

I. Green Buildings

The Medford Higher Education Facility is a joint ownership project with Southern Oregon University and Rogue Community College. Designed from the inside out, the 68,700 SF building houses 28 general classrooms, 3 computer labs, a tiered presentation hall, a large lecture hall, 2 biology/chemistry labs, 1 physics lab and faculty offices. Student break-out areas and study alcoves accent the daylit circulation system. Classrooms are designed to respond to solar orientation, positioning the primary teaching to capture indirect or reflected light. Lighting is designed to maximize daylight harvesting.

The building will achieve LEED Gold and possibly Platinum certification. Energy and resource efficiency features include:

- Total energy use 37% better than Oregon Energy Code, resulting annual energy cost savings of approximately \$37,330 (2007 dollars)
- Annual domestic water use 53% less than code.
- A heat pipe transfers energy from exhaust air to preheat and precool air supplied to science labs.
- Heat wheels transfer energy from exhaust air to preheat and precool air supplied to all other spaces.
- The large window to wall ratio allows using daylighting controls to significantly reduce lighting energy use.
- R-19 batt insulation was installed in steel framing cavities in addition to 2" rigid insulation.
- High efficiency condensing boilers and water heaters are used for heating and hot water.
- CO2 sensors control the building ventilation rate based on the number of people in the building.
- Occupancy sensors installed for lighting control are also used for room temperature setback and to shut off HVAC to each unoccupied space.
- Occupancy sensors in labs are used to reduce the minimum outside air from 10 air changes per hour (ACH) when occupied to 4 ACH when unoccupied.
- Ultra-low-flow water delivery: 1.8 gallon per minute showerheads; 0.5 gallon-per-minute aerators on all lavatories; 0.5 gallon-per-flush urinals; Dual-flush water closets with two flush options: 0.8 gpf low-flush, 1.6 gpf high-flush in all women's and unisex restrooms; Low-flow 2.2 gpm aerators on kitchen sink faucets

SOU's Deer Creek Center, a research facility in the Illinois Valley created in partnership with the Siskiyou Field Institute, has been designed with sustainable features, including a bath house with details such as these:

- Solar panels that preheat water for the showers
- Radiant heating in the floor slab

- “On demand” water heaters
- “Light tubes” which provide natural lighting
- Low-flow plumbing fixtures

At the Deer Creek Center, also, we will transfer significant water to Deer and Squaw creeks to enhance fish habitat and will convert portions of one water right to low flow/high efficiency irrigation as a demonstration of how to achieve positive conservation outcomes while maintaining viable agricultural enterprise.

The revegetation of the construction sites has been done using drought resistant, native plants that will reduce significantly the water used on landscaping. The revegetation project will become part of service-learning projects for first-year seminars and for Biology and Environmental Studies courses.

II. Sustainable Business: A Sampling

On the Ashland campus, electrical consumption is down 1.6% from last year due to continued efforts in energy conservation strategies. These include central cooling plant operations based on campus demand, aggressive HVAC unit scheduling, and improved preventative maintenance practices. Current projects are racquet ball court lighting timers and RVTV room occupancy light switches.

Inventory procurement for some departments is moving towards a vendor managed program. This program will decrease the number of weekly shipments to the campus and minimize off campus trips by staff to vendor locations around the valley. This approach saves fuel, reduces carbon emissions, and improves work force productivity.

The Science I rooftop HVAC replacement provides new energy efficient exhaust and make-up air equipment for lab spaces. This replacement will also eliminate steam energy loss associated with the roof top piping system connected to the old systems.

The Boiler Renewal Project will decrease natural gas energy consumption from 81,143 mmBtu / yr to 69,795 mmBtu / yr. This is a 14% reduction in energy usage. (mmBtu = 1 million BTU's or 10 therms)

Green Tags

In 2006-2007, SOU students worked with the Bonneville Environmental Foundation to calculate that 21,872 Green Tags, or renewable energy certificates (RECs), would be needed to offset SOU's kilowatt-hour usage, plus the carbon dioxide emitted by natural gas consumption. One Green Tag represents 1,000 kilowatt-hours of electricity produced by a renewable energy facility like a wind farm or solar project. Once the energy data and offsets were calculated, students created a petition statement and a formal proposal in order to have the Green Energy Fee referendum added to the ballot during annual spring elections for student government.

Over four weeks, students acquired over 650 signatures, far exceeding the minimum number of 500 signatures needed create a campuswide Green Energy Fee vote. The signatures were certified by the University, and the Green Energy Fee Referendum was added to the ballot. The vote was 85 percent in favor of the Green Energy Fee. The fee offsets 100 percent of SOU's energy consumption, including electricity and natural gas used to power all University facilities.

With this vote, SOU became the first Oregon campus to offset all of its electricity and natural gas with renewable energy added to the grid.