

## **Oregon Department of Energy**

### **American Recovery and Reinvestment Act (ARRA) Funding of Energy Projects Group Three**

#### **Portland Community College (PCC)—Sylvania Campus**

As part of the first phase of PCC's Net Zero project (producing as much energy as it requires on-site), the State Energy Program (SEP) ARRA funds would go toward the cost of identified improvements at the 47-year-old College Center Building. The energy efficiency measures for the 178-thousand square foot building include:

- Upgrading heating and cooling controls
- Retro-commissioning to ensure that heating and cooling systems are working together
- Sealing up leaks in the heating and cooling duct system
- Encouraging the use of electric motors to operate the HVAC system efficiently
- Efficient air filtration systems that improve system operation and air quality
- Variable fan speed operation for HVAC controls
- Occupancy sensors tied to building maintenance systems

#### **Oregon University System Projects**

Students in 38 buildings on five Oregon University System campuses will enjoy a better learning and working environment due to installation of new lighting systems, heating system upgrades, roof insulation, and other energy conservation measures. These projects will lower energy costs by more than \$850,000 per year and reduce carbon emissions by 13.5 million lbs per year. The projects will also provide approximately 26,275 hours of work. Total grant amount for Oregon University System is \$1,387,515. Individual campus details are below:

- University of Oregon will receive a total grant of \$381,071. The projects funded by the grant will save a total of \$205,000, reduce carbon emissions by more than 4.2 million pounds (lbs) per year, and provide approximately 7,895 hours of work at the following facilities.
  - Klamath Hall- lighting upgrades, install roof insulation, retro-commissioning, steam trap repairs. Grant amount is \$66,790.
  - McKenzie Hall-steam trap repairs, HVAC upgrade, piping insulation. Grant amount is \$40,751.
  - Knight Library-steam trap repairs, install lighting controls, roof insulation, vending machine misers, retro-commissioning. Grant amount is \$75,116.
  - Straub Memorial Hall-steam trap repairs, HVAC upgrade, piping insulation, retro-commission. Grant amount is \$34,376.
  - Carson Hall-lighting upgrades, HVAC, roof insulation. Grant amount is \$22,829.
  - Cascade Hall-steam trap repairs, lighting upgrades, roof insulation, retro-commissioning. Grant amount is \$42,641.

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- Condon Hall-steam trap repairs, lighting, HVAC, retro-commissioning. Grant amount is \$23,960.
  - Earl Hall-steam trap repairs, install high efficiency motors, retro-commissioning. Grant amount is \$19,318
  - Prince Lucien Campbell Hall-steam trap repairs, HVAC upgrade, retro-commissioning. Grant amount is \$43,926.
  - Susan Campbell Hall-steam trap repairs, lighting upgrades. Grant amount is \$11,364.
- Portland State University will receive a total grant of \$366,194. The projects funded by the grant will save a total of \$226,000, reduce carbon emissions by more than 3.2 million lbs per year, and provide approximately 6,580 hours of work at the following facilities.
    - Peter W. Stott Center- lighting, steam trap repairs, HVAC upgrades, retro-commissioning. Grant amount is \$74,204.
    - Science Building I-lighting upgrades, HVAC upgrades, pipe insulation, retro-commissioning. Grant amount is \$52,388.
    - Neuberger Hall-HVAC upgrades, lighting upgrades, pipe insulation, retro-commissioning. Grant amount is \$49,650.
    - Ondine and Annex-lighting upgrades, HVAC upgrades, install low flow shower heads, retro-commissioning. Grant amount is \$32,284.
    - Cramer Hall-lighting upgrades, steam trap repairs, retro-commissioning. Grant amount is \$39,922.
    - Education Business Building-steam trap repairs, HVAC upgrades, lighting upgrades and new controls, retro-commissioning. Grant amount is \$58,873.
    - Blackstone-boiler upgrade, retro-commissioning. Grant amount is \$25,232
    - Joseph C. Blumel-lighting upgrades, roof insulation, retro-commissioning. Grant amount is 33,641.
- Oregon State University will receive a total grant of \$530,026. The projects funded by the grant will save a total of \$368,000, reduce carbon emissions by more than 5.4 million lbs per year, and provide approximately 9,300 hours of work at the following facilities.
    - McNary Hall and McNary Dining Hall- lighting upgrades, HVAC upgrades, pipe insulation, install energy efficient windows, low flow shower heads, retro-commissioning. Grant amount is \$106,047.
    - Peavey Hall and Richardson Hall –steam trap repairs, lighting upgrades, HVAC upgrades, pipe insulation, roof insulation, install energy efficient windows and doors, retro-commissioning. Grant amount is \$160,585.
    - Cordley Hall – steam trap repairs, lighting upgrades, retro-commissioning, pipe insulation, control system upgrades. Grant amount is \$67,239.
    - CH2M Hill Alumni Center- retro-commissioning, install daylighting controls. Grant amount is \$6,462.

