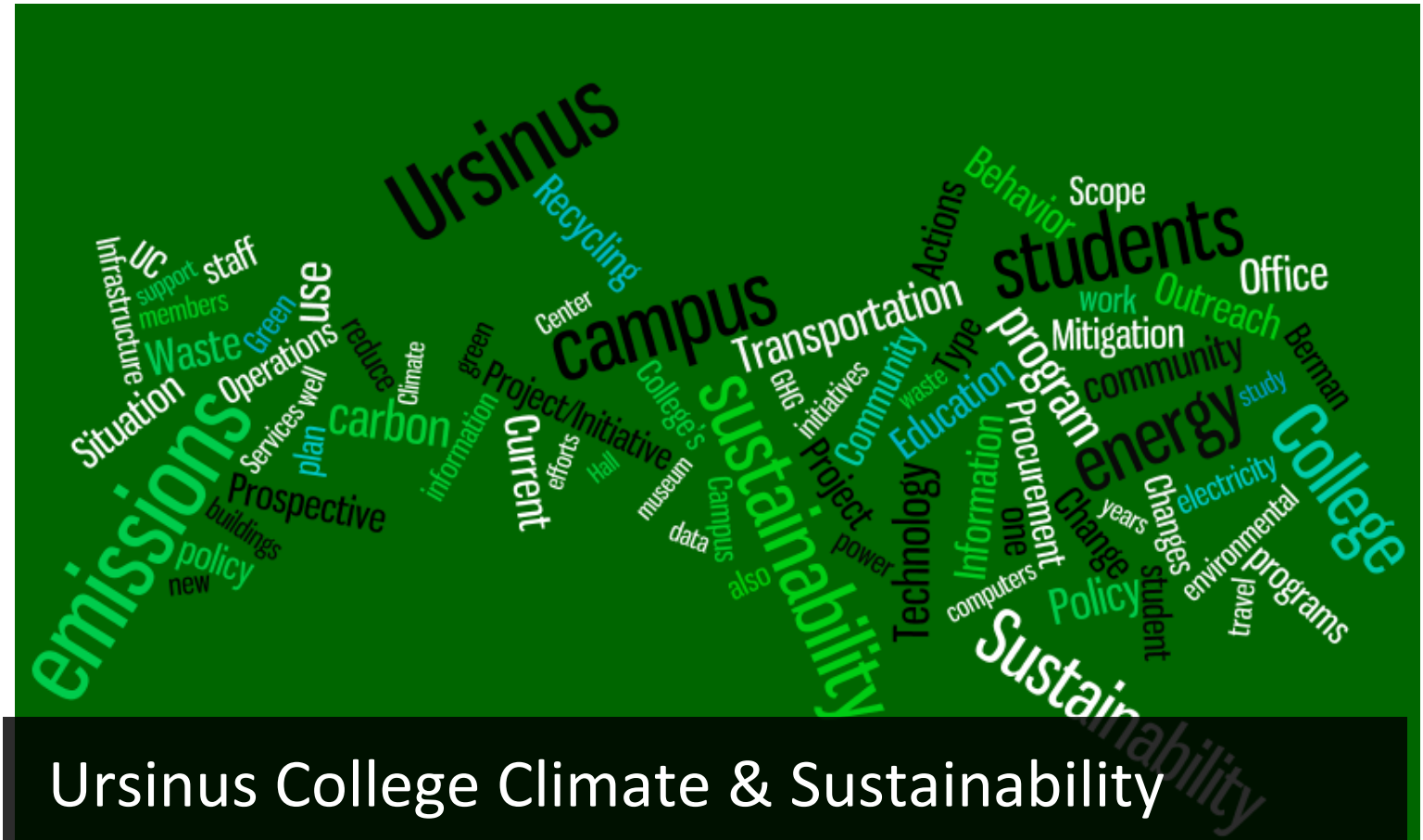


Ursinus College Climate & Sustainability Action Plan

Office of Sustainability

K. Shannon Spencer, Campus Sustainability Planner

Ursinus College is located in southeastern Pennsylvania, near Philadelphia. This is its first Climate and Sustainability Action Plan. This plan is organized by administrative units on the campus in order to facilitate the implementation and accessibility of the plan to those who will ultimately be making decisions and taking actions that affect sustainability and our greenhouse gas emissions in various areas of the College. –June 2013

Ursinus College – Office of Sustainability
601 E. Main Street, Collegeville, PA 19426
610-409-3000

Acknowledgements:

This plan is meant to guide the College's steps as we work toward our long-term goal of climate neutrality. I would like to thank all of my many collaborators from offices and departments across the College who helped craft this document. Without their input and feedback, this document would be far less accurate, robust and useful. I hope that it is, and will continue to be all of those things. I would like to thank to my editors: Facilities Director Andrew Feick, Professor Richard Wallace and Professor Leah Joseph, for the many hours they spent reading, re-reading, providing comments, advising, and being a cheering section. Finally, I would like to thank President Bobby Fong for his support of the American College and University Presidents' Climate Commitment.

Table of Contents

Letter from the President

URSINUS COLLEGE
OFFICE OF THE PRESIDENT

601 East Main Street, Collegeville, PA 19426
phone 610.409.3587 fax 610.409.3642

31 May 2013

Dear Members of the Ursinus College Community,

When President John Strassburger signed the American College and University Presidents' Climate Commitment in 2007, Ursinus College pledged to work toward the long-term goal of attaining climate neutrality. Six years later, we have taken many steps toward that goal, including:

- implementing energy saving strategies across the campus;
- setting LEED Silver equivalent as a baseline for all new construction;
- undertaking energy assessments to assist in long-term planning for our heating plant;
- developing a baseline inventory of our campus greenhouse gas (GHG) emissions by source;
- incorporating climate change and sustainability topics into our curricular, outreach and campus educational programs;
- instituting sustainability events and programming in multiple departments and academic areas.

Our latest cooperative effort is the compilation of this Climate and Sustainability Action Plan, the product of the Office of Sustainability staff working with faculty and staff across the campus. These sections are tailored to the needs of departments, offices, and programs and are intended to be useful long-term planning tools.

I introduce this plan as a roadmap for continuing our work toward sustainability. It calls on all members of the Ursinus community to work cooperatively to conserve energy and resources, to minimize our environmental footprint in all aspects of campus operations development, and to promote an awareness of the responsibility we each have as stewards of the environment.

Ursinus endeavors to provide a transformative education for our students. We must also strive to be transformative in the world in which our students will live their lives. By focusing efforts on campus to raise awareness and adopt changes that will reduce our impact on our natural world, we are demonstrating to our students yet another way in which transformation can happen – at the institutional and community level.

Go, Bears!

Bobby Fong
President

Executive Summary

Back to Table of Contents

Ursinus College signed the American College and University Presidents' Climate Commitment (ACUPCC) in 2007. (See Appendix A for the text of the ACUPCC.) This action committed the College to writing a Climate Action Plan to achieve the reduction of greenhouse gas (GHG) emissions to levels approaching zero as soon as possible, inventorying the College's greenhouse gas emissions every other year, and making the action plan, inventories, and periodic updates publicly available. A Climate Action Plan is a document that helps guide a college toward meeting its mission in the context of achieving GHG neutrality.

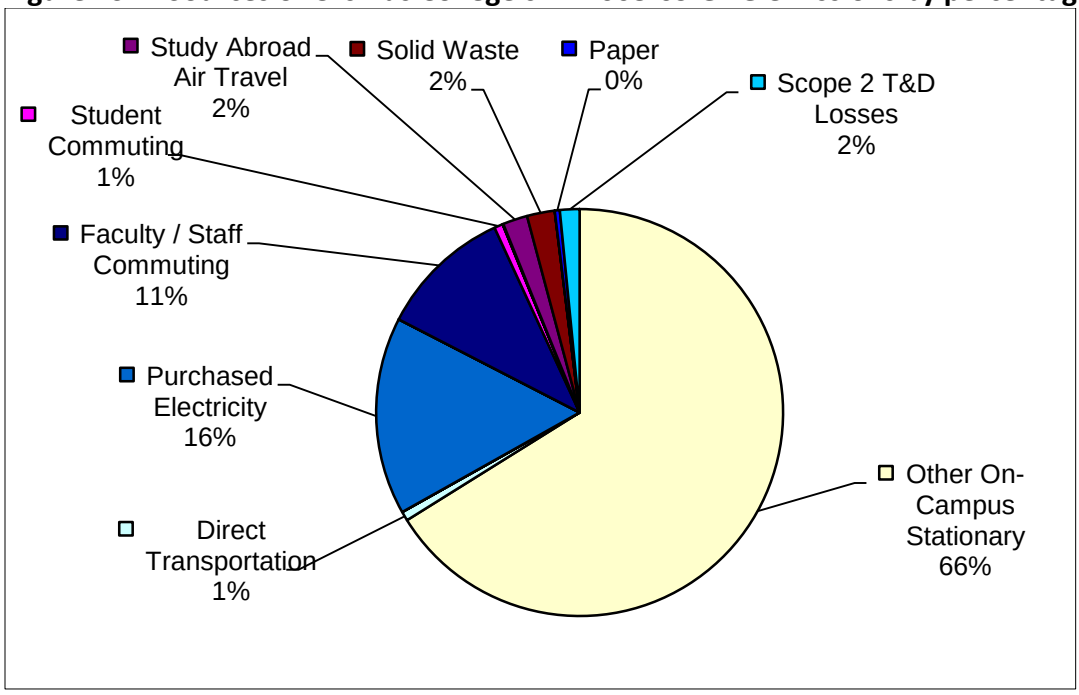
The Ursinus College Climate and Sustainability Action Plan (CSAP) and the programming that is in place to implement it share these goals and foster their development. It is also in line with the College's mission, to "nurture a sense of community by empowering the intellect, awakening moral sensitivity and challenging students to improve society" while also seeking to "enable students to become independent, responsible and thoughtful individuals. With guidance from the CSAP, the Ursinus College Office of Sustainability provides students with opportunities to get involved at multiple levels, from participating in a dorm energy competition, to acting independently on self-designed projects centered on lowering the College's carbon footprint, to integrating sustainability principles into the College and surrounding community. Our CSAP, and the related sustainability programs, encourage students and other community members and in finding long-term solutions to the problems associated with climate change and its impacts as well as to be thoughtful about their impacts on their community and the earth, their ability to influence and encourage others to participate in sustainable behavior.

In effect the process of becoming GHG neutral will be achieved through a variety of efforts, each requiring varying degrees of financial, time and staffing commitments. The CSAP is written to accommodate changing institutional priorities and capacities: flexibility in implementing the plan has been written into the document.

The chart on the following page provides a visual presentation of our main sources of GHG emissions.

Ursinus College's 2010 quantified GHG emissions (our most recent data) are the equivalent of approximately 12,000 metric tons (eCO2). Approximately 45% of that amount is sourced from purchased electricity and another 46% is sourced from On-Campus Stationary generation and on campus transportation (facilities). The remaining 9% is from transportation-related and smaller emissions sources.

Figure ES-1: Sources of Ursinus College's FY 2008-09 GHG emissions by percentage.



(Source: the "S_Annual" spreadsheet in the CA-CP Calculator)

In order to address GHG emissions, such as those detailed above, the ACUPCC requires that signatories develop an institutional action plan for becoming climate neutral, which will include:

- A target date for achieving climate neutrality as soon as possible.
- Interim targets for goals and actions that will lead to climate neutrality.
- Actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.
- Actions to expand research or other efforts necessary to achieve climate neutrality.
- Mechanisms for tracking progress on goals and actions.

College-wide Goals

Our primary goals and actions that address the ACUPCC's requirements, along with some examples of possible strategies for reaching those goals, are as follows:

Goal 1: Reduce (and eventually eliminate) the College's greenhouse gas emissions per square foot of campus building space. Reduction Targets: 25% by 2030; 50% by 2040; 75% by 2050 and 100% by 2060.

- **Strategy**: Increase performance of current boiler system. One option for this is to perform a study to determine the cost of moving the boilers to a summer shut down status and installing building boilers to supply hot water in off season; investigate financing options for the plan. Assuming that there is an acceptable ROI and payback period, switch boilers that supply heat and hot water to the entire main campus to summer shut down mode. Install building boilers/furnaces to handle summer heating/hot water requirements. This would lead to about a 35% decrease in emissions from the central heating plant. This is equivalent to a savings of 1,943.2 $MTeCO_2$[1].
- **Strategy**: Increase the amount of alternative energy used on campus to provide electricity. Enter into a Power Purchase Agreement with a solar energy provider to have them provide at least 10% of our current electrical usage. This would reduce our GHG emissions by approximately 509 MTeCO2.

Goal 2: Reduce (and eventually eliminate) the College's greenhouse gas emissions related to transportation. Reduction Targets: : 25% by 2030; 50% by 2040; 75% by 2050 and 100% by 2060.

- **Strategy**: Change behavior of campus community members such that we increase our carpool rate from 0% to 2 % by 2025; to 5% by 2035; to 7% by 2045; and to 10% by 2060.

[1] MTeCO2 is the standard measurement for carbon emissions.

- **Strategy**: Decrease the percentage of students who bring a car to campus to 70% by 2025; to 60% by 2035; to 50% by 2045; and to 40% by 2060. This will likely require the College to institute behavior change programs that influence transportation usage by all UC community members (see OS section for description)

Goal 3: Increase student participation in sustainability and/or climate related outreach programs or projects to 25% by 2020; 50% by 2030; 75% by 2040. Develop the UC academic, recreational and residential programming so that sustainability is central to the Ursinus experience for all UC community members. As part of this, ensure that every UC community member is aware of climate change, its potential consequences, and on-campus actions and efforts to mitigate and address its impacts.

Behavior change programs are ideally designed to educate community members in a way that will create long-term changes in the way people think about and act within their community. Our carbon footprint at Ursinus College is impacted by the behavior of individuals as well as the institution as a whole. We intend to help reduce the carbon footprint of both. However, we cannot expect individuals or institutions to change without education about the whys and hows of reducing our GHG emitting behaviors. And, sometimes, we need more than just information – we need incentives and hands-on learning experiences to make that change stick. This is the rationale behind the behavior change programs that we intend to institute at Ursinus. We will be working on programs that will affect energy consumption, resource usage, waste, and transportation.

- **Strategy**: Raise awareness of sustainability on campus through events, information dissemination, and outreach.
- **Strategy**: Incorporate the concept of sustainability into the Ursinus College mission statement.
- **Strategy**: Work with faculty on campus to incorporate sustainability into their existing courses through projects, research, etc.
- **Strategy**: Create a Sustainability Committee with representatives from the student body (one rep from each of the four classes of students), the faculty, the

staff and the administration. This committee will report to the president of the college.

- **Strategy**: Green Certification. This certification program will be designed to act as an incentive for all members of the UC community. There will be different certifications for different groups and individuals. For example, a Green Teaching Certification for faculty who adhere to a checklist of course-greening activities: reducing paper, saving energy, encouraging student interest; a Green Office Certification for offices that adhere to a checklist of green activities; a Green Dorm Certification for residence halls that achieve a targeted reduction in electricity consumption, etc.

Goal 4: Develop and promote a climate and/or sustainability-related research program at the College for students and faculty.

- **Strategy**: Create a student research fund (e.g., $500) for students to use to design emission reduction projects that would benefit the college.

Goal 5: Develop a strong working relationship with the Collegeville Borough Council and the Main Street Manager to work on sustainability issues that involve both the college and the borough. Collaborate on projects to the benefit of all parties.

- **Strategy**: Collaborate with representatives of the Collegeville Borough, the Collegeville Economic Development Commission, and the Collegeville Main Street Program with the goal of greening the Collegeville community. This ties into existing infrastructure and programming, such as the Perkiomen Trail; the Perkiomen Creek; the Pedestrian Safety Committee; Hunsberger Woods, the Collegeville Park; and the newly formed Collegeville Farmers' Market. A collaboration of this type provides a bridge between the community and the college, uniting them in a common mission and promoting a positive and on-going working relationship.
- **Strategy**: Collaborate with representatives from local school districts and non-profit NGOs on projects that aim to educate the community about sustainability.

The tables below detail the carbon emission targets that the College will have based on the current goals of the CSAP (as of 2013). The 2010 baseline data does not include transportation-related emissions and therefore will need to be amended as we obtain more accurate data.

Table ES-1: Carbon emission targets that Ursinus College will have based on the current goals of the CSAP (as of 2013)

	Year	MT CO2e
Baseline	2010	12,027*
25% Decrease from 2010 baseline	2020	9,020
50% Decrease	2030	6,014
75% Decrease	2040	3,007
Carbon Neutral	2060	0

*This number does not accurately reflect UC's transportation-related (Scope 3) emissions. Calculations for future years will need to be amended as we obtain more accurate data.

The College has already taken steps toward meeting our goals, particularly where they related to student achievement and economic savings seen from energy efficiencies. The table below lays out some of the progress we have made toward some of the goals that are laid out in this plan.

There are, of course, hurdles that we will have to cross on our way to our success. These hurdles fall into three primary categories: financial constraints, user behavior, and institutional constraints (legal agreements, policies, etc.). These are discussed further in the "Going Neutral" section of the Campus Emissions chapter of this document.

We currently have scores of sustainability-related efforts, including academic courses, student groups, College programs (e.g., the Ursinus Organic Farm), on and off-campus sustainability-related events (such as Sustainability Week, Earth Week, speakers, movies, organic dinners in Wismer, the Perkiomen Creek stream cleanup, and many more), and, not least, the efforts of our Facilities Services Department to upgrade our lighting, thermostats, insulation, grounds maintenance to sustainability standards, saving the college in both expenditures and emissions. (See Appendix B for a map of the Ursinus Campus.) These are all examples of successes we have already achieved. They represent a great deal of time and effort on the part of many campus staff and students, and should be taken as a sign of the importance this effort plays to many campus constituencies. We have a long way to go, but we have made a great start.

Table ES-2: Ursinus College strategies for attaining our goal of reducing our GHG emissions by 25% by 2020.

Goal	Strategy	To Date
Goal: **Reduce (and eventually eliminate) the College's greenhouse gas emissions per square foot of campus building space.**	Conservation within existing buildings.	Our Facilities Services staff work to maintain our current heat plant so that it runs efficiently. We have instituted many energy-saving approaches to handling our systems, including HVAC upgrades, insulation and other weather-proofing measures, thermostat changes, and many more.
Goal: **Reduce (and eventually eliminate) the College's greenhouse gas emissions per square foot of campus building space.**	Education & Behavior change.	We have instituted the Ursinus College Office of Sustainability and are working to increase awareness of sustainability principles. We have also installed a real-time energy monitor that will allow staff to better educate users of their energy usage.
Goal: **Reduce (and eventually eliminate) the College's greenhouse gas emissions per square foot of campus building space.**	More efficient on-campus production & distribution of energy	We are currently conducting a feasibility study of the benefits of shutting down our heat plant during the summer. This is projected to reduce our annual emissions by 35%.
Goal**: Increase student participation in sustainability and/or climate related outreach programs or projects.**	Increase opportunities for student leadership around sustainability issues.	In 2011, the Office of Sustainability created a new sustainability leadership program for students on campus. These students each have a project that they champion to the other students, including organizing events and getting students involved in volunteer efforts.

Glossary of Terms

Back to Table of Contents

AASHE: Association for the Advancement of Sustainability in Higher Education.

ACUPCC: American College & University Presidents' Climate Commitment. This organization, affiliated with Second Nature, created the PCC.

CACP: Clean Air-Cool Planet. This is an organization that created and updates the Campus Carbon Calculator that UC uses to calculate our greenhouse gases.

CCC: Campus Carbon Calculator. This is an Excel-based program, created by CACP, that UC uses to track and account for greenhouse gas emissions.

CO2: Carbon Dioxide. This is one of the primary gases that environmentally-minded organizations seek to lower, as an increase in it's atmospheric concentration is believed to have negative impacts on global temperatures.

CAP: Climate Action Plan. This is another name for this type of document, but one which does not include sustainability measures as part of the plan.

CSAP: Climate and Sustainability Action Plan. This document describes how our institution intends to address and mitigate their greenhouse gas emissions and meet sustainability goals.

Emissions: Gases that are produced from the creation of energy.

EPA: Environmental Protection Agency. The Federal agency that is tasked with environmental oversight.

FY: Fiscal Year.

GHG: Greenhouse Gases. These are a variety of gases that are created on Earth's surface and subsequently rise up into the atmosphere, where the increase in their concentrations interfere with the chemical makeup of the atmosphere, causing the lower levels of Earth's atmosphere to heat up. These gases are primarily: Carbon dioxide equivalents (eCO_2), methane (CH_4), and nitrous oxide (N_2O).

HVAC: Heating, Ventilation, and Air Conditioning

IPCC: Intergovernmental Panel on Climate Change.

kW: Kilowatt. A kilowatt is a measure of 1,000 watts of energy.

kWh: Kilowatt Hour. A kWh measures a unit of energy, equal to 3,600,000 joules (3.6 MJ). It can also be described as the amount of energy that would be transferred at a constant rate of one kilowatt for one hour. Power companies use kWh to determine the amount of energy used by a business (or home) for billing purposes.

LEED: Leadership in Energy & Environmental Design. This is a "green" building certification system that promotes the construction/retrofit of buildings to established standards of energy sustainability and environmental friendliness, for both the building as a unit and for the surrounding environment. (USGBC 2011)

MT: Metric Ton.

MTeCO2: Metric Ton of equivalent carbon dioxide emissions. This is the standard measurement for GHG emissions.

REC: Renewable Energy Certificates. These are tradable certificates (similar to stocks) that are non-tangible, and represent proof that one megawatt hour (MWh) of electricity was generated by an approved renewable energy source. These are valid in the U.S.

USGBC: U.S. Green Building Council. This is a nonprofit organization founded in 1993 to promote sustainable, environmentally friendly building design. It created the LEED certification process.

Section 1: Introduction

Back to Table of Contents

Background Information

Ursinus College is a small liberal arts college located approximately 28 miles northwest of Philadelphia, Pennsylvania. Founded in 1869, Ursinus College now extends over 170 acres, has approximately 1,750 students and an endowment of approximately $100,000,000. (Ursinus College 2010)

Ursinus College seeks, in its mission, to "nurture a sense of community by empowering the intellect, awakening moral sensitivity and challenging students to improve society" while also seeking to "enable students to become independent, responsible and thoughtful individuals." Sustainability programming shares these goals and fosters their development. Ursinus College's Office of Sustainability provides students with opportunities to act independently on self-designed projects centered on sustainability and the community, making them accountable to their peers, the UCGreen Sustainability Fellows program, and their own personal goals. We plan to do this, in part, by increasing the presence of sustainability on campus – as a recognizable concept/goal, a social learning process, and set of practices –and making our programs more transparent and accessible to a broader campus audience. Our sustainability programs encourage students and other community members to be thoughtful about their impacts on their community and the earth, their ability to influence and encourage others to participate in sustainable actions, and long-term solutions to the problems associated with climate change and its impacts. Student achievement in various forms, such as involvement in research, hands-on activities, service-related initiates, is actively supported. Appendix C contains a history of our sustainability and environmental initiatives at Ursinus.

The Presidents' Climate Commitment and UC

With international agreement that both "warming of the climate system is unequivocal" and that this warming is "very likely due to…anthropogenic greenhouse concentrations," climate

change now has become one of the most pressing global issues in the twenty-first century (IPCC, 2007). The looming threat of climate change is both global (e.g. ocean warming, temperature extremes, changing sea levels, and alterations in wind and water patterns) and local (IPCC, 2007). In a summary offered by the Union of Concerned Scientists (UCS), projections are that Pennsylvania will feel a multitude of negative effects resulting from global warming; this is due to the state's economy being largely based on land use for agriculture and tourism. By the next century, Pennsylvania is projected to experience an average temperature increase of 4°F (Union of Concerned Scientists 2008). This temperature increase, and accompanying declining snowfall, is projected to most significantly affect Pennsylvania's agricultural and dairy industries (UCS, 2008). These changes will likely have significant impacts on the state and justify attention from academic communities, which at their heart are educating the state's and country's future leaders who will have to address these issues.

In 2006 the American College and University Presidents' Climate Commitment (ACUPCC) was created by a group of college and university presidents and their representatives, the American Association for Sustainability in Higher Education (AASHE), and ecoAmerica at the 2006 AASHE conference. Another group, Second Nature, has since joined in the effort to support the ACUPCC. The ACUPCC is, in effect, a challenge to institutions of higher learning across the country to commit to lowering their greenhouse gas emissions and to set an example for the coming generations of students. In response to this challenge to reduce their GHG emissions, presidents of institutions of higher learning across the United States have adopted the (ACUPCC); there are now over 650 signatory colleges and universities. President John Strassburger signed the commitment in 2007 on behalf of the Ursinus community, becoming one of the early signatory schools. By signing, President Strassburger committed the college to developing and implementing a plan to achieve climate neutrality as quickly as possible.

To honor this commitment, the **Ursinus College Climate and Sustainability Action Plan** has been created. Our ultimate goal is to achieve climate neutrality by 2060. To achieve this goal, we will focus on the four main action areas outlined in the Presidents' Climate Commitment: Mitigation; Education; Research; and Outreach. To ultimately bring Ursinus College to a state where it has achieved climate or carbon neutrality by mid-century the College will have to utilize a combination of efforts: cease and/or reduce activities which cause the emission of GHGs; create sinks for GHGs; and purchase carbon offsets matching the amount of carbon dioxide equivalent being emitted. Below there are examples of the types of strategies we might use in each of the four areas:

1) Implement Mitigation Strategies: These strategies fall into a variety of categories, some of which are listed below.
   - Heating: This is one of the two categories, along with electrical use and cooling, that comprises the majority of our GHG emissions.
   - Electrical Energy & Cooling: This is one of the two categories, along with heating, that comprises the majority of our GHG emissions.
   - Transportation: Also referred to as Scope 3 emissions, transportation includes commuting, business travel and travel for school-related events, such as athletics. We have limited information on our Scope 3 emissions at this point.
   - Waste Reduction: This includes composting, recycling, hazardous waste disposal, construction waste disposal, etc.
   - Buildings, Construction & Maintenance: This category includes all of the campus' buildings.
   - Grounds: This category comprises the maintenance and planning for the campus' grounds.
   - Behavior Change Programs: These are programs designed to encourage all UC community members to lower their carbon footprint in a measurable way.
2) Promote Educational Strategies: These strategies will vary based on target audience and who is educating. Strategies include:
   - Curricular changes
   - On-campus education through a variety of avenues
   - Student interface programs such as EcoReps (an environmental representative in each residence unit who will make sustainability education, initiatives, and materials more accessible to students via peer-to-peer interactions).
3) Encourage/Facilitate Research on Climate Change: Strategies in the realm are more limited due size limitations. However they might involve:
   - Establishing a research support center that would function as a hub for grant-writing support, communication, and information about research within the UC community.
4) Foster Outreach Programs in our Broader Community: These strategies might include:
   - Working to make our climate change/sustainability related programming more readily available to local community members.
   - Working with local elected officials and community leaders in Collegeville (our host town) to promote climate change awareness and create programs that would be open to the public.

Greenhouse Gas Inventory

To date, we have conducted and submitted two GHG inventories for and to the ACUPCC. They were completed for fiscal years 2007-2008 and 2009-2010. The inventory for FY10-11 will be completed shortly. These documents inventory our GHG emissions in the form of CO_2 equivalents (eCO_2).

For the purposes of accounting for emissions, the GHG Protocol (a widely used accounting international tool for understanding, quantifying and managing GHGs) suggests using a concept called scopes. (GHG Protocol Initiative 2011) Scopes delineate emissions by type, which helps with structuring decisions about how to address any individual emission while also helping institutions avoid double counting emissions (or strategies to address them). In this approach, ownership or control over emissions is the main factor in determining whether an institution is responsible for addressing them. The three levels are: 1) full ownership or control of the emission source; 2) use of a non-owned/controlled emission source where the use is directly linked to on-campus energy consumption (i.e., purchased energy); 3) use of a non-owned/controlled emission source where the use is associated with the institution (i.e., commuting, study abroad travel, business travel). (Clean Air-Cool Planet 2010) The table below defines the three scopes and gives on campus examples of each.

Although the Clean Air-Cool Planet calculator does not have the capability to calculate most complex Scope 3 emissions, this action plan will still address the Scope 3 emissions proposed by the ACUPCC as well as other associated Scope 3 emission problems that will be further discussed below. While it is sometimes difficult to regulate or influence some types of Scope 3 emissions, the action plan makes suggestions on reducing some types of Scope 3 emissions that are believed to be able to be reduced through college initiatives.

Table 1-1: Greenhouse Gas emissions types, or "scopes", by definition and examples.

	Definition	On Campus Examples
Scope 1	Emissions directly resulting from sources owned or controlled by the institution.	• On-Campus Stationary Sources Emissions from all on-campus fuel combustion (non vehicular) • Direct Transportation Sources - emissions from all fuel used in the institution's fleet • Refrigerants • Agriculture - N_2O emissions from fertilizer use
Scope 2	Indirect emissions from sources that are neither owned nor controlled by the institution, and which are directly linked to on-campus energy consumption	• Purchased electricity • Purchased steam • Purchased chilled water
Scope 3	All other indirect emissions associated with the activities of the institution, but produced by sources not owned or controlled by the institution	Schools are only required to report on: • Air travel paid for by the institution (business travel) • Travel influenced or encouraged by the institution (study abroad travel, daily commuting to and from work (not travel over breaks) Schools are not required to report on: • Solid waste • Upstream emissions

(Clean Air-Cool Planet 2010) (American College and University Presidents' Climate Commitment n.d.)

Where We Are Now: Current Sustainability Measures

Ursinus College has been undertaking measures to increase our sustainability for several years. Much of this has been done with a mind toward saving the college money by decreasing our electricity usage. However, we have also successfully incorporated sustainability into a broad range of areas, from boilers and steam distribution system maintenance to the transformation of sustainability ideas into physical form, such as the Organic Farm and the naturalized stormwater basin. We have a list of many of our initiatives, programs, policies and practices in Appendix D.

Prior to the writing of this plan, programs sprouted across the curriculum. We have courses at Ursinus in eleven disciplines that have sustainability as part of the subject matter covered. We have students involved in sustainability initiatives across multiple departments (academic and non-academic). Appendix E contains a list of our academic courses, offered by eleven academic departments, that are related to sustainability.

CSAP: Guiding Principles and Assumptions

The Ursinus College Climate Action and Sustainability Plan is organized in a way to make it more accessible to the end users of the plan, namely, all members of the Ursinus College community. The CSAP is structured around the physical layout of the campus. There are sections for each major type of building or department/program that affects day-to-day life here at the College. These sections are, in order of their appearance in this document:

1. Administration
2. Academic Affairs
3. Student Affairs
4. Facilities Services Department
5. Special Use Buildings

Each section has multiple chapters, most include the administrative units that fall within that section. The exception to this is the three special use buildings on campus: The Bakes Center (Athletics), the Kaleidoscope Theater, and the Berman Museum of Art. Within each of these chapters, actions are organized by the following structure:

a. Policy
b. Operations
c. Procurement
d. Information Technology Changes
e. Behavior Change & Education
f. Transportation
g. Community Outreach
h. Infrastructure

We also had a number of assumptions as we moved forward with writing the plan:

1. **Community Buy-In**: In order for the plan to succeed we needed buy-in from the community. Thus, we have engaged the leaders in each administrative area in the process of developing the plan and its recommended actions.
2. **Time Frame**: We have included prospective actions that can be accomplished immediately, in the mid-range of time, and long term. The plan itself has a distant goal for attaining climate neutrality, which is a necessary approach. Therefore we have included some long-term prospective actions; however, in order to continue moving toward our goal and to engage the community in the process, we also include near-term goals. The time periods that the plan is designed around are:
    a. Immediate: 1-4 years out (2013-2016)
    b. Mid-Range: 5-19 years out (2017-2031)
    c. Long-Range: 20-47 years out (2032-2060)
3. **Measurable Outcomes**: Though not all of the important prospective actions are measureable, when it is possible, impacts associated with the actions should be measured. Measurable impacts may fall into any number of categories, such as: economic return on investment, energy reductions and related emissions reductions, impacts on education and productivity, and the college's visibility.

Section 2: Campus Emissions

Back to Table of Contents

This is Ursinus College's GHG inventory report for FY 2007-08 and FY 2008-09. It includes data from FY 2000 through FY 2010, along with projections to 2025. We used Clean Air-Cool Planet's Campus Carbon Calculator (Version 6.6) to calculate our emissions and track our data. This data was collected by one of our students and reviewed by staff and faculty in the Facilities Services Department, Environmental Studies Department and Office of Sustainability.

Between FY 2000 and FY 2010, Ursinus increased its student body by approximately 500 students (a 37% increase) and increased its building area by 350,000 square feet (a 42% increase). GHG emissions fluctuated between FY 2000 and FY 2010, experiencing increases of up to 20% and a decrease of 4%. Since switching from oil to natural gas as our primary heating fuel, our GHG emissions have reflected increases of between one and 3% over FY 2000 emissions and one year that indicated a 4% drop from that level of emissions. The years with lower emissions are in part a result of sustainability measures adopted by our Facilities Services Department, and weather also plays a large part. Keeping our emissions under control, though not technically a "success" is nevertheless a substantial achievement, given the growth of our campus.

Ursinus staff members have been working on lowering our GHG emissions without the guidance of a climate action plan. The College currently employs a staff member who is tasked with writing the College's Climate and Sustainability Action Plan, which will outline a course toward net zero greenhouse gas emissions.

Campus Emissions - Chapter 2.1: Greenhouse Gas Inventory Report

Back to Table of Contents

The goal of this section of the CSAP is to provide accurate and easy-to-understand information to the Ursinus community about the College's greenhouse gas emissions. The information along with our carbon calculator in this chapter is also filed with the ACUPCC.

2.1: Greenhouse Gas Inventory – Methods

Clean Air Cool Planet's Greenhouse Gas Inventory Calculator version 6.6 was used to calculate Ursinus College's carbon footprint. The calculator is one of several created for the purpose of developing a strategic plan to reduce greenhouse gas emissions with the ultimate goal of achieving carbon neutrality (see http://www.cleanair-coolplanet.org/ for more information).

To determine an institution's carbon footprint, the calculator demands past data (dating back to 1990 if possible, in order to track trends) and present data pertaining to institutional demographics, purchased electricity, on campus stationary sources of emissions, transportation, agriculture, solid waste, refrigeration/chemicals, and emissions offsets. There are several areas of potential emissions, including an on campus steam plant, incinerated waste, coal, and animal agriculture, that do not apply to the operations of Ursinus College and are therefore excluded from the inventory.

It is important to acknowledge that while the CA-CP carbon calculator covers most major aspects of greenhouse gas emissions, it falls short in some areas. For example, there is no section that takes into account the emissions associated with transporting food and food supplies to Ursinus for dining. However, despite its imperfections, the calculator continues to be a critical step towards developing plans for emissions reduction and eventual carbon neutrality.

In order to calculate emissions more accurately and avoid having years for which data reflected no emissions, the CACP spreadsheet data for back years was populated with data that shows approximations of items such as building square footage and recycled paper content, for those years (1990-2004). For commuting data, the following assumptions were made in lieu of hard data:

- 100% of faculty and staff commute;
- there is no carpooling;
- eight 15-mile one-way trips are made per week (this accounts for part time employees as well as faculty who work from home);
- staff commute 49 weeks per year; and faculty commute 40 weeks per year, to account for summer research in other locations, vacation time, sabbaticals, etc.
- Students who live off campus (10%) were assumed to make ten 5-mile, one-way trips per week, for 32 weeks per year.
- Also, study abroad data for all years except FY 2009 are estimates based in part of FY 2009 data and in part on an internal report on the study abroad program. Data for study abroad travel will be updated for FY 2007 through present in future reports.

The current data reflects a more accurate picture of the College's emissions. However, there are still areas where we have imperfect information. Most notably is our Scope 3 transportation emissions. We do not include any information on faculty or staff travel, other than commuting, due to difficulties in collecting this data. We also do not currently include information on the travel emissions related to sports team travel. These are areas that we will be addressing in our next iteration of the GHG inventory for the ACUPCC reporting requirements. Additionally, we do not currently have data on solid waste-related emissions. This, too, will be added to subsequent reports.

In FY 2009, the College purchased offsets for 100 students. Students purchased 10 of these offsets (and claimed those offsets) and the College claimed the remainder of those offsets. These offsets were calculated using the following process:

a) Offsets: (750 lbs. CO2e offset per unit + 1200 lbs CO2e Offset per unit) x 90 (number of units we're claiming) = 175,500 lbs CO2e =>79.6 MT eCO2

b) Wind Power: 585 kWh wind power per unit x 90 (number of units we're claiming) = 52,650 kWh/(6,952 kWh/MT eCO2) = 7.6 MT eCO2

c) Combined: 79.6 + 7.6 = 87.2 MT eCO2

The emissions data in this report is presented first in an overview format, and then by the three scopes that the ACUPCC uses for reporting data (see Table 1-1 in the Introduction to the CSAP).

