The U.S. State Energy Program in Review:
An Update from the 56 State and Territory Energy Offices

2012

National Association of State Energy Officials
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ALABAMA

Energy Division, Department of Economic and Community Affairs

The Energy Division of the Alabama Department of Economic and Community Affairs (ADECA) administers numerous programs and grant opportunities designed to increase energy-efficiency, reduce energy consumption, and promote market acceptance and deployment of energy-efficiency and renewable-energy technologies throughout the state. The Energy Division utilizes U.S. State Energy Program (SEP) funds to achieve these goals while at the same time addressing the state's energy priorities.

The AlabamaSAVES (Sustainable and Verifiable Energy Savings) loan program was launched in 2011 by ADECA using SEP funds. Administered by a third-party, the revolving loan fund is successfully leveraging additional private capital to provide a sustainable source of financing for energy projects in the industrial and commercial sector.

To date, five loans have been executed with the first loan going to a Roanoke yarn plant to install high-efficiency equipment in its manufacturing facilities. The new equipment, used to heat and set yarn into carpets and rugs, is expected to increase the plant's production capability while cutting utility costs by 15 percent.

Another loan is funding improvements in an Alabama-based paper company's headquarters and sawmill operations. The upgrades, identified by an independent energy audit, are expected to cut utility costs by 25 percent in the headquarters building and by 12 percent at the sawmill. The company has six years to repay the two-percent interest rate loan. The energy savings generated by the improvements are greater than the loan repayments, creating a positive cash-flow that will help the company remain competitive.

SEP funds are also being used to support the purchase and installation of energy efficient equipment in Alabama K-12 schools. The energy improvements, including HVAC systems, lighting retrofits, insulations, window and energy management controls, have been implemented in 118 schools and have generated cost-savings exceeding $1 million a year. The Alabama Institute for Deaf and Blind retrofitted over 4,000 light fixtures in 32 buildings across its Talladega campus. The lighting project is projected to save the school more than $22,000 a year in energy expenditures. The Talladega County Board of Education replaced 31 HVAC units in 17 schools with SEP grant funding. The new efficient units are saving the district more than $75,000 annually. Winston County Board of Education replaced 14 HVAC units in two of its schools with new efficient units which are saving the school over 20 percent on electricity costs a year.

The State Building Energy Retrofit Program is funding energy efficiency retrofits in Alabama Department of Corrections facilities. The energy measures were identified through energy audits and are using SEP funds to leverage additional capital as part of long-term, lease purchase financing with two Energy Service Companies. More than 200 energy projects have been funded in 32 correctional facilities statewide. Nearly 75 percent complete, this project will result in more than $1.6 million in annual energy cost savings once all retrofits are completed in early 2012.

ADECA's Automotive Industrial Efficiency Program is assisting 32 Alabama automotive supply-chain companies reduce their energy consumption. Since 2010, SEP funds have supported 40 implementation events that resulted in annual energy savings of $1,073,744 from energy retrofit measures that are saving automotive suppliers 14.4 megawatt-hours of electricity each year.

www.adeca.alabama.gov

ALASKA

Alaska Housing Finance Corporation/Alaska Energy Authority

Alaska Housing Finance Corporation (AHFC) is designated as the State Energy Office for Alaska, and is the recipient of U.S. Department of Energy State Energy Program (SEP) funding. AHFC works closely with Alaska Energy Authority (AEA), the Alaska Department of Transportation and Public Facilities, and other contractors to offer a variety of energy efficiency programs. SEP funding is targeting energy efficiency retrofits in schools, state and local buildings, as well as commercial buildings.

The Alaska Housing Finance Corporation established the $250 million Alaska Energy Efficiency Revolving Loan Fund (AEERLF) in 2010. The fund is available to finance energy efficiency improvements on public facilities throughout the state. SEP funds were used to collect benchmarking data on about 1200 public facilities, plus approximately an additional 100 University and state owned facilities, in order to identify high energy using buildings. Buildings with a high Energy Use Index are then provided with an Investment Grade Audit, which is required to obtain a loan under AEERLF. The retrofit project's debt service is paid entirely through the energy cost savings realized from the energy efficiency improvements. A total of about 350 audits are planned statewide and will be completed by March 31, 2012. The audits have identified energy efficiency deficiencies in a broad spectrum of areas including building operations, lack of controls, malfunctioning equipment, HVAC systems nearing the end of useful life expectancy, and building envelope inadequacy.

The SEP funding provided means to improve and further develop the Alaska Retrofit Information System (ARIS). This extensive database contains over 60,000 residential records of energy audits, using data collected by the AKWarm energy modeling software developed by AHFC, plus census data, zip+4, and other records. Additionally, ARIS contains benchmark data from nearly 1300 public facility buildings, and will be the repository for the ~350 Investment Grade Audits on public facilities. All state facilities are now required to track energy use using ARIS. State departments can identify the high energy using buildings and target them for future retrofit work.

The AEA administers the Village Energy Efficiency Program (VEEP) that has been growing in Alaska. SEP provided an opportunity to allow service providers to tackle difficult projects in each community providing longer term savings. These projects in the past had included very limited scope, generally lighting. VEEP now includes weatherization for buildings in desperate need of upgrades. This program visited 21 communities in 2010-2012. Combined with state funds, three Whole Village Retrofit (WVR) sites were selected and implemented in 2011. Previous years funding reflect simple payback is an average of 2.93 years. This program is intended to continue with the state matching federal SEP funds. Strong results from this program are expected to be published in the spring of 2012.

In 2007, Alaska had roughly 35 residential energy raters and a small handful of Certified Energy Auditors (CEA) for commercial buildings. Today, there are 81 active energy raters and 57 CEA/CEM's. There is a strong interest from the commercial and public facilities sector to understand how their buildings use energy and the potential for retrofits to save money. Through

education and training the residential, commercial and public facility communities in Alaskans now have a greater understanding of how buildings operate in an energy efficient manner.

www.ahfc.us/energy/energy
www.akenergyauthority.org

AMERICAN SAMOA

Territorial Energy Office, American Samoa Government

The American Samoa Territorial Energy Office (TEO) is working to attract and grow clean and green companies, enhance the environment, protect resources, and generate clean energy for residents. The TEO's long-term goals are to reduce energy costs and dependence on imported fossil fuel. To achieve these goals, the TEO operates public awareness programs and provides incentives for energy efficiency practices and renewable energy development and installations. The primary funding for these efforts comes from the U.S. State Energy Program (SEP).

Since 2010, the TEO has implemented four major renewable energy programs with SEP funding. A distributed photovoltaic program for public and private buildings, a large-scale utility-intertie solar project, a solar water heating project on the island's only Medical Center, and a 750 kilowatt (kW) Co-Generation system.

The Distributed Photovoltaic Program has resulted in 41 solar electric system installations on public and private buildings. The solar projects have a generating capacity of 750 kilowatts (kW) and are reducing America Samoa's reliance on burning No. 2 diesel oil for power generation by nearly 17 million gallons a year. The systems are producing nearly 1.3 million kilowatt-hours (kWh) of electricity. With electricity costs for utility power currently averaging 48 cents per kWh, these projects together are saving the public and private sector more than $615,000 a year. Projects average 17.4 kW in size and include 10 school installations, 19 government buildings, 12 commercial buildings and two non-profit organization buildings.

The government and school projects received 100 percent of the installation costs from the SEP grant. The American Samoa Community College, with 2198 full-time students, used the grant to install two arrays, each 35 kW. The arrays were commissioned in March, 2011, and through the first ten months of operation the solar output had saved the college more than $45,000 in energy costs. The clean energy produced during the first ten months, 95,374 kWh, was approximately 25 percent of the school's utility bill. In addition to the energy and cost savings, the project had environmental attributes as well, with 147,185 lbs of CO2 avoided.

Private sector projects required a 15 percent match and included installations on an ACE Hardware, the local Ford dealership, a food and beverage importer, fast food restaurant, and the local telecommunication company. The Samoa Ford's solar array produced 47,888 kWh of clean energy in 2011. The cost savings to the dealership exceeded $20,000 last year, and will amount to more than $500,000 over the system's 25 year-life. ACE Hardware's 28 kW array is saving the store on average $1900 a month in energy costs.

The large-scale utility-intertie project is currently under construction. The 1.8 -megawatt solar farm will produce an estimated 3 gigawatt-hours a year. The system is connected to the Tafuna Power Station and will reduce the plant's diesel-fuel consumption by more than 40 million gallons a year.

A third major SEP-funded solar project is at the LBJ Tropical Medical Center. The LBJ Tropical Medical Center, a 128-bed general acute care hospital, is the only hospital in the territory. The solar water heating project is producing 3,000 gallons of hot water a day for the hospital's needs.

In addition to the solar projects, the TEO is also using SEP funds to install a 750 kW co-generation system. The American Samoa Power Authority has two diesel-fueled generating plants, both of which feed electricity into the grid. The generators convert approximately 42 percent of the energy from the Number 2 Diesel Oil to electricity, and the remainder is rejected to the environment as heat. The co-gen project will attach to the diesel generators and capture exhaust fumes and heat which will turn turbines to create electricity that will be fed back into the grid.

www.asgteo.com

ARIZONA

Governor's Office of Energy Policy

The Governor's Office of Energy Policy (GOEP) through the U.S. Department of Energy State Energy Program (SEP) strives to lead Arizona to a clean and reliable energy future by promoting policies and initiatives that strengthen the economy, better the environment and ensure lasting energy security. Using SEP, GOEP offers grants, training and technical assistance to state agencies, local governments, school districts, and consumers to increase the use of energy efficient equipment and renewable energy systems.

SEP funds are supporting energy efficiency improvements in 33 school districts statewide. The School Energy Efficiency Program, administered in conjunction with the Arizona School Facility Board, provided grants covering up to 30 percent of a project's cost with the school district responsible for the remaining 70 percent either through an energy performance contract or using bond funds. Under the program, Higley Unified School District funded lighting, controls and HVAC upgrades in four schools. The energy measures are saving the school $153,855 annually, or nearly 30 percent on its utility bill. The energy savings will pay the school's share of their energy performance contract in seven years.

The Agricultural Renewable Energy Conversion Incentive Program, also supported by SEP matching funds, assists farmers and ranchers to convert fossil-fueled agricultural production systems to renewable energy power. Forty-one farms and ranches received matching funds for 51 renewable energy projects that included livestock watering systems, crop irrigation systems, and agricultural headquarters power systems. Together, the 51 projects funded through the SEP grant program are projected to save farmers and ranchers more than $300,000 each year. These projects typically have payback periods under five years, and some as low as two years. The projects are also saving over 30,000 gallons of gasoline, 37,242 gallons of diesel, 9,820 gallons of propane and producing 217,350 kilowatt-hours (kWh) of electricity each year. These projects typically have payback periods under five years, and some as low as two years.
Among the projects funded through the agricultural grant program was a solar-powered water pumping project at the Cold Creek Ranch in the Mogollon Rim Country. The 10,000 acre working cattle ranch used the funding to convert a diesel-generator that powered a livestock water pumping system to solar. The Griffin Cattle Ranch near Globe also installed solar-powered water pumps at three locations on its ranch to water livestock. The Howard Thomas Ranch, near Taylor, used grant funding to install three 2.6 kW wind turbines. The off-grid wind systems are producing 21,600 kilowatt-hours a year for ranch operations.

SEP funds are also being utilized to support the Small School District Solar Program. To date, the program has awarded grants to 57 small school districts for the installation of photovoltaic systems. In December, 2010, Tonto Basin Elementary School became one of the first schools in the state to complete its solar project. The 135 solar panels installed above the school's playground are saving the 72-student school between 50 to 75 percent off its monthly utility bill. The Tonto Basin system is generating between 3,400 to 5,200 kWh a month. Other systems include a 30 kW system at the Skull Valley Elementary School that is saving nearly $8,000 annually for the small 24-student school in Skull Valley, Arizona.

The total installed capacity for the 57 projects is 1.572 megawatts, which is producing annual energy savings in excess of $350,000 a year. These systems will produce over 2.8 million kWh/year. In addition to the savings on their utility bills, these systems are all internet connected, allowing schools to use the data from the systems to teach solar energy in math and science classes.

www.azenergy.gov

ARKANSAS

Arkansas Energy Office, Arkansas Economic Development Commission

The Arkansas Energy Office (AEO), a division of the Arkansas Economic Development Commission, advocates and promotes energy efficiency, emerging technologies, and resource development through energy education and information programs. The AEO, with funding from the U.S. Department of Energy, State Energy Program (SEP), manages a variety of programs that assist Arkansans with their energy usage.

Among the programs the AEO utilizes SEP funding to support is the Employer Assisted Home Energy Assistance Loan (HEAL) Program. HEAL provides zero-interest loans for cost-effective energy retrofits in the industrial and commercial sectors. In turn, a portion of the energy savings are used by the industrial/commercial partner for an employer-sponsored program to fund energy improvements for their employees. To date, 385,000 square feet of space in 14 commercial buildings have been renovated with energy efficient equipment, and 15 industrial partners have implemented more efficient equipment in their processes and buildings under the program.

One industrial participant, L'Oreal USA, implemented a lighting retrofit project in its facility, and in turn used the savings to establish a residential energy revolving loan fund for its employees. The lighting retrofit is expected to save the company thousands on their annual energy costs, while allowing their employees to realize additional savings at home.

The AEO is also using SEP funds to assist the state's poultry industry. Grants are available through the AEO's Arkansas Poultry Lighting Rebate program to help reduce electrical consumption for lighting in poultry houses. To date, 147 poultry broiler growers statewide have replaced inefficient lights with 46,876 dimmable, high intensity LED lights. The lighting retrofits are saving an estimated 13,078,404 kilowatt-hours (kWh) -- meaning significant cost savings to growers – according to estimates generated by the University of Arkansas through AEO’s Advanced Lighting Technology for Poultry Growers project.

Additional efforts to support the state's industrial sector also benefit from SEP funds, including a low-interest, revolving-loan program to encourage Arkansas industries to invest in clean technologies and more energy-efficient operations. In 2011, a recycler of drilling mud and fluids used in natural gas exploration, completed an expansion of its operation with a loan from Industrial Energy Technology Loan Fund. The expansion allowed the company to recycle more diesel fuel from drilling mud. Not only did this result in an immediate reduction in electricity consumption, saving nearly 500 MWh in six months, but also produced 56,591 mmBtu of energy savings from the recovery of 402,481 gallons of diesel from drilling mud.

Another SEP funded program, the Green Technology Grant, targets companies that make or sell products that contribute to renewable energy production or programs that reduce energy use. Twelve grants have been made under the program, with three grants going to companies to produce energy efficient equipment and the remainder going to energy efficient equipment installations. Grant recipient SPLASH Super Pools, received the Southern Growth Policies Board's 2011 Innovator Award for diversifying its product line with a Green Technology Grant.

SPLASH's new products include equipment used by wastewater treatment facilities and food processing plants to capture methane gas.

Renewable energy production also benefits from the SEP supported Renewable Technology Rebate Fund. The program provided production based- incentives for the installation of renewable energy systems. Prior to its launch in 2009, there were 27 net-metering photovoltaic customers in Arkansas with a combined installed capacity of 214 kilowatts (kW). Under the rebate program, 124 small-scale renewable energy installations – mostly solar – have been installed with a combined capacity of 843 kW in addition to 27 domestic solar-hot water heaters totally 2,753 sqauare feet of collectors.

www.arkansasenergy.org

CALIFORNIA

California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created by the legislature in 1974, the Commission's responsibilities include forecasting future energy needs, licensing power plants, preparing for and responding to energy emergencies, and developing and promoting energy efficiency, public interest energy research, and renewable energy and advanced transportation technologies. The CEC receives funding from a variety of sources, including the U.S. Department of Energy State Energy Program (SEP). SEP funds are currently being applied toward a suite of clean energy programs focused on increasing energy efficiency to reduce energy costs and consumption, cut reliance on imported energy, and shrink energy impacts on the environment.

The Clean Energy Business Financing Program (CEBFP) provides low interest loans to clean energy manufacturing companies is also supported by SEP funds and the California Energy Commission through the Clean Energy Business Financing Program (CEBFP). This low-interest loan program has made four loans to private businesses to purchase and install equipment used in the manufacturing process. Included among the loan recipients is Fremont-based Solaria Corporation. Solaria used the CEBFP loan to purchase glass scanners and module testers for its PV solar panel manufacturing facility. The new equipment, which was installed in April 2011, has increased the Fremont's plant production capacity to six-megawatts annually. As well as creating 79 full-time jobs, the project has resulted in an estimated annual production of solar panels that in turn are generating 11.3 megawatt-hours of clean electricity and reducing CO2 by nearly 4,000 tons per year.

CEC's SEP funds are supporting the implementation of Energy Upgrade California, which is a comprehensive energy, water efficiency, and renewable energy generation retrofit program for single and multi-family residential and commercial buildings. The CEC, along with its program partners including utilities, local governments, and private business, offer an integrated program which delivers consumer awareness and outreach, incentives/rebates, and financing programs for the completion of energy efficiency audits and building retrofits, including the replacement of equipment. Through September 30, 2011, nearly 2,500 homes in the state have had energy upgrades as part of this program. Participating homeowners are saving an average of 29 percent on their utility bills as a result of this program.

As the state works to reach ambitious long-term goals for increasing energy efficiency and clean energy generation, the CEC, in conjunction with public, private and non-profit partners, has developed the nation's most comprehensive, sustainable green workforce training program. This training is geared towards retraining incumbent or new workers as well as unemployed and underemployed workers. The Energy Commission has awarded 46 Green Jobs Training Program grants to community colleges and local workforce investment boards to provide training

opportunities to more than 7,500 people for the clean energy jobs of the future related to energy efficiency, water efficiency, green building and renewable energy.

The CEC manages a SEP funded commercial and municipal building retrofit program that leverages utility and private funding with public funds to spread the benefits of readily available, low risk, high-return efficiency technology in municipal and commercial buildings throughout the state. The program provides rebates/incentives for workforce training, building assessments, and retrofit of a variety of energy efficiency measures including state-of-the-art lighting fixtures and wireless controls and sensors for lighting and HVAC systems. By performing retrofits on a wide scale, building owners, operators and occupants learn that energy efficiency can provide reliable, long term cost savings. Reduced maintenance costs will help convince customers to accept and demand new energy efficient innovations, helping to transform the market. More than 6,000 energy assessments have been completed through the program, resulting in nearly 3,500 energy retrofit projects in commercial buildings such as grocery stores and mini-marts, office buildings, and local municipal facilities throughout the state.

The California Department of General Services is improving energy efficiency in state-owned buildings and parking lots using the State Property Revolving Loan Fund Program. Currently, this sustainable loan program is supporting energy upgrades that include replacement or retrofits of boiler and chiller systems, lighting upgrades, heating and air conditioning system upgrades, and energy usage monitoring systems in more than 60 locations throughout the state. Typical project results are represented by 2010 and 2011 energy retrofit projects in 18 California Highway Patrol (CHP) Offices. As a result, a CHP field office in Oakland now has energy efficient lights that are saving nearly $21,000 a year in energy costs. The Oakland lighting project will pay for itself in cost savings in just over two years.

www.energy.ca.gov

COLORADO

Governor's Energy Office

The Governor's Energy Office (GEO) was created in 1977 with the purpose of promoting energy conservation in Colorado under the original name "Office of Energy Conservation". It was renamed the Governor's Energy Office in 2007. Today, the GEO's vision is to promote sustainable economic development in Colorado through advancing the State's energy market and industry to create jobs, increase energy security, lower long-term consumer costs and protect our environment The U.S. State Energy Program (SEP), administered by the GEO, is a primary source of funding to achieve these objectives.

In 2009, the GEO committed funds from the State Energy Program to provide a suite of products aimed at removing financial barriers to deployment of renewable energy and energy efficiency in the state. The Capital Investment Program, aimed at the commercial, residential and industrial sectors, is providing a sustainable pool of capital for projects throughout the state.

