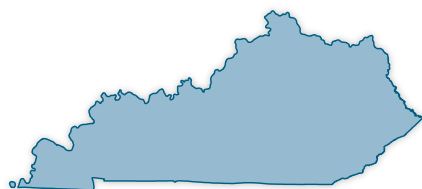




Department of Energy Recovery Act State Memos

Kentucky



For questions about DOE's Recovery Act activities, please contact the DOE Recovery Act Clearinghouse:
1-888-DOE-RCVY (888-363-7289), Monday through Friday, 9 a.m. to 7 p.m. Eastern Time
<https://recoveryclearinghouse.energy.gov/contactUs.htm>.

All numbers and projects listed as of June 1, 2010

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RECOVERY ACT SUCCESS STORIES – ENERGY EMPOWERS

- *Recovery Act allows Kentucky manufacturing plants to save energy, cut costs, and retain jobs 8*
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American Recovery and Reinvestment Act



U.S. DEPARTMENT OF ENERGY • KENTUCKY RECOVERY ACT SNAPSHOT

Funding for selected DOE projects: **\$259.6 million**

DOE Recovery Act projects in Kentucky: **34**

Clean energy tax credits and grants: **6**

For total Recovery Act jobs numbers in Kentucky go to www.recovery.gov

Kentucky has substantial natural resources, including coal, oil, gas, and hydroelectric power. The **American Recovery & Reinvestment Act** (ARRA) is making a meaningful down payment on the nation's energy and environmental future. The Recovery Act investments in Kentucky are supporting a broad range of clean energy projects, from energy efficiency and the smart grid to environmental cleanup and alternative fuels and vehicles. Through these investments, Kentucky's businesses, universities, non-profits, and local governments are creating quality jobs today and positioning Kentucky to play an important role in the new energy economy of the future.

EXAMPLES OF KENTUCKY FORMULA GRANTS

Program	State Energy Program	Weatherization Assistance Program	Energy Efficiency Conservation Block Grants	Energy Efficiency Appliance Rebate Program
	\$52.5	\$70.9	\$25.1	\$4.1
Award (in millions)	The Executive Office of the Commonwealth of Kentucky has received \$52.5 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities .	The Commonwealth of Kentucky has received \$70.9 million in Weatherization Assistance Program funds to scale-up existing weatherization efforts in the state, creating jobs, reducing carbon emissions, and saving money for Kentucky's low-income families. Over the course of the Recovery Act, Kentucky expects to weatherize nearly 9,100 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.	Twenty-one communities in Kentucky received a total of \$25.1 million for Energy Efficiency and Conservation Block Grants (EECBG) to develop, promote, implement, and manage local energy efficiency programs.	The Executive Office of the Commonwealth of Kentucky has received \$4.1 million for the Energy Efficient Appliance Rebate Program, which offers consumer rebates for purchasing certain ENERGY STAR® appliances. These energy efficient appliances reduce energy use and save money for families, while helping the environment and supporting the local economy.

EXAMPLES OF KENTUCKY COMPETITIVE GRANTS , TAX CREDITS AND LOANS

Award	\$5.9 billion	\$78.8 million	\$28.6 million	\$13 million	\$11.3 million
	Ford Motor Company closed a \$5.9 billion loan arrangement under the Department of Energy's Advanced Technology Vehicles Manufacturing program to transform factories across Illinois, Kentucky, Michigan, Missouri, and Ohio to produce 13 more fuel efficient models. The company estimates the project will transform nearly 35,000 employees to green engineering and manufacturing jobs.	Paducah Remediation Services, LLC was awarded \$78.8 million to accelerate the complete demolition of three facilities at the Paducah Gaseous Diffusion Plant.	ZF Steering Systems, LLC in Florence was awarded a clean energy manufacturing tax credit for \$28.6 million to manufacture electric power steering (EPS) gears. The EPS gear represents a significant technological advancement, consuming 90 percent less energy than traditional hydraulic power steering gears.	The Kentucky Department of Education was awarded \$13 million for the Kentucky Clean Fuels Coalition . The coalition will deploy hybrid-electric school buses to various school districts across the state of Kentucky.	General Electric Company in Louisville was awarded a clean energy manufacturing tax credit of \$11.3 million to manufacture a commercially-viable heat pump clothes dryer for residential application.

