

**2009 State Energy Program Formula Grant Application
For American Recovery and Reinvestment Act (ARRA)
Funding Opportunity Grant #DE-FOA-0000052
CFDA: 81.041 State Energy Program**

American Recovery and Reinvestment Act

**State of Oregon
Oregon Department of Energy**

Technical Contact: Lori Koho
Public Buildings Manager
Oregon Department of Energy
625 Marion Street NE
Salem, Oregon 97301-3737
Phone: (503) 378-4040
FAX: (503) 373-7806
E-mail:

Business Contact: George Thompson
Grants Officer
Oregon Department of Energy
625 Marion Street NE
Salem, Oregon 97301-3737
Phone: (503) 378-3767
FAX: (503) 373-7806
E-mail: george.d.thompson@state.or.us

U.S. Department of Energy
State Energy Program (SEP) Narrative Information Worksheet

(Grant Number #DE-FOA-000052)

State Title: *Deployment of Innovative Energy Efficiency and Renewable Energy Projects/Programs/Initiatives*

1. Market: Buildings

2. State: OR

3. Program Year: 2009 **Term:** April 1, 2009 to March 31, 2012

4. Topics Involved in the Overall Program Market:

Biomass Power; Building America; Combined Heat and Power; Federal State and Local Facilities; Financing Energy Programs; Geothermal; Lighting, Performance Contracting; Schools; Solar Power

5. Estimated Annual Energy Savings:

295,000 mm Btu of energy saved annually from energy efficiency projects; 127,000 mm Btu of energy generated annually from renewable energy projects.

Total estimated annual energy saved/generated: 421,000 mm Btu.

6. Description:

Background

The US Congress enacted the American Recovery and Reinvestment Act (ARRA) primarily to preserve and create jobs, promote economic recovery and assist those most impacted by the recession. The ARRA funds provided to the Oregon Department of Energy (ODOE) will be used to fund energy efficiency improvements, to develop renewable energy resources and to ensure environmental protections through the established State Energy Program (SEP). Implementing SEP energy projects will result in the following: unemployed and part-time workers will secure prevailing wage jobs, local economies will realize an influx of funds and provide basic services to Oregonians and long-term energy savings and reduction of greenhouse gas emissions will be achieved. ARRA funds will be used to expand existing ODOE programs and not to replace them. As Oregon Governor Ted Kulongoski directed in Executive Order No. 09-06, federal stimulus grants will be used for the "promotion of Oregon's sustainability, renewable energy, carbon reduction, energy efficiency, and green development goals." Oregon views the \$42.1 million in ARRA SEP funds as an extraordinary opportunity to leverage and expand ODOE's existing energy programs and to carry out energy projects considered financially improbable just a few months ago.

Oregon, with 3.7 million residents, currently has the nation's highest unemployment rate (12.1 percent as of March 2009). Jobs created or retained by energy projects funded by ARRA will be

a key factor in improving Oregon's local economies. Based on US DOE's suggested formula, ODOE anticipates that 450 jobs can be created or retained by 200 projects implemented using ARRA SEP funds.

Projects will reduce energy use and costs. The reduction of energy costs will help schools, counties and cities save on operating expenses, which, in turn, will help them retain current employees and hire new ones. The State of Oregon's current SEP focuses on projects that promote energy efficiency and renewable energy in public buildings, including schools. While this will continue to be the focus, ODOE will look for opportunities to leverage ARRA funds for innovative projects, programs and initiatives that address state energy priorities and have high potential for achieving the ARRA SEP goals.

Oregon has a mature and effective energy efficiency and renewable energy program. The Oregon Department of Energy was established in 1975 as a state agency, and the Business Energy Tax Credit, Residential Energy Tax Credit and Energy Loan Program were created by the Oregon Legislature in the late 1970s. Oregon was one of the first states in the nation to have such innovative programs, which now, nearly three decades later, are more important than ever. To date, ODOE programs have already saved or generated electricity amounting to more than 52 trillion Btu. ODOE expects to meet the minimum energy savings of 10 million source Btus for each \$1,000 of ARRA SEP investment. ODOE anticipates that Oregon will save 295,000 mm Btu annually from completed energy efficiency projects and anticipates installing renewable energy projects that will generate 127,000 mm Btu of energy annually with ARRA SEP funding.

