



# Department of Energy Recovery Act State Memos

## Wisconsin



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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# American Recovery and Reinvestment Act



## U.S. DEPARTMENT OF ENERGY • WISCONSIN RECOVERY ACT SNAPSHOT

Funding for selected DOE projects: \$313.9 million

DOE Recovery Act projects in Wisconsin: 70

Clean energy tax credits and grants: 24

For total Recovery Act jobs numbers in Wisconsin go to [www.recovery.gov](http://www.recovery.gov)

Wisconsin has substantial natural resources, including biomass 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 Wisconsin are supporting a broad range of clean energy projects from energy efficiency and the smart grid to alternative fuel vehicles. Through these investments, Wisconsin's businesses, non-profits, and local governments are creating quality jobs today and positioning Wisconsin to play an important role in the new energy economy of the future.

### EXAMPLES OF WISCONSIN FORMULA GRANTS

Program	State Energy Program	Weatherization Assistance Program	Energy Efficiency Conservation Block Grants	Energy Efficiency Appliance Rebate Program
Award (in millions)	\$55.5	\$141.5	\$38.5	\$5.4
	The Wisconsin Department of Administration has been granted \$55.5 million in State Energy Program funds to invest in state-level energy efficiency and renewable energy priorities.	The State of Wisconsin has been granted \$141.5 million in Weatherization Assistance Program funds to scale-up existing weatherization efforts in the state, creating jobs, reducing carbon emissions, and saving money for Wisconsin's low-income families. Over the course of the Recovery Act, Wisconsin expects to weatherize approximately 16,900 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.	Forty-three communities in Wisconsin were granted a total of \$38.5 million for Energy Efficiency and Conservation Block Grants (EECBG) to develop, promote, implement, and manage local energy efficiency programs.	The Wisconsin Department of Administration has been granted \$5.4 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 WISCONSIN COMPETITIVE GRANTS AND TAX CREDITS

Award	\$15 million	\$14.5 million	\$12.5 million	\$11.4 million	\$1.3 million
	<b>The State of Wisconsin</b> was awarded a <b>Clean Cities Alternative Fuel Vehicles (AFV) Grant</b> for <b>\$15 million</b> . The funds will be used to deploy 500 alternative fuel vehicles and install 10 alternative fueling sites, which will reduce the state's dependence on oil and limit carbon pollution.	<b>CleanTech Partners, Inc.</b> was awarded <b>\$14.5 million</b> to implement a portfolio of twenty-five sub-projects to install energy efficient equipment in facilities at nine different sites across the state. The project sites are located in Wauwatosa, Cabria, and Rothschild.	<b>Waukesha Electric Systems, Inc.</b> in Waukesha was awarded a <b>clean energy manufacturing tax credit</b> for <b>\$12.5 million</b> . The funds will be used to expand an existing plant to produce large, high-voltage power transformers.	<b>American Transmission Company LLC</b> was awarded a <b>Smart Grid Investment Grant</b> for <b>\$11.4 million</b> . The funds will be used to expand a fiber optic communications network across the state.	Wisconsin received <b>seventeen 1603 payments for renewable energy generation</b> totaling <b>\$1.3 million</b> , which include solar, wind, and biomass projects. For example, Senior Living Strategies LLC received \$447,900 for a solar energy project.