Funding Allocation Table (Figure 1)

Total dollar amounts in this document are accurate as of June 1, 2010. Please note that Recovery Act Programs are ongoing and the dollar amounts are subject to change. Recipient locations are based on project sites rather than recipients' headquarters locations.

Recovery Act Pillar	Flagship Program Names & Funding Type ¹	Number of Selections	Selected Amount (in millions) ²
Energy Efficiency	<i>Weatherization Assistance Program (F)</i>	1	\$70.9
	<i>State Energy Program (F)</i>	1	\$52.5
	<i>Energy Efficiency and Conservation Block Grant (F)</i>	21	\$25.1
	<i>Energy Efficient Appliance Rebate (F)</i>	1	\$4.1
	<i>Industrial Energy Efficiency (CM)</i>	1	\$0.9
	TOTAL Energy Efficiency	25	\$153.5
Electric Grid	<i>Smart Grid Investment and Demonstrations Project (CM)³</i>	1	\$9.5
	<i>State and Local Energy Assurance and Regulatory Assistance (F)</i>	3	\$1.8
	<i>Smart Grid Workforce Training (CM)</i>	1	\$2.5
	TOTAL Electric Grid	5	\$13.8
Transportation	<i>Clean Cities Alternative Fuel and Vehicles Program (CM)</i>	1	\$13.0
	TOTAL Transportation	1	\$13.0
Carbon Capture and Storage	<i>Research and Training (CM)</i>	1	\$0.3
	TOTAL Carbon Capture and Storage	1	\$0.3
Environmental Cleanup	<i>Environmental Management Contracts (C)</i>	1	\$78.8
	TOTAL Environmental Cleanup	1	\$78.8
Science and Innovation	<i>Small Business Research (SBIR/STTR) (CM)</i>	1	\$0.2
	TOTAL Science and Innovation	1	\$0.2
TOTAL - DOE Programs⁴		34	\$259.6
Tax Credits/ Payments ⁵	<i>Payments for Renewable Energy Generation in Lieu of Tax Credits (1603)</i>	1	\$0.02
	<i>Clean Energy Manufacturing Tax Credits (48C)</i>	5	\$104.1
	TOTAL Tax Incentives	6	\$104.1
TOTAL - DOE/Treasury + DOE		40	\$363.7
¹ F=Formula Grant, CM=Competitive Grant, C=Contract			
² "Selected" indicates DOE has selected a potential funding recipient, which begins the process of negotiating an agreement. This does not necessarily indicate that a final agreement has been reached.			
³ Projects may cross state boundaries, signifies HQ location.			
⁴ Total does not include administrative funds.			
⁵ Jointly administered by DOE and the U.S. Department of Treasury.			

ENERGY EFFICIENCY – 25 projects totaling \$153.5 million

Helping millions of American families cut utility bills by making homes and appliances more energy efficient, expanding the home efficiency industry in sales and manufacturing. For more information, visit <http://www.energy.gov/recovery/energyefficiency.htm>.

Award(s): \$70.9 million, Weatherization Assistance Program (WAP)

Location: Statewide

Kentucky received \$70.9 million in Weatherization Assistance Program funds to scale-up existing weatherization efforts in the state, create jobs, reduce carbon emissions and save money for Kentucky's low-income families. Over the course of the Recovery Act, Kentucky's goal is to weatherize nearly 9,100 homes. The program also includes funding for workforce training and education as part of the state's efforts to develop a green workforce.