2.1: Greenhouse Gas Inventory – Overview

Ursinus College's current quantified GHG emissions are the equivalent of approximately 8,900 metric tons (eCO2). Approximately 65% is sourced from on-campus stationary generation and on campus transportation (Scope 1); 15% of that amount is sourced from purchased electricity (Scope 2); and another 15% is related to commuting and study abroad travel (Scope 3). The remaining 5% is from waste and T&D losses. The table directly below was imported from Ursinus College's GHG Inventory calculator. It shows CO2, CH4, N20 as well as eCO2 numbers for the 2008-09 fiscal year.

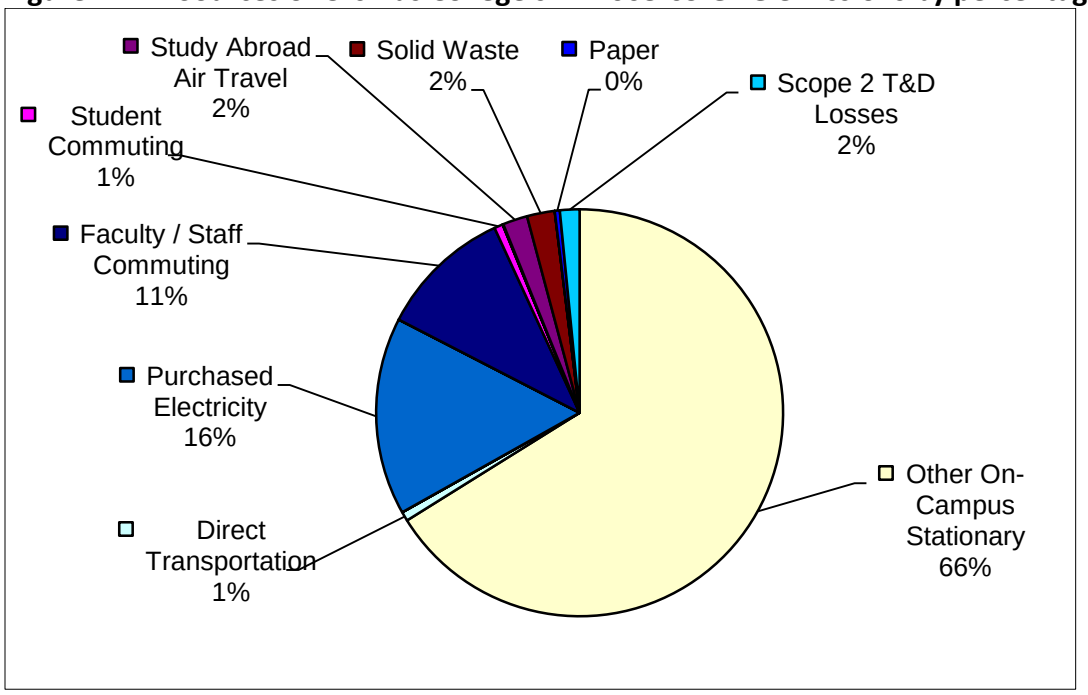
Table 2.1-1: Summary of GHG emissions for FY 2008-09.

MODULE	Summary					
WORKSHEET	Overview of Annual Emissions					
UNIVERSITY	Ursinus College					
Select Year -->	FY 2008-09	Energy Consumption	CO_2	CH_4	N_2O	eCO_2
		MMBtu	kg	kg	kg	Metric Tons
Scope 1	Co-gen Electricity	-	-	-	-	-
	Co-gen Steam	-	-	-	-	-
	Other On-Campus Stationary	98,376.6	5,851,493.4	665.4	25.0	5,875.6
	Direct Transportation	930.7	64,346.4	12.0	4.2	65.9
	Refrigerants & Chemicals	-	-	-	-	-
	Agriculture	-	-	-	-	-
Scope 2	Purchased Electricity	103,248.1	1,120,639.8	10.6	921.7	1,395.6
	Purchased Steam / Chilled Water	-	-	-	-	-
Scope 3	Faculty / Staff Commuting	13,054.0	915,354.6	183.1	63.0	938.7
	Student Commuting	854.7	59,930.6	12.0	4.1	61.5
	Directly Financed Air Travel	-	-	-	-	-
	Other Directly Financed Travel	65.7	4,758.0	0.3	0.1	4.8
	Study Abroad Air Travel	1,487.2	291,986.2	2.9	3.3	174.1
	Solid Waste	-	-	7,836.2	-	195.9
	Wastewater	-	-	-	-	-
	Paper	-	-	-	-	35.8
	Scope 2 T&D Losses	10,211.4	110,832.5	1.0	91.2	138.0
Offsets	Additional					-
	Non-Additional					(87.2)
Totals	Scope 1	99,307.3	5,915,839.8	677.3	29.2	5,941.5
	Scope 2	103,248.1	1,120,639.8	10.6	921.7	1,395.6
	Scope 3	25,673.0	1,382,862.0	8,035.5	161.7	1,548.7
	All Scopes	228,228.4	8,419,341.6	8,723.4	1,112.6	8,885.8
	All Offsets					(87.2)
					Net Emissions	8,798.6

(Source: the "S_Annual" spreadsheet in the CA-CP Calculator)

The graph below indicates a breakdown of our GHG emissions sources by percentage. This is the same information shown in the chart above, but in visual presentation format. This shows that the majority of the College's emissions are produced by our heat plant with commuting and purchased electricity being substantial contributors as well. It should be noted that commuting numbers are estimated and will need to be updated in future reports.

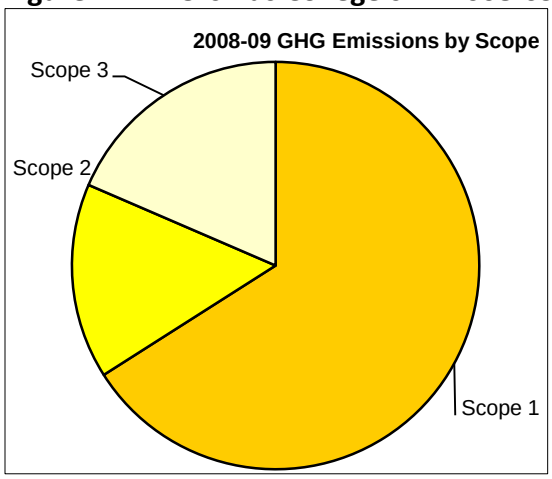
Figure 2.1-1: Sources of Ursinus College's FY 2008-09 GHG emissions by percentage.



(Source: the "S_Annual" spreadsheet in the CA-CP Calculator)

Finally, the following pie chart shows a breakdown of the College's GHG emissions by scope. This chart shows that Scope 1 emissions (those that we create on campus primarily from our heat plant) are our primary source of emissions. Our Scope 3 emissions are likely underrepresented in this data, which we hope to rectify in future iterations of our GHG inventory.

Figure 2.1-2: Ursinus College's FY 2008-09 GHG emissions by scope.



(Source: the "S_Annual" spreadsheet in the CA-CP Calculator)

Scope 1: (Heating & Cooling)

Given the available data, on-campus stationary sources of energy (i.e., heating and cooling via residual and distillate oil, natural gas, and propane) are responsible for the majority of GHG emissions – 66%. We are currently considering options for our heat plant that could reduce our emissions significantly, including shutting down our heat plant during the summer months (this would involve installation of supplemental heating and water heaters in each building). This would be a major step toward meeting our commitment to becoming carbon neutral. Our Facilities Services staff is committed to decreasing our emissions output with a mind toward economic savings as well. The two will have to go hand in hand in order for institutions to afford the shift to carbon neutrality. Our heat plant is beyond its expected life cycle, but has been well maintained and is still functioning. However, we expect that we will have to replace our heat plant in the coming 10-20 years. At that time, we hope to be able to make a substantial reduction to our emissions through a more energy efficient system.

Scope 2 (Purchased Electricity)

The production of our purchased electricity currently contributes 15% of our greenhouse gas emissions. Up until January 2011, Ursinus purchased its electricity from Exelon Corporation. Eighty percent of its electricity was nuclear, 10% was coal-generated, 5% was hydroelectric, and

5% was generated by wind and landfill gases. Nuclear power plants do not generate greenhouse gases, although their waste is extremely hazardous. This explains why electricity does not account for a large majority of Ursinus' carbon dioxide emissions. For the period of this report, coal was the only sector of the College's purchased electricity that was a significant source of carbon emissions.

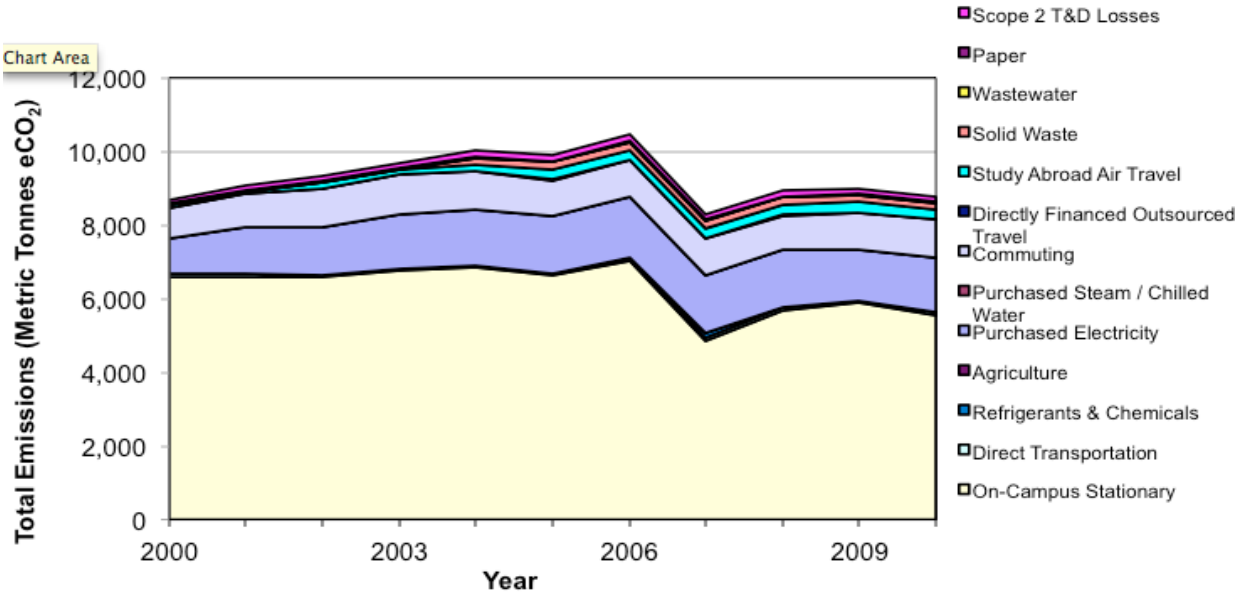
Scope 3 (Transportation)

The greenhouse gas calculator divides transportation into three main categories: 1) student commuting and study abroad travel that is paid for, by or through the College; 2) faculty and staff transportation (both commuting and transportation that is job-related); and 3) Facilities Services transportation. The Scope 3-related emissions that are accounted for in our current data set show that these factors make up 14% of our overall emissions. However, this number does not reflect our actual emissions. The data that has been collected to date is incomplete and/or estimated with regard to student and faculty/staff transportation for both commuting and job/study-related travel. Therefore the emissions shown for this area are likely lower than they are in actuality. This data will be added as it comes available. The only data that is accurate from this set is the FY 2008-09 study abroad travel miles number.

2.1: Greenhouse Gas Inventory – Trends

Ursinus began implementing sustainability projects in 2002, before we became signatories of the ACUPCC. Projects included switching from oil to natural gas as our primary heat plant fuel, retrofitting buildings with energy efficient lights, weather-proofing buildings, and coordinating our heating/cooling schedule with the building use calendar, among many others. The emissions impact of these projects can be seen in the figure below, which shows our emissions between 2000 and 2010. Our emissions have increased and decreased in the years between 2000 and 2010, however, it is worth noting that the College has increased its number of students, its building square footage, and its study abroad programming during this time period. The major fall off between FY 2006 and FY 2007, occurred as a result of the switch from using oil to natural gas for our heat plant. Our FY 2010 numbers, while not officially part of this report, do show continued decreases in our emissions.

Figure 2.1-3: Total emissions for FY 2000 through FY 2010.



(Source: G-Total Emissions worksheet in the CACP workbook)

Table 2.1-2: Emissions for FY 2000 through FY 2010 with scope data, number of students, building square footage, and percent change from FY 2000 for emissions.

Year	Number of Students	Total Building Sq. Footage	Total Scope 1	Total Scope 2	Total Scope 3	Biogenic	Total Offsets	Total Emissions	Net Emissions	Percent Change from 2000
			MT eCO_2	MT eCO_2	MT eCO_2	MT eCO_2	MT eCO_2	MT eCO_2	MT eCO_2	
2000	1,252	816,727	6,665.8	976.0	1,027.1	-	-	8,591.1	8,591.1	
2001	1,308	816,727	6,663.1	1,284.9	1,132.8	-	-	9,003.1	9,003.1	5%
2002	1,352	1,001,661	6,639.6	1,316.6	1,366.5	-	-	9,167.5	9,167.5	7%
2003	1,468	1,048,049	6,826.3	1,462.0	1,406.8	-	-	9,539.8	9,539.8	11%
2004	1,484	1,048,049	6,885.1	1,539.4	1,591.7	-	-	10,034.8	10,034.8	17%
2005	1,552	1,048,049	6,696.4	1,539.4	1,659.4	-	-	9,797.5	9,797.5	14%
2006	1,548	1,108,320	7,124.5	1,625.6	1,692.8	-	-	10,345.1	10,345.1	20%
2007	1,544	1,108,320	5,061.0	1,566.9	1,677.8	-	-	8,207.9	8,207.9	-4%
2008	1,560	1,160,464	5,766.4	1,544.1	1,624.0	0.5	-	8,836.6	8,836.6	3%
2009	1,656	1,160,464	5,941.5	1,395.6	1,667.7	1.1	(87.2)	8,885.8	8,798.6	2%
2010	1,718	1,160,464	5,622.0	1,483.4	1,675.6	1.1	-	8,683.1	8,683.1	1%

(Source: S_eCO2_Sum worksheet from CA-CP workbook)

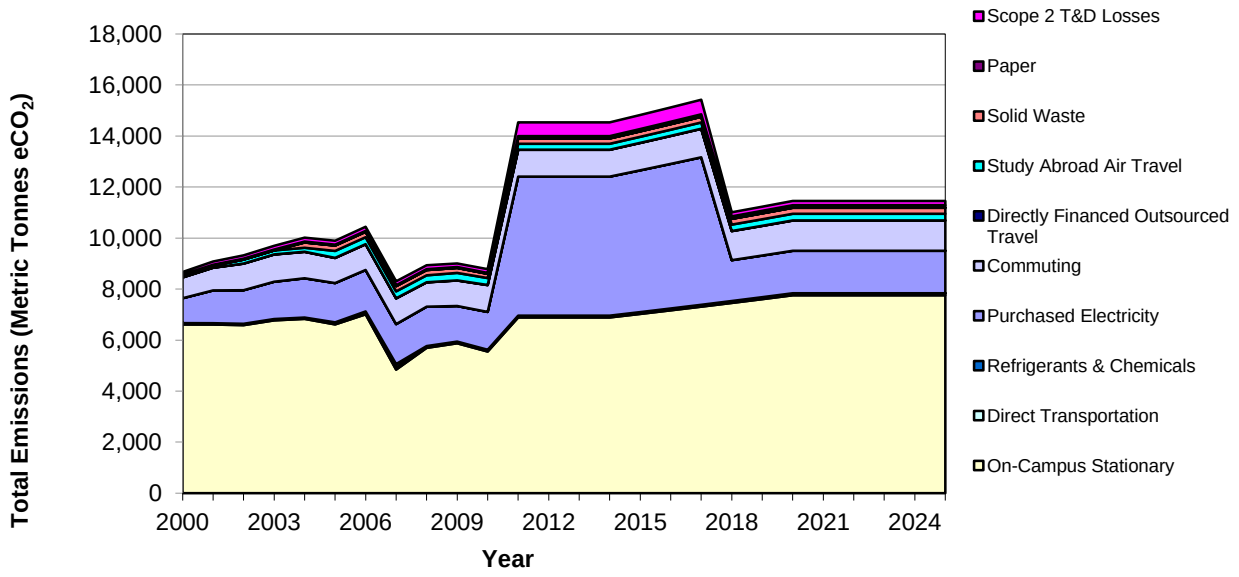
Longer term trends are more difficult to predict. The graphs below in Figures 7 and 8 show Ursinus' projected emissions, given a set of assumptions for future years. The assumptions are

based on some known variables (such as fuel mix for our electricity provider) and some unknown variables, such as growth of the College in student body and building square footage. The CA-CP calculator allows for customized trends for growth, and this was used to create the trends seen in the chart.

The sharp upswing in purchased electricity emissions in FY 2011 is tied to our current contract with Constellation Energy – a forty-two month contract. Constellation has a fuel mix that is much higher in coal (40%) as well as oil and natural gas than our past provider. This change will have a substantial impact on our carbon emissions over the next seven years (the term of our contract) as shown in the figures below. This highlights the difficulties of making decisions that have disparate effects on a school's economics and its emissions. When that contract is renewed, we hope to choose an energy company that can give us a better fuel mix that will lower our emissions. Education campaigns combined with energy reduction strategies are currently in place for addressing the Scope 2 emissions on campus.

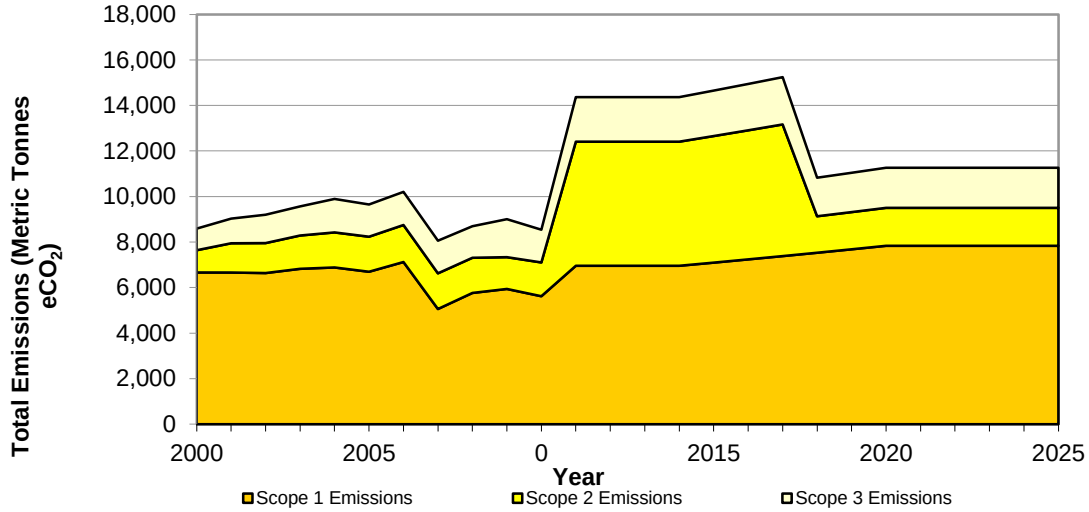
The graphs below do not reflect future projects to limit or reduce our GHG emissions. When project data is entered, it will be reflected in the chart with the lines decreasing toward zero. At this point, we have not used this calculator to assess projects. We hope to do this in the coming years.

Figure 2.1-4: Projected emissions (FY 2000 – FY 2025) based on current and projected emissions.



(from the "G-Total Emissions" spreadsheet in the CA-CP Calculator)

Figure 2.1-5: FY 2000 – FY 2025 actual and projected emissions by scope.



(Source: "G-ScopeEmissions" spreadsheet in the CA-CP Calculator)

2.1: Greenhouse Gas Inventory – Moving Forward

As we take steps to improve our data collection, particularly in Scope 3 emissions, we will see our emissions numbers rise to more accurately reflect of our real emissions. This will allow us to make informed decisions about the potential impacts of emissions reductions projects that we consider. It will also take the uncertainty out of our GHG inventory and allow us to know what our actual goals are.

The GHG inventory will now be undertaken with supervision and guidance from a member of our Office of Sustainability. We will continue to have students assisting in the process. Also, the inventory will be undertaken during the school year - after the College's Business Office has all of the numbers in place to assist with the data collection. We will be working on facilitating data collection at the source points – this will happen in coordination with employees in various departments.

Also, we expect that our Climate and Sustainability Action Plan will have been adopted before the end of FY 2012-2013, and this will give us an additional tool as we approach lowering our greenhouse gas emissions.

Table 2.1-3: Projected Carbon Emissions for Ursinus College with Implementation of the CAP

	Year	MT CO2e
Baseline	Estimated 2010	8,683*
25% Decrease from 2010 baseline	2020	6,512
50% Decrease	2030	4,341
75% Decrease	2040	2,171
Carbon Neutral	2060	0

*This number does not accurately reflect UC's Scope 3 emissions. Calculations for future years will need to be amended as we obtain more accurate data.

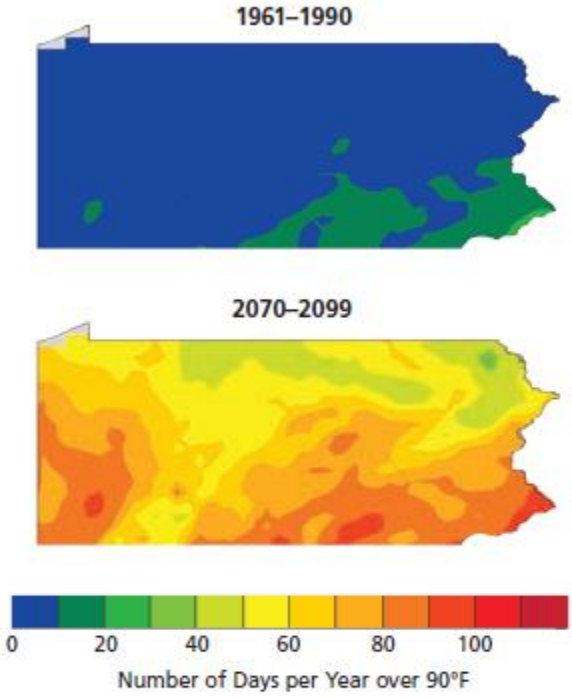
Table 2.1-4: Projected Carbon Emissions for Ursinus College without implementation of the CSAP, using an average increase in emissions of 2% (based on past three years of data for Ursinus College, which reflect the change from using heating oil to natural gas).

	Year	MT CO2e
Baseline	Estimated 2010	8,683*
Increase	2020	10,796
Increase	2030	13,161
Increase	2040	16,043
Increase	2060	23,838

*This number does not accurately reflect UC's Scope 3 emissions. Calculations for future years will need to be amended as we obtain more accurate data.

In addition to the virtues of promoting a cleaner world, educating our community and becoming carbon neutral for environmental reasons, there are clear and convincing economic reasons for pursuing carbon neutrality. The costs of energy production are increasing, and projects are that costs associated with fossil fuels will continue to increase. Costs associated with alternative energy sources are decreasing as the technology develops and markets for these products continue to grow.

Figure 1-6: Temperature rise across Pennsylvania, historical and projected. Source: (Union of Concerned Scientists 2008)



Statewide, Pennsylvania is projected to experience dramatic increases in the number of extremely hot days over the coming century, especially under the higher-emissions scenario. The greatest warming will be in the southwest and southeast regions, where daytime temperatures by late century (2070–2099) could hover over 90°F for nearly the entire summer.

2.1: Greenhouse Gas Inventory – Going Neutral

Back to Table of Contents

An overview of the actions that are recommended to take place to achieve our goals for 2025 is included in this plan. Beyond that, new technologies will develop over the years, financial tools will change substantially, and these will need to be evaluated and addressed in a revised Climate & Sustainability Action Plan.

The primary recommendations of this plan include shifting the central heating plant to a summer shutdown, engaging in a power purchase agreement for alternative electricity sourcing, energy conservation measures, the affirmation and implementation of policies that are already in place, and additional policies that will help the College attain the 25% decrease from our 2010 GHG emissions by 2020.

Table 2.1-1: Ursinus College strategies for attaining our goal of reducing our GHG emissions by 25% by 2020.

Strategy	Goal	To Date
Conservation within existing buildings	Goal: decrease emissions based on behavior and expectation by 20%. This will involve raising awareness among building users of energy usage, both heat and electrical. Gradually change behaviors and increase acceptance and buy-in of energy saving measures.	We have instituted the Ursinus College Office of Sustainability and are working to increase awareness of sustainability principles. We have also installed a real-time energy monitor that will allow staff to better educate users of their energy usage.
Sustainable construction of new buildings and major additions.	Goal: all new construction of buildings and major additions to buildings will be built to LEED silver standards or higher.	We implement this policy for all new buildings and major additions.
More efficient on-campus production & distribution of energy	Goal: decrease our emissions from our heat plant by 50%	We have conducted a feasibility study of the benefits of shutting down our heat plant during the summer. This is projected to reduce our annual emissions by 35%.
Renewable Energy	Goal: provide at least 50% of our electrical energy through solar or other renewable energy source.	We do not currently have the ability to install a solar array, however, we are open to this in the future.
Projected 2060 Emissions if no action is taken	Approximately 50% increase*	23,838

*This number is based on projected caps on student enrollment and slow expansion of square footage. It assumes that current sustainability measures will continue, and that our current 1% annual increase in emissions will continue.

Table __ shows the ACUPCC's requirements of signatory institutions in one column and in the other column, it shows the measures already taken at Ursinus, as well as those measures proposed by the UCCASP. We are currently in compliance with the PCC's requirements with the exception of the timely submission of the College's Climate Action Plan. This plan has been extant in draft form for some time, however, the College was unfortunate to lose its long-time president, John Strassburger, in 2010. The involved departments felt that waiting to publish the CAP until our incoming president, Bobby Fong, was able to review and approve the plan was not only appropriate, but would facilitate implementation of the plan.

Table 2.1-2. Comparison of the ACUPCC's requirements to Ursinus College's Climate Action & Sustainability Plan

Presidents' Climate Commitment	Ursinus College Climate Action Plan
Set up a mechanism (committee, task force, office, etc.) within 2 months to guide the process.	**Yes**. We have a committee and an Office of Sustainability.
Complete an inventory of greenhouse gas emissions within 1 year.	**Yes**. We have completed two GHG inventories. One in 2008 and one in 2010.
Create and implementing a climate neutral plan (that includes a target date and interim milestones for achieving campus climate neutrality) within 2 years.	**No**. However, we do now have our CSAP submitted to the ACUPCC. Our target goal for reaching climate neutrality is 2060.
The plan should include actions to expand research or other efforts necessary to achieve climate neutrality.	**Yes**. Ursinus is a small liberal arts college; we are able to address this through our CAP at a college-wide scale.
The plan should include actions to Integrate sustainability into the curriculum and making it part of the educational experience.	**Yes**. See section VIII. Academic Programs.
The plan should include mechanisms for tracking progress on goals and actions.	**Yes**. See section XII. Tracking Progress into the Future.
The action plan, inventory and periodic progress reports should be publicly available through AASHE	**Yes**. They are available.
Take two of the following seven immediate steps to reduce greenhouse gas emissions while the more comprehensive plan is being developed, as specified in the Commitment.	**Yes**. We have either already accomplished or have committed to four of the seven items.
1. Establish a policy that all new campus construction will be built to at least the U.S. Green Building Council's LEED Silver standard or equivalent.	**Yes**. We have done this.
2. Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.	**Yes**. We implement this policy.
3. Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution.	**No**. We are not currently able to commit to this type of policy.
4. Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at our institution.	**Yes**. This is part of this plan.
5. Within one year of signing this document, begin purchasing or producing at least 15% of our institution's electricity consumption from renewable sources.	**No**. Our current electricity provider has changed and we now get only 5% from renewable resources. We will invest externally in green power after we have invested all we can internally to make our campus operate as energy efficiently as possible.
6. Establish a policy or a committee that supports climate and sustainability shareholder proposals at companies where our institution's endowment is invested.	**No**. We are not currently able to commit to this.
7. Participate in the Waste Minimization component of the national RecycleMania competition, and adopt 3 or more associated measures to reduce waste.	**Yes**. This is a prospective action in our CAP.

Obstacles to Achieving Climate Neutrality

Although we are in compliance with most of the ACUPCC requirements, there are several obstacles and constraints that will make fulfilling our commitment challenging.

A. Physical plant infrastructure, electricity and fuels

Like many campuses, Ursinus owns many old buildings that define the character and culture of the College, but use excessive energy. Old buildings, such as these, are costly to retrofit.

B. User Behavior

While about half of the College's energy use and carbon emissions are controlled by its physical infrastructure, the behavior of members of the campus community also affects energy consumption, recycling rates, and consumption of materials, such as paper and water. We plan to institute educational and engagement campaigns, however, the effectiveness of such efforts is hard to predict.

C. Institutional Constraints

Ursinus, like many small liberal arts institutions, is currently struggling with limited operating and capital budgets. This will likely be an impediment to investments in energy efficiency and GHG emission reduction programs. The limited financial flexibility will also influence the implementation of most of our programs. However, we look at this as a challenge to be met rather than an insurmountable barrier. We intend to continue the policy of creative problem solving that has characterized Ursinus' approach to dealing with sustainability issues.

We do currently have a 42-month contract with a new electric energy provider, PJM Constellation. Their energy source makeup is primarily from oil and gas rather than sustainable sources[2]. (Monitoring Analytics, LLC 2010)

A report by the Intergovernmental Panel on Climate Change found that renewable energy accounted for nearly 13% of global energy supply. (Edenhofer 2011) At Ursinus, we currently get approximately 5% of our electrical energy from renewable energy, and none of our heating energy.

[2] PJM Constellation gets approximately 5% of their electricity from water.

Section 3: Administration

Administration - Chapter 3.1: President's Office

Back to Table of Contents

Since 2001, Ursinus has supported the Environmental Studies Department and sustainability-related efforts of staff and students. We have programs that extend across the campus, the organic farm, Take Back the Tap, Move-In, Sustainable Move-Out, recycling, composting, and UC BikeShare, as well as multiple courses in many disciplines that focus on sustainability and/or the environment. In the fall of 2010, the administration hired two part-time staff members to support the increasing number and extent of sustainability initiatives on campus as well as to create and implement the College's Climate Action (and Sustainability) Plan. These staff members are responsible for student-based programs and working with the College community in managing the College's efforts to become carbon neutral.

Appendix C contains a table that shows a timeline of sustainability-related actions and measures that have occurred on the Ursinus campus. These actions represent first steps toward an eco-sustainable campus. They will need additional support to be fully effective, particularly as the college moves toward carbon neutrality. This CSAP is a step toward making that a reality.

Ursinus' Administration and its Facilities Services Department have supported the inclusion of sustainability measures in some of the policies and programs of the College. Ursinus has incorporated aspects of sustainability in its contracting with waste haulers and housekeeping; we have committed to LEED construction standards for new buildings and large renovations; and we purchase many products locally. These practices were developed over time, in part resulting from our commitment to the ACUPCC, and in part because many sustainability practices make fiscal sense. For the most part, policy decisions regarding sustainability will have to make financial sense for the College.

UC has many resources to draw on as we work toward achieving our goals of cutting our greenhouse gas emissions. The first, and most important, is the support that we have from the

Administration. This support allows us to work with departments throughout the college, secure in the knowledge that we are all working toward the same goals.

Below is a table that includes a partial list of sustainability-related policies already in place at the College.

3.1 Current: President's Office

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.1-1: Sustainability projects & initiatives – President's Office

Type of Project	Mitigation Project/Initiative: President's Office
Administrative Structure	Academic Support • The administration has supported the development and expansion of the Environmental Studies Department. Programmatic Support • The administration has supported the creation of the Office of Sustainability under the Environmental Studies and Facilities Services departments.
Governance	ACUPCC • UC became a signatory to the ACUPCC in 2007. • UC has undertaken and submitted two GHG inventories in fulfillment of its commitment. Strategic Planning • UC has undertaken a strategic planning process which will allow the College to make long-term decisions and plans.

Policy	Admissions • Promote the Environmental Studies Department and sustainability initiatives on campus to potential applicants. Advancement • Investigate possibilities and pursue donors who may be interested in environmental and sustainability related initiatives and projects on campus. Communications • Write articles (web and print media) about sustainability projects on campus. • Send out articles to outside publications that highlight sustainability achievements on campus. Plastic Water Bottles • UC banned the sale of plastic water bottles on campus; however, this ban has sizeable limitations. Notably, the sale of water bottles at athletic events is considered a major fundraiser for the teams in charge of concessions. Also completely banning bottled water resulted in other, less healthy bottled beverages being provided to traveling athletics teams. Space Heaters • UC prohibits the use of space heaters.
Infrastructure	Green Building • UC has committed to building all major renovations to LEED Silver standards.*
Operations	Contracting • Inclusion of sustainability concepts within contracting (i.e., waste, housekeeping).
Procurement	• UC is committed to replacing outdated appliances with Energy Star certified efficient models, when available. • UC prioritizes local purchasing, when available and fiscally comparable to other options.
IT Changes	None at this time
Behavior Change & Ed.	Communication • President Fong has begun the process of transparent communication, which will facilitate the transmission of information to the campus community about the College's commitments to the ACUPCC.
Waste & Recycling	Recycling & Composting Program • Our administration has been supportive of our recycling and composting programs on campus as part of our overall sustainability programming.
Transportation	Idling • Buses are not allowed to idle on campus. This supports Pennsylvania Diesel-Powered Motor Vehicle Idling Act 124, which outlaws buses idling for longer than 5 minutes in any 60 minute period. (Pennsylvania Bus Association 2008)
Community Outreach	Strategic Planning • Community outreach is part of the College's current strategic planning process and is viewed as critical to our mission as an educational institution.

*As required by the ACUPCC, Ursinus College has made a commitment to build all new buildings and renovations to LEED Silver standards. The most recent addition to the Berman Art Museum was built to this standard as were NSF-funded lab renovations in Thomas Hall. The benefits of using LEED construction standards are numerous,

including energy savings, educational values, showing community leadership, and lowering our carbon footprint. At this time we are not pursuing certification due to the cost, however, on the ground we are having the same positive environmental impact regardless of the lack of certification.

3.1 Goals: President's Office

Goal 1: Support the College's commitment to the ACUPCC with relevant and meaningful policies that advance our ultimate goal of becoming carbon neutral.

Goal 2: Demonstrate on-going and long-term institutional support for campus sustainability initiatives.

Goal 3: Support the development and implementation of a climate and/or sustainability-related research program at the College for students and faculty.

3.1 PA: President's Office – Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

Organizational Structure: Ursinus College has multiple constituencies that are actively working on sustainability topics at various levels. In order to ensure that these groups are engaged and communicating with one another, we need to create a structure that enables each group to participate in the overall goals of the CSAP and in the work of the Office of Sustainability as it affects the UC community as a whole and in part. In order to create this organizational

structure that will support our commitment to becoming carbon neutral we should consider taking the steps outlined below.

Funding: Ursinus College is dealing with budgetary constraints that challenge the ability to fund sustainability programs and projects. In the past, we have made decisions based on return on investments, timing and needs, as well as projects that have positive public relations values. We have also been able to procure grant funding for some projects. Still other programs have benefitted from donor support. Moving forward we would like to have a more directed plan for funding sustainability initiatives.

3.1 PA-1: President's Office – Prospective Actions: Policy

Immediate (2013-2018)

Academics

- Foster and create academic partnerships around sustainability between and within departments.
- Encourage faculty members to integrate sustainability concepts into their courses, as related to their fields of study.

Bully Pulpit

- Use the clout of the administration to promote, and in some cases require, various areas or departments within the College to embrace the concept of sustainability, as is becoming increasingly common at other schools. These could include:
    - Encourage all community members to consider sustainability in decision making about items such as: events, courses, student activities, transportation, etc.
    - Encourage participation from all quarters in this campus-wide effort to reduce our carbon footprint and act as good role models for the future leaders that Ursinus is educating, as well as those who are graduates and the Collegeville community.
    - Set up a Green Office Certification program and provide public support of this OS program when it is up and running.
    - Set up a Green Graduation and endorse and work toward having the UC graduation be a "green" event on campus.

Endorsement of Sustainability

- Publically endorse sustainability-related policies.
- Encourage academic and non-academic departments to develop their own set of effective and realistic sustainability-related policies.

Goal Setting: Infrastructure

- Strategize with the Office of Sustainability, Facilities Services and outside contractors (where appropriate) on setting goals for our building and energy infrastructure as we move forward with aging boilers and buildings while also attempting to become carbon neutral.

Guiding Principles

- Write sustainability concepts into the UC mission statement and strategic plan.

Mission Statement

- Investigate the possibility of writing a green mission statement for the College that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with the OS on this document.

Sustainability Network

- Create a Sustainability Committee with representatives from the student body, the faculty, the staff, and the administration. This committee would report to the President of the College and would provide advice/feedback to the President on sustainability within the College.
- Allow for and encourage the creation of Green Teams - self-identified groups working within departments/programs on sustainability concepts. These would work with and receive support from the Office of Sustainability on initiatives within their groups. They would report progress to the Sustainability Committee.