Ouray's micro-hydro generator is one beneficiary of the Capital Investment Program's New Energy Economy Development (NEED) grant. The 20 kilowatt (kW) hydro plant was completed in 2010 and provides enough electricity to power the Ouray Hot Springs Pool, the bath houses, the city maintenance buildings and all the LED lighting for a nearby city park. The city expects to save $ $12,000 a year in electricity because of the micro-hydro plant.
Another NEED grant allowed the Delta-Montrose Electric Association (DMEA) to design and administer a rebate program within DMEA territory to incentivize the use of Ground Source Heat Pumps. Fifty-six homeowners installed systems with 5,660,011 kWh saved. Another program supported by SEP funds is the clean energy Revolving Loan Fund, which is providing low-cost capital for banks to provide short and medium-term loans for renewable energy and energy efficiency projects. To date, three loans have been made from the fund. The first company to receive a loan through the program was Bach Composite Colorado, a Fort Lupton-based company that produces components for wind turbine manufacturer Vestas, which has production plants in Brighton and Pueblo. Another loan provided capital to Green Energy Corp, a Colorado-based software company whose product allows traditional and emerging power providers to easily integrate renewable energy sources into the grid and better manage electric vehicles.

GEO used SEP funding to support residential energy efficiency for both new and existing homes. The program provides homeowners with financing incentives to purchase an Energy STAR home.

The GEO has also identified rebate categories that were eligible for grants across the residential, commercial and industrial/utility sectors. Among the various rebate programs the GEO offers with SEP funds include solar thermal, solar electric and wind energy systems.

www.colorado.gov/energy

CONNECTICUT

Energy and Policy Unit, Connecticut Office of Policy and Management

The Connecticut Office of Policy and Management (OPM) Energy Unit was consolidated into the Department of Energy and Environmental Protection (DEEP) in July, 2011. DEEP is involved in an array of programs and activities to promote energy efficiency and renewable energy. It accomplishes these objectives by partnering with a number of organizations, and funds its efforts through a variety of sources including the U.S. State Energy Program.

DEEP, as did OPM before it, has focused a considerable amount of its resources on improving the energy efficiency and operations of state facilities. To this end, the agency has implemented a variety of projects within state-owned buildings to reduce energy consumption and obtain efficiencies for energy that is consumed. In partnership with the Department of Public Works, 21 buildings were identified for specific projects, with 13 of these completed as of the end of December, 2011. The completed energy projects impact more than 1.7 million square feet of building space. Projects range from lighting retrofits to energy management systems and boiler replacements.

The SEP-funded Energy Opportunities (Commercial and Industrial) program has funded 91 commercial building energy retrofits and two industrial building projects using SEP funds. Four Stratford, Connecticut schools were among the commercial projects that have been completed to date. The Stratford school energy retrofits are projected to save 457,810 kilowatt-hours annually, as well as 36,483 ccf of natural gas and 3,162 gallons of fuel oil. The 91 projects together represent more than 800,000 square feet of commercial building space and 170,000 square feet of industrial space. The Fuel Cell grant program is also using SEP funds to support the installation of fuel cells in Combined Heat and Power applications. A total of six fuel cell projects have been awarded through this program. Among the projects is a 400 kilowatt (kW) system at Weston Middle School. It is estimated the fuel cell will provide 95 percent of the electricity needed for both Weston High School and Weston Middle School, all of the heat for the pool at the middle school, a significant amount of the heat and hot water for the middle school, and all of the air conditioning for the middle school. A similar 400 kW fuel cell is being installed at Hamden High School. The Hamden installation is anticipated to supply 90 percent of the school's energy needs and will reduce its energy costs by $800,000 over 0 years.

Additional CHP grants were awarded to the University of Connecticut and Eastern Connecticut State University and are supporting the installation of 400 kW units on each campus. A third university project was funded at Central Connecticut State University and is a 1,400 kW system. In the residential sector, the Home Energy Solutions program is using SEP funding to perform residential energy audits and provide Energy Star appliance rebates. As of September 30, 2011, the program had provided financial support for 21,125 residential energy audits. Auditors project the recommended energy measures have the potential to save homeowners in excess of 17 million kWh annually . The Energy Star appliance rebates have funded the purchase of 6771 energy efficient HVAC units and 3,305 energy efficient refrigerators.

www.ct.gov/opm

DELAWARE

Division of Clean Energy and Climate

The Delaware Energy Office, within the Division of Energy and Climate, is tasked with maximizing energy efficiency, promoting renewable energy, ensuring energy security, improving and protecting the environment, and educating the public on energy issues. The Energy Office achieves these objectives through a variety of state-level energy efficiency and renewable energy projects and programs.

A major funding source for these efforts is the U.S. State Energy Program (SEP). The SEP investments in Delaware support a broad range of clean energy projects, from energy efficiency retrofits to solar energy installations. Through these investments, Delaware's businesses, universities, non-profits, and local governments are not only reducing their energy costs, but are positioning Delaware to play an important role in the new energy economy of the future. Among the SEP funded programs is the Non-Residential Energy Efficiency Program. The program's goal is to increase the energy efficiency of business, industrial, governmental, and institutional facilities in the state. The rebates provide participants with incentives in the form of pre-set rebates per energy saving measure. Eighteen businesses across Delaware have received incentives under this program to enhance their energy performance through more efficient lighting, advanced lighting control and high efficiency motors and energy efficient HVAC systems.

On the residential side, SEP funds are supporting the Delaware Sustainable Energy Utility (SEU), a non-profit organization created by the State of Delaware to foster a sustainable energy future for the state through conservation, efficiencies and the use of renewable energy sources. SEU offers rebates and loans for residents that make qualifying energy efficiency improvements as part of the Home Performance with Energy Star (HPwES) program. The program's rebates are set-aside for specific energy efficiency measures such as home insulation, windows, doors, air sealing, water heaters and heating and cooling systems. In addition to the rebates, a qualified homeowner can elect to take out an unsecured low-interest loan, ranging from $1,000 - $20,000 with terms of up to 10 years, to fund the costs of the energy retrofit above the rebate amount. Current programs results include more than 773,434 CFLs that have been purchased as part of a residential lighting buy- down and nearly 3,000 homeowners that improved their home's energy efficiency through an energy audit and energy upgrade under HVAC Rebate and HPwES rebate programs.

Renewable energy projects may also be financed through the HPwES program as long as the participant finances at least $500 worth of other qualifying improvements. To date, 96 solar electric systems or 583 kW of electrical generating capacity, and 14 Geothermal system installations, one wind and one solar thermal hot water system have been supported with the SEP money since 2010.

The SEU, in partnership with the Energy Office and the Home Builders Association of Delaware, is also offering rebates ranging from $3,000 to $6,000 for newly constructed homes that meet minimum certification requirements under the National Green Building System (NGBS) and Leadership in Energy and Environmental Design (LEED) rating systems. The

program, funded by the State's SEP allocation, is offered throughout the state; however not all properties qualify based on their location. To date, 10 homeowners have received incentives supported with the SEP money.

www.dnrec.delaware.gov/energy

DISTRICT OF COLUMBIA

D.C. Department of the Environment

The District Department of the Environment (DDOE) is the leading authority on energy efficiency and renewable energy programs, products and services in the District of Columbia. DDOE provides energy-related policy, planning and direct services to residents, businesses, institutions, government and visitors, so they can reduce their overall energy consumption. Using a combination of funding sources, including the U.S. State Energy Program (SEP), the agency administers a variety of programs to achieve reliable, clean and affordable energy.

The District Government spends approximately $79 million, each year, on energy use in public buildings. In collaboration with the Department of Real Estate Services, DDOE used SEP funds to perform an energy benchmark of 194 district government buildings in 2010. Additional audits of 267 buildings were conducted in 2011. The benchmarking of energy use in libraries, schools, police stations, administrative offices and other public buildings identified many opportunities to improve energy performance and save the city money. These audits have resulted in SEP- funded energy retrofits projects in buildings and other infrastructure that were in need of energy efficiency improvements.

One of the largest buildings owned and operated by the D.C. government, the 19-year old, 11-story- government center located at One Judiciary Square was the first to undergo energy upgrades as a result of the energy audits. The building has 875,000 square feet and houses 20 District government agencies. The Department of Real Estate Services replaced mechanical and electrical equipment, installed a building management system and upgraded HVAC systems including air handlers, Variable Frequency Drives on motors, and lighting fixtures. DDOE expects the upgrades to translate to a 20 percent savings in energy costs at One Judiciary Square.

In the summer of 2010, DDOE, in conjunction with the District of Columbia Office of Public Education Facilities Modernization, began major energy efficiency retrofits of seven elementary schools and one middle school in the District. Energy measures such as installation of new, high-efficiency HVAC units, and associated temperature controls, plus window and lighting upgrades were completed before the start of the 2010-2011 school year. The projected annual energy savings for all eight schools is 690,968 kilowatt-hours. In addition, SEP funding is facilitating multiple education efforts designed to reach different populations within the District. DDOE is holding quarterly teacher trainings to incorporate renewable energy content into the science and math lesson plans for school children. The DDOE Community Outreach and Education staff performed energy efficiency workshops for 24,000 low-income residents.

DDOE is using SEP funds to partially support the District of Columbia Renewable Energy Incentive Program (REIP). REIP, launched in February 2009 with system benefit charges, was designed to increase use and awareness of renewable energy generation technologies by residents, businesses, and institutions. Due to tremendous interest in the incentive program new applicants are added to a waiting list that will carry over into future funding queues.

www.green.dc.gov

FLORIDA

Office of Energy, Florida Department of Agriculture and Consumer Services

The Florida Office of Energy is housed within the Department of Agriculture and Consumer Services and is the primary organization for state energy and climate change programs and policies. The Office is tasked with a variety of responsibilities, including administering financial incentive programs; administering the provisions of the Florida Energy and Climate Protection Act; representing Florida in the Southern States Energy Compact; providing recommendations to the Governor and the Legislature; and coordinating the U.S. State Energy Programs (SEP).

These responsibilities are playing a large role in helping to shape Florida's energy future. And, with funding support from SEP, the Office of Energy has developed and implemented a variety of programs that are advancing clean energy and energy efficiency as key components in the state's energy resource mix. Programs include grants to increase E85 and B20 retail stations throughout the state, a clean energy investment fund, residential rebates for HVAC and solar systems, and solar grants to schools for emergency shelters.

The E85/B20 Public/Private Fueling Grant Program, using SEP funds, provides grants for gas station owners to install E85 or B20 tanks and pumps. Although there are more than 600,000 flex fuel vehicles in Florida that can operate off alternative fuels such as ethanol or biodiesel, prior to 2009 there were only 58 retail stations in Florida that provided biofuel products. As a result of this grant program that number is on the rise. By mid-2012 the number of stations providing access to biofuels will exceed 70 sites statewide.

SEP funding is also capitalizing Florida's Clean Energy Investment Program. This loan program is providing funding for projects across the state that promote the adoption of energy efficient or renewable energy products and technologies. To date, three large loans have been made to businesses that have either integrated energy efficient or renewable products into their facilities, or are manufacturing these products and technologies.

In addition to commercial projects, SEP funds were utilized in 2010 to support the Florida Energy Star Residential HVAC Rebate program that encouraged homeowners to replace their old energy-inefficient heating and cooling systems. The program provided 2,623 rebates for the purchase of equipment that is not only saving 2.7 million kWh annually, but leveraged $26 million in private funding. The rebates paid for 20 percent of the cost for 1,451 new central air conditioners, 1,146 new air source heat pumps, and 26 geothermal heat pumps.

The Solar Energy Systems Incentive Program also used SEP funds to provide incentives for homeowners and business owners that installed solar energy systems. Nearly 8,800 rebates were paid out under this program in an effort to catalyzed investments in clean energy technologies. These rebates provided partial funding for 1,812 photovoltaic systems and 6,908 solar water heating systems. Each year these systems will generate estimated savings of 16,271,845 kWh and 51,433,764,088 btu respectively.

The SunSmart Schools and E-Shelters program is also benefitting from SEP funds. Through this program 22 photovoltaic systems with battery back-up have been installed on strategically

located schools/emergency shelters throughout the state. An additional 78 systems will be installed during the first quarter of 2012. The systems range in size from 10 kW to 20 kW or larger and will provide power for critical needs during power outages and times of disaster.

www.freshfromflorida.com

GEORGIA

Division of Energy Resources, Georgia Environmental Finance Authority

Founded in 1985, the Georgia Environmental Finance Authority's Energy Resources Division (ERD) promotes energy efficiency, renewable energy and energy assistance programs that improve environmental quality; strengthen quality of life and stimulate sustainable economic development in Georgia. Using U.S. Department of Energy (DOE) State Energy Program (SEP) funds, the ERD administers programs that promote cost-effective energy solutions for state agencies, local governments and private-sector entities.

The Georgia Renewable Energy Grant Program utilizes SEP funding to support renewable energy programs, equipment installations, and market transformation activities that are increasing the amount of renewable energy generation in the state. To date, ERD has awarded five grants under the Renewable Energy Program, which include nine solar thermal installations totaling 695 sq. ft. of capacity and 29 solar electric systems that are producing more than 1.59 megawatts (MW) of clean energy. Among the projects is the Hickory Ridge Landfill Solar Project in Conley, Georgia. Dedicated in October 2011, the facility has a solar generating capacity of 1 MW that is producing the equivalent electricity needs of 224 homes. Opened in 1993 and closed in 2006, the 48-acre landfill is using a flexible solar laminate attached to a synthetic "geo-membrane" atop a 10-acre portion of the landfill. The cover is not only producing clean energy, but it is protecting the land and water sources nearby and reducing greenhouse gas emissions.

The Clean Energy Property Rebate Program is also receiving financial support through SEP. The program offsets up to 35 percent of the total cost of installing renewable energy technologies, implementing lighting retrofits or building efficiency upgrades. Three industrial buildings, totaling more than 1.2 million square feet, have implemented lighting retrofit energy improvements that qualified for rebates under the program. Nineteen solar projects, which are generating nearly 2 MW of clean energy, have also received rebates. The Haven Farms solar project in Calhoun, Georgia, is producing 154,578 kilowatt-hours annually to power farm operations.

Public-sector projects supported through SEP include energy efficiency measures in state buildings. The State Facilities Retrofit Program has funded energy audits or energy retrofit projects in 1,839 state buildings, representing more than 71 million square feet of floor space. Projects include lighting system retrofits, HVAC system upgrades, replacement of inefficient chillers and boilers, advanced control systems, utility sub-metering and building commissioning. The projects are expected to save the state approximately $11.2 million a year in avoided energy costs. The projects, in total, have a 5.7 year payback and annual energy savings of 890,000 mmBTUs, or the equivalent amount of energy consumed by 10,000 homes.

As part of the State Facilities Retrofit Program, The University System of Georgia (USG) implemented 53 energy efficiency projects at 27 campuses across the state. The funded projects are projected to save almost 290,000 mmBTUs annually for an estimated cost savings of $3.9 million.

In the commercial sector, the Georgia Association of Convenience Stores (GACS) received a Commercial Energy Efficiency Grant to launch a revolving energy loan program that provides

member stores financing for energy retrofits. Store owners make quarterly loan payments equal to the savings generated by the energy improvements. Repayments are being used to fund additional projects. To date, 30 projects have been completed statewide.

www.gefa.org

GUAM

Guam Energy Office

The Guam Energy Office (GEO) is a line agency within the territory's Executive Branch. Primary funding for GEO energy efficiency and renewable energy programs comes from the U.S. State Energy Program (SEP). These funds support the GEO's efforts to promote energy efficiency and renewable energy though building retrofits, strong policy leadership and public education efforts.

In the past two years, the GEO's Lead by Example program, has completed energy audits in more than 60 public buildings across Guam. Based on these energy audits, the GEO is implementing cost-effective building energy retrofits and water pilot projects at various public buildings and facilities throughout the island. Lighting and efficiency measures have been installed at fire stations, police stations, libraries, parks, and office buildings. Other energy projects, with the Guam Memorial Hospital, Guam Visitors Bureau, Superior Court, Veteran Affairs, and University of Guam, are in various stages of completion.

The GEO, through the Lead by Example program, provided SEP funds to Guam Community College to install a building management system, photovoltaic panels and lighting upgrades into the new Resource Learning Center. The Center is the first Gold Leadership in Energy and Environmental Design (LEED) government building on Guam. The college used SEP funding to install a 24.84 kilowatt photovoltaic system on its library, and a 29.4 kW system on the college's health education building, in addition to solar powered lighting on parking lots.

The GEO is using SEP funds to work with Guam Waterworks Authority (GWA) to implement energy efficiency technologies into the territory's waterworks' system. The GWA, which pays Guam Power Authority about $14 million every year to power its water pumps, is hoping the energy efficiency project will result in cost savings of up to 50 percent for pumping water.

SEP funding is also helping Guam improve its energy code through the development of a Tropical Energy Code. The code, developed in conjunction with Hawaii and other territories, is the first step toward energy code implementation. The Guam Building Code Council is in the process of tailoring the Tropical Energy Code to Guam’s unique climate, challenges, and building infrastructures.

In addition, the territory is using SEP funds to assess local renewable energy potential and deploy pilot projects. These projects are providing data to support commercial market development for various renewable energy technologies. The University of Guam Center for Island Sustainability (CIS) has implemented several pilot projects as part of its effort to develop an island-based model for sustainability. The Center has used SEP funding to install 30 solar streetlights around campus. The lights have a three-year payback period. The CIS has also installed 40 solar LED walkway lights on campus and a 12 kW solar power system in the School of Education, and a 12 kW solar system in the Telecommunication and Distance Education Operation office. The CIS office is also powered by a 6 kW solar system and it is utilizing a 4 kW solar array to power an electric car.

Matching the State Energy Efficiency Appliance Rebate program with SEP dollars, the GEO has issued rebate vouchers to help offset the upfront costs to over 800 homeowners that purchased energy efficiency appliances.

The GEO is using SEP funds in educational efforts to promote energy conservation and efficiency by sponsoring annual Earth Day activities and Energy Awareness activities in October, airing public service announcements on media, and speaking at schools as part of its public education efforts.

www.guamenergy.com

HAWAII

Hawaii State Energy Office, Hawaii Department of Business, Economic Development and Tourism

The Hawaii State Energy Office (HSEO) under the Department of Business, Economic Development and Tourism (DBEDT) is the state's lead sustainable development agency, and through the support of the U.S. State Energy Program (SEP), plays a major role in the state's plan to achieve 70 percent clean energy by 2030. The Hawaii Clean Energy Initiative (HCEI), launched in 2008, is a partnership between the U.S. Department of Energy and the State of Hawaii, with the objective to transform the way Hawaiians meet their energy needs. HCEI has been codified in Hawaii's law mandating HSEO to manage Hawaii's transformation to clean energy economy.

The Transportation Energy Transformation program is HSEO 's effort to make Hawaii's transportation sector less dependent on petroleum fuels by accelerating the adoption of advanced technology vehicles, including electric drive vehicles. SEP funds are being used for activities that include grants and rebates to government and private entities for vehicles and charging equipment, and the conversion of State fleets to non-petroleum fueled vehicles.

HSEO's EV Ready Grant Program has provided $2.6 million in grants thus far for the installation of electric vehicle chargers across the state; public education and outreach; introduction of EVs to rental car and County fleets, car-sharing services within the hospitality industry; and an online permitting system for chargers installed at single-family residences. The EV Ready Grant will result in more than 450 public charging stations across the state by 2012.

The EV Ready Grant Program complements the EV Ready Rebate Program, which provides rebates up to $4,500 for the purchase of full-speed, commercially available electric vehicles and up to $500 for EV charging equipment, including installation.

Renewable energy is also a major component of Hawaii's clean energy transformation plan. Activities include the facilitation of privately funded renewable energy projects through enabling energy policy initiatives, and HSEO's facilitation of the permitting and siting of renewable energy projects. This SEP funded activity serves as an in-state information resource to enable public and private-sector project developers, investors, and others to locate, develop, complete, and interconnect renewable energy projects in a timely and cost-effective manner.

The State also is using SEP funds to study feasibility of an undersea cable system to transmit electricity between the islands in order to increase the use of renewable energy resources, such as wind. This cable could save Hawai'i taxpayers approximately $5.7 billion over 20 years by displacing the need for two million barrels of imported oil annually.

On the efficiency side, the Government and Residential Energy Efficiency program is utilizing SEP funds for technical assistance to target energy efficiency renovation and retrofits for state buildings and residential buildings. In 2010, Hawai'i government agencies reduced electricity consumption by 2.8 percent and saved more than $20 million in energy costs. Savings in state buildings, achieved through equipment improvements and solar installations, included $58

million over 20 years for four University of Hawai'i community colleges, or almost $3 million a year on average; and $46 million over 20 years for Hawai'i prisons, or about $2.3 million a year on average.