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- Gilbert Hall-steam trap repairs, retro-commissioning, lighting upgrades, control system upgrades, pipe insulation, HVAC upgrades. Grant amount is \$56,902.
  - Langton Hall-steam trap repairs, HVAC upgrades, lighting upgrades, retro-commissioning. Grant amount \$26,248.
  - Finley Hall-steam trap repairs, low flow shower heads, retro-commissioning, pipe insulation, roof insulation, control system upgrade. Grant amount is \$55,859.
  - Kerr Administration Building-steam trap repairs, retro-commissioning, install new high efficiency motors, lighting upgrades. Grant amount is \$50,684.
- Western Oregon University will save \$17,000, reduce carbon emissions by more than 282,000 lbs per year, and provide approximately 1,500 hours of work. The following projects will be done at the Administration building, Butler Hall, Heritage Hall, Natural Sciences building, Todd Hall, and Valsetz Dining: steam trap repairs, lighting upgrades, HVAC upgrades, and retro-commissioning. Grant amount is \$52,100.
  - Southern Oregon University will receive a grant in the amount of \$58,124. The projects funded by the grant will save \$34,000, reduce carbon emissions by more than 483,000 lbs per year, and provide approximately 1,000 hours of work at the following facilities:
    - Central building-lighting upgrades, HVAC upgrades, retro-commissioning.
    - Education/Psychology building-lighting upgrades, attic insulation, install vending machine misers.
    - Greensprings building-install control system upgrades, lighting upgrades.
    - Hannon Library- retro-commissioning.
    - McNeal Recreation building- boiler upgrade, HVAC upgrade with new controls, lighting upgrade.
    - Taylor building-boiler upgrade, lighting upgrade, roof insulation, retro-commissioning, upgrade domestic hot water controls.

### Other Projects:

- Multnomah County Inverness Jail will receive a grant in the amount of \$375,000. The County expects to save over 2.4 million gallons of water with their new heat recovery system for the laundry facility to be funded by the grant. They also anticipate a 50% reduction in natural gas costs and a reduction in carbon emissions of 425,000 lbs per year. This project will provide an estimated 20,000 hours of work.
- Portland Water Bureau will receive a \$30,000 grant. They will use the grant at the Vernon Regulator Site to install a micro hydro-turbine to capture potential energy between the Mt Tabor reservoir and the Vernon Tank. It is anticipated

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that potential energy savings of 150,000 kWh will be captured for electrical use. This project will provide an estimated 300 hours of work.

- The Oregon Convention Center will receive a grant of \$235,063. It is anticipated that there will be a 61% reduction in electrical use with the installation of their lighting upgrade project. This amounts to annual cost savings of more than \$82,000 and 1,740,257 kWh. This project provides an estimated 2,985 hours of work.
- Oregon Health Sciences University will receive a total grant of \$497,148. Energy efficient windows and new heating and ventilation controls will be installed at the Medical Research Building and the School of Nursing. Anticipated total annual savings is \$269,000 with a reduction in carbon emissions of 15,934,708 lbs per year. These projects will provide an estimated 1,800 hours of work. Grant amount for Medical Research Building is \$342,160. Grant amount for School of Nursing is \$154,988.