Staffing

- Encourage UC's Human Resources staff to incorporate sustainability principles into annual reviews, job descriptions and new employee materials.

Policy - Idling

- Institute a No-Idle policy for all vehicles (not just buses) operated on the UC campus. This will limit GHG emissions, make a more pleasant environment on campus (no fumes), and will save money on gasoline.

Policy - Office Machines

- Consider creating a college-wide policy or official recommendation that College offices use the simplest and/or lowest impact practices required for the job at hand. For example, a manual stapler is preferable to an electric stapler; a B/W copy is preferable to a color copy; printing double-sided is preferable to printing single sided.
- Encourage infrastructure to be set in place to encourage this type of usage where possible (i.e. default double-sided print setting).

Policy - Procurement

- Institute a college-wide policy that strongly encourages all departments to purchase "green," "sustainable," or "net zero" products. This policy should also encourage all purchases to be judiciously considered for their sustainability repercussions. (See procurement section below)

Policy - Waste

- Plastic Bag Ban
    - Much as the College banned plastic bottles from the campus, institute a ban on plastic shopping bags on campus (this would affect the bookstore, Zack's and Jazzman's.).
- Events
    - Consider instituting a policy for waste disposal on campus events. Currently campus events are treated differently from day-to-day activities in terms of our waste and recycling. A policy would be aimed at keeping special events in line with our business as usual efforts around sustainability. Elements of such a policy could include:
        - A requirement that recycling containers be made available at all events. Recycling bins should be larger than trash receptacles to provide a visible illustration of the campus' commitment to sustainability.
        - A requirement that all events that serve food also provide a composting container. Materials put into the compost would then be added to our compost at Wismer.

        - A requirement that all food-related materials at events be either reusable, compostable or recyclable.
- Responsible Consumption
    - Institute a college-wide policy that strongly encourages all departments to reduce use of products and to implement sustainability practices in everyday operations.
    - Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

ACUPCC Reporting

- Work with the OS to review the sustainability practices of academic and non-academic departments and offices and encourage submission of periodic CSAP progress reports.

Community Partnerships

- Investigate and support climate-related partnerships with other academic institutions, NGOs and local governmental agencies and organizations.

Employee Accountability

- Incorporate CSAP goal implementation into related staff members' job descriptions and annual conversations with supervisors (by working this into day-to-day responsibilities, they will know that they have support from their bosses).

Rating System

- Aim to participate in AASHE's Sustainability Tracking, Assessment and Rating System (STARS) program. This would allow the College to have a much better understanding of the effectiveness of our efforts to become sustainable and climate neutral. The STARS program extends beyond measurements of only eCO_2 to incorporate the three main areas of sustainability: ecological, economic and justice-related sustainability. This particular program comes with a price tag, though it is a very effective program in which many other colleges participate. By participating in a program used by our peer institutions, we

would stay current and have comparable data, enabling better insight into our peer-to-peer standings.

Staff Reporting Structure

- Consider changing the reporting structure of the Ursinus College Office of Sustainability (OS) such that it reports to the President's Office. The ACUPCC is a commitment made by the College – not a single academic department, such as Environmental Studies, or a single non-academic department, such as Facilities Services. By having the OS report to the administration, it recognizes the strength of the College's commitment to sustainability initiatives throughout the College, as well as the integral and interdisciplinary nature of sustainability as a concept. It would also allow the OS to collaborate more closely with the administration on the many College-wide sustainability issues.

Sustainability Network

- Enlist interested members from each academic and administrative department to act within those departments as Sustainability Liaisons. They would be tasked with encouraging energy efficiency and waste minimization. These liaisons would report progress and sustainability-related actions to the Sustainability Committee.

Procurement

- Require purchasers to monitor and report the percentages of "green" products purchased and track progress toward the College's goals in this area.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper use by 2016, 50% reduction of office paper use by 2020, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-2: President's Office – Prospective Actions: Internal Operations

Immediate (2013-2018)

Expectations

- Work with various College departments to set expectations that UC will embrace environmental sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and that prospective students are eager to be part of.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.

Funding: "Green Development Fund"

- Support the establishment of a "Green Development Fund" to support sustainability programs
    - There are many Ursinus alumni who have an interest in sustainability—some of them developed those interests while at the College and others have come to it on their own. A dedicated Green Development Fund operated by the Development Office could attract private donations from alumni as well as other friends of the College who might not otherwise give. We already have donors who fit these categories. The earnings from such an endowment fund could help support sustainability initiatives proposed in this plan, including costs of efficiency investments, student sustainability programs, and training and research programs.
    - This would need to have an accompanying public relations campaign that described how such a fund helps the entire College, not just the environmentally-minded community members. Sustainability is also about spending less, using less, and getting more enjoyment out of what we already have.

Funding: "Green Revolving Fund"

- Support the institution of a "Green Revolving Fund"; if possible, make investments in the fund from the College's endowment, otherwise consider allowing the OS to raise funds to support such a fund.

  - More than 50 colleges operate green revolving funds, and two of these have invested money from their endowments in the green revolving fund.
  - AASHE has launched the Billion Dollar Green Challenge encouraging colleges and universities to invest a combined total of one billion dollars by 2014 in "self-managed green revolving funds to finance energy efficiency improvements and provide an ongoing source for future conservation upgrades." (ACUPCC 2011)

Funding: Support the establishment of a student "Green Fee"

- A $2-5 per semester Green Fee (0.007-0.02% of current full pay fees) would generate between $7,000-17,000 per year to support programs such as campus recycling, sustainability awareness programs and events, and sustainability-related community outreach.

Funding: Grants

- Actively search for and encourage others to apply for grants that would help improve our energy infrastructure, create community partnerships, and/or provide educational opportunities within the college in relation to sustainability.

Funding: Borrowing

- Investigate borrowing programs where Ursinus would be allowed to go beyond it's debt limit if, and only if, it went to an energy/cost saving measure and the assumption would be that the school could payback the loan by the cost reduction incurred by energy savings.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Admissions: Red and Gold Program

- Many prospective high school students attend our orientation, called Red and Gold Day, at Ursinus College. During the Red and Gold Day, students attend classes and take tours of the college. Red and Gold Day provides a great opportunity to show prospective students sustainable projects on campus. Ursinus may be able to recruit more student leaders who are interested in becoming involved with student run projects or are interested in attending a sustainable campus. If they come to campus they would then be more likely to be aware of the existence of such programs that help the College and to participate in them.
- Encourage Admissions to add at least one green stop to Red and Gold Tours, such as the green roof or the UC Organic Farm.
    - Have tour guides emphasize the importance of student-run green projects on campus, including the extensive recycling system.
    - Provide a sheet detailing the different sustainable projects on campus in the Red and Gold folder the students receive that day.

HR: Staff Orientation

- Encourage HR to have all new faculty (and staff) go on a Green Tour of the campus (a tour of the UC sustainability projects) for new staff/faculty. Educate all new faculty and staff members about sustainability on campus and provide them with a small document that covers the campus issues, campus goals, what they can do to help achieve those goals, and where to find more information as necessary.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-3: President's Office – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-4: President's Office – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Support the creation of a webpage that presents the Administration's perspective on sustainability at Ursinus.
- Expand the use of the UC Administration's website as a vehicle for educating site visitors about the College's commitment to sustainability.
- Encourage the Communications Department staff to continue to expand our web presence such that UC publicizes our sustainability achievements and successes.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-5: President's Office – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Board Meetings

- Survey the board members to determine their interest in having paperless or greener board meetings
- Rather than printing out all of the documents for all board members, conduct a survey to determine who would prefer to receive their materials digitally. For those Board Members, produce PDFs of all documents, including agendas, audits, finance, investments, advancement, annual giving, retention, enrollments, etc.; have everyone submit all document digitally to one point person who would then print the number of copies (double sided) for those who wish to receive hard copies and would send digital copies (or a link to a site where they could all be accessed on the website).

Local residences

- Encourage faculty and staff to purchase homes locally. Determine if there is any way to incentivize this, and do so, if possible.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect students, faculty, and staff to fall in line with the College's policies, practices, and expectations around sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Academics

- Put academic practices and/or incentives into place that will make it viable for faculty members to incorporate sustainability and climate change concepts into their classes and research.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-6: President's Office – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

3.1 PA-7: President's Office – Prospective Actions: Transportation

Immediate (2013-2018)

Business Office

- Adjust expense/reimbursement forms for travel so that the person submitting the receipts must calculate air miles travelled (and include the cities travelled to/from).
- Change the travel forms for faculty and staff travel reimbursement to include distance traveled and mode of transportation; input this information to online tracking documents.
- Adjust spreadsheets for business office inputs such that there is a row/column for mileage and method of travel (e.g., carpooling, train, airplane, etc.) as noted

above. This information is important to our ability to calculate our actual carbon footprint.

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy for staff members.
  - Establish and promote strong telephone conferencing and webinar capabilities for faculty, students, and staff.
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - Promote the use of alumni for admissions trips to high schools where the alums live.
- Encourage telecommuting and video conferencing when possible to reduce travel-related emissions.

Carbon Offsets

- When economically feasible, consider supporting the purchase of carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Travel Cost Effectiveness

- Calculate and track travel expenses and the related carbon footprint for each administrative office (e.g., Admission, Biology, Facilities Services, etc.). Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)
- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Mid-Term (2019-2030)

Student Cars

- Consider supporting efforts to encourage students to leave their cars home from college.
    - This would likely have to have an accompanying PR campaign as well as a support structure such as additional Bikeshare bikes, a weekend shuttle service, or a UC Carshare program that would give students the ability to share a car on campus.
- Support the OS in researching the feasibility of this possibility.
    - This might involve determining the cost to the College of each individual car on campus, a break-even point (where the College would begin to see an economic benefit for any given incentive program), and an analysis of how much the College would benefit from various scenarios vs. the complications for admissions or student life.

Business Travel

- When economically feasible, consider supporting the purchase of carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-8: President's Office – Prospective Actions: Community Outreach

Immediate (2013-2018)

Policy Coordination

- Encourage Ursinus community members to work with the Boroughs of Collegeville and Trappe and the Perkiomen Valley School District to coordinate on sustainability-related policy initiatives on which all four (or the College and any one of the others) can work together.

Community Collaboration

- Encourage Ursinus community members to collaborate with the local school district (Perkiomen Valley and other close-by districts) to develop "green" programming at the local schools.
    - This could take the form of environmental clubs, collaborative work on sustainability/environmental projects, having student mentors from UC work with student groups or classes in the school district.
    - This could also represent a collaboration between multiple departments – Education, Environmental Studies, Math, Biology, Art, English, etc.

Mid-Term (2019-2030)

Community Collaboration

- Encourage Ursinus community members to collaborate with the Boroughs of Collegeville and Trappe, the local school district (Perkiomen Valley), and other area employers to expand on the Collegeville Borough's Sustainability Plan. Such an endeavor would encompass the entirety of our area and make it a location that is appealing for "green" jobs.
- Work with Collegeville Borough government to draft new and amend current zoning ordinances to make them more sustainable. For example, most new construction requires additional parking. Creating more impervious surfaces and encouraging more cars is not sustainable.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.1 PA-9: President's Office – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Administration - Chapter 3.2: Business Office

Back to Table of Contents

Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Business Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

The Business Office is staffed by an associate Vice President and eleven staff members. The office is responsible for budgeting, financial reporting, report preparation, accounting, payroll and accounts payable, purchasing, student billing, grant accounting, accounting for capital assets, and in some cases, getting bids from companies for products/services., etc..

This office is located in the primary administration building, Corson Hall.

3.2 Current: Business Office

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.2-1: Sustainability projects & initiatives – Business Office.

Type of Project	Sustainability Project/Initiative: Business Office
Policy	None at this time
Internal Operations	Paperless • Day-to-day operations are done largely without paper. Initiatives include: loan refinancing; budgeting; double-sided printing; audits; documents scanned to or saved as pdf and emailed; direct deposit (encouraged for all employees); and purchasing. Purchasing • Priority is made for local purchasing. • Negotiate contracts with vendors for green products • Best Practices • Designate a sharing and reuse area for office supplies such as binders, folders and staplers.
Procurement	Online Ordering • Use online catalogs for ordering items rather than storing many sizable catalogs. Local Vendor Relationships • Develop relationships with small local vendors.
IT Changes	Online Updates • Has transitioned to online budgeting and expense submission. • Has transitioned to online billing statements for student accounts. • Audit committee emails UC board members tax information ahead of board meetings so that they can review information and then discuss at the meetings prior to filing • Credit card: people can fill out forms online for bills; • Getting ready to implement iPay program that allows all employees (student and staff) to access their paystub and W2s online. • All budgets and the budget process are available online;
Behavior Change & Ed.	None at this time
Waste & Recycling	• Recycled Paper • Staff are encouraged to recycle and shred paper; Shredded paper is recycled by housekeeping and during on-campus shredding events.
Transportation	• Webinar Attendance • Employees access webinars instead of traveling- to conferences; attend many meetings virtually

Community Outreach	None at this time

3.2 Goals: Business Office

Goal 1: Determine the business office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.2 PA: Business Office - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.2 PA-1: Business Office – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for the Business Office and all of the programs that it encompasses. Include areas such as:

procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with the Office of Sustainability on this mission.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Procurement

- Require purchasers to monitor and report the percentages of "green" products purchased and track progress toward the College's goals in this area.
- Update our credit card and purchasing policies in order to decrease the amount of time and paper required for employees to requisition, submit a purchase order, create an invoice, and make payment, particularly for small purchases.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-2: Business Office – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Inventory Management Tool

- Consider using optical scanners for inventory management, which give more details about inventory and allow for more precise ordering.

Purchasing

- Research more efficient and sustainable methods for managing the purchasing process, particularly for handling small purchases, including methods and practices that would decrease paper processing and time requirements to handle requisition, P.O.s, invoiced, and payment.

Mid-Term (2019-2030)

Expectations

- Work with various College departments to set expectations that UC will embrace sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and of which prospective students are eager to be part.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-3: Business Office – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Green Purchasing

- Write and implement a green purchasing policy or adopt a green purchasing strategy for the department/office and use a set of green purchasing guidelines. Appendix H contains a set of steps for setting up green purchasing for departmental/office purchases as well as some general guidelines choosing products.
- Ensure that the department's intentions are clear in the wording of the guidelines.
- Work to get buy-in from all top level staff members.
- Communicate the guidelines to suppliers so they have clear expectations. Work with existing trusted suppliers before switching to new ones.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-4: Business Office – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Support the creation of a webpage that presents the business office perspective on sustainability at Ursinus.
- Expand the use of the business office's website as a vehicle for educating site visitors about the College's commitment to sustainability.

Data Tracking

- Set up an Excel worksheet that, when opened, automatically updates the GHG emissions data from Business office files on college-related air, car and train travel (including mileage information).

Increase Online Usage

- Investigate the possibility of making the 1098T (federal tuition tax form) available digitally.
- Consider ways to increase the appeal of direct deposit or to make direct deposit a College-wide requirement.
- Investigate the possibility of using this same system for employee billing that is used for student billing (Students can get billing statements online)-to eliminate paper bills.
- Allow students the opportunity of paying their student bill on-line via credit card.
- Work toward having online student timesheets to eliminate paper and streamline this process for the business office as well as departments and offices that employ student workers.
- Investigate options for streamlining the student billing/receipts process such that it requires less paperwork and accepts more digital submissions.
- Work toward online submission of credit card receipts. Determine if accepting scanned images of receipts is acceptable to auditors.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

3.2 PA-5: Business Office – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Board Meetings

- Survey the board members to determine their interest in having paperless or greener board meetings
- Rather than printing out all of the documents for all board members, conduct a survey to determine who would prefer to receive their materials digitally. For those Board Members, produce PDFs of all documents, including agendas, audits, finance, investments, advancement, annual giving, retention, enrollments, etc.; have everyone submit all document digitally to one point person who would then print the number of copies (double sided) for those who wish to receive hard copies and would send digital copies (or a link to a site where they could all be accessed on the website).

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-6: Business Office – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-7: Business Office – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Forms

- Consider changing the travel forms for faculty and staff travel reimbursement to include distance traveled and mode of transportation; input this information to online tracking documents.
- Consider adjusting spreadsheets for business office inputs such that there is a row/column for mileage. This information is important to our ability to calculate our actual carbon footprint.

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy for the business office
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
- Encourage telecommuting and video conferencing when possible to reduce travel-related emissions.

Mid-Term (2019-2030)

Carbon Offsets

- When economically feasible, consider supporting the purchase of carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.2 PA-8: Business Office – Prospective Actions: Community Outreach

Immediate (2013-2018)

Banking Collaboration

- Continue to investigate the possibility of partnering with a local bank on student bank accounts to enable easier online transactions, reduced plastic cards (student ID would serve as bank card), decreased fees, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Administration - Chapter 3.3: Student Financial Services

Back to Table of Contents

Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Business Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

Ursinus College offers an extensive financial assistance program designed to recognize the high school achievements of students, while at the same time ensuring access to students from varied economic backgrounds. Ursinus awards financial assistance based both on merit and on financial need. The Student Financial Services Office administers a comprehensive program of aid from Ursinus which is funded through federal, state, institutional and private sources. Approximately 98 percent of all students receive some form of assistance. Over thirty-five million dollars in scholarships and grants were awarded from Ursinus College resources for the 2012-2013 academic year, both merit and need-based. The office no longer handles student billing, which is handled through the Student Billing office.

Much of what the SFS office spend time on pertains to prospective and incoming students; however, all financial aid must be reapplied for annually. Part of the application process is digital, and part of it uses regular mail services. The SFS has found that they had poor return from only sending out financial aid information packages digitally, so they reverted to US mail. The office currently puts together and sends via US mail Financial Aid award letter packages for approximately 2,600 prospective first-year applicants. Once the packages go out, on online service called IDOC contacts deposited first year students to have them submit verification paperwork such as tax returns, W-2 forms, etc. digitally. SFS staff then review and verify all applications in house in order to make sure that aid is going to the candidates with the most need. This is a time consuming process. A second letter goes out only to students who have

submitted their deposits (about 460). This process is done for first year students and then for returning upper-class students as well. Packages are sent out to approximately 1,250 returning upper-class students.

If SFS is missing student documents and the student is on campus, they will contact them via email; if missing documents are related to parents, then parents are sent a letter through the US mail. SFS is required to keep documents for all students for three years or if a Perkins Loan borrower, until they close their loans. The U.S. Government requires that when a student graduates that they participate in an exit interview regarding their responsibility for their loan repayment. This interview is a digital tutorial that automatically populates another software program (Powerfaids) with data.

This SFS office is located in the primary administration building, Corson Hall.

3.3 Current: Student Financial Services

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.3-1: Sustainability projects & initiatives – Student Financial Services Office.

Type of Project	Sustainability Project/Initiative: Student Financial Services Office
Policy	Paperless • SFS has set a goal for the office to become paperless; and is working toward that goal.
Internal Operations	Paperless • Day-to-day operations are done largely without paper, including: ○ online viewing of bills ○ FAFSA and CSS application materials are submitted to UC online ○ Now send instructions to students for online viewing of terms and conditions of Financial Aid awards as well as any policies that go along with those awards. (these used to be printed and sent) ○ Coordinating with billing to reduce the number of mailings.
Procurement	Online Ordering • Place orders online rather than by paper when possible.
IT Changes	Online Updates • Has transitioned to online budgeting and expense submission. • Has transitioned to online billing transactions for student accounts. • Budget is online • Encouraging students to use email and digital programs. • Sends spring and fall newsletter by email
Behavior Change & Ed.	None at this time
Waste & Recycling	Recycled Paper • *Staff are encouraged to recycle shredded paper; Shredded paper is recycled by housekeeping* and during on-campus shredding events.
Transportation	Webinars and Conferences • Attend webinars instead of going to conferences; attend many meetings virtually • Have combined various mailings to reduce transportation/mailing costs • Carpool to conferences Flexible Work Schedule • From time to time staff work from home to facilitate particularly busy work periods.

	Mailings • Double up on some mailings to avoid cost.
Community Outreach	None at this time

3.3 Goals: Student Financial Services

Goal 1: Determine the SFS office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.3 PA: Student Financial Services - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.3 PA-1: Student Financial Services – Prospective Actions: Policy

Immediate (2013-2018)

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-2: Student Financial Services – Prospective Actions: Internal Operations

Immediate (2013-2018)

Online Forms

- Continue investigating the possibility of moving to completely online forms for SFS.
- Work toward having digital records, as far as is allowed by government rules and regulations.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Inventory Management Tool

- Use optical scanners for inventory management, which give more details about inventory and allow for more precise ordering.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-3: Student Financial Services – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-4: Student Financial Services – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Online Forms

- When possible, work with Instructional Technology staff to develop forms that SFS can use to facilitate the Financial Aid process.

Software

- Investigate investing in the PowerFAIDS "Net Partner" software program from the College Board. This software would substantially decrease the person hours and shipping costs to the SFS office by allowing prospective students to view the paperwork that they have submitted/that hasn't been received. It will allow students to view their financial aid award letter online. It would also allow SFS to digitally mail documents to prospective students rather than sending via snail mail.

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-5: Student Financial Services – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-6: Student Financial Services – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Training

- Please see Appendix F for recommendations on recycling training.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-7: Student Financial Services – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Reduction Plan

- When possible, encourage telecommuting and video conferencing to reduce travel-related emissions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.3 PA-8: Student Financial Services – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Administration - Chapter 3.4: Human Resources

Back to Table of Contents

Ursinus College has a small human resources office comprised of two staff members who are responsible for hiring, benefits, new employee orientation, and employee records, among other things. Human Resources is located in the primary administration building, Corson Hall. These two staff members undertake the following:

Hiring

- the logistics of hiring new professional and student workers
- Recruitment for non-faculty positions
- Advertise positions, log and acknowledge all applicants, work with department chairs to make the offer, follow up with applicant pool after the position is offered
- new employee orientation

Benefits

- Brokers: Preparing and circulating requests for proposals, negotiations with providers on plan design (health and retirement), renewals,
- Employees: employee education around benefits and addressing employee concerns & questions,
- Legal: legal filings, form 5500 & extensions, semi-annual report, regulation compliance, dealing with outside audits

Employee Oversight & Record Keeping

- Process legal paperwork for employees
- Maintain employee records
- Handle all manner of employee/supervisor issues
- Conduct exit interviews
- Manage progressive disciplinary actions
- Track vacation and sick time
- Communicate with Business Office regarding employee changes to payroll (address, deductions, salary, withholdings, etc.)

- Student employment oversight: approval of new jobs, track hourly rates, manage website, post/remove jobs, work with departments on job descriptions and classification proposals

Policy review (College policies such as vacation, sick leave, workers compensation, harassment, etc.)

3.4 Current: Human Resources

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.4-1: Sustainability projects & initiatives – Human Resources Office.

Type of Project	Sustainability Project/Initiative: Human Resources Office
Policy	Smoking • *There is a no smoking policy in public buildings on campus. This creates healthier work spaces for all employees, potentially reduces health care* costs along with lowering our risk of fires, and reducing the need for cleaning chemicals (to remove odors and smoke-related film on surfaces) as well as the time spent cleaning.
Operations	Paper Use • Limit use of paper through scanning, emailing, double-sided printing. • Eliminated the paper copy of the College handbook. • Post new position descriptions online rather than print. • Whenever possible, use online filing, resources, communication, storage, and document exchange. This saves money on paper, printer ink and energy use as well as saving physical storage space. Benefits • Investment options for the benefits package include a socially conscious fund option.
Procurement	None at this time
IT Changes	Healthcare Plan • Virtual presentation and access for all materials, filing, and other information for the College's healthcare provider. • Open enrollment process is online. College handbook • College handbook available only online.

	Hiring Process • Positions are announced largely in online • All resumes, cover letters, etc. are submitted electronically. Applicant logs are kept online; applicants are acknowledged as received and notified of position filled electronically.
Behavior Change & Ed.	Power Usage • Electronic devices are plugged into a central power strip for each user, and then turned off at the end of the day
Waste & Recycling	Shredding • Staff are encouraged to recycle shredded paper; • Shredded paper is recycled by housekeeping and during on-campus shredding events.
Transportation	Business Office, Human Resources • Attend webinars instead of going to conferences; attend many meetings virtually
Community Outreach	None at this time
Infrastructure	None at this time

3.4 Goals: Human Resources

Goal 1: Determine each office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the broader community.

Goal 2: Within each office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.4 PA: Human Resources - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a

later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.4 PA-1: Human Resources – Prospective Actions: Policy

Immediate (2013-2018)

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-2: Human Resources – Prospective Actions: Internal Operations

Immediate (2013-2018)

Staff Orientation

- Expand new employee orientations so that they include campus-wide topics, including sustainability.
- Consider requiring that all new faculty (and staff) go on a Green Tour of the campus (a tour of the UC sustainability projects) for new staff/faculty. Educate all new faculty and staff members about sustainability on campus and provide them with a small document that covers the campus issues, campus goals, and what they can do to help achieve those goals.

Employee Training

- Develop online training programs around sustainability and other topics.
- Work with the Office of Sustainability to produce a resource guide that outlines sustainability-related College policies, employee responsibilities, and information about green buildings. Include a link to this online document to new employees.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Expectations

- Work with various College departments to set expectations that UC will embrace sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and that prospective students are eager to be part of.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, time savings, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-3: Human Resources – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

There are currently no identified Prospective Actions in this area.

3.4 PA-4: Human Resources – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Benefits

- Have summary plan descriptions for benefits plans distributed and/or made available electronically instead of in hard copy.
- Consider having employees fill out paperwork for benefits online. This might include the need to invest in an electronic signature machine.

Webinars

- Create webinars for group presentations on benefits and other topics so that they are accessible to all employees, regardless of work schedule.

Software Updates

- Consider software updates (such as an online HR system) that would allow HR personnel to further reduce paper use and printing as well as enabling more efficient use of other resources and potentially reducing document storage requirements..

- Consider the possibility (including legal ramifications) of transitioning to electronic personnel files. This would eliminate paperwork as well as reducing storage demands.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-5: Human Resources – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Participate in sustainability strategy formulation where it applies to new employees.
- Help to inculcate sustainability as a value into the Ursinus community through the hiring process and the new employee training process.
- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Local residences

- Encourage faculty and staff to purchase homes locally. Determine if there is any way to incentivize this, and do so, if possible.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-6: Human Resources – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Training

- Conduct training, in conjunction with Office of Sustainability staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-7: Human Resources – Prospective Actions: Transportation

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Commuting

- Work with Office of Sustainability staff to investigate options for future programs that would reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy.
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff.
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.4 PA-8: Human Resources – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.4 PA-9: Human Resources – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Administration - Chapter 3.5: Communications & Web Office

Back to Table of Contents

Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Communications Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

The Communications and Web offices are staffed by five members. The offices are is responsible for the College's website and messaging processes, public announcements, publication and printing of the Ursinus Magazine, content for other college print and online publications, and generally promoting the College within the media. These offices are located in the Myrin Library.

3.5 Current: Communications & Web

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.5-1: Sustainability projects & initiatives – Communications Office.

Type of Project	Sustainability Project/Initiative: Communications Office
Policy	
Operations	Website • Write articles (web and print media) about sustainability projects on campus. • Have worked closely with the Office of Sustainability to update the OS website. Printing • Have gone to limited printing. • Email and tweeting are the primary avenues of communication with outside news organizations. Emailing Lists • Add people to the email list or send them links to website rather than Postal Service mailing documents. • Our "On Campus" publication is now minimally printed; we email it to our campus list and have it available online.
Procurement	None at this time
IT Changes	Smart-Phone • Working on becoming more accessible via QR codes to smart phone users
Behavior Change & Education	None at this time
Waste & Recycling	None at this time
Transportation	None at this time
Community Outreach	Website • Almost always maintains a sustainability link on the Ursinus College website's main landing page. This photo is linked to the Office of Sustainability's webpage. • Promote Collegeville sustainability efforts via website. • Communicate about sustainability on campus via our website Outside publications • Send out articles to outside publications that highlight sustainability achievements on campus

3.5 Goals: Communications & Web

Goal 1: Determine the communications office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the communications office's commitment to sustainability and the importance of conserving resources.

3.5 PA: Communications & Web - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.5 PA-1: Communications & Web – Prospective Actions: Policy

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.5 PA-2: Communications & Web – Prospective Actions: Internal Operations

Immediate (2013-2018)

Alumni Magazine

- Work toward collaborating with advancement to produce the alumni magazine in digital format. This will allow us to print fewer copies as well as save money on postage.
- Determine appropriate methods for encouraging Postal Service recipients to switch to digital, and work to implement those methods.
- Collaborate with Advancement Office to get email lists for the purpose of sending the alumni magazine and other appropriate mailings. Collaborate with the Advancement Office to determine what those mailings are.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Sustainability Messaging

- Consistently weave sustainability messages into multiple communications streams to demonstrate the College's commitment to sustainability

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-3: Communications & Web – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

3.5 PA-4: Communications & Web – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

OS Website

- Work with OS staff to update the OS website so that it is up to date.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-5: Communications & Web – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Alumni & Campus

- Work with Advancement to move alumni toward using internet and email instead of hard copy mailings.
- Educate recipients of alumni magazine about how to switch to digital service.

- Include information about sustainability in the Alumni Magazine to educate readers about current campus activities.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Community Distribution of Publications

- Work with Main Street Manager and/or Borough Hall staff to get email addresses for Collegeville residents.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-6: Communications & Web – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-7: Communications & Web – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.5 PA-8: Communications & Web – Prospective Actions: Community Outreach

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Community Collaboration

- Consider writing articles that support collaboration between Ursinus community members and the Boroughs of Collegeville and Trappe, the local school district (Perkiomen Valley), and other area employers in efforts to expand on the Collegeville Borough's Sustainability Plan.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.5 PA-9: Communications & Web – Prospective Actions: Infrastructure

Immediate (2013-2018)

Lighting in Offices

- Determine if it would be cost effective to put lighting in all offices on different switches from the library's stack lighting.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Administration - Chapter 3.6: Office of Admission

Back to Table of Contents

Ursinus College has a number of operating areas, including: admission, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Office of Admission. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well-being of the College.

The Office of Admission is staffed by a vice president, a director, ten admission counselors, and four support staff. The admission counselors travel around the country and occasionally overseas to engage high school counselors and students and encourage good candidates to apply to Ursinus. Our admission counselors also conduct interviews with visiting student and their families, review all applications, make decisions regarding offers of admission, manage admission data, organize prospective student events, and track our ability to get and keep students. The Office of Admission runs a student tour guide program for prospective students as well. They also collaborate with the Athletics program to find athletes to fill our sports teams.

This office located in the primary administration building, Corson Hall.

3.6 Current: Admission

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.6-1: Sustainability projects & initiatives –Office of Admission

Type of Project	Sustainability Project/Initiative: Office of Admission
Policy	None at this time
Operations	Promotion of Programs • Promote the Environmental Studies Department and sustainability initiatives on campus to potential applicants Tracking • Began tracking itineraries for admission trips Paperless • Eliminate or redesign forms to use less paper; or switch forms (such as invoices) to electronic format. • Use e-mail blasts instead of mailings • Whenever possible, use online filing, resources, communication, storage, document exchange. This will save money on paper, printer ink and energy use as well as saving physical storage space. • Distribute documents digitally whenever possible (make use of scan and send options or make PDF documents and email); when printing is required, print official documents double-sided on recycled, recyclable paper
Procurement	None at this time
IT Changes	Applications • Ursinus uses the Common Application, which is available online. • We do not provide or mail paper applications to prospective students – it is all online. • We review all applications digitally; we only keep digital records (started 2012). • Ursinus encourages submission of online applications by waiving the application fee. • Student Financial Services Office (Suzanne Sparrow): All financial aid application materials are available online. NOTE they do a lot of paper Website • Admission website is comprehensive and accessible for students who are interested.
Behavior Change & Ed.	None at this time
Waste & Recycling	None at this time
Transportation	Conferences • Attend “reverse college fairs” where counselors go to learn about colleges; this cuts our transportation requirements. Virtual meetings • Skype with some prospective students from distant locations, including overseas. Tracking • Are investigating the possibility of having local rental car mileage tracked.
Community Outreach	None at this time
Infrastructure	Water Cooler • Facilities Services hooked the Admissions water cooler up to a faucet, allowing them

to use tap water instead of purchasing bottled and transported water.

3.6 Goals: Admission

There are currently no goals identified for Admission.

3.6 PA: Admission - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.6 PA-1: Admission – Prospective Actions: Policy

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.6 PA-2: Admission – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-3: Admission – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

3.6 PA-4: Admission – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Add a clickable button on the "Request Information" webpage that allows students to indicate that they wish to receive ONLY electronic information. And

then keep those people on a separate list that does not receive printed materials.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-5: Admission – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

3.6 PA-6: Admission – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Training

- Conduct training, in conjunction with Office of Sustainability staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-7: Admission – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Establish flexible work hours to facilitate carpooling.
  - Promote the use of alumni for admission trips to high schools where the alums live.

Mid-Term (2019-2030)

Student Cars

- Consider supporting efforts to encourage students to leave their cars home from college. This might involve determining the cost to the College of each individual car on campus, a break-even point (where the College would begin to see an economic benefit for any given incentive program), and an analysis of how much the College would benefit from various scenarios vs. the complications for admission or student life.
- This would likely have to have an accompanying PR campaign as well as a support structure such as additional Bikeshare bikes, a weekend shuttle service, or a UC Carshare program that would give students the ability to share a car on campus.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.6 PA-9: Admission – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)
Mid-Term (2019-2030)

3.6 PA-1: Admission – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)
Mid-Term (2019-2030)

Administration - Chapter 3.7: Advancement

Back to Table of Contents

Ursinus College has five operating areas: enrollment, finance and administration, advancement, academic affairs, and student affairs. This chapter of the Climate and Sustainability Action Plan addresses the Advancement Office. This office coordinates closely with the College's administrators and has objectives that impact the operations of the College. Their primary goals do not revolve around day-to-day student life, but rather the overall well being of the College.

The Senior Vice President for Advancement Office maintains a cabinet staffed by the senior director of development, the executive director of major and planned gifts, and the director of alumni relations. There are 21 staff members in this office including the SVP. The Berman Museum of Art also reports through Advancement, which includes four additional staff members. The mission of the Advancement Office is to support Ursinus College by engaging and developing all constituencies through a vibrant and successful culture of positive relationships and philanthropy.

This office is located in the primary administration building, Corson Hall.

3.7 Current: Advancement

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 3.7-1: Sustainability projects & initiatives – Advancement Office.

Type of Project	Sustainability Project/Initiative: Advancement Office
Policy	None at this time
Operations	Digital Storage • Paper-save conversion project underway with the goal of scanning all gift information, acknowledgements, correspondence, agreements, estate information and other legal paperwork related to charitable gifts and link to Raiser's Edge. Paper • Contacted all evening division graduates and gave them the ability to opt out of paper and opt in to our e-communications, effectively reducing hard copy mailings to this segment by half.
Procurement	Sustainability in RFP process • RFP process for print and design services requires all bidders to include the company's sustainability initiatives to be evaluated alongside product, cost, customer service, etc.
IT Changes	Online Donations • Make use of several different online giving options: credit cards, EFT, matching gifts, and payroll deductions E-Information • Make a wide array of how-to and why-to information available in electronic format, eliminating the need to send many documents via mail services. Website Upgrades & Social Media • Over the past several years, Advancement has upgraded their web presence and expanded their use of social media allowing them to reach a broader audience without having to use paper or mail services to do so.
Behavior Change & Ed.	None at this time
Waste & Recycling	Composting • There is a composting bin for coffee grounds and food waste in the Corson lunchroom.
Transportation	Conferences • Carpool for offsite events and conferences • Encourage video conferencing when possible to reduce travel-related emissions. Telecommuting and Carpooling • Have developed a comprehensive telecommute policy • Establish flexible work hours to facilitate carpooling • Encourage telecommuting
Community Outreach	None at this time

3.7 Goals: Advancement

Goal 1: Determine the advancement office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

3.7 PA: Advancement - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.7 PA-1: Advancement – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for the advancement office and all of the programs that it encompasses. Include areas such as: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with the Office of Sustainability on this mission.
- Hold brown bag lunches – will discuss sustainability at one of these
- For Berman Museum – see separate chapter

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-2: Advancement – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-3: Advancement – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-4: Advancement – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Support the creation of a webpage that presents the Advancement's perspective on sustainability at Ursinus.
    - Expand the use of the advancement office's website as a vehicle for educating site visitors about the College's commitment to sustainability.
    - Button on side of website

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-5: Advancement – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Alumni & Campus

- Work with the Communications Office staff to move alumni toward using Internet and email instead of hard copy mailings.
- Work with Communications staff to educate recipients of alumni magazine about how to switch to digital service.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Telecommuting & Teleconferencing

- Over half of the advancement office lives over an hour from campus and so they have developed and implemented a policy that supports telecommuting and flexible work schedules. Six staff members currently work from home one day per week.
- Nearly all volunteer development for the National Council, Young Alumni Council, Reunion Committees, etc. happens via conference call.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-6: Advancement – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.7 PA-7: Advancement – Prospective Actions: Transportation

Immediate (2013-2018)

Travel Reduction Plan

- Work with Office of Sustainability staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - When allowed, promote the use of alumni for admissions trips to high schools where the alums live.

