

Portland Community College Energy Management Commitment

Energy Management Mission Statement

The purpose of our strategic energy management initiative is to utilize energy efficiently throughout our facilities and daily operations to:

- Reduce adverse impacts on the environment;
- Promote fiscal responsibility through reduced operating costs; and
- Provide educational opportunities by exemplifying best practices.

Energy Management Background

Portland Community College (PCC) is committed to strategic energy management for all college operations. This energy commitment is guided by the *Sustainable Use of Resources Policy B-707*, adopted by the Board on December 7, 2006, which states:

Portland Community College is committed to becoming a leader in academic programs and operational practices that model the sustainable use of resources, so that the needs of current generations are met without impairing the ability of future generations to meet their own needs.

Additionally, this energy management commitment aligns itself with the college's commitments- including **Sustainability** and **Stewardship**; as well as PCC's Strategic Plan- particularly **Theme 6: Achieve sustainable excellence in all operations.**

The college has taken on a number of projects and initiatives that promote overall efficient management of energy resources. As a signatory of the American Colleges and Universities President's Climate Commitment (ACUPCC), PCC committed to three tangible actions relevant to energy:

1. Establish a policy that all new campus construction will be built to at least **LEED Silver** standard or equivalent.
2. Adopt an **energy-efficient purchasing policy** requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
3. By June 2008, begin purchasing or producing at least 15% of our institution's electricity consumption from **renewable resources.**

Shortly after signing onto the ACUPCC, the college developed a Climate Action Plan with progressive greenhouse gas (GHG) reductions goals:

- Reduce GHG levels **40%** below 2006 levels by **2030** and
- Reduce GHG levels **80%** below 2006 levels by **2050.**

The Sustainability Leadership Council is the working force behind the Climate Action Plan. The council is divided into sub-committees according to scopes of emissions. The Scope I and Scope II Sub-Committees work directly on energy-related initiatives, and their efforts have resulted in:

- Decreasing scope I emissions (natural gas, refrigerants) by 52.8% between 2006 and 2013 with efforts including installation of boilers at the Sylvania campus and district-wide utility loop upgrades.
- Decrease in scope II (electricity) emissions by .6% between 2006 and 2013 -despite an increase in building square footage of over 100,000-due to lighting upgrades, and installation of hand dryers and fuel cells.

Portland Community College has also leveraged its relationship with the Energy Trust of Oregon to receive over \$800,000 dollars in incentives since 2011.

Further, all construction through our Bond program is committed to achieving LEED Silver for new facilities and all applicable new equipment is Energy-Star certified. Major energy-related accomplishments through Bond work include:

- Completion of first LEED Platinum building- the Newberg Center, which is designed to be net zero.
- Three solar array installations – 500 kw system at the Rock Creek campus, 109 kw system at Willow Creek Center, and a 125 kw system at Newberg Center.
- Several energy efficiency upgrades to HVAC, electrical, and energy-consuming systems.

Energy Management Guiding Principles

Active management of energy related costs and associated risks will provide a significant economic return to the organization and support key aspects of the organization's overall mission and sustainability commitments. To achieve these benefits we are committed to the following principles:

- Adopt a strategic approach to energy management that is integrated into everyday decision-making with practices focused on mechanical, operational, and occupational best practices.
- Establish specific energy reduction goals or targets, measure progress, identify areas for improvement, and apply best practices- including procurement and new technology.
- Promote inclusive processes to ensure occupant awareness, involvement and accountability.
- Secure executive leadership and engagement to ensure success.
- Invest in energy management practices that yield a solid return on investment and reduce the school's environmental footprint.
- Leverage available resources, financial and other, to assist in achieving energy management goals, such as reinvestment of energy savings towards energy projects.
- Provide unique learning opportunities through applied energy management.
- Monitor, track and report on progress based on specific performance indicators; communicate results and apply lessons learned.

These principles were developed with consideration of the college's Mission and Strategic Plan, its Climate Action Plan and ACUPCC commitments, and the Rock Creek Bond Guiding Principles.

Energy Use Performance Metrics

Energy consumption and greenhouse gas emissions will be tracked using the following metrics:

- Energy consumption will be tracked via monthly utility bills at the campus level and at the building level when possible.
- Electricity consumption will be measured in kilowatt hours (kWh) and natural gas will be measured in therms. When looking at total energy consumption (electricity and natural gas), million metric British thermal units (MMBTU) will be used.
- Greenhouse gas emissions associated with energy use will be measured in metric tons of carbon dioxide equivalent (MT CO₂e) using Good Company's G3C Carbon Calculator.

These will be tracked and monitored by the Energy Manager, Sustainability Manager, and Sustainability Analyst.

Energy Management Goals for Rock Creek

Reduce energy consumption per square foot **12.5% below 2006 levels by 2030**; aligning with the college's Climate Action Plan goal of a 50% energy use per square foot reduction district-wide.

Support energy management best practices that impact PCC culture and decision-making around energy conservation in three key areas: design of mechanical systems, operations and maintenance, and occupant behavior.

Mechanical Systems

- Create better community spaces with Energy Star appliances.
- Replace mechanical systems that are aging beyond useful life with new energy efficient systems.
- Tune up/recondition control systems for optimal operational efficiency.
- Reduce energy use with lighting fixture upgrades and occupancy motion sensor control.
- New buildings designed and built to achieve LEED silver or above.

Operations and Maintenance

- Improve energy savings by coordinating air handling unit run times with efficient room scheduling.
- Assure that all preventative maintenance is done on mechanical equipment so that optimal performance can be maintained.
- Target temperature ranges for normal systems within ASHRAE 55 Thermal Environmental Conditions for Human Occupancy standards of 66 to 72 degrees Fahrenheit in winter and 74 to 78 degrees Fahrenheit in summer.

- Adjust temperature ranges when possible, recognizing that approximately 135,000 kWh and 31,500 therms are saved per degree reduction per year. Target temperature ranges per ASHRE 55 Thermal Environmental Conditions for Human Occupancy of 66 to 72 in winter and 74 to 78 in summer.

Occupant engagement

- Promote energy conservation through prompts, signage, emails, etc.
- Hold annual energy conservation competitions.
- Complete periodic energy use audits.
- Provide incentives for occupants displaying energy saving behaviors.
- Share energy use data with occupants.
- Encourage reduction of personal appliances & increase use of community office equipment.
- Develop occupant energy expectations for each building, floor, department and office.
- Educate occupants on temperature standards, green building features, and other relevant energy settings.

Enacted on 9/30/2015

Sandra Fowler-Hill, Rock Creek Campus President

This document was designed as a broad statement of PCC's ongoing commitment to energy management with specific goals for the Rock Creek campus. Other college campuses and centers can sign on with the option to develop goals specific to their campus or center.