ODOE has the established energy programs and trained specialized staff to expeditiously and professionally review and analyze proposed projects, ensure project progress and monitor outcomes.

- ODOE's history with past SEP projects is impressive. SEP funding supports market transformation in the residential sector primarily through our successful Residential Energy Tax Credit program for Oregonians who invest in premium efficiency appliances, renewable energy, hybrid vehicles, etc. From 1977 through 2008, ODOE has issued more than 370,000 Residential Energy Tax Credits, with 42,477 issued in 2008.
- ODOE has supported a Schools Program since 2002 that directs state public purpose funds to school energy projects in the two investor-owned electric utility service areas. All schools that are eligible for the public purpose funds are required to have energy audits performed and to prioritize energy projects. When Williams Settlement funds became available in 2005, ODOE used the funds for a similar program in Kindergarten through 12th grade (K-12) public schools not eligible for public purpose funds.
- Since 1991, ODOE has worked with state agencies through the State Energy Efficiency Design (SEED) program. SEED ensures that new or retrofitted state public buildings include all cost-effective energy conservation measures. Since 2001, all SEED buildings also must be designed to be 20 percent better than current energy code buildings.

- Since January 2008, ODOE ensures that new state buildings spend 1.5 percent of capital costs on solar installations, as required by Oregon statute.

With a well-established program in place, ODOE intends to partner with Oregon's Economic Development Districts (EDDs), located in 11 regions throughout the state, on ARRA SEP implementation. These EDDs manage a variety of federal and state programs, promoting sustainable economic growth and local prosperity. EDD staff live and work in their assigned region and collaborate with community leaders. ODOE will partner with the EDDs for additional field resources to assist ODOE to ensure that local workers are hired whenever possible for approved ARRA SEP projects, energy projects are progressing as expected, ARRA funds are appropriately spent, ARRA paperwork and reporting requirements are complete, and outcomes are realized and communicated to taxpayers. ODOE will hire additional staff and contract workers to assist with ensuring that energy projects are completed as proposed. ODOE will seek assistance from other stakeholders including, but not limited to: Oregon's Economic Revitalization Team, Renewable Energy Working Group (and sub-groups, such as the Biomass Working Group), the Oregon Energy Planning Council, the Oregon Global Warming Commission, and the Oregon Climate Change Research Institute.

ODOE also will work hand-in-hand with local consumer-owned utilities and the Energy Trust of Oregon (ETO), which represents the two investor-owned utilities, Portland General Electric and Pacific Power. Utility and ETO incentives will be leveraged, whenever possible, to further expand energy projects. However, ARRA funds will not replace utility or ETO incentives. ODOE also will offer the State's Business Energy Tax Credit to project owners who can afford to spend some of their own funds on projects. ODOE's Energy Loan Program will be available to public entities to provide loans to ensure projects can begin without delay.

Goals and Objectives

ODOE estimates that \$42.1 million in ARRA SEP funding will support 200 energy projects that will produce the following results:

- Create or retain 450 jobs, based on the USDOE suggested formula of \$92,000 for each job;
- Save 295,000 million Btu by implementing energy efficiency projects;
- Install renewable energy projects to generate 127,000 million Btu of energy;
- Reduce greenhouse gases: 41,325 short tons of carbon dioxide (CO₂) annually, 423 short tons of nitrogen oxide (NO_x) annually, and 262 short tons of sulfur oxide (SO_x) annually;
- Reduce energy costs by \$7.3 million annually (\$109.3 million in energy costs saved over the life of the measures); and
- Leverage \$8.4 million in energy funds from consumer-owned utilities, the Energy Trust of Oregon and state-funded programs.

Strategies

The Oregon Department of Energy's overall strategy is to use ARRA SEP funding for an estimated 200 energy efficiency and renewable energy projects on public buildings, and to look for opportunities to leverage these funds for innovative projects/programs/initiatives that address state energy priorities and have high potential for achieving the ARRA SEP goals. A focus on public buildings allows ODOE to most effectively use its existing expertise and programs to efficiently expend ARRA SEP funds, while also providing an opportunity for government to take a leadership role in demonstrating innovations in energy efficiency and renewable energy.