Travel Cost Effectiveness

- Calculate and track travel expenses and the related carbon footprint for each office. Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)

Mid-Term (2019-2030)

Commuting

- Work with Office of Sustainability staff to investigate options for future programs that would reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - Promote the use of alumni for admissions trips to high schools where the alums live.

Business Travel

- When appropriate to the fiscal ability of the College, track and report business travel mileage and travel mode in order to facilitate the purchase of carbon offsets in the amount of air travel-related emissions.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Whole Cost Accounting

- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

3.7 PA-8: Advancement – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.7 PA-9: Advancement – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Administration – Chapter 3.8: Information Technology

Back to Table of Contents

Ursinus' Information Technology (IT) department is responsible for many areas of campus operations including: computers, many of the public printers, cable TV, telephones, door card-swipe systems, and even the tower bell chimes. Ursinus is serviced by a main operations room, located in the Myrin Library, and a backup operations room, located in Pfahler Hall. These systems serve the entire campus community. There are also substantial IT systems in the Kaleidoscope Center for the Performing Arts which are the responsibility of Facilities Services. IT is divided into four groups which all report to the Chief Information Officer: Network Operations Group (NOC), Tech(nology) Support, Instructional Technology, and Administrative Systems. There is also a "Web Group" which is a collection of employees from various departments. These people are nominally part of IT, though they do not report to IT staff.

The IT department is in the process of virtualizing the College's servers, allowing us to combine multiple servers onto on hardware unit. This saves space and money, allows us to dynamically allocate resources between multiple servers, and leads to small reductions in the heat generated in the server rooms. Virtualized servers also allow more flexibility in data backup systems.

- NOC maintains the Blackboard Learning system, providing system level support, patch installation and user support. Automatic account management, course creation and enrollment are run with the assistance of Administrative Computing. Day-to-Day user support is handled by Instructional Technology.
- NOC maintains an 86 Channel Digital/Analog Cable TV system that is distributed to each Residence Hall room, common rooms and many classrooms.
- NOC supports the Blackboard transaction system and associated pay stations and order kiosks which can log over 5000 unique transactions a day and are vital to the smooth operations of dining services and feeding our student body.
- NOC is responsible for the billing, selection, configuration and user support for approximately 60 UC cell phones, smart phones and Tablet devices that are intended for business use.

- The College maintains an email/groupware system that services all current students, faculty, staff, contract employees and emeriti. Many departments and student organizations also have group mailboxes monitored by multiple individuals. The system contains 2,806 mailboxes and 1118 distribution lists.
- NOC works closely with Facilities Service to allow common communication and monitoring of various building control and monitoring systems.
- Ursinus maintains a Shoretel Phone system with 794 extensions and 488 voice mailboxes deployed across campus. Three models of IP phones and various analog phones are in use. Analog fax services are also supported via Xerox Copiers and various standalone fax machines.
- The College leases Dell laptop computers for students to use while they are at UC. These laptops are rotated out every two years on a staggered schedule: first year students receive their laptops in the fall; sophomores receive their replacement computers at the end of their second year. The IT department manages the repair/replacement of all laptops as well as college-wide systems.
- IT maintains the servers in Myrin and Pfahler as well as the Data Closets that exist in each building.

What is IT's kW load?

The use of computers and other office equipment is a major source of energy consumption on the UC campus and for this reason is an important focus of mitigation initiatives. 'Plug loads' are estimated to be responsible for 15-20% of electricity consumption in a typical office environment. Mitigation efforts connected to the purchase and use of information technology include the following:

- The College operates on a lifecycle replacement of 4 years (on average) for computer hardware. This allows for the removal of less efficient computing hardware in favor of newer, more energy efficient hardware. This is an ongoing process which started in 2001.

IT operations require large back-up batteries called UPS units. The UPS units ensure that vital systems are functional in the event of an emergency and allow systems to be safely powered down when utility power becomes unavailable during prolonged outages. These batteries last for approximately five years before they must be recycled. Our hazardous waste is handled by

a company that will reclaim, reuse and then break down all components of these batteries for proper disposal.

3.8 Current: Information Technology

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Figure 3.8-1: Sustainability projects & initiatives – Information Technology.

Type of Project	Sustainability Project/Initiative: Information Technology
Policy	None at this time
Operations	Energy Management • Computers in the Ritter Mac Lab are centrally managed and automatically shut down when not in use. • IT monitors the energy use of our servers. Laptop power management • IT has created an "image" for all laptops that sets the power management settings on the computer. This image is designed to reach a balance between power saving and performance. Printers • IT is currently collaborating with campus stakeholders on the possibility of eliminating the student printer program. This would represent a savings in electricity and would decrease our e-waste at the end of each school year when students leave their printers behind. • IT couples the use of print-monitoring software with IT approved policy to monitor and charge for the printer usage of students. Projectors/Podiums • Summer 2012, IT is evaluating a program that would have the projectors tied to podiums shut down automatically when not in use, saving energy and extending the lives of the expensive projector bulbs. This initiative would be accompanied by an educational campaign directed at faculty and staff. Server Virtualization • IT has virtualized 80% of its servers. The virtualized servers can each take the place of up to eight regular servers, depending on the requirements of the regular servers. This reduces the electricity demand from the servers (though this is not a large demand), and also produces the heat of a single server, thus lessening the cooling requirements for the space. Virtualized servers also improve systems functions. IT has virtualized the email servers and plans to virtualize the administrative servers by

	FY 2012-13. Savings for virtualization is estimated to be between 10-40%. Thin Clients • IT has several "Thin Client" machines that it runs in the Library. These stripped-down machines are Energy Star rated and are set to go into deep hibernation at night.
Procurement	Laptops • Ursinus leases laptop computers for students, and most faculty and staff. Laptops use 50%-80% less energy than desktops – a significant energy savings for our campus. Printers • IT has leased Xerox "Color Cube" printers in the past 2-3 years. These printers are energy efficient and use biodegradable wax-based ink that arrives in a cardboard box and has no disposable components. In addition to being more environmentally friendly than laser printers, the supplies for these printers are less expensive. UPS Batteries • IT purchases refurbished UPS batteries for many applications.
IT Changes	Telecommuting and Video-Conferencing • IT has enhanced telecommuting and video conferencing abilities for the campus community to provide the option of reducing travel-related GHG emissions.
Behavior Change & Ed.	None at this time
Waste & Recycling	Computer Packaging • IT works with Facilities Services and the Office of Sustainability (OS) to recycle the boxes in which laptops are shipped. The computers are shipped in large cardboard boxes, shipped together in pallets. Each large cardboard box contains several smaller boxes. The laptops, cables and software are in these smaller cardboard boxes with bamboo packaging protecting the laptops themselves. IT breaks down and saves the large boxes to use for returning used laptops to Dell. They remove excess packaging, paperwork and CDs from the smaller boxes, which are then given to the students. Students receive new computers in the Fall of their first year and the spring of their sophomore year. For the first year students, computers are given out during Move-In. OS student volunteers are on hand to collect the boxes and bamboo packaging from the students during that time. For the sophomores, OS student volunteers work at the pick-up site to collect the boxes and bamboo packaging, and/or IT staff collect these from students who do not want to take the box and packaging with them and hand it over to IT • When offered by our vendors, we work with vendors to bundle laptops together for a 'green' shipping and handling. E-waste • Dell computer, with whom we contract for our computers, has a plan for the computers that it takes back from UC. The hard drives are wiped and computers are resold in secondary markets or they are cannibalized (taken apart) for parts. • IT coordinates with the Office of Sustainability (OS) and Facilities Services staff to collect e-waste for proper disposal. Our e-waste handler Hazardous Waste • IT contracts with a company that reconditions used UPS batteries, allowing them to be used for longer.
Transportation	Remote desktop • IT has installed a remote desktop program as well as the VPN network capabilities on

	all college laptops that allows students and staff to work remotely and save the greenhouse gas generated from commute trips.
Community Outreach	None at this time
Infrastructure	Server Room – Myrin • In 2008 the server room was redesigned to take advantage of cooling provided by the central chiller plant. Facilities Services is evaluating the possibility of using outside air for cooling in the winter. • Servers have variable speed drives installed for more efficient energy usage. Airflow Management Strategies (energy star recommendations) • Hot aisle/cold aisle layout • Containment/enclosures • Variable speed fan drives • Properly deployed airflow management devices, or blanking panels Cable layout • All cables are routed overhead in order to avoid energy inefficiencies that result from floor penetrations. • We have structured cabling in place.

3.8 Goals: Information Technology

Goal 1: Determine the IT Department's commitment to sustainability, and make that commitment public within the UC community.

Goal 2: Increase awareness of IT-related sustainability actions that could be undertaken by the campus community.

Goal 3: Maintain current levels of energy efficiency on IT server and switch units. Decrease when possible.

3.8 PA: Information Technology - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a

later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

3.8 PA-1: Information Technology – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for IT that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with UCGreen on this mission.

Goal Setting

- Set goals and benchmarks for waste reduction, procurement and energy-use reduction within IT.
- Set a timeline for achieving benchmarks and implementing these goals.
- Commit to (1) discover best practices; (2) innovate when solutions don't exist; (3) reduce waste and inefficiencies; (4) adopt and embrace new habits; and (5) measure and celebrate progress.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Program

- Consider joining a program, such as the one run by U.S. EPA's Energy Star program, designed to lower IT-related carbon emissions. http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_low_carbon

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-2: Information Technology – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Energy Use

- Consider making the following changes that were made for the Fayetteville Public Library (a LEED certified building with a progressive sustainability program in place). [3]
    - **Automate power down.** When procuring new PCs, buy those with Intel VPro. They'll let you remotely set power cycles for all your PCs. Set monitors that are not turned off to go into a power save mode (this mode can draw less than one watt).
    - **Find efficient CPUs.** Computer companies are producing far more energy-efficient CPUs. New models can save approximately 130 kilowatt-hours a year per PC.

[3] To see the entire text of this article, go to: http://www.libraryjournal.com/article/CA6727897.html.

Energy Savings

- Prior to distribution, set every computer to maximize battery life and have maximum energy saving features set up. (this may require negotiations with the manufacturer)
- Set all office equipment that is controlled by IT to shift into power-save mode (or shutdown) at 5 p.m.
- Reevaluate the power save "image" that computers are set to, with an eye toward saving additional power.
- Consider instituting a desktop energy saving program that includes elements such as:
    - centrally-funded desktop power management software for all faculty, staff and students,
    - moving backups and patches from night to day,
    - putting computers in sleep mode,
    - reducing peripheral energy usage by encouraging the use of "smart" power strips (and then selling them, perhaps through the bookstore, at a low price).

Monitors

- Implement power management strategies for monitors across campus
    - Set power saver settings on all campus computers to automatically turn off the monitors after 15 minutes of inactivity. This will not only extend the life of the monitor, but will also lower the cooling load of the building in the summer.
    - Disable screen savers. These not only do not save the screen, they may use additional electricity to continuously run a program.

Printers

- Eliminate the printer program for students; have students print on campus printers. This would eliminate printer e-waste and would discourage students from printing excessively. Work with stakeholders to develop equitable alternatives for students.
- Work with OS staff, the Academic Dean, and UC administration officials to implement a change that would have all printers default print setting be for double-sided printing.

Office Machines

- Activate sleep settings on all office equipment. Most printers, copiers, fax machines, scanners, and multifunction devices have a low-powered sleep mode that can be set to activate when the devise is inactive.

Power Management

- Better educate the Ursinus community about enabling power management features on computers and turning off their monitors when they are not in use.
- Investigate participation in the Google/Intel Climate Savers Initiative.
- Institute energy efficiency practices, such as setting all computers to their most efficient energy saving settings before they are put into circulation with students/staff/faculty,

Sever Virtualization

- Continue to virtualize campus servers in order to save space, electricity, and cooling.
- Decommission unused servers
- Consolidate lightly utilized servers
- Work to improve management of data storage

Laptop Program

- Identify alternative, sustainable packaging materials for sending laptop computers back to the vendor. Work with OS and Facilities Services staff to problem solve short-term storage issues.
    - Determine if old laptops could be swapped for the new in the bamboo packaging, eliminating the need for bubble wrap to return the used computers to the vendor. The packaging may be stackable, making the short-term storage fairly space efficient between the time the laptops are received, wiped clean, and shipped.
    - Work with OS staff to develop and install an "IT Sustainability Manual" to be installed on the desktop of each new laptop.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-3: Information Technology – Prospective Actions: Procurement

Immediate (2013-2018)

Waste Electrical and Electronic Equipment

- In contracts for the purchase or lease of computers and other technology equipment, ensure that the contract includes lifecycle, or cradle to grave, costs and specifications.
    - Renegotiate our contract with Dell.
    - Include specifics on disposal of products at the end of their lifecycle.

Energy Efficiency

- Purchase energy efficient laptops, printers, servers, and other equipment.
    - Renegotiate our contract with Dell.
- Use cycles/watt and other energy criterion in the selection of IT hardware and related equipment.
- Purchase/lease newer, lower-power hardware when replacing computers and monitors (where available) in order to reduce power consumption.
- Give preference in purchasing and leasing to EPEAT-rated hardware; preferably EPEAT Gold.
- Add Energy Star requirements to all RFPs where available.
- Purchase more energy-efficient servers, UPSs, and PDUs

Sustainability Procurement

- When purchasing or leasing office equipment, consider energy efficiency, health impacts (e.g., fumes from laser printers), and lifecycle costs as part of the overall cost to the College.
- Coordinate with the Copy Center on copier leases with a particular interest in energy savings and lowering our environmental impact.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.
- Work to more fully implement centralized decision-making around the purchase of equipment for offices such that purchases or leases are made with energy efficiency and overall lifecycle costs are accounted for.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-4: Information Technology – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-5: Information Technology – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Technology

- Promote energy saving practices with end users, such as: turning computers off rather than leaving them running, energy saving settings, creating/installing an energy saving folder on the desktop of all UC computers that gives users information about how to change settings, etc.

Laptop Program

- On each computer desktop, install a folder with tips on sustainable computer and printer use. The folder should include a document should include ways to make the battery life last longer, how to dim the screen, a reminder to turn computers off at night, how to download and use note taking programs, popular environmental web-sites, the UC Environmental Action blog, and how to use double-sided printing.
- The desktop folder should also include the UC Green materials that are available on the UC Green website.
- Promote energy saving practices with end users, such as: turning computers off rather than leaving them running, energy saving settings, creating/installing a energy saving folder on the desktop of all UC computers that gives users information about how to change settings, etc.
- Educate students/faculty/staff about the benefits of using power strips to reduce the Phantom Load of electricity from electronics that have power lights (e.g., TVs, stereos), including reduced electricity usage and protection against power surges.

Energy Awareness Information

- Work with Office of Sustainability staff to write a document to be installed on every computer's desktop that describes:
    - How students can set the power saving setting so that they save even more power
    - How to help the laptop last longer (and why that is important – how it affects the bottom line for students)
    - Energy basics for a laptop (e.g., how much energy a laptop uses when it's being used, the importance of turning the computer off when it's not being used, etc.)

    - Printing responsibly (no cover pages, smaller fonts, smaller margins, double sided printing, etc.)
- Install the energy-saving document on all computer desktops before they are distributed.
- Discourage campus community members from using screen savers. Screen savers do not save energy. Certain graphics-intensive screen savers can cause the computer to burn twice as much energy and may prevent a computer from entering sleep mode!
- Work with OS staff to create informational signs for Color Cube printers (Chemistry, Corson, Myrin, Pfahler) that include information about the biodegradable inks that are used in these printers as well as their energy-saving features.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Staff Training

- Train IT staff in "green computing" best practices, ENERGY STAR and EPEAT (Electronic Product Environmental Assessment) ratings, so that they will be better positioned to answer questions about and make use of environmental friendly computers and peripherals.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-6: Information Technology – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Printers

- Eliminate the printer program for students (lowering our upfront cost as well as the waste going into the landfill or being recycled.
- Ask students to turn in their old printers at the end of the year rather than throwing them out.

Packaging

- Work with our hardware vendors to further decrease the amount of packaging for our computers, printers, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-7: Information Technology – Prospective Actions: Transportation

Immediate (2013-2018)

Video Conferencing

- Expand our use of conferencing tools for routine meetings, prospective employee searches, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

3.8 PA-8: Information Technology – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

3.8 PA-9: Information Technology – Prospective Actions: Infrastructure

Immediate (2013-2018)

HVAC

- Investigate the possibility of raising data center(s) thermostat and monitor inlet air temperatures at top-of-rack components, taking into account the need for minimal temperature changes throughout the room as well as the need for the A/C units to run at efficient load levels. Current temperature set point is 70^{o}
- Redistribute heat from servers to other areas in building where the servers live.
- Investigate the possibility of installing a variable speed motor in the A/C unit in the Myrin server room.

Energy

- Conduct a data center energy audit to determine a baseline of current levels of energy use.

HVAC Adjustments (Energy Star Recommendations)

- Make server inlet temperature and humidity adjustments to more energy-saving settings.
- Air-Side Economizer
- Water-Side Economizer
    - Adjust the humidity in the server room so that the equipment operates at optimal levels: this is 30-40% humidity; currently at 9%.

Best Practices

- Consider the following "best practices" strategies, such as these below, recommended by 42U (an IT energy management firm). Percentages are potential savings. (42U 2012):
    - Consider upgrading our structured cabling from CAT6 to CAT6a as we expand the 10gb Ethernet.
    - Aisle Containment Systems - 5-10%
      In data centers with hot/cold aisle arrangements containment systems can reduce energy expense by 5-10%. This is a lower-cost solution that contains the airflow and directs it directly to the equipment in an efficient manner. Containment can focus on either the hot aisle or the cold aisle, but cold aisle containment has been proven to be more efficient.
    - Power Equipment Efficiency - 4-10%
      When our UPS systems are older, consider refreshing older UPS systems with new best-in-class technology can reduce energy expense by 4-10%. Newer technologies have 70% less losses than legacy systems at typical load levels. A focus on light load efficiency, not peak load efficiency, is the key parameter because this is the typical operating state for the UPS.
    - Virtualization - 10-40%
      This solution has a very significant impact that can reduce energy expense by 10-40%. While not technically a physical infrastructure solution, it involves consolidation of application onto fewer servers.
    - Infrastructure Right-Sizing - 10-30%
      This solution can result in energy savings of 10-30%. This deploys a modular approach to power and cooling architecture that allows scaling these aspects of the infrastructure to the specific needs of the data center. The savings comes in the form of eliminating over-provisioning.

Mid-Term (2019-2030)

Datacenters

- Consider investing in instrumentation that would monitor the datacenter's PUE with regard to capturing cooling and lighting.
- Consider investing in automated controls that would maximize outside air cooling.
- Evaluate the Pfahler server room to determine energy efficiency and make design recommendations.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Glossary of Terms & Acronyms

Blanking Panel installation:	Blanking panels are a fundamental airflow control strategy that improves airflow through equipment and avoids inefficient airflow around the equipment needing cooling. This practice decreases server inlet temperatures as well as increases the CRAC return air temperature, both of which improve operational efficiency.
e-waste:	Electronic waste
EPEAT:	A comprehensive environmental rating for computers and other electronic equipment.
hot aisle/cold aisle:	The name given to a specific layout of computing cabinets such that all of the hot sides are facing the same direction and the cold sides face the opposite direction enabling more efficient cooling of equipment which must be maintained at a specific temperature range.
Image:	An exact replica of a hard drive.
kWh:	Kilowatt Hour – a unit of energy equal to 1,000 watts of energy expended for one hour (or 3.6 megajoules). A computer rated at 1000 watts (1 kW) and operated for a one hour period would used 1kWh of energy.

LAN	Local Area Network: A group of computers in a small geographic area that are linked together with shared network media, allowing for high data transfer speeds.
PDU	Power Distribution Unit: a device fitted with multiple outputs that is designed to distribute power to racks of computers or networking equipment.
Plug Load	The energy used to power a piece of equipment which is powered by a regular AC plug.
PUE	Power Usage Effectiveness: A measure of how effectively a computer data center uses power (specifically how much of the power is used to run the equipment vs. how much is used to cool the equipment and other overhead costs)
RFP	Request for Proposal: a request sent out to vendors soliciting bids on a specified project.
Server	A system of computer programs and hardware that meets the needs of other computer programs. Typical servers include: mail server, computing server, list server, file server.
Thin Client	A computer that relies on a server to provide most of the computing power. Thin client computers require much less energy to run because they do not contain all of the equipment and programs that would be required to run a stand-alone computer.
UPS	Uninterruptible Power Supply: these are battery backup units that ensure the data integrity of computers by ensuring that there is power to the essential servers during a power outage.
Virtualized Server	Like time-sharing, virtualized servers all share space in one computer with the idea being that not all of the servers are needed at one time.

Section 4: Academic Affairs

Academic Affairs – Chapter 4.1: Administration

Back to Table of Contents

Organizational Structure

The academic programs at Ursinus are overseen and managed by the Vice President of Academic Affairs (VPAA) and Dean of the College. Our Dean is supported by a group of associate and assistant deans. These administrators work closely with department chairs and an array of faculty from across the College to make decisions about the academic program at Ursinus. Our VPAA/Dean plays role on Faculty Development Committee; in new hires; and in interdisciplinary initiatives.

Academic programs at Ursinus are diverse in scope and size. Students can choose among 33 majors and 71 minors. These majors and minors are served by 22 academic departments and 14 academic programs. The faculty consists of 129 members (31 % Professors; 33% Associate Professors; 33% Assistant Professors). We also employ a number of adjunct professors each semester to help serve the needs of our student population.

The VPAA is assisted by the following:

- Associate Dean of the College (oversees internal research funding and is a liaison for various faculty committees);
- Two Assistant Deans for Academic Affairs (both part time who work with students on national scholarships, Summer Fellows and CoSA and support faculty and academic departments and college strategic planning initiatives);
- Assistant Dean for Civic Engagement (UCARE);
- Assistant Dean for International Studies (Study Abroad programming);
- Registrar (student records and registration);
- Coordinator of Research and Sponsored Programs (external grants application and administration).
- Office of Institutional Research

The VPAA is responsible for the policies and procedures affecting all academic departments and programs. The VPAA also works with the President and Board on the appointment and promotion of faculty. The VPAA, with the help of the faculty committee on outcomes assessment, enhances the teaching and learning engaged in by faculty and students. The VPAA is also the primary administrator of most student academic issues, including grade changes, academic dishonesty, and leaves of absence.

Some of the committees that interact with the VPAA's office include:

- Campus Planning and Priorities Committee (CPPC);
- Outcomes Assessment Committee
- Promotion and Tenure Committee;
- Faculty Development Committee;
- Faculty Meeting Committee
- Governance Committee;
- Faculty Affairs Committee;
- Diversity Committee
- Academic Council;
- Academic Support Committee
- Academic Standards and Discipline Committee;
- Appeals Committee;
- Student Activities and Services Committee;
- Judiciary Board;
- Intercollegiate Athletics Committee;
- International Education Committee.

Below is a description of some of the faculty committees that manage the academic programming of the College; this is included here to elucidate the variety of roles on campus that are filled by faculty and administrative staff members toward the end of administering academics across the College. In addition to these committees, faculty members may serve on any number of additional committees across campus. Academic departments hold their own departmental meetings, at which intradepartmental and interdepartmental issues are

discussed and decided upon. Individual faculty members also have responsibilities for mentoring their advisees and other students, undertaking research (and writing grants) and, of course, developing and teaching academic courses. All of our tenure-track faculty are required to teach our Common Intellectual Experience (CIE) course prior to being granted tenure.

Academic Council The council discusses the academic program of the college and related issues, receives for its evaluation proposed curriculum changes, and reviews the college curriculum. It may make suggestions to academic departments and programs, and makes recommendations to the faculty as a whole through monthly reports.

Campus Planning and Priorities Committee (CPPC) The Campus Planning and Priorities Committee is the principal focus of the campus community for institutional planning. It advises the President of the College on major issues of institutional policy. It develops long term goals and reviews the strategic plans for achieving these goals. Because Ursinus strives to function as a collegial community, the planning process is informed by the insights, thoughts, and concerns of the various elements of the community. To this end, the CPPC receives reports and recommendations from the various College committees. Annually, the President, as chairperson of the CPPC, meets with chairpersons of those College committees charged with making policy recommendations. The President informs them of the long term plans of the College and the strategic objectives in pursuit of these plans. In addition to reports to the Board, the CPPC makes regular reports to the faculty and to other College constituencies.

Faculty Development Committee The committee will act as an advisory committee to the Dean of the College and the President in monitoring the College's program in faculty development and recommending changes. The committee is encouraged to take the initiative in identifying areas of need that may be addressed by specific faculty seminars.

Promotion and Tenure Committee The committee makes recommendations to the President regarding re-appointments, promotion, and tenure of faculty members, based on individual performance and upon departmental and college wide needs and standards.

Student Activities and Services Committee This joint committee of the faculty and the USGA meets monthly to review matters pertaining to the quality of campus life. Areas of responsibility include special events such as Freshman Orientation, Homecoming, and Family Day. The committee also reviews the allocation of funds for

student activities. It serves as a forum for the recommendations of students, faculty, and administrators, and forwards its recommendations to the faculty, USGA, and any other appropriate committee.

Outcomes Assessment Committee The committee's purpose is to serve as the clearinghouse for outcomes data; in addition to coordinating surveys, it recommends priorities as to what areas of the program should be assessed.

Curriculum

The curriculum at Ursinus includes a core of 11 courses that each student must fulfill from a variety of academic areas. The foundation of the Ursinus experience is the Common Intellectual Experience seminars (CIE-100 and CIE-200 — taken in sequence during the first year). These courses introduce students to the intellectual life of the college through a shared interdisciplinary inquiry during two integrated seminars, one taken in the first semester of the first year, and one completed in the second semester. To sharpen intellectual discipline and promote understanding across cultures, students take two semesters of a foreign language (IDS-120 may be substituted for students who are eligible.)

One course in mathematics and one in a laboratory science help students enhance their deductive reasoning skills and promote scientific literacy, and foster awareness of the issues of science as they influence the individual and society. Because students need to be able to deal with quantitative materials, they must be sure that one of their courses is designated a quantitative reasoning or "Q" course. The complex relationship of the individual and society is explored in a social science course, and a view of the human experience is promoted in a humanities course. Both are further promoted through two diversity courses — one focusing on diversity within the United States, and another examining the issues from a global perspective. A greater appreciation for making and regarding art is developed through an art course. Each of these one-course divisional requirements, as well as the diversity courses, help to reinforce and extend the intellectual inquiry begun in CIE-100 and CIE-200, helping students to see the complementary natures of disciplinary and interdisciplinary investigation.

The Strategic Plan (adopted in 2012) will impact the academic programming of the College. Priority 1 requires that we "maintain the academic strengths of the College while assessing each academic program to identify areas of distinction." Although we do not have a sustainability major, many of our Environmental Studies (ENV) courses have sustainability-

related themes or are directly related to sustainability. In addition to meeting the priority of maintain strengths as we identify distinction, there is substantial potential for a number of courses to provide some of the educational content around climate neutrality and sustainability, which we are required to do by the ACUPCC. Priority 2 of the Strategic Plan ("Create initiatives to link academic learning with applied learning and post-baccalaureate work.") is supported by the Office of Sustainability's programming, including its UCGreen Sustainability Fellows program, and its heavy emphasis on applied learning. The OS serves students regardless of their major.

Because of the interdisciplinary nature of environmental studies and sustainability, faculty members from many departments teach courses that are cross listed with our Environmental Studies Department courses; we currently offer over 47 ENV courses (22 of which are cross-listed with other departments). The College employs three full time dedicated ENV faculty members as well as adjunct faculty in ENV. There are also 15 additional faculty members in ten other departments who teach the 22 courses cross-listed with ENV. Students can work toward a B.A. or B.S. degree, and for those in Education, a Teaching Certificate in Environmental Education is available. See Appendix E for a list of courses offered in ENV. There are opportunities in each of these courses to introduce sustainability-related themes. Additionally, sustainability could be incorporated into any number of other courses that are not formally cross-listed with Environmental Studies through case studies or projects. There are dozens of sustainability projects and programs that have taken place under the aegis of Ursinus College academic courses. Several of these projects and programs have become full-fledged programs of the College. See Appendix D for a full list of campus projects and programs.

4.1 Current: Academic Affairs: Administration

The following is the text from the American College and University Presidents' Climate Commitment (ACUPCC) that specifically relates to the academic program at Ursinus: Ursinus is committed to undertaking the following actions:

- Actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.
- Actions to expand research or other efforts necessary to achieve climate neutrality.

For the entire text of the ACUPCC, please see Appendix A.

This Climate and Sustainability Action Plan (CSAP) was written with the knowledge that individual academic departments will have to decide how best to integrate sustainability and climate neutrality into their curricula. However, there is also a need to provide guidance from the VPAA's office to encourage, facilitate, coordinate and communicate the diversity of approaches to sustainability-related instruction at Ursinus. As such, this chapter of the CSAP, is designed to give guidance and make suggestions for academic departments as well as the VPAA's office rather than be a road map with a specific route to follow.

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 4.1-1: Sustainability projects & initiatives – Academic Affairs - Administration.

Type of Project	Sustainability Project/Initiative: Academic Affairs - Administration
Policy	• Academic Council has policies and procedures in place that allow the development of courses that result in sustainability projects. • Departmental budget reductions have resulted in reduced photocopying. • Professors identified courses taught in other fields that could be cross-listed as Environmental Studies courses; they recognized that they had enough courses to make a major; took a proposal to academic council and it was approved. CPPC approved a FT tenure track position in ENV. This process resulted in the hiring of three full time tenure track faculty lines. These faculty members have created multiple sustainability programs all in support of the Environmental Studies major.
Internal Operations	• VPAA's office is moving towards paper-less evaluation and hiring procedures. • Many hand-outs are now available on Blackboard and thus reduce the need for printing
Procurement	None at this time
IT Changes	• Coordination between the Academic Affairs office and the Registrar's office such that updates to the course catalog are shared by the two offices. Faculty Handbook is no longer printed – it is only available online. • Course schedules are only available online… REGISTRAR (move this) • Course catalog is only available online (as of March 2013) • Universal access to laptops has reduced the need for paper hand-outs in academic courses •
Behavior Change & Ed.	• See Appendix E for a list of academic courses that are related to sustainability. • See Appendix I for a list of campus sustainability projects that began in academic courses. • Introduction of an Environmental Studies major and minor • Support from the VPAA for environmental and sustainability-related course development • Support for integration of environmental readings in the CIE curriculum. • Departmental budgets have been reduced and the positive impact is a reduction in the copying budget.
Waste & Recycling	None at this time
Transportation	None at this time
Community Outreach	None at this time
Infrastructure	None at this time

4.1 Goals: Academic Affairs: Administration

Goal 1: Determine how the Academic program will embrace the College's commitment to sustainability on campus, and publicize that commitment to the campus community.

Goals 2: Within the Dean's office, the committees that oversee academic concerns and the faculty population, increase awareness of the commitment to sustainability and the College's commitment to integrating sustainability into the students' academic experience.

4.1 PA: Academic Affairs: Administration - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

4.1 PA-1: Academic Affairs Administration – Prospective Actions: Policy

Immediate (2013-2018)

Goal Setting

- Set a timeline for implementing these goals.
- Commit to (1) discovering best practices; (2) innovating when solutions don't exist; (3) reducing waste and inefficiencies; (4) adopting and embracing new habits; and (5) measuring and celebrating progress.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.1 PA-2: Academic Affairs Administration – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.
- Encourage departments to use the Sustainable Office Guidelines (Appendix F)
- Consider encouraging faculty to recommend that students order e-books from bookstore.
- Encourage faculty to direct students to purchase e-books or rent textbooks from the college bookstore to reduce the cardboard waste and freight emissions from books purchased via web vendors.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Professional Development

- Consider co-hosting an annual professional development day on sustainability with the Office of Sustainability

Mid-Term (2019-2030)

Curriculum Training

- Consider establishing with the Office of Sustainability a curricular program of workshops, individual faculty sessions, and field-oriented seminars that provide suggestions, support, and guidance for integrating sustainability and environmental stewardship across the College's academic departments.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.1 PA-3: Academic Affairs Administration – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

4.1 PA-4: Academic Affairs Administration – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Coursework

- Consider using and recommending alternative online resources to faculty for managing courses and submitted work from students to encourage faculty to run paperless courses. This could include Wikispaces among others.[4]

Research

- Promote the use of LibGuides as research resources among faculty and encourage them to direct students to them.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.1 PA-5: Academic Affairs Administration – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Academics:

- Work with the Office of Sustainability to put practices and/or incentives into place that will make it viable and appealing for faculty members to incorporate sustainability and climate change concepts into their classes and research, as required by the ACUPCC.

Campus Resources - Librarians

[4] For an example of how to create a Wikispace for educational purposes, see http://www.wikispaces.com/content/teacher .

- Encourage faculty to work with campus librarians to find sustainability resources related to their field of study. Consider how campus librarians can provide an Information Literacy component to sustainability courses.
- Consider inviting librarians to serve on curriculum-related committees or councils related to sustainability to encourage our library staff and our faculty to collaborate to make courses more sustainable.

Coursework

- As a way of meeting our commitment to educate all of our students about global climate change, encourage the CIE committee to incorporate sustainability and/or climate awareness into the CIE reading selections as a way to ensure that all students have some exposure to climate change issues.
- Encourage faculty to attend workshops that focus on incorporating sustainability into course design across disciplines.

Curriculum

- Consider working with administrative offices to create a student research fund (e.g., $500) that could be administered through the Office of Sustainability (or the Facilities Services Department) for students to use to design emission reduction projects that would benefit the college.
- Consider working with administrative offices to create a student-faculty research fund (e.g., $1,000) that could be administered in conjunction with the Office of Sustainability to expand research that advances understanding of sustainability-related problems and solutions within the campus context.
- Consider encouraging faculty from different disciplines to get involved with sustainability research, possibly through the ILE requirement.
- Consider implementing the following methods for integrating sustainability considerations into instruction and learning curricula at the College.
    - Add sustainability concepts (as examples or as guiding principles) throughout fundamental courses (e.g., math, first year English, physics or biology)
    - Promote sustainability-related opportunities outside the classroom (e.g., internships, service learning, Solar Decathlon)
    - Coordinate with Facilities Services to integrate campus operations and use campus as sustainability laboratory

- Work with the Office of Sustainability to investigate creating a sustainability minor and/or a sustainability certificate program. A sustainability minor that taps existing courses would provide opportunities for students to further explore sustainability with little institutional expense.
- Consider a sustainability literacy requirement for Ursinus students that could be fulfilled in a number of ways. Ursinus has agreed to promote student awareness of climate change and sustainability. A literacy requirement could be achieved in many ways, including taking a sustainability-specific course, showing proof of taking a course in high school that qualifies, participating in some number of activities, or taking a special 1-credit course co-taught by a number of faculty.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Research

- Consider hosting regular (once per semester) catered lunches during which faculty, staff and students give presentations on their sustainability-related research to promote our commitment to the ACUPCC. This could be an invitation-only group or may be open.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Sustainability Briefs.

- Partner with the Office of Sustainability to create and disseminate periodic briefs around the topic of sustainability. These briefs would be aimed at educating faculty on sustainability initiatives that might affect or be influenced by faculty

members in each department, where/how/why to recycle, and on how the Office of Sustainability could assist them in their goals.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.1 PA-6: Academic Affairs Administration – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

4.1 PA-7: Academic Affairs Administration – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

4.1 PA-8: Academic Affairs Administration – Prospective Actions: Community Outreach

Immediate (2013-2018)

Coursework

- Encourage the inclusion of sustainability concepts in education courses to support the College's commitment to sustainability outreach. The outreach in this case would be that of student teachers who might expose their students to sustainability within the context of any number of subject areas.

Mid-Term (2019-2030)

Community Collaboration

- Encourage Ursinus community members to collaborate with the Boroughs of Collegeville and Trappe, the local school district (Perkiomen Valley), and other area employers to expand on the Collegeville Borough's Sustainability Plan. Such an endeavor would encompass the entirety of our area and make it a location that is appealing for "green" jobs.
- Work with Collegeville Borough government to draft new and amend current zoning ordinances to make them more sustainable. For example, most new construction requires additional parking. Creating more impervious surface and encouraging more cars is not sustainable.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.1 PA-9: Academic Affairs Administration – Prospective Actions: Infrastructure

Immediate (2013-2018)

Classroom Technology

- Work with Facilities Services to ensure that all classrooms have required technology for paperless classroom operations. This could be a Smart Board, a projector, or other.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Academic Affairs – Chapter 4.2: Center for International Programs

Back to Table of Contents

Ursinus College students regularly participate in international programs. Some of these programs are run by Ursinus, some are outside programs. For travel that is paid for, by or through the College, Ursinus is responsible for the associated GHG emissions according to the PCC. The trips for which this is the case include those that are accompanied by Ursinus faculty.