The City of Portland will receive a total grant of \$508,000. The following City of Portland projects are estimated to provide 10,015 hours of work.

- Customers and employees will be more comfortable and no longer deal with inadequate lighting when the city replaces a 25-year-old heating and lighting system at The Portland Building. The city estimates savings of 918,000 kWh annually valued at \$77,000. Grant amount for The Portland Building is \$275,000.
- A boiler replacement and cooling tower will make the environment more comfortable for business owners and patrons at SW3rd and SW Alder. Carbon reductions of 1,088 metric tons will be provided over the life of the project. Grant amount is \$48,000.
- Portland City Hall will have better water flow after improvements are made to the water system. The city estimates 47,501 kWh savings annually. Grant amount is \$15,000.
- The public will enjoy better lighting in four Smart Park Garages from a new lighting system which will save the city more than \$60,000 a year. Grant amount is \$170,000.

### **Additionally:**

- Multnomah County will receive a total grant of \$990,000. Thirty-five buildings owned by Multnomah County including libraries, health clinics, and offices will enjoy a more comfortable environment and reduced energy costs through lighting occupancy sensors, heating upgrades, and remote access control screens. These projects provide an estimated 15,000 hours of work.

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- Durham Wastewater Treatment Facility-Chemical Building project in Tigard includes replacement of lighting fixtures and controls. The project will provide an estimated 266 hours of work. Grant amount is \$12,688.
- Electricity costs make up the majority of St. John's Racquet Center's energy use. New, energy-efficient lighting will dramatically improve the lighting levels while reducing electricity use by 45% at this Portland Parks and Recreation facility. The estimated annual savings is \$16,340. This project will provide an estimated 464 hours of work. Grant amount is \$27,448.

## **Willamette Valley, Northwest Oregon Group:**

- Lane County Adult Corrections Facility will replace their steam heat system with a high efficiency boiler system. Anticipated annual savings is more than \$144,000. This project is estimated to provide 12,392 hours of work. Grant amount is \$99,900.
- Hood River County will receive a total grant of \$67,385. The grant will be used toward installation of new heating system controls with remote web access in the administration building and the courthouse. In addition, a steam trap failure detection system will be installed in the Hood River County Library. It is anticipated that energy costs will be lower by more than \$22,000 per year and carbon emissions will be reduced by 184,280 lbs per year. These projects are estimated to provide 870 hours of work.
- The Astoria Police and Fire Department will receive a grant in the amount of \$102,174 for the Public Safety Building. The project will install new heating system controls that will save \$16,581 annually. It is estimated this project will provide 720 hours of work.
- The City of Astoria will receive a grant of \$79,023 for the Astoria Public Library. The grant will go toward a new boiler and HVAC upgrade. It is anticipated that the library will save \$19,742 a year after installation of this project. It is estimated that this project will provide 1,096 hours of work.
- Senior citizens using the Astoria Senior Center will no longer be subjected to extreme heat and cold after the center installs of a new high-efficiency heating system and roof insulation. The City of Astoria will receive a grant in the amount of \$6,660 to be used toward this project. It is estimated that the center will save just over \$1,000 a year and will provide 240 hours of work.
- In the rural town of Yachats, Yachats Commons serves as the location for city hall, the community center, theatre, exercise classes and many other events. With a grant of \$129,000 to the City of Yachats, citizens will be more comfortable while attending events after installation of energy efficient windows, attic and wall insulation, and electrical upgrades. It is anticipated that this project will

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reduce energy costs by 50% for a savings of \$6,300 a year. It is estimated that this project will provide 1,240 hours of work.

