

Our goal is to support sustainable, efficient and fiscally responsible energy use in alignment with PCC's mission, Strategic Plan and Climate Action Plan by: reducing energy use through efficiency measures, advancing the use of renewable technology, and decarbonizing our energy mix while increasing the resiliency of energy systems in alignment with Energy Justice principles.

I. Introduction

PCC's commitment to energy conservation was founded by signing Second Nature's Carbon Commitment (formerly ACUPCC) in 2006. Significant progress has been made since then through energy efficient design and smart technology in building construction and facilities management, as well as our enrollment in the Energy Trust of Oregon's Strategic Energy Management Program. We were encouraged to draft an energy reduction document as the first order of business. By September 30, 2015 a task force had written an [Energy Management Commitment](#) and it was approved by Sandra Fowler-Hill, Rock Creek Campus President and our SEM Executive Sponsor.

Since 2015, PCC's SEM participation has expanded to include an active and diverse SEM leadership team, enrollment of buildings from all four campuses to track energy use and we have earned over \$145,600 in cash incentives alone. In that time we've also achieved a non-cumulative savings of 648,221 kWh and 24,455 therms, not to mention the associated avoided energy costs. We believe that it is a good time to revise this document to institutionalize formal procedures.

As of 2022, PCC has an extensive sustainable asset list including:

- 473,886 square feet of buildings certified LEED Silver or better and counting
- Over 2.5 acres of solar panels across five, soon to be seven locations
- Nine electric vehicle charging stations

The scope of these procedures encompasses college-wide facilities as well as engages faculty, staff and students.

II. Background

These procedures are aligned with other college planning efforts and commitments such as:

- Sustainable Use of Resources BP-3551
 - *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.(December 2006)

- These procedures support BP-3551 by making energy justice a vital consideration as PCC defines how it purchases, uses and locates energy sources.
- [PCC's 2021 Climate Action Plan: Resiliency, Equity and Education for a Just Transition](#) was approved by the Cabinet in 2021 and has thoughtfully written goals and strategies for energy and fuel reduction, climate justice, along with education and outreach efforts.
- The [Facilities Plan Phase I & II](#) The initial phase developed an existing conditions assessment of all college-owned facilities. The second phase will determine the appropriate development patterns and growth capacity of the college as a whole.
- The CAP goals and strategies support the four themes outlined in [PCC's Strategic Plan](#) approved in November 2020 by PCC's elected Board of Directors. Those themes are • Transform our learning culture toward creating a sense of belonging and wellbeing for every student • Redefine time, place and systems of educational delivery to create a more learner centric ecosystem • Cultivate a long-term sustainable college enterprise • Respond to community and workforce needs by developing a culture of agility
- The [Design and Construction Standards](#) establish guidelines and requirements for designing and building new structures and for remodeling existing structures at all PCC facilities. The Standards are a collaboration between Planning and Capital Construction and Facilities Management Services, in partnership with many other key stakeholders of the college's built environment.
- The [Strategic Energy Management](#) initiative provides coaching, training, support and financial incentives to implement many of our energy conservation operational, mechanical and occupant behavior change efforts.

In addition to promoting energy conservation, PCC is committed to the decarbonization of its energy sources through renewable energy, including onsite production and offsite renewable energy purchases.

- Having onsite renewable energy visually demonstrates the college's commitment and provides hands-on opportunities for student engagement and learning.
- The college has a growing portfolio of photovoltaic solar arrays totaling more than 800 kW.
- The college also uses off-site renewable energy purchases to supplement onsite production of renewable energy. PCC participates in two of Portland General Electric's (PGE) programs: Green Future Enterprise (wind) and Green Future Impact (solar) and participates in community

solar. Collectively these programs amount to 14 MW of clean, renewable electricity annually.

PCC is a part of Second Nature's Carbon Commitment and America is All In Coalition which ties us to national and International efforts. It also aligns with the 2015 City of Portland and Multnomah County's Climate Action Plans highlighting the importance of climate justice to the PCC community.

III. Goals

One of the main areas of the Strategic Plan is to *Cultivate a long-term sustainable college enterprise*. In the plan, sustainability is defined as the capacity to continue mission-aligned services while promoting economic prosperity, social equity and environmental stewardship. This multi-pronged approach informs the college's mission, vision, values, and promotes PCC as a positive economic, social, and environmental steward. This sets the stage for the alignment with the Climate Action Plan which outlines clear pathways for equity-focused climate action to be woven throughout operations, academics, student engagement and future planning over the next five years. The Climate Action Plan also establishes the college's roadmap towards climate justice and a new carbon neutrality goal of 2040.

The key goals outlined in the plan that specifically target energy, highlighted below, will help guide our energy conservation procedures for the next five years. Each of the goals has strategies to inform the goal and the Sustainability Leadership Council is also developing actions and tasks to put these into motion.