The number of student participants ranges between 100-140 during the school year, and between 20-50 during the summer. We had fewer participants between 2005-2010. This is likely due to the economic recession and the financial constraints that families are dealing with. However, it is also likely that we will continue to promote study abroad experiences because of the great value to students' educational experiences. Therefore it is important to mitigate some of the emissions related to study abroad and focus on educating students about the environmental impacts of air travel.

4.2 Current: International Programs

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 4.2-1: Sustainability projects & initiatives – Center for International Programs.

Type of Project	Sustainability Project/Initiative: Center for International Programs
Policy	None at this time
Internal Operations	Data Tracking • Have provided information about student travel for 2006-2011. This will allow the College to more accurately account for its greenhouse gas emissions. Paperless Office • The Center for International Programs office (CIP) has been digitizing their files, eliminating the need for excess physical storage space. In addition, they have been streamlining the application process for students such that students fill out all paperwork online, including scanning required documents. • CIP has significantly reduced the amount of paper that they use for advertising. In part this is due to cost and in part to save paper.
Procurement	None at this time
IT Changes	Website • CIP has recently updated their website, allowing them to advertise widely without having to print flyers.
Behavior Change and Education	None at this time
Waste and Recycling	None at this time
Transportation	Public Transportation • Trips made locally to Philadelphia conferences are made using public transportation whenever feasible, depending on the number of students accompanying staff. This minimizes use of automobiles as well as cost.
Community Outreach	None at this time

4.2 Goals: International Programs

Goal 1: Determine what the CIP's commitment to sustainability on campus is more specifically, and publicize that commitment within the UC community.

Goal 2: Among the students that utilize the international programs, increase awareness of the program's commitment to sustainability and the importance of conserving resources.

Goal 3: Set GHS emission reduction or offset goals within international programs to help the College meet its goals to eliminate or offset all GHG emissions by 2060.

4.2 PA: International Programs - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

4.2.PA-1: International Programs – Prospective Actions: Policy

Immediate (2013-2017)

GHG Emission Reduction

- Work with the OS to determine current GHG emissions related to International program travel.
- Work with the OS and the Administration to create a timeline for incorporating GHG emissions offsets or reduction into the CIP.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

GHG Emission Reduction

- Determine how to bill travel-related offsets, possibilities might include charging the CIP budget or the student's academic departmental budgets, or the student's account through the Business Office.
- Work with relevant parties to determine feasibility.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.2.PA-2: International Programs – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Information Dissemination

- Provide students interested in international programs with resources and information that encourage and promote sustainable international programming (this could be defined as study abroad travel that is done sustainably or international programming that focuses on sustainability).
- Work with the OS to create a list of organizations that work on environmental/sustainability causes near each UC sponsored international program. This list would be a resource for students interested in working at internships while abroad.

Data Tracking

- Continue to update travel information for students who participate in international programs, tracking number of students with their destination, and year/semester of travel.

Mid-Term (2019-2030)

Offsets

- Consider purchasing carbon offsets for all student international program-related travel.
- Consider charging students who travel abroad for the cost of purchasing carbon offsets for their airfare-related emissions as part of the program fees. This cost currently ranges between $12 and $36. See also Transportation, below.
- Work with the OS to create an educational campaign to help students understand why they are being charged this fee.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.2.PA-3: International Programs – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

4.2.PA-4: International Programs – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Data Tracking

- Set up a database to keep track of the number of students who study internationally and where they study. If needed, work with the OS to implement this recommendation.
  - This list should include: a list of programs, mileage to travel between Philadelphia or the students' city of departure and the program destination, number of students, and semester/year of travel.
  - Include all travel associated with academic credit.
- Track environmental/sustainability-related classes, internships and other work opportunities that students are involved with as they study internationally.

Website Information

- Work with the OS to create a webpage linked to the CIP website that includes information about carbon-neutral travel and low impact and environmentally-minded traveling. This would include possibilities as diverse as traveling by train or bike and couch surfing (staying on friends' couches instead of hotels/hostels). The website would make it clear that these are ideas for students to explore rather than endorsed recommendations, particularly in the case of couch surfing-type activities.

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.2.PA-5: International Programs – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Education about Impacts of Travel

- Provide all study abroad students with written resources as well as web sources that discuss the carbon footprint of international program travel and how the college is working to lower its overall emissions while at the same time providing excellent educational opportunities for students who choose to study internationally.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.2.PA-6: International Programs – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

4.2.PA-7: International Programs – Prospective Actions: Transportation

Immediate (2013-2018)

Carbon Offsets

- Offer students the opportunity to purchase carbon offsets for their airfare-related emissions for study abroad travel. Currently (2011) the cost of these offsets ranges from approximately $12 to $36.
- Offer information to international program students about opportunities to participate in mitigation actions while they are in other countries as a way to raise awareness and reduce overall GHG emissions resulting from the travel.

Mid-Term (2019-2030)

Carbon Offsets

- Explore the possibility of having students pay a surcharge to offset their international program travel-related carbon emissions. This would need to be tied into the school's overall educational outreach regarding sustainability.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.2.PA-8: International Programs – Prospective Actions: Community Outreach

Immediate (2013-2018)

Public Relations and Communications

- Publicize information about the sustainability-related efforts of the CIP.
  - Carbon offsets for travel
  - Environmentally/sustainability-related internships.
  - Other sustainability-related educational opportunities for students participating in international programs.

Mid-Term (2019-2030)

Peer Pressure

- Encourage/challenge other schools to pursue similar program initiatives.
- Encourage international programs that our students participate in from other institutions to participate in sustainable program initiatives.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.2.PA-9: International Programs – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Academic Affairs – Chapter 4.3: Myrin Library

Back to Table of Contents

The Myrin Library is a vital and vibrant part of campus life. The library offers wireless internet access for the campus community throughout the building. It has space for 500 people in carrels, seminar rooms, private study rooms and lounges. The building was built in 1970 and has over 41,000 square feet of usable space. Some of the Myrin's particulars include:

- The Library houses some 420,000 volumes and provides access via the Catalog – in print, on microfilm, or online – to the full text of over 25,000 periodical titles.
- The library is connected to the Online Computer Library Center's bibliographic network, providing worldwide access to more than 6,500 research collections and over 21 million volumes.
- Students can take advantage of the Interlibrary Delivery Service to obtain library materials from other academic libraries throughout the region.
- We have five Librarians on staff who are available to provide help with research throughout the year.
- We have a large video and DVD collection which includes the newest releases for leisure viewing.
- The Myrin stays open late during the week, and has extended hours during exam times.
- Myrin Library has been a federal depository since 1963, and we currently receive 15% of the government documents available through the Federal Depository Library Program (FDLP). The collection is accessible during the Library's scheduled operating hours and also through the Virtual Library website.

In addition to functioning as our main library, the Myrin also houses offices for Information Technology (IT) servers, Tech Support, Instructional Technology, Communications Offices, the Pennsylvania Folklife Archives, and the Ursinusiana Collection. The library has undergone renovations to repair water damage as well as some asbestos remediation.

4.3 Current: Myrin Library

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 4.4-1: Sustainability projects & initiatives – Myrin Library.

Type of Project	Sustainability Project/Initiative: Myrin Library
Policy	• The Library has an identified "green" purchasing facilitator.
Operations	• Enhanced use of natural light • Furniture is refurbished instead of being replaced. • Campus Safety turns off the lights on their rounds when the library is closed • Library reuses its foam core sign holders until they are no longer usable. They also use tri-fold cardboard presentation boards, which are recyclable. • Turn off all personal workspace lights when leaving at the end of the day. •
Procurement	None at this time
IT Changes	• Working with the Office of Sustainability and the Environmental Studies Department to create "LibGuides" on sustainability and environmental topics. These online resources allow faculty and staff to create a one-stop shop for materials around any topic. • Library put out the first online campus newsletter. • The Library uses an online tool, Circe, to manage circulation and other patron transactions
Behavior Change & Ed.	Reusable drink containers • Staff are encouraged to use reusable water bottles, cups and mugs.
Waste & Recycling	• The library collects once-used paper (paper printed on one side only), and cuts and reuses it as scratch paper at the catalog computers in the stacks and reference desks. • Recycle print cartridges (Staples) and batteries (box that is collected and disposed of properly by Facilities Services). • Works with Facilities Services and OS staff to find sources for items not taken by the local recycling company, such as microfilm. Interlibrary Loan • Reuse packaging for ILL Shredding • Shredded documents are recycled.
Transportation	None at this time
Community Outreach	Used Books • Library staff collaborate with used book dealers to find new homes for books that cannot be housed in the Myrin. • The Myrin regularly hosts a Better World Books drive that delivers books to children

		with few resources. http://www.betterworldbooks.com/
Infrastructure	Design	• Environment designed for maximum flexibility of choice for users and staff, resulting in a long-lived facility
	HVAC	• Upgraded, energy-efficient HVAC systems with automatic temperature controls • New energy-efficient lighting • Our ventilation systems are turned off and heating and cooling setback temperatures are used regularly to reduce our overall use numbers.
	Reuse	• We donate furniture when it is being replaced. • We reuse and repurpose of substantial portions of the existing interior finishes, infrastructure systems, and ductwork whenever possible.

4.3 Goals: Myrin Library

Goal 1: Determine what the Myrin Library's commitment to sustainability is.

Goal 2: Within the UC Community increase awareness of the Myrin Library's commitment to sustainability.

Goal 3: Set sustainability goals within the Library.

Goal 4: Work with the Facilities Services Department to set energy-use reduction goals within the Library.

4.3 PA: Myrin Library - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

4.3 PA-1: Myrin Library – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement or plan for the Myrin Library that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Collaborate with Office of Sustainability staff on this document.

Goal Setting

- Commit to (1) discover best practices; (2) innovate when solutions don't exist; (3) reduce waste and inefficiencies; (4) adopt and embrace new habits; and (5) measure and celebrate progress.

Policy - Purchasing

- Consider agreeing on green purchasing/leasing objectives and then writing and implementing a green purchasing/leasing policy for the Library. Engage the Office of Sustainability (OS) staff in this process, if needed. (See Appendix H) As part of this policy consider the following:
    - Encourage those in charge of acquisitions to consider whether existing items can be used rather than purchasing/leasing new, including sharing or renting as options.
    - Ensure that the department's intentions are clear in the wording of the policy.
    - Work to get buy-in from all top level staff members.
    - Communicate the policy to suppliers so they have clear expectations. Work with existing trusted suppliers before switching to new ones.
    - Track green purchases for future planning and assessment
    - Focus on products that have high environmental impact, are inexpensive, and are easily influenced (biggest bang for the buck). Examples: energy efficiency, recycled content of materials, reusability, and reusable packaging.
    - Use whole life costing that incorporates all of the related expenses that the College pays for rather than awarding contracts on the lowest price basis (e.g., consider energy use over the life of the product as well as the cost of recycling packaging materials, etc.).

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-2: Myrin Library – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Sustainable materials and processes

- Consider implementing some or all of the following suggestions from the former executive director at Fayetteville, Arkansas' Blair Public Library, a LEED certified green building.[5] (Schaper 2010)
    - Print less often; teach staff how to make double-sided copies on their personal printers (if possible) and on the two non-networked public library photocopiers.

[5] See the entire article at: http://www.libraryjournal.com/article/CA6727897.html

- Offer healthy and sustainable food at food venues in the library. Work with Sodexo to have healthier and more natural options of food and drink for sale in the library.
- Offer healthy exam snacks if possible (these are offered 4 nights each semester)

Computers & Office Equipment

- Shut down all public office equipment when the library is closed.
- Have employees shut down all computers and office equipment at their work stations when they leave for the day. (They will then need to download updates when starting up their computer in the morning.)

Reusing

- Reuse boxes and other packing materials when sending materials for ILL. – do this
- Send de-accessioned books to Better World Books for reuse. – do this and others

Lighting

- While much of the lighting we use is controlled by Facilities Services, there is a great deal of discretionary lighting of offices, work stations, single occupancy bathrooms, lounges, and conference rooms. The lighting is discretionary because of light switches. We can turn the lights on or off as we need. Unfortunately, these lights are often left on even when not in use.
  - Turn off lights in empty offices and work stations during staff meetings, lunch, and other times when employees are not at their desks.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-3: Myrin Library – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-4: Myrin Library – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Create a sustainable library webpage accessible from both the UCGreen and Library sites

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-5: Myrin Library – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Staff Education

- Consider offering in-house training to help staff change old practices so that lights get switched off, waste is recycled/reused, etc.
- Institute a training program aimed at having staff turn off PCs and monitors when they leave for the day.
- Encourage staff members to install halogen or CFL bulbs in their desk lamps,
- Consider having annual staff think tank meetings to strategize about sustainability within the library. Invite students to participate in these discussions.

Promote Sustainability to Patrons

- Consider purchasing books about sustainability and building up a section in the library around sustainability. Work with OS staff to develop this list.
- Look for books in ILL before buying them for Myrin.
- Periodically, use the display cases in the Myrin entry way to highlight sustainability efforts on campus. Work with Office of Sustainability staff to gather information to put on display.

- Educate faculty and staff about sustainability resources within the Myrin Library, including books, DVDs, journals, and online resources such as sustainability and environmental LibGuide (these are particularly useful for tracking because of the ability to monitor usage numbers.)
- Dedicate a section of the newsletter to sustainability in the library. Topics could include items such as:
    - Promote the use of Scan and Deliver by staff and students as a green alternative to photocopying. (The small office printers do this, but the library's stand alone copiers do not – they are not networked.) Encourage students to use the IT networked photocopiers to scan and deliver documents rather than printing them. Use the library's newsletter as well as signage to promote this action.
    - Familiarize patrons with the Myrin's recycling system so that all waste goes in the right bins.
    - Encourage patrons to make double-sided copies whenever possible – advertising on the machine
    - Encourage patrons to use refillable water bottles at the filtered water station in the library.
    - Encourage patrons to use the stairs instead of the elevators.
- Work with OS staff to contribute to the campus sustainability newsletter. For instance, a regular column highlighting a sustainability-related library resource (films, books, etc.) or event (movie, discussion, etc.).
    - Post signs encouraging patrons to report maintenance issues like leaky faucets and plumbing problems to Facilities Services by notifying Denise Hartman in our library or sending her an email to: dhartman@ursinus.edu .
    - Use QR codes to allow patrons to take a self-guided tour – physical Library orientation.

Mid-Term (2019-2030)

Curriculum

- Consider how librarians might provide an Information Literacy component to sustainability-related courses.
- Encourage librarians to serve on curriculum-related committees or councils related to sustainability. Librarians tend to be good systems thinkers, possess a unique pulse on curricular developments and work across many campus networks.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-6: Myrin Library – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Recycling

- Organize recycling and reuse efforts and train staff. Work with Office of Sustainability (OS) staff to make bins attractive, label them clearly and locate them effectively.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-7: Myrin Library – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

4.3 PA-8: Myrin Library – Prospective Actions: Community Outreach

Immediate (2013-2018)

Awareness

- Encourage librarians to join the LinkedIn group "Sustainability Librarians" (http://www.linkedin.com/groups/Sustainability-Librarians-3928605) for ideas, support, sharing information, etc. and let patrons on campus know about it.
- Post signage about the College's sustainability-related policies that affect the community. Create a section of a public bulletin board that is dedicated to sustainability on campus. Coordinate with OS staff for materials.

Education and Leadership

- Consider taking an educational and leadership role around the topic of sustainability on the Ursinus campus. The list below originated from the former head librarian at the Fayetteville (AR) Public Library – a LEED building.[6]
  - Incorporate green initiatives into your public and media relations.
  - Offer speakers and programs that educate the community and your staff. Consider showing a sustainability film or hosting a speaker at the library each semester.
  - Partner with other organizations and libraries to do great things.
  - Don't forget book displays. Practical books and DVDs on living simply or building green homes fly off the tables. (Schaper 2010)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.3 PA-9: Myrin Library – Prospective Actions: Infrastructure

Immediate (2013-2018)

Lighting

- Myrin Library has many large windows and allows plenty of daylight to enter, however, the electric lights are left on all day. In order to address over-lighting these spaces, install occupancy sensors and daylight sensors that automatically

[6] http://www.libraryjournal.com/article/CA6727897.html

adjust the amount of electric light to compensate for natural light and motion control to turn off lights in unused areas.

- Determine the footcandles required for different areas of library use and reduce the amount of footcandles where possible.
- Heat gain through windows occurs during the warm months, particularly on the west side of the library, putting a strain on HVAC systems. Consider installing interior shades that can be closed during the heat of the day on these windows.
- Investigate the feasibility of installing retractable shades on skylights to decrease heat gain and loss, and to shade valuable art and books from sun-related fading and damage.
- Conduct a study to determine areas of the library's stacks that may need better illumination

General

- Make building alterations and maintenance sustainable. Consider registering for LEED-EB (existing buildings) or start small by ensuring green materials are used in alterations or maintenance projects, e.g., paints and other finishes with low volatile organic compounds (VOCs) and use Energy Star appliances in staff and meeting room kitchens.

Mid-Term (2019-2030)

Green Roof

- Install a green roof and rooftop study area on the roof of the Myrin Library when economically feasible.
- Work with OS staff to write grants to potentially fund such a project.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Academic Affairs – Chapter 4.4: Career Services

Back to Table of Contents

The Career Services Office assists students and alumni in the various stages of career exploration and planning. A successful career plan and job search begins with a thorough understanding of one's interests and values, the development of essential life skills, and the acquisition of career-related information. The Career Services Office offers programs, resources, and services designed to help at all stages of the decision-making and planning process, including internships, summer jobs, career planning, resume building, career fairs, and more.

4.4 Current: Career Services

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 4.4-1: Sustainability projects & initiatives – Career Services.

Type of Project	Sustainability Project/Initiative: Career Services
Policy	None at this time
Internal Operations	• The Career Services office is close to running without paper. • Holds regular career day events to which multiple employers in environmental fields participate. • Note: Have Keurig coffee maker; have space heaters (unplug at night) – windows have not been replaced – freezing in the winter; • At job fairs, eliminated box lunch related waste by providing buffet style lunches. • Share reusable signage with the Center for Academic Support (built by Facilities Services staff) for events.
Procurement	None at this time
IT Changes	• Attend webinars and product demonstrations online • Offered TalentMarks Webinars – gather students to watch (free); • Has put their "Success Portfolio" online so that it's available to all students. • Career Services has QR codes on almost everything linked to their website. • Career Services offers extensive online resources that students can access as they investigate internships, jobs, and job fairs. • Partners with FOCUS to online, self-guided, career guidance.

	• Have UC Career Net – database of jobs and internships; Career Shift; Career videos online; • Zack's Facts (e-newsletter through alumni); Job fair invitations only go out electronically. • Use UC CareerNet to send specifically targeted email. •
Behavior Change & Ed.	• Has links to environmental jobs and information (not above and beyond what they have for other majors) • Partner in a non-profit job fair – Idealist.org – Ursinus co-hosts of two non-profit fairs with other colleges in the regions (more environmental organizations); • Verbally encourage students to limit printing of resumes. • Polled students in focus group about "Success Portfolio" paper vs. online
Waste & Recycling	• Reuse books for Myers Briggs testing.
Transportation	• Provide shared transportation (van or car, depending on number of attendees) to attend job fairs or conferences. • Offer opportunities to graduating seniors to use Skype to update their records. • Use Skype programming with Carney Sandoe (Boston) employment agency for educational venues like Hill School. Also graduate school programming – the other agency Skypes with a group from UC so they don't have to travel.
Community Outreach	• Offer career services to alumni; • Skype appointments with alumni who are not local.
Infrastructure	None at this time

4.4 Goals: Career Services

Goal 1: Determine what the Career Service's commitment to sustainability on campus is more specifically, and publicize that commitment within the UC community.

Goal 2: Among the students that utilize career services, increase awareness of the program's commitment to sustainability and the importance of sustainability in the job market.

Goal 3: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

4.4 PA: Career Services - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

4.4 PA-1: Career Services – Prospective Actions: Policy

Immediate (2013-2018)

Waste Policy:

- Consider discouraging or eliminating the use of plastic bottles and bags in all settings. Encourage students and staff to make more sustainable choices.

Policy - Purchasing

- Consider agreeing on green purchasing/leasing objectives and then writing and implementing a green purchasing/leasing policy for Career Services. Engage the Office of Sustainability (OS) staff in this process, if needed. (See Appendix H) As part of this policy consider the following:
    - Ensure that the department's intentions are clear in the wording of the policy.
    - Work to get buy-in from all top level staff members.
    - Communicate the policy to suppliers so they have clear expectations. Work with existing trusted suppliers before switching to new ones.
    - Track green purchases for future planning and assessment
    - Focus on products that have high environmental impact, are inexpensive, and are easily influenced (biggest bang for the buck). Examples: energy efficiency, recycled content of materials, reusability, and reusable packaging.
    - Use whole life costing that incorporates all of the related expenses that the College pays for rather than awarding contracts on the lowest price

basis (e.g., consider energy use over the life of the product as well as the cost of recycling packaging materials, etc.).

Responsible Consumption

- Consider setting low consumption targets for Career Services. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-2: Career Services – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

General Sustainability:

- Turn off unused lights in offices.
- Have employees shut down all computers and office equipment at their work stations when they leave for the day. (They will then need to download updates when starting up their computer in the morning.)
- Use window shades/curtains to passively heat/cool work spaces. (open in winter; closed in summer).

Green Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Green Jobs

- Develop a Green Jobs Training Program in Career Services
    - The Sustainable Development Coordinator should work with related departments and faculty to develop a Green Jobs Training Program. External funding should be available to help support this program.
- Identify a Green Jobs Coordinator for Career Services
    - Because of the national and state emphasis on green jobs and expected financial incentives for this employment sector, it is important that graduating Ursinus students have access to the best available green job information through Career Services.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-3: Career Services – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Students and Staff:

- Consider purchasing reusable water bottles for students who are leaders in your organization or who are heavily involved.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-4: Career Services – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

General:

- Online Usage: Work with the Business Office toward having online student timesheets to eliminate paper and streamline this process.
- Meeting Preparation: Send all meeting materials, including agendas, to meeting attendees ahead of time. Set the expectation that attendees will bring their computers with them, if possible, to the meeting (or ask them to let you know if they will need paper copies).
- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website changes

- Support the creation of a webpage that presents the Career Services office perspective on sustainability at Ursinus.
- Expand the use of the Career Services office's website as a vehicle for educating site visitors about the College's commitment to sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-5: Career Services – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Staff Education

- Consider offering in-house training to help staff change old practices so that lights get switched off, waste is recycled/reused, etc.
- Institute a training program aimed at having staff turn off PCs and monitors when they leave for the day.
- Encourage staff members to install halogen or CFL bulbs in their desk lamps,
- Consider having annual staff think tank meetings to strategize about sustainability within Career Services. Invite students and alumni to participate in these discussions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-6: Career Services – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Recycling

- Organize recycling and reuse efforts and train staff. Work with Office of Sustainability (OS) staff to make bins attractive, label them clearly and locate them effectively.

Student Resumes

- Incorporate suggestions to students that they limit printing of resumes into online as well as oral presentations about how to prepare for job interviews and job fairs.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-7: Career Services – Prospective Actions: Transportation

Immediate (2013-2018)

Travel

- Calculate and track travel expenses and the related carbon footprint for each office. Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)
- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

4.4 PA-8: Career Services – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

4.4 PA-9: Career Services – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Section 5: Student Affairs

Student Affairs – Chapter 5.1: Administration

Back to Table of Contents

The Dean of Students Office is a resource for student concerns, supports students in all aspects of their lives, and assists students in their development as individuals and as members of the community. Our Student Affairs offices provide services, support and guidance to students to help students navigate their time at the College. While these offices provide a wide variety of services, they all have the same goal of serving student needs. Because they are all organized under the auspices of Student Affairs, this chapter of the Climate and Sustainability Action Plan addresses them all together. In order to clarify which prospective actions are suggested for various offices, they are either labeled as applying to "All" offices or to a specific office, such as "Campus Safety". These offices include the following:

Campus Ministry/Chaplain's Office

The Office of the Chaplain encourages students to explore and develop their spiritual life as part of a liberal arts education, with the goal of providing students with a means to express their faith, if they wish to do so, in a safe, respectful and open manner. Traditionally, Ursinus has recognized diversity of expression and freedom to worship. The chaplain coordinates campus religious organizations and community service activities.

Campus Safety

Campus Safety's mission is to provide a safe and welcoming environment for the Ursinus College Community. Campus Safety Officers maintain the Ursinus reputation of quality while working to meet the individual needs of all of its students, faculty and staff. Safety officers make regular car, bike and foot patrols of the entire Ursinus College campus. Through Campus Safety's frequent patrols, professional attitudes, quick response to safety concerns and keeping accurate record-keeping, we strive to meet our mission of excellence and safety to Ursinus College.

Center for Academic Support

The mission of the Center for Academic Support is to work in collaboration with the faculty to guide and support all Ursinus students in their pursuit of academic achievement. The Center helps students: become engaged and independent learners; develop self-awareness and self-advocacy skills; strengthen commitment to academics; acquire organizational and problem solving skills; and learn skills essential for navigating the challenges of a liberal arts education. The Center organizes the First Year Experience; provides peer advising, tutoring, and counseling; hosts the majors and minors Expo; and helps accommodate the needs of students who are differently-abled. The Center works in collaboration with the faculty to guide and support all Ursinus students in their pursuit of academic achievement and to help students learn organizational and problem solving skills essential for navigating the challenges of a liberal arts education.

Hillel House

Ursinus Hillel is the center for Jewish student activities on campus. On campus events take place in a house with a fully-equipped kosher kitchen., Hillel convenes weekly to cook and celebrate Shabbat dinner, for a monthly Sunday Bagel Brunch, and for services for all the Jewish holidays. Hillel brings speakers on a variety of topics, sponsors cultural trips to Philadelphia and New York, and hosts a lunch table in the dining hall every week where students can learn about Jewish topics. Students of all backgrounds, Jewish or otherwise are welcome.

Multi-cultural services

As a diverse campus, Ursinus works to build and maintain a vibrant multicultural community. The program provides counseling and advising, internships, alumni development, and networking opportunities for students at workshops and conferences. The College sponsors a three week program, the Crigler Institute, (named for Ursinus' first African American graduate) that is designed to provide academic excellence, leadership skills and social consciousness to incoming students of diverse backgrounds and perspectives. Participants take a four credit course that runs during the summer and fall of participating students' first year. Students undertake course work, participate in a community service project, connect with Ursinus alumni and attend leadership workshops. Multi-cultural services is housed in a converted house on campus. Their building is used for a combination of office space, meetings, classes, and study space. The building has the capacity to house residents, but does not currently.

Residence Life

Please see the chapter of the CSAP on Residence Life.

Student Activities Office (SAO)

The Leadership Development and Student Activities Office offers students leadership opportunities through more than 100 student clubs and organizations. These clubs and organizations range from student government to the arts; from community service to Greek Life, affording everyone a niche in which to participate. In addition, the Leadership Development and Student Activities Office offers programs, resources, and services intended to contribute to the social, educational and cultural learning at Ursinus College.

UCARE - Ursinus Center for Advocacy, Responsibility and Engagement

The aim and purpose of UCARE on campus is to improve civic engagement by students, which ultimately promotes the bond between students, our community and our institutional vision to influence society in future generations. The UCARE office is committed to linking all students to come together under the same vision by facilitating the desire and ability to make a difference in our classrooms, on our campus and in our communities. They strive to empower students to think critically and become agents of change through experiential learning opportunities-civic engagement courses, community based learning practicums and community based research projects. The UCARE staff also runs the Bonner Leaders Program on campus. They also promote community partnerships through developing new relationships with outside organizations through weekly service opportunities and our semi-annual Community Week

Wellness Center

The Ursinus College Wellness Center provides an array of medical and counseling services to students. They provide services that help students meet their physical and mental health needs from a holistic perspective, with a focus on education for life-long learning and health. The Wellness Center is located in a former residence and currently houses three full time counselors, Medical Director (1 hour/day), one full time Nurse Practitioner, and one Wellness Center Coordinator. The center also has a spacious waiting area and shares the garage space with Facilities Services. There is only one staff

member present during the summer months – the Wellness Center Coordinator. Wellness' medical facility has the capacity to see 125 students per week; counselors can see up to 18 students per day.

5.1: Current: Student Affairs Administration

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 5.1-1: Sustainability projects & initiatives – Student Affairs

Type of Project	Sustainability Project/Initiative: Student Affairs
Policy	Hillel • Hillel House approaches their kosher kitchen with the concept of Eco-Kashrut: that in considering food items kosher, it is important to extend the definition of kashrut beyond the legal definition to include environmental and social justice aspects of how food is produced. • It is Hillel House's policy to use only reusable dishes, cups and utensils.
Internal Operations	All • Many of the SA offices are close to running without paper. Campus Safety • Checks campus buildings in the evenings, turns off lights in unused classrooms, closes/locks lab doors, occasionally close windows (but don't have staffing to support this very often), etc. • Make note at monthly meetings of spaces on campus that are over lit at night; coordinate with Facilities Services to readjust (e.g., the football field). • Are making efforts to go paperless in all aspects of operations. Center for Academic Support • Share reusable signage with Career Services (built by Facilities Services staff) for events. • Reduced the number of copies made of handouts for various events from 200 to 40. • Paperless "paperwork" for managing accommodations and programming for students with disabilities. • Entire office is as paperless as possible due to limited office space. Hillel House • Try to use organic and/or local produce for their weekly Shabbat dinners. This is supported by a general awareness of and interest in environmental issues among the Hillel community, as well as the number of vegan or vegetarian members. • Use only reusable cups, plates and utensils (no disposable), even for Passover Seder that requires moving china dishes between buildings. • Holidays: Hillel celebrates two holidays that have environmental/sustainability themes: Sukkot and Tu B'Shevat. Both of these holidays promote discussions around sustainability with regard to food as well as living and acting sustainably on the Earth.

	Multi-cultural Services • No Styrofoam (started by a student); use only recycled paper products. • Thermostat is set back to 62 every night – manual thermostat; set down on Friday at 4:30 until Monday morning. • Rented text books for the Crigler Institute; purchased text books to be reused for Crigler classes. • Use CFL bulbs in lamps. • Provide bottled water only occasionally to guests. • Use passive solar cooling in the summer through the judicious use of shades. Student Activities • Orientation events used to include individual bottles of water; SA now uses water provided by Food Services in totes, but still uses plastic cups • Give Student Ambassadors reusable water bottles UCARE • Encourage partnerships with local community partners to cut transportation costs, support local efforts, and minimize travel time • Partner with local organizations that support sustainability, including: Urban Tree Connection, Cradles to Crayons (reuse), Nottage Project (reuse), Perkiomen Watershed Conservancy (environment), and Wismer on Wheels (food diversion). • During first year orientation, all project partners are local, including the UC organic farm. • Regularly recruit volunteers for on- and off-campus sustainability related events, such as Move-In, Move-Out, local stream cleanups, etc. • Use no Styrofoam products in events; use only paper products and recyclable plastics. • Show films with sustainability themes. Wellness Center • Turn all lights and sound machines off every evening. • Small refrigerator is turned off during the summer, contents are transferred to the main kitchen refrigerator. • Often use a fan for cooling in the summer rather than turning on the A/C. • Autoclave and centrifuge are turned on only when used (otherwise they are powered off). • Dispense pills and capsules in paper envelopes rather than plastic bottles. • Have stopped using mercury thermometers entirely. • Unused pharmaceuticals are disposed of as medical waste rather than flushed or thrown away.
Procurement	Campus Safety • Purchase reusable water bottles for all dispatchers and officers. Center for Academic Support • Purchased reusable water bottle as promotion in raffle. Hillel • Local food, sustainable/organic when possible, fair trade when possible

	Multi-cultural Services • Purchase only recycled paper products for the kitchen • Purchase energy star rated appliances/TV/projectors Student Activities • Purchase some items with recycled content. • Purchase food from local vendors and restaurants
IT Changes	Campus Safety • Online vehicle registration • Online appeal process for auto violations • Online guest registration for all students • Online guest registration for senior weekend (including parking) • The campus Crisis Response manual is available online, as is the team's calendar for duty deans (as of 2012). • Working toward paperless parking violations. • Coordinating with the Office of Sustainability to manage checking in and out of Bikeshare bikes via a handheld scanner. • The annual security and fire safety report is posted online rather than printed. • CS has teamed up with the MontCo Alert System to improve the online/phone safety alert system for the county. • Campus Safety Facebook page to share information and announcements with the *community.* Center for Academic Support • Has an online signup process for tutors, as well as tutoring. • Use the Tutor Track software system to track student hours; however, paper timesheets are required for payroll purposes. • First Year Academic Guide is printed for Faculty, but is available only online for students. • Major/Minor Expo is primarily advertised digitally. • Working to improve functionality and user-friendliness of website in an effort to increase use by UC community members. UCARE • UCARE coordinates with Admissions to recruit student participants using the Common Application. • Send out weekly e-flyer with upcoming events. • Maintain active Facebook accounts for Bonner and UCARE Hillel House • Have resource page linked to the main Hillel webpage that includes several web resources for information on sustainability/environmental thought within Judaism. Student Activities • All club registration, AFAC budgeting, student club manual, and club advisor manuals are all paperless as of 2010. • Planning to take the Fundraising Approval Boards processes paperless. Student Affairs-Admin • Crisis Response Team – manual was made into an app for phones that is also

	available in pdf format (tech support created this app) • Facebook & Twitter accounts; have campaigns to get students (and parents) to "like" the Facebook page. Have "open" group page. • Smart Phones - Duty Deans, RDs on duty; SA Dean have smart phones Wellness • Students can schedule appointments via email.
Behavior Change & Education	Center for Academic Support • Working with faculty to encourage them to use online resources to learn about advisees (rather than printed materials). Student Activities • Student leaders get together – to talk on topics – include sustainability topics. • UC Ambassadors have volunteered to help out with various sustainability programs run out of the Office of Sustainability. • Have co-sponsored an environmental film series with the Office of Sustainability. Multi-cultural Services • General practices that pertain to sustainability • Training about leaving doors and windows open while heat or A/C is on. UCARE • Support students in educational events that promote sustainable behavior, including working on the UC Organic Farm, holding food weighing events, facilitating the reuse of clothing and household goods, etc. • Bonner Leadership program typically has one (or more) of their themes related to sustainability and every other year one of their themes is explicitly environmental in focus. • Show films on various topics, including food production and vegetarianism, that relate to sustainability • Set the tone of being mindful of waste creation and recycling at events. • Have had speaker in from the Office of Sustainability to discuss sustainability on campus with Bonner Leaders.
Waste & Recycling	Campus Safety • Unclaimed Lost and Found items are donated to local agencies. Student Affairs – Admin. • When visiting, families can purchase meals with a credit card, reducing paper waste from having to purchase in one location and bring paper receipts over to the dining hall. UCARE • Decrease the College's waste stream by taking leftover food from the dining hall to local soup kitchens. Student Activities • Sell equipment that is no longer needed rather than throwing it away.
Transportation	Campus Safety • Have an electric golf cart for shuttling people around campus, but the staff mostly use bicycles or walk.

	• Have participated in conversations about having a shuttle for the College. Center for Academic Support • Coordinate travel at conferences; staff carpools when possible. Multi-Cultural Services • Carpool to off-campus tutoring sites in Pottstown and Norristown, Monday-Friday. Student Activities • SAO arranges for bus transportation when they hold off-campus events. They also encourage carpooling and using public transportation. • Have discussed the possibility of having a local shuttle bus that would take students to a variety of local destinations. The cost of this program is prohibitive at this point, and it would take a major educational campaign to get students to use such a shuttle service. Student Affairs – Admin. • Contracts with SEPTA (the local transit authority) to run a trip in to Philadelphia for 400 students in August. This trip is designed to familiarize students with the process of making the bus to train transfers as well as popular destinations. • Walk to work – all of our RDs and directors live on or near campus and usually walk to work. These staff members also host events at their homes to which students usually walk as well. • Shuttle Bus to airport for holiday/end of term travel • Ride Share Program UCARE • Carpool to off-campus tutoring sites in Pottstown and Norristown, Monday-Friday. • Take buses into Philadelphia when traveling with large groups
Community Outreach	None at this time
Infrastructure	Hillel House • Facilities Services installed a clothes line for students to use for air drying their clothes. Multi-Cultural Services • Turn back the thermostat to 62 degrees at the end of each day when the building is unused. (winter) • Turn off A/C at the end of each day (summer)

5.1: Goals: Student Affairs Administration

Goal 1: Determine the Student Affairs Office's commitment to sustainability on campus, and publicize that commitment to on-campus constituents as well as to the office staff members.

Goal 2: Within the office's staff, increase awareness of the office's commitment to sustainability and the importance of conserving resources.

Goal 3: Work with the Office of Sustainability to develop the UC recreational and residential programming so that sustainability is part of the Ursinus experience for all UC community members. As part of this, ensure that every UC community member is aware of climate change, its potential consequences and on-campus actions and efforts to mitigate and address its impacts.

