

U.S. State Energy Program Update



*Successful Projects and Programs Implemented by the
State Energy Offices Utilizing SEP Funding*

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Introduction

The U.S. State Energy Program (SEP) is the only cost-shared program administered by the U.S. Department of Energy (DOE) that provides resources directly to the states. A bipartisan-supported program, SEP provides complete discretion and deference to the nation's governors in the use of SEP funds within a broad statutory framework set forth by Congress. States set their priorities for use of SEP funds on activities such as planning for and responding to energy emergencies resulting from natural and man-made disasters; assisting small businesses and manufacturers in reducing energy costs to improve competitiveness and create jobs; aiding farms and rural homeowners in developing homegrown energy solutions to lower energy costs; and supporting local governments in retrofitting schools, police stations, and other public facilities to reduce utility bills paid by taxpayers. Established by Congress 30 years ago, SEP provided \$50 million to the states in FY'13, FY'14, FY'15, and FY'16. One of NASEO's main priorities is encouraging Congressional and Administration support for the U.S. State Energy Program.

The 30-year program, last authorized at \$125 million, received \$50 million in FY'16 appropriations. DOE's Oak Ridge National Laboratory conducted an evaluation of the program and the states' work and found that each \$1 of SEP federal funds typically leverages \$10.71 of state and private (non-federal) funds.

A Few Examples of States' Groundbreaking SEP Actions Over the Past 30 Years include:

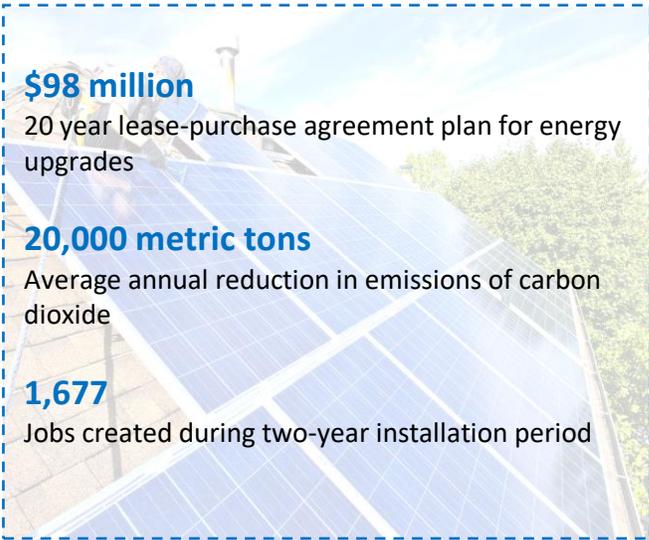
- Illinois, Pennsylvania, and others: Worked with the private sector in the early 1980s to create modern Energy Savings Performance Contracting – now a multi-billion dollar annual industry.
- Maryland, New York, California, Florida and others: Created plans and responded to energy supply emergencies in the late 1980s which led to today's federal energy emergency program.
- Texas, Nebraska: Texas' Loan Star and Nebraska's Dollar and Energy Saving loan programs were the nation's first – established in 1988 and 1990 – innovative energy efficiency financing programs and continue to operate as best practices examples.
- Minnesota: Among the nation's first wind resource mapping efforts in the 1990s which opened opportunities for private investment in wind energy.
- Massachusetts: Created the first widespread – 400 state buildings – wireless energy monitoring and demand response energy efficiency program in the 2000s.
- Kentucky: Transformed K-12 school buildings which led to the nation's first, cost- competitive Zero Net Energy Ready schools in the 2010s.
- States in the Midwest and Northeast coordinated efforts to address the propane and heating oil supply disruptions of the 2013-2014 winter season.

The following overview report summarizes 50 recent projects and programs developed and implemented by the State Energy Offices utilizing SEP funds.

Alabama

SEP Funds Leveraged \$98 Million in Energy Savings Performance Contracts

In [Alabama](#), the State Energy Office initiated an energy savings performance contract (ESPC) leveraging State Energy Program (SEP) funds to implement a 20-year lease-purchase agreement to implement \$98 million of energy upgrades. All energy efficient measures have been completed and the state has produced significant annual savings from the new, more reliable and energy-efficient equipment. In addition to the energy cost savings, the project created an estimated 1,677 jobs during the nearly two-year installation period. The environmental benefits from the energy savings projects have included an average reduction in emissions of carbon dioxide of over 20,000 metric tons annually, as well as reductions in nitrogen and mercury emissions.



\$98 million

20 year lease-purchase agreement plan for energy upgrades

20,000 metric tons

Average annual reduction in emissions of carbon dioxide

1,677

Jobs created during two-year installation period

Alaska

SEP Funds Leveraged \$350 Million in State Resources for Residential Energy Efficiency

\$350 million

Funds used to support a residential energy efficiency program

16,000

Number of homes helped

34%

Annual homeowner energy savings

\$1,464

Annual homeowner cash savings

In [Alaska](#), the State Energy Office leveraged SEP funds to implement a residential energy efficiency program. The Alaska Legislature provided \$350 million dollars to co-fund this program, which provides grants to homeowners for home energy audits. Based on the audit recommendations, homeowners can qualify for a direct cash rebate of up to \$10,000 for energy efficiency upgrades performed on their home. As of January 2015, improvements have been made to approximately 16,000 Alaska homes. The average homeowner spent \$11,681 and qualified for a rebate of \$6,889. On average, the improvements have resulted in annual energy savings of 34 percent, or cash savings of \$1,464.

Arizona

SEP Funds Supported Energy Efficiency Improvements in 33 School Districts Statewide

In [Arizona](#), the State Energy Office directed SEP funds to support 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 project costs with the school district responsible for the remaining 70 percent either through a privately financed energy savings performance contract (ESPC) or utilizing bonds. In both cases, energy savings from the project were utilized to repay the funds. For example, under the program, Higley Unified School District implemented lighting, controls and Heating Ventilation Air Conditioning (HVAC) upgrades in four schools. In one of the schools the energy efficiency measures translated into annual savings of \$153,855 – nearly 30 percent of its utility bill. The energy savings will repay the school's share of their energy performance contract in seven years.

33

School districts statewide

30%

Of project costs covered by SEP funded grants

\$153,855

Annual utility bill savings within one school

Arkansas

SEP Funds Leveraged \$1.5 Million Grant for Alternative Lighting for Poultry Farm

\$1.5 million

Grant capitalized by SEP funding and funding from the Arkansas Energy Office

84%

Savings in lighting costs



In [Arkansas](#), the State Energy Office leveraged SEP funding to provide a \$1.5 million grant to the University of Arkansas to demonstrate high-efficiency lighting for poultry houses. According to the project, all of the lights — dimmable light-emitting diodes (LEDs), compact fluorescents and cold cathode lamps — have proved to be more energy efficient than incandescent bulbs. Specifically, the demonstration showed that LED technologies are saving up to 84 percent for the lighting costs compared to conventional lighting over 5 years and, importantly, provide the appropriate type of lighting for poultry operations.