Award(s): \$52.5 million, State Energy Program (SEP)

Location: Statewide

The Executive Office of the Commonwealth of Kentucky received \$52.5 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities. Kentucky is utilizing Recovery Act SEP funding to advance energy efficiency and renewable energy initiatives. Kentucky is reducing energy consumption through energy efficiency and education assistance to state and local agencies, schools, non-profits and the commercial, industrial and agricultural sectors. These programs include energy audits and funding assistance for retrofits in schools and public buildings. The project provides funding for the purchase and installation of commercially available energy efficiency or renewable energy equipment needed to retrofit a government building to become an Advanced Battery Strategic Planning (ABSP) facility.

Award(s): 21 totaling \$25.1 million, Energy Efficiency and Conservation Block Grant Program (EECBG)

Location: Statewide

Recipients: Kenton County, Henderson, Boone County, Bowling Green, Oldham County, Frankfort, Hardin County, Florence, Hopkinsville, Campbell County, Bullitt County, Pike County, Richmond, Owensboro, Covington, McCracken County, Urban County Government of Lexington-Fayette, Pulaski County, Metropolitan Government of Louisville / Jefferson, Kentucky State Energy Office

Twenty-one communities in Kentucky received a total of \$25.1 million for the Energy Efficiency and Conservation Block Grants Program (EECBG) to develop, promote, implement and manage local energy efficiency programs.

This project assists states, U.S. territories, Indian tribes, counties and cities to develop, promote, implement and manage localized energy efficiency programs through individual program grants. The project funds programs which reduce fossil fuel emissions in a manner that is environmentally sustainable, maximizes cost savings, reduces the total energy use of eligible entities and improves energy efficiency in the transportation, building and other appropriate sectors. An example is:

- **City of Bowling Green - \$585,000**

The city of Bowling Green is using a portion of EECBG funding for small grants (\$1,000-\$2,500) for property owners to weatherize homes, purchase energy efficient appliances or invest in alternative energy sources. The city also provides mid-range grants (\$5,000-\$25,000) to

organizations seeking to explore unique ways of conserving energy, creating green jobs, or reducing their carbon footprint. Funding is also allotted to the Metropolitan Planning Organization (MPO) for the “Rethinking Transportation” to ease traffic congestion and promote carpooling. The city is retrofitting facilities to make them more energy efficient, reducing energy costs and carbon emissions. \$5,000 was directed to a local bicycle-friendly community program to promote bike routes.

Award(s): \$4.1 million, Energy Efficient Appliance Rebate Programs

Location: Statewide

The Executive Office of the Commonwealth of Kentucky received \$4.1 million for the Energy Efficient Appliance Rebate Program, which offers consumer rebates for purchasing certain ENERGY STAR® appliances. These energy efficient appliances reduce energy use and save money for families, while supporting the local economy.

This funding assists state-level rebate programs by paying up to 50 percent of the administrative costs of establishing and executing these types of programs. Though states and territories determine the appliances which apply, typically those include clothes washers, dishwashers, refrigerators, freezers, air conditioners and water heaters.

Award(s): \$900,000, Industrial Assessment Centers and Plant Best Practices

Location: Frankfort

The Executive Office of the Commonwealth of Kentucky in Frankfort received \$900,000 to use and expand existing industrial energy management resources in the commonwealth. This project promotes and leverages a range of DOE resources, including best practices tools and assessments, software and training materials.

RENEWABLE ENERGY – 6 projects totaling \$104.1 million

Developing the clean renewable resources in order to double our supply of renewable energy and boost domestic renewable manufacturing capacity. For more information, visit <http://www.energy.gov/recovery/renewableenergy.htm>.

Award(s): \$23,000 from DOE / Treasury, 1603 Payments for Renewable Energy Generation

Location: Lexington

*For current number of 1603 awards, see the weekly update at <http://www.treas.gov/recovery/1603.shtml>

Solar Energy Solutions in Lexington received \$23,000 for a solar electricity project.