5.1 PA: Student Affairs Administration - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

5.1 PA-1: Student Affairs Administration – Prospective Actions: Policy

Immediate (2013-2018)

All:

- Waste Policy: Consider discouraging or eliminating the use of plastic bottles and bags in all settings. Encourage students and staff to make more sustainable choices.

Hillel House

- Include environmental-sustainability consciousness in the Hillel House mission statement.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

All:

- Consider monitoring and reporting the percentages of "green" products purchased and track progress toward the College's goals in this area.
- Consider setting consumption targets for all departments. E.g., 25% reduction of office paper used by 2016, 50% reduction of office paper used by 2020, etc.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.1 PA-2: Student Affairs Administration – Prospective Actions: Internal Operations

Immediate (2013-2018)

Administration – SA

- Work with the Business Office to implement

All:

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).

- Encourage departments to use the Green Purchasing Guidelines (Appendix H).
- When possible and feasible, incorporate sustainable event guidelines into event planning. (Appendix G)
- Use window shades/curtains to passively heat/cool work spaces. (open in winter; closed in summer).

Campus Safety

- Turn lights off in unused spaces when performing evening rounds in academic buildings.
- Turn lights off in unused spaces as appropriate in non-academic spaces.
- Work with OS staff to hold all items that are abandoned in the Lost and Found until the end of the year and donate them to the sustainable Move-Out event.

Hillel

- Use compost that is generated in the Hillel kitchen on the organic farm to help grow worms.

UCARE & SAO

- Consider co-sponsoring movies with the OS around sustainability topics.
- Continue to collaborate with OS on campus-wide sustainability programs and projects.

Wellness

- Investigate using reusable scalpels that could be sterilized in the autoclave rather than disposables.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.1 PA-3: Student Affairs Administration – Prospective Actions: Procurement

Immediate (2013-2018)

All:

- Consider purchasing reusable water bottles for students who are leaders in your organization or who are heavily involved (e.g., Bonner Leaders, Crigler Institute students, Club leadership, UCARE interns, tutors, etc.).
- Consider agreeing on green purchasing objectives and then writing and implementing a set of green purchasing guidelines. (See Appendix H)
- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.1 PA-4: Student Affairs Administration – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

All:

- Online Usage: Work with the Business Office toward having online student timesheets to eliminate paper and streamline this process for departments and offices that employ student workers, as well as for the business office.
- Meeting Preparation: Send all meeting materials, including agendas, to meeting attendees ahead of time. Set the expectation that attendees will bring their computers with them, if possible, to the meeting (or ask them to let you know if they will need paper copies).
- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.
- Website changes

- Support the creation of a webpage that presents the student affairs office perspective on sustainability at Ursinus.
- Expand the use of the student affairs office's website as a vehicle for educating site visitors about the College's commitment to sustainability.

Campus Safety

- Consider updating IT infrastructure such that campus safety officers have scanners into which they can post updates for main campus buildings as they walk through buildings on safety rounds.

Center for Academic Support

- Survey faculty prior to printing the First Year Academic Guide to determine who would prefer to receive the document electronically. Print only for those faculty who want a paper copy.
- Create QR codes that students with smart phones/iPads can scan to download information rather than printing copies.

Hillel House

- Include information on the Hillel House webpage about Eco-Kashrut and other environmental/sustainable initiatives within Hillel.
- Post environmental/sustainable links and articles on the Hillel House Facebook page. Collaborate with the Office of Sustainability on this as needed.

Wellness

- Work with SA Administration and IT to investigate the possibility of purchasing and using secure digital software to keep medical and counseling records electronically.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.1 PA-5: Student Affairs Administration – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

All

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.
- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Hillel House

- Set up the second Sukkot structure at the Organic Farm to encourage students to make stronger connections between the holiday and a sustainable harvest.
- Work with the Office of Sustainability (OS) to arrange for a tour of the bee hives at the Organic Farm before Rosh Hashanah (the High Holy Day that celebrates the Jewish new year with apples and honey).
- Work with OS to coordinate programming between programs, as possible.

Student Activities Office

- Consider including, in first year orientation programming, an orientation session on environmental awareness that involves issues of importance to Facilities Services, the sustainability programs on campus, and the Environmental Studies Department.
- Green Kit: Investigate providing incoming students with a "green kit" during orientation. The green kit might include a reusable BPA-free water bottle (cost depends on type of bottle), coupons for local businesses, and a shopping tote ($1-$2 per bag).
- Green Scavenger Hunt: Instead of simply giving a tour of environmental projects on campus, consider a more engaging option of including environmental projects

in the activities portion of orientation. One way to do this would be to host a student-run scavenger hunt of the environmental projects.

UCARE

- Collaborate with the OS to have speakers come talk to the Bonner Leaders and UCARE student workers about sustainability topics.
- Encourage Carpooling to events.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.1 PA-6: Student Affairs Administration – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Administration - SA

- Conduct training, in conjunction with OS staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Wellness

- Work with campus Environmental Health & Safety/Energy Coordinator to determine if Stericycle containers can be reused.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

5.1 PA-7: Student Affairs Administration – Prospective Actions: Transportation

Immediate (2013-2018)

Administration - SA

- Consider supporting efforts to encourage students to leave their cars home from college. This might involve determining the cost to the College of each individual car on campus, a break-even point (where the College would begin to see an economic benefit for any given incentive program), and an analysis of how much the College would benefit from various scenarios vs. the complications for admissions or student life.
    - This would likely have to have an accompanying PR campaign as well as a support structure such as additional Bikeshare bikes, additional college vans, a weekend shuttle service, or a UC Carshare program that would give students the ability to share a car on campus.
- Work with OS staff to investigate options for future programs that would aim to reduce employees' overall miles traveled related to UC. For example:
    - Develop a comprehensive telecommute policy
    - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
    - Establish flexible work hours to facilitate carpooling.
    - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
    - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
    - Promote the use of alumni for admissions trips to high schools where the alums live.
- Encourage telecommuting and video conferencing when possible to reduce travel-related emissions.

All

- Calculate and track travel expenses and the related carbon footprint for each office. Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)

- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Campus Safety:

- Institute a fee for registering a car on campus.
- Consider working with other administrative office to designate parking areas closer to the buildings for high MPH cars to encourage community members to own cars with better gas mileage.

Mid-Term (2019-2030)

Administration - SA

- Work with OS staff to investigate options for future programs that would reduce employees' overall miles traveled related to UC. For example:
  - Develop a comprehensive telecommute policy
  - Establish and promote telephone conferencing and webinar capabilities for faculty, students, and staff
  - Establish flexible work hours to facilitate carpooling.
  - Look into incentives to encourage local employees to bike or walk to work. This could be financial or a recognition of some sort.
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - Promote the use of alumni for admissions trips to high schools where the alums live.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.1 PA-8: Student Affairs Administration – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

5.1 PA-9: Student Affairs Administration – Prospective Actions: Infrastructure

Immediate (2013-2018)

Multi-cultural Services, Hillel House, Wellness

- Install a programmable thermostat (if not already done) and set according to season:
  - Winter to 55 degrees M-Th from 10:30 p.m. – 8:00 a.m.; for houses that are not occupied by students, on weekends set it to 55 from 4:30 p.m. on Friday until 8:00 a.m. on Monday.
  - Summer: turn off the A/C at night and on weekends.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Student Affairs – Chapter 5.2: Residence Life

Back to Table of Contents

Ursinus College houses 1,700 students during the academic year (September – May). The College has ten residential residence halls and 30 residential houses. (Appendix B contains a campus map that shows all of the residential buildings.) The electricity used in residence halls is metered through the main campus meter; the houses are metered separately. Some of our residence halls are newer and more energy efficient, however, some are quite old, and our residential houses are almost all between 50-100 years old. These buildings have great architectural character, however, they were not designed to be energy efficient. We are making upgrades to our older buildings throughout campus to reduce their energy consumption, however, there is only so much that can be done while still remaining fiscally responsible. Increasing energy efficiency in these buildings will happen over the long term.

5.2 Current: Student Affairs: Residence Life

Residence Life (ResLife) plays a major role in student behavior due to their ability to reach and educate students through Residence Directors (RDs), Resident Advisors, programs, and overall visibility. Residence halls and other campus housing consume 9% of total campus electricity and house approximately 1,700 students. Making simple and visible infrastructure improvements (and advertising those improvements) will not only make progress toward reducing emissions, but will also provide an opportunity to educate our students and staff about the College's commitment to sustainable practices and show a proactive approach to sustainability.

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 5.2-1: Sustainability projects & initiatives – Residence Life

Type of Project	Mitigation Project/Initiative – Residence Life
Operations	Laundry • All washing machines and dryers are high efficiency (HE) models. HE washing machine models typically use 30% less water than conventional machines (a savings of water and heating of the water), and they wring more water out of clothes which then require less drying time. This saves water, heat, and electricity.
Procurement	Furniture • All desks that are purchased are made of solid wood. • All beds are made of a combination of wood and metal.
Information Technology Changes	Website • ResLife is currently developing a Greening of ResLife webpage that is accessible from the main ResLife landing page. This will also be accessible from the OS website.
Behavior Change & Education	Resident Advisor training • RAs receive sustainability training at the beginning of each school year. Student Education • EcoReps pilot program began in September 2012. • An Resident Advisor Sustainability Committee will convene in September 2013. This committee will work with the OS to provide Sustainability education and opportunities to the students who live in the residence halls and houses. Energy • Students are required to use LED holiday lights when decorating their houses for the holidays. We see an increase of 26 kWh in the residential houses at this time of year due to holiday lights. Events • Speakers have been held around sustainability or environmental topics • Movies (such as No Impact Man, Supersize Me, King Corn, Wall-E, Fern Gully) • Sustainable cooking demonstrations • Energy competitions
Waste	Paper • ResLife currently sends out all information to incoming and returning students electronically, thereby reducing paper and ink usage, time spent on stuffing envelopes, budget money spent on postage, and the transportation-related emissions related to delivery. Recycling • We provide recycling bins in most residential rooms and have added

		them to the room inventory list (students are responsible for emptying these bins into larger bins in common areas). • Recycling is picked up daily in most residential buildings. • Single stream recycling allows to students to more easily recycle more of their waste. Composting • Some of our residential buildings participated in a composting pilot program (UCompost). The pilot program showed that students would use this service if it were offered on a regular basis. The College already composts all food scraps in its dining hall with a local organization ArbOrganic Acres.
Transportation	Local Transit	• SEPTA bus route 93 stops in Collegeville at the main UC campus gates on Main Street. The buses run to the Norristown train station in one direction and to Pottstown in the other. • Ursinus is a Campus Philly School member. This program trains our RAs on Philadelphia programs and how to get students involved. It then offers discount cards for museums, restaurants and attractions. This is tied in with having students become comfortable taking the bus. • One of our Faculty-in-Residence program's previous faculty members took groups of around 50 students to Philadelphia for First Fridays events via contracted bus, & saved fuel over individual car travel and providing experience for the students in taking the local transit bus.
	Holiday Travel	• Twice a semester (at the mid-term break and at the end of term break) ResLife runs free shuttles to the Marriott Hotel on Rt. 422. From that location, students can arrange for a van to transport them to the airport or Amtrak station. • An Ursinus staff member also coordinates the My Bus Home travel for students who live in the Northeast. The cost of the bus varies on the number of students who sign up to travel.
	Bicycling	• We have bike racks outside of most of our residence halls. • Students can join the campus BikeShare program for a nominal fee to get around without a carbon footprint. • Students can take their bikes onto the regional SEPTA buses if they are interested in traveling farther from campus. • Several of our Ursinus College community members take students on bike rides on local trails.
Infrastructure	Energy usage	• Facilities Services has replaced lighting fixtures with fluorescent fixtures or bulbs, including in residential rooms.

- Facilities Services runs a CFL Replacement Program (students may exchange incandescent bulbs for fluorescent bulbs at the Facilities Services building for free).
- Facilities Services has installed energy monitoring meters on most of the large campus buildings fall 2010. Buildings that need monitors are the Kaleidoscope Theater and a separate meter for Richter (it is currently on a meter with North).
- Our energy meters are connected to an online system that will be accessible to the public and operational in 2013 or 2014. This system will allow campus community members to view energy use by building.
- Space heaters are not allowed on campus in residential areas.
- Residence halls and houses that are not occupied over the holidays (including summer) are shut down when not occupied to save energy. Consolidating students in a residential hall during holidays is being considered as an option to save money and reduce carbon.
- Facilities Services has installed vending-misers on all vending machines campus-wide, including in res halls.

Infrastructure

- Carpets: Carpets are replaced with vinyl composition tiles (VCT) as they need replacing. The VCT has a 20+ year life expectancy, which is much better than carpet in a college setting.
- Insulation: Insulation upgrades are made throughout our residential buildings. Our goal is to have all ceilings insulated with R30 insulation. Due to the need for flexibility in budgeting, we do not currently have a time line for this goal. Insulation is upgraded when renovations are made.
- Windows: Due to cost of wholesale replacement of all windows, Facilities Services installs energy efficient replacement windows, as they are needed. This will take time to implement. We currently have energy efficient windows in approximately 80 % of residential windows.
- Paint: We use low VOC paints in our residential halls to limit off-gassing in our buildings.

Water

- Facilities Services has installed low flow shower heads and faucets aerators in some of the bathrooms in residential buildings.
- Facilities Services has installed low flow toilets in some residential building bathrooms.
- We have water meters in all residential houses.

5.2 Goals: Student Affairs: Residence Life

There are currently no goals identified for Residence Life in addition to those identified for Student Affairs Administration.

5.2 PA: Student Affairs: Residence Life - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

5.2 PA-1: Residence Life – Prospective Actions: Policy

Immediate (2013-2018)

Mission

- Investigate the possibility of writing a green mission statement for Residence Life that includes: procurement, energy use, operations, transportation, education, waste reduction and recycling. Work with the OS on this mission.

Handbook

- Work with Dean of Students to update the student handbook so that it reflects the importance of sustainability in Residence Life, both for the students and for the College.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Sustainability Plan for ResLife

- Consider working with the OS to develop a sustainability plan for the residence halls and houses based on the green mission statement (above). The plan should include these areas: waste reduction, increasing awareness of resource and energy use, and increasing recycling in the residential buildings and houses.
    - Adopt this sustainability plan for Residence Life.
    - Develop a strategy for implementing this plan.
- Consider writing a policy that supports the ResLife sustainability plan and promotes the reduction of resource and energy use in residential settings. Consider the following elements:
    - Require that students bring only Energy Star appliances (refrigerators, microwaves, etc.), if they need them. These appliances use significantly less energy than other models, thus saving the college money. If it is deemed to be feasible, levy an energy surcharge fee for non-Energy Star appliances.
    - Research and consider moving to a pay-as-you-go laundry system. Consider the impact this would have on admission, etc.
    - Limit or recommend the total number of appliances in each residence hall room (i.e., students may choose to bring two of the types of appliances that they are allowed to bring.
    - Request that residents turn in dead batteries and empty toner cartridges to a ResLife intern at the OS for proper disposal.
    - Require that all electronic waste be properly disposed of. Proper disposal is outlined on the OS website and the ResLife website. E-waste includes: computer parts, printers, TVs, VCRs, microwaves, etc.
- Recommend that there be only one mini-refrigerator (3.8 cubic feet max) and one microwave (1.4 cubic feet max) per room.
- Limit the total kWs used by appliances in each room.
    - Adopt this sustainability plan for Residence Life and develop a strategy for implementing this plan.

Mid-Term (2019-2030)

Sustainability Fellows

- Collaborate with OS staff to consider hiring a student to work as a ResLife Sustainability Fellow through the OS. This student could coordinate between ResLife and the OS as well as working with EcoReps in the dorms.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-2: Residence Life – Prospective Actions: Internal Operations

Immediate (2013-2018)

Energy Strategy

- Work with Facilities Services and the Office of Sustainability to identify ways that ResLife could work to lower the energy and other resource usage from residential buildings and raise awareness about this issue.
    - Investigate the use of shower timers to help lower water usage. Work with OS staff to investigate getting these donated.
        - If the decision is made to purchase these, work with Facilities Services to install them.

Green/ Energy Star Model Room

- Investigate the possibility of creating an Energy Star Residence hall room (U.S. EPA n.d.) in one of the first year centers with Admission, Facilities Services and OS. If the decision is made to move forward consider the following as a roadmap:
    - The project could have two objectives: 1) to demonstrate the energy savings potential of ENERGY STAR labeled products in a residence hall room setting, and 2) to educate students, faculty, staff, alumni, other colleges, and the general public on the what, where, and how of purchasing ENERGY STAR labeled products.
        - office equipment: computers, monitors, printers
        - lighting: desk lamps, compact fluorescent lamps (CFLs), ceiling fixtures
        - home electronics: televisions, VCRs or DVD players, stereos, clock radios

        - appliances: refrigerators, dishwashers, clothes washers
        - heating and cooling: window A/C units, window fans
        - any other ENERGY STAR labeled product that would be suitable to showcase
    - Obtain a list of ENERGY STAR partner manufacturers and vendors to contact to see if they are interested in showcasing their products in exchange for publicity.
    - Admission could use this room as a tour room during the year.
    - Students could be chosen to live in this room based on academic achievement in the area of environmental studies or sustainability-related activities, to be determined between Residence Life staff and OS staff. Another possibility would be to open this up to the entire student population. Students would apply to live in this room.
    - Students who live in this room would have to be willing to have visitors on a regular basis in exchange for use of all of the appliances.

Laundry

- Encourage use of drying racks in rooms rather than using a machine to dry clothing.
- Coordinate with Facilities Services to ensure that the temperature of the hot water that goes to laundry facilities is set to 120 degrees, the minimum temperature allowed by code.
- Investigate the possibility of contracting with our laundry provider to institute a laundry quota system. This would allow students a certain number of "free" laundry cycles (washer or dryer). After they used their quota, they would have to purchase additional cycles. This would theoretically lead to larger and fewer loads of laundry being done.

ResLife - Staff

- Expand Training:
    - Work with the OS to increase the sustainability training received by Resident Advisors from 30 minutes to 1 hour at the beginning of the school year. The goal is to have RAs be comfortable and conversant with sustainability topics that affect the Ursinus Campus – they are the students who are most closely in contact with most of our students on campus.
    - If possible, add a second sustainability training session with different content for RAs at the beginning of the second semester. This second training could focus on cold weather as well as end-of-academic-year

related topics, and would be designed to remind RAs of the importance of their role in getting students to work with the school on sustainability as well as expose them to various programmatic resources available to them.
    - Have RAs and RDs take a Green Tour of campus (a tour of the UC sustainability projects).
    - Encourage RA's to recycle at their on-campus events.
- Participation
    - Have a ResLife staff member on the campus' Sustainability Team or Committee.

Room Assignments

- Consider including a question on the student room questionnaire about preferred temperatures – some people are always cold; some prefer cooler temperatures. Factor this in to roommate decisions for the newer residence halls. Unfortunately, we do not have much control over the temperatures in BWC, BPS and some of the residential houses.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Energy Goals

- Work with Facilities Services and the OS to create goals for lowering the residence halls' energy usage.

Environmental House

- Work toward establishing an Environmental special interest (SPINT) house that has tenure, much like the Hillel house.

Green/ Energy Star Model Room/House

- If the first year model room is successful, investigate the possibility of creating a second Energy Star Residence hall room (U.S. EPA n.d.) in one of the residential houses, preferably a house with an environmental theme.
- Consider creating a Sustainability/Energy Star Residential House.

Program

- Consider creating a Green ResLife sustainability program to incorporate sustainability concepts into the students' experience more comprehensively.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-3: Residence Life – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Office supplies

- Consider sustainability concepts when making purchases that support ResLife, including recycled paper and office products.

Prizes

- Consider committing to buying prizes for student competitions that are either sustainability themed (a bike, an organic sheet & towel set, stainless steel water bottles), sustainably made (local, organics) or that relate to locally-owned businesses (such as gift cards to local businesses (rather than chains), etc.)

Mid-Term (2019-2030)

Data Management

- Work to develop a system to track purchases that integrate sustainability in some way. Coordinate this with OS. This will allow the program to track success.

Goal Setting

- Set a goal of having all or most items procured by and for ResLife be sustainable by 2015.
    - Make sure "sustainable" is defined.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-4: Residence Life – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Promote the adoption of a footer message such as "Please consider the environment before printing this e-mail." in all ResLife emails.

Facebook Page

- This Facebook group would provide information to students about what other schools are doing as well as keep students up to date on campus sustainability efforts as they relate to ResLife. This could be a project for the EcoReps program.

Website

- Work with The OS to create content and determine maintenance of Greening of ResLife webpage. Content could include the following types of information:
    - A list of current initiatives in ResLife.
    - Information about recycling in residence halls/houses.
    - Competitions.
    - Ways to live more sustainably on campus.
    - A link to a sustainability handbook.

Mid-Term (2019-2030)

Surveys

- Consider creating on-line surveys that could live on the ResLife and/or student life landing page/s. These surveys could provide yearly information on student participation, or could provide students with a "suggestion box" for how we can improve our efforts.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-5: Residence Life – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

<u>Education and Awareness</u>

Materials - Sustainable ResLife

- Collaborate with The OS staff and/or EcoReps to create information that is aimed at educating students about sustainability in ResLife. This type of information could be created in a number of formats, including:
    - A Greening of ResLife webpage that is linked from the ResLife Landing page as well as from the OS landing page. (see information technology changes above)
    - Sustainability tour videos.
    - A ResLife Facebook page for sustainability.
    - A ResLife Sustainability Program Guide
    - A Sustainable Living Guide, preferably with input from OS staff. This guide could include sections on the following: (see Appendix J)
        - The history of sustainability at UC
        - Green living tips for on and off campus
        - Sustainable dining
        - Alternative transportation options on campus
        - Curriculum opportunities
        - How to get involved section
- Additional educational materials aimed at students about sustainability on campus. This information could be delivered to students via multiple media outlets (email, word of mouth, website, Facebook, residence hall bulletin boards, Wismer bulletin boards, video display monitors, and table tents, bathroom signage, chalking campaigns, etc.). Students are likely to be unaware of the good things going on around them unless they are informed.
    - For example, let students know how much paper is saved each year by sending them information electronically. Include that information in the email that is sent, perhaps in a section at the bottom of the email specifically for sustainability facts. An expanded example of the type of information that could be included in this type of guide can be found in Appendix J.

EcoReps

- This program ran a pilot program in the 2012-13 academic year. It entailed having student sustainability representatives run programs and give peer-to-peer advice about living sustainably within the setting of the residence halls. The EcoReps held regular Eco-hours and hosted sustainability educational events.
- After reviewing the EcoReps program for effectiveness, ResLife worked with the OS to expand the program into the RA committee structure, beginning in the 2013-14 academic year.

ResLife Staff Education & Orientation

- Have all Residence Directors (RDs) work with The OS staff on an annual basis so that they have a clear understanding of why sustainability programming is in place and how it helps the College meet its commitment to becoming climate neutral.
- Consider writing practice and promotion of sustainability into the RD job expectations to fully integrate sustainability into ResLife.
- In addition to the two training sessions for RAs, have all RDs and RAs take a Green Tour (a tour of the UC sustainability projects).
- Work with OS staff to develop ResLife-specific training for Staff/RA/RDs in sustainability issues.

Departmental Meeting Briefs

- On an as-needed basis, address sustainability topics at the weekly meetings with RDs and RAs. These briefs could be aimed at educating these campus leaders on sustainability initiatives that might affect or be influenced by ResLife (e.g., where/how/why to recycle, how the UC Green Office of Sustainability could assist them in their goals).

<u>Behavior Change - Program Development</u>

Pledge

- Promote students signing a sustainability pledge in their residence. Have this pledge prominently displayed.
    - Could be written in Sharpie pens on butcher paper and posted on the wall in the residence hall lounge.

Activities

- Consider incorporating sustainability into RD programs (e.g., around a sustainable activity, with a Green prize, etc.), or run as carbon-neutral activities (e.g., where there are no carbon emissions).
- Encourage students to participate in green programming run through ResLife and The OS. Work with the OS to develop an incentive program that encourages students to participate in sustainability-related activities as well as a list of activities for students to participate in.

- For example, hosting a Go Green Picnic, watching sustainability-themed movies, or participating in organized green events both on and off campus.
- Encourage students to create documentaries about campus sustainability. Topics could include: assessing barriers to greening campus offices, conducting cost/benefit analyses of implementing power strips at residence halls, exploring the feasibility of having an expanded BikeShare program on campus, etc.

Competitions

- Encourage friendly residence hall/house competitions that save energy, increase recycling, discourage general destruction, or otherwise promote sustainability. For example,
  - Encourage participation in the national RecycleMania contest. The OS will be running the UC efforts on this contest.
  - Promote having a model Green or Sustainability Room competition. The winner could be highlighted on website, get free pizza once a week for the semester, etc.
- Consider buying prizes for student competitions that are either sustainability themed (a bike, an organic sheet & towel set, stainless steel water bottles) or that relate to locally-owned businesses (such as gift cards to local businesses (rather than chains), etc.). If possible, commit to having a certain percentage of sustainable prizes.

Events

- Increase the number of sustainability related events in residence halls. Work toward having a program that specifically promotes this type of event.
  - Speakers or readings around sustainability or environmental topics
  - Movies (such as No Impact Man, Supersize Me, King Corn, Wall-E, Fern Gully)
  - Cooking demonstrations that use local food and sustainable methods
  - Energy competitions
  - Zero waste events (composting and recycling)
  - Conduct a "Turn it off when I am not using it" PR campaign
  - Room energy audits?

Existing program

- Encourage RDs and RAs to promote awareness of sustainability programs on campus that students can take advantage of, including BikeShare and the

Facilities Services Department's CFL exchange program. Encourage students to participate in this program. In 2012 the US Government will begin phasing in more energy efficient standards for conventional light bulbs, however, CFLs will continue to more eco-friendly. We hope to continue this program into the foreseeable future.

Laundry

- Work with The OS to create an educational campaign about sustainable laundry practices. Include the following elements:
  - Use environmentally friendly laundry detergents.
  - Wash your clothes in cold water (it's better for your clothes).
  - Hang dry your clothes – they'll last longer!
  - If you dry clean your clothing, use an organic, chemical free dry cleaner.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-6: Residence Life – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Reusable bags

- Look into partnering with The OS and the College bookstore to provide reusable bags for on-campus residents. Providing reusable tote bags for students could result in a reduction of the use of petroleum based plastic bags. Reusable bags are convenient for take-out food, bookstore purchases, and grocery shopping. Using fewer petroleum-based products will lessen the environmental impact of students' normal activities.

Incentive programs

- Encourage students to create waste reduction goals in their residence halls and to create innovative incentive programs for participation.

Move-In/ Move-Out

- Promote the OS's Sustainable Move-In and Sustainable Move-Out initiatives. Encourage students to participate.
- Encourage composting in all residence halls.
- Encourage students to visit the Move-Out tent in order to live more lightly on the earth and in the pocketbook.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-7: Residence Life – Prospective Actions: Transportation

Immediate (2013-2018)

Bikes

- Encourage incoming and returning students to bring their bikes to UC instead of bringing cars.
- Encourage students to leave cars home.
- Encourage incoming and returning students to utilize the UC Bikeshare program.

Public/Alternative Transportation

- Advertise alternative transportation options to students in a variety of locations (web, email, bulletin boards). These include the ride board, SEPTA, and UC BikeShare.

Ride Sharing

- Encourage the use of the Student Ride Board, public transportation and My Bus Home for travel during the semester as well as travel at either end of the semester.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

5.2 PA-8: Residence Life – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

5.2 PA-9: Residence Life – Prospective Actions: Infrastructure

Immediate (2013-2018)

Building Upgrades.

- Continue to install energy efficient upgrades and infrastructure improvement in all residential halls and houses. These simple and low-cost changes have and will continue to lower our overall campus energy use.
- Use sustainable materials when making building upgrades.
    - Sustainable finishes: paints, stains, varnishes, etc.
    - Maximize use of natural light wherever possible.
    - Sustainable furniture (wood and metal over composite or plywood materials).
    - Lighting upgrades (where still needed).
    - Exterior envelope – windows, insulation, pointing (where needed).
    - General materials – adhesives, ceiling tiles, etc.
- Whenever possible, use sustainable materials when making repairs, both major and minor.
    - Recycled glass terrazzo flooring.
    - Recycled/recyclable carpet with low VOC content.

Data

- Establish a baseline for energy and other resource use in residential halls/houses.

Energy

- Strategy: Work with ResLife and The OS to identify ways that ResLife could work to lower the energy and other resource usage from residential buildings and raise awareness about this issue.
    - Shower Timers: Investigate the use of shower timers to help lower water usage. Work with The OS staff to investigate getting these donated.
        - If the decision is made to purchase these, work with Facilities Services to install them and enact an educational campaign.
- Audits: Undertake energy audits of each residential building to determine areas that the buildings can be retrofitted or upgraded to be more sustainable.
    - Determine solutions that will have the biggest impact with lower associated costs.
    - Implement solutions as time and budgets allow.
- Controls: Regulate energy provision based on demand and occupancy.
    - Adjust HVAC and lighting control depending on occupancy.
    - Increase/decrease temperature set-points for campus buildings.
    - Shut down HVAC in academic buildings at night, if possible.
- Electricity: Install occupancy sensors in all student rooms, lounges, storage rooms, bathrooms, and study rooms.
- Monitoring: Use upgraded energy monitoring system to provide data for projects.
    - Identify operational deficiencies - “low hanging fruit.”
    - Use data to establish accurate project baselines.
    - Allow building users to implement operational changes and track performance as a way to improve participation and incentives.
- Water Fixtures: Sentence here?
    - Investigate the trade-off between increased electricity use and decreased water usage associated with motion sensor faucets. Consider making changes based on analysis of findings.
    - Continue to install low-flow showerheads (1.8 gallons per minute) and faucets (0.5 gallons per minute).
    - Install dual-flush toilets in all bathrooms for reduced water usage.
        - Up for 1.1 gallons per flush
        - Down for 1.6 gallons per flush

Purchasing

- Furniture
    - Work with ResLife to purchase furniture for residential buildings that is made of and/or contains sustainable materials, including but not limited to fabrics with recycled and recyclable content, non-hazardous materials

(e.g., formaldehyde-free mattresses, sofas, etc.), wooden furniture made from eco-friendly, fast-growing woods, etc.
    - Work with ResLife to purchase furniture that is produced locally (e.g., mattresses made by a Pottstown manufacturer).
- Miscellaneous
    - Floor mats. Work with ResLife to purchase floor mats made from recycled material.
    - Shower curtains. Purchase non-vinyl shower curtains that are made of a material that is easily washed and has a lower environmental impact than vinyl. Work with the OS to determine options.

Housekeeping

- Cleaning Supplies. Purchase even more "green" cleaning supplies.
    - Microfiber Cloths. Use Microfiber cleaning cloths to facilitate the use of less cleaning product.
    - Vacuums. Use HEPA filters on all vacuums for better air quality.
- Lavatory paper. Work with Housekeeping to purchase only non-bleached lavatory tissue products (paper towels and toilet tissue). Coordinate this with ResLife so they are aware of the switch in case students question the different look.

Transportation.

- Bike Racks. Install covered bike racks or bike storage facilities at each residence hall for student use.

Water

- Laundry. Limit the temperature of the hot water available for washing laundry.
- Laundry. Work with ResLife to determine the feasibility of installing a pay-as-you-go laundry system.

Mid-Term (2019-2030)

Alternative Energy

- Solar Array. Consider having solar panels or solar hot water heaters installed on residential halls such that the halls' electricity needs would be primarily provided by solar panels. As technology improves, consider this for existing residential halls.

Certifications

- Energy Star Certification. Work with Residence Life and OS staff to analyze the costs and benefits of having one or more Energy Star certified residence halls/houses. Implement as deemed appropriate, based on analysis.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Section 6: Facilities Services Department

Back to Table of Contents

This section of the CSAP addresses the wide variety of areas handled under the Facilities Services Department at Ursinus. There are fifteen chapters that fall under this section. They are:

1. Administration
2. Office of Sustainability
3. Heat Plant and Steam Distribution System
4. Electricity and Chiller Plant
5. Water, Waste and Recycling
6. Landscape and Grounds
7. Renovations and New Construction
8. Building Maintenance and Upgrades
9. Transportation and Fleet
10. Science Labs
11. Copy Center
12. Mail Services
13. Housekeeping
14. Dining Services
15. Bookstore

The vast majority of our GHG emission reductions will come from our actions in the area of mitigation. Actions will fall into areas that mirror the organization of the Facilities Services Department: heat plant and steam distribution system, chiller plant, electricity, waste and recycling, campus planning, landscape and grounds, new construction and renovations, science labs, existing buildings-construction, maintenance of existing buildings, fleet, copy center, mail services, and housekeeping. Other areas that fall under the Facilities Services Department, such as dining services and the bookstore, are addressed separately as they have outside administrative leadership. There is some overlap in these sections of the CSAP, however, as each area has a different set of goals, it is appropriate to separate these areas for ease of use of the plan.

The College is fortunate to have so many supporters of reducing our energy consumption within the campus community. The Facilities Services Department has been instrumental to our success to date. Their continued leadership will be critical to meeting our goals.

The campus is situated in an area where we have access to local suppliers for many of the things we purchase. This ranges from bicycles to solar power.

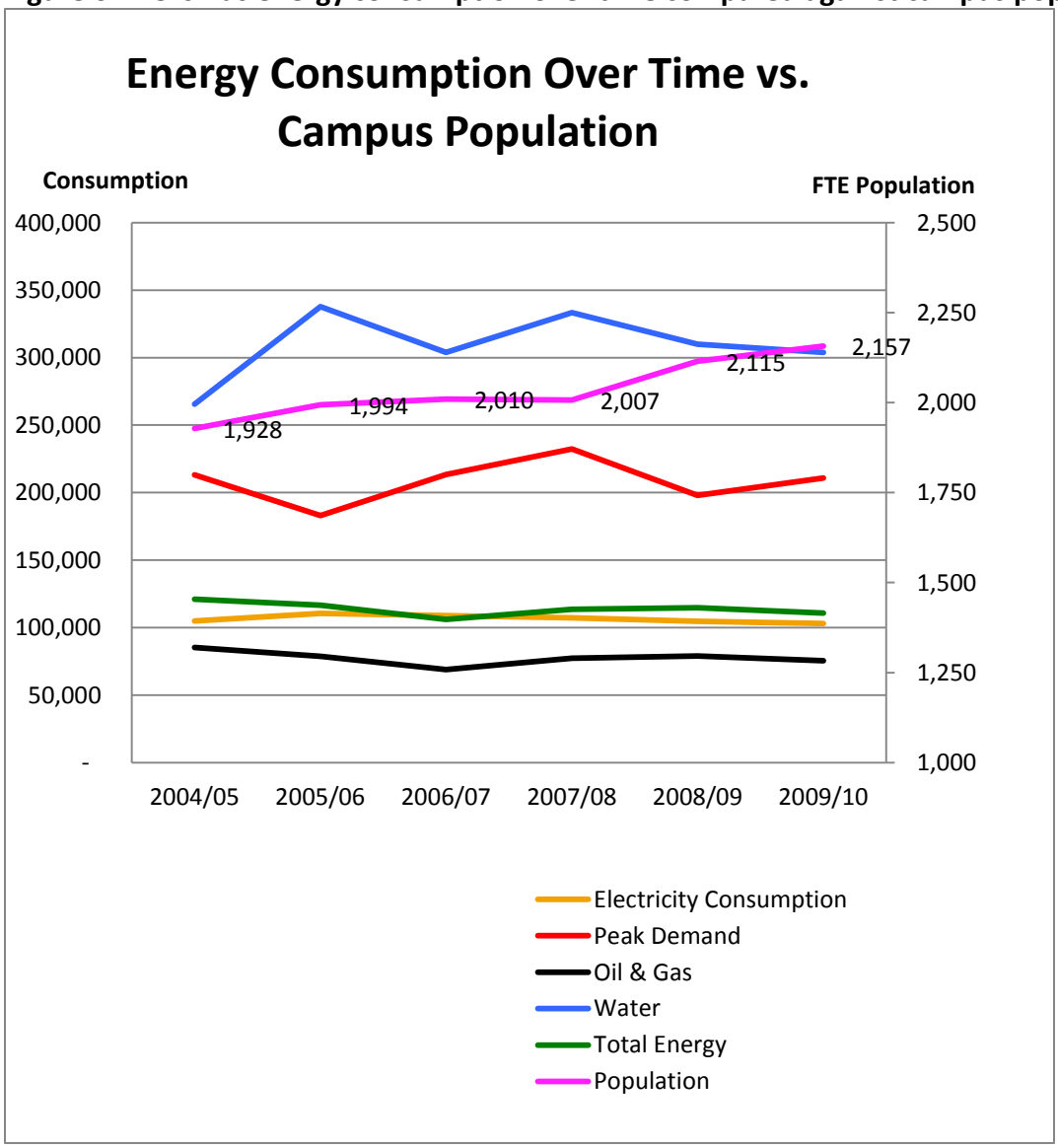
When we built the Kaleidoscope Theatre, the decision was made to change the campus experience and the interior of campus was transformed into an area with walkways and open lawn. Thus, in the past ten years, our campus has seen the removal of parking spaces and a road that went through the middle of the back of campus. We also have trails that run all over campus and can be used for bicycle as well as pedestrian traffic.