ODOE has developed the following public building strategy:

- Public building projects will help build the infrastructure needed in communities that, in turn, will attract private sector projects including renewable energy resource equipment manufacturing facilities.
- Many public buildings such as jails and state hospitals are open 24/7, so energy savings can be maximized, saving taxpayers money and adding value to the properties.
- Public entities, especially schools, are experiencing a financial crisis with the downturn in the economy. Energy savings realized from ARRA SEP projects will play a crucial role in the budgets for public education.
- ODOE can provide assistance based on years of general energy experience, with expertise in specific areas.

ODOE expects to fund 60 renewable energy projects. Oregon's communities are rich in biomass, solar and geothermal renewable resources. It is estimated that potential electricity generation from biomass alone can produce 524 average megawatts of electricity. The Oregon Legislature has accelerated state efforts to increase our production of clean energy. In 2007, legislators approved a renewable portfolio standard (RPS) that requires the largest utilities in Oregon to provide 25 percent of their retail sales of electricity from newer, clean renewable sources of energy by 2025. Smaller utilities have similar, but lesser, obligations. Often missing, however, are investments in the supporting infrastructure that ties together demand and supply. By funding public building projects, ODOE expects to build the infrastructure that, in turn, will encourage private investment and create a long-term industry. Once infrastructure is in place and operational, this barrier for private investors will be eliminated. Furthermore, private business owners have access to ODOE's Business Energy Tax Credit (BETC), Energy Loan Program and consumer-owned utility or Energy Trust of Oregon incentives to encourage their investment in energy projects. The Oregon Legislature created a special BETC for Renewable Energy Resource Equipment Manufacturing Facilities in 2007. For example, this 50 percent BETC for up to \$40 million in eligible costs would provide an attractive financial incentive for a private investor interested in building a biomass pellet facility to supply processed feedstock for public building boilers.

ODOE staff members facilitate an active statewide Renewable Energy Working Group and subgroups for biomass, wind, solar, and geothermal. The Biomass Working Group includes groups focusing on agricultural, forest and urban biomass. ODOE's staff members work directly with these working groups and local farmers, foresters, ranchers, landowners, developers, community leaders and other stakeholders to implement proposed projects. ODOE's goal is to use ARRA SEP funds to install renewable energy projects that generate 126,300 million Btu annually.

Public buildings, such as jails and state hospitals, operate 24 hours a day, seven days a week, using a significant amount of energy. Installing renewable energy projects on these buildings or implementing energy efficiency measures will result in reduced energy use and subsequent savings in energy costs. The reduction in energy costs is a major factor for Oregon schools. Oregon schools are experiencing a funding crisis that the Oregon Legislature has been

attempting to address during the past decade. Between 2000 and 2005, Oregon electricity rates increased 28 percent; average natural gas rates increased 63 percent; retail gasoline prices increased 48 percent; and the general inflation rate over the period for the U.S. was 13 percent. Because of these increasing costs, limited school dollars have had to go towards utility bills and have been pulled from basic educational needs. By implementing these energy projects, utility bills will decrease and school funds can go towards improving education. ODOE anticipates a reduction in energy costs of \$109.3 million over the life of the measures as a result of the implementation of 200 ARRA projects, or \$7.3 million in energy savings annually. This will have a pronounced impact in Oregon schools, public buildings and other innovative energy projects where the ARRA funding will be directed today and for years to come.

Oregon has long been concerned about greenhouse (GHG) emissions. In 1992, the state adopted a benchmark to hold the state's carbon dioxide emissions to 1990 levels and adopt carbon dioxide performance standards for new energy facilities. In 1997, the Oregon legislature gave the Energy Facility Siting Council authority to set carbon dioxide emissions standards for new energy facilities. The law requires developers to reduce the overall amount of carbon dioxide emitted from new power plants. Oregon became the first state in the nation to control emissions of carbon dioxide. Governor Kulongoski appointed a 28-member Advisory Group on Global Warming in early 2004 to create a climate action plan for Oregon. The Governor adopted the goals recommended by the Advisory Group as key elements of his global warming and energy priorities:

- By 2010, arrest the growth of Oregon's greenhouse gas emissions (including, but not limited to CO₂) and begin to reduce them, making measurable progress toward meeting the existing benchmark for CO₂ of not exceeding 1990 levels.
- By 2020, achieve a 10 percent reduction below 1990 greenhouse gas levels.
- By 2050, achieve a "climate stabilization" emissions level at least 75 percent below 1990 levels.