HSEO's Hospitality Energy Efficiency Program also kicked off in 2010. The program, aimed at increasing energy efficiency in the Hawai'i's hospitality industry, is currently assisting 17 facilities with energy assessments and energy tracking.

www.hawaii.gov

IDAHO

Idaho Office of Energy Resources

The Governor's Office of Energy Resources (OER) has the responsibility to coordinate energy policy and planning in the State of Idaho. OER also oversees and manages several energy efficiency and renewable energy programs funded through the U. S. Department of Energy State Energy Program.

K-12 Energy Efficiency Project
The K-12 Energy Efficiency Project began in 2009 with a pilot in the Homedale School District. This pilot project replaced two failed compressors, a blower motor, multiple thermostats and outside air damper actuators; at a cost of $11,196, these small capital projects will provide an estimated $18,000 in yearly savings to the district—a seven-month payback.
With the success of the K-12 pilot, OER moved forward with the K-12 Energy Efficiency project. This project began with energy audits on 894 K-12 school buildings throughout Idaho; continued with HVAC and control system tune-ups on 836 of the buildings resulting in an estimated yearly energy savings of up to $3.9 million dollars; and Energy Expert Software was installed in 91 schools, with 15 of those schools receiving educational kiosks for energy conservation education. In addition, 161 school buildings were identified to receive energy efficient lighting or HVAC upgrades. The upgrades are projected to reduce school building energy use by 10 to 15 percent.

Solar Panels for Schools Project
The Solar Panels for Schools Project funded at least one solar installation on a public school building in each of the Idaho Department of Education's 6 regions; with a total of 9 installations completed. Projects ranged in size from 36 kilowatts (kW) to 100 kW. Each installation had software installed that allowed the school to view daily energy savings generated by the installation online. In addition to saving energy, the schools intend on using the installations as an online tool for energy education.

Renewable Energy Enterprise Zone
The Renewable Energy Enterprise Zone (REEZ) project has increased renewable energy awareness, particularly in Idaho's rural communities. The REEZ program funded 13 projects ranging from feasibility studies to energy generation projects. The generation projects include anaerobic digestion, landfill biogas, and solar photovoltaic.

www.energy.idaho.gov

ILLINOIS

Illinois Energy Office, Illinois Department of Commerce and Economic Opportunity

The Illinois Department of Commerce and Economic Opportunity houses the Illinois State Energy Office. The Energy Office administers a portfolio of programs designed to invest in the development of Illinois' green economy, including programs that target renewable energy resources, energy efficiency projects, bio-fuels production and green manufacturing. The U.S. State Energy Program (SEP) is an important source of funding for these investments which allow the Energy Office to assist Illinois citizens, communities, non-profits, businesses, industry, and other government agencies to become more energy efficient.

The Energy Office is using SEP funds to promote the development of renewable energy and energy efficiency manufacturers and supply-chain businesses in the state. Since 2010, the Green Business Development Grant Program has awarded grants to 25 Illinois manufacturers that have expanded into the green technology sector by retrofitting their manufacturing processes.

Ingersoll Machine Tools, Inc, a Rockford-based manufacturer of aviation components, used a Green Business grant to purchase and retrofit equipment so it can also produce wind turbine components. The retooling effort created 87 new jobs at Ingersoll.

Funk Linko has been producing light poles at its Chicago Heights facility since 1925. With a Green Business grant the company retooled its existing steel mill equipment to produce low-emission freight and high-speed rail locomotives, as well as components for wind power generation.

In Champaign, EpiWorks, a wafer production company for cell phones and lasers, used SEP funding to expand into supplying the solar market sector with silicon wafers. The grant funding has allowed the company to manufacture 120 megawatts (MW) of photovoltaic cells annually, with the ability to scale total production capacity to 300 MW annually. An installed capacity of 300 MW will result in 30 high-tech manufacturing jobs at EpiWorks and reduce the need for fossil fuel consumption by approximately 12,000 barrels of oil each day.

In addition to supporting green manufacturing development, SEP funds, through the Large Customer Energy Efficiency program, are helping businesses make their facilities more energy efficient. Danville-based Viscofan used grant funds to purchase energy efficient equipment that has reduced the meat processor's natural gas needs by 17 percent.

A bio-fuel grant program, also funded through SEP, has provided funding to increase overall efficiency of five fuel-production facilities in the state. The facilities have ramped-up their production capabilities to 20 million gallons of bio-fuels annually. Among the grantees, BioVantage, used the grant to increase its bio-fuel production capacity from 500,000 gallons per year to 4.5 million gallons.

The Community Renewable Energy Grant Program has funded 39 solar and wind projects for electric cooperatives, schools, universities, local governments, not-for profits and businesses. Among the grant recipients were four Edwardsville School District #7 schools that received

24.95 kilowatt (kW) photovoltaic systems that together will produce 140,000 kilowatt-hours per year, The City of Arcola installed a 40 kW wind turbine at its wastewater treatment facility that is generating approximately 45 percent of the plant's current energy needs.

SEP funds are also being used to foster investments in large renewable energy production facilities. The Rockford Project, the largest solar farm in the Midwest, is being supported by an SEP grant that is funding 28 MW of the solar farm's 62 MW generating capacity. The plant will save more than 40 million gallons of water annually and reduce carbon dioxide emissions by about 28 tons each day. The solar panels are being sourced locally from Wanxiang's Rockford Plant.

www.ildceo.net

INDIANA

Indiana Office of Energy Development

The Indiana Office of Energy Development (OED), created in December 2005 as an extension of the Indiana Energy Office, is responsible for the state's energy policy. The OED serves as a resource for state government and all Hoosiers on matters of energy policy and guides the state's efforts to find homegrown energy solutions. The OED is primarily funded through the U.S. State Energy Program, which supports grant programs that promote the use of alternative power, bio-fuels, energy efficiency and public education on energy issues in Indiana.
Among the programs funded under the SEP program are the Conserving Hoosier Industrial Power (CHIP) Grant, an Alternative Fuel Vehicle (AFV) Grant, a grant program promoting green and renewable energy generation and supply chain companies, and a solar thermal grant.

The CHIP program provides grants to fund energy efficiency upgrades in commercial and industrial facilities in Indiana. Since 2010, 25 companies have been awarded SEP funds under this program to become more energy efficient. Projects include the implementation of energy-saving measures such as new lighting, variable frequency drives, boiler and HVAC upgrades, and energy management systems.

Bell Aquaculture, a producer and processor of farm-raised fish, was awarded a CHIP grant in November, 2011. The Redkey-based company is using the grant to retrofit existing equipment to conserve water and energy in the production of 1.8 million fish a year. The Frito-Lay facility in Frankfort, Indiana has saved more than 93,000 MMBTU and 175,000 kWh to date as a result of a CHIP grant that improved the energy efficiency of its drying equipment used in the production of its chips. The project included the installation of variable frequency drives on fans and downsizing motors from 20 horsepower to 7.5. Two companies are using SEP funds under the Alternative Fuel Vehicles grant program to retrofit commercial vehicles to run on Compressed Natural Gas. BestWay Express used the grant to help offset the incremental cost of adding 16 dual-fuel trucks to its delivery fleet. Veolia Solid Waste Midwest, based in Evansville, is using grant funds to add new CNG-powered refuse collection trucks to its fleet. Combined, the two companies are expected to realize annual diesel fuel savings of more than 364,000 gallons.

Over the past two years, green supply-chain grants, utilizing SEP funds, were awarded to a number of Indiana companies, including Brevini Wind. The wind turbine gearbox manufacturer, with production facilities in Muncie, is installing new production equipment with the grant funds. EnviroSolve, a manufacturer of technologies to facilitate waste-to-energy in the livestock industry, also received a green supply-chain grant from OED to promote its new products. Since July 2011, the EnviroSolve technologies have been introduce in several new markets.
The OED's Solar Thermal Grant program used SEP funds to support the installation of solar heating and hot water systems on two apartment complexes and a food co-op. In the summer of 2011, Bloomingfoods, a food co-op in Bloomington, used the funds to install solar panels to heat water in its facilities. Bart Villa Apartments in Bloomington, and the Shannon Glenn Apartments in Evansville are installing solar thermal systems to provide space heating in multiple apartment units.

www.in.gov/oed

IOWA

Iowa Economic Development Authority

The Iowa Office of Energy Independence (OEI) sets the strategic direction for the state's clean energy future and is responsible for developing policies and resources to produce market transformation. Through the adoption of both technology and policy, the OEI is helping Iowa chart its own course as a clean energy leader.

The OEI's main activities are focused on the implementation of the state's Energy Independence Plan. These activities involve providing leadership through education, research, planning, and investment. In support of these efforts, the OEI is responsible for aligning state government's efforts for achieving energy independence with business and industry, community leaders, government and public agencies, and other stakeholders.

Investments in research, development, and deployment of cutting edge biofuels technology have allowed the OEI to play a significant role in positioning Iowa as a national leader for producing homegrown energy. In the spring of 2011, the OEI awarded a new round of grant funding under the State Energy Program (SEP) for equipment and renewable fuels education, marketing and outreach, in an effort to boost the use of both ethanol blended gasoline and biodiesel. These SEP grant funds went for new equipment to unload, store and blend biodiesel at a Des Moines fuel terminal, ethanol blender pumps at stations statewide, and in support of the Iowa Biodiesel Board's Biodiesel for Diesel Technicians Program. In addition, OEI has also funded a project to test and demonstrate the usage of flex-fuel conversion kits in vehicles.

With 2,500 wind turbines statewide and 3,670 megawatts of generation, Iowa is ranked second nationally in wind produced electricity. It is also recognized as the national leader in manufacturing wind energy equipment and supplies. The OEI's goal is to increase wind generation in the state to 10,000 megawatts. The OEI is working with stakeholders to ensure the continuation and development of favorable policies and in the past year allocated SEP funds to support wind development in Iowa through grants for training and curriculum development at Cedar Rapids Electrical JATC, Iowa Valley and Eastern Iowa Community College Districts, and the Iowa Renewable Energy Association.

In 2010, SEP grant also funded a 2.5 MW wind turbine project for the Kirkwood Community College. All these projects not only offer educational applications but also spur economic development opportunities and promote new renewable industries in Iowa. Similar projects at a smaller scale were also funded under the SEP grants such as City of Maquoketa to install a 225 kW wind turbine and Des Moines Area Community College to install a 50kW wind turbine.

In addition, the OEI has made use of SEP funds to lead the charge for energy efficiency. A collaboration with state agencies and Regents institutions has resulted in state facilities undergoing major energy efficiency retrofits that will save taxpayers more than $3.2 million per year in energy costs and create more than 340 jobs. Technical and financial assistance to cities, counties, school districts and public entities is offered by the OEI's Building Energy Management (BEM) program, which is helping local units of government improve energy

efficiency. And, homeowners, commercial property owners, industries and others in the state can access low-interest financing from an OEI's revolving loan that funds energy projects.

www.iowaeconomicdevelopment.com

KANSAS

Kansas Energy Office, Kansas Corporation Commission

Through its SEP-funded activities and programs, the Kansas Corporation Commission's (KCC) Energy Division continues to promote energy conservation and efficiency and alternative energy throughout the state. The KCC's recent efforts to promote cost-effective improvements in the residential, small commercial, and public sectors, are helping Kansans achieve substantial energy (and dollar) savings.

Under the KCC's residential retrofit program, thousands of Kansas homes and small businesses received whole-house energy audits and customized recommendations estimated to generate $2.5 million in annual savings. With the program's innovative approach to financing—customers can access traditional bank loans or on-bill utility financing—nearly 1.9 million square feet of housing stock and small businesses have been retrofitted, capturing an estimated $536,988 in annual savings.

Kansas has had a longstanding focus on energy efficiency in public buildings. To better control utility costs, address deferred maintenance, and lead by example in energy efficiency upgrades, the State has participated in hundreds of public-sector building improvements. The KCC has provided funding for energy efficiency improvements on several public university campuses, producing annual energy savings of over 11.5 million BTUs. These improvements follow the model of the KCC's Facility Conservation Improvement Program (FCIP), a fee-funded performance contracting program that has led to more than $259 million in energy-efficiency improvements in public buildings, saving over $19 million annually. Together, these initiatives have helped reduce the burden on Kansas taxpayers, and highlight the value of energy efficiency improvements.

To expand its outreach on energy efficiency, the KCC sponsored the Take Charge Challenge, a friendly competition among 16 cities to save the most energy. This 9-month outreach activity drove participation in the KCC's residential retrofit program—1,141 whole house energy audits and 152 completed retrofits—and spurred the installation of CFLs and programmable thermostats. In all, annual energy savings were estimated at 110.2 billion BTUs, valued at $2.3 million.

Kansas has tremendous potential for additional growth in renewable fuels, and KCC grants are supporting advanced technologies and equipment for harvesting, handling, and delivery of biomass feedstocks. Thanks to the support of the KCC, an ethanol plant in Kansas will supplement its natural gas requirements using an anaerobic digeseter. The digester uses state-of-the art technology to transform waste from feedlots into the energy to create ethanol. The project is also able to accept municipal wastewater, and is pioneering a unique solution to Kansas communities. These projects highlight the innovative spirit of Kansans and position Kansas as a leader in biofuels.

www.kcc.ks.gov/energy

KENTUCKY

Kentucky Department for Energy Development and Independence

The Department for Energy Development and Independence's mission is to improve the quality and security of life for all Kentuckians by creating efficient, sustainable energy solutions and strategies; by protecting the environment; and by creating a base for strong economic growth. This mission is supported in part by funding from the U.S State Energy Program (SEP). The State Energy Program provides Kentucky with the resources to build public-private partnerships across the Commonwealth that promote and develop renewable energy and energy efficiency opportunities. These initiatives include activities to reduce energy usage in state and local governments, as well as in the residential and industrial sectors.

In 2009, the Department for Energy Development and Independence (DEDI) provided SEP funds to the state's Finance and Administration Cabinet to establish and capitalize the Green Bank of Kentucky. Green Bank loans are available to public facilities to improve energy efficiency, and as funds are repaid from the energy savings they are rolled over to finance additional loans.

To date, 11 Green Bank loans have funded energy upgrades in 61 public buildings totaling 2,316,513 square feet. Nine additional loan requests are in various stages of the approval process. In 2010, the Kentucky Department of Veterans Affairs used a Green Bank loan for energy upgrades in three of its facilities (Thomas-Hood, East and West Kentucky Veterans Centers). These facility improvements are generating annual energy cost savings of $195,000, and $23,000 annually in water savings. The savings will repay the Green Bank loan in less than 12 years and after that all further savings will directly benefit the taxpayers of Kentucky.

SEP funding is also supporting the placement of energy managers in Kentucky's public school districts. In 2010, the Kentucky School Boards Association launched the School Energy Managers Project with 130 (of 174) school districts participating. Thirty-six full-time energy specialists are assisting more than 1,000 schools statewide. During the program's first 18 months (circa fall 2011), energy managers have implemented programs and projects that are anticipated to save schools $4.5 million annually in energy costs, and have garnered $1.1 million more in refunds and rebates from utility providers.

In addition to public sector projects, the DEDI, in partnership with the Cabinet for Economic Development and the University of Louisville's Kentucky Pollution Prevention Center, utilized SEP funds to develop and implement the Industrial Facility Retrofit Showcase Program. So far, the program has provided energy efficiency and renewable energy grants to eight industries in Kentucky. As a result, grant recipient International Paper - Henderson Mill was able to install a white-water filtration system. With the filtration system, process water can be recirculated, resulting in annual savings of 173.8MM gallons of fresh water, 66,075 MMBTUs natural gas, and 340 MkWh of electricity. The project will pay for itself in energy savings in two years. GE Aviation also used a Facility Retrofit grant to re-lamp its Madisonville facility. The project replaced 1486 HID lights with T-8 lamps, resulting in energy savings of $264,000 per year. The energy savings will pay for the entire Madisonville project in less than 18 months, while producing 40 percent more light.

The DEDI is also using SEP funding to support energy savings in the residential sector. The Kentucky Home Performance with Energy Star program, a unique statewide program with 21 utility partners, targeting single-family home energy improvements, is making homes more energy efficient, economical, and comfortable. To date, nearly 500 homeowners have made cost-effective, energy-efficient improvements through the program. An additional 200 home energy retrofits are in various stages of processing, with an overall conversion rate, from audit to retrofit, of 68%. The DEDI program provides funding for comprehensive home energy audits, incentives for projects, and maintains a list of program certified contractors. The program has leveraged over $9 million in efficiency improvements to homes across the Commonwealth.

www.energy.ky.gov

LOUISIANA

Technology Assessment Division, Department of Natural Resources

The Louisiana State Energy Office, housed within the state Department of Natural Resources, serves as the state's clearinghouse for information and best practices in promoting both new alternatives for energy sources and use, as well as efficient management of energy for stakeholders ranging from homeowners to businesses and government at all levels. The Energy Office is active in exploring the potential of all energy sources and reducing current energy consumption – doing so through education of the public and industry, energy-use studies, and demonstrations of energy-efficient technologies. The Energy Office also provides advisory assistance and direction to the Louisiana Secretary of Natural Resources, other state and federal agencies, industry, business, and the general public on energy use, efficiency, supply, and alternatives. In addition, it serves as the focal point for coordinating legislation related to energy conservation and energy standards in Louisiana.

The Energy Office oversees and manages several energy efficiency and renewable energy programs funded by the U.S. State Energy Program (SEP), such as the popular Home Energy Rebate Option Program (HERO). The program offers a cash rebate for energy retrofits, as well as providing training, and quality control for the energy raters who certify efficiency projects. This program, which originally launched in 1999, was expanded in 2009 to include incentives for commercial buildings energy retrofits and energy efficient new home construction. These new categories were available for only two years.

During the past two years, more than 1,100 existing homes were retrofitted, resulting in a 30 percent average increase in energy efficiency per home and nearly 47,000 MMbtu in total annual energy savings in all homes completed. For new homes under the temporary expanded program, funding supported energy efficiency designs in 565 new homes, resulting in a 35 percent average increase in energy efficiency per home compared to International Energy Conservation Code (IECC) 2004 standards, and more than 13,000 MMbtu in total annual energy savings in all homes completed. For the commercial portion of the expanded program, 89 energy retrofit projects were completed, resulting in a 25 percent average increase in energy efficiency per project and more than 10,000 MMbtu in total annual energy savings in all projects completed.

The Energy Office also used SEP funds for an Energy Star appliance rebate program, which began in 2010 and wrapped up in the fall of 2011. The program offered rebates to consumers to help defray the costs of qualifying Energy Star-rated energy efficient appliances such as washers, dryers, refrigerators, heat pumps, water heaters, furnaces, boilers, and air conditioners. Over the course of the rebate program, more than 27,000 rebates were issued, leading to a total estimated net life-cycle energy savings of 149,188,307 kWh.

Energy Office efficiency incentives offered through the Renewables Program included a grant to the Lamar Corporation to help fund solar retrofits on more than 1,000 Lamar billboards throughout the state. That grant resulted in nearly 1 million kWh in annual energy production and the creation of 60 new jobs.

Energy Office-managed SEP funding also supports the state's Transportation Efficiency and Alternative Fuels Program. Under the program a grant to Bossier City provided for two publicly accessible Compressed Natural Gas (CNG) fueling stations and the purchase of 10 heavy duty CNG vehicles for the city's fleet. The Bossier City project has resulted in the displacement of approximately 270,000 of diesel or gasoline per year and created 10 new jobs.

www.dnr.louisiana.gov

MAINE

Governor's Office of Energy Independence and Security/ Efficiency Maine

The Governor's Office of Energy Independence and Security (OEIS) is responsible for planning and coordinating state energy policy and serves as the primary energy policy advisor to the Governor. As the designated State Energy Office, the OEIS is charged with providing leadership in the development of public and private partnerships that achieve clean, reliable, affordable, efficient, sustainable, indigenous and renewable energy resources. It is the responsibility of the OEIS to work in conjunction with other departments of State government, the Legislature, and private and nonprofit sectors to advance and optimize Maine's energy security, economic development and environmental health. Maine's energy objectives are supported in part through OEIS oversight and administration of the U.S. State Energy Program (SEP) funds and priorities.

In 2009, the Maine Legislature established the Efficiency Maine Trust to operate an integrated suite of energy efficiency and renewable energy programs to promote the more efficient use of electricity, help residents and businesses reduce energy costs, and improve Maine's environment. For example, the Maine PACE Loan program finances energy efficiency projects in the residential market sector. The PACE program provides homeowners at any income level the opportunity to borrow up to $15,000 at 4.99% APR, for a maximum of 15 years, to make energy-efficiency improvements to their home. Since the program's inception in April, 2011, more than 500 homeowners in over 100 towns have applied for a Maine PACE Loan.