## 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 <sup>1</sup>	Number of Selections	Selected Amount (in millions) <sup>2</sup>
Energy Efficiency	<i>Weatherization Assistance Program (F)</i>	1	\$141.5
	<i>State Energy Program (F)</i>	1	\$55.5
	<i>Energy Efficiency and Conservation Block Grant (F)</i>	43	\$38.5
	<i>Energy Efficient Appliance Rebate (F)</i>	1	\$5.4
	<i>Industrial Energy Efficiency (CM)</i>	2	\$15.3
	<i>Additional Programs (CM &amp; C)</i>	4	\$1.5
	<b>TOTAL Energy Efficiency</b>	<b>52</b>	<b>\$257.7</b>
Renewable Energy	<i>Solar (CM)</i>	3	\$2.0
	<i>Wind (CM)</i>	1	\$0.4
	<i>Additional Programs (F &amp; CM)</i>	1	\$2.6
	<b>TOTAL Renewable Energy</b>	<b>5</b>	<b>\$5.0</b>
Electric Grid	<i>Smart Grid Investment and Demonstrations Project (CM)<sup>3</sup></i>	4	\$26.7
	<i>State and Local Energy Assurance and Regulatory Assistance (F)</i>	2	\$1.6
	<i>Smart Grid Workforce Training (CM)</i>	1	\$0.5
	<b>TOTAL Electric Grid</b>	<b>7</b>	<b>\$28.8</b>
Transportation	<i>Clean Cities Alternative Fuel and Vehicles Program (CM)</i>	1	\$15.0
	<b>TOTAL Transportation</b>	<b>1</b>	<b>\$15.0</b>
Science and Innovation	<i>National Laboratory Facilities (C)</i>	2	\$5.2
	<i>Additional Programs</i>	3	\$2.2
	<b>TOTAL Science and Innovation</b>	<b>5</b>	<b>\$7.4</b>
<b>TOTAL - DOE Programs<sup>4</sup></b>		<b>70</b>	<b>\$313.9</b>
Tax Credits/ Payments <sup>5</sup>	<i>Payments for Renewable Energy Generation in Lieu of Tax Credits (1603)</i>	17	\$1.3
	<i>Clean Energy Manufacturing Tax Credits (48C)</i>	7	\$19.3
	<b>TOTAL Tax Incentives</b>	<b>24</b>	<b>\$20.6</b>
<b>TOTAL - DOE/Treasury + DOE</b>		<b>94</b>	<b>\$334.5</b>
<sup>1</sup> F=Formula Grant, CM=Competitive Grant, C=Contract			
<sup>2</sup> " 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.			
<sup>3</sup> Projects may cross state boundaries, signifies HQ location.			
<sup>4</sup> Total does not include administrative funds.			
<sup>5</sup> Jointly administered by DOE and the U.S. Department of Treasury.			

## **ENERGY EFFICIENCY – 52 projects totaling \$257.7 million**

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*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): \$141.5 million, Weatherization Assistance Program (WAP)**

#### **Location: Statewide**

Wisconsin received \$141.5 million in Weatherization Assistance Program (WAP) funds to scale-up existing weatherization efforts in the state, creating jobs, reducing carbon emissions and saving money for Wisconsin's low-income families. Over the course of the Recovery Act, Wisconsin expects to weatherize approximately 16,900 homes. The program also includes workforce training and education as part of the state's efforts to develop a green workforce.

This project is augmenting the existing weatherization program to achieve the national industry-wide goal of one million homes per year through workforce education, increased maximum per home expenditure, raising of eligibility standard, increased funding for training programs and expansion into U.S. territories. The Wisconsin Weatherization Assistance Program (WisWAP) uses energy conservation techniques to reduce the cost of home energy. Correcting health and safety hazards and potentially life-threatening conditions is the first consideration in WAP activities.

### **Award(s): \$55.5 million, State Energy Program (SEP)**

#### **Location: Statewide**

The Wisconsin Department of Administration received \$55.5 million in State Energy Program (SEP) funds to invest in state-level energy efficiency and renewable energy priorities. This funding is being used to coordinate and expand state activities and policy developments in order to achieve the state and federal goals of lessening dependence on fossil fuels, increasing renewable energy generation and investing in clean energy manufacturing to retain and create jobs. As part of its energy efficiency efforts, the state is investing in new programs to help existing industrial facilities adopt more energy-efficient practices. Wisconsin is also working to strengthen its manufacturing sector by investing in businesses that manufacture clean energy products and components, such as wind, solar, biofuels and advanced electrical storage systems. The state will invest in these advanced manufacturing areas and assist companies in retooling facilities or equipment to provide component parts and other necessities for renewable energy systems and energy-efficient technologies.

### **Award(s): 43 totaling \$38.5 million, Energy Efficiency and Conservation Block Grant Program (EECBG)**

#### **Location: Statewide**

**Recipients:** Wisconsin State Energy Office, City of Milwaukee, City of Madison, County of Dane, County of Waukesha, Green Bay, Kenosha, Racine, Milwaukee County, Appleton, Waukesha, Eau Claire, Oshkosh, Janesville, Brown County, West Allis, La Crosse, Washington County, Outagamie County, Racine County, Walworth County, Winnebago County, Ho-Chunk Nation of Wisconsin Tribe, Marathon County, Oneida Tribe of Indians of Wisconsin, Wauwatosa, Sheboygan, Brookfield, Fond du Lac, Wausau, New Berlin, Beloit, Greenfield, Franklin, Menominee Indian Tribe of Wisconsin, Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin, Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin, Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation, Red Cliff Band of Lake

Superior Chippewa Indians of Wisconsin, Forest County Potawatomi Community, Stockbridge Munsee Community, St Croix Chippewa Indians, Sokaogon Chippewa Community

Forty-three communities in Wisconsin received a total of \$38.5 million for the Energy Efficiency and Conservation Block Grants Program (EECBG) to develop, promote, implement and manage local energy efficiency programs.