The Oregon Global Warming Commission report released in January 2009 stated that Oregon will likely meet its first goal, to arrest and reverse its historical trend of emissions rising each year, by 2010. The remaining goals, however, loom ahead. The report goes on to recommend that Oregon promote energy efficiency and support renewable energy resources.

ARRA-funded projects using biomass would help to achieve the state's goals. In Oregon, catastrophic wild fires are a big contributor to increased greenhouse gas emissions. By developing markets for forest biomass, the risks and costs of wild fires would be reduced. Thinning and brush removal would accelerate tree growth, as well as increase resistance to disease outbreaks and insect infestations.

Solar, wind and geothermal projects will replace fossil-fuel energy production and thereby reduce greenhouse gas emissions. ODOE will be using this criterion when reviewing each proposed project. ODOE estimates ARRA SEP projects will reduce greenhouse gas emissions by 41,325 short tons of CO₂ annually, 423 short tons of NO_x annually and 262 short tons of SO_x annually.

Lastly, ODOE has a proven track record working with public schools including K-12, community colleges and universities. Beginning in 2002, ODOE established a dedicated Schools Team comprised of energy specialists and trained energy analysts to work exclusively with schools. In 1999, ODOE began working with state agencies designing new facilities or retrofitting existing buildings. State Energy Efficiency Design (SEED) staff ensures that all cost-effective energy measures are incorporated. SEED oversight has expanded in recent years, as has staff expertise. The bottom line is that ODOE has staff that can efficiently manage the ARRA SEP projects on the required fast-track timeline with practices and processes already in place.

ODOE's plan for implementing ARRA SEP projects includes the following action steps:

1. Select qualified energy projects
2. Partner with utilities and others to provide technical assistance
3. Leverage funds
4. Assess and evaluate
5. Communicate results

Action 1: Select qualified energy projects

The ARRA SEP announcement has attracted preliminary interest from more than 800 Oregon entities. Oregon's Governor issued an Executive Order prioritizing the use of ARRA funds to create new long-term capacity in communities and spark sustainable economic activity throughout the state: "Leveraging these federal stimulus dollars to create even more jobs, train workers, reduce taxpayer costs, and invest in a cleaner environment is the real key to long-term recovery through reinvestments" (Executive Order No. 09-06). With this Order in mind, ODOE will consider an assessment of these proposed project concepts using the following broad filters:

1. Projects will be on public buildings, including K-12 public schools, community colleges, public universities, state agencies, cities, counties and special districts.
2. Projects must provide energy efficiency measures or produce renewable energy.
3. Projects must be geographically distributed throughout the state. In order to ensure this geographical distribution, ODOE will seek out and identify qualified projects using ODOE staff and partners to network with local stakeholders, and will provide technical assistance as necessary to define the projects.
4. ODOE will consider other innovative energy projects that offer an opportunity to leverage ARRA SEP funds and that address state energy priorities.

The next step in project assessment will be a preliminary technical review by ODOE staff (if necessary, local Economic Development District staff may be consulted). Some factors that ODOE will consider include:

- Are there adequate energy savings to be realized from the proposed project?
- Is the project "shovel ready"?
- Does it appear to be ready to go to avoid delays in implementation?
- Have local authorities approved the project?
- Has the local utility conducted a recent energy audit?

Once a project has passed these first levels of review, ODOE will extend an agreement, which the local EDD staff members will present to the project implementers. EDD staff will serve as

the project managers ensuring that the project is properly bid and reporting occurs at predetermined intervals.

The next step involves project development. EDD staff will complete this step, considering the following:

- Is the project properly permitted?
- If necessary, has the appropriate level of National Environmental Policy Act (NEPA) compliance been completed for the project?
- Can the project meet all grant requirements, including assurance that iron, steel and manufactured goods are produced in the United States and that wage rates are comparable to those prevailing on projects of a similar character?