California

SEP Funds Supported 7,400 Energy Audits and Efficiency Improvements

In [California](#), the State Energy Office utilized SEP funding to support the Municipal and Commercial Building Targeted Measure Retrofit (MCR) program. The program has provided retrofit installations at over 7,400 project sites in California. These retrofits are estimated to realize over 85.8 GWh in electricity savings, 8.6 MW in demand reductions, and 950,000 therms in natural gas savings.

7,400

Project sites for energy audits and improvements

85.8 GWh

Electricity savings

8.6 MW

Demand reductions

950,000

Therms in natural gas savings

Colorado

SEP Supported Launch of Colorado Dairy and Irrigation Efficiency Pilot in 20 Farms and Dairies

20

Number of farms and dairies participating in pilot

Annual energy savings:

260,000 kWh

Electricity

10,000 Ccf

Natural gas

9,500 gallons

Propane

\$47,000

Annual cost savings

In [Colorado](#), the State Energy Office used SEP funding, to launch the Colorado Dairy and Irrigation Efficiency Pilot to help make achieving energy efficiency easy for Colorado producers. This pilot project conducted energy audits for 12 farms, and worked with eight dairies to install measures that will save over 260,000 kWh of electricity, 10,000 Ccf of natural gas, and 9,500 gallons of propane annually—the equivalent of more than \$47,000 in annual cost savings. With about \$168,000 in incentives, producers will be able to see a return on their investments in less than four years, with many measures paying for themselves in energy savings in less than two years. The Colorado State Energy Office has implemented a statewide program to build on the pilot program's success to reduce energy use and costs in Colorado's agricultural sector.

Connecticut

SEP Funds Helped Connecticut Businesses, Municipalities, and Residents Achieve \$81.1 Million in Energy Savings

In [Connecticut](#), the State Energy Office launched Energize CT, which used SEP funds to leverage resources to serve more than 989,000 households statewide in 2014, saving approximately \$43.9 million. More than 6,000 Connecticut businesses and municipalities also saved approximately \$37.2 million for the year through the program. These numbers are up from 2013, which saw 477,000 homeowners and renters, and 4,000 businesses and municipalities take advantage of Energize CT services. Energize CT provides in-home services such as Home Energy Solutions (HES), rebate and retail product programs, and a new home construction program.

989,000

Connecticut households

6,000

Businesses and municipalities
(taking advantage of Energize CT services)

\$43.9 million

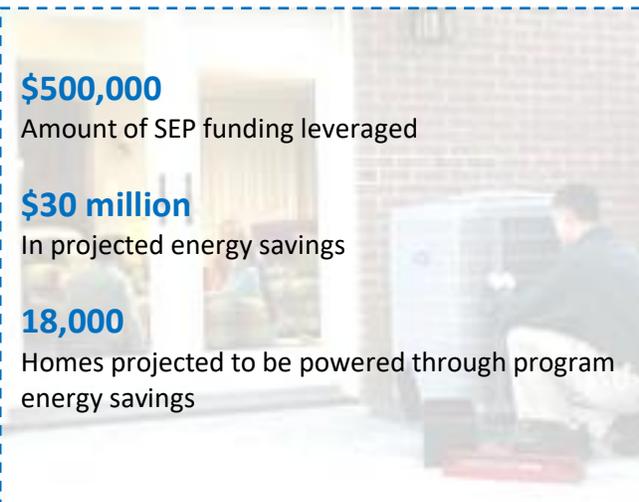
Total savings in 2014 for Connecticut residents

\$37.2 million

Total savings in 2014 for Connecticut businesses and municipalities

Delaware

\$500,000 in SEP Funds Helped Provide Energy Efficiency Rebates



\$500,000

Amount of SEP funding leveraged

\$30 million

In projected energy savings

18,000

Homes projected to be powered through program energy savings

In [Delaware](#), the State Energy Office utilized \$500,000 in SEP funding, for a new program to provide rebates for energy efficient heating and cooling systems and efficient lighting. Delaware has more than 290,000 central air conditioning systems throughout the state. Through this program homeowners could collectively save enough energy to provide electrical power needs for over 18,000 homes and save more than \$30 million per year by upgrading to ENERGY STAR® cooling systems.

District of Columbia

SEP Funds Supported Energy Benchmarking of 461 District of Columbia Government Buildings

In the [District of Columbia](#), the Energy Office used SEP funds to perform energy benchmarking of 461 district government buildings over a two year period. 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 DC 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 Energy Office also supported major energy efficiency retrofits of seven elementary schools and one middle school in the District. The projected annual energy savings for all eight schools is 690,968 kilowatt-hours (kWh).

461

Government buildings benchmarked

8

Schools completed energy retrofits

690,968 kWh

Projected annual energy savings for all 8 schools

Florida

\$250,000 of SEP Funds Enabled the City of St. Augustine to Install Efficient LED Lighting

\$250,000

Amount awarded to replace outdated lighting in parking facilities

\$50,000

Amount matched by St. Augustine for LED installations

50%

Reduction in monthly electricity use

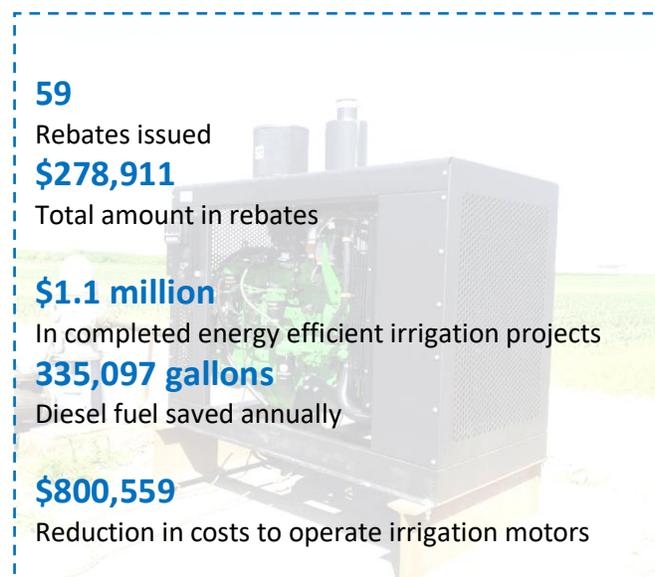
\$3,817

Monthly energy savings

In [Florida](#), the State Energy Office awarded \$250,000 to the City of St. Augustine to replace outdated high pressure sodium lighting fixtures with new energy efficient LEDs and motion sensing control systems in a historic downtown parking facility. Florida leveraged the SEP funds with \$50,000 from the City of St Augustine. Through the installation of LED lighting, St. Augustine has reduced electricity use by approximately 50 percent, or \$3,817 per month. Based on these savings, they will receive a total project payback in 6.5 years.