SEP funds supported Maine's Home Energy Savings Program which launched in 2010. To date, approximately 5,000 Mainers have conducted residential energy audits with more than 3,000 of these homeowners receiving rebates for whole house energy upgrades. More than 100 licensed construction companies have been certified to participate in the program, which has resulted in excess of $27 million worth of residential energy retrofit projects. The energy improvements resulting from this program are saving homeowners an average of 40 percent in energy costs, or approximately $1,454 per year, amounting to savings of approximately 405 gallons of heating oil per year. Rebates only averaged 31% of the average total project costs.

In the commercial market sector, SEP ARRA funds were used to augment an existing Small Business Audit and Revolving Loan Program. In the past year, 270 small businesses have benefitted from energy audits that have identified potential energy savings of nearly 2.9 million kilowatt-hours of electricity. In addition to grants for small businesses, SEP ARRA funding also supports the Large Project Impact Fund. This program provides financial assistance for industrial energy efficiency projects that have an impact on jobs and energy savings. For example, Twin River Paper's Madawaska paper mill used grant funds for energy cost saving projects that not only improved its competitiveness, but also provided increased job security for its 650 workers. Among the energy improvements was a heat recovery system that captures waste steam from the papermaking process and reuses it to heat water and the mill, saving the company approximately $2 million in operating costs annually.

Governor Paul LePage and the OEIS are working to decrease the total cost of energy (electricity, transportation, heating) to Maine people in an enduring way that:

- Is environmentally responsible in compliance with all applicable standards and regulations based on sound science;
- Optimizes the economic growth in state by promoting cost –competitive indigenous energy sources, achieving direct and indirect private sector job growth and leveraging Maine's strategic advantages such as location, forest and agricultural base;
- Increases energy efficiency by empowering people with knowledge and capability to employ proven cost effective efficiency technology; and
- Reduces the dependency on foreign oil sources.

The SEP is a critical and necessary element in Maine's energy future.

www.maine.gov/governor
www.efficiencymaine.com

MARYLAND

Maryland Energy Administration

The Maryland Energy Administration (MEA) provides funding and resources that help Marylanders save money while making smart energy-saving choices. Programs aimed at the residential, commercial, industrial and public sector are offered, with funding through the U.S. State Energy Program (SEP) and other funds, including proceeds from the Regional Greenhouse Gas Initiative (RGGI). The MEA has put these resources to work helping Maryland families and businesses discover ways to improve energy efficiency and increase the use of renewable energy, leveraging public funds with private dollars to achieve real results. .

The MEA's programs are designed to help meet Maryland's ambitious renewable energy, energy efficiency and peak demand reduction goals. Through the state's Renewable Portfolio Standard, Maryland is striving to obtain 20% of its electricity from renewable sources by 2022. Furthermore, the EmPower Maryland initiative calls for per capita electricity consumption and peak demand reductions of 15 percent by 2015 (based on a 2007 baseline). Reaching these goals requires a significant investment in energy efficiency and renewable energy across all sectors of the economy.

The MEA's most popular program, whose success is contributing to the state's clean energy goals, is its residential Clean Energy Grant Program. Since 2004, the MEA, using SEP funds, has awarded grants to thousands of homeowners to install solar photovoltaic, solar hot water, wind and geothermal systems. To date, these grants have helped offset a portion of the cost for over 1,100 solar hot water systems, nearly 1,500 geothermal heat pumps, nearly 2,000 photovoltaic systems and over 80 small wind systems, saving Marylanders millions of dollars each year on their energy bills.

The State Agency Loan Program (SALP), launched in 1991, also utilizes SEP funds to provide zero interest loans to state agencies for energy efficiency improvements. Since SALP's inception, MEA has loaned more than $20 million to other state agencies for projects that are saving taxpayers millions in energy costs every year. The most recent loan recipients include the University of Maryland's Center for Environmental Services-Chesapeake Labs, the Maryland Aviation Administration (BWI Thurgood Marshall Airport), and the State Highway Administration.

The MEA's Home Performance Rebates Program has also enjoyed a great deal of success since its launch in January of 2011. The program offers incentives to households to perform energy diagnostic audits and whole-house energy improvements. To date, over 1,400 Marylanders have applied for this program, claiming more than $2 million in rebates for air sealing and insulation. In addition to renewable energy and energy efficiency, alternative transportation plays a critical part in advancing sustainability and energy independence within the state. To speed the adoption of electric vehicles in Maryland, MEA has used SEP funds to install over 70 public electric vehicle charging stations at strategic locations throughout the state. Thanks to this effort, Maryland is now recognized as one of the top states nationally for electric vehicle-charging infrastructure.

Through all of these programs made possible with SEP funding, Maryland has established itself as a national leader in energy efficiency, renewable energy and alternative transportation. The MEA will continue to be a good steward of federal SEP funds, making smart investments in clean energy to achieve real results.

www.energy.state.md.us

MASSACHUSETTS

Department of Energy Resources, Massachusetts Executive Office of Energy and Environmental Affairs

The Massachusetts Department of Energy Resources (DOER) develops and implements policies and programs aimed at ensuring the adequacy, security, diversity, and cost-effectiveness of the Commonwealth's energy supply within the context of creating a cleaner energy future. To that end, DOER, using U.S. State Energy Program (SEP) funding, is fostering the state's expansion of its installed solar capacity, accelerating clean energy projects at public buildings, and demonstrating solutions to challenges in improving building energy performance.

Massachusetts had just 3.5 MW of solar energy installed in January 2007, and about 30 companies involved in the manufacture, sale, and installation of solar power. Since then, the number of solar companies in the Commonwealth has swelled to approximately 200, employment in the state's solar sector has more than doubled, and in November, 2011 the amount of solar power installed in Massachusetts passed 63 MW, with many more additional megawatts in the pipeline to be installed.

As part of the effort to dramatically expand the amount of installed solar PV in Massachusetts, DOER SEP funds have supported the installation of more than 40 solar PV projects at state government facilities during the past two years, many of them of significant size. A 370 kW solar photovoltaic installation at Massasoit Community College (MCC) is expected to generate 453,000 kilowatt-hours of electricity annually, save the college about $55,000 in utility costs, and generate some $260,000 per year in income from the sale of solar renewable energy credits. In addition, SEP funds supported the installation of five solar projects totaling 647 kW at Massachusetts Correctional facilities. These projects are producing 979,407 kilowatt-hours of electricity annually, saving the state almost $150,000 in energy utility costs each year.

Using SEP funds, DOER also provided technical assistance to 17 water and wastewater treatment plants to help oversee the installation of several solar PV systems. Among these projects is a 1.58 MW ground-mounted system at the Pittsfield Wastewater Treatment Plant which provides over 40 percent of the facility's electricity annually, and two 600 kW wind turbines at Massachusetts Water Resources Authority facility on Deer Island that will save $250,000 a year in energy costs

The DOER is also utilizing SEP funds to implement a first in the nation real-time energy management program at millions of square feet of state facilities. When complete, the Enterprise Energy Management System (EEMS) will result in the installation of nearly 1,200 real-time energy meters (electric, natural gas, oil, propane, steam, condensate, chilled/hot water) across over 400 state buildings, totaling more than 17 million square feet. Real-time building level energy data will be accessible through a web-based software portal, and will allow state facility, project management, and finance personnel to identify cost-effective opportunities to make both short and long-term energy improvements.

Other efforts funded by SEP include deep energy retrofits in existing private and non-profit buildings, including the Old House at Appleton Farm in Ipswich, United Teen Equality Center

(UTEC) in Lowell, and Castle Square Apartments in Boston's South End. Appleton Farm, the oldest continuously run farm in the country, completed its Old House retrofit project in the Spring of 2011. The historically sensitive retrofit pays equal attention to historical detail and energy efficiency, and will house an educational center with an emphasis on sustainable living, carbon neutrality, agriculture, and land conservation. The project at UTEC, a youth-led center that combines a safe-haven from local gang violence, with more structured workforce development and educational programming, involves innovative building envelope treatment integrated with passive heating and cooling techniques that will heat and cool the center with little to no support from mechanical systems. Energy consumption is expected to decrease by a projected 68%. Castle Square Apartments, built in the 1960s, is undergoing a first in the nation retrofit project of its type, including the wrapping of the building exterior in insulation and building wide air sealing and envelope improvements. The project is expected to reduce energy consumption by 72 percent, saving the low-income residents of the 500-unit complex an average of $430 a year in utility costs. All these projects will result in significant energy savings and serve as potential models other projects in Massachusetts and across the country.

www.mass.gov/eea

MICHIGAN

Michigan Energy Office, Michigan Economic Development Corporation

The Michigan Energy Office (MEO) utilizes U.S. State Energy Program (SEP) funds to promote energy efficiency and renewable energy resource development to Michigan residents, businesses and public institutions. A U.S. Department of Energy designated state energy office, the MEO operates as a division of the Michigan Economic Development Corporation. Program objectives include: Support of policy and program development; Developing beneficial public-private partnerships at the local level; Increasing energy efficiency in the public and private sectors; Reducing Michigan's dependence on imported energy; and, Encouraging the adoption and growth of new technologies and alternative fuels in buildings, industrial processes, vehicles and power generation.

MEO activities are designed to encourage the use of new technologies and alternative fuels in buildings, industrial processes, vehicles and in power generation. Program objectives are advanced through a variety of services, including information dissemination, technical assistance and financial assistance. SEP funded activities include activities to upgrade energy efficiency in state buildings, provide grants and loans to private sector companies to increase manufacturing capacity of wind turbines, solar panels, and their component parts. SEP funding is also providing financial assistance through loan agreements and grants to Michigan equipment manufacturers that diversify into the production of renewable energy systems and components. To date, over 25 loans and grants have been made through the Michigan Clean Energy Advanced Manufacturing program.

Program highlights follow:

- HTI is a Kentwood, MI based company that manufactures biomass gasification systems for waste to energy projects. HTI has built a pilot scale biomass gasification center and an advanced manufacturing rapid prototyping center. Their labs are capable of characterizing many types of biomass giving them the ability to optimize their gasification technology based on the biomass feed. HTI also offers a unique high temperature air to air ceramic heat exchanger technology that is designed to operate continuously up to 2400F. They have partnered with Morbark, Inc in Winn, Michigan for the heavy metal manufacturing. They currently have an operating gasification system at Sietsema Farms in Howard City, MI where they are gasifying turkey litter to produce power and steam.
- Merrill Machine and Tool is a Saginaw, Mi based company that manufactures utility-scale wind turbines. They have upgraded their facilities to include advanced manufacturing equipment to enable them to machine parts at the highest level of precision, at a rapid speeds. Their turbines have been tested and certified by NREL to produce up to 2.3 MW. They have established a Michigan based supply chain of over 50 companies and created a home for Michigan's first wind turbine OEM, Northern Power Systems. Currently, two of their 2.3 MW turbines have been commissioned at Stoney Corners near Cadillac with a third one being refitted to fly in early 2012.
- Energy efficiency and renewable energy measures in state-owned buildings are also being supported by SEP funding. Michigan's overarching objectives is to reduce energy

consumption in public building by 25 percent by 2012. Under this program, the state has conducted more than 200 energy audits on state facilities to identify energy efficiency measures. Projected energy savings from the audits exceed 5.7 million kWh. Among the completed projects is a 9.85 kilowatt photovoltaic system on the Saginaw Bay District Department of Natural Resources and Environment in Bay City. The system is producing 60 percent of the 25,000 square foot building's electrical needs.

www.michiganadvantage.org/state-energy-office

MINNESOTA

Division of Energy Resources, Minnesota Department of Commerce

Minnesota's State Energy Program (SEP), coordinated by the Minnesota Department of Commerce, Division of Energy Resources, has historically promoted energy conservation, energy efficiency and renewable energy to Minnesota consumers, businesses and policymakers. For its past, SEP is noted for its targeted efforts in making Minnesota a leader in the delivery of E85, advancing building codes, and increasing locally owned wind energy production.

More recently, SEP's plan has expanded to support a broader range of projects in areas such as:

- commercial and industrial energy efficiency
- energy-efficiency retrofits of government buildings
- residential energy efficiency
- renewable energy rebates and grants
- utility conservation improvement programs

For instance, in the commercial and industrial market, SEP provides energy-efficiency grants, loans and shared-savings agreements; renewable energy feasibility grants; and emerging renewable energy industries grants. Over a three-year period ending March 31, 2012, funds of nearly $17 million will provide financing, technical assistance and shared-savings agreements to commercial, industrial and nonprofit entities. The estimated energy savings for that period is 117,800 MBtus, with about 256 jobs directly created.

The improvement project at St. John's Hospital in Maplewood, Minn., is one of several commercial energy-efficiency efforts funded by Minnesota's SEP. St. John's received a $300,000 grant for a $1 million effort to upgrade its heating, ventilation and air-conditioning systems. A complete building automation system upgrade and retro-commissioning was performed from July 2010 to early 2011. An estimated annual energy savings of 20 percent (valued at $260,000) is projected.

SEP's work in the residential energy efficiency area has been exemplary. To ensure that Minnesota's residential buildings continue to improve in energy performance, SEP has developed several programs to provide financing and technical assistance for energy-efficiency improvements such as insulation and air sealing, lighting, HVAC and window and door modifications. Rebates totaling nearly $14 million have been provided for a three-year period ending March 31, 2012. One of the most successful initiatives was the Energy Saver Rebate Program, which provided an average $3,100 rebate to 2,200 Minnesota homeowners. More than $24 million in energy-saving improvements were made, spurred by nearly $7 million in Energy Saver rebates. Homeowners qualified for the rebate by securing a Fix-Up Fund loan from Minnesota Housing's participating lending partners. More than 65,000 labor hours were generated by the work.

The renewable energy rebate and grant area has also achieved recent measurable success. SEP has been a catalyst for enhancing clean energy alternatives via rebates to homeowners and small businesses and through grants to schools and local governments. SEP funds are providing rebates

of about $5 million for small-scale solar, wind and ground-source heat pump installations. For instance, about $2.5 million in rebates for solar photovoltaic installations were provided in 2010, an incentive that contributed to a record 228 new PV systems (totaling 1.8 megawatts), tripling the state record of 76 set in 2009.

In the near future, SEP will commit even more resources to public building energy-efficiency retrofits. Currently, about $4 million in cost-share grants are committed to public school districts and local government units to install renewable energy, combined heat and power, and ground-source heat pump systems. In addition, SEP is providing grant and/or loan financing of about $9 million to state and local units of government to make energy-efficiency improvements to existing buildings and energy-using facilities. The majority of that money is going to the Public Building Enhanced Energy Efficiency Program (PBEEEP), in which more than 55 state government sites have enrolled for recommissioning and retrofits.

Public building retrofits and recommissioning, clean energy financing, and energy-saving performance contracting are priorities for the future. An April 2011 executive order from Minnesota Gov. Mark Dayton calls for job creation through energy efficiency and renewable energy programs for Minnesota's public buildings.

www.mn.gov/commerce/energy

MISSISSIPPI

Energy Division, Mississippi Development Authority

Through its programs and activities, the Mississippi Development Authority's (MDA's) Energy Division promotes the efficient and environmentally acceptable use of energy in all sectors of the state's economy. The Energy Division also encourages an environment that enhances the state's access to cost competitive, available energy resources, ultimately benefiting economic development in Mississippi.

Mississippi is experiencing considerable growth in the clean energy sector, and part of that growth can be attributed to U.S. State Energy Program (SEP) programs administered by the MDA. One such program is the Mississippi Job Protection through Energy Economic Development grant program, which provided grants to eligible businesses for energy efficient retrofits to help them cut costs. Over the past two years, the program has provided funding to 67 companies located throughout the state, including a grant to Luvata Grenada. The grant provided for the purchase of energy efficient machinery and equipment at the company's two facilities in Grenada, which have a combined total square footage of 237,300 square feet.

The Energy Division is also utilizing SEP funds to support several programs aimed at reducing energy consumption and costs in public buildings at the state and local levels. The Energy Division partnered with the Mississippi Department of Finance and Administration to implement a "Lead by Example" program, which to date has conducted 278 building audits. The audits' findings estimate annual energy savings of 110,771,028 kWh is possible through energy efficiency measures. During 2011, five energy retrofits have been completed involving 885,282 square feet of public building space as a result of this program.

Another public building program supported by SEP funds is helping to finance energy-saving upgrades through performance contracting in 10 public institutions. The participating public sector partners include the Biloxi School District, Cleveland School District, Desoto County, Jefferson County, Lawrence County School District, Mississippi State Hospital, Monroe County School District, Claiborne County, Alcorn County School District and Hollandale School District. This effort allows these public institutions to finance large-scale energy conservation projects in their facilities and to pay for the projects with the guaranteed energy savings. Under the program, 149 public buildings, representing more than 3 million square feet of space, have either completed or are in the process of completing an energy retrofit project. The Biloxi Public Schools project was completed in October 2011 and is expected to save more than $275,000 a year in utility costs. The district invested more than $3 million for the energy improvements, which were funded through the SEP grant and a construction bond. The project will save the district an estimated $4.5 million over 15 years.

SEP funding is also supporting market transformation in the renewable energy sector. An SEP grant program that provides incentives to public and private entities to help deploy commercially available renewable energy technologies has resulted in 17 new projects statewide. Twelve of the 17 projects involve photovoltaics (PV). To date, eight PV projects, representing 359.9 kW of renewable generation, have been completed, and four others are underway. One of the ongoing projects is at Twin Creeks Technologies' manufacturing facility in Senatobia. The grant will

allow the company to install a 60kW rooftop solar array at its new photovoltaic production facility and serve as a demonstration of the new Mississippi-manufactured technology. This project, along with all others benefiting from the grant program, will be complete in early 2012.

www.mississippi.org

MISSOURI

Division of Energy, Missouri Department of Natural Resources

The Missouri Department of Natural Resources' Division of Energy is a nonregulatory entity that works to protect the environment and stimulate the economy through energy efficiency and renewable energy resources and technologies. With funding from the U.S. State Energy Program (SEP), the department provides technical and financial assistance for energy efficiency and renewable energy projects to state and local governments, school districts, agriculture, industry and homeowners through their Energize Missouri Program.

The Energize Missouri Agriculture Cost-Share Grant program was developed to reimburse farmers up to 75 percent of the cost of energy-saving equipment and systems. More than 1,500 farmers received rebates for energy-efficient equipment such as GPS and auto-steer systems for tractors and applicators, solar-powered livestock watering systems, solar powered fencers and irrigation system upgrades.

The Energize Missouri Industries program provided grant funding to 45 industrial companies for energy efficiency and conservation projects. Projects are expected to save over 74 million kWh of electricity. In 2010, the department held what is believed to be the first-ever reverse auction for energy efficiency, in which companies competed to provide the greatest energy savings at the lowest public cost. When the auction winners fully implement their programs, Missouri will save up to 75 million kWh (kilowatt hours) of energy. This innovative auction was touted in the New York Times and the department received the 2011 Innovation Inspiring Efficiency Award from the Midwest Energy Efficiency Alliance. In addition, the department was also a finalist for the Platts Global Energy Award in 2011.

The department selected 17 projects for subgrant awards through the Energize Missouri Renewable Energy Study Subgrant program to conduct renewable energy resource assessments and feasibility studies of renewable energy projects in the state.

Another renewable energy project, the Energize Missouri Renewable Energy Biogas Grant Program, is also supported by SEP funding. Launched in 2011, this grant program is providing partial funding for two biogas projects, the state's first on-farm anaerobic digester and a landfill gas project.

The anaerobic digester project is nearing completion at the Hampton Feedlot in Chariton County. The feedlot is currently collecting 52 pounds of animal waste per head/daily, from its 2,400 cattle. The waste will be used as feedstock for the 300 kW anaerobic digester. All the electricity produced will be used on-site with any excess being sold back to the grid.

KCP&L, an investor-owned utility in Kansas City, is also nearing completion of its 1.6 MW landfill biogas to energy project at the St. Joseph municipal landfill. The plant, which will convert landfill gas into electricity, will generate enough electricity each year to power nearly 1,000 homes.

Beyond the sector specific Energize Missouri programs, the department provides loans to public schools, universities, colleges, cities and counties to help reduce energy costs through their Energy Revolving Fund. This loan financing is used for various energy-saving investments, including projects such as upgrading insulation, lighting systems, heating and cooling systems, windows and other items that affect energy use. Loan recipients repay the loans from the energy savings they achieve after their projects are completed. The financing frees up tax dollars that school districts, higher education facilities and local governments can use for essential services or other capital improvements. Since the fund was initiated in 1989, the department has loaned more than $80 million for completed energy-efficiency projects, for more than $146 million in cumulative energy savings.

www.dnr.mo.gov/energy

MONTANA

Montana Department of Environmental Quality

The Montana Department of Environmental Quality (DEQ) provides information for citizens, schools, businesses and government on a variety of energy topics. In addition, using U.S. State Energy Program (SEP) funding, the DEQ manages a number of grant and loan programs that provide support for conservation, renewable energy, recycling, and biofuels projects statewide.