Action 2: Partner with utilities and others to provide technical assistance

ODOE has the professional and technical staff and programs in place to deliver ARRA funds to energy projects in K-12 schools and other public buildings, but will require assistance from others in the field.

To ensure that the projects result in new jobs at the local level, ODOE will establish a partnership with Oregon's Economic Development Districts (EDDs) through an intergovernmental agency agreement. Oregon's eleven EDDs are located throughout the state to manage and deliver federal and state programs. These partners will ensure that local workers are hired for the jobs created by the energy projects when qualified local workers are available.

ODOE also will call upon the state's Economic Revitalization Team (ERT) to assist with outreach assistance to local governments. In 2003, the Oregon Legislature asked Governor Kulongoski to create the ERT to coordinate state agency resources toward activities that improve Oregon's readiness for economic development. The ERT has five Regional Coordinators located around the state who serve as Governor's Office ombudsmen to local governments and businesses on high priority projects that help:

- Position the state as a leader in the emerging stewardship economy;
- Support local and state efforts to build a sustainable and resilient business climate;
- Leverage public and private resources and partnerships for maximum efficiency; and
- Foster a customer service ethic within state government.

ODOE will partner with the Energy Trust of Oregon (ETO), the organization serving customers of Oregon's two investor-owned utilities, and with the local consumer-owned utilities. The ETO and local consumer-owned utilities are currently required to identify, measure and verify energy projects to which they contribute financial incentives. ODOE will work with the ETO and utilities to develop prescriptive level requirements for replacement and specifications for common energy efficiency retrofits such as: lighting, boiler and burner efficiency improvements and retrofits, HVAC controls, steam traps, cooling towers, heat recovery and ventilation systems. The ETO and utilities will supply ODOE with the data necessary for ARRA monitoring. ODOE will enter into agreements with the ETO and statewide consumer-owned utilities specifically for these ARRA SEP project activities.

ODOE will use local contractors and energy analysts to provide technical assistance. ODOE will enlist the help of technical experts working in county extension offices, community colleges and universities throughout the state. ODOE can also call on other energy experts, such as those with the Oregon Geo Heat Center in Klamath Falls.

To implement the ARRA SEP-funded programs, ODOE has identified additional resource needs in terms of additional staff, technical support contract(s) and travel expenses, which will be necessary to meet ARRA SEP requirements. Staffing requirements for the technical work will exceed ODOE's personnel and legislatively approved FTE. ODOE will fill the needs by reprogrammed current staff, contractors, or by appointment to enable the agency to meet the deliverable of commitment of all funds by September 2010.

ODOE will need technical expertise in the following areas:

- Solar PV;
- Geothermal;
- Biomass; and
- Energy efficiency building retrofits.

As such, ODOE plans to hire additional staff to assist in the implementation and coordination efforts of the ARRA SEP. As mentioned in the Budget Justification file included in this application package, this will include six limited-duration FTE whose responsibilities include, but are not limited to, the following:

- Conducting outreach and marketing to designated eligible organizations;
- Providing technical support and guidance to applicants to ensure that projects are reasonable and cost effective;
- Coordinating monitoring, verification and evaluation efforts to quantify energy consumption, energy savings, jobs created/retained, etc.;
- Verification activities to ensure that the funding is being used as intended and that project installation is proceeding on an acceptable schedule;
- Processing the individual applications, coordinating with US DOE and the State of Oregon to issue awards and process payments; and
- Managing contracts, grants and loans that are executed through this effort.

ODOE plans to obtain technical support services to assist with various functions including, but not limited to, the following:

- Architectural and engineering consulting services to support SEP authorized and approved projects by identifying potential energy efficiency measures that will reduce greenhouse gas emissions;
- Assistance to sub-recipients in the implementation of the energy efficiency projects;
- Outreach and program support;
- Project metric tracking and reporting;
- Administrative support;
- Assistance with overall program evaluation, feedback and fraud detection;
- Monitoring, verification and evaluation (MVE) activities; and
- Program design and consultation on various administrative issues.