The following fifteen chapters of the CSAP include fifteen campus areas that fall under the administration of the Facilities Services Department.

Facilities Services Department - Overview

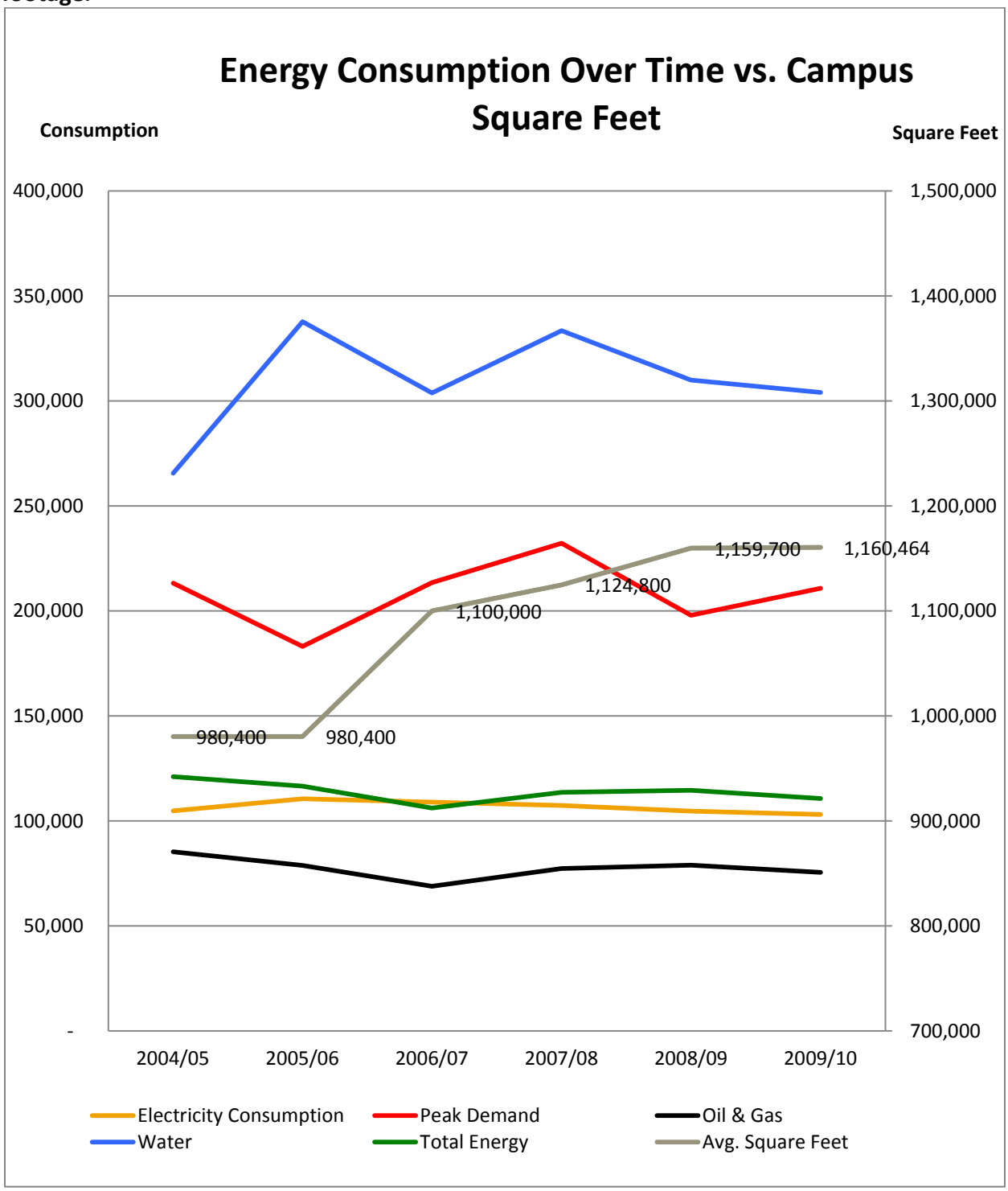
The charts below show that while Ursinus College's student population and building square footage have both increased, our electricity, heating/cooling, and water usage have all dropped. This is due to the conservation measures that have been put into place by our Facilities Services Department. This is an illustration of how effective these measures have been at maintaining a comfortable environment in the face of increasing space and usage demands.

Figure 6-1: Ursinus energy consumption over time compared against campus population.



Feick, UC Facilities Services, 2010.

Figure 6-2: Ursinus energy consumption over time compared against overall building square footage.



Feick, UC Facilities Services, 2010.

Facilities – Chapter 6.1: Administration

Back to Table of Contents

For the purposes of this document, Facilities Services Administration refers to the office of Facilities Services and the areas that are managed within that office that do not have a separate section in this CSAP, including the following areas: facilities-related purchasing, training, oversight, bookkeeping/data entry, website design/management, awareness programs, and grants, among others.

6.1 Current: Facilities Services Administration

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight areas. These areas are further delineated by type of action.

Table 6.1-1: Mitigation and Sustainability projects & initiatives – Facilities Services Administration

Type of Project	Mitigation Project/Initiative: Facilities Services Administration
Policy	Contracting • UC contracts with a composting facility that takes compostable utensils, plates, bowls, etc. This composting facility also provide the College with detailed information on how much waste we are composting and provide the College with additional services, such as conducting tours for classes or groups.
Infrastructure	None at this time.
Operations	Grants • Facilities Services, with the Environmental Studies Department, applied for a grant to reclaim water from our cooling tower. We were not awarded the grant. • Facilities Services, with the Environmental Studies Department, applied for and received a grant to update lights in one of our large parking lots and all of our campus paths to LED. Bookkeeping • Facilities Services staff members maintain files on all energy-related expenditures such that they are available for use when conducting the annual GHG inventory. These files are reviewed regularly and discussed at monthly meetings to identify

	where problems might exist.
Procurement	Flooring • Vinyl flooring is purchased instead of carpet (which is thrown out annually) when possible. • Facilities Services watches for and researches greener flooring products on the market. We try them in a limited capacity after we have verified other institutions have used them successfully. Furniture • Facilities Services purchases long-lasting and low-impact furnishings for our student residences. The furniture that we provide in our residences consists of solid wood desks and metal/wood bed frames. Ursinus also purchases mostly used office furniture from a local supplier. • Ursinus uses the Institution Recycling Network (IRN) to haul away used, surplus, campus furniture for shipment to third-world countries. Unusable, old metal furniture is recycled. Laundry • Facilities Services was instrumental in increasing the efficiency of our laundry by purchasing machines that use two-thirds less energy and water than our old machines. Lighting • Local purchasing (e.g., lamp posts were bought locally - Spring City) • Facilities Services has standardized to LED parking lot and path lighting for all new installations. Science Labs • Facilities Services works with our faculty in the natural sciences to plan and implement energy efficient updates in our science buildings, specifically our labs (e.g., fume hoods). Windows • Energy efficient windows purchased (as needed/able). This lowers the cost of heating and cooling buildings on campus. Printers • Printers replaced to be more efficient. Recycled Paper • Recycled paper for office & printer use and for business cards Cleaning • Our housekeeping contractor uses almost exclusively green cleaning products, chemicals, etc.
IT Changes	Work Orders • Work orders are placed online, eliminating the need for paper submissions.
Behavior Change & Ed.	Energy Dashboard • We are in the end stages of developing and going live with an Energy Dashboard.

	This will enable us to keep close track of our building electricity use via the internet. Raising Awareness • Facilities Services participated in the College's first annual Sustainability Week by creating a week-long Scavenger Hunt for students. • FSD occasionally sends out emails about energy usage and why they are doing things (i.e., turning off parking lot lights in the summer, etc.). Strategy • Facilities Services works with The OS to develop strategies to educate and influence student behavior with regard to heating/cooling, electricity, and water usage on campus. Training • Facilities Services pays for some employees to attend conferences and workshops regarding sustainability topics such as stormwater management, solar electricity, and sustainable grounds maintenance.
Waste & Recycling	Training • Facilities Services holds regular training sessions for its employees on what can be recycled on campus and how recycling should be handled.
Transportation	• When practical, UC purchases hybrid campus vehicles. We currently have two hybrid Admissions vehicles. Ursinus also purchases diesel equipment and trucks, where possible, for grounds maintenance. These are filled from the on-site bio diesel tank.
Community Outreach	None at this time

6.1 Goals: Facilities Services: Administration

Goal 1: Reduce (and eventually eliminate) the College's GHG emissions per square foot of campus building space. Reduction Targets: 25% by 2030; 50% by 2040; 75% by 2050 and 100% by 2060.

The table below shows the amounts that UC will need to reduce our emissions in each area to meet our 2020 goal, if we make equal reductions in all areas. Stationary combustion, purchased electricity and commuting are the three largest emissions areas. The college is currently reviewing options for replacing the boiler plant and is considering options for alternative fuel electricity sourcing. Actions in these two areas alone could account for much of our GHG emissions reductions. Commuting is a more complicated issue to address because of the location of the college in a suburban area with limited access to public transportation. The faculty and staff live throughout the Philadelphia metropolitan area and beyond and carpooling will likely be of limited efficacy. However, through awareness and incentive programs we hope

to encourage members of the UC community to invest in energy efficient transportation options, such as biking, car pooling and purchasing hybrid automobiles.

Source of Emissions	Metric Tons of eCO_2	25% reduction
Stationary Combustion	4,644	**3,483**
Mobile Combustion	67	**50**
Fugitive Emissions	273	**205**
Purchased Electricity	1,133	**850**
Commuting	529	**397**
Air Travel	5	**4**
Solid Waste	132	**99**
Total Emissions	7,063	**5,297**

Goal 2: Account for our GHG emissions more accurately.

Create/modify our information gathering system throughout the college to allow for easy, accurate accounting of our greenhouse gas emissions. We particularly need to work on our ability to keep track of commuting information and air travel.

Goal 3: Set up review and modification process for Facilities Services operations.

Create/improve our review process to develop best practices for our Facilities Services operations with the goal being environmental sensitivity and minimal environmental impact as we work to lower UC's direct and indirect GHG emissions.

6.1 PA: Facilities Services: Administration - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.1 PA-1: Facilities Services Administration – Prospective Actions: Policy

Immediate (2013-2018)

Energy and Water Policy

- Formalize a Campus Energy and Water Policy. This policy should include guidelines on energy and water use, procurement of items that use energy (computers, office equipment, appliances, etc.), and procurement of items through which water flows (taps, aerators, shower heads, toilets, etc.). Ideally this policy would set standards by which the College makes decisions about operations.
    - Work with IT to make Energy Star rated computers a requirement. They have become the industry standard and the practice of college purchasing.

Fleet Vehicle Policy

- Update the Fleet Vehicle Policy to include information about how to drive cars for fuel efficiency. For example:
    - Do not rev the engine.
    - Avoid aggressive driving, including "jack rabbit" starts and hard braking (this can reduce fuel consumption by up to 40%).
    - Do not idle the engine.

    - Check the tire pressure.
    - Use the cruise control when driving on un-crowded highways.
- Amend the Fleet Vehicle Policy to encourage the purchase of fuel efficient (if not Hybrid) vehicles when purchasing or leasing vehicles.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Energy Goals

- Energy reduction goals. Collaborate with the Office of Sustainability to work with all departments (academic and non-academic) to determine energy use reduction goals.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.1 PA-2: Facilities Services Administration – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Alternative Energy

- Explore working with local farms to collaborate on a PPA for solar energy on a larger scale. This would require the right set of circumstances to make economic sense.

Energy Performance Contracting

- Set energy performance standards for contractors, and only contract with those who can demonstrate that they can meet those standards.

Residential Cost Analysis

- Undertake a cost analysis of the long term use of residential houses vs. new dorms. The most energy efficient building is the one already built. Building residential halls to replace houses would generate far more carbon that the efficiency would offset. Therefore we would need to determine if there are any situations in which this would make sense. For example, if our student population grew and we had to build a new dorm to house students; if we wanted to sell some of our properties to support the wider community in having less tax-free land in the town as well as having more properties that could function as a downtown space to support students.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.1 PA-3: Facilities Services Administration – Prospective Actions: Procurement

Immediate (2013-2018)

Accounting

- Ensure that capital expenditures incorporate energy costs and that savings from energy efficiency measures are taken into account. For some heating and cooling investments, payback is achieved in around three years.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Residential Buildings

- Work to adjust the procurement process so that in addition to considering cost, material content is also important to decisions about purchasing for residential areas with the goal being to purchase products made from materials that last longer, have fewer or no health concerns, and that have more positive environmental impacts. Products to consider:
    - Beds, desks, chairs, sofas, etc. for residential buildings that is made of and/or contains sustainable materials, including but not limited to fabrics with recycled and recyclable content, non-hazardous materials (e.g., formaldehyde-free chairs, sofas, etc.), solid wooden furniture made from domestic wood produced in North America from renewable forests, etc.
    - Mattresses (made without formaldehyde).
    - Floor mats (recycled).
    - Shower curtains (non-vinyl).
- Consider prioritizing the purchase of furniture and bedding that is produced locally (e.g., mattresses made by a Pottstown manufacturer; see http://www.magicsleeper.net/).

Responsible Consumption

- Reduce use of products wherever possible and implement sustainability practices in everyday operations. Develop a list of suggestions to this end.

Waste Electrical and Electronic Equipment

- When electronic equipment is purchased, ensure that the suppliers specify in the contract how these items will be disposed of at the end of their life cycle.

Dining Hall

- Appliances. Ensure that all newly-purchased appliances are Energy Star qualified.
- Food coolers. As the current equipment ages out, we will explore new options for more energy-efficient models with daytime thermal barriers for open food coolers. Transition to non-ozone-depleting refrigerants.
- Water Saving. Acquire a low-flow pre-rinse spray valve for use in the process of washing dishes in Wismer.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.1 PA-4: Facilities Services Administration – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Mid-Term (2019-2030)

Online Records & Tracking

- Create a system in which we can update records online for ACUPCC reporting and GHG inventories. This system could be one in which staff members who are responsible for various data points could have access to insert their specific data. Clean Air-Cool Planet, the organization that created the software that UC uses for collecting GHG emissions data, is working on this sort of software.

6.1 PA-5: Facilities Services Administration – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Accessibility

- Academics: Work with the OS to put practices into place that will make it viable and appealing for faculty members to incorporate sustainability and climate change concepts into their classes and offices. For example, increase signage around campus, provide educational materials on buildings where sustainability efforts are being made, communicate with faculty about what is happening on campus so they are aware.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Water

- Meter to the lowest unit possible for real time feedback to residents and building users.

Energy Audits

- Conduct periodic energy audits on all buildings, including residence halls and houses. Address major sources of energy use/loss through education or conservation measures.

- Assess student satisfaction and knowledge about energy efficiency of various facilities annually.

Washers & Dryers

- Post information on or near each set of washers & dryers that contains information on how to save water and gas/electricity. This information should also be provided to the Residence Life staff to include in their living guide.

Website

- Periodically and regularly update the Facilities Services website so that site visitors can learn more about the campus' consumption. Raise awareness about resource use on campus by providing information on water, electricity, oil and gas usage on campus to the community.
- Update with link to the OS website
- Periodically and regularly update the website, include a link to a page that highlights actions Facilities Services has taken to lower the College's GHG emissions.
- Create and include link to a "Being a greener Community Member" website to encourage participation: this could be a website that has information on saving energy on campus. Cross post with OS's website.

Mid-Term (2019-2030)

Water metering

- If we are able to install water meters at the building level, tie this information into our online dashboard.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.1 PA-6: Facilities Services Administration – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Records

- Coordinate with The OS staff on ACUPCC and GHG inventory submission requirements to ensure that we are keeping the data in a way that will enable us to track our waste reductions.

Mid-Term (2019-2030)

Waste Water Reduction Targets

- Set targets for waste water reduction and work toward those targets.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.1 PA-7: Facilities Services Administration – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.1 PA-8: Facilities Services Administration – Prospective Actions: Community Outreach

Immediate (2013-2018)

Signage

- Post signage on the College and Borough of Collegeville websites about the College's policies that affect the community.

Community Policy Initiatives

- Work with the Boroughs of Collegeville and Trappe to coordinate on policy initiatives on which all three (or the College and one of the boroughs) can work together.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.1 PA-9: Facilities Services Administration – Prospective Actions: Infrastructure

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Water

- Set up water metering on Ursinus' main water-using buildings. These would include the academic buildings with science labs, the Bakes Center, Wismer, and the residence halls.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.2: Office of Sustainability

Back to Table of Contents

The Ursinus College Office of Sustainability (OS) was created in 2010. Staff includes one full time and one part-time staff member work in the Office of Sustainability. The OS has a dual focus on campus: student programming that supports achievement and sustainable operations (including Facilities Services, academics, and administrative aspects of the College's operations).

The OS advises environmentally-oriented student groups on campus that work throughout campus to help promote sustainability and environmentally-minded programming. These groups include:

- **UCGreen Sustainability Fellows**. This program is a student advisory program designed to train a relatively small number of students to be effective environmental and sustainability action leaders. It supports the College's strategic plan, Priority Two, Recommendation 8: Create a culture of service and community engagement. These students receive one-on-one mentoring in the area of their fellowship as well as general professional development and leadership skills development. These students are expected to educate other students and lead activities and events. They also present their work at the College's Celebration of Student Achievement (COSA). Students who are chosen to be UCGreen Sustainability Fellows run sustainability projects that are supported by the Office of Sustainability. These are positions with requirements for projects and reporting. Student Fellows tasks vary from program coordination to specific task and goal oriented projects. Examples of program coordination include but are not limited to UCGreen Sustainability Fellow positions dedicated to the Bikeshare Program, the Move-In Program, the Sustainable Move-Out Program, the EcoREPs program, and more. Positions such as website management, media and communications and recycling are much more task oriented positions.
- **UC Bikeshare**. This student run program serves over 150 students each academic year with 16 bikes that roll over 100,000 miles annually. Students have the opportunity to act as unpaid managers and mechanics for this program, with training built into the program through the UCGreen Sustainability Fellows Program. This program also hosts multiple ride events and mechanics workshops.
- **Ursinus College Environmental Action (UCEA)** This is a student organization that helps to organize environmental initiatives across campus, while also volunteering time off campus for environmental stewardship projects and opportunities. UCEA events in the past include: Owl banding, rock climbing, steam clean ups, mentoring projects at schools, planning earth day, and much more.

Office staff members are responsible for writing, updating, and assisting the College with implementation of the UC Climate and Sustainability Action Plan. Within the OS, implementation of the CSAP is undertaken in both the student and the administrative arenas. Though our staff is small (two people currently) we work across campus on all manner of projects. Staff members encourage student achievement and professional development through UCGreen Sustainability Fellows leadership program. Staff members coordinate and/or supervise student programs related to sustainability and the environment, including but not limited to recycling, composting, Bikeshare, student groups, and more. Staff also collaborate with various stakeholders across the College to collect information for the College's Greenhouse Gas (GHG) Inventory and coordinate various programs/projects. OS programs and events aim to increase awareness and involvement with sustainability on campus.

The OS offers green tours of campus. These tours include stops at the following locations:

- **Bikeshare Bikes.** This program began as a student initiative in 2009. It now provides 16 bikes of various types for the use of Ursinus community members. The program provides bikes, helmets, and long distance bike packs. Training sessions are available for those interested in learning about bicycle maintenance and repair.
- **Ursinus Organic Farm**. This farm began in 2004 as a student research project in ENV-100, which then became a Summer Fellows project. The project established a garden on 2.7 acre plot of land across from the main campus. Under the care of a number of student farm directors (each overseen by environmental studies faculty), it has grown to include a large growing area for seasonal vegetables & fruits, a fruit tree orchard, bees, and most recently, chickens. The farm offers students and faculty educational and research opportunities, locally grown food, partnerships with local non-profits, leadership and work opportunities, and has a student "service hours" component.
- **Berman Art Museum Green Roof & Addition (built to LEED silver standards).** In the spring of 2010 an addition was built onto the Berman Museum of Art, built to LEED silver standards with a constructed green roof on the addition. Students, faculty and staff helped to plant the green roof in the Spring of 2010. This is the first of several green roofs the feasibility of which has been explored on the campus. The green roof offers educational and research opportunities for the College community, while also offering students a place to study and enjoy the benefits of a green roof.
- **Floy Lewis Bakes Center.** This part of the tour takes people past the Athletic Fields where things like Recycling Bins show the schools dedication to waste minimization. The tour also goes past the Floy Lewis Bakes Center and talks about the many energy saving updates the school has made to this building's lighting controls.
- **Composting & Recycling Program.** The tour includes stops by the different types of recycling bins that are available on campus. The tour also shows the various waste disposal locations for composting, recycling and cardboard, including a natural leaf composting site on campus.

- **Naturalized storm water basin (the Ursinus "constructed wetland").** This was a student research project in an environmental studies class that subsequently became a Summer Fellows project in 2004. Planning took eighteen months and the construction was completed in 2007. The basin provides the community with educational and research opportunities around a natural storm water filtration system. It also showcases a prime example of student research and achievement through applied learning.

There have been a number of sustainability-related events on campus over the past number of years, running in size and scope from large and broad to small and narrow in scope. In 2008, the campus hosted a Focus the Nation Climate Change Conference; in 2011 we held Sustainability Week (which included a panel discussion in the Berman Museum, a sustainable football game, bike rides, and scavenger hunts); and we have hosted Earth Day/Week celebrations for almost a decade (this is run by UCEA, one of our student groups). The OS staff members are available to speak about Environmental Studies/ Sustainability-related topics in academic classes, at admissions events, student/parent orientations, with dorm RA's, at alumni events, on green tours, etc. The Office also maintains web & Facebook pages and a Twitter account that are publicly available. Finally, we have produced a newsletter for the Office of Sustainability; this was originally produced by staff and has been picked up by our UCGreen Sustainability Fellows.

A large part of what the OS staff are involved in is necessarily centered on changing student, staff and faculty behaviors. Behavior change programs are ideally designed to educate community members in a way that will create long term changes in the way people think about and act within their community in regards to sustainability. Our carbon footprint at Ursinus College is impacted by the behavior of individuals as well as the institution as a whole. We intend to help reduce the carbon footprint of both. However, we cannot expect individuals or institutions to change without education about the whys and hows of reducing our GHG emitting behaviors. And sometimes, we need more than just information – we need incentives and hands-on learning experiences to make that change stick. This is the rationale behind the behavior change programs that we intend to institute at Ursinus. We will be working on programs that will affect energy consumption, resource usage, waste, and transportation.

6.2 Current: Office of Sustainability

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight areas. These areas are further delineated by type of action.

Table 6.2-1: Sustainability projects & initiatives – Office of Sustainability.

Type of Project	Sustainability Project/Initiative: Office of Sustainability
Policy	
Operations	OS staff members undertake all operations with sustainability as an organizing principle. These operations include: • Developing the overall campus sustainability program; • Mentoring and overseeing the UCGreen Sustainability Fellows program; • Collaborating with a variety of offices on campus, including Facilities Services; • Investigating sustainable solutions to common office/student life issues (paper use, transportation, recycling, etc.) • Educating the campus community about sustainability; • Undertaking the campus' GHG inventory; • Organizing events; • Administering programs; • Conducting tours; • Running a recycling/waste audit; Paperless • Whenever possible, we use online filing, resources, communication, storage, and document exchange. This saves money on paper, printer ink and energy use as well as reducing the need for physical storage space.
Procurement	None at this time
IT Changes	Website • The Office of Sustainability website has been created and overhauled with an emphasis on ease of use and navigability. Our goal with our website is to answer questions and provide information for current and future students, alumni, the campus community and the community at large. GHG Inventory • We are working with various departments on campus to increase the digital accessibility of information for our annual GHG inventory. Sustainability Presence • We are working with departments and offices across campus to increase the presence of sustainability on their various websites so that the College as a whole

	presents sustainability as something that is part of our image.
Behavior Change & Ed.	Presentations • Present information about the OS and student opportunities to parents of incoming students during orientation • Host orientation presentations for RA's twice a year on various sustainability programs and sustainable living • Visit Environmental Studies classes to discuss the College's participation in the ACUPCC. • Visit Environmental Studies courses to discuss the OS's UCGreen programs • Bikeshare: Present a once-a-semester bike maintenance workshop to learn how to tune up your own bike. Flyers • Create flyers around a variety of topics, including recycling and campus sustainability events. Events • Sustainability Week 2011: Organize and coordinate week of events including: o Residence Life held a recycled art contest in Fall 2011 to increase awareness. o The Berman Museum organized a panel discussion on sustainable themes in art. o Facilities Services held a sustainability-oriented scavenger hunt. o Athletics Sustainable Game Day. We held our first Sustainable Game Day event in the fall of 2011. We plan to hold three per year. This event aims to raise awareness about sustainability practices on campus, including using tap water instead of bottled, recycling and composting. o Our student environmental organization, UCEA, held a trash can makeover. They collected recyclables from trash cans and recycled them. This was published on their Facebook page. • Clean Green Carnival: Help UC Recyclemaniacs group coordinate and host at least one event per year as a part of the national Recyclemania competition • Homecoming T-Shirt Swap: Coordinate with the Alumni Relations and Development Offices to host at this event. • Sustainability Orientation: hold orientation sessions for RA's and incoming first year students, as well as all students involved in OS programing (i.e. UCGreen Sustainability Fellows, EcoReps). • Capstone: collaborate with the Department of Environmental Studies on Capstone days to educate interested incoming first year students on how to get involved with sustainability initiatives through the OS. • BikeShare Events: coordinate and supervise UC BikeShare fellows to organize events throughout the year that encourage involvement and participation in the UC BikeShare program. Events include Mechanic Mondays, Membership Drives, Staff Rides, etc. • Volunteer Picnic: organize a volunteer picnic at the end of the academic year to thank all of the students, staff and faculty for all of their hard work and collaboration on the many projects and programs that are run through the OS. Signage • Recycling bin labels have been updated over the years to increase awareness and

	clarity of what can and cannot be recycled on campus. Signage and flyers have also been generated by OS staff, student workers and UC Recyclemaniac members to be hung above and around recycling bins across campus to achieve this same goal. • Bins for UCompost have been labeled and continue to be redesigned to encourage residential composting and reduce contamination in food waste collection buckets within these participating buildings. Flyers have also been generated and edited over the years to communicate the goals of UCompost and general composting awareness on campus. • The OS works with academic departments and classes to ensure environmental and sustainability awareness flyers are well informed and reflective of our sustainability practices on campus. Survey • Our student environmental organization, UCEA, did a recycling survey to determine impediments to the success of our programming.
Waste & Recycling	Campus Programs • **Sustainable Move-Out**: This initiative encourages students to donate the things that they no longer want into a free-cycle system where items are exchanged by UC community members, donated to local social justice organizations for reuse, recycling or repurposing. The program runs for approximately two weeks and removes several loads of reusable items from our waste stream. • **Move-In**: This initiative runs at the beginning of the fall semester and handles the waste (trash and recyclables) associated with incoming students in the fall semester. We typically remove a medium sized container truck load of Styrofoam from our waste stream during this event, and dumpster is filled with cardboard to be recycled. Bamboo packaging is also collected to be composted. The OS has also been working with Tech Support to eliminate the printer portion of their first year program, which would eliminate the majority of the Styrofoam collected during this Move In initiative. Tech Support is seeking to eliminate printers as of the Fall of 2013. • **Recyclemania**: We have participated for three years, with some success, in this national recycling competition that promotes behavior change. Starting in 2012, the program was overseen by the OS staff. A group of students (UC Recyclemaniacs) was recruited, organized and trained to run a more successful Recyclemania campaign. • **Take Back the Tap**: The OS supervises the Take Back the Tap campaign through our UCGreen Sustainability Fellows program. A Take Back the Tap UCGreen Sustainability Fellow helps to coordinate this initiative which aims to increase water resource awareness and to increase the use of tap water instead of bottled water. This effort includes a variety of outreach efforts. Waste Audit • This was completed by a senior career study student from Perkiomen Valley High School that helps us track waste data from the past 3 years.
Transportation	BikeShare Program • This program is overseen by the OS and is run by several UCGreen Sustainability Fellows. We have 16 bicycles that are used by over 150 student members each year. Carbon Offsets • We have purchased carbon offsets for conference travel.

Community Outreach	Community Events • We have groups that have participated in the following community events: The Perkiomen Watershed Conservancy's Annual Stream Clean Up, the Phoenixville Green Team and Seventh Wonder co-sponsored French Creek Cleanup, the Community Partnership Parade, the Butterfly Mentorship Program (UCEA), the Camphill Farms Partnership (UCEA). • Annual Community Parade/Hometown Get Together: coordinate with the Berman Museum of Art on this community event. Foster the participation of OS-affiliated groups. • Students are also recruited by the OS to volunteer at a local recycling facility in Pottstown PA, Recycling Services Incorporated. Sponsoring trips for those students to volunteer their time at this recycling center. Public Campus Events • We have hosted events that draw either from our local community or from alumni (or both) that have a sustainability component. These include: Sustainability Game Day (part of the OS's Sustainability Week) and a T-shirt swap (old t-shirts donated for new ones) for attendees at Homecoming. Internship • OS staff oversaw a local high school student for a month-long internship. This was a volunteer position for the student, who got high school credit for performing the job.

6.2 Goals: Office of Sustainability

Goal 1: Work to develop a green culture on the Ursinus Campus. This will be slower to evolve, but will be influenced by the continued evolution of Sustainability programs. As we increase the presence of Sustainability on campus, people will become more aware, and we hope more involved.

Goal 2: Increase student participation in sustainability and/or climate related outreach programs or projects to 25% by 2020; 50% by 2030; 75% by 2040. Develop the UC academic, recreational and residential programming so that sustainability is central to the Ursinus experience for all UC community members. As part of this, ensure that every UC community member is aware of climate change, its potential consequences, and on-campus actions and efforts to mitigate and address its impacts.

Goal 3: Develop a strong working relationship with the Collegeville Borough Council and the Main Street Manager to work on sustainability issues that involve both the College and the borough. Collaborate on projects that will benefit all parties.

Goal 4: Act as a center for sustainability information and activity for the Collegeville community.

Goal 5: Work to integrate sustainability as a concept into the fabric of the College. Develop the UC academic, recreational and residential programming so that Sustainability is central to the Ursinus experience for all UC community members. As part of this, ensure that every UC community member is aware of climate change, its potential consequences and on-campus actions and efforts to mitigate and address its impacts.

6.2 PA: Office of Sustainability - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.2 PA-1: Office of Sustainability – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Work with Administration officials to create a "green" mission statement for the College.
- Work with various administrative units and departments to investigate the possibility of writing a green mission statement for those departments that includes: procurement, operations, transportation, education, waste reduction and recycling.

Green Pledge

- Develop a pledge to demonstrate the College's commitment to preserving the environment. Encourage students, faculty and staff to share in this commitment in their everyday actions by signing the pledge.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Sustainability Committee

- Work to create a sustainability committee and a structure for meetings, reporting, and purpose. The committee would work collaboratively to ensure that the CSAP is being implemented and would involve students, faculty, staff and administration in decision-making.
- Its responsibilities could include:
- Providing the President with recommendations for future initiatives;
- Selecting the winner of an annual Sustainability Grant (if approved);
- Selecting the theme of Sustainability Week;
- Coordinating campus wide outreach;
- Establishing student-faculty leadership teams for sustainability and environmental stewardship innovation
- Working with faculty on curriculum development.

Mid-Term (2019-2030)

Green Fund

- Work with various campus entities to establish a self-funded research fund for students to pursue sustainability and energy saving programs on the campus. The projects would be required to save energy (in an accountable way) and the savings from the projects would then be channeled back into the research fund pot.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-2: Office of Sustainability – Prospective Actions: Internal Operations

Immediate (2013-2018)

Data Collection

- Collect baseline data for campus consumption, purchasing, and use of consumables, including paper, electricity, plastic bottles, etc.
- Set reduction targets for those consumables.
- Conduct surveys to determine faculty and staff engagement in sustainability efforts as well as to catalog sustainability-related research and courses.

Academic Sustainability Programming

- Determine how many academic departments already incorporate sustainability concepts in courses and work to increase the number of departments by 50%.

Communication

- Identify effective sustainable solutions to the issue of communicating effectively with students. Share success stories.

Events

- Run all OS sponsored events as "green" events with a low or zero carbon footprint, including food, plates, napkins, utensils, invitations, decorations, low or no waste events, etc.

Climate and Sustainability Action Plan Implementation

- Design an online tracking program that will allow the various College departments to track their progress on CSAP implementation

Green Fee

- Survey students about their perceptions of implementing a $2-5/semester student "Green Fee".
- If this fee was instituted, consider pooling this fee to fund sustainability projects on campus or potentially fund a student research program.
- Create a grant-making committee of students, faculty and staff who select projects to fund.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Sustainability Websites - Content

- Work with various campus departments to create content about sustainability initiatives within each respective department that is accessible from a link on their main website landing pages.

Building Maintenance

- Work with Facilities Services staff to create a list of sustainable or "green" materials to use for day-to-day maintenance jobs. This list should cover the types of materials that are commonly used.

Mid-Term (2019-2030)

Energy Goals

- Work with various campus administrative units and departments and with Facilities Services to create goals for lowering the campus energy usage.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-3: Office of Sustainability – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Purchasing Policy

- Work with Business Office staff to develop a set of green purchasing guidelines that can be suggested to the campus community.
- Work with Business Office staff to update the web interface for purchasing so that green purchasing is facilitated.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-4: Office of Sustainability – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

LibGuides

- Work with librarians to set up "LibGuides," in specific areas of interest or study within sustainability, such as Climate Change, Campus Sustainability; Recycling;

Waste Stream; Food; etc.. Embed these tools into online resources, such as websites or Facebook or send around as links.

Data Tracking

- Set up an Excel spreadsheet that tracks commuting distances for all faculty and staff
- Investigate the possibility of setting up an Excel worksheet that, when opened, automatically updates the GHG emissions data from Business office files on College-related air, car and train travel (including mileage information)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Information Gathering

- Identify various projects on which to gather data for possible implementation. Collaborate with staff in Facilities Services to prioritize.
- Create and implement an online survey of faculty and staff to determine commute distances, frequency, preferences for incentive programs, etc.
- Estimate how much energy UC would save by turning off monitors and putting computers to sleep when not in use.
- Create a storehouse of on-campus sustainability research and host it on the OS website.

Information Technology

- Ask the Library staff to create an institutional repository on sustainability.
- Ask colleagues, faculty and others to deposit their works, research, presentations and other sustainability-related materials in the College's Institutional Repository on Sustainability.

EcoReps

- Consider creating a ResLife Goes Green Facebook group. This Facebook group would provide information to students about what other schools are doing as well as keep students up to date on campus sustainability efforts as they relate

to ResLife. This could be a project for the EcoReps program or RA Sustainability committee.

Website

- Utilize the College's website as an open venue for presenting the College's commitment to sustainability and becoming carbon neutral.
- Post educational information online about steps the campus community is taking to be a sustainable organization.
- Establish a Virtual Center for Sustainability at Ursinus to coordinate sustainability-related academic, co-curricular and student-based programs. There is a need for greater coordination, collaboration and visibility of sustainability-related academic, co-curricular and student-based programs. The Virtual Center for Sustainability at Ursinus (VCSU) would be a web-based clearinghouse of all sustainability-related programs on campus. It could also have a link from the Admission webpage for incoming first year students.
- Create a virtual green tour for new faculty and staff members and also for use in orientation for incoming first year students.

Sustainability Briefs.

- Create and disseminate periodic briefs around the topic of sustainability. These briefs would be aimed at educating faculty, staff and students on sustainability initiatives that might affect or be influenced by various campus constituents.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-5: Office of Sustainability – Prospective Actions: Behavior Change & Education

Behavior of community members and day-to-day campus life are critically important to the success of campus sustainability efforts and to our ability to reduce our greenhouse gas emissions. The behavior of every member of the Ursinus College community directly impacts the effectiveness of the actions proposed in this Plan. It affects participation, engagement, and overall campus culture. In order to reduce our campus-wide emissions we need to mitigate personal and institutional impacts on the natural environment, including aspects of what we consider to be part of "normal" life.