Wisconsin is using Recovery Act EECBG funding to improve energy efficiency and promote the use of renewable energy across the state's economic sectors. These projects will lead to substantial energy and cost savings, as well as creating and retaining jobs statewide. Local governments were selected through a competitive process, which favored highly-leveraged projects and regional collaboration. As part of the recipient selection process, the state developed information and application materials, conducted workshops explaining the program and application process, and used teams with appropriate expertise to review and select applications. Funds are primarily being used to provide energy efficiency retrofits, energy efficiency and conservation programs for buildings and facilities and installing energy efficient lighting. Funds are also being used to develop outreach and education efforts to the general public. Examples of EECBGs include:

- **City of Green Bay - \$1 million**

Green Bay is directing its EECBG funding to a comprehensive energy audit of municipal buildings and fleet vehicles (\$60,000), improvements to buildings and vehicles (\$692,700), a Sustainability Coordinator position (\$100,300) and a Home Energy Audit Rebate Program (\$150,000). The city's Home Energy Audit Program provides a \$100 rebate to homeowner's who complete a home energy audit and an additional \$100 rebate for the audit if the homeowner makes three of the recommendations in the audit report. This program, combined with a state audit incentive program, will make most home audits free in the City of Green Bay. It is anticipated that this home audit program will assist nearly 1,000 homeowners and leverage over \$1.1 million in privately funded improvements to area homes. Overall, these activities are estimated to reduce energy costs by \$2 million, electricity use by 70 million kWh and GHG emissions by 1,283 tons.

- **City of Waukesha - \$657,000**

Waukesha is replacing approximately 1,000 existing 150-watt high-pressure-sodium streetlights with LED streetlights. The city is replacing only city-owned streetlights in Waukesha, not those owned by Wisconsin Electric Power Company (We Energy). Streetlights currently cost the city of Waukesha over \$500,000 annually. The city expects immediate electricity cost savings of at least 40 percent by switching to LED streetlights.

**Award(s): \$5.4 million, Energy Efficient Appliance Rebate Programs**

**Location: Statewide**

The Wisconsin Department of Administration received \$5.4 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.

This project provides federal support for state-level rebate programs for residential ENERGY STAR appliance purchases by paying up to 50 percent of the administration costs of establishing and executing the rebate program. Though states and territories determine which appliances may apply,



covered appliances typically include clothes washers, dishwashers, refrigerators, freezers, room air conditioners and water heaters.

**Award(s): \$14.5 million, Combined Heat and Power (CHP), District Energy Systems, Waste Heat Recovery Implementation and Deployment of Efficient Industrial Equipment**

**Location: Wauwatosa, Cabria, Rothschild**

This project is implementing a portfolio of 25 sub-projects to install energy efficient equipment in facilities at nine different sites across the state. The companies used include a diverse cross-section of Wisconsin's industrial sector, including pulp and paper mills, printing, corn milling, plumbing and small engine manufacturing. The project will save an estimated 1.21 trillion Btu annually, increasing overall energy efficiency by 45 percent.

**Award(s): \$895,000, Industrial Assessment Centers and Plant Best Practices**

**Location: Madison**

Wisconsin is engaging committed partners to complete Energy Savings Assessments and provide follow-up project implementation assistance. The expanded program is also conducting Save Energy Now training events and outreach, providing American National Standards Institute pilots at Wisconsin industrial facilities, increasing industrial project energy savings by implementing recommendations from the assessments and promoting new, emerging technologies through demonstrations and case studies.

**Award(s): 3 totaling \$1.5 million, Ground Source Heat Pumps**

**Location: Appleton, Milwaukee, Madison**

- **RiverHeath, LLC, Appleton - \$978,000**

Riverheath, LLC, in Appleton received \$978,000 to research river-based heat exchange plates that use flowing water to provide high heat transfer.

- **Johnson Controls, Inc., Milwaukee - \$311,000**

Johnson Controls, Inc., in Milwaukee received \$311,000 to install GHP heating / cooling systems at its LEED Platinum Certified headquarters facility. The project will incorporate a real-time and publically accessible energy savings calculator. This project will greatly increase GHP public awareness.