Georgia

SEP Funds Helped Launch Irrigation Efficiency Rebate Program, Resulting in 59 Issued Rebates Totaling \$278,911



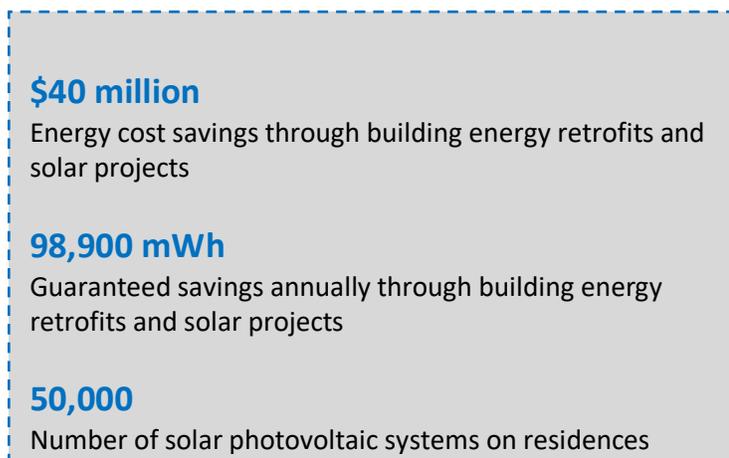
In [Georgia](#), the State Energy Office leveraged SEP funds to launch a rebate program to help farmers with the costs of replacing inefficient diesel irrigation engines with more energy-efficient electric irrigation motors. Farmers in three counties had the opportunity to apply for up to \$15,000 in rebates. Thirty-eight projects were completed and saved 12,835 MMBTUs a year—the equivalent of power used in more than 3,000 homes in one month, and 145,000 gallons of diesel fuel per year, which would fuel more than 200 cars for a year. The popularity of the program encouraged the Georgia State Energy Office to create a statewide program which yielded the following results: 59 rebates totaling \$278,911 issued; \$1.1 million in energy efficient irrigation

projects completed; and 335,097 gallons of diesel fuel saved annually. In addition, the program led to an \$800,559 reduction in costs to operate irrigation motors.

Hawaii

SEP Supported Public Building Retrofits Exceeding \$40 Million in Annual Energy Savings

In [Hawaii](#), the State Energy Office helped to implement public building energy retrofits and solar projects, exceeding \$40 million in energy cost savings and 98,900 mWh of guaranteed energy savings annually. Hawaii used SEP funds to support an innovative energy savings performance contracting program (ESPC) which leveraged the financing needed for the retrofits. Hawaii is in the midst of a major energy transformation, including the interconnection of over 50,000 solar photovoltaic systems on residences.



Idaho

SEP Funding Helped Idaho Schools Save Between \$1.2 Million and \$3.9 Million in Energy Costs

In [Idaho](#), the State Energy Office leveraged SEP funding to support the K-12 Energy Efficiency Project. Energy audits have been completed on 894 school buildings statewide. HVAC system tune-ups were also completed on the 894 school buildings across Idaho. Approximately \$5 million was spent performing the HVAC tune-ups. It is anticipated that the tune-up portion of the project will save Idaho districts about 10 percent of their current energy budgets. Savings from the tune-ups have been estimated to be between 84,102,248 and 269,507,285 kBtu per year. Tune-up dollar savings based on site energy are estimated between \$1,254,169 and \$3,924,603 per year.

894

School buildings audited statewide

84 million kBtu

Estimated annual savings

10%

Savings on school district annual energy budgets

Illinois

\$480,000 in SEP Funds Supported Energy Efficiency Upgrades at Illinois Schools

\$480,000

SEP funds leveraged

145

Local workers hired

118,000 therms

Amount of natural gas saved annually

In [Illinois](#), the State Energy Office utilized \$480,000 of SEP funds to help schools in the City of Rantoul install geothermal heating and cooling systems. The project significantly reduced the district's energy usage and resulted in the hiring of approximately 145 local workers. The grant was awarded to Rantoul City School District 137 through the Thermal Efficiency for Public Facilities program, a component of the State's Energy Plan. The project will result in more than 118,000 therms of natural gas being saved.

Indiana

SEP Funding Supported Energy Retrofits in 11 Commercial and Industrial Plants

In [Indiana](#), the State Energy Office utilized SEP funding to help companies identify and make energy efficiency upgrades. The Indiana Conserving Hoosier Industrial Power (CHIP) program provided \$2.2 million in grants to commercial or industrial facilities. Eleven companies in Indiana were selected, through a competitive process to receive grants ranging from \$52,000 to \$400,000. In order to be considered for a CHIP grant, the proposed project had to be located in Indiana, and demonstrate measurable improvements in energy efficiency, result in a reduction in energy demand, or implement an energy recycling process.

\$2.2 million

In grants awarded to commercial and industrial facilities

11

Companies selected for efficiency upgrades

\$52,000 - \$400,000

Amount of grants awarded

Iowa

SEP Supported the Development of Multiple Projects, Including 25 Business Audits Resulting in Average Annual Savings of \$50,000

25

Audits performed for businesses

\$50,000

Total annual estimated savings

600,000 kWh

Total annual estimated electrical savings

In [Iowa](#), the State Energy Office used SEP funds to support the development of a variety of projects, such as the Iowa Waste Reduction Assistance Center at the University of Northern Iowa. Leveraging grant funds, the center created a program to reduce energy use and costs at small businesses by providing a compressed air leak detection audit. Over the six-month project, audits were completed at 25 businesses, such as auto body and service shops. Total annual savings were estimated at nearly \$50,000 with the potential to save over 600,000 kWh in electrical use.

Kansas

SEP Funded Facility Conservation Improvement Program (FCIP) Helps Save Taxpayers \$20 Million

In [Kansas](#), the State Energy Office focuses on energy efficiency and economic development programs throughout the state. These programs meet two general goals of (1) reducing the taxpayer burden and (2) promoting small businesses in Kansas. The Facility Conservation Improvement Program (FCIP) is helping Kansas meet those goals. SEP funds support the operation of FCIP, which has produced over \$20 million in savings to taxpayers annually through energy efficiency investments in state and local public facilities using energy savings performance contracting. One example of an FCIP project is energy system upgrades at Rock Creek United School District 323. The total project cost was \$2,181,573 and is expected to achieve overall savings for the district, including electricity, water, gas and operational savings, of approximately \$154,000 annually.