Award(s): 5 totaling \$104.1 million from DOE / Treasury, Clean Energy Manufacturing Tax Credit (48C)

Location: Florence, Louisville

- **E.I. du Pont de Nemours and Co., Louisville - \$50.7 million**
E.I. du Pont de Nemours and Co. in Louisville received \$50.7 million to expand production of high-performance polyvinyl fluoride films.
- **ZF Steering Systems, LLC, Florence - \$28.6 million**

ZF Steering Systems, LLC, in Florence received \$28.6 million to manufacture electric power steering (EPS) gears. The EPS gear represents a significant technological advancement, consuming 90 percent less energy than traditional hydraulic power steering gears.

- **General Electric Company, Louisville - \$11.3 million**
General Electric Company in Louisville received a clean energy manufacturing tax credit of \$11.3 million to manufacture a commercially-viable heat pump clothes dryer for residential application.
- **General Electric Company – Appliances, Louisville - \$8.7 million**
General Electric Company – Appliances in Louisville received \$ 8.7 million to re-equip a facility to manufacture new ENERGY STAR® appliances, specifically, ultra-high efficient dishwashers. This new dishwasher line exceeds anticipated ENERGY STAR® standards for residential dishwashers and is designed to plug into the Smart Grid to more effectively manage peak electrical demand.
- **General Electric, Louisville - \$4.8 million**
General Electric in Louisville received \$4.8 million to redevelop a manufacturing facility to produce ENERGY STAR® heat pump electric water heaters which are significantly more energy efficient than a traditional tank water heater.

MODERNIZING THE ELECTRIC GRID – 5 projects totaling \$13.8 million

Harnessing clean energy sources and integrating them onto a modernized electric grid, while giving consumers better choices and more control over their energy use. For more information, visit <http://www.energy.gov/recovery/smartgrid.htm>.

Award(s): 2 totaling \$892,000, Enhancing State and Local Governments' Energy Assurance

Location: Frankfort, Louisville

This project focuses on building regional energy assurance capability through enhancing inter- and intra- state coordination and cooperation during energy emergencies. This project funds states to update or develop State Energy Assurance Plans incorporating new energy portfolios such as wind, renewables, biofuels, etc. and cities to update or develop Energy Assurance Plans within the local areas. The two sets of funding is used to hire or retrain staff to build in-house expertise in dealing with Smart Grid technologies, critical energy infrastructure interdependencies and cyber-security.

- **Commonwealth of Kentucky, Frankfort - \$592,000**
The Commonwealth of Kentucky received \$592,000 for State Energy Assurance Planning.
- **City of Louisville, Louisville - \$300,000**
The City of Louisville received \$300,000 for the Local Energy Assurance Planning (LEAP) Initiative.

Award(s): \$9.5 million, Smart Grid Investment Grant Program (EISA 1306)

Location: Frankfort

South Kentucky Rural Electric Cooperative Corporation in Frankfort received \$9.5 million to automate the electric metering system and installing an Advanced Metering Infrastructure (AMI) for 66,249 users.

Award(s): \$2.5 million, Smart Grid Workforce Training

Location: Lexington

The University of Kentucky Research Foundation in Lexington received \$2.5 million for the establishment of a Power and Energy Education Institute. This institute provides workforce training for highly qualified individuals certified in power engineering at the graduate, undergraduate and professional level. This curriculum unites faculty from traditional engineering departments, and centers for alternative energy and sustainable manufacturing. In addition to classroom coursework, students take a "Power and Energy Experience" course in which they perform field studies of regional power and energy sites. The program gives students the opportunity to graduate with a cross-disciplinary certificate in power and energy engineering and a B.S. or M.S. in Electrical, Mechanical, Chemical, Materials, Mining or other engineering major.

Award(s): \$859,000, State Assistance on Electricity Policies

Location: Frankfort

The Public Service Commission of Kentucky received \$859,000 to hire staff to facilitate the timely review of an expected large number of time-sensitive requests to approve electric utility expenditures undertaken as part of the Recovery Act.