- **Energy Center of Wisconsin, Madison - \$190,000**

The Energy Center of Wisconsin in Madison received \$190,000 to gather and analyze data develop design tools for hybrid GHP systems. The project will encourage widespread adoption of GHPs in the US.

**Award(s): \$27,000, Enhance and Accelerate FEMP Service Functions to the Federal Government**

**Location: Madison**

Energy Management Engineering, Inc., in Madison received \$27,000 to provide technical assistance for federal agencies.

## RENEWABLE ENERGY – 29 projects totaling \$25.6 million

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*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): 17 payments totaling \$1.3 million from DOE / Treasury, 1603 Payments for Renewable Energy Generation**

**Location: Statewide**

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

- **Senior Living Strategies, LLC, Racine - \$448,000**  
Senior Living Strategies, LLC, in Racine received \$448,000 for a solar electricity project.
- **Volm Farms, Kewaskum - \$410,000**  
Volm Farms in Kewaskum received \$410,000 for a biomass project.
- **Quantum Dairy, LLC, Weyauwega - \$117,000**  
Quantum Dairy, LLC, in Weyauwega received \$117,000 for a biomass project.
- **Central Waters Brewing Company, Inc., Amherst - \$32,000**  
Central Waters Brewing Company, Inc., in Amherst received \$32,000 for a solar thermal project.
- **Doug Klein, North Freedom - \$29,000**  
Doug Klein in North Freedom received \$29,000 for a solar electricity project.
- **Osborn Landscaping, Delavan - \$27,000**  
Osborn Landscaping in Delavan received \$27,000 for a solar electricity project.
- **DJF Enterprises, LLC, Janesville - \$23,000**  
DJF Enterprises, LLC, in Janesville received \$23,000 for a solar electricity project.
- **Midwest Prairies, LLC, Milton - \$23,000**  
Midwest Prairies, LLC, in Milton received \$23,000 for a solar electricity project.
- **Retgen Solar, LLC, North Freedom - \$22,000**  
Retgen Solar, LLC, in North Freedom received \$22,000 for a solar electricity project.
- **Billy Bob, LLC, Waupaca - \$20,000**  
Billy Bob, LLC, in Waupaca received \$20,000 for a solar electricity project.
- **BrewFarm Enterprises, LLC, Wilson - \$20,000**  
BrewFarm Enterprises, LLC, in Wilson received \$20,000 for a small wind project.
- **Main Street Marketplace, Inc., Waupaca - \$16,000**  
Main Street Marketplace, Inc., in Waupaca received \$16,000 for a solar electricity project.

- **Engerman Construction, Lake Geneva - \$14,000**  
Engerman Construction in Lake Geneva received \$14,000 for a solar electricity project.
- **Lightning Ridge Solar, LLC, Rock Springs - \$14,000**  
Lightning Ridge Solar, LLC, in Rock Springs received \$14,000 for a solar electricity project.
- **Mesmer Solar, LLC, Baraboo - \$13,000**  
Mesmer Solar, LLC, in Baraboo received \$13,000 for a solar electricity project.
- **Freedom Solar, LLC, North Freedom - \$13,000**  
Freedom Solar, LLC, in North Freedom received \$13,000 for a solar electricity project.
- **Sweet Medicine Prescriptions Plus, Inc., Lola - \$12,000**  
Sweet Medicine Prescriptions Plus, Inc., in Lola received \$12,000 for a solar electricity project.

**Award(s): 7 totaling \$19.3 million from DOE / Treasury, Clean Energy Manufacturing Tax Credit (48C)**

**Location: Statewide**

- **Waukesha Electric Systems, Inc., Waukesha - \$12.5 million**  
Waukesha Electric Systems, Inc., in Waukesha received \$12.5 million to expand an existing plant to produce large, high-voltage power transformers. The company anticipates that more than 80 percent of the power transformers will be used to bring renewable energy to distant load centers and to replace aging, less efficient transformers.
- **CalStar Products, Caledonia - \$2.4 million**  
CalStar Products in Caledonia received \$2.4 million to manufacture bricks and pavers from coal power plant fly ash. The process uses 88 percent less energy than traditional "fired" clay products, avoids the carbon dioxide emissions associated with concrete and makes beneficial use of fly ash.
- **Ingeteam, Inc., Milwaukee - \$1.7 million**  
Ingeteam, Inc., in Milwaukee received \$1.7 million to manufacture wind turbine generators in various technologies, including PMG, DFM and xDFM. They will also manufacture power converter and control systems for both the wind and solar industry.
- **Wausaukee Composites, Inc., Wausaukee - \$931,000**  
Wausaukee Electric Systems, Inc., in Wausaukee received \$931,000 to manufacture fiberglass wind turbine components.
- **Bassett, Inc. (dba Bassett Mechanical), Kaukauna - \$869,000**  
Bassett, Inc. (dba Bassett Mechanical), in Kaukauna received \$869,000 to manufacture wind turbine towers (for 100-1,000 KW turbines) and foundation components for all sizes of turbines.
- **Cooper Power Systems, LLC, Waukesha - \$846,000**