- The installation of new lighting controls at the Pavilion building at the State Fair Ground and Exposition Center will create savings of over \$10,400 per year. It is estimated this project will provide 160 hours of work. Grant amount is \$25,000.
- Installation of lighting upgrades with occupancy sensors to the Benton County Courthouse, Corrections, and the Public Service Building will create savings of more than \$20,300 a year. It is estimated these projects will provide 394 hours of work. Total grant amount is \$87,500. The Courthouse will receive \$22,500, Corrections will receive \$20,000, and the Public Service Building will receive \$45,000.
- Cascade Junior High School in Turner will use its funding to make the school more comfortable with a boiler replacement and insulation. The \$100,000 will go a long way to replacing older steam boilers and the project will create about 2,500 worker hours.
- A number of schools in Eugene's Bethel School District will receive comprehensive lighting replacements and \$49,692 in ARRA funds. The upgrades to high-efficiency lighting will reduce the district's energy bills by about \$25,000 annually.
- Eugene's Sheldon High School lighting retrofit project will reduce operating and maintenance costs. The \$27,200 award will allow the school district to save over \$7,300 a year in energy costs.
- Monroe High School in Benton County will be installing new energy-efficient lights and room occupancy sensors. This project will provide an estimated 42% energy savings for the school and increase the indoor lighting levels. The school expects to hire about three electricians to complete the work. The Monroe Middle School will be getting new lighting in its gyms and saving more than \$2,000 a year in energy costs.
- The Bohemia Elementary School in Cottage Grove's South Lane School District will be able to finish up a lighting project thanks to federal stimulus funds. The energy savings from installing high-efficiency lighting will help ease the district's operating budget and improve the learning environment.
- Columbia County Courthouse will receive a grant for \$200,000. They are expecting to see annual energy costs savings of more than \$43,000 after upgrades to their heating and ventilation system are installed. It is estimated that this project will provide 1,440 hours of work.

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- Marion County will receive a total grant of \$230,782. The amount of \$99,900 will go toward installation of new windows in the Courthouse. The amount of \$68,841 will go toward installation of a new HVAC system in the Courthouse. The amount of \$64,041 will go toward new lighting in the parking structure of the Courthouse, stairwells, walkways, and integrating the new lighting into the controls for the new HVAC system. Anticipated savings is more than \$33,000 per year. It is estimated that the projects will provide 14,800 hours of work.
- Linn County will receive a total grant of \$46,548. The projects funded by the grant will save the county more than \$9,900.
  - Linn County Jail will install new lighting through jail. This project is estimated to provide 427 hours of work. Grant amount is \$4,404.
  - Linn County Fair & Expo Center will install a pilot light upgrade in the kitchens; a ventilation control upgrades in the Santiam building, Expo Center, and the armory building; and lighting upgrades to the large riding arena. These projects are estimated to provide 1,182 hours of work. Grant amount is \$29,230.
  - Linn County Roads Department Headquarters will install lighting upgrades throughout the facility. This project is estimated to provide 400 hours of work. Grant amount is \$12,914.
- Dallas School District will receive a total grant of \$311,663. The projects funded by the grant will save the district more than \$47,500.
  - Dallas High School will install new HVAC controls and lighting. This project is estimated to provide 2,068 hours of work. Grant amount is \$131,054.
  - LaCreole Middle School will install HVAC and lighting upgrades. This project is estimated to provide 2,280 hours of work. Grant amount is \$100,431.
  - Lyle Elementary School will install HVAC upgrades. This project is estimated to provide 853 hours of work. Grant amount is \$49,900.
  - Whitworth Elementary School will install HVAC upgrades. This project is estimated to provide 729 hours of work. Grant amount is \$30,278.