\$20 million

Savings to Kansas taxpayers through FCIP

\$2,181,573

Total project cost for HVAC system upgrades at one elementary school

\$154,000

Overall energy savings annually at elementary school

Kentucky

SEP Funds Leveraged More than \$4.4 Million for the School Energy Managers Projects (SEMP)

\$4.4 million

Amount of funding for SEMP

\$50 million

Cumulative avoided utility costs redirected back into school budgets

40

Energy managers providing energy management services to

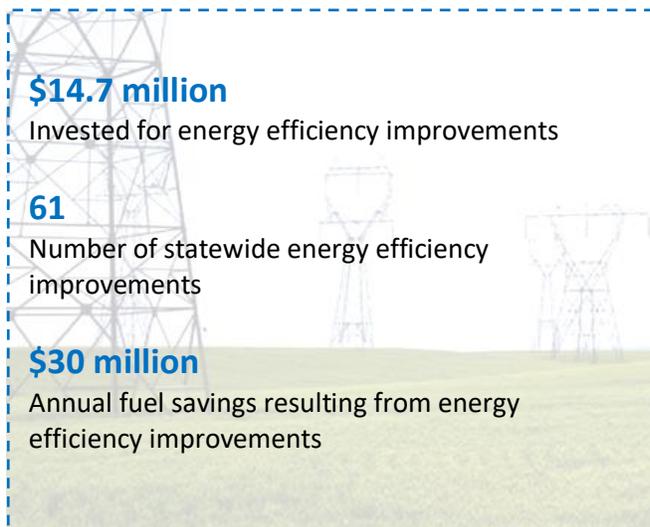
81

Public school districts

In [Kentucky](#), the State Energy Office, working with the Kentucky School Boards Association (KSBA)-School Energy Managers Project (SEMP), leveraged SEP funding to support a \$4.4 million project over a three-year period. SEMP provides energy management services to Kentucky's school districts and has established a statewide energy management infrastructure focusing on intelligent energy choices for new and existing public schools. Currently, there are 40 energy managers providing services to 81 of Kentucky's 173 K-12 public school districts. KSBA reports more than \$50 million in avoided utility costs between 2010 and 2015 have been redirected back into school budgets.

Louisiana

\$14.7 Million of SEP Funds Used for Statewide Energy Efficiency Improvements



In [Louisiana](#), the State Energy Office, in coordination with electric utility Entergy, has leveraged SEP and utility funds totaling \$14.7 million in 61 energy efficiency improvements that has resulted in \$30 million in annual fuel savings.

Maine

Invested \$4.5 Million of SEP Funds to Achieve Greater Energy Efficiency in the Multi-Family Sector

In [Maine](#), the State Energy Office leveraged \$4.5 million in SEP funds to support a pilot project geared toward achieving energy efficiency investments in the multi-family sector. It is challenging to achieve energy efficiency improvements in this sector, especially for smaller scale buildings. The pilot operated for nearly three years and focused on buildings with 5-20 units. Over 3,500 units were benchmarked, and 1,800 were successfully retrofitted. On average, 26 percent energy savings were realized, exceeding the 20 percent goal of the pilot. The pilot is now a self-sustaining program, using prescriptive incentives to keep implementation costs low. All buildings with more than five units are eligible to participate.



Maryland

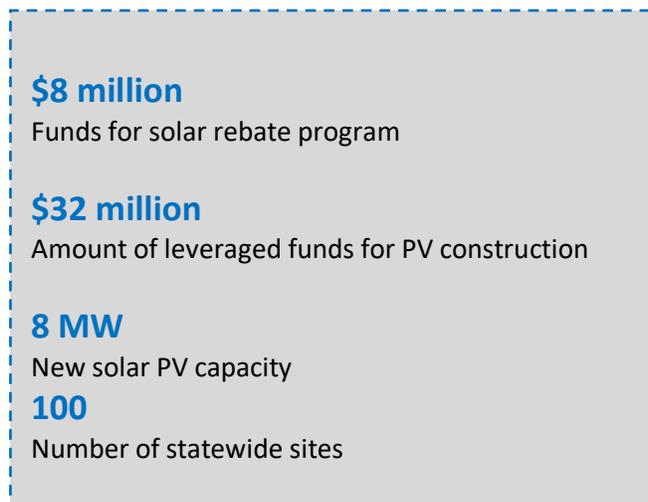
SEP Funding Supported \$2.5 Million in Grants for Smart Energy Communities Program

In [Maryland](#), the State Energy Office's grant and loan programs are an important strategy to achieve the ambitious energy efficiency and renewable energy goals that Maryland has established. With help from SEP funds, the State Energy Office created the Smart Energy Communities Programs to better engage local jurisdictions in meeting these goals. In return for passing two policies aligned with Maryland's energy goals, communities can receive grants to complete an energy-related project, such as installing solar panels on a public building. The FY16 program budget is \$2.5M divided between new and existing communities; with \$600,000 for eligible energy efficiency initiatives, \$900,000 for eligible renewable energy and transportation projects, and \$1,000,000 for energy efficiency projects that serve low-to-moderate income Marylanders.



Massachusetts

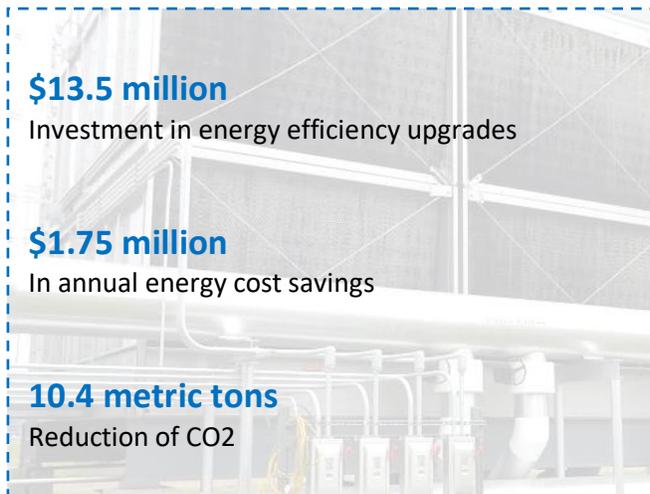
Provided \$8 Million in SEP Funds to Leverage \$32 Million for Solar Rebate Program



In [Massachusetts](#), the State Energy Office leveraged SEP funding to create a solar rebate program. Administered through the Massachusetts Clean Energy Center (CEC), the program, capitalized with \$8 million, has leveraged \$32 million in outside capital that has triggered the construction of eight megawatts of new solar photovoltaic capacity at 100 sites around the Commonwealth.

Michigan

SEP Funds Helped Save \$1.75 Million in Annual Energy Costs for Michigan State Office Complex



In [Michigan](#), the State Energy Office leveraged SEP funding to make several upgrades to the Energy Center at the State of Michigan Secondary Complex. The Energy Center provides steam and chilled water throughout the complex and now also provides electricity using the recently installed cogeneration system. The 2.4 MW system supplies 35-50 percent of the complex's electricity (enough power for 2,575 Michigan homes) while generating 14,000lb/hr of steam as a byproduct. Depending on demand, the steam is used for heating (in combination with two 20,000 lb/hr heat recovery steam generators) or for cooling (using two 1,000 ton absorption

chillers). About \$13.5 million has been invested in energy efficiency upgrades with an estimated annual savings of \$1.75 million in energy costs, more resilient facility operation, and 10.4 metric tons reduction of carbon dioxide.