TRANSPORTATION – 1 project totaling \$13 million

Investing in a new generation of advanced fuels and vehicles to reduce our dependence on foreign oil and revitalize domestic manufacturing. For more information, visit <http://www.energy.gov/recovery/vehicles.htm>.

Award(s): \$13 million, Clean Cities Alternative Fuel and Vehicles (AFV) Grant Program

Location: Louisville

Kentucky Clean Fuels Coalition in Louisville received \$13 million to deploy 190 hybrid-electric school buses to various districts across the State.

Award(s): \$5.9 billion from DOE / Treasury, Advanced Technology Vehicles Manufacturing Program

Location: Statewide

Ford Motor Company closed a \$5.9 billion loan arrangement under the Department of Energy's Advanced Technology Vehicles Manufacturing program to transform factories across Illinois, Kentucky, Michigan, Missouri and Ohio to produce thirteen more fuel efficient models. The company estimates the project will transform nearly 35,000 employees to green engineering and manufacturing jobs.

CARBON CAPTURE & STORAGE – 1 project totaling \$300,000

Developing clean coal technologies so we can utilize America's coal resources sustainably. For more information, visit <http://www.energy.gov/recovery/ccs.htm>.

Award(s): \$300,000, Geologic Sequestration Training and Research Grant Program

Location: Bowling Green

Western Kentucky University in Bowling Green received \$300,000 to fund educational programs in carbon capture and storage at universities, colleges and university-affiliated research institutions. The project is developing a series of advanced oxygen carriers for coal-fueled chemical looping combustion (CLC) that have a high oxygen-transfer capabilities, favorable reactivity, attrition-

resistance thermal stability in redox cycles. These carriers also achieve auto-thermal heat balance while providing a high purity of carbon dioxide. A CLC process model is being built to optimize the performance of the selected oxygen carriers. This project supports at least two graduate students during the research effort.

ENVIRONMENTAL CLEANUP – 1 project totaling \$78.8 million

Creating jobs and reducing the Cold War footprint of the Department of Energy and cleaning up the polluted land and water resources in communities. For more information, visit <http://www.energy.gov/recovery/cleanup.htm>.

Award(s): \$78.8 million, Paducah Recovery Act Project

Location: Paducah

Paducah Remediation Services, LLC, in Paducah received \$78.8 million to accelerate the complete demolition of three facilities at the Paducah Gaseous Diffusion Plant.

SCIENCE AND INNOVATION – 1 project totaling \$150,000

Renewing our commitment to science and innovation to ensure global competitiveness in the future. For more information, visit <http://www.energy.gov/recovery/innovation.htm>.

Award(s): \$150,000, Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Round 1

Location: Louisville

Vision Dynamics, LLC, in Louisville received \$150,000 to research green nanoscience pathways for optically transparent nanocomposites.

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Recovery Act Success Stories

Energy Empowers is a U.S. Department of Energy clean energy information service. Our team produces stories featuring the people and businesses that are fueling the energy transformation and economic recovery in America. For more stories from your state, go to energyempowers.gov/Kentucky



Montaplast North America, Inc. is replacing almost 1,200 halide lights with high-efficiency fluorescent fixtures at its Frankfort, Ky., facility. | Photo courtesy Montaplast

Recovery Act allows Kentucky manufacturing plants to save energy, cut costs, and retain jobs

In a challenging economy, many companies are forced to lay off workers to keep doors open. But officials from Kentucky's energy and economic offices have another idea: cut energy use—not staff—to save money.

"We want to keep our Kentucky-based plants competitive," says Greg Guess, director for efficiency and conservation for the state's Department for Energy Development and Independence (DEDI). "And a good way to do that is to keep their costs down."

To help achieve this goal, DEDI partnered with the Kentucky Cabinet for Economic Development to award four manufacturing companies up to \$300,000 each to replace old, inefficient lighting with more advanced energy-efficient options. The funds, totaling \$787,000, came from State Energy Program and were awarded through the American Recovery and Reinvestment Act.