One of the DEQ's longest running programs is the State Buildings Energy Conservation Program (SBECP). The program was established in 1989. Over the years a variety of funding sources has provided capital for the program including a large infusion of SEP funds in 2009 that provided jobs on construction projects throughout Montana and will allow the program to be self-sustaining for many years. Energy savings realized as a result of the program are repaid to the SBECP, where the energy savings repayments revolve into new loans that are invested in additional energy upgrades. Among current projects are energy retrofits to campus buildings at the two major universities and their satellite universities and colleges of technologies.

In the past 2 years 88 state-owned buildings representing more than 4.3 million square feet of office space have undergone energy audits and retrofit projects including improved lighting and better mechanical systems. The improvements to state infrastructure include office buildings, warehouses, transportation maintenance facilities, the School for the Deaf and Blind and state hospitals and veteran care centers. Another longstanding program within the DEQ is the Alternative Energy Revolving Loan Program (AERLP). This loan fund has also used a variety of funding sources through the years including SEP funds. AERLP provides a financing option to Montana homeowners, small businesses, non-profits and government entities to install alternative energy systems. Like the SBEC program, AERLP funds are paid back to the program over time and loaned out again and again, extending the funding benefits for years. Loans are capped at $40,000 and carry a 3.5 percent interest rate (rate adjusted annually) with terms of up to 15 years.

With additional SEP funding in 2009 Montana was able to fund four 4 alternative energy grant projects including: Core Wind Power's three-megawatt direct-drive wind turbine, in Ronan; Algae Aqua Culture Technology's commercial-scale algae greenhouse project in Columbia Falls, Opportunity Link's biodiesel locomotive partnership with BNSF in Havre; and Earl Fisher's oilseed processing and biodiesel refinery project in Chester. All of these are projects will provide long term jobs in alternative energy for Montanans.

SEP funding is also improving the recycling infrastructure in Montana communities through the purchase of equipment to collect, store, and transport recyclables to market and assist local businesses use the materials collected as raw materials for processing. A total of 19 recycling projects were funded through the Montana Recycling Infrastructure Grants program, including recycling collection bins in Libby, Troy, Colstrip, St. Ignatius, Ronan, Polson, Bozeman, Havre, Shelby and at sporting events, performances and tradeshows held on the campus of Montana State University.

www.deq.mt.gov/energy

NEBRASKA

Nebraska Energy Office

The Nebraska Energy Office was created in 1977 to promote the efficient, economic and environmentally responsible use of energy. In that role the Energy Office makes considerable investments in energy efficiency and renewable energy programs to ensure affordable and reliable energy for Nebraskans. The U.S. Department of Energy's State Energy Program is a vital part of the Energy Office's ability to achieve these objectives. With SEP funding, the Energy Office has developed and implemented a number of innovative energy programs that are playing an important role in Nebraska's responsible use of energy and helping to grow the state's clean energy economy.

SEP funds provide program support for a wide array of activities that include the Dollar and Energy Saving Loan Program, Advanced Renewable Energy Projects, State Building Energy Efficiency, and several education programs. Many of these programs leverage SEP funds with considerable non-federal dollar investments in energy efficiency improvements and renewable energy projects in all sectors.

The Energy Office has operated the Dollar and Energy Saving Loan Program for more than 21 years. The revolving loan program finances energy efficient improvements in homes, farms, ranches, business, industrial, schools and others. Capitalized with $25 million in oil overcharge funds, the program has been re-charged through the years with loan repayments as well as SEP and utility funding for a total loan pool of $36 million. From 1990 to December 31, 2011, 27,339 projects totaling more than $258.7 million have been financed with low-interest loans from the Energy Office and the state's participating lenders at 894 locations across the state. Although the overwhelming majority of loans are for residential projects, in the summer of 2011 the first two public compressed natural gas stations in Omaha were financed with low interest loans. The stations are part of a shared project by Metropolitan Utilities District and Happy Cab Co. The cab company has a fleet of CNG vehicles and the District plans to purchase more than 80 new compressed natural gas vehicles over the next year.

The Advanced Renewable Energy Projects grant program also leverages SEP funds with private investment funds. Eight projects have been funded under the program during the past two years, resulting in renewable energy generation capacity exceeding 120 kilowatt (kW). The eight projects leveraged more than $4.3 million from private sources. One project resulted in a state-of-the-art photovoltaic tracking system at Nebraska Public Power District's Norfolk Operations Center. The tracking system was, in part, manufactured by Behlen Manufacturing in Columbus, Nebraska. The 44.1 kWt system became operational in 2010, and over the course of its first year of operation (December 2010 until December 2011), the system produced more than 77,000 kilowatt-hours (kWh) and offset nearly 50 metric tons of carbon emissions based upon NPPD system average fossil generating emissions.

The Energy Office is using SEP funding to upgrade the energy efficiency of state government buildings, and educational facilities at the University of Nebraska's four campuses, three state colleges and six community colleges. Thirty-seven building energy retrofit projects have been identified and are in various stages of completion.

SEP has also played a major role in educating the state's public officials, tradesmen and women, professional engineers, designers, equipment and material suppliers, as well as the citizenry on the latest energy technologies available in the marketplace. SEP funding has helped pay for seven 2.5 kW wind turbines as part of the state's Wind for Schools program. In addition, an Energy Detective kit was distributed to nearly 20,000 fifth grade students at schools throughout the state in 2010. The kit encourages students to work with their families on home retrofit and auditing projects, and save an estimated 5.5 million kilowatt hours over ten years.

www.neo.ne.gov

NEVADA

Nevada State Office of Energy

The Nevada State Energy Office (NSOE) works to ensure the wise development of the state's energy resources in unison with local community economic needs and the state's natural resources. To achieve these objectives, the NSOE has initiated several programs in the past two years that support job creation through the promotion of renewable and energy efficiency programs. These programs are primarily funded through the U.S. State Energy Program (SEP), and largely support projects in Nevada schools, state buildings, communities and private sector economic development efforts.

In 2010, the NSOE, using SEP funds, launched a Revolving Loan Program for the development and expansion of renewable energy, energy efficiency, and renewable energy manufacturing projects. The first phase of the program provided low-cost loans to fund six photovoltaic (PV) projects, four wind projects, three anaerobic digesters, and two hydropower plants. Principal and interests repayments from first phase projects will fund second phase projects that will be announced in 2012.

Several projects financed through the loan program are currently underway, including a manufacturing facility in Lyon and Churchill Counties for Avatar Energy. Avatar Energy is also financing three anaerobic digesters through the loan program. Avatar's anaerobic digesters will enable dairy farmers to convert “biogas” derived from cow manure into energy that can power farming operations or produce income from ”green power” sales. The projects, which will break ground in early 2012, are supporting Avatar's decision to locate a new manufacturing facility in rural Nevada.

In addition, two hydropower plants that create electricity from flowing water were financed by local ranchers during 2011. When completed, a 225 kilowatt (kW) hydropower plant that uses flowing water from the North and South Twin Rivers near Tonopah is expected to generate an estimated 1.2 million kilowatt-hours (kWh) of electricity per year. A 175 kW hydro plant near Kingston, also under development, is expected to produce 1.097 million kWh per year. The Kingston project uses water flowing through a pipeline to generate electricity. Both projects will offset the ranching operations' energy costs.

In addition to energy projects that are benefitting farming and ranching operations, SEP funds have been put to use helping schools throughout the state reduce energy costs. With the help of SEP funding and utility rebates, Pershing County School District has installed photovoltaic systems atop three schools. Combined, the three systems at Lovelock Elementary, Pershing County Middle School, and Pershing County High School should produce roughly 600,000 kWh of solar energy each year and save the district $72,000 annually. All total, 16 Nevada school districts have installed rooftop solar PV systems on 58 schools throughout the state. Washoe County installed 1.13 megawatts of solar at 23 schools including 18 elementary schools, three middle schools and two high schools. Clark County added 50 kW solar PV systems at 24 elementary schools and one career and technical academy high school.

NSOE's SEP-funded Schools Program is also providing funding for energy efficiency projects as well. Thirty-five schools throughout the state have implemented an energy retrofit project under the program. Carson City School District installed new LED and T-8 fluorescent lighting at three schools that will save taxpayers almost $80,000 in energy costs annually.

In 2011, NSOE used SEP funds to help communities throughout the state save energy through street and traffic light retrofits. More than 1030 new light emitting diode (LED) street lights and 26 traffic signals have been replaced in Carson City, City of Las Vegas, North Las Vegas, Henderson and Clark and Washoe counties.

www.energy.state.nv.us

NEW HAMPSHIRE

Office of Energy and Planning

The New Hampshire Office of Energy and Planning (OEP) is part of the Executive Department within the Office of the Governor. OEP is responsible for promoting sustainable development principles in the state, ensuring energy availability, providing energy technical assistance for communities and citizens, promoting energy efficiency, and exploring opportunities for renewable energy. Financial support for these efforts comes from the U.S. State Energy Program (SEP), federal grants and the State's General Fund.

A partnership established last year between the OEP and the University of New Hampshire, is benefiting from SEP funding. The partnership created the Green Launching Pad, tasked with assisting innovative companies to bring new "green-energy" products and services to market and create jobs. So far the program has provided direct support to 11 New Hampshire companies as well as access to business launch seminars for approximately 100 businesses. Among the companies are Holase, Inc., of Portsmouth, SustainX of Seabrook and Dover-based Revolution Energy.

Holase has developed a self-contained, low-cost, solar-powered LED traffic signal. SustainX is transforming the energy storage industry by coupling the low cost of compressed air storage with the long life and high efficiency of hydraulic systems. The systems are modular and scaleable to allow it to be packaged with a variety of renewable energy projects including wind, ocean, and solar. Revolution Energy is installing renewable energy systems on municipal buildings and schools, developing site-appropriate renewable-energy curriculum and educating students and citizenry, all under a power purchase agreement (PPA). Projects Revolution Energy has completed recently include a 100-kilowatt photovoltaic system on Exeter High School that is saving the school $20,000 annually, a 60-kilowatt system on East Kingston Elementary that will generate between 60 to 100 percent of the school's electrical needs, and a 25-kilowatt system at the Community College System of New Hampshire. All three systems serve as an education tool for schools.

Among the other efforts funded through the State Energy Program, and administered by the OEP, is the Enterprise Energy Fund -- a revolving loan fund for for-profit and non-profit businesses. The program is currently fully subscribed with loans supporting energy projects at more than 30 sites, including AutoServ car dealerships, New Horizons of New Hampshire, The Discover Portsmouth Center, and Miles Smith Farm. The Enterprise Energy Fund offers a two-percent interest rate on loans for up to ten years for energy efficiency and renewable energy projects, and a 25 percent grant toward the total loan amount.

The residential wood-pellet central heating system rebate program has also received support through SEP funds. In an effort to support energy independence, the OEP has utilized its funding to advance the first in the nation rebate on wood pellet boilers and furnaces. This program aims to boost the demand for a local, sustainable fuel source that will help to offset the state's heavy reliance on #2 heating fuel.

SEP funds are also supporting higher education energy projects around the state. Fifteen energy efficiency and renewable energy projects are complete at Community College campuses. University of New Hampshire campuses in Durham, Keene, and Plymouth have completed energy projects that are saving approximately $175,000 per year in electrical and fuel costs.

The State's Department of Administration, in conjunction with the OEP, is using SEP funds to upgrade the energy systems at Glencliff Home in Benton. This off-grid, state-owned nursing facility is using SEP funds to install a biomass woodchip plant, which includes a co-generation component, as well as upgrade to an existing hydro-power plant. Both of these systems will replace fossil fuel generators that have long provided heat and electricity for the nursing home.

www.nh.gov/oep

NEW JERSEY

Office of Clean Energy, New Jersey Board of Public Utilities

New Jersey's Clean Energy Program is a statewide program administered by the New Jersey Board of Public Utilities (BPU). The program promotes energy efficiency and renewable energy solutions for all New Jersey ratepayers – including residences, businesses, schools and municipalities. Various programs within the CEP are funded with monies from U.S. State Energy Program (SEP). In addition, SEP funds are awarded by the BPU to other government agencies for the delivery of specific energy programs under their jurisdiction.

Among the programs funded in New Jersey through SEP are a Combined Heat and Power grant, a grant for energy projects in public buildings, a residential energy efficiency retrofit program, and a financing program for residential solar.

The Energy Efficiency through Clean Combine Heat and Power (CHP) program, administered by the New Jersey Economic Development Authority, provides grants for CHP production at existing facilities of large commercial and industrial customers. In 2011, a grant to Recycled Energy Development resulted in a CHP project at the National Gypsum Company facility in Burlington. The project is producing approximately 3.2 megawatts (MW) of clean electricity and delivering more than 197,000 MMBtu of thermal energy. Grant awards have also advanced five other CHP projects in the state. The projects include a 9.5 MW cogeneration unit at the DSM Nutritional Products facility in Belvidere, two 7.65 MW facilities serving a hotel and two casinos in Atlantic City, and 1.1 MW gas engine generator at Ocean City College, and a 4.6 MW cogeneration plant for the new University Medical Center at Princeton, scheduled to open in spring, 2012 . All totaled, nearly 35 MW of clean energy production has resulted from this SEP funded grant program.

SEP funds are also supporting efforts by the New Jersey Office of Energy Savings to reduce state government's energy consumption and lower its energy costs. The Office of Energy is using grant funds to perform energy audits on state-operated buildings to identify opportunities for energy efficiencies.

In addition, renewable energy and energy efficient projects in public buildings throughout the state are being supported through an SEP grant administered by the BPU. Earlier this year, Montclair State University School of Conservation used funding from this grant program to invest in two new photovoltaic systems, at its Stokes State Forest campus and its main campus in Montclair. The two systems combined (280 kW) are projected to produce more than 310,000 kWh of electricity annually and save the University approximately $62,000 annually.

In the residential sector, SEP funds are supporting the state's Home Performance with Energy Star program. The HPwES program offers "whole house solutions" for existing buildings to reduce both energy costs and carbon footprint.

SEP funds are also capitalizing loans made by the New Jersey Home Mortgage and Finance Agency for solar energy projects in the multifamily housing sector. To date, 13 loans have been made under the Financing Program for Residential Solar. Among the projects financed is a 77.3

kW photovoltaic system at Carpenter's Square. Carpenter's Square, an independent senior living community in Gloucester City, includes 100 affordable housing units for senior residents who are 62 years of age and older. The PV system, created 91 Solar Renewable Energy Credits (SRECs). These SRECs are expected to generate $40,950 per year in annual utility savings. Another loan was provided to the Bellmawr Senior Housing complex, a 130-unit affordable housing complex for senior residents. In November, 2011, Bellmawr completed the installation of a 167 kW photovoltaic system. The PV system is projected to create 154 SRECs that will generate approximately $69,300 per year in direct utility savings for tenants.

www.bpu.state.nj.us

NEW MEXICO

Energy Conservation and Management Division, New Mexico Energy, Minerals and Natural Resources Department

The New Mexico Energy Conservation and Management Division (ECMD), within the state's Energy, Minerals and Natural Resource Department (EMNRD), is responsible for planning and administering energy efficiency and renewable energy technology programs statewide. Included are programs related to the development and use of solar, wind, geothermal, and biomass resources as well as alternative fuels and transportation. In addition, ECMD provides technical assistance and information in these areas to government agencies, Indian tribes and pueblos, educational institutions, and the general public. Funding support from the U.S. Department of Energy's State Energy Program (SEP) is critical to carrying out ECMD's programs.

ECMD's major initiatives in the area of renewable energy support utility-scale and distributed generation-scale technology applications. New Mexico has scores of SEP-funded renewable energy projects and, as a result, a wide range of solar technologies are now highly visible throughout New Mexico communities, at government facilities, and in the public school system.

One of ECMD's earlier solar efforts was the 'Schools with Sol" program that resulted in 25 small solar systems (both photovoltaic and solar thermal) installed at public schools throughout the state. The program ran from 2004 to 2007. In 2009, another effort aimed at the school sector was launched that resulted in 15 large solar installations (50 kW) that are saving each school between $15,000 and $23,000 in energy costs annually.

The state's Renewable Energy Production Tax Credit has helped stimulate more than 700 megawatts of utility-scale wind projects since 2002, while ECMD's meteorological wind tower program collects wind data that contributes to the growth and development of wind projects in New Mexico. On the distributed side, the Solar Market Development Tax Credit has attracted over $40 million in private investment in solar technology, helping to drive economic development for small solar businesses. The ECMD administers and promotes these tax credits, as well as the Sustainable Building Tax Credit.

Through its Energy Efficiency in Buildings Program, ECMD addresses building and technology applications such as energy control systems, efficient lighting, efficient heating and cooling systems, building envelope upgrades, motors and appliances, as well as behavioral practices that reduce energy use and costs.

Under state statute, ECMD is responsible for review and approval of investment-grade energy audits that recommend energy conservation measures in public facilities to be implemented through energy performance contracts. Governmental units such as public schools, universities, municipalities and state agencies are eligible to enter into long-term installment payment contracts of up to 25 years for installation of energy efficiency, renewable energy and water conservation measures. Since the law was passed in 1992, ECMD has certified $30 million worth of energy retrofits that have resulted in total guaranteed savings of $43 million in utility costs.

Among its recent energy efficiency successes is a statewide traffic light project launched in 2009 and completed in 2010. ECMD, in partnership with the New Mexico Department of Transportation, used SEP funding to convert 355 traffic signals in 33 communities around the state from incandescent lamps to light-emitting diode (LED) lamps. After one year in operation, the LED traffic signals program has resulted in a 75 percent energy savings and 67 percent cost savings.

ECMD's Clean Fuels and Efficient Transportation Program sponsors projects that advance vehicles and infrastructure for use of clean-burning fuels such as New Mexico-produced compressed natural gas, propane, ethanol, and biodiesel. ECMD has also helped create a number of policies for the public sector that promote fuel conservation, teleconferencing, carpooling, and fuel efficiency. Over a five-year period, from 2005 to 2010, these policies resulted in a 48 percent reduction in fuel use by executive branch agencies, from 322 gallons per employee annually to 167 gallons per employee annually.

www.emnrd.state.nm.us

NEW YORK

New York State Energy Research and Development Authority

New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation. NYSERDA's earliest efforts focused solely on research and development with the goal of reducing the State's petroleum consumption. Today, NYSERDA's aim is to help New York meet its energy goals: reducing energy consumption, promoting the use of renewable energy sources, and protecting the environment. Although primarily funded by state ratepayers through a System Benefits Charge, NYSERDA is also utilizing U.S. State Energy Program (SEP) funds to support several grant initiatives.

Included among the SEP funded grant opportunities is the Renewable Energy Program and an Energy Efficiency Program for Municipalities, Schools, Hospitals, Public Colleges and Universities, and Non-Profits. The renewable energy grants provide incentives to encourage the installation of photovoltaic, solar thermal and wind energy systems, while the energy efficiency grants provide support for public building/facility retrofits.

Over the past three years, NYSERDA has supported the development and installation of nearly 250 clean energy projects through these two grant programs. These projects are helping public and non-profit entities reduce energy costs by an estimated $22 million annually. Among the projects are 152 energy efficiency grants that have resulted in building energy retrofits in 193 buildings. In addition 2,340 streetlights were replaced with energy-efficient streetlights utilizing grant funding. Another 85 grants were awarded under the renewable energy grant program for photovoltaic projects. These projects have a generating capacity of 1.9 MW of clean energy. A number of other grants are supporting solar thermal projects, power purchase agreements and wind energy systems.

Marcellus Central School was one of the numerous schools that received an SEP energy efficiency grant. Marcellus used the SEP funding to upgrade lighting and controls. The school replaced 650 inefficient lights with efficient T-8 lights. The lighting retrofit is saving the school 218,901 kWh and $30,000 in utility costs annually. Port Jefferson School District also implemented a lighting retrofit project using SEP funding. Port Jefferson retrofitted lighting systems in five schools across the district, installing 94 occupancy sensors and 1,361 energy efficient lamps and ballasts. The energy savings are estimated at 396,000 kWh and $74,000 each year.