Expenses will include travel to various locations for purposes including, but not limited to, the following:

- Selecting projects;
- Providing technical assistance;
- Monitoring, evaluating and verifying projects;
- Program marketing and outreach;
- Troubleshooting issues with sub-recipients; and
- Presenting reports at meetings and conferences.

The Program Manager will provide oversight for program development and deployment. ODOE anticipates that the current Public Buildings Manager will be re-programmed half-time from current duties. ODOE will also use current staff to be responsible for communicating ARRA results including Website updates, creation of case studies and success stories for projects and providing oversight for development of education and outreach efforts.

Action 3: Leverage funds

ODOE will leverage ARRA funds with other financial incentives whenever possible. Projects that qualify for an ETO or consumer-owned utility financial incentive will require less ARRA SEP funding to achieve expected outcomes. In addition, ODOE has a Business Energy Tax Credit (BETC) program that public entities and schools can monetize by partnering with a private business or taxpayer. If a project qualifies for the BETC, the entity could use a portion of their own funds for the project and apply for the BETC.

Established in 1981, ODOE's Energy Loan Program (SELP) will also help leverage ARRA funding. The SELP was designed to promote energy conservation and renewable energy resource development. The program offers low-interest, long-term fixed-rate loans for qualified energy projects. The Energy Loan Program can loan to individuals, businesses, schools, cities, counties, special districts, state and federal agencies, public corporations, cooperatives, tribes and non-profits with projects in Oregon. ODOE will dedicate \$5 million of ARRA SEP funds to establish a new revolving loan fund for public buildings. ODOE anticipates that a number of project owners will rely on the revolving loan funds to provide financing necessary to begin projects until their requested ARRA funds become available. This revolving loan fund will assure local public officials, taxpayers and contractors that services can be paid for in a timely manner. Oregon is fortunate to have the loan program policies, procedures and professional staffing in place for the revolving loan fund activity expected to be generated by ARRA funding.

ODOE has established tracking protocols for its BETC and SELP programs and can ensure that tracking and reporting of ARRA funds will be maintained separately from BETC and SELP funding and data.

Although matching funds are not required for ARRA projects, ODOE will maximize leveraging funds where possible. ODOE expects \$8.4 million in funds leveraged from utility and ETO incentives, BETC and loans for many ARRA SEP-funded energy projects.

Action 4: Assess and evaluate

Projects will be inspected upon completion by EDD staff. Contracts with project owners will require progress photographs of the energy project and a photograph upon completion. Local consumer-owned utilities and the Energy Trust of Oregon conduct technical on-site inspections of all energy projects that receive financial incentives. ODOE conducts inspections of a sampling of energy projects that receive a Business Energy Tax Credit. In addition, ODOE will conduct on-site technical inspections of all ARRA SEP projects that do not receive a full technical on-site inspection from a local consumer-owned utility, the ETO or ODOE (in the BETC sampling inspection).

Action 5: Communicate results

ODOE will publish a minimum of 20 success stories on ARRA-funded energy projects. ODOE has published case studies to promote the Business Energy Tax Credit to business owners for the past ten years. These stories will be available on ODOE's popular Website and in appropriate external publications as opportunities arise. ODOE will develop an ARRA-funded project Website. The site will provide short project descriptions, the amount of ARRA funds used, the number of workers hired, an estimate of energy saved or produced, project completion dates and other facts of interest to the public.

7. Milestones

Activity milestones include the following:

1. Project selection and evaluation of energy savings	200
2. Develop and execute funding grants	200
3. Program development	1
4. Develop and execute program management contracts	11
5. Implement projects	200
6. Prepare quarterly, annual, final reports	16
7. Create ARRA SEP Website	1
8. Create ARRA SEP project case studies	20

8. Standard Metrics

Jobs created: 100

Jobs retained: 350

9. Specific Metric Activity

Building retrofits:	200 buildings 30 million square feet
Loans and grants:	10 loans Value of loans: \$5 million
Technical assistance:	200 site visits Sectors: Buildings

10. User Specific Metrics (optional)

11. Program Year Funds Anticipated

DOE ARRA Funds	\$42,182,000
State Funds	0
Other Matching Funds	0
Leveraged Funds Anticipated	\$ 8,400,000