Minnesota

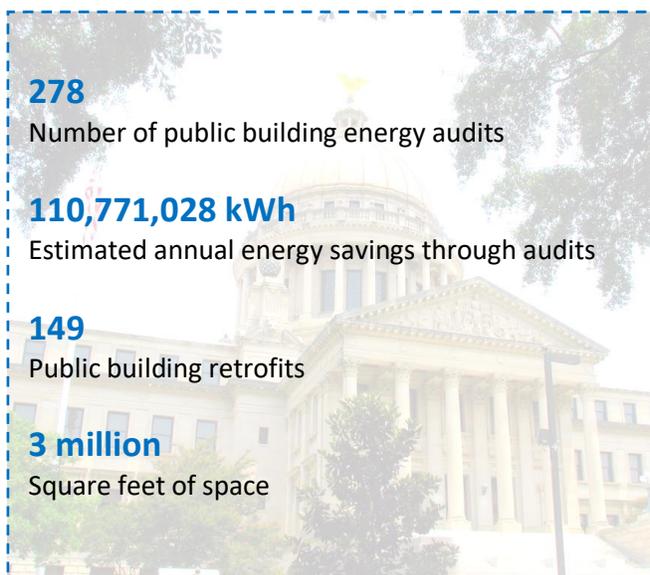
SEP Provided Rebates through \$15 Million, "Trillion BTU Improvement Program"

In [Minnesota](#), the State Energy Office utilized SEP funding to launch the Trillion BTU energy efficiency improvement program. The program has leveraged \$15 million in funds to originate 71 loans to businesses and nonprofits over five years. The low-interest loans (4-6 percent) have allowed borrowers to save \$5.3 million each year and reduce energy consumption by more than 146 billion BTUs annually. The revolving loan fund program has created or retained over 1,000 jobs. Loan amounts range from \$50,000 to \$1 million, with terms up to five years. Minnesota's State Energy Office leveraged SEP funds to create the program, and is overseeing the program, which is administered by the Saint Paul Port Authority.



Mississippi

Utilized SEP Funds to Support Energy Efficiency Improvements in 278 Public Buildings



In [Mississippi](#), the State Energy Office used SEP funds to support several programs aimed at reducing energy consumption and costs in public buildings at the state and local levels. The State Energy Office 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 kilowatt-hours made possible through energy efficiency measures. The public buildings program is helping to finance energy-saving upgrades through performance contracting in 10 public institutions. To date, 149 public buildings, representing more than 3 million square feet of space, have been completed.

Missouri

\$65,000 of SEP Funding Used to Design and Implement the Missouri Home Energy Certification Program

In [Missouri](#), the State Energy Office used \$65,000 of SEP funding to design and implement the Missouri Home Energy Certification Program. This voluntary program works with the Building Performance Institute, utilities, banking institutions, community action agencies, realtors, appraisers, and home energy auditors to conduct outreach efforts to homeowners about the benefits of conducting home energy audits. In parallel to these outreach efforts, the program is working to certify new home energy auditors. The initial program operation resulted in the number of certified home energy auditors in Missouri increasing from 40 to approximately 70.



Montana

SEP Supported the Launch of the SMART Schools Challenge in 46 Schools Throughout the State

46

Number of schools participating in SMART Schools Challenge

\$100,000

Energy cost avoidance in inaugural year

31 tons

Waste diversion (inaugural year)

135 tons

Carbon offset through recycling (inaugural year)

In [Montana](#), the State Energy Office, in coordination with the governor, launched a SMART Schools Challenge to encourage K-12 public schools to develop programs to increase energy and resource efficiency. The program is a huge success, and in its inaugural year, 46 schools participated, producing \$100,000 in energy cost avoidance, 31 tons of waste diversion, and 135 tons of carbon offset through recycling.

Nebraska

SEP Funds Expanded the Longstanding Dollar and Energy Savings Loan Program, Now Totaling Over \$317 Million

In [Nebraska](#), the State Energy Office leveraged SEP funding to expand the *Dollar and Energy Saving Loan Program*. The program is a revolving loan fund that reduces the interest rate for energy-related projects meeting minimum efficiency standards. Active since 1990, it is one of the longest standing and highest volume energy efficiency loan programs in the country. To date, the program has financed 28,362 projects with low-interest loans, mainly in the residential sector, totaling more than \$317 million from the energy office and participation by 267 lenders at more than 906 locations throughout the state. Over 25 years, the program's extraordinarily low write-off level is just \$150,158.

28,362

Projects financed with low-interest loans

\$317 million

Amount of loans provided since program's inception

267

Number of participating lenders

906

Locations throughout the state

Nevada

\$25,000 in SEP Funds Leveraged \$43,336 for Street Lighting Replacements

In [Nevada](#), the State Energy Office used \$25,000 in SEP funds to leverage a total of \$43,336 for Lincoln County Power District (LCPD), which provides electric power in east-central Nevada, to purchase 92 LED lights to replace the existing streetlights in the towns of Alamo and Panaca. The new LED streetlights use 52 percent less energy than the old streetlights, while providing the same lighting output. According to research conducted by the Pacific Northwest National Laboratory, LED lights have much longer life-spans and can be maintenance free for 10 years or longer.

\$25,000

Amount of SEP funds leveraged

92

LED streetlights purchased

52%

Less energy used

New Hampshire

Used SEP Funds to Retrofit a State Hospital, Resulting in \$14,800 in Annual Energy Savings

\$43,000

Next capital budget for remaining efficiency improvements at New Hampshire State Hospital

\$14,800

Energy savings at one hospital per year

100

Number of other public and state building "retro-commissions"

\$800,000

Annual energy savings

In [New Hampshire](#), the State Energy Office utilizes SEP funds for a diverse range of important energy programs and projects. One example is the support of a "retro-commissioning" analysis of the New Hampshire State Hospital, which resulted in many simple changes that were easy to implement and low cost, and resulted in significant savings. Impressed by the results of that work, the New Hampshire Legislature included \$43,000 in the capital budget to make the remaining suggested efficiency improvements. The result will be energy savings of \$14,800 per year for the hospital. To date, New Hampshire has completed energy efficiency projects in over 100 buildings, producing annual savings of \$800,000.

New Jersey

SEP Funds Supported the Installation of Innovative Energy Technologies in State Buildings

7

Energy efficiency projects funded

75%

Reduction in building facilities management costs

50%

Reduction in building electric energy use

In [New Jersey](#), the State Energy Office utilized SEP funding to provide grants to seven energy projects ranging in size from a \$63,000 boiler retrofit project at Rutgers University, to an \$8.5 million landfill solar project with the New Jersey Meadowlands Commission. The grant program was designed to provide funding to state departments, agencies, authorities, colleges and universities that use innovative renewable or energy efficiency technologies or innovative applications for renewable energy applications and energy efficiency projects. The New Jersey Institute of Technology (NJIT) is one example of New Jersey's state universities taking advantage of SEP funds. Upon final completion, the

implemented measures will reduce building facilities management cost by approximately 75 percent, will reduce electric energy use by approximately 50 percent and will reduce the total building fossil energy use by approximately 40 percent through efficiency improvements and renewable energy generation.