Terence Cardinal Cooke Health Care Center located in New York City also received an SEP grant to undertake a major boiler plant upgrade. The project is expected to save the Hospital $475,000 annually. By installing new dual-fuel high-efficiency boilers, the hospital will avoid using over 194,000 gallons of #6 fuel oil.

The North Country School installed a high-efficient biomass boiler on its campus in Lake Placid. The project is expected to save the School $38,970 annually and will reduce greenhouse gas emissions by 184 tons per year.
A renewable energy grant also helped the City of Binghamton install a 49 kW photovoltaic (PV)

system that is saving the city nearly $6,000 a year in utility costs. The John Jay Middle School in Cross River put an SEP grant to work on a 50 kW roof-mounted PV system.

A Capacity Based Incentive Program was also capitalized with SEP funds. Seven PV projects were funded based on a formula that provided a fixed-dollar amount per kW of generating capacity. The grantees included residential and non-residential projects that ranged in size from 642 kW to 1 MW. A total of 6.4 MW of new solar generating capacity was installed as a result of this program.

www.nyserda.ny.gov

NORTH CAROLINA

North Carolina Energy Division

The North Carolina Energy Division is dedicated to ensuring a sustainable energy future for the citizens of North Carolina. To achieve this, the Division has significantly increased its investments in energy efficiency, alternative fuels and renewable energy. A main source of funding for these investments has been the U.S. State Energy Program (SEP). Through its SEP programs, the Energy Division serves as the principal source in the state for energy-related grants, loans, rebates, trainings and information.

The Division's Green Business Fund uses SEP funding for grants to North Carolina businesses and organizations that are investing in renewable and energy efficiency projects, or manufacturing clean energy products. Since 2009, nearly 50 grants have been issued through the program including one to Biowheels Responsible Transportation Solutions. The Asheville-based alternative energy company used grant funds to install the state's first solar-powered electric vehicle charging station. By the end of 2011, the company will have completed four publically accessible charging stations, with 12 electric vehicle charging units. Each station will generate enough solar electricity to provide charging for 30,000 vehicle miles. In addition to the Biowheels projects, a separate grant award to Praxis Technologies of Raleigh is supporting the installation of 19 additional electric vehicle charging stations in strategic areas around the state. Other Green Business grants are providing for a wide variety of energy efficiency upgrades and renewable energy installations in applications ranging from the agriculture industry to hospitality, schools, residential, and commercial businesses.

The SEP funded Energy Savings for Small Business and Industry grant program is supporting 55 projects. Included is a lighting retrofit in seven manufacturing and warehousing facilities (1.2 million square feet) owned by Hickory Springs Manufacturing. Hickory, a manufacturer and supplier for the furniture and bedding industries, has realized significant savings since using grant funds to replace more than 4,000 inefficient light fixtures with high efficiency fixtures. Another grant recipient, SG Atkin Development Corp., used energy savings' funding for upgrades to its business incubator in Winston-Salem. The grant provided for energy efficient lighting fixtures, high efficiency heating and air conditioning equipment, plus a 10 kW rooftop solar photovoltaic (PV) array. One of the incubator's tenants, Volt Energy, installed the panels that are projected to provide about 15 percent of the facility’s electricity, or about 13,000 kWh per year.

The Energy Division, in partnership with the North Carolina Department of Commerce, has also used SEP funding for energy efficiency and renewable energy grants for Main Street businesses in small communities throughout the state. Twenty-two grants were issued, aimed at retaining and boosting economic development in small towns’ business districts. Projects included a streetlight retrofit project along Main Street in Albermarle. The grant funding resulted in 124 new LED streetlight fixtures that are saving the city an estimated $25,169 in utility costs annually. Hendersonville also received a grant, with funding going towards energy efficiency upgrades in three Main Street businesses. The upgrades resulted in an overall 40 percent reduction in electricity use by the business owners.

SEP funds also are supporting 26 grants through the Commercial Renewable Initiative Grant program. Commonwealth Brands, a Reidsville-based manufacturer and distributor of tobacco products, has completed a 108 kW solar PV rooftop system that is generating 162,000 kWh annually. The Schiele Museum in Gastonia installed 15 kW of solar PV, reducing its energy consumption by 23,000 kWh annually.

Through effective and focused funding, the State Energy Office has used SEP dollars to increasingly make sustainability and energy efficiency simply a way of doing business in North Carolina.

www.nccommerce.com/energy

NORTH DAKOTA

Office of Renewable Energy and Energy Efficiency, North Dakota Department of Commerce

The North Dakota Office of Renewable Energy and Energy Efficiency (OREE) has a variety of programs that promote energy efficiency and renewable energy activities in both the public and private sectors within the state. Through its programs, the OREE partners with local and state government, industry, business, schools, economic development corporations, educators, individuals and others interested in advancing energy conservation practices and deploying renewable energy technologies.

These program activities are supported by the U.S. State Energy Program (SEP), and range from alternative fuel pilots to renewable energy projects, building energy efficiency activities, energy education and industry energy efficiency.

The Blender Pump Pilot Project, launched in 2009, utilizes SEP funding to offer grants to North Dakota motor fuel retailers to purchase pumps for dispensing ethanol or biodiesel. SEP funds have not only supported the installation of 80 blender pumps through this program, but they are also being utilized to promote the use of alternative fuels. A grant to the North Dakota Soybean Growers supports a consumer awareness campaign using billboards and electronic and print media. The programs have had a tremendous impact on the sales of alternative fuels in the state. In 2009, prior to the grant program taking affect, annual statewide sales of E85 was approximately 275,000 gallons. In 2011, the annual statewide sales of E85 surpassed the one-million gallon mark by September. Besides reducing carbon emissions from this cleaner burning fuel, the impact is being felt across North Dakota in other ways. As a result of the increased demand for ethanol, farmers are producing more corn than ever before as cultivated acreage has increased from 1.9 million in 2010 to 2.1 million in 2011.

The OREE is also using SEP funds to support a Renewable Energy Market Development (REMD) grant program. Bismarck State College used one of these grants to install a 10 kW photovoltaic system on the school's National Energy Center for Excellence (NECE). NECE is home to many nationally-recognized energy industry degree and training programs, and the solar project will help prepare the next generation of energy industry employees for careers working with this renewable energy technology.

Blaise Energy Inc. is also using a REMD grant to demonstrate the commercial viability of its Flare Gas Mirco-turbine. The micro-turbine pilot project is converting oil well flare gas (a waste by-product of oil production) to electricity. The project will capture an estimated 600 million cubic feet of natural gas annually from North Dakota oil fields sites and convert it to five-megawatts of electricity.

Other industrial energy efficiency activities supported through SEP funding include the North Dakota State University (NDSU) Agricultural Energy Efficiency program, a grant to support utility rebates and grants for municipal utilities to upgrade their municipal utility systems. NDSU is using SEP funding to conduct workshops on energy conserving farming practices. To date, 43 workshops have been held with 861 participants attending.

Besides industrial and market development activities, 23 grants have been awarded to state agencies and cities and towns to incorporate energy efficiency equipment into their facilities to reduce energy usage. The SEP funding provides for energy efficiency measures that have a payback of less than ten years.

SEP funds are also supporting numerous energy education activities throughout the state, such as Building Code Training workshops for builders and building inspectors. In addition to code workshops, energy efficiency and renewable energy education presentations for farmers and ranchers are being delivered through the NDSU Extension Service. Over the past two years, 579 people have attended one of these workshops or another OREE sponsored seminar.

www.communityservices.nd.gov/energy

NORTHERN MARIANA ISLANDS

Energy Division

The Commonwealth of the Northern Mariana Islands (CNMI) Energy Division is located within the Executive Branch of government. The Energy Division's goals and objectives are to help the Commonwealth decrease its dependence on imported petroleum products by promoting energy efficiency and the use of renewable energy resources. With funding from the U.S. State Energy Program (SEP), the Energy Division implements energy programs, projects and activities for the benefit of the island community and disseminates information on ways to help consumers reduce energy consumption.

Efforts during the past year included the installation of a wind and solar system at the Energy Division's Demonstration Center. Funded through SEP, the purpose of this project is to educate the public about the importance of green energy and energy efficiency. The 2.86 kW photovoltaic array and the 3.7 kW wind turbine together are generating enough renewable energy to displace approximately 40 percent of the power consumption of the Energy Division's office operations. The project is the first grid-tied system in CNMI and it is anticipated that the awareness created by it will open the door for the general public to install additional renewable energy technologies.

In collaboration with the Commonwealth Utilities Corporation (CUC), the Energy Division also used SEP funding in 2011 for the purchase and installation of four new energy efficient turbochargers for the utility's Power Plant 1. The project, completed over the summer, is expected to save CUC at least two percent of their total fuel costs. Based on preliminary tests, projected energy savings for the first turbocharger installed exceeds 650,000 gallons of diesel per year. At $3 per gallon, savings of more than $1.8 million per year, per turbocharger are anticipated. In addition to lower utility costs, the project will also reduce the carbon footprint of Power Plant 1.

SEP funding was also used to support 11 pilot renewable energy demonstration projects on public schools in the CNMI. The Public School System Green Energy Project included the installation of a 165 kW solar system on Saipan Southern High School that is generating enough electricity to power the entire school. The other 10 schools have implemented smaller renewable systems, but when combined with lighting retrofits, they are producing significant energy costs savings to the benefit of the schools' educational mission.

The Energy Division also provided SEP funding for a street light conversion project in Saipan, Tinian and Rota. Completed in July, 2011, the project replaced 1,225 existing street lamps with LED lamps. Besides the energy savings from the energy efficient LEDs, the new lamps are brighter and have a longer life span, and as a result have increased public safety and reduced maintenance costs.

An air-conditioning retrofit at the Guma-Husitisa Courthouse also benefitted from SEP funding during the past year. Prior to the project, the courthouse relied on three 110-ton chillers to meet its daily cooling load of 200 tons. A new 200-ton oil-free chiller turbo core compressor was installed in the summer of 2011. Energy data collected on the project shows that consumption

during the month of July dropped from 130,600 kWh (2010) to 104,800 kWh in 2011. At the current rate of $0.41per kWh, the courthouse project realized a one-month cost savings of nearly $10,578.

www.cnmienergy.com

OHIO

Ohio Energy Resources Division, Ohio Department of Development

The Ohio Department of Development, Energy Resources Division (OERD) works to grow and strengthen Ohio's economy by building upon its strategic investments in the state's energy-based sector. As part of this effort, OERD utilizes U.S. State Energy Program (SEP) funds to connect companies and communities to financial and technical resources in order to deploy renewable energy and energy efficiency technologies throughout the state.

The Energy Efficiency Program for Manufacturers (EEPM) is a multi-phase energy efficiency program that provides facilitation services and financial assistance to Ohio manufacturers to diagnose, plan, and implement cost-effective energy improvements at their facilities. The program was developed to provide Ohio's manufacturers with a tool to reduce costs through implementation of energy measures identified in the diagnostic process. The EEPM is divided into four phases and federal funds will be utilized for Phases I, II & IV: Phase I- Energy management diagnostic with company executives; Phase II- Energy management plan development/technical opportunities assessment; Phase III- Project implementation of energy cost measures from audit; Phase IV- Program measurement & verification, follow-up and review. Expenditures for the program to date have been $21 million in grants for the 264 Phase I, 135 Phase II and 103 Phase III program participants. OERD estimates energy savings of 28,331,432 kwh/year (electric) and 876,349 MMBTU/year (gas, oil, other) will be accomplished as a result of this funding.

Commercial and Institutional customers are served through a variety of programs. It is recognized that small businesses have many barriers to implementing energy efficiency improvements, such as a lack of expertise, time or and/or funding. The Ohio SEP has funded many initiatives to help Ohio small businesses reduce operating costs and improve their competitiveness. The Council for Smaller Enterprises (COSE) is providing small businesses with access to educational and financial resources for energy improvements, and utilizing online tools from the state and federal agencies to help track the companies' sustainability and energy efficiency. The Building Operator Certification is a professional certification program, sponsored in part by OERD, for facility staff who operate and maintain commercial and public buildings. Operators earn certification by attending training sessions and completing project assignments in their facilities.

Recently, Ohio's SEP, with more than $38 million funds made available, is fostering greater support for Ohio businesses to reduce their energy costs with strategic investments in commercial energy efficiency upgrades and renewable energy installations at Ohio's existing buildings and new construction. Many of these entities benefited from previous assistance through Ohio's SEP, such as K-12 schools that participated in the Anemometer Loan Program (ALP). This program is designed to help Ohioans make informed decisions about the siting and use of wind turbines by providing qualified applicants with the means to obtain site-specific wind resource data at a fraction of the cost of an industry standard wind resource assessment study. The information gathered in the ALP has been integral to the deployment of wind turbines in Ohio.

Residential customer will also receive education and training assistance through Ohio's SEP. OERD partnered with the Ohio State University Extension Service and the educational non-profit Green Energy Ohio to develop, initiate and implement a statewide outreach program. Out of this program came the online tool, Energize Ohio, which acts as a resource to individuals interested in alternative and renewable energy technologies, as well as a database of incentives available to help with implementing these projects. Another program geared toward reaching residential customers is the Residential Energy Education Program, which focuses on residential customers who have not yet adopted energy efficiency measures and renewable energy technologies. This program will provide education and assistance in implementing these measures and complements previous programming. Homebuilders are also a focus for OERD with the Promoting Advances in Building Sciences Program. OERD will work together with key energy conservation and building science experts to develop and promote training sessions to educate Ohio's building professionals and familiarize them with techniques for incorporating more energy efficient building practices.

www.development.ohio.gov/energy

OKLAHOMA

Oklahoma State Energy Office

Operated by the Oklahoma Department of Commerce, the State Energy Office is charged with sustaining and growing Oklahoma communities using energy efficiency and renewable resources as economic development tools. To achieve these objectives, the Energy Office provides grants, loans, information, training, and technical assistance to facilitate the deployment of new energy efficiency and renewable energy technologies and practices. Funding for these initiatives and program activities comes from the U.S. State Energy Program (SEP).

Alternative fuels is among the state's top energy priorities because of the need to reduce transportation costs. It is also a natural fit for Oklahomans to use Compressed Natural Gas (CNG) since it is produced locally. Grants from the Alternative Fuel Vehicles and Infrastructure Program, funded by SEP, are supporting the conversion of vehicles or buses to CNG, and the installation of CNG infrastructure throughout the state. Grant funding provided through this program helped the Metropolitan Tulsa Transit Authority (MTTA) replace 15 diesel buses with the purchase of CNG buses. Prior to the grant, MTTA's buses burned 601,000 gallons of diesel annually.

As a result of the grant that number has dropped to an estimated 443,500 gallons annually. Across town, the Tulsa Public Schools, in partnership with a local car dealership, used an Alternative Fuel grant to convert 140 school buses in its fleet to CNG. The school bus conversion is saving the district 2,700 gallons of diesel fuel per bus per year, and has reduced the district's total fuel use by 378,000 gallons. With diesel fuel costs above $3 per gallon, compared to less than a dollar a gallon for CNG, the district is realizing significant cost savings of between $750,000 and $1 million each year.

The state's Revolving Loan Program was also capitalized with SEP funding. The Energy Office created the loan program as a way to provide continued funding for energy projects. In the past two years, three loans have been executed with private businesses at a low-interest rate of three percent and loan terms of up to 15 years. Once repaid, these funds will remain in the revolving loan program and will be made available to other private entities on a continual basis. A current loan supported the retooling efforts of an Oklahoma company that expanded operations to include CNG vehicle conversions. The loan provided the necessary capital for new equipment purchases and staff training.

In addition, SEP funding for the Energy Office's Building Energy Efficiency grant program is reducing energy costs in Oklahoma's public building sector. Among funded projects is an Energy Savings Performance Contract with Oklahoma State University. The Building Energy Efficiency grant represented 12.5 percent of the entire project's $20 million cost, with the annual vendor-guaranteed energy savings of $1,182,523 paying for the remaining project costs over the length of the performance contract.

Another effort funded by SEP, the Demand Reduction for Oklahoma program, has provided financial support for multiple projects over the past three years. Among the funded projects is a 50 kW wind turbine installed on the City of Guthrie's Waste Water Treatment Plant. The Plant

uses on average 39,000 kWh per month to operate, and it is anticipated the wind turbine will produce enough electricity to completely power all plant operations.

www.okcommerce.gov

OREGON

Oregon Department of Energy

Oregon Department of Energy's State Energy Program (SEP) impacts the economy and environment by reducing energy costs and greenhouse gas emissions while funding a broad range of activities for energy efficiency and renewable energy projects. These activities help reduce demand for fossil fuels and imported energy while improving energy security and protecting Oregonians against price spikes.

Oregon is a pioneer in offering tax credits to homeowners. These incentives help reduce energy consumption and save money. In 2010, thanks to SEP funding, the Oregon Department of Energy (ODOE) issued nearly 77,000 Residential Energy Tax Credits saving more than $4 million in energy costs for Oregonians.

Activities historically funded by SEP include residential tax credits for premium efficient appliances and other qualified purchases such as efficient HVAC, water heating systems, renewable energy systems and alternatively fueled vehicles. However, due to state budget constraints, recent legislation eliminated appliances and alternatively fueled vehicles from the program.

SEP also serves the public building sector providing audits and retrofits in K-12 school districts, higher education, and state agency buildings. In addition, SEP supports energy efficiency retrofits in the private sector and transportation initiatives such as infrastructure development of electric plug-in hybrid vehicles.

SEP has helped fund more than $11 million of projects in 60 school districts across Oregon in the past two years. SEP funds paid for lighting upgrades, window replacements, HVAC improvements and biomass boiler installations. SEP funded projects in large urban school districts and small rural school districts. The projects resulted in enhanced learning environments for students and teachers and helped budget constrained school districts reduce their energy bills. In addition, contractors benefited from the retrofit work.

The SEP program paid for energy audits in 101 school districts participating in the Governor's School Energy Audit Initiative, a priority for Oregon Governor John Kitzhaber. The schools are served by Oregon's smaller consumer-owned electric utilities and Idaho Power in rural Eastern Oregon. The audits provided work for 11 audit firms and included student-auditors from Lane Community College who needed the on-the-job experience to graduate from the college's Energy Management Program. The audits provide the school districts with recommended energy efficiency projects and detailed information to obtain funding.

SEP funded a number of waste-to-energy projects, another priority for Governor Kitzhaber. Biomass boilers were installed in several public schools and a district hospital. One SEP project funded a private sector waste processing facility that used aerobic digestion, biological and chemical treatment and composting. SEP funds helped pay for a cover to capture and disperse the odorous methane gas. By installing the cover, the company avoided increasing aeration with more powerful aerators that would have increased its electrical use from $2,500 per month to

$10,000 per month. SEP funds helped avoid increased energy costs as well as saving a local business from potentially closing down its operation.

ODOE used SEP funds to partner with the Oregon Department of Transportation to add eight electric vehicle charging stations along the southern Interstate-5 corridor as part of the West Coast Green Highway project. ODOE used SEP funds to partner with the Oregon Department of Environmental Quality to revitalize their Woodstove Change-Out Program in areas of the state targeted for their poor air quality. ODOE also partnered with the Oregon Department of Agriculture to help Oregon's important agri-business install and operate more efficient irrigation systems to save energy and reduce water usage.

SEP represents an important investment in Oregon's energy and economic future. These funds will continue to help Oregon expand the impact and success of SEP through innovation in energy efficiency and renewable energy opportunities.

www.oregon.gov/energy

PENNSYLVANIA

Pennsylvania Department of Environmental Protection

The Office of Pollution Prevention and Energy Assistance (OPPEA) serves as Pennsylvania's office for the assessment and deployment of energy efficiency and renewable energy technologies to address environmental problems. Housed within the Department of Environmental Protection, OPPEA's goal is to effectively work with citizen's groups, businesses, trade organizations, local governments and communities to help them reduce pollution and save energy.

The majority of OPPEA's energy efficiency and renewable energy initiatives are funded or catalyzed by the U.S. State Energy Program (SEP), including funding for the Pennsylvania Green Energy Works grant, Energy Harvest Grant, Green Energy Loan Fund and Sustainable Business Recovery Program.

Pennsylvania is one of the leading states for wind generation east of the Mississippi, and the OETD's Green Energy Works wind grants have funded three major wind projects, totaling 102 MW, that are scheduled to go on-line in early 2012. These SEP-funded wind projects have leveraged more than $200 million in private investment and utilize wind turbines manufactured in Pennsylvania.