Cooper Power Systems, LLC, in Waukesha received \$846,000 to produce high-efficiency transformers. The basis of Cooper's high efficiency technology lies with the higher grade of steel used to produce the core and coil of the transformer. Cooper utilizes the proper grade and quantity of silicon grain oriented steel in their manufacturing process to create a higher efficiency product.

- **Bassett, Inc. (dba Bassett Mechanical), Kaukauna - \$75,000**

Bassett, Inc., in Kaukauna received \$75,000 to manufacture Carbon Capture and Sequestration systems to extract / trap carbon from waste streams at coal fired power plants.

**Award(s): \$2.6 million, Community Renewable Energy Deployment**

**Location: Crandon**

The Forest County Potawatomi Tribe received \$2.6 million for various renewable energy projects, including biomass, solar and wind.

**Award(s): 3 totaling \$2 million, High-Penetration Solar Deployment**

**Location: Custer, Milwaukee, Madison**

- **Midwest Renewable Energy Association, Custer - \$925,000**

The Midwest Renewable Energy Association (MREA) in Custer received \$925,000 to provide instructor development opportunities, as well as organize a network of instructors, installers, engineers, administrators and other industry stakeholders to create and share resources.

- **City Of Milwaukee - \$661,000**

The City of Milwaukee received \$661,000 to create a council to educate and enable local water technology manufacturers to shift into the growing solar industry, leading to the creation of a solar manufacturing cluster in the region. Milwaukee is installing large-scale commercial and small-scale residential solar water heating demonstration projects. This project will develop a 'best practices' manual for solar water heating in northern climates. The city is establishing a long term financing mechanism such as a revolving loan fund to help consumers offset the high initial cost of solar installation. Milwaukee is also facilitating a learning competition between two rival high schools involving installation of a PV and solar water heating system on each school. The project will train students in assessing, financing and installing solar systems, in addition to educating the community at large.

- **City of Madison - \$431,000**

The City of Madison received \$431,000 to develop a financing strategy that allows residents and businesses to take an ownership share in solar projects located on city property, enabling a greater portion of the community to invest in local solar energy generation. Madison is delivering customized assessments and economic analyses to businesses and business groups that are well-positioned to invest in solar energy systems. The city is developing a solar business and educational hub based on the Solar Info Center of Freiburg, Germany, intended to support the rapid and sustained deployment of solar in the Midwest.

**Award(s): \$402,000, Wind Energy Technology R&D and Testing**

**Location: Milwaukee**

The University of Wisconsin in Milwaukee received \$402,000 to research lithium-ion ultracapacitors integrated with wind turbine power conversion systems to extend operating life and improve output power quality.

**MODERNIZING THE ELECTRIC GRID – 7 projects totaling \$28.8 million**

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*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): \$716,000, Enhancing State and Local Governments' Energy Assurance**

**Location: Statewide**

The State of Wisconsin received \$716,000 for State Energy Assurance Planning. This project focuses on building regional energy assurance capability by enhancing inter- and intra- state coordination and cooperation during energy emergencies. The project funds states to update or develop State Energy Assurance Plans incorporating new energy portfolios such as wind, renewables and biofuels. The project also funds cities to update or develop Local Energy Assurance Plans. The two sets of funding are used to hire or retrain staff to build in-house expertise in dealing with Smart Grid technologies, critical energy infrastructure interdependencies and cyber-security.

**Award(s): 3 totaling \$15.9 million, Smart Grid Investment Grant Program (EISA 1306)**

**Location: Statewide**

- **American Transmission Company, LLC, Statewide - \$11.4 million**  
American Transmission Company, LLC, received \$11.4 million for an Enhanced SCADA and PMU Communications Backbone, as well as an expansion of fiber optic communications network to enhance digital communications capability for supporting grid operations.
- **Wisconsin Power and Light Company, Statewide - \$3.2 million**  
Wisconsin Power and Light Company received \$3.2 million to build on deployed AMI by implementing a power factor management system to minimize overload in distribution lines, transformers and feeder segments and reduce distribution waste and unnecessary power generation.
- **American Transmission Company, LLC, Statewide - \$1.3 million**  
American Transmission Company, LLC, received \$1.3 million to expand installation and use of Phasor Measurement Units as well as supporting equipment at key locations within the ATC transmission grid.

