

EERE Network News

A weekly newsletter from the U.S. Department of Energy's (DOE) [Office of Energy Efficiency and Renewable Energy \(EERE\)](#). The EERE Network News is also available on the Web at: www.eere.energy.gov/news/enn.cfm

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News and Events**Vice President Biden Releases Report Showing Recovery Act Energy Impact**

Vice President Joe Biden on August 24 unveiled a new analysis showing that the American Recovery and Reinvestment Act's \$100 billion investment in innovation is helping accelerate significant advances in science and technology. According to "The Recovery Act: Transforming the American Economy through Innovation," the United States is now on track to achieve three major energy innovation breakthroughs thanks to Recovery Act investments: cutting the cost of solar power in half by 2015; reducing the cost of batteries for electric vehicles by 70% between 2009 and 2015; and doubling U.S. renewable energy generation and renewable manufacturing capacity by 2012. Overall, the Recovery Act is impacting science, technology, and innovation projects ranging from building a nationwide smart energy grid to



In January, Operations Manager Marisol McCormick helped lift the first Chevrolet Volt battery pack off a General Motors Michigan assembly line.
Credit: Steve Fecht, GM

growing the emerging electric vehicle industry, the report notes.

The numbers are compelling, according to the report. For example, solar power is on a path to drop from \$0.21 per kWh in 2009 to \$0.10 per kWh in 2015, a level equivalent to household electricity rates. The cost of power from utility-scale solar projects also should drop, from \$0.13 per kWh today to \$0.06 in 2015, a rate equal to the cost of wholesale utility power. Further, the cost of rooftop solar power could fall to as low as \$0.06 per kWh by 2030, a cost less than household rates. Another advance is a major reduction in the prices of vehicle batteries. The report projects cost of the typical all-electric vehicle (EV) battery will shrink from the current \$33,000 to \$10,000 in 2015, while plug-in hybrid batteries will drop from \$13,000 to \$4,000 apiece. These cuts will make EVs and hybrids competitive with similar non-electric vehicles.

Additionally, the United States is poised to both double renewable energy generation and renewable manufacturing capacity by 2012, aided by more than \$23 billion of Recovery Act investments. U.S. renewable energy generation capacity from wind, solar, and geothermal is expected to increase 100% by 2012, going from the 28.8 gigawatts (GW) installed as of 2008 to 57.6 GW by the end of 2011. That amount of renewable energy will be enough to power 16.7 million homes. Finally, the Recovery Act strategy calls for the doubling of U.S. renewable energy manufacturing capacity from an annual output of 6 GW of renewable equipment (such as wind turbines or solar panels) to 12 GW by the end of 2011. See the [DOE press release](#), the new [White House Innovation Web site](#), and the full report ([PDF 1.3 MB](#)). [Download Adobe Reader](#).

DOE Awards \$120 Million for Weatherization Projects, Marks Busiest Month

DOE announced on August 19 its selection of 119 organizations across the country that will receive nearly \$120 million under the DOE's Weatherization Assistance Program. These investments will enable successful weatherization agencies to expand their programs, and will support new pilot projects to demonstrate innovative delivery, novel financial models, and new technologies. Additionally, DOE reported that of the more than 80,000 homes will be weatherized this summer; a record number of about 31,600 U.S. homes were completed in June. The leading states for the month were Illinois, with 2,957 refurbished homes, and California, with 2,701, and Texas (with 2,649). Overall, the program created more than 13,000 jobs in the second quarter of 2010 while cutting family energy expenses and reducing carbon emissions nationally. See the [DOE press release](#) and the tally of weatherized homes by state ([PDF 14 KB](#)). [Download Adobe Reader](#).

Nearly \$90 million of the American Recovery and Recovery Act funds will be awarded to 103 high-performing local providers in 27 states to enhance their existing weatherization programs. For the first time in the program's history, grantees will install renewable energy systems and cutting-edge energy efficiency technologies. These include solar heating systems, solar photovoltaic panels and shingles, small-scale wind turbines, new insulation technologies, "cool roofs," high-efficiency appliances, tankless hot water systems, high-efficiency combination boilers, in-home energy monitors, and ductless heat pump systems. For example, the Miami County YMCA in Indiana will add solar photovoltaic and solar hot water

systems. And Missouri's Central Missouri Community Action group will provide geothermal heating systems for low-income households. See the full list of awards ([PDF 52 KB](#)).

An additional \$30 million from the program's annual budget will fund 16 recipients showcasing other innovative approaches to weatherizing low-income single and multifamily homes. Projects will test combining weatherization services with a comprehensive "green and healthy homes" approach that incorporates indoor air quality improvement and lead abatement services. Grantees include organizations that have not historically been a part of the DOE's Weatherization Assistance Program, including private companies, non-profit organizations, universities, city governments, and national partners. Nebraska's Energy Pioneer Solutions, for instance, will use funds to streamline weatherization services for low-income families and will offer loans for half of the project's value, which can be repaid through local utility bills. See the full list of selected awardees ([PDF 42 KB](#)).