Green Energy Works' solar grants are supporting seven solar projects, totaling nearly 6 MW. Among the projects completed in 2011 is a 1.5 MW photovoltaic system on a parking garage at Merck's Upper Gwynedd Campus in North Wales. The project is providing 14 percent of the electricity for Merck's marketing headquarters and will help the company meet its goal of reducing greenhouse gas emissions 10 percent by 2015.

Green Energy Works grants are also funding seven biogas and eight Combined Heat and Power projects. During the past two years, the program's Solar rebate program, Pennsylvania Sunshine, has provided rebates for the installation of 1180 residential photovoltaic systems and 97 solar water heating systems.

In 2010, the Sustainable Business Recovery grant awarded SEP funds to eight alternative energy and energy efficiency projects. One of the grants funded a gas extraction system in Glendon. The project is converting methane gas from a landfill into electricity and heat. The 3.2 MW energy plant became operational in the summer of 2011, and is supplying 100 percent of the Glendon Business Park power needs (the equivalent electricity to power 2,220 homes). Energy created by the engines is also being supplied as heat to tenants of the business park.
Another grant program, the Energy Harvest grant, supports innovative, advanced energy deployment projects for schools, nonprofits, and Pennsylvania local governments. Energy Harvest used SEP funding in 2009 to award grants to 10 projects, including bioenergy, solar, and geothermal projects. Included among these projects was a grant to Williamsport Hospital and Medical Center to help install a new 2 megawatt cogeneration system to generate electricity and also capture and reuse waste heat to provide heat and hot water for the hospital. The project is saving Susquehanna Health an estimated $534,000 annually in energy costs and conserving an estimated 5,180,670 gallons of water annually.

In addition to grant programs, SEP funding is being used to support the Green Energy Loan program, a statewide revolving loan fund that underwrites loans and lease financing for cost-effective building energy efficiency and renewable energy projects. The revolving loan fund leverages at least $3 of private funding to every $1 of SEP monies invested. Six loans have been executed to date, including financing for the incorporation of energy efficient technologies into the construction of the Homewood Suites extended-stay hotel project in Philadelphia. The proposed building will consume 26.4 percent less energy than the same building constructed to be code-compliant.

www.depweb.state.pa.us

PUERTO RICO

Puerto Rico Energy Affairs Administration

The Puerto Rico Energy Affairs Administration (PREAA), originally launched in 1977 as the Office of Energy, has been a part of the Department of Natural and Environmental Resources since 1993. Its mission is to promote the development and use of energy efficient technologies and renewable energy resources in an effort to reduce the cost of energy for all residents and businesses. With funding from the U.S. State Energy Program, the PREAA has implemented a number of programs that are helping to diversify the island's energy mix as a way to lower energy costs and increase its competitiveness.

Within the SEP program, the Building Energy Retrofit rebate and the Sun Energy rebate are two of the most popular programs.

The Sun Energy Program provides incentives for the purchase and installation of solar energy systems in residential and business facilities. Under this program more than 121 applications for rebates have been received to date, with the total estimated annual savings topping $730,000. A majority of these applications are in the residential sector. Ninety-three solar installations have been completed thus far, exceeding 959 kW of renewable energy generation capacity.

Rebates for business solar projects under the Sun Energy Program are fewer in numbers, but are much larger in size than residential installations. The Puerto Rico Insurance Cooperative installed a photovoltaic installation at its central office in San Juan. The project has reduced the company's energy consumption by 135,628 kilowatt-hours annually. With the average cost of electricity being between 23 and 27 cents per kWh, the energy cost savings of this one project alone exceeds $35,000 annually.

Rebates under the Building Energy Efficiency Retrofit Program have been provided to 64 businesses for energy efficiency retrofit projects. These projects have impacted nearly 1.8 million square feet of commercial building space, with a projected annual energy costs savings of $7.2 M to these businesses.

Other projects funded through the SEP program include a traffic signal retrofit project, a revolving energy loan program and an agriculture renewable energy program, to name a few.

The Traffic Signal Retrofit Program has provided grants to the municipalities of Anasco, Mayagues, Hormigueros, San German, Aguas Buenas, Arroyo, Cayey, Cidra, Guayama, Patillas and Caguas, to replace inefficient traffic lights in their communities. More than 300 traffic signal intersections and 4803 lamps were retrofitted. The old signal lights were rated at 116 watts each, and were replaced by 7.875 watt LED lamps. The expected annual energy savings total 4,549,282 kWh, or nearly half a Megawatt-hour of electricity, saving taxpayers in excess of $1 million annually in energy costs.

The Revolving Energy Loan Program, administered in collaboration with the Puerto Rico Economic Development Bank (EDB), utilizes SEP funds to capitalize loans for energy projects.

The EDB provides low-interest loans to small and medium-sized businesses to finance eligible renewable energy projects. Two loans have been made under the program.

SEP funds are also supporting another rebate program that targets the agriculture industry only. The Agriculture Renewable Energy Program has awarded rebates to 10 entities for new renewable energy projects. These renewable energy projects have an annual energy production totaling an estimated 719,378 kWh.

www.aaepr.net

RHODE ISLAND

Rhode Island Office of Energy Resources

In 1975, state government's role in energy issues became more proactive across the U.S. The energy crisis and the OPEC embargo had made energy a pressing public policy concern. In response, former Rhode Island Governor Noel issued an executive order that created the State Energy Office. The Office actively promoted energy efficiency and renewable energy development, as well as providing assistance to lower income households hurt by rising energy costs. In 2006, the Rhode Island General Assembly enacted "The Comprehensive Energy Conservation Efficiency and Affordability Act of 2006". The Act established the State Energy Office's successor -- the Rhode Island Office of Energy Resources (OER).

Just as it was in the 1970s, energy efficiency continues as a priority of the OER; however, because new residential construction in the state is relatively low -- efforts are strongly oriented toward existing buildings, structures, and operations. To address this priority, the OER, using U.S. State Energy Program (SEP) funds, is supporting a residential energy efficiency program administered by state's largest utility provider, National Grid. The Deliverable Fuels Program, provides residential incentives and rebates to customers who heat their homes and businesses with oil, propane or other deliverable fuels. The incentives are for qualified measures such as insulation, air and duct sealing, and high efficiency heating and hot water systems. The program launched in August 2010, and by the end of 2010, audits had been conducted in 1,431 homes statewide. Of these audits, 427 homes received rebates for heating system replacements and 119 received rebates for other weatherization measures. These initial retrofits will reduce heating oil consumption by 2 million gallons over the next 20 years, and at today's cost of oil, these customers could save a combined $7 million dollars through lower heating bills.

The OER is also using SEP funds to provide training on the use of building codes and to develop the necessary organizational infrastructure to support code implementation and enforcement. The OER has allocated $250,000 for training efforts this year under its Building Energy Code Upgrade, Training and Compliance Initiative. This Initiative is providing training to state and local elected officials, local building inspectors, as well as planners, architects and members of the construction industry. The program's goal is to achieve 90 percent compliance with the IECC 2009 residential energy code.

In addition, the OER has launched a Commercial and Industrial Energy Efficiency Initiative. In partnership with National Grid and the Rhode Island Economic Development Corporation, SEP funds were used as the initial source of capital for a revolving loan fund to finance customers' energy efficiency retrofit projects. The SEP funds are leveraging additional private capital and as a result the pool of investment dollars available have been substantially expanded.

On top of its energy efficiency efforts, the OER is actively promoting renewable energy development in the state. In 2010, the OER's Non-Utility Scale Renewable Energy Grant Initiative provided SEP funds to 70 businesses, municipalities, and non-profit organizations throughout Rhode Island to offset up to 25 percent of the cost of a qualified renewable energy project. Three community and institutional organizations received grants, these include: Narragansett Bay Commission (three wind turbines estimated to produce between 2.4 million

and 5.9 million kWh annually), Trinity Restoration Inc. (a PV system for a Providence charter school), and to the Washington County Regional Planning Council (for a 12.3 acre solar PV farm to supply electricity to the Town of Westerly). Eight small commercial/industrial grants were awarded as well as 33 residential renewable energy projects.

The OER's Utility Scale Renewable Energy Initiative is also supported by SEP funding. This initiative is funding the expedited development of utility scale offshore wind projects by enhancing the Ocean Special Area Management Plan (SAMP) and developing the site specific feasibility studies needed for permitting.

www.energy.ri.gov

SOUTH CAROLINA

South Carolina Energy Office

The South Carolina Energy Office (SCEO), part of the South Carolina Budget and Control Board, helps citizens, businesses and public entities save energy and money through cost effective, innovative programs and funding which promote cleaner, efficient energy. Federal funding from the U.S. State Energy Program (SEP) allows the state to address state and national energy priorities. Activities funded by the SEP during the past three years include public building energy retrofits, energy-related trainings, energy retrofits for manufactured housing, as well as green energy and energy efficiency grants.

Since 2010, the SEP-funded Renewable Energy and Advanced Vehicle Technology Grant program has supported 24 projects that are helping create a sustainable foundation for the state's developing renewable energy industry. A 311 kW photovoltaic installation at the Grand Strand Solar Station in Myrtle Beach resulted from a matching grant to Santee Cooper, the state-owned utility. The system is the state's largest solar array and is generating enough electricity for about 30 typical homes a year. Another grant under the program allowed Plug-In Carolina to install 40 publicly accessible electric vehicle recharging stations throughout the state. The SCEO estimates the cost of charging an electric car in South Carolina is the equivalent of paying between 25 and 50 cents per gallon for gasoline.

The Clean Green Investment Incentive Program provided SEP funds to help revitalize seven South Carolina manufacturers. Through a partnership with the South Carolina Coordinating Council for Economic Development, the grants allowed grantees to incorporate renewable energy and energy efficient technologies into their facilities and processes. In one case, a Bennettsville manufacturer used the grant to demonstrate the energy efficiency of a new building product while providing badly needed jobs.

SEP funds are also supporting South Carolina's efforts to prepare its workforce for the "green economy." The funding allowed the SCEO to increase its energy-related training activities through the creation of the South Carolina Energy Efficiency Training Center Collaborative. The Collaborative provides continuing education and accredited degrees at several colleges, as well as a full range of certification courses for assessors, technicians, renewable energy installers and home energy auditors. To date, more than 25 courses have been offered with over 525 participants.

During the past two years a public building energy retrofit program has resulted in energy efficiency improvements in 579 buildings statewide. The buildings represent nearly 21 million square feet of public building space and include 32 two- and four-year colleges, 22 state agencies and 85 school districts. Williamsburg Technical College used its SEP-funded grant to upgrade lighting and replace outdated HVAC units. These upgrades will pay for themselves in energy costs savings in less than two years and will help the college save more than $30,000 annually going forward. All measures funded through the program's grants and loans have a minimum return on investment of at least 2.5 to 1 in energy costs savings.

In the residential sector, SCEO partnered with the state's electric cooperatives to assess different approaches to improving energy efficiency in the housing stock. In total, 800 manufactured housing units and some site built homes received some form of energy efficiency improvement through the SEP-funded program. The various retrofit applications are being monitored to determine which measures result in the greatest energy savings per dollar spent, and which are the most readily accepted by customers.

www.energy.sc.gov

SOUTH DAKOTA

Energy Management Office, Bureau of Administration

The South Dakota Energy Management Office (EMO) advises the state's executive and elected leaders on energy policy. Located in the Office of the State Engineer, a division of the Bureau of Administration, the EMO is responsible for increasing energy efficiency to reduce energy costs for South Dakota consumers, businesses, and government. The U.S. State Energy Program (SEP), administered by the EMO, provides funding to achieve these objectives.

In 2009, the EMO awarded an SEP grant for the Office of the State Engineer to conduct an energy audit of all state-owned buildings. The audit covered more than 14 million square feet of buildings statewide and projected a potential annual energy savings to South Dakota taxpayers of more than 200,000 mWh, or about $145,000. Based on the audit's data, the Energy Efficient Government program awarded additional SEP grants and loans to implement projects with reasonable paybacks. Over the past two years, these cost-effective projects have been carried out in 55 buildings, totaling more than 7.4 million square feet of building space. Completed energy efficient projects have included lighting upgrades, window replacements, chiller upgrades, upgrades to building automation systems, waste heat reclamation and on-site renewable energy generation. A boiler replacement in the 100 year-old state capitol building complex is among the completed projects. The 10 buildings in the capitol complex comprise more than 350,000 square of space and share the same heating system. The boiler replacement is projected to save taxpayers more than $2 million in energy costs over the life of the new equipment. In addition to the long-term objective to reduce energy costs to the State of South Dakota, the Energy Efficient Government grant program is also promoting energy efficiency by example.

The EMO is also used SEP funding for a grant program that helped business owners install blender pumps at fuel stations across the state. As recently as March, 2006, there were no ethanol blender pumps in the country. It was during that year the first blender pump in the nation was installed and went into operation at a Co-Op in Britton, South Dakota. By June, 2010, prior to the Blender Pump Grant program's launch, there were 42 service stations throughout the state with blender pumps. The grant provided enough funding for an additional 61 new pumps, but the adoption of the cleaner burning fuel pump technology didn't slow down with the end of the grant program. Today, thanks in part to the heighten awareness and promotion resulting from the grant program, South Dakota leads the nation with 116 ethanol-blended fuel locations in 76 communities across the state.

www.state.sd.us/boa/ose

TENNESSEE

Energy Division, Tennessee Department of Economic and Community Development

The State of Tennessee Department of Economic and Community Development's Energy Division (ECD Energy Division) is tasked with developing and/or overseeing programs and initiatives that promote energy efficiency, conservation, education and the expanded use of renewable energy. Toward these goals, the Energy Division is using U.S. DOE State Energy Program (SEP) funds to focus on job creation, education, renewable energy power production, and technology commercialization.

Tennessee's SEP plan, referred to as the Volunteer State Solar Initiative, is a comprehensive solar energy and economic development program. The initiative consists of the Tennessee Solar Institute (TSI) and the West Tennessee Solar Farm.

TSI is a center of excellence partnering the University of Tennessee (UT) and Oak Ridge National Laboratory, focusing on industry partnerships to improve the affordability and efficiency of solar products. TSI also serves as a crossroads for a wide-range of solar-related activities, including the Solar Installation and Innovation Grant programs. A total of 236 grants have been awarded to date and over $40 million dollars of private funds have been leveraged. The grant programs have added approximately 6.5 MW of solar power to the grid.

Additionally, TSI is utilizing SEP funds to offer solar photovoltaic training courses across the state to help people gain the knowledge and skills needed to enter the renewable energy workforce. TSI, along with TVA, will host the 2012 Tennessee Valley Solar Solutions Conference in Memphis on April 10 and 11.

The West Tennessee Solar Farm is a 5 MW (DC) power generation facility in rural Haywood County. It is one of the largest solar installations in the Southeast and believed to be the largest funded under the SEP Program. ECD Energy Division has partnered with UT to develop the Solar Farm. The power generated from the Solar Farm will be sold to UT under a Power Purchase Agreement with TVA. The proceeds are to be reinvested in the site for operation maintenance, improvement, and expansion. UT will host a ribbon cutting and information session at the Solar Farm on April 12, 2012.

The Solar Farm also has a significant public education mission. The TN Department of Transportation plans to construct an Information and Welcome Center adjacent to the Farm using State and FHWA funds. The Center will house interactive educational displays dedicated to solar and renewable energy topics. SEP is the funding source for this portion of the Center. Nearly 10 million vehicles a year will pass by the Solar Farm as they drive the Interstate 40 corridor in West Tennessee, allowing citizens and students to gain firsthand exposure to solar energy production.

www.tn.gov/ecd/cd_office_energy_division

TEXAS

State Energy Conservation Office

The Texas State Energy Conservation Office (SECO) helps Texas make the most of domestic energy, reduce state and local government energy costs and promote cost-effective, clean-energy technologies. SECO's mission is to maximize energy efficiency while protecting the environment. With support from the U.S. State Energy Program (SEP), SECO developed and implemented a variety of programs to promote energy efficiency and renewable energy technologies.

SECO operates the nation's largest and longest running revolving energy loan fund -- the Texas LoanSTAR (loans to Save Taxes And Resources) Program. The Texas Energy Office initiated the program in 1988. Since its inception, more than 200 loans, totaling nearly $300 million, have achieved total cumulative energy savings of almost $300 million. The average payback for a LoanSTAR loan is approximately six years.

SECO launched another loan program in 2009 using SEP funds, the Building Efficiency Retrofit Program. Like LoanSTAR, the Retrofit Program provides loans for energy efficiency and retrofit activities on government-owned buildings and facilities. The Retrofit Program's financed projects include a wide-range of energy-efficiency and renewable energy projects for public buildings used by state agencies, school districts, institutions of higher education, hospitals and local governments. As of July 2011, SECO awarded Building Efficiency Retrofit Program loans to 16 public institutions throughout the state. Those loans, ranging from $10 million to Texas A&M University System in Bryan, to $1.2 million to University of Texas Health Science Center in San Antonio, resulted in energy efficiency projects in 183 buildings that total more than 10 million square feet.

In the summer of 2011, SECO launched the Cool Schools Heating, Ventilation and Air Conditioning (HVAC) Replacement Program with the intention of helping Independent School Districts reduce their facility operating costs. This program consists of replacing inefficient HVAC systems with new, energy-efficient HVAC systems. SEP funds supported grants to 57 Independent School Districts.

The Distributed Renewable Energy Technology Program is also using SEP funds to increase the state's installed renewable energy capacity. During the past two years, public entities installed more than 3.8 MW of solar panels on 50 public buildings across the state with grant funds. Installations included a 46.2 kW photovoltaic system at Northeast Texas Community College (NTCC) and a 3.7 kW wind turbine at the campus' Agriculture Complex. The NTCC renewable energy systems, all grid-tied, generate approximately 85 percent of the Agriculture facility's total electricity needs and allow for generation back to the grid during unoccupied periods such as weekends and some summer days. Wind projects were also eligible for funding under the grant. The University of North Texas used a Distributed Renewable Energy grant to install three 100 kW wind turbines at the University's LEED Gold Certified football stadium. The 300 kW micro-wind farm will produce 666,000 kWh annually and generate one-third of the stadium's estimated annual energy usage.

In the transportation sector, SECO utilized SEP funds for an efficiency program for traffic signals. The Transportation Efficiency Program awarded sixteen traffic signal grants for the synchronization of traffic signals and/or the replacement of traffic signal lights with LEDs. A major traffic synchronization project in Missouri City retimed and synchronized traffic signals at 44 intersections on 120 lane miles of six major roads. Completed in December 2010, this project is saving an estimated 47,000 hours annually for people traveling those roads during weekday rush hour. The Transportation Efficiency Program grants resulted in a reduction of an estimated 150 tons of vehicle-based carbon emissions.

www.seco.cpa.state.tx.us

UTAH

Utah Office of Energy Development

The Utah Office of Energy Development (OED) serves as the primary resource for advancing energy development in Utah. The Office is responsible for promoting the goals and strategic recommendations outlined in the Governor's 10-Year Strategic Energy Plan. The Office's mission is to provide leadership in the balanced development of Utah's abundant energy resources through public and private partnerships for economic prosperity, energy independence and a reliable, affordable energy supply. The Utah State Energy Program (SEP) is part of the Office of Energy Development. Primary funding for Utah State Energy Program efforts comes from the U.S. State Energy Program (SEP).

The Utah Home Performance Program (UHP) is a residential energy efficiency rebate program designed by the Utah SEP to build the infrastructure and a permanent workforce for a "whole home" retrofit market. Starting in 2010 with a budget of $4.5 million, UHP has achieved the following:

- Averaged 29% energy savings per home (initial goal was 20%),
- Built a network of 85 UHP approved companies, creating 130 jobs,
- Leveraged $7.5 million in residential energy efficiency retrofits, and
- Started with a goal of retrofitting 758 homes, on track to retrofit 1250.

Under the Solar for Schools Program, $3.4 million of funding was provided for K-12 schools to receive a 5 KW photo voltaic system and a full education program. To date, 73 systems have been installed. The program promotes energy efficiency and education to participating schools throughout the state. 219 teachers have gone through the training seminar. A dedicated website featuring curriculum, community awareness activities, training resources and educational libraries is part of the education.