A. Scope 1 and 2 Goals:

Goal 1 *Energy Reduction*: By 2026, PCC has reduced college energy consumption per square foot by 60% below 2006 levels.

- a) At a high level, the goal's strategies ensure that energy efficiency remains a priority in new construction and renovation, focusing on energy efficiency in maintenance and operations. PCC is aligned with the state of Oregon's focus on building smart and conserving energy through the adoption of ASHRAE 90.1-2016 energy codes and standards for buildings

Goal 2 *Renewable Energy*: By 2026, PCC has reduced its Scope 1 and greenhouse gas emissions by 75% below 2006 levels through decarbonization of its energy sources.

- b) Goal 2 focuses on ensuring that the energy PCC consumes comes from renewable sources. The strategies outline how PCC will coordinate the procurement of new photovoltaic arrays on site, as well as the procurement of renewable electricity that is produced off-site, in which the college will retain the renewable energy credits. The strategies also help PCC further assess

feasibility for infrastructure and technologies that will enable the use of thermal energy on site while providing an educational benefit for student learning

Goal 3 Fleet Emissions Reduction: By 2026, PCC has reduced college fleet fuel emissions by 25% below 2006 levels.

B. Energy Resiliency Goal:

By 2026, PCC has developed energy resiliency strategies to reduce impact from climate change in emergency scenarios and be agile in the face of change.

IV. Responsibilities

- A. College Executive Administration ensures broad alignment of energy practices with the college mission and integrated planning efforts.
- B. Planning and Capital Construction is committed to creating energy efficient and sustainable buildings and has created design standards that PCC has adopted to support energy conservation best practices such as low flow water fixtures, Energy Star and other efficient operational equipment in buildings. Some of these areas are outlined below.
 - 1. Facilities Planning
 - 2. PCC Design and Construction Standards
 - a) Sustainable Design Commitment - how we're supporting energy efficiency (e.g. LEED, Path to Net Zero)
 - b) Submeters
 - c) Commissioning Agents
 - 3. Owner's Project Requirements (OPR) outlines all technical and sustainable requirements for building projects. The OPR is a living document that sets baseline expectations for performance, design criteria, occupancy and more – it serves to get everyone on the same page and help align expectations and clarify assumptions.
 - 4. Complying with the State of Oregon's 1.5% Green Energy Technology Requirement
 - 5. Maintenance and Operations
 - a) Standard Operating Procedures
 - b) Operating Procedure Manuals (Maintain as designed)
 - c) Preventative Maintenance (PM)
- C. Facilities Management Services staff are instrumental in implementing the day to day operational and maintenance aspects of PCC's energy-related work. Responsibilities include:
 - 1. Maintenance and repair of energy systems
 - 2. Energy Management
 - a) Utility Management
 - b) Strategy Energy Management

D. The Sustainability Department coordinates relevant initiatives in alignment with the college's Climate Action Plan, Strategic Plan and Board policy.

Responsibilities include:

1. Coordinating off-site renewable energy purchases (including renewable energy credits and carbon offsets)
2. Monitoring PCC's inventory of photovoltaic arrays
3. Tracking and sharing utility data
4. Promoting the use of low carbon fuel sources such as solar, wind, renewable diesel and natural gas

E. The Purchasing Department ensures purchasing practices support these energy procedures, for example, Energy Star and efficient equipment.

F. The PCC community can participate in a variety of groups that provide input or implement energy conservation programs such as the Sustainable Leadership Council, Green Teams, academic courses, student identity centers, clubs or student leadership.

V. Review cycle

This policy will be reviewed every five years, aligning with Climate Action Plan updating. Members from the Strategic Energy Management Leadership Team will create a task force to review.

VI. References included as links throughout this document

VII. Contacts: sustainability@pcc.edu

VIII. Definitions

Energy use intensity (EUI): expresses a building's energy use as a function of its size or other characteristics. EUI is expressed as energy per square foot per year. It is calculated by dividing the total energy consumed by the building in one year (measured in thousand British thermal units (kBtu) divided by the total gross floor area of the building.

Energy justice refers to **the goal of achieving equity in both the social and economic participation in the energy system**, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system. - Initiative for Energy Justice (<https://iejusa.org>)

Retro-commissioning: a systematic process to improve an existing building's performance. Using a whole-building systems approach, retro-commissioning seeks to identify operational improvements that will increase occupant comfort and save energy.

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) writes standards and guidelines in its fields of expertise to guide industry in the delivery of goods and services to the public. ASHRAE standards and guidelines include uniform methods of testing for rating purposes, describe recommended practices in designing

and installing equipment and provide other information to guide the industry. Among other processes, these include: building envelope, lighting, heating, ventilation, and air conditioning (HVAC), domestic hot water (DHW), plug loads, and compressed air and process uses.

Measurement and verification: the process for quantifying savings delivered by an energy efficiency measure.