**Award(s): \$10.8 million, Smart Grid Regional and Energy Storage Demonstration Project (EISA 1304)**

**Location: Statewide**

Waukesha Electric Systems received \$10.8 million to demonstrate, in a utility substation, a Smart Grid compatible Fault Current Limiting Superconducting Transformer by the end of 2012. The proposed 28MVA Utility Transformer will occupy approximately 50 percent of the physical size and weight of a

conventional transformer, lower power consumption through reduction of losses and increase the reliability of the nation's grid.

**Award(s): \$526,000, Smart Grid Workforce Investment Grants**

**Location: Green Bay**

Northeast Wisconsin Technical College in Green Bay received \$526,000 to fund the Generation Power Skills Training Development Initiative, which aims to develop and enhance regional training programs for the emerging Smart Grid workforce. Training programs will incorporate industry-identified "core skills" and utilize multiple delivery methods to accommodate the diverse needs of the learners (e.g., incumbent workers, unemployed, traditional students). The project addresses the emerging demand for middle-skilled Smart Grid workers in northeast Wisconsin.

**Award(s): \$893,000, State Assistance on Electricity Policies**

**Location: Statewide**

The Public Service Commission of Wisconsin received \$893,000 to assist in addressing its Recovery Act electricity workload by hiring staff trained to facilitate the review of time-sensitive requests approving electric utility expenditures.

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## **TRANSPORTATION – 1 project totaling \$15 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): \$15 million, Clean Cities Alternative Fuel and Vehicles (AFV) Grant Program**

**Location: Madison**

The State of Wisconsin received \$15 million to deploy 502 Alternative Fuel Vehicles by 119 public and private fleets, as well as install ten alternative-fuel fueling sites throughout the state.

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## **SCIENCE AND INNOVATION – 5 projects totaling \$7.4 million**

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): \$1.1 million, Advanced Networking Initiative**

**Location: Madison**

The University of Wisconsin System received \$1.1 million for the deployment of a demonstration prototype national network and to conduct research and development on an advanced network test-bed facility that, if successful, will significantly accelerate the commercialization of 100 Gigabit per second (Gbps) networking technologies.

**Award(s): \$4.1 million, Bioenergy Research Center Capital Equipment**

**Location: Madison**

The University of Wisconsin System received \$4.1 million for the Great Lakes Bioenergy Research Center (GLBRC). The funds will be used to establish a plant cell wall fingerprinting NMR core facility, intra-center communication and visualization infrastructure.

**Award(s): 2 totaling \$1.7 million, Computational Partnerships (SciDAC-e)**

**Location: Madison**

The University of Wisconsin System received two awards totaling \$1.7 million for a one-time stimulus of research efforts in applied mathematics and computer science to establish the computational foundation and insight needed to advance the department's mission across a wide range of areas. Studies are being executed in developing novel, renewable and / or ecologically friendly energy sources and Smart Grids.

- **University of Wisconsin, Madison - \$1.1 million**

The University of Wisconsin in Madison received \$1.1 million for Computational Partnerships. Funds will be used for researchers to participate in developing real-time robust control algorithms to avert catastrophic power grid cascading failures.

- **University of Wisconsin, Madison - \$597,000**

The University of Wisconsin in Madison received \$597,000 for Computational Partnerships. Funds will be used for researchers to participate in developing new optimization algorithms for electric power systems in an interdisciplinary setting drawing upon the skills of applied mathematicians and power engineering experts.