In a two year Energy Efficiency Renewable Energy Rebate Program (2010 and 2011), the Office of Energy Development's SEP helped significantly boost the energy efficiency of 425 homes by supporting the installation of solar photovoltaic panels, solar thermal panels, and small wind turbines. By investing $2.5 million, the program leveraged $11.5 million in private investment. The program added 2 megawatts of distributed generation capacity to the electrical grid, proving an effective demand side management tool for families across the State.

www.energy.utah.gov

VERMONT

Planning and Energy Resources Division, Vermont Department of Public Service

The Vermont Department of Public Service's Planning and Energy Resources Division (PERD), through the administration of U.S. State Energy Program (SEP) funds, is responsible for developing statewide programs and policies that promote energy efficiency, energy conservation, and the use of renewable energy. The PERD has launched several initiatives to meet these policy goals.

In 2010, under a Public-Serving Institutions program, the PERD awarded 13 SEP grants to colleges, universities, hospitals and health clinics for energy efficiency measures. Additional SEP funds were awarded through a 2010 Memorandum of Understanding to the Vermont Department of Buildings and General Services for energy retrofits in state facilities. Under this MOU, six state buildings, totaling more than 99,000 square feet, have completed energy efficiency projects.

In addition to public building retrofits, the PERD using SEP funds, launched a competitive grant and loan program. In the past year an array of renewable and energy efficiency projects for schools, organizations, communities, and businesses have been selected for funding under this program. Projects include a biogas cogeneration project, a 12 MW wind plant at Georgia Mountain, and a 300 kW PV system. In addition to the loans that were offered through this competitive process, a separate SEP loan program funded such initiatives as a landfill methane project, biomass district heating at a college campus, and a 100 kW wind project at Burke Mountain.

The PERD also employed SEP and State funds to support the state's solar and wind rebate program. The Vermont Small Scale Renewable Energy Incentive Program provided over $ 3,777,000 in rebates to 760 projects (16 wind, 305 solar hot water, and 439 PV) in 2011. These rebates leveraged more than $19.4 million in renewable energy projects. Since its inception in 2004, the program has supported the installation of 2,315 renewable energy systems with a total installed cost of $ 54.7 million.

To encourage energy retrofits in affordable housing developments, the PERD used SEP funds to establish a grant with the Vermont Housing and Conservation Board (VHCB). VHCB used the funds to improve thermal envelope efficiency to reduce heating fuel consumption and to install solar space heating and/or hot water. The average building energy savings funded through this effort is expected to exceed 25 percent, with many buildings experiencing savings above 40 percent. Since 2010, VHCB retrofitted 27 housing developments across Vermont under this SEP funded program. One beneficiary, the Windham Housing Trust in Brattleboro, saw its cost for water heating at its Daly Shoe Building reduced an estimated 70 percent following the installation of a solar water heating system. A former commercial warehouse, the Daly Shoe Building was converted in 2007 into 29 affordable apartments.

www.publicservice.vermont.gov/divisions/energy-efficiency

VIRGINIA

Division of Energy, Virginia Department of Mines, Minerals and Energy

The Division of Energy of the Virginia Department of Mines, Minerals and Energy (DMME) serves as the state energy office and is funded in part under the U.S. State Energy Program (SEP). The primary goal of the DMME is to advance sustainable energy practices and behaviors. To achieve this goal, the DMME operates a number of programs that promote energy efficiency in commercial, institutional, and residential buildings, and that foster growth of sustainable energy industries and infrastructure.

In 2009, the DMME, using SEP funds, established the Grant Rebate Program for Renewable Energy Projects. The program is accelerating energy production from solar, wind, and biomass throughout the state. Since the grant program's inception, 13 Waste-to-Energy grants have been awarded to private entities. Included among these grants was funding for VanDerHyde Dairy in Chatham, to develop and implement the state's first anaerobic digester. The digester is processing waste from nearly 1,000 cows to make electricity and heat. The digester was designed to have a 450 kW generating capacity, as well as being capable of producing gas for heating water and in-floor heating.

In addition to the biomass grants, a separate grant opportunity under the program is providing incentives for state and university projects and programs. Five renewable energy grants have been awarded to date, including a grant in support of the expansion of the Small Wind Training and Testing Facility (SWTTF) at James Madison University. The facility has been involved in wind research efforts since 1998. Under this grant award, SWTTF was provided funding to train workers for jobs in the wind industry. Another grant provided funding to the Virginia Tech Advanced Research Institute (ARI), to promote economic development activities around the state's growing wind industry. ARI is using grant funds to help businesses provide products and services for the offshore wind industry.

Since 2010, DMME has awarded an additional 15 grants, supported by SEP funds, to local governments, schools and community colleges for solar and small wind demonstration projects. Included among the funded projects is the Renewable Energy Resource Center at Henely Middle School in Albermarle County. The renewable energy center, which was dedicated in December, 2011, features a wind turbine, 182 roof-mounted solar photovoltaic (PV) panels and six solar thermal collectors. Henley's PV system will generate 46,000 kWh per year, the electricity needs of just over four American homes, with the wind turbine providing additional electricity. The solar thermal system is projected to provide 60 percent of the school's hot water needs.

Since the beginning of October 2009, DMME has provided nearly 63,000 rebates through a half-dozen efficiency and renewable energy rebate programs that partially offset the costs of private investments in energy efficient appliances, equipment and measures, such as insulation and window replacements.

Three additional programs are also benefitting from SEP funding. In 2010, the DMME created an Economic Development Grant program that included two revolving loan funds. The grant program is supporting private sector energy efficiency and renewable energy economic

development projects. The Energize Virginia Revolving Loan Fund is financing energy efficiency and renewable energy generation projects for state agencies and local governments. The Virginia Center for Innovative Technology's Commonwealth Energy Fund is on track to award nine loans to businesses that include a tire-to-fuel recycling company, an entrepreneur building after-market truck aerodynamic improvement devices, the developer of an in-situ fuel emulsifier and a company that mines energy savings through server analytics.

www.dmme.virginia.gov/divisionenergy

VIRGIN ISLANDS

Virgin Islands Energy Office, Office of the Governor

Since its inception in 1974, the Virgin Islands Energy Office (VIEO) has served as the primary administrator of energy programs in the U.S. Virgin Islands. Charged with establishing and monitoring the integration of programs and policies promoting energy efficiency and the use of renewable energy technologies, the VIEO has embarked upon numerous undertakings that have positively impacted the economic and environmental sustainability of the Territory.
Over the past three years, funding made available from the U.S. State Energy Programs (SEP) has allowed the VIEO to implement a number of programs, including a facility efficiency program, grant and rebate incentives, and educational outreach programs.

One of the largest efforts is a program to improve energy efficiency in government facilities and schools. The government currently consumes 18 percent of the Territory's electricity, and the cost of energy in schools exceeds $7 million a year. Initial efforts include electrical and water conservation upgrades in 11 schools across the Territory. The VIEO estimates these upgrades will save the schools more than $1.3 million each year, or enough power for 239 homes. The projects also reduce the Territory's carbon footprint by 1,919 metric tons of CO2 annually, the equivalent produced each year by 379 passenger vehicles.

The school projects are not only a big first step toward meeting the government's goal of reducing fossil fuel use by 60 percent by 2025, but they are also helping establish the appropriate expertise on the islands, and proving the applicability of energy efficiency technologies.

An essential element in the 60x25 strategy is reducing energy consumption in all government facilities. VIEO is hoping the success of the schools program will result in additional efficiency investments in public sector buildings through Energy Savings Performance Contracts (ESPC). ESPC requires no upfront capital as it uses the energy savings to pay for the improvements over time. It is anticipated that the initial investment in school energy efficiency may stimulate over $50 million in other public sector energy investments by "kick-starting" the ESPC Industry in the Virgin Islands.
The Discretionary Grant Program (DGP) also is using SEP funds for energy efficiency and renewable energy projects. Twenty-two grants have been awarded to not-for-profit organizations, and five projects have been completed to date.

Completed projects include a photovoltaic system on St. Ann's Catholic Church, energy efficiency retrofits on the Pistarckle Theater and Croix Animal Shelter, solar thermal and a photovoltaic system on the Virgin Islands Environmental Research Station, and solar outdoor lighting at the Virgin Islands Public Television Station. Nearing completion are building retrofit projects for the Caribbean Museum Center and a wind turbine installation at the St. Croix Reformed Church. The museum project is anticipated to save 32,632 kWh annually, while the St. Croix wind turbine is projected to generate 87,146 kWh each year.

Besides programs for the public sector, SEP funds are also supporting programs that promote energy efficiency and renewable energy in the private sector. The VIEO, in collaboration with the Virgin Islands Water and Power Authority, have launched several educational outreach

efforts including a media campaign, the dissemination of energy efficient promotional items, and energy education classroom presentations, seminars and workshops. During the past two years, 18 public events have been held that have attracted 1,405 participants.

In addition, the Renewable Energy Rebate program offers incentives for the installation of solar thermal, wind, and photovoltaic systems for homes, multi-family, and small businesses. To date, 469 rebates have been applied toward the purchase and installation of solar water heating systems, 16 rebates have been benefitted small wind systems, and 103 photovoltaic installations have qualified for a rebate.

www.vienergy.org

WASHINGTON

Washington State Energy Office, Washington State Department of Commerce

The Washington State Department of Commerce (Commerce) is responsible for administering the State Energy Strategy. This strategy was developed in conjunction with an Advisory Committee consisting of a broad group of energy system stakeholders. It has established goals to maintain the state's competitive energy prices, foster a clean energy economy, and reduce the state's greenhouse gas emissions.

Toward these goals, Commerce administers a number of U.S. State Energy Program (SEP) funded activities that address these energy priorities. Among these are programs to save energy, reduce our dependence on foreign oil, and invest in transportation and other infrastructure that will provide long-term economic benefits.

SEP funding currently supports a statewide program designed to save energy for the commericial and residential sectors. The Community Energy Efficiency Pilot Program – created by the Washington State Legislature – provides a neighborhood-by-neighborhood approach to residential and small commercial energy efficiency retrofits and upgrades. Under the leadership of the Washington State University Energy Program, this pilot has to-date retrofitted 1154 commercial buildings representing nearly 1.2 million square feet, and more than 8,000 residential structures throughout the state. In addition, it created the foundation for a sustainable residential and non-residential energy retrofit industry and workforce in the State of Washington.

Washington's electric vehicle infrastructure efforts are also receiving a boost from SEP funding. Washington State's transportation and commerce departments are teaming up to implement the nation's first "electric highway," an initial network of public access electric vehicle (EV) recharging locations along Interstate 5. With completion slated for the end of 2011, the infrastructure will enable electric vehicle drivers to travel the length of the state along the 276 miles of Interstate-5 between Washington's borders with Oregon and Canada. As many as 300,000 electric vehicles are anticipated on Washington roads during the next 10 years.

Charging stations are being constructed every 40 to 60 miles along Interstate-5, as well as along U.S. Highway 2 between Everett and Leavenworth. The fast-charging stations will power an electric vehicle from zero to fully charged in less than 30 minutes. The stations are located at private retail locations – such as shopping malls, fueling stations and travel centers – with easy access to the highway.

Commerce is also using SEP funding for a renewable energy loan and grant program. The loans, loan guarantees, and grants from this fund are encouraging the establishment of a number of innovative and sustainable industries for renewable energy and energy efficient technology. By the end of 2011, more than 30 projects will be complete under this program. Of those, several projects are already complete – including the NCS Power Inc. project in Clark County and the Lynden Farm Power project in Whatcom County.

Lynden Farm Power used the Energy Efficiency and Renewable Energy Loan and Grant Program funds to leverage $3.5 million in private capital to develop and install a manure

digester. The digester is producing electricity and excess hot water for use in an onsite greenhouse. The project created 44 temporary jobs and resulted in the creation or retention of 24 permanent jobs.

NCS Power Inc. used a SEP loan to leverage $6.9 million in private capital that allowed it to expand its energy business to develop and market Light Emitting Diode (LED) bulbs and fixtures. The transformation has allowed NCS Power Inc. to grow its workforce by 16 employees.

www.commerce.wa.gov

WISCONSIN

Wisconsin State Energy Office

The Wisconsin State Energy Office (SEO) is responsible for coordinating the state's energy policy development and activities with the goal of lessening dependence on fossil fuels, increasing renewable energy generation, and investing in clean energy manufacturing to retain and create jobs. As part of these efforts, the state has used U.S. State Energy Program (SEP) funds to capitalize the Clean Energy Loan Fund, to which repayments revolve into future loans. The loan program targets clean energy companies wanting to: 1) retool, 2) under take a major project, or 3) reduce their use of fossil fuels in their industrial process.

Retooling
The retooling loan program has allowed Wisconsin companies to add or replace machinery and equipment in order to expand their efforts to manufacture clean technology products and components. Since the loan program's inception in 2009, loans have been awarded to 11 companies now engaged in the clean energy supply chain. In addition, 425 Wisconsin companies have expressed interest in retooling and have received technical assistance from the state. Among the companies receiving retooling loans are TecStar Manufacturing in Germantown, and Helios USA in Milwaukee.

- TecStar, a plastic injection molding manufacturer, used a SEP loan to build injection molding machines to produce frames for photovoltaic panels. With this loan, TecStar is creating 186 full-time positions in addition to the 170 already employed at the facility.
- Helios USA, a company that assembles photovoltaic crystalline solar modules, also received a retooling loan. Helios has expanded its operations with the installation of a new 32 MW photovoltaic assembly line that created 17 new jobs.

Reduce Fossil Fuels
In addition to the 11 companies that have obtained retooling loans, 11 other companies received loans to reduce the use of fossil fuels in their industrial process. These loans are funding waste-to-energy projects or energy retrofits.

- Ace Ethanol Co. is an example of a loan recipient in this category. The Stanley-based company operates an ethanol plant that generates 50 million gallons of ethanol per year. The company obtained a SEP loan to install a regenerative thermal oxidizer at the plant which will both reduce emissions and save significant amounts of natural gas.
- Mercury Marine, of Fond du Lac, also received a loan to reduce its use of fossil fuels in its facilities. The world's leading manufacturer of recreational marine engines, Mercury Marine utilized a Clean Energy Loan to undertake energy efficiency improvements in its facilities that have resulted in over $400,000 in annual energy savings.

Major Project
An example of a major project loan recipient is Renewegy, a commercial wind turbine manufacturer, which is one of seven companies to receive a loan in this category. The loan helped fund Renewegy's start-up activities in Oshkosh. The company has grown to employ 16

workers and sources a majority of their components from Wisconsin suppliers who are benefiting from the growth in renewable energy.

In addition to these companies, SEP loans have been awarded to companies such as Orion Energy Systems, McCain Foods, 5N Plus, C.A. Lawton, DuBay Biofuels-Greenwood, Nature Tech and ZBB Energy Corporation. These loans, and 17 others, have resulted in the creation of 901 jobs and the retention of thousands of additional jobs in Wisconsin's hard-hit manufacturing sector.

www.energyindependence.wi.gov

WEST VIRGINIA

West Virginia Division of Energy

The West Virginia Division of Energy provides leadership for the state's energy planning activities and advises executive and elected leaders on energy policy. The division promotes the development of renewable energy resources and advances projects that capitalize on the state's extensive fossil resource base. The division, through its administration of the U.S. State Energy Program (SEP), is also responsible for initiatives designed to advance energy efficiency projects for consumers, government and industry.

Among the SEP initiatives are several programs that emphasize improving energy efficiency in public buildings as a way to reduce energy costs to taxpayers. The initiatives focus on nine departments within state government including Corrections, Higher Education, K-12, National Guard, Health and Human Resources, Environmental Protection, Natural Resources, Agriculture and Administration. The W.Va. Department of Administration is undergoing the most publically visible SEP energy project: new windows installed in the two largest office buildings on the Capitol Complex in Charleston.

Additionally, SEP monies support one of the largest energy performance contracting projects undertaken in West Virginia. This 15-year project will use $4.1 million in SEP funding to leverage $14 million in energy efficiency and renewable energy upgrades at the three largest correctional facilities in West Virginia, Huttonsville, Mt. Olive and Pruntytown.

In 2011, Huttonsville also will complete a fuel-switching project converting an oil-fired boiler system to a new natural gas-fired boiler. The project has a five-year payback and will save the facility more than $400,000 per year.
Since 2010, SEP funds have also supported 26 energy efficiency projects at 16 universities, colleges and community colleges throughout the state. More than one million square feet of building space at West Virginia institutions of higher learning will have been retrofitted when the program ends in 2012.

SEP funds for energy efficiency projects in K-12 schools have enhanced the sustainability and learning environment of public schools as well as improved indoor air quality. The funds have supported the replacement and renovation of inefficient HVAC systems and lighting at Fairmont Senior High School, Berkeley Springs High School, Frankfort Middle School, Keyser Primary/Middle School, and the installation of a geothermal HVAC system at the new Spring Mills Primary K-2 school in Berkeley County. These projects are in addition to the Saving Energy in Public Schools program administered by the Division of Energy that has touched nearly all of the state's 55 county schools. The program benchmarks energy usage, a systematic approach to energy reduction.

The 2011 energy projects funded through SEP at selected West Virginia Army National Guard armories included lighting and HVAC retrofits, reducing costs by 15-40 percent at each.

In addition to energy efficiency projects, SEP funds are being used to help West Virginia's community and technical college system prepare students for employment in existing and

emerging green job sectors. The American Wind Energy Association has ranked West Virginia 19th among states with the highest capacity for wind energy. While coal is and will continue to be the principal energy resource for making electricity in West Virginia, wind energy is becoming an important part of the state's energy mix. The West Virginia Green-collar Job Training Program, implemented in 2010, addresses the need for wind and solar technicians in the state. Eastern Community College used SEP funds to develop and implement a wind training course. Thirty students enrolled for the two-year program when it launched in the summer of 2010. West Virginia University-Parkersburg enrolled 33 students in its inaugural solar technician courses, also developed as part of the Green-collar Job Training Program. The program also focuses on building state capacity for energy code training as well as for energy auditing and rating.

wvcommerce.org/energy

WYOMING

State Energy Office, Wyoming Business Council

The Wyoming Business Council's State Energy Office (SEO) is charged with promoting energy efficiency and renewable energy throughout Wyoming. The SEO has formally partnered with the University of Wyoming Cooperative Extension Service (UWCES) to promote renewable energy allowing the SEO to focus efforts on energy efficiency. The mission of the Wyoming SEO is to Support viable energy efficiency efforts and energy resource development that contribute to Wyoming's long-term economic sustainability and the nation's energy independence.

The U.S. State Energy Program (SEP) funds are vital in assisting the Wyoming SEO to further efforts in the residential market, business, industry, local and state government.

The residential market SEP funds provide program support for a wide array of activities that include a Facility Building Retrofit Program, a K-12 Facility Retrofit and Renewable Demonstration Program, and a Residential Renewable Energy Grant Program.

Wyoming residents have benefited from renewable incentive grants through the SEO since 1999. Since that time over 400 incentives were issued with over 228 of those being complete since 2009. Cost and generation data on installations that occurred in the last two years is being collected and will provide both the SEO and UWCES valuable analytics going forward. Those renewable systems include 9 ground source heat, 75 photovoltaic and 144 small wind systems. Total generating capacity on those systems is over 657 kW.

Based on research conducted through the SEO office in 2010, there is a need for awareness building to the Wyoming residential sector on the energy efficiency topic. SEP funds are being used as part of a statewide messaging campaign to deploy the newly developed Wyoming EnergyWise brand. A third avenue that is being offered to the residential sector is a pilot revolving loan program where utility/community partnerships develop an energy efficiency plan then offer low/no interest loans to the residential sector for energy efficiency or renewable improvements. The loan pool is capitalized using SEP funds and over time will revolve back to the SEO. Lessons learned through the pilot will be shared with future utility/community partnerships that apply.

The business/non-profit and local government sector benefit from a re-tooled Energy Audit and Improvement program. The program splits cost-share incentives to first encourage the completion of a level two energy audit then offers provides the remainder of the incentive for recommended energy efficiency improvements. This program garnered interest in the fall of 2011 when a UWCES partnership using USDA funds allowed the program to increase the funds available and serve many more Wyoming businesses, non-profits and local governments.

The local and state government sector are served by performance contracting programs. The primary program was originally launched in 2007 and titled the Wyoming Energy Improvement and Conversation Program (WYECIP). The WYECIP has since been revised and re-launched July 1, 2011.

Related to energy resource development, the SEO works with the Governor's Office and other state agencies on request to support efforts toward wind development, natural gas, clean coal, nuclear, biomass and hybrid energy systems. Wyoming's Governor Mead was an initial signor to a multi-state memorandum of understanding to propose natural-gas replacements for state fleets. The SEO supports the Governor's efforts for infrastructure build-out and related steps.

www.wyomingbusiness.org/energy