New Mexico

Invested SEP Funds to Support the Installation of PV Systems in 15 School Districts

In [New Mexico](#), the State Energy Office used SEP funding to support the installation of solar photovoltaic (PV) systems in 15 school districts around the state. The participating school districts are Belen, Carrizozo, Corona, Dulce, Elida, Gallup, Hatch, Los Alamos, Los Lunas, Moriarty, Peñasco, Portales, Rio Rancho, Ruidoso and Taos. Each school system received up to \$300,000 to install a 50-kilowatt grid-tied PV system that generates significant electrical power for the school and community, saves money and energy for each school district, and provides educational opportunities about renewable energy for local students and the surrounding community. The installation of these 15 PV systems also helps generate jobs for local suppliers, installers and manufacturers of PV equipment in New Mexico.

15

Number of school districts installing PV systems

750-kilowatts

Total grid-tied PV capacity for 15 schools

New York

\$326,511 SEP-Funded Grant Helped New York Educational Services Board Reduce Energy Consumption

In [New York](#), the State Energy Office partnered with the Wayne Finger Lakes (WFL) Board of Cooperative Educational Services (BOCES) to install a 50kW Solar Electric System on the roof of an Early Childhood Education Building. With an annual production estimated at 55,640 kWh, the system is expected to reduce electric consumption at the site by 43 percent. Funded by a \$326,511 SEP grant, the WFL is moving forward with a project that otherwise would not have happened.

\$326,511

Amount of SEP funded grant

43%

Reduction in electric consumption

55,640 kWh

Annual electricity production

North Carolina

\$280,000 in SEP Funding Helped Reduce Energy Consumption in State Owned Buildings

\$280,000

Initial DOE SEP funding

\$1.3 million

In State appropriated funds leveraged

\$30 million

Performance contracts leveraged

199

Jobs maintained during the year

In [North Carolina](#), the State Energy Office, utilized an initial investment of \$280,000 in SEP funding for the Utility Savings Initiative Program—that leveraged \$1.3 million in state appropriated funds and \$30 million in Performance Contracts and allowed 199 jobs in public and private entities to be maintained. For last 12 years, the successful Utility Savings Initiative Program has met and exceeded the goals to reduce energy consumption in state owned buildings by 30 percent by 2015 (2002-03 baseline) with a stretch goal to reduce energy consumption in 123 million square feet of buildings by at least 20 percent by 2020 (2008-09 baseline).

North Dakota

\$8,000 in SEP Funding Supported Energy Efficiency Training for 1,070 Workers

In [North Dakota](#), the State Energy Office provided \$8,000 in SEP funding to North Dakota State University Extension to hold 17 energy efficient grain drying and storage seminars and webinars that reached 1,070 people.

\$8,000

Amount leverage through SEP funds

17

Seminars held on energy efficient grain drying and storage

Ohio

SEP Funding Leveraged to Invest \$24 Million in Manufacturing Sector

\$24 million

Investment in Ohio's manufacturing sector

1,112,109 million BTUs

In annual energy savings

110,256 metric tons

Of annual greenhouse gas reduction

In [Ohio](#), the State Energy Office utilized SEP funding to support the Energy Efficiency Program for Manufacturers. The program is enabling hundreds of Ohio's manufacturers to realize cost savings and improve the efficiency of their operations; ultimately putting these companies in a better position with their global competitors. To date, the program has invested more than \$24 million in Ohio's manufacturing sector to reduce energy usage for a combined annual savings of 1,112,109 million British Thermal Units (gas, oil, other) and 79,256 megawatt hours. These savings translate into a greenhouse gas emission reduction of 110,256 metric tons per year.

Oklahoma

Utilized \$3.95 Million of SEP Funds to Convert 140 School Buses to Compressed Natural Gas

\$3.95 million

Funds used to convert Tulsa school bus fleet

140

Number of diesel-powered buses converting to CNG

\$750,000-\$1 million

Expected annual savings on fuel costs

In [Oklahoma](#), the State Energy Office leveraged \$3.95 million of SEP funding and federal and state tax credits to help Tulsa Public Schools (TPS) convert its entire fleet of 140 diesel-powered buses to compressed natural gas (CNG). Once all buses are converted the school district expects to save between \$750,000 and \$1 million annually on fuel costs. The cost savings that are generated from this project are going back into upgrading the TPS's fueling infrastructure.

Oregon

SEP Funds Implemented Residential Program which Approved 21,365 Tax Credits for Renewable and Energy Efficient Systems

In [Oregon](#), the State Energy Office used SEP funding to implement the Residential Energy Tax Credit Program (RETC). The goal of the RETC is to promote energy savings or energy displacement and market transformation by providing incentives that encourage the purchase of energy efficient and renewable energy devices for homes in Oregon. RETC helped save 129,180 million Btus, approved 21,365 tax credits for renewable energy and energy efficiency eligible systems, and leveraged SEP dollars with \$139.5 million in non-federal funding. The ratio of non-federal leveraged funds to SEP federal funds is \$100 to \$1.

