks at the Nellis AFB Solar Power System Dedication Ceremony, Las Vegas, Nevada](#)

The Nellis solar project we're celebrating today... establishes a precedent for other federal agencies.... The Air Force's leadership on this solar project, in combination with the critical roles played by SunPower, MMA Renewable Ventures, and Nevada Power, has resulted in the largest PV installation in North America.... To those who doubted the ability of solar to play a critical role in our nation's electricity infrastructure, look at this and tell us it can't be done....

Dec. 14, 2007

[Assistant Secretary of Energy Alexander Karsner's presentation to the United Nations Climate Change Conference, Bali, Indonesia](#)

This presentation outlines, in easily understood charts and graphs, U.S. government activities in support of renewable energy and energy efficiency technologies.

Dec. 7, 2007

[Chief Operating Officer Paul Dickerson's remarks at the Third Annual Axiom Capital Management Conference, New York, New York.](#)

Global energy demand is surging.... and investments in technologies to curb that growth just aren't keeping up. In fact, they aren't even coming close to meeting the long-term energy goals of this administration..... [Our plans] are so ambitious that, to make them a reality could require around \$1.4 trillion in capital investments by 2030. That's \$60 billion a year, a huge opportunity....

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[Events](#)

If you have an event scheduled in the next year of regional or national interest to the energy efficiency and renewable energy communities, please contact us with pertinent information and a web link and we will include it in EERE Program News. — [Jack Jenkins](#), [John Horst](#)

[NASEO Winter Conference](#) — Feb. 4-5, Washington, D.C.

National Association of State Energy Officials focuses on promoting cost-effective energy solutions. Members are deeply involved in developing, managing and implementing public-benefit funds associated with electricity- and gas-industry restructuring.

[Midwest Ag Energy Network Summit](#) — Feb. 5-6, 2008, Madison, Wis.

Ag and energy leaders discuss how rural communities can retain the wealth generated by the convergence of renewable energy and agriculture.

[2008 International Builders' Show](#) — Feb. 13-16, 2008, Orlando, Fla.

Largest annual light construction show in the world, with more than 1,900 exhibitors showing the latest and most advanced building products and services, including innovations, hands-on demonstrations, and working models.

[POWER-GEN Renewable Energy & Fuels 2008](#) — Feb. 19-21, 2008, Las Vegas, Nev.

All-renewables conference and exhibition covering the most important trends and issues impacting the industry. Covers wind, solar, biomass and alternative fuels, hydro and geothermal topics.

[National Ethanol Conference: Policy & Marketing \(RFA\)](#) — Feb. 25-27, Orlando, Fla.

The Renewable Fuels Association's 13th annual National Ethanol Conference: Policy & Marketing, Changing the Climate will explore public policy and marketing issues affecting the U.S. ethanol industry. A record audience is expected.

[DOE's Steam System Specialist Qualification](#) — Feb. 26-28, 2008, Memphis, Tenn.

Qualification training for steam service providers interested in becoming proficient in using the BestPractices Steam tools.

[Washington International Renewable Energy Conference](#) — March 3-6, Washington, D.C.

WIREC 2008 is a global platform for government, private-sector, and nongovernmental leaders to jointly address the goal of advancing renewable energy. Hosted by the United States Government, in cooperation with the American Council On Renewable Energy.

[NESEA's Building Energy Conference and Trade Show](#) — March 11-13, Boston, Mass.

The Northeast Sustainable Energy Association's (NESEA) BuildingEnergy08 is a premier conference and trade show for renewable energy, green building, and climate change professionals. 175 exhibitors.

[Solar 2008](#) — May 3-8, 2008, San Diego, Calif.

SOLAR 2008 explores, "Catch the Clean Energy Wave." Addresses sustainable energy as a key component in climate recovery, a healthy economy, and a secure energy future.

[DOE's Fundamentals of Compressed Air Systems](#) - May 6, 2008, Omaha, Neb.

Introductory workshop teaches facility engineers, operators and maintenance staff how to achieve 15 - 25-percent cost savings through more effective production and use of compressed air.

[DOE's Advanced Management of Compressed Air Systems](#) - May 7-8, 2008, Omaha, Neb.

Intensive two-day workshop that provides in-depth technical information on troubleshooting and making improvements to industrial compressed air systems.

[American Institute of Architects National Convention](#) - May 15-17, 2008, Boston, Mass.

The focus will be, "*We the People*," and explore the power of architecture in society.

[CONSTRUCT 2008](#) - June 3-6, Las Vegas, Nev.

Commercial, industrial, and institutional construction professionals and hundreds of exhibiting companies will attend CONSTRUCT 2008. Nearly 100 training sessions will be held on the latest construction technologies, industry solutions, trends, and best practices.

[DOE's EERE Hydrogen Program 2008 Merit Review](#) - June 9-13, 2008, Arlington, Va.

Each year hydrogen and fuel cell projects funded by DOE's Hydrogen Program are reviewed for their merit during an Annual Merit Review and Peer Evaluation Meeting.

[Wind Expo Latin American Wind Energy Association 2008](#) - Nov. 5-7, Guadalajara, Mexico

The first Latin American Wind Energy Association (LAWEA) Wind and Renewable Energy Conference and Exhibition, WIND EXPO LAWEA GUADALAJARA 2008, organized by the Latin American Wind Energy Association.

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