## Southwest Oregon

- Douglas County will receive a total grant of \$41,547. The projects funded by the grant will save the county more than \$9,800 per year in reduced energy costs.
  - The Douglas County Museum will reduce energy use by 80% and prolong exhibit life through installation of new lighting that reduces exhibits to UV exposure. This project is estimated to provide 80 hours of work. Grant amount is \$12,784.
  - Patrons and staff of the Douglas County Health Center will benefit from lighting upgrades throughout the facility. This project is estimated to provide 214 hours of work. Grant amount is \$18,763.

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- The Douglas County Justice/Jail complex will install a new boiler, providing better control of the environment. This project is estimated to provide 40 hours of work. Grant amount is \$10,000.
- Curry County will receive a total grant of \$52,500. Complaints of heat exhaustion and heat stroke in the summer will be eliminated after installation of a new air conditioning and heating system and energy efficient windows at the county's North Annex building in Port Orford. It is estimated that this project will lower energy costs by \$849 per year and provide 392 hours of work. A new roof, roof insulation, and HVAC system upgrades at the county's South Annex building in Brookings is estimated to save the county over \$11,000 a year in reduced energy costs and provide 450 hours of work.
- Rogue River School District will receive a grant of \$66,080 to fund a boiler replacement project at the Rogue River High School. The project will allow students and staff to be more comfortable and will save the school more than \$7,200 a year in reduced energy costs. It is estimated that this project will provide 480 hours of work.
- The Elkton Rural Fire Protection District will receive a grant of \$24,300. The grant will allow the district to install insulated doors for the emergency vehicles and give them the ability to close the doors when they are out on calls, saving heat and preventing theft. The district anticipates lower energy costs of more than \$3,200 per year. It is estimated this project will provide 150 hours of work.
- Butte Falls School District will receive a grant for \$100,000. Installation of a new high efficiency boiler system will reduce energy costs by more than \$7,900. The project is estimated to provide 1,100 hours of work.
- Coos County will receive a total grant of \$81,846. These projects are estimated to provide 2,129 hours of work.
  - Coos County Courthouse will install a new high efficiency gas fired boiler and new energy efficient lighting throughout the building. It is anticipated that energy costs will be lower by more than \$15,920 per year. Grant amount is \$40,698.
  - A lighting upgrade project at the Coos County Road Department will reduce energy costs by more than \$1,200 per year and reduce carbon emissions by more than 9 tons per year. Grant amount is \$4,067.
  - A lighting upgrade project at the Coos County Park/Forestry Building will reduce energy costs by more than \$1,600 per year. Grant amount is \$5,095.
  - Coos County Health/Juvenile Building will install new lighting which is estimated to reduce energy costs by more than \$770 per year. Grant amount is \$699.

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- A lighting upgrade project at the Coos County Jail will reduce energy costs by more than \$5,600 per year and reduce carbon emissions by more than 43 tons per year. Grant amount is \$16,696.
- North Bend Annex will install new lighting at the State Courts, Public Health, Mental Health, Community Corrections, Juvenile, and Maintenance offices. It is anticipated that energy costs will be reduced by more than \$3,700 and reduce carbon emissions by 26 tons per year. Grant amount is \$14,591.
- City of Coos Bay will receive a grant of \$4,700. The grant will fund a new lighting project at the City Maintenance Shop building. This project will reduce energy use by 46% and save the city more than \$1,100 per year. It is estimated this project will provide 160 hours of work.
- Grants Pass School District will receive a grant of \$99,000. Student will be more comfortable after installation of two new boilers at Parkside Elementary School. Energy costs will be reduced by more than \$43,800 per year. It is estimated this project will provide 1,100 hours of work.
- The City of Grants Pass will receive a grant of \$17,659. The grant will fund lighting upgrades and installation of occupancy sensor controls at the city's Water Filtration Plant, Water Restoration Plant, Hillcrest Fire Station, Municipal Service Center Building A, and the Collection/Street Warehouse. Energy costs will be reduced by more than \$4,500 per year. It is estimated the project will provide 480 hours of work.