21,265

Tax credits approved for renewable energy and energy efficiency eligible systems

129,180 million

Btus saved

\$100

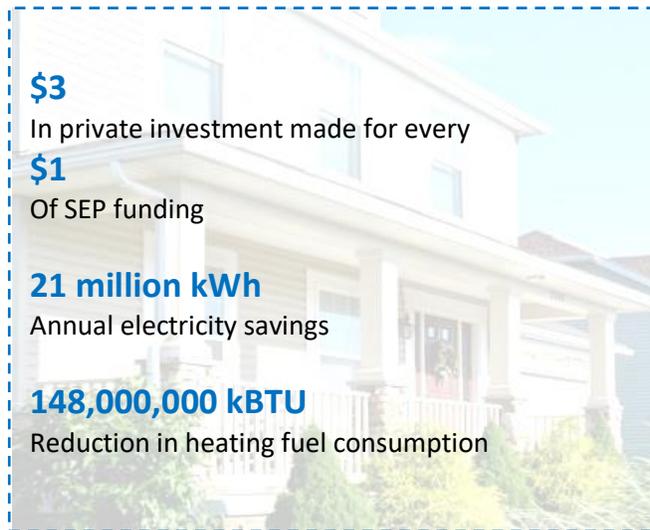
In investments made for every

\$1

Of SEP funds expended

Pennsylvania

SEP Funding Leveraged to Support \$51 million in Home Energy Loans



\$3

In private investment made for every

\$1

Of SEP funding

21 million kWh

Annual electricity savings

148,000,000 kBTU

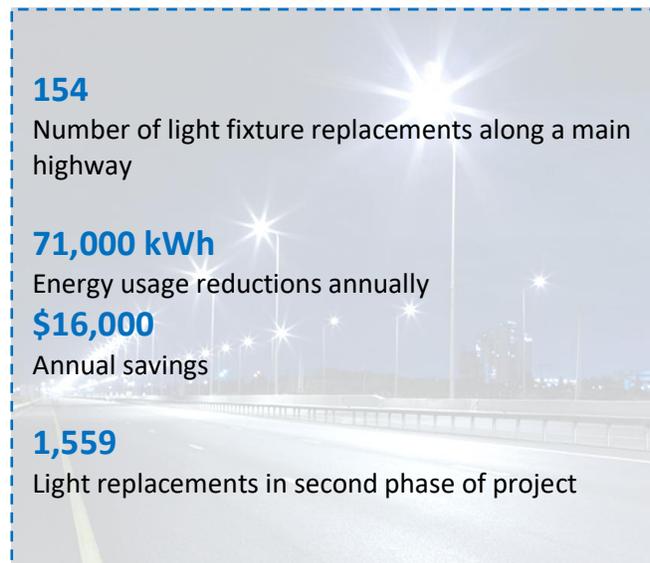
Reduction in heating fuel consumption

In [Pennsylvania](#), the State Energy Office used SEP funding to support the Keystone Home Energy Loan Program (HELP), a public/private partnership that provides lower cost financing to homeowners for ENERGY STAR single measure improvements such as heating, cooling, insulation, geothermal as well as whole house energy improvements under Home Performance with ENERGY STAR guidelines. Each dollar of SEP investment led to over \$3 in private investment. The SEP funding supported 5,700 consumer loans valued at \$51 million to Pennsylvania home-owners resulting in annual energy savings of 21 million kWh of electricity and 148,000,000 kBTU reduction in heating

fuel consumption; and 22,000,000 lbs. reduction in CO2 emissions through installed residential energy conservation and efficiency measures.

Rhode Island

SEP Supported the Replacement of 154 Highway Street Lights with High Efficiency LEDs



154

Number of light fixture replacements along a main highway

71,000 kWh

Energy usage reductions annually

\$16,000

Annual savings

1,559

Light replacements in second phase of project

In [Rhode Island](#), the State Energy Office partnered with the Rhode Island Department of Transportation and National Grid and leveraged SEP funding to support several projects to reduce energy use and costs. The state agencies worked together to implement a pilot project that replaced 154 existing light fixtures along a main highway with energy-efficient LED bulbs. By swapping out the 154 lights near major highway interchanges, the state is expected to cut its energy usage by more than 71,000 kilowatt-hours annually, an estimated savings of \$16,000. A second phase of the project will replace an additional 1,559 lights statewide through two separate projects. While the state controls 7,394 lights, cities and towns are responsible for more than 98,000.

South Carolina

SEP Funds Expanded the \$1.5 Million Energy Efficiency Revolving Loan for the Commercial and Industrial Sectors

In [South Carolina](#), the State Energy Office used SEP funding to expand the Energy Efficiency Revolving Loan fund, which was started with an infusion of approximately \$1.5 million. Loans are for commercial and industrial borrowers. Nearly all available funding has been committed for five projects. One example of a borrower is Love Chevrolet, a large family-owned car dealership that was provided a loan of \$230,000 to convert both parking lot and interior lighting to high efficiency LEDs. The company is saving \$8,000 on monthly electricity bills and has also reaped unanticipated benefits including: better color rendering, improved shopping experience for clients, and significantly better lighting and higher morale for mechanics.

\$1.5 million

Funds available for the Energy Efficiency Revolving Loan

\$230,000

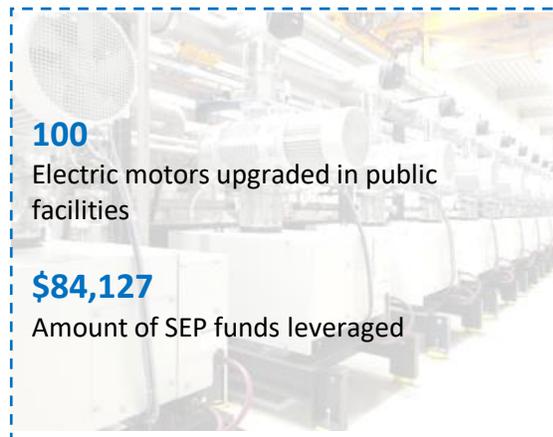
Amount of loan awarded to one of five projects to date (focusing on LED conversion at a car dealership)

\$8,000

Monthly electricity savings for one car dealership

South Dakota

SEP Funding Leveraged \$84,127 to Upgrade Electric Motors in Public Facilities



100

Electric motors upgraded in public facilities

\$84,127

Amount of SEP funds leveraged

In [South Dakota](#), the State Energy Office leveraged \$84,127 in SEP funding combined with \$79,328 in additional funding, to implement a program to provide matching funds to replace older inefficient electric motors with new National Electric Manufacturers Association certified premium motors. The program was offered to all state campuses, including higher education facilities. One-hundred motors were upgraded through this program. Variable speed drives were included in the upgrades to increase operating efficiency.

Tennessee

Leveraged SEP Funds to Help Local Government and Housing Authorities Achieve \$3 Million in Annual Energy Savings

In [Tennessee](#), the State Energy Office leveraged SEP funding to provide education, outreach, and technical assistance to local governments, K-12 schools, and public housing authorities to drive demand for energy efficiency investments in these often hard to reach energy efficiency sectors. The goal is to serve as a technical assistance provider to at least 10 local governments and 8 public housing authorities, driving demand for energy improvements of \$20 million with the goal of achieving \$3 million in annual savings for participating agencies.

- \$20 million**
Project goal investment
- \$3 million**
Project goal annual savings
- >10**
Local governments/PHAs/K-12s participating in program (as of July 2015)

Texas

\$239,000 in SEP Funds Leveraged \$7 Million for Clean Tech Start-Ups



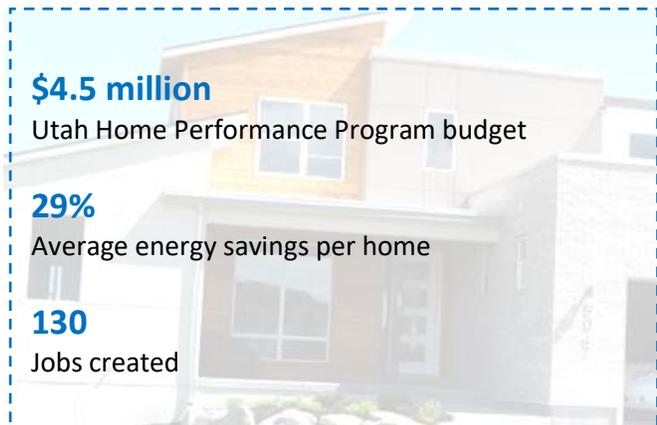
- \$239,000**
U.S. SEP funds leveraged
- \$7 million**
Private and non-federal funds to support clean energy technology
- \$7.9 million**
Economic impact to support clean energy technology
- 86**
Private sector jobs created

In [Texas](#), the State Energy Office used \$239,000 in SEP funding to create clean energy business incubators. The funds supported clean energy technology startup companies, which attracted \$7 million (24:1) in investments, created 86 jobs, and resulted in \$7.9 million (27:1) in economic impact. Since 2001, the successful Texas Industries of the Future Program has had great success in supporting manufacturers to decrease the energy and water intensity of their Texas operations. The City Efficiency Leadership Council and Property Assessed Clean Energy (PACE) Training provides targeted assistance and outreach to Texas cities, specifically related to building energy code adoption and compliance.