Companies were selected in a competitive process that rated their ability to retain and create jobs, especially green jobs, and the amount of energy saved with the grant money invested.

Powering down to save

One of the companies chosen, Montaplast North America, Inc., which makes durable plastic parts for cars, is replacing 1,168 halide lights with high-efficiency fluorescent fixtures at its Frankfort, Ky., campus. The company used its \$280,500 award from the

Consider This

Saving \$90,000 a year by curbing energy use is about equal to the salaries of three operators at a typical manufacturing plant in the Bluegrass State, according to wages listed from the U.S. Bureau of Labor Statistics.

Recovery Act to help pay for the replacements.

Kevin Buehner, Montaplast's controller, says the facility will save about \$100,000 a year with the upgrades. By the end of this summer, the 650,000-square-foot facility and associated buildings will be illuminated with energy-efficient lights.

Saving energy puts money in the company's pockets, which keeps people employed. "In order to be competitive, you have to take your energy consumption seriously," says Buehner. Montaplast maintains a workforce of 750 employees and has created several green jobs to manage their sustainability goals.

"Our [company's] color is green," he says. "But we really do want to be green on the inside, as well as on the outside."

The lighting is just one component of Montaplast's efforts to reduce energy consumption. After an energy audit late last year that identified areas for improvement, the company limited the number of times equipment was powered up and down and monitored and reduced peak usage. Understanding that and making changes in equipment usage could save the company over \$1 million a year, according to Buehner.

The new light fixtures will reduce the company's carbon emissions by about 2,425,000 pounds.

"We want to be a responsible corporate partner in our community," says Buehner. "We really want to protect the environment where we live and work. And we hope other companies do as well."

Other companies to receive the award from Kentucky's energy and economic offices: Florida Tile, Inc., in Lawrenceburg, General Electric Co, Aviation Division in Madisonville, and Sekisui Specialty Chemicals America LLC in Calvert City.

Kentucky's loan program to reduce upfront costs of energy efficiency improvements

Kentucky's per capita electricity consumption is among the highest in the United States, likely a result of cheap energy costs fueled by a reliance on coal — a nonrenewable energy source. To help reduce Kentucky's energy appetite, the state set a goal of 25-percent energy reduction by 2025 and is using Recovery Act funding from the U.S. Department of Energy to improve the energy-efficiency of its buildings.

\$14 million in State Energy Program funds are being put use by establishing the Green Bank financing program. The program works by loaning money for energy-efficiency improvements to state organizations. That way, the barriers put in place by high upfront costs are removed. State entities' reduced energy usage will result in cost savings that will repay the loan. In fact, over the life of the Green Bank project, \$2.15 million in taxpayer money will be saved.

"The Green Bank of Kentucky enables state agencies to make improvements to their buildings while retaining jobs, saving energy and reducing harmful emissions," Gov. Steve Beshear said in a news release.

The Kentucky Department of Education was the first agency to receive a loan in December — \$1.3 million worth that will fund improvements at buildings such as the Future Farmers of America Leadership Training Center. The FFA received \$30,488 for its Hardinsburg center, where retrofits include lighting improvements, water conservation measures and vending machine controllers.

The controllers use infrared sensors to turn machines off during low-trafficked time periods without adversely affecting the products inside, saving about \$150 per vending machine per year, according to USA Technologies.

The students and staff of FFA are constantly pushing energy efficiency, and these measures help further their goals.

"The training center has an established resource-conserving policy," Tom Engstrom, director of the Division of Administrative Services for Kentucky's Department of Education, says. "The efforts of these energy-saving projects will be leveraged to encourage increasing thoughtful use and stewardship of resources."

The total annual energy savings for the FFA are projected at \$2,368 annually. The retrofits are already mostly in place, with total completion expected in April. These improvements not only save energy, but they also help the environment, put Kentuckians to work and set an example of energy conservation for students and citizens.