DOE Creates New Energy Hub for Energy-Efficient Building Design

DOE announced on August 24 the creation of the Energy-Efficient Building Systems Design Energy Innovation Hub to develop technologies that make buildings more energy efficient. The hub team, led by Pennsylvania State University, will receive up to \$122 million over the next five years to develop models that are applicable to both retrofits and new construction. Located at the Philadelphia Navy Yard Clean Energy campus, the hub will bring together leading researchers from academia, two national laboratories, and the private sector. The goal is to formulate building designs that will save energy, cut pollution, create jobs, and position the United States as a worldwide industry leader.

The team will use the more than 200 buildings on the Navy Yard campus and its independent electric microgrid as a "virtual municipality" to test and validate the new technologies. The hub team will pursue a research, development, and demonstration program targeting technologies for single buildings and district-wide systems. The technologies include computer simulation and design tools to enable integrated project teams to collaborate on retrofit, renovation, and new building design projects; advanced combined heat and power systems; building-integrated photovoltaic systems for energy generation; advanced HVAC systems with integrated indoor air quality management; and sensor and control networks to monitor building conditions and optimize energy use. The program will also analyze the role of policy, markets, and behavior in the use of building energy technologies. Because buildings account for nearly 40% of U.S. energy consumption and carbon emissions, developing systems to improve building efficiency will provide significant benefits. This is the third DOE hub established in Fiscal Year 2010. In July, DOE announced the Fuels from Sunlight Energy Innovation Hub. See the [DOE press release](#), the [Energy Hub Web site](#), and the [July 28 edition of EERE Network News](#).

DOE Offers \$15 Million Geothermal Heat Recovery Opportunity

DOE's Geothermal Technologies Program announced on August 20 a \$15 million funding opportunity to research and develop innovative methods of extracting heat from geothermal resources. DOE is promoting the advancement and commercialization of technologies for heat recovery with environmental, technical, and financial risks that are potentially lower than currently available methods are. The funding opportunity announcement (FOA) seeks applicants to expand geothermal power generation into geologically diverse environments, such as permeable



Geothermal power, from plants such as this one in Nevada, will gain under a new DOE initiative.
Credit: Patrick Laney, INL

sedimentary formations that minimize the risk of rapid drawdown of a reservoir's heat. The FOA also calls for the reduction of the levelized cost of electricity for new methods of geothermal energy production from \$0.10 kWh to \$0.06 kWh.

Applicants must submit an initial, pre-application concept paper by October 1. Eligible full applications, which must address environmental risk factors associated with geothermal heat recovery, are due November 30, 2010. Funding will be available on a competitive basis for two phases of work. Phase I will encompass feasibility studies of the applicant's proposed heat recovery method, including numerical analysis of the proposed reservoir, economic modeling, and unproven component technology engineering and validation plans. Phase II will include the validation of unproven component technology. See the [DOE progress alert](#), the [FOA on the FedConnect Web site](#), and the [Geothermal Technologies Program Web site](#).

DOE Extends Renewable Energy Loan Guarantee Solicitation

DOE announced on August 20 that it is extending the application deadline for the July 2009 energy efficiency, renewable energy, and advanced transmission and distribution technologies solicitation. The Round 8, Part 1 application deadline is October 5, 2010. This gives companies an additional six weeks to apply for a loan guarantee under Section 1703, and if qualified, under Section 1705, provided by the American Recovery and Reinvestment Act. The goal is to get as many commercial renewable energy projects online as possible.

Round 8 is intended to give companies additional time to develop and submit Part I applications. The Round 8 Part II application deadline is December 31, 2010. See [DOE press release](#) and the [Loan Guarantee Program Web site](#).

HUD Awards \$100 Million for Housing Efficiency Retrofits

The U.S. Department of Housing and Urban Development (HUD) on August 19 awarded more than \$100 million in American Recovery and Reinvestment Act funds to complete energy efficient renovations of 100 affordable housing developments in 31 states and Washington, D.C. The awards, which include 8,112 residences, are part of HUD's Green Retrofit Program, which is providing \$250 million nationally from the Recovery Act to reduce energy costs, cut water consumption, and improve indoor air quality. The awards announced are the first grants and loans awarded through the program, with the remaining awards rolled out through

September 30.

Funds from the retrofit program help private property owners and property management companies to cut heating and air conditioning costs such as by installing more efficient heating and cooling systems. The renovations are designed to create upgrades to thousands of affordable apartments, to save money for residents, and to create jobs. See the [HUD press release](#) and the full list of award selections ([PDF 213 KB](#)). [Download Adobe Reader](#).

Site News

[EERE Launches New Energy Basics Web Site](#)

For those who want to know *what* something is in the field of energy efficiency and renewable energy technologies or *how* things such as a wind turbine or solar panel work, DOE's Office of Energy Efficiency and Renewable Energy (EERE) has launched the new [Energy Basics Web site](#). The fresh destination explains the concepts behind everything from hybrid electric vehicles to ocean wave energy. It also gives overviews of home, building, and industrial energy efficiency, telling how various components and approaches can be used to make daily life better. The site features videos, highlighting wind energy and solar power among other renewable sources, and includes an energy term glossary. Be sure to check back often, because Energy Basics will be expanding and adding new information over time.

This newsletter is funded by DOE's [Office of Energy Efficiency and Renewable Energy \(EERE\)](#) and is also available on the [EERE Web site](#). If you have questions or comments about this newsletter, please [contact the editor](#).

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