Utah

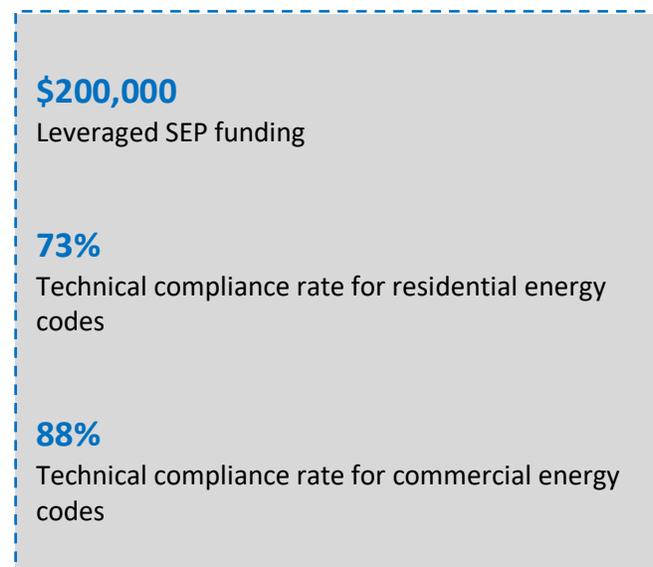
SEP Funds Leveraged \$4.5 Million Utah Home Performance Program

In [Utah](#), the State Energy Office utilized SEP funding to establish the Utah Home Performance Program (UHP) – a residential energy efficiency rebate program to build the infrastructure and a permanent workforce for a “whole home” retrofit market. Starting with a budget of \$4.5 million, UHP achieved the following: an average of 29 percent energy savings per home (initial goal was 20 percent); a network of 85 UHP approved companies, supporting private sector creation of 130 jobs; leveraged \$7.5 million in residential energy efficiency retrofits; and retrofitted 1,250 homes.



Vermont

Leveraged \$200,000 of SEP Funds to Support Residential and Commercial Building Energy Standards



In [Vermont](#), the State Energy Office has leveraged nearly \$200,000 of SEP funds to support Vermont’s residential and commercial building energy standards. SEP funds assisted Vermont in the energy code updating process by providing technical support for updating the standards as well as assisting with the public stakeholder process; provided training to builders, architects, and realtors; and purchased energy code training materials. Vermont has measured compliance with RBES and CBES in market assessments. The technical compliance rate for residential was 74 percent and 88 percent commercial. Vermont is well on the way to achieving 90 percent compliance with energy codes by 2017 and partially credits the statewide training, availability of code materials, as well as energy efficiency new construction programs, for these compliance rates.

Virginia

\$2.6 Million in SEP Funding Leveraged to Provide \$1.6 Million in Loans and Create 46 Jobs

\$12 million

Private source financing leveraged by portfolio firms

\$1.6 million

Commonwealth Energy Fund loans

46

Number of jobs created

In [Virginia](#), the State Energy Office leveraged SEP funding and in partnership with The Center for Innovative Technology (CIT), launched the Commonwealth Energy Fund (CEF) to make loans to high-growth potential early stage Virginia companies capable of creating jobs, reducing energy usage, increasing energy generation from renewable resources, and reducing greenhouse gas emissions. The State Energy Office capitalized the Fund with \$2.6 million in SEP funds, which leveraged \$12 million of private financing associated with the firms in the portfolio. Forty-six jobs were reported created or retained by the companies and several of the businesses have expanded over the past several years.

Washington

SEP Funds Leveraged \$1.4 Million for Energy Efficiency Programs

In [Washington](#), the State Energy Office has leveraged SEP funding to develop the technical standards, economic analysis, and participation in the Washington State Energy Code's (WSEC) technical advisory group. The first two code cycles have resulted in an 18-25 percent reduction in energy use and are anticipated to save \$380 million in annual energy savings by 2030. In 2015, the Washington State Energy Office is proposing code changes that will provide an additional 8-17 percent in total building energy use compared to the 2012 WSEC. Overall, SEP funding has helped the state leverage more than \$1.4 million in non-Federal funds for a variety of programs.

\$1.4 million

In non-Federal funds leveraged through SEP

\$380 million

Anticipated energy savings by 2030

18-25%

Reduction in energy use by 2030

West Virginia

SEP Funded Energy Efficiency Improvements in Public Buildings at Nine State Departments

In [West Virginia](#), the State Energy Office has several SEP-funded initiatives 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. For example, a \$2.1 million project will reduce annual operating costs for West Virginia's most expensive-to-operate facility, a corrections center, by more than \$400,000 per year. The project will pay for itself within five years.

9

Number of state departments improving energy efficiency in state buildings

\$2.1 million

In energy efficiency retrofits at one corrections center

\$400,000

In energy cost savings from corrections center (one of many projects)

Wisconsin

SEP Funds Helped Create a Clean Energy Revolving Loan Fund Totaling \$39 Million

\$39.2 million

Amount of loans provided

25

Number of private sector manufacturers provided with loans

\$147 million

Amount leveraged through SEP funds

In [Wisconsin](#), the State Energy Office, in cooperation with the Wisconsin Economic Development Corporation (WEDC), has established the [Clean Energy Manufacturing Revolving Loan Fund](#) (CERLF). The SEP-funded CERLF assists Wisconsin-based manufacturers in deploying energy efficiency projects and the production of renewable energy system parts and components. By the end of 2014, \$39.2 million had been loaned out and \$8.5 million had been repaid. Twenty-five loans have been made and \$147 million has been leveraged through SEP funding.

Wyoming

SEP Funds Reduced Energy Costs in 32 Public Buildings, in Addition to Roadway Lighting Upgrades

In [Wyoming](#), the State Energy Office leveraged SEP funding to reduce energy costs in public buildings by providing consulting services, procurement support and third-party contract verification for energy savings performance contracts. With this support, public agencies are able to redirect utility payments and maintenance budgets into infrastructure improvements. For example, the Wyoming Department of Transportation is saving \$215,000 annually by having upgraded 730,000 square feet in 32 buildings in Phase I of a project. Phase II is underway to upgrade additional buildings with lighting and mechanical improvements and to improve all roadway lighting across the state using LED fixtures and lamps which will result in \$690,000 in annual savings for an investment of \$10.75 million in Tax Exempt Lease Purchase financing.

Phase I: \$215,000

Annual energy savings within the Wyoming Department of Transportation

730,000

Square feet upgraded in

32

Wyoming DOT buildings

Phase II: \$690,000

Annual energy savings due to roadway lighting improvements

\$10.75 million

Investment in tax exempt lease purchase financing