**Award(s): \$543,000, Plasma Science Centers**

**Location: Madison**

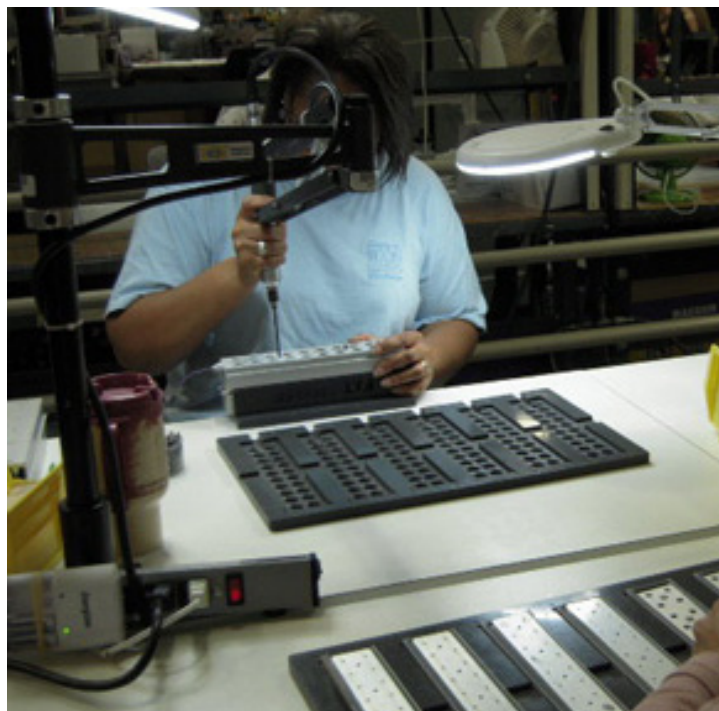
The University of Wisconsin in Madison received \$543,000 to fund research cooperative agreements for Plasma Science Centers and accelerate the advancement of understanding in plasma science.



ENERGYEMPOWERS.GOV

# 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/Wisconsin](http://energyempowers.gov/Wisconsin)



Workers build LED lights at BetaLED. | Photo courtesy of BetaLED

RACINE

## Wisconsin LED plant benefits from Recovery Act

Workers at BetaLED, a manufacturing company, are busy filling orders for American cities seeking to brighten their communities with energy efficient lights.

BetaLED, a division of Ruud Lighting, Inc., is seeing a healthy boost in business as cities tap into their Recovery Act funds to purchase light-emitting diode (LED) fixtures for its roadways, parking lots, and buildings. Thousands of lights in cities such as San Jose, Calif., Scottsdale, Ariz., and Anchorage, Alaska, have already been replaced with BetaLED energy-efficient fixtures.

*"It's a win for everyone: the environment, the cities, buildings, for us," says Gianna O'Keefe, marketing manager for Ruud Lighting.*

The cities' decision to switch to LED lighting isn't surprising to Alan Ruud, CEO and chairman of the company. They emit more light, have a longer life rating than incandescent or high-pressure sodium lights, and provide anywhere from 50 to 70 percent in energy savings, he says.

"I don't know why anyone would use anything but LED," Alan says. "It can perform much better with half the energy."

BetaLED is providing jobs for Racine's community. Their facility, which produced hundreds of thousands of LED products last year, employs about 600 people, and for every job in the plant, eight to 10 more are created outside the company, Alan says. Staff at the facility

design, engineer, and assemble the lights; the remaining work is subcontracted out to domestic partners.

BetaLED has been supplying energy-efficient lighting to clients around the world since 2001. The company got into the business when LEDs were capable of just 8 lumens per watt (LPW). That number jumped up to 40 LPW in 2006. Today, BetaLED has products that have luminous efficacy of 100+ LPW.

Their investment in the technology over the last 10 years has paid off. Since its inception, the company has seen a steady increase in sales, and it has hired more workers since last year.

They're also preparing for the future. Ruud is building a new manufacturing plant in Italy, and the company now invests all of their research and development in LED technology.

Alan and Gianna expect more business to come their way as funds are officially allotted to lighting projects through the United States. "We're all dressed and ready to go," Alan says.

KAUKAUNA

## Bassett Mechanical explores mid-size wind market

About five years ago, Wisconsin's Bassett Mechanical began branching into renewable energy. The nearly 75-year-old company started producing components used to anchor the towers of wind turbines to their foundations. Since then, they've supplied these components for about 1,500 wind turbines.

Bassett recently received a 48C tax credit and as a result plans to further expand into wind tower manufacturing and carbon capture and storage markets.

Bassett concentrates in three primary areas—construction, fabrication (manufacturing) and service. The company designs and manufactures large mechanical systems including industrial refrigeration, heating, ventilation and air conditioning, and industrial ventilation systems. For example, Bassett creates and designs the systems that allow companies to make frozen pizzas and other frozen foods for commercial sale.

Bassett will use the 48C tax credit primarily to enter the mid-size wind turbine component market, producing products that are increasingly attractive to college campuses and municipalities looking to supplement power or offset energy costs, says vice president of marketing and business development Chris Linn.

Bassett will use part of the 48C tax credit to invest in capital equipment to manufacture wind turbine tower components. The equipment will help expedite production and permit easier handling of the heavy tower components.

Kim Bassett-Heitzmann, president and CEO at Bassett, believes that a big part of Bassett's future growth will come from the green economy. "Our workforce hasn't changed – that is, the skills and expertise we offer hasn't changed, what's changed is the content of our jobs and the markets we're serving," says Kim. "It's just a prime example of taking what you're good at now -- designing and building things -- and applying it to what the marketplace needs and wants for the future."





Bassett employees work on embedment (anchor) rings for the wind turbine foundations. Bassett just received a 48C tax credit to invest in capital equipment for wind turbine tower manufacturing. Photo courtesy Bassett Mechanical

If all goes according to plan, Bassett hopes to purchase its first batch of equipment as early as this year. When equipment is purchased, Chris expects to see Bassett's workforce increase. "We'll need to add people to manufacture the towers and run this equipment," says Chris.

In addition to these projects, Bassett has also been doing a lot of energy conservation projects in their HVAC sector. The company helps clients save on energy by maintaining and upgrading equipment to run more efficiently and install new control systems to operate systems at an optimal level.

#### MILWAUKEE

### Solar swap energizes Milwaukee students

Some students in Wisconsin are using a now-legendary story, Recovery Act funding, a local rivalry and the know-how of some dedicated energy professionals to learn about the clean energy sector and produce renewable energy at their schools.

#### Sportsmanship sparks an idea

When Vipin Gupta, Tiger Team project lead at the U.S. Department of Energy's Sandia National Laboratories in Albuquerque, N.M., first heard the story of the James Madison Academic Campus Knights basketball team facing its archrival, the DeKalb (Ill.) High School Barbs, he was impressed with the sportsmanship shown by the Barbs during the game last year.

The Knights' captain had lost his mother to cancer only hours earlier, yet the young man marched onto the court after halftime, ready to play. This emotional moment quickly became controversial — the referees had determined that the player's entrance into the game

would result in a technical foul because he had not been included on the active roster for the night. DeKalb's coach declined the penalty, but rules are rules, the refs contested. That's when the Barbs' free-throw shooter intentionally missed his next shots and roused a standing ovation from the crowd.

Such a display of sportsmanship in the heat of a bitter rivalry showed Vipin that students can compete and still have fun while doing something nice for one another. This sparked an idea.

"We have a vision of helping every school across the country install solar energy systems to make the technology mainstream, and this story inspired us," Vipin says. "We thought, wow, what if we take advantage of friendly high school rivalries to help solar get adopted?"

#### Getting on board

Vipin's idea was to pit JMAC's students against a rival high school by asking students at both schools to design solar arrays and solar hot water heater systems for each other's buildings. Vipin shared his idea with the principal of JMAC and with Andrea Luecke, project manager of Solar America Cities' Milwaukee Shines program. JMAC science teacher Patrick Tao was also consulted, and he's been enthusiastic ever since, helping arrange the challenge with nearby Bay View High School. He started teaching students about solar power in his chemistry class, and now the project has evolved into an afterschool program where students get practice running their own solar company.

"We work at the conceptual level and especially at the analytical and technical levels, where we derive equations that describe energy usage, system efficiency and energy absorption," Patrick says. "We're trying to use these ideas to build and innovate better tools for the solar industry."

The DOE's technical assistance Tiger Team supplies Patrick — and his counterpart at BVHS — with the technical material and course training necessary to make sure students are getting the most out of learning about photovoltaic installation and solar hot water systems. Those resources, along with a technical helpline and periodic visits, should provide the students and teachers with many of the tools needed to help them successfully complete the challenge.

#### Enriching students' lives

Patrick explains that JMAC, a high school in an urban area, is one of a handful of schools in the Milwaukee Public School system that has been identified as being in need of academic improvements. The students may have a lot to overcome, but there is reason to be hopeful. Under the guidance of their current principal, JMAC staff and students have made considerable improvements in classroom engagement and curriculum alignment and rigor.

The Solar School Swap project is another vehicle by which the educational atmosphere is improving. Over the past year, the project has become a student-driven company, JMAC Innovations, made up of a core group of 10 highly motivated students who promote renewable energy education and work to create technology and tools for the industry.

"Those who have stuck with it have tremendous respect for themselves as students, they have more confidence, they behave better and perform better in classes," he says. "They enjoy what we're doing here, and they can't wait to come to our meetings — they know important people are paying attention to them, and it's making them perform better."