Immediate (2013-2018)

Expectations

- Work with various College departments to set expectations that UC will embrace sustainability within our financial constraints in such a way that we become a model that other schools aspire to imitate and that prospective students are eager to be part of.
- Be transparent about the reasons for embracing sustainability on campus: these may include fiscal savings, improving students' educations to better train them to address the problems in our world, being a good community member, setting an example of behavior fueled by academic research into the need to reduce GHG emissions, etc.
- Work with faculty and staff so that they understand that OS is responsible for overall sustainability messaging on campus, and as such, will need to give final approvals for class-created flyers that are intended for campus dissemination. This will prevent the inadvertent spread of inaccurate information.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Experiential Learning Opportunities

- Work to design and implement a comprehensive set of experiential learning opportunities for campus constituencies (e.g., applications classes; opportunities to participate in environmental activities). These hands-on activities will foster long-term retention of knowledge and understanding among participants. Possible activities include:
    - Sustainability sessions at the local eatery or pub
    - Eco-Art Events/programs
    - Green-Match program – online service to connect workers with sustainability-related on-campus volunteer opportunities. Idea repository for groups who want to do a 2-hr sustainability project; career fair or once per semester opportunities; get credit for it on a website that keeps track and kudos to people who get involved.
    - Hosting a Go Green Picnic
    - Participate in organized green events both on and off campus.
    - Encourage students to create documentaries about campus sustainability. Topics could include: assessing barriers to greening campus offices, conducting cost/benefit analyses of implementing power strips at residence halls, exploring the feasibility of having an expanded BikeShare program on campus, etc. (see Santa Clara)
    - Sustainability Pledge: Introduce sustainability pledge is an informal yet powerful method for increasing awareness of sustainability issues. Several colleges and universities, including Dickinson College, Temple University, Villanova University, Carleton College, Trinity College and others, have introduced sustainability pledges on their campuses. The pledges outline important sustainable behaviors, such as turning computers and electronics off when not in use, setting thermostats lower at night, using compact fluorescent bulbs, etc. The purpose of the pledge is to help increase awareness of climate and sustainability issues, and to provide faculty, staff and students with ways they each can contribute to lowering carbon emissions, reducing wasteful energy losses, and improving campus sustainability.

Receptive Learning Opportunities

- Educational Materials: Work to create an interdisciplinary collection of educational materials aimed at students about sustainability on campus. This information could be delivered to students via multiple media outlets (email, word of mouth, website, Facebook, residence hall bulletin boards, Wismer bulletin boards and table tents, bathroom signage, chalking campaigns, etc.). Students are likely to be unaware of the good things going on around them unless they are told. (ResLife RA Sustainability Committee & EcoReps)

- Let students know how much paper is saved each year by sending them information electronically; increase awareness of extant campus sustainability programming (recycling, composting, BikeShare, etc.)
- Educational Signage: Work to create an organized and unified message campaign to help change behavior. This should focus around energy and water usage, recycling, composting, carpooling, elevator use, etc.
- Offer brown bag lunches and workshops to various campus groups with sustainability as a focal topic.
- Elicit faculty, student and staff input into greening the workplace through surveys, suggestion boxes, or other means.
- Consider having annual think tank meetings to strategize about sustainability within the OS and on the campus. Invite students, faculty and staff to participate in these discussions.
- Provide opportunities for campus community members to learn about greening their personal lives.
- Work with the HR office to design an annual professional development program on sustainability.
- Develop a staff/faculty level EcoREP program to develop a network of implementers across the College.
- Consider purchasing books about sustainability in your particular department. Keep the Work with the Communications & Web Office staff to inform them more about campus sustainability. Once communications staff is fully aware of the resources that it has access to (website, documents, outside websites, etc.), continue to check in with them as needed for additional information about ongoing programs.
- Film Series. Open up discussion around sustainability topics in the context of popular media.
- Speaker and discussion groups. Work to develop a sustainability speaker series or sustainability roundtables and discussions on campus as a regular part of the OS offerings.
- Set up a venue/site for viewing TEDx talks on the environment. This will expose students/community to excellent, high powered speakers on environmental topics; encourage conversation about national level topics. Investigate partnering with local churches or other nonprofit organizations to bring this to the community.

Incentives for Sustainability-Related Teaching, Research and Action

- Design a green certification program that will act as an incentive for all members of the UC community. This program should include different certifications for different groups and individuals. For example, certificates could be offered for: Green Department, Green Office, Green Lab, Green Event, Green Course, etc. These programs would require a well-thought out set of criteria and a graded scale of accomplishment (e.g., Harvard University has green leaf certification at four levels: from one to four leaves).

Professional Development

- Consider co-hosting a professional development day on sustainability with the Vice President of Academic Affairs office.
- Conduct staff/faculty/RA/admissions training in sustainability issues.
- Provide periodic faculty meeting briefs. The object of these would be to update the faculty on the pertinence of the PCC to the workings of the College and the College's progress toward our goal of carbon neutrality.
- Provide periodic departmental meeting briefs. These briefs would be aimed at educating faculty on sustainability initiatives that might affect or be influenced by faculty members in each department, where/how/why to recycle, and on how the Office of Sustainability could assist them in their goals.
- Develop and run workshops to train faculty on how to incorporate sustainability concepts into non-environmental courses.
- Design and implement training sessions around a variety of sustainability topics, including recycling, purchasing, etc., that can be dropped into departmental meetings. Schedule drop in educational programs with departments across campus to increase our recycling rates and campus community understanding of practices.
- Housekeeping: Design a bilingual educational campaign on housekeeping's role in the recycling program.
- Housekeeping: Provide a training session/orientation with housekeeping staff at the end of the summer (before the academic year begins) to ensure that they are properly informed about how and what to recycle.

Promote Sustainability Within Various Campus Offices and Departments

- As needed/requested, work with individual offices and departments to increase their sustainability footprint on campus.
- Work with various departments to design educational campaigns around their sustainability initiatives.
- Work with the following programs, offices and departments, such as:

Academic Affairs

- Partner with Academic Affairs to create periodic briefs around the topic of sustainability. These briefs would be aimed at educating faculty on sustainability initiatives that might affect or be influenced by faculty members in each department, where/how/why to recycle, and on how the Office of Sustainability could assist them in their goals.
- Work with Academic Affairs to support student and/or faculty research and course development around the topic of global climate instability and sustainability.

Biology and Chemistry - Science Labs

- Work with Biology and Chemistry faculty and staff to develop an educational program for all student lab users to teach them about sustainability in the labs and why it is important. A program such as this would serve students well when they go into the workplace where liability issues will be very important.
- Determine if this program could be made mandatory for lab users.

Facilities Services: Electricity Usage Education

- Educate UC community members about the results of energy audits on all buildings, including residence halls and houses. Promote energy saving measures.
- Work with various departments on campus to institute behavior change programs that influence energy usage by all UC community members
- Educate the UC community about how to use the interactive website that is connected to the installed energy monitors.
- Educate students/faculty/staff about the benefits of using power strips to reduce the Phantom Load of electricity from electronics that have power lights (e.g., TVs, stereos), including reduced electricity usage and protection against power surges.

-

Human Resources

- Work with the Human Resources office to produce a resource guide that outlines sustainability-related College policies, employee responsibilities, and information about green buildings. Include a link to this online document to new employees.
- Work with HR to develop a sustainability-related training session for all new faculty and staff members as well as a small document that covers sustainability-related campus issues, campus goals, and what they can do to help achieve those goals.

Information Technology

- Increase awareness of IT-related sustainability actions that could be undertaken by the campus community.
- Work with IT staff to develop documents around the topic of sustainability and sustainable IT use that can be placed on all student and staff desktops.

Myrin Library

- Work with library staff to develop a list of books about sustainability that the library could procure in an effort to build up a section in the library around sustainability.
- Work with library staff to gather information to put on display in the display cases in the Myrin entry way to highlight sustainability efforts on campus.
- Work with library staff to contribute to the campus sustainability newsletter. For instance, a regular column highlighting a sustainability-related library resource (films, books, etc.) or event (movie, discussion, etc.).
- Coordinate with library staff to select or develop signage about the College's sustainability-related policies that affect the community as well as a dedicated sustainability section of a public bulletin board.
- Partner with the Library when hosting a film or lecture series or book discussion on sustainability topics. What about other sustainability events held at the Library? Earth Day could be a good tie in.
- Events. Partner with the Library when hosting a film or lecture series or book discussion on sustainability topics. What about other sustainability events held at the Library? Earth Day could be a good tie in.

Residence Life

- Collaborate with Residence Life staff and/or EcoReps to create information that is aimed at educating students about sustainability in ResLife. This type of information could be created in a number of formats, including:
    - A Greening of ResLife webpage that is linked from the ResLife landing page as well as from the UCGreen landing page. (see information technology changes above)
    - Sustainability tour videos. (ResLife staff or EcoReps)
    - A Sustainability Book for RAs and RDs to use as a sourcebook. This sourcebook would include resources for RAs, lists of local businesses, prize ideas with sustainability themes, etc.
    - A ResLife Facebook page for sustainability. (ResLife staff or EcoReps)
    - A ResLife Sustainability Program Guide in coordination with the UCGreen Office of Sustainability. (ResLife staff or EcoReps)
- Develop a Sustainable Living Guide, ideally developed by an EcoREP with assistance from ResLife and OS. This guide could include sections on the following:
    - The history of sustainability at UC
    - Green living tips for on and off campus
    - Sustainable dining
    - Alternative transportation options on campus
    - Curriculum opportunities
    - How to get involved section
- Look into partnering with ResLife and the College bookstore to provide reusable bags for on-campus residents.
- Work with ResLife to create an educational campaign about sustainable laundry practices. Include the following elements:
    - Use environmentally friendly laundry detergents
    - Wash your clothes in cold water (it's better for your clothes)
    - Hang dry your clothes – they'll last longer!
    - If you dry clean your clothing, use an organic, chemical free dry cleaner.

International Programs

- Work with the Center for International Programs to provide administrator with written resources that discuss the carbon footprint of study abroad travel and how the College is working to lower its overall emissions while at the same time providing excellent educational opportunities for students who choose to study abroad.

Student Affairs

- Work with Student Affairs staff to incorporate programmatic aspect of campus sustainability into orientation for first year students. Orientation is a new student's first opportunity to learn more about Ursinus traditions, respect for diversity, and the community-oriented spirit that thrives throughout the Ursinus campus. Incorporating some aspects and information about campus sustainability into this program would set a foundation for sustainability to be included as part of the College culture and tradition.
- Work with the Student Affairs office to develop a Sustainable Living Guide for all new students. This guide would provide an introduction and history of sustainability at Ursinus, greener living tips for campus residents, as well as curriculum and involvement opportunities. Ideally this guide could be distributed to all first year students during orientation, available in offices around campus, and online in PDF format on the Office of Sustainability website. It could be developed for students by student UCGreen Sustainability Fellows.

Staff Orientation

- Create material to provide to all new faculty (and staff) that would talk about the College's commitment to sustainability, including a link to the Green Tour of the campus (a tour of some of the campus' sustainability projects) for new staff/faculty so that they will understand the College's level of commitment.

Sustainability Literacy

- Investigate creating a sustainability minor and/or a sustainability certificate program. A sustainability minor that taps existing courses would provide opportunities for students to further explore sustainability with little institutional expense.
- Consider a sustainability literacy requirement for Ursinus students that could be fulfilled in a number of ways. Ursinus has agreed to promote student awareness of climate change and sustainability. A literacy requirement could be achieved in many ways, including taking a sustainability-specific course, showing proof of taking a course in high school that qualifies, participating in some number of activities, or taking a special 1-credit course co-taught by a number of faculty.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-6: Office of Sustainability – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Composting

- Work to increase the composting program to include all residence halls. Institutionalize this program.
- Work with Dining Services to develop a do-it-yourself composting-in-a-bag program. This program would allow students, faculty and staff to pick up bags from Sodexo and take them to their offices or rooms to compost, and then bring the bag back to the dining hall to be included with the composting.

Science Equipment

- Work with lab science faculty and staff to find alternatives for repurposing or recycling equipment that is no longer useful.

Water Bottles

- Consider the benefits and costs of providing each first year student with a UC water bottle to encourage use of tap water rather than bottled water. If it is

determined that this program would be useful in decreasing our waste, consider implementing it.

- Work with other Facilities Services areas to install more bottle filling water fountains to support this program.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-7: Office of Sustainability – Prospective Actions: Transportation

Immediate (2013-2018)

Transportation

- Provide information to the College community about the following topics:
- transportation options,
- expanding our BikeShare program,
- providing local biking maps,
- promoting the RideShare program, and
- the feasibility of a car share program to the campus.

Incentive Programs

- Work to develop an incentive program that promotes the use of electric/alternative Fuel vehicles by UC employees
- Work with NEWu to allow employees who walk or ride bikes to work to count this activity as a NEWu credit that lowers their health care bill.

Bikeshare

- Work with student manager for UC Bikeshare to increase membership, increase and track usage and, if appropriate and feasible, increase the number of bikes that the program manages.
- Tie the BikeShare program information into the incoming first year information that is emailed to students over the summer. Encourage incoming students to participate in the program.

Shuttle

- Periodically reassess the feasibility of providing students with weekend transportation to local destinations in addition to the holiday shuttle transportation to the Philadelphia train station and airport. This would be part of an effort to encourage students to leave their cars home instead of bringing them to UC. Due to substantial costs associated with this type of program, we would need to look into partnering with other area organizations.

Behavior Change

- Work to ensure that faculty, students, and staff have the ability to participate in tele- and web-conferencing. This will reduce travel costs, travel time and the GHG output associated with travel.
- Encourage students to leave their cars home rather than bringing them to college. This move would both lower UC's GHG emissions and has the potential to lower the costs of providing parking.

International Programs

- Work with the College's Center for International Programs to offer students the opportunity to purchase carbon offsets for their airfare-related emissions for study abroad travel. Currently (2011) the cost of these offsets ranges from approximately $12 to $36.
- Work with Center for International Programs to provide information to study abroad students about opportunities to participate in mitigation actions while they are in other countries as a way to raise awareness and reduce overall GHG emissions resulting from the travel.

Commuting

- Support the investigation into future program options that would reduce employees' overall miles traveled related to UC. Possible outcomes:
  - Development of a comprehensive telecommute policy
  - Establishment of tele- and web-conferencing capabilities and support for faculty, students, and staff
  - Determination of opportunities to facilitate carpooling by establishing flexible work hours.
  - Creation of incentives to encourage local employees and students to take public transportation, bike or walk to work. This could be financial or a recognition of some sort.

Mid-Term (2019-2030)

Business Travel

- Educate faculty and staff about the GHG emissions associated with business travel and alternatives that they might consider. For example:
  - Educate faculty/staff about the GHG emissions related to miles traveled and mode of travel.
  - Promote webinars and phone conferences.
  - Promote the use of alumni for admissions trips to high schools where the alums live.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-8: Office of Sustainability – Prospective Actions: Community Outreach

Immediate (2013-2018)

Public Campus Events

- Encourage the surrounding community to participate in on-campus sustainability events that are related to waste and recycling (Sustainability Game Days, Earth Day, Sustainability Week, etc.)

- Welcome the public onto the UC campus and provide leadership on environmental, sustainability and climate related topics.

Off-campus Events

- Collaborate with a local restaurant to establish a "green" discussion forum location and set of events.

Education

- Inform the Collegeville community of the efforts of the College to improve campus sustainability, possibly through an annual newsletter or through the Communications Office.

Stewardship

- Find an environmental stewardship project in the Collegeville community and organize volunteer opportunities available to all students.

Community Collaborations

- Work with students to coordinate with Main St. manager to create a Local First type of program (alliance of locally-owned, independent businesses near Fort Lewis College that created a Be Local Coupon Book; could do "local bucks" program). This could be affiliated with BALLE (Business Alliance for Local Living Economies) which focuses on green economic development strategies
- Work with the Collegeville Main Street manager to see if she'd be interested in taking sustainability to the CEDC as a guiding concept… turn Collegeville into a green community. (trail; river; walking; park; carpooling to work; public transit)
- Promote the many local organizations that host sustainable events and projects at which Ursinus students can volunteer. In the past, Ursinus has sent volunteers to Perkiomen Creek Watershed clean ups, invasive species removal projects, and interns at a local organic farm. The interactions have helped maintain positive relationships between Ursinus and the community.
- Encourage Ursinus community members to collaborate with the local school district (Perkiomen Valley) to develop "green" programming at the local schools.
    - This could take the form of environmental clubs, collaborative work on sustainability/environmental projects, having student mentors from UC work with student groups or classes in the school district.

    - This could also represent a collaboration between multiple departments – Education, Environmental Studies, Math, Biology, Art, English, etc.
- Investigate partnerships with the following types of organizations, when feasible:
    - NGOs
    - Governments
    - Local K-12 Schools
    - Teacher continuing education
    - Sustainability themes in STEM curriculum development
    - Hands-on student education/training
    - Climate Club at local elementary school/s
    - Campus tours

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.2 PA-9: Office of Sustainability – Prospective Actions: Infrastructure

Immediate (2013-2018)

Fume Hoods

- Work with Facilities Services and lab science staff to determine actual energy usage of fume hoods.

Building Energy Use Intensity (EUI)[7]

- Work with Facilities Services staff to calculate the EUI for each of the main campus buildings.

[7] "A building's EUI is calculated by taking the total energy consumed in one year (measured in kBtu) and dividing it by the total floor space of the building. For example, if a 50,000-square-foot school consumed 7,500,000 kBtu of energy last year, its EUI would be 150. A similarly sized school that consumed 9,000,000 kBtu of energy last year would have a higher EUI (180) to reflect its higher energy use. Generally, a low EUI signifies good energy performance." (U.S. DOE and U.S. EPA 2011)

HVAC

- Work with Facilities Services staff to create an HVAC Efficiency Plan that includes potential energy saving projects with cost analysis for HVAC applications across campus.

Mid-Term (2019-2030)

Heat Plant

- Replace the 1960's central heat plant with a more efficient decentralized system.
- Be opportunistic about solar power installation with available grants

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.3: Heat Plant & Steam Distribution System

Back to Table of Contents

Our central, high-pressure steam plant was built in 1962. It consists of two water-tube boilers, a deaerator, feed water pumps, chemical treatment equipment, and the campus steam distribution system. Our heating and cooling systems share the same distribution system in some buildings. Once the setting is switched from one to the other, it is switched for the season. Boiler #1 fires only with No. 6 fuel oil and is our stand-by boiler; boiler #2 has a duel-fuel burner and fires mainly with natural gas and is used for most of the year. In years past we have used whichever fuel was least expensive, and we currently only use boiler #1 (fuel oil) when we have to maintain boiler #2 (natural gas). Moving forward we would prefer to move away from using #6 fuel oil and toward a cleaner energy. Though our heat plant is well maintained, it is already beyond its life-expectancy and is far less efficient than modern plants. Replacing the central plant is a multi-million dollar venture and as such must be planned well in advance. We are investigating several scenarios: replacing the plant with a similar type of boiler (an option that may offer the opportunity for electricity cogeneration from excess steam); building a central hot water plant; and installing decentralized hot water boilers. These are detailed below in Table ___.

Table ___. Heat plant replacement options under consideration.

Replace the plant in-kind: Because the campus is already set up for high-pressure steam heat and the under-ground pipe is fairly new, we could replace the boilers with new high-pressure steam boilers. Until recently, the plant has been able to run only one of the two boilers to meet peak load. However, we have expanded to a point where a second boiler is required during peak heat demand. That means that if we have a failure of one boiler during the coldest period, we may not be able to maintain comfortable temperatures campus-wide. It would be prudent to add a small boiler to supplement one of the large boilers during peak heating load and also to handle the summer load more efficiently. This scenario may offer the opportunity for electricity cogeneration from excess steam.

Build a central hot water plant: We would replace the current steam plant with a new, smaller plant adjacent to the chiller plant and use the chilled water piping to circulate the hot water in the non-cooling season. We would decommission the current steam plant, remove the smoke stack and install a small steam boiler to meet the summer reheat needs. The remainder of the old plant would be adapted for alternate use. This option would save $470,000 in annually with a simple payback of eight years. Various financing options are available requiring no cash outlay from the institution.

Install decentralized hot water boilers: Provided we have space, we would install hot water boilers in each buildings or cluster of buildings for heat. This would also allow for the steam plant to be decommissioned, the smoke stack to be removed, and the building to be adapted for reuse. This would be the most efficient heating system we could have and would cost less to install than a central plant. We would need to find/allocate space in each building or cluster of buildings for boilers. The payback for this set up would likely be 3-5 years. The down-side is that it will be difficult to use dual fuel capability, as installing adequately sized oil tanks would require locating them at various sites across the campus. This may not be aesthetically suitable to the college.

Cooling: This is mostly covered in electric; however, there is a heat plant option for some our residence halls. We have significant cooling electricity consumption from window A/C units that students are allowed to bring for some of our older residence halls. One option for removing window A/C units is installing a Valance system. These systems work by distributing heat or cooling that is provided by hot or cold water run through tubes. We have installed this type of system in Richter North and New Halls and it is highly efficient and would be a good retrofit for the residence halls in question. However, because these buildings have little or no

summer occupancy, payback times could be extensive. Each of these should be considered individually for fiscal prudence.

Ursinus commissioned Entech Engineering to perform a comprehensive central steam plant and distribution review in order to investigate the scenarios listed above and provide a recommended way forward with our aging steam plant and cost estimates. The study was completed in 2011 and concluded that, though the central steam plant is old, it is in excellent condition. The system is very tight and we have a very high percentage of condensate return. Entech's recommendation is to retain the central plant, as-is, and modify it to be more efficient. The largest investment would be in adding low-level, independent heating to the buildings served by the central plant. The reason for this is so we can shut down the central plant for six months of the year and still provide adequate heating for the shoulder seasons (the times when outside temperatures vary enough so that heat is not necessary during the day, but it is still cool at night), hot water and building reheat for humidity control. The total project will cost in excess of $1 million. This improvement would save about $250,000 per year in energy cost and significant carbon reduction. The engineering and construction are on the college's capital list but are not yet funded.

The campus steam distribution lines have mostly been replaced in the past 16 years. Our steam load fluctuates from a maximum of 20,000 lbs. of steam per hour in the winter peak to 4,000 lbs. per hour during the summer. There are several buildings on campus that require re-heat during the summer to compensate for over chilled air that results from the dehumidification process: Bomberger Hall, Pfahler Hall, the Kaleidoscope Theatre, the Myrin Library, and the Berman Art Museum all have HVAC system requirements for a heat source year round. This may be an area where savings could be achieved if we are able to shut down the central plant in warm months and provide this re-heat with smaller, local units.

Year-round steam usage is required for domestic hot water, the kitchen dishwasher booster, pool heaters, the deaerator, and steam autoclaves. We also use year-round steam to keep the fuel oil heated to the temperature required to keep it liquid (125° Fahrenheit (F) in summer; 150° F in winter; 180° F when in use). This is estimated to cost the College $3,000 and use approximately 300,000 lbs. of steam annually.

UC has identified projects that will reduce energy consumption related to campus buildings and move us toward our first phase of becoming carbon neutral: a 25% reduction of our per-square-foot greenhouse gas emissions by 2020. Importantly, our Facilities Services Department has taken many measures to maintain the campus' heat plant and steam distribution system in excellent working order. This allows the College to extend the years of useful life of the system and increase the efficiency of the existing system.

6.3 Current: Heat & Steam

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.3-1: Mitigation Projects/Initiatives – Heat Plant and Steam Distribution System

Type of Project	Mitigation Project/Initiative: Heat Plant and Steam Distribution System
Policy	Energy Study • Completed an energy study to determine the best course of action for heating/cooling the campus. 2011. Will be investigating funding the recommended action over the next 5 years.
Operations	Maintenance. • Our maintenance staff members perform regular tune-ups and cleaning on our boilers. This allows us to put off the purchase of a new heating system (and the upstream GHG emissions that might be associated with it), and ensures that our existing boilers perform at their peak level. • Our HVAC systems are winterized annually. Energy Saving Initiatives – Regulating Heat Use • We typically heat from October 15th through April 15th. The heat is set between 67-70 degrees. Night temperatures are set at 60 degrees in academic/administrative buildings. The daytime start up time for the heating system is 6 am. • Thermostat timing is set weekly, depending on the buildings' schedules for each week. • During the month between April 15-May 15th and again between October 1st and 15th, we use circulating air as much as possible rather than heating or cooling. • Facilities Services adjusts temperatures in campus buildings during the winter breaks to reflect the occupied or unoccupied status of the building; decreasing temperatures during weekends and evenings, when buildings are normally unoccupied. • Energy Saving Initiatives – Building Upgrades • Conversion. Many of the Main St. houses have been converted to natural gas from oil over last several years.

	• HVAC. Individual HVAC controls with variable frequency drives (VFD) have been installed in many of our large buildings. • Insulation. UC is in the process of installing insulation in ceilings & walls of campus buildings to improve seasonal temperature retention. • Thermostats. Updated to electric and separated for each room to take into account windows left open. • Windows. Energy efficient windows purchased and installed (as needed/able). This lowers the cost of heating and cooling buildings on campus.
Procurement	None at this time
IT Changes	Scheduling Thermostat Changes • Facilities Services uses the Blackboard Facilities Management schedule to alert them to when events or classes are happening on campus. This allows them to adjust the building temperatures when not in use.
Behavior Change & Ed.	Events • Facilities Services participated in the College's first annual Sustainability Week by creating a week-long Scavenger Hunt for students to participate in. This event included finding information about Energy Use, Water, Heating, and Recycling. Strategy • Facilities Services works with The OS to develop strategies to educate and influence student behavior with regard to heating/cooling, electricity, and water usage on campus. • One such strategy is the development of an energy dashboard that will enable the Ursinus Community to see real-time energy use and whether that use is above or below our goal.
Waste & Recycling	
Transportation	Heating Oil • Because natural gas prices are much lower than oil, we have relied more heavily on natural gas for fuel, significantly reducing our truck oil deliveries to fewer than ten deliveries per year.
Community Outreach	None at this time
Infrastructure	Boilers • Because our boilers have been so well maintained, they will likely last for an additional 15-25 years, despite already being at the end of their initially-projected life span. The excellent maintenance that they have received over the years has enabled the college to postpone a major investment and capital expenditure. We anticipate that technologies will have advanced substantially before we need to make this investment, which will benefit the College further. Valance Heating & Cooling System • We installed a Valance system in our two newest residence halls, Richter North and New. This system is energy efficient and allows us to have centralized A/C rather than individual window units in these residential halls, which now house the Summer Fellows students.

6.3 Goals: Heat & Steam

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of Electricity/Energy Use, and publish that commitment within the community.

Goal 2: Within the UC Community, including the Facilities Services Department, increase awareness of the Facilities Services Department's commitment to sustainability and the importance of conserving resources.

Goal 3: Set GHG emissions reduction goals for the heat plant and publicize these within the College community.

Goal 4: Set heat plant-use reduction goals for all buildings on campus.

6.3 PA: Heat & Steam - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.3 PA-1: Heat & Steam – Prospective Actions: Policy

Immediate (2013-2018)

Energy Cost Accounting

- For projects that require large capital expenditures, consider adopting a policy of incorporating energy costs associated with the lifetime of the project into the overall project cost. Consider taking the project's energy efficiently related

savings and payback time into account when making decisions about capital expenditures.

Goal Setting

- Set goals for reducing our Heat Plant's GHG emissions. These goals should put us on track for meeting our overall goal of reducing our emissions to zero by 2060.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.3 PA-2: Heat & Steam – Prospective Actions: Internal Operations

Immediate (2013-2018)

Cost Analysis

- Analyze the impact that changing thermostat temperatures by one degree (in either direction) in each building has on our energy use for both summer and winter months. Calculate using degree days for comparability.
- Use this information to inform decisions about thermostat settings on campus as well as for determining cost effectiveness of various energy-saving strategies.

Energy Management Technology

- Install thermostats, motion sensors, CO_2 detectors in buildings that make air changes in response to CO_2 levels rather than automatically on timer, etc.
- Install HVAC tracking so that we can operate our buildings more efficiently.
- Install occupancy sensor control of HVAC package units.

- Install insulation on pipes, windows, walls, ceilings, roofs, as when and where possible with higher R value insulation materials.

Hot Water

- Washing Machines. Contract with our laundry provider to institute a laundry quota system. This would allow students a certain number of "free" laundry cycles (washer or dryer). After they used their quota, they would have to purchase additional cycles. This would theoretically lead to larger and fewer loads of laundry being done. (See X section).
- Eliminate hot water in settings where it is legal to do so.
- Decrease hot water temperature setting overall and lower it to "vacation" settings during breaks.
- Solar. Consider using solar hot water heaters to supply all locations with the energy needed to produce hot water.
- Cooking Oil. Investigate water heating technology that runs off of used cooking oil.

Summer Shut Down

- Perform a study to determine the cost of moving the main boilers to a summer shut down status and installing building boilers to supply hot water in off season; investigate financing options for the plan.
- If indicated by the study, switch boilers that supply heat and hot water to the entire main campus to summer shut down mode. Install building boilers/furnaces to handle summer heating/hot water requirements. This would lead to about a 35% decrease in emissions caused by the central heating plant. This is equivalent to a savings of 55,378.6 kg of CO_2.

Free Heating: Non-residential Buildings

- Maximize free heating opportunities and monitor impact on energy savings. This zero-cost measure should save wasted energy by using ambient temperature air during mild weather to assist with heating needs and reduce need for steam heat. Our heating and chilling plants share the steam distribution system, so they cannot function

simultaneously. When we switch from heating to cooling, we do not switch back until the seasons change.[8]

- Thermostat Settings in Non-Residential Buildings. For heating, consider changing the temperature range for daytime heating from 67-70 degrees to 66- 68 degrees.
- When the outside air temperature is higher than the daytime heating range, consider lowering the temperature of the heating system to take advantage of this "free" heating opportunity. Alert campus on these days that they may open their windows if they would like to get some fresh air.
- Consider instituting a period of no heating or cooling in the fall similar to the April 15-May 15 period in the spring. Even if this is only for a week, this would save energy.
- Consider changing the startup time for heating/cooling from 6 a.m. to 7 a.m. This would depend on building use, but would save additional heating requirements. This would likely require an educational campaign for faculty and staff.
- Ensure that any changes made to the heating/cooling system on campus would not affect the temperature settings required to preserve archival material and artwork, and ensure that the specific preservation, educational and athletic programs that have different environmental requirements are accommodated.

Free Heating: Residential Buildings

- Currently, residence halls do not have cut back times/dates for heating or cooling. Buildings are currently available for student occupancy during school year breaks. Most of our residential houses and halls are closed during the summer. Although it is not feasible at this time to shift students from one room to another to facilitate shutting down some buildings during breaks, this is something to investigate for the future.

[8] Our current settings are as follows: **Heating**: daytime 67-70 degrees F; nighttime 60 degrees F, Oct. 15-April 15; **Cooling**: daytime 75-78 degrees F, nighttime system shut off, May 15-Oct. 15.

- Consider changing the temperature range for daytime heating from 67-70 degrees to 66- 68 degrees in residential buildings.
- Consider reducing the nighttime temperature by two to three degrees from 1:00 a.m. until 6:00 a.m. This would reduce the cost of heating these spaces, and perhaps reduce the heat enough that students would not have to open their windows at night to cool their rooms down.
- Assess the impact on use and cost of reducing the temperatures for various buildings.

Air Handling System Operation

- Investigate whether there are opportunities to better match the air handling system operation to building use. If the air handling system is operated 24 hours a day, this is likely wasting energy at night. Shutting down the air handlers when they are not needed can save both heating and cooling energy
- The two oldest residence halls have antiquated heating thermostatic controls. There are too many residence rooms being controlled by one thermostat. This leads to rooms over-heating and it is not uncommon to see windows open in winter to cool rooms. The controls and piping should be updated. It is intrusive and expensive, so it should be done when the buildings are renovated.

Mid-Term (2019-2030)

Night time Temperature Settings for Academic Buildings

- Study the needs of the buildings to determine if there is a risk of freezing if building nighttime temperatures were lowered below 60 degrees in winter. Make changes to system settings, as appropriate.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.3 PA-3: Heat & Steam – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Cost Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.
- Investigate installing individual steam meters for each building. The resulting data will help us gauge building efficiency and aid investment prioritization.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

6.3 PA-4: Heat & Steam – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Metering Heat

- Determine if it is possible to meter heat for any of the campus buildings, including Main Street residential houses. For those buildings where this is a possibility, hook meters up and display that information on the Energy Dashboard.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.3 PA-5: Heat & Steam – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Heating Awareness Program

- If possible, consider running separately metered student houses such that average electricity/water/fuel use is calculated to determine what students are allowed to use. Students would then be charged for overages on those amounts. (The program at Guilford College, for example, offers a grace period of one month to get their use down into the target range.)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.3 PA-6: Heat & Steam – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.3 PA-7: Heat & Steam – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.3 PA-8: Heat & Steam – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.3 PA-9: Heat & Steam – Prospective Actions: Infrastructure

Immediate (2013-2018)

Heat Plant – Next Generation

- Ursinus must develop a plan for next generation heat plant and steam distribution system. Ursinus' boilers have already exceeded their design lifetime. Due to their excellent maintenance, however, their life expectancy is another 15-25 years (approximately 2026-2036). The College's building square footage is likely to grow during these years, and with it, the demand for heat.
    - At this time it is appropriate to plan for conversion to a system that is more environmentally friendly and that has lower GHG emissions. Planning for the next generation of heat plant should begin about ten years earlier to take advantage of emerging innovations and technology.
    - Upgrading our heat plant will require budgetary awareness and planning as it will require a major capital expenditure. The College will need to have long term plans to accumulate capital to fully fund this investment, which will be substantial.
    - By planning for this now, we avoid the need to make quick decisions in a crisis situation should the boilers fail unexpectedly.

Pool Heating

- The College plans to install a pool dehumidification unit in the near future. Work to ensure that this unit is designed such that waste heat from the unit can be used to maintain pool water temperatures during the summer.

Summer Shut Down

- Pursue the transition to summer shutdown for the heat plant. This will involve switching the boilers that supply heat and hot water to the entire main campus

to summer shut down mode and installation of building hot water heaters for summer use.

- Install building boilers/furnaces to handle summer heating/hot water requirements.
- According to the preliminary study, this action would lead to about a 35% decrease in emissions caused by the central heating plant. This is equivalent to a savings of 55,378.6 kg of CO_2.

Summer Re-heat

- Review the HVAC systems in Bomberger Hall, Pfahler Hall, the Kaleidoscope Theater, the Myrin Library and the Berman Art Museum to determine if there are opportunities to reduce summer heat requirements.

HVAC Upgrades

- Modernize HVAC systems in older buildings concurrent with renovations.

Individual Building Solutions

- Perform a cost benefit analysis of installing a Valance heating/cooling system in some of the older residential halls that do not currently have central air conditioning. This would need to consider the electricity used by the student-owned window A/C units, as well as the impact of installing a Valance system on decisions about our heat plant (and vice versa).
- Consider geothermal options for new buildings. Though it is not fiscally feasible to convert the entire campus to geothermal energy, examine the possibility of using geothermal energy for heating/cooling in any new buildings that are constructed on our campus.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.4: Electricity & Chiller Plant

Back to Table of Contents

Ursinus is a larger electricity customer, with multiple buildings and it's own switchgear (the switches and circuit breakers that protect the electrical equipment) and an on-campus high-voltage power distribution system (a system of high voltage transformers and cables that distribute electricity across campus). The College's switchgear and half of the electric power distribution system is in good condition. The College has been updating the high-voltage distribution system (or loop) in phases; two of four phases are complete. There are three very old transformers in BPS, BWC and Wismer that need to be replaced. These are on the 5-year physical plant funds list for budget committee consideration and funding.

Since fiscal year 05-06 Ursinus has funded energy efficiency modifications. This set of projects (called the energy efficiency modification pool) has allowed us to make many efficiency modifications on campus, including: variable frequency drives (VFDs) to control mechanical equipment motor speed, HVAC (heating, ventilation & air conditioning) controls, energy studies, lighting retrofits and occupancy sensors. We are working throughout the campus and are mostly done with these relatively easy and inexpensive "low-hanging fruit" projects.

Facilities Services looks at electrical energy consumption on campus as a tree, with a trunk, branches & leaves. The trunk is the main, high voltage distribution loop and switchgear. The branches are the building mechanical systems and the leaves are the campus community of individual electricity consumers. Our Facilities Services Department works primarily on reducing our electrical energy consumption at the "trunk" and "branch" level. Addressing consumption at the individual consumer level requires raising awareness and changing habits. Energy conservation based on individual behavior change will require the dedication and actions of individual students, faculty, and staff outside of Facilities Services. Although Facilities Services does not control the "leaves" of the campus' "energy tree", it does try to moderate use when possible through energy-saving initiatives and through behavior change strategies.

Peak demand mitigation is critical to lowering our energy use and costs. Our highest demand for electrical energy comes during the hottest summer days when air conditioning is required in most of our buildings. Ursinus used to have to pay PECO a demand ratchet, or a percentage of our peak (highest) demand of electricity in addition to the actual kWh usage, regardless of how

much the College used.[9] Though we no longer have to pay PECO a demand ratchet, our energy use profile is still important for generation pricing when we go to market. Since this affects how much we pay every month (even when we don't need it) it is particularly important to try to decrease our energy requirements on those days when outside temperatures cause us to use more electrical energy to cool our buildings. On these days, we observe the campus energy consumption real-time via a web interface and if it appears that our consumption is higher than we want it to be, we will engage in load-shedding (shutting down non-essential equipment) to reduce our kWh consumption. We have been successful in doing this some years, less so in others. Our HVAC programmer has written code that, when implemented, automatically slows down or turns off non-essential equipment. This method has enabled us to more effectively control our peak load.

The driver for peak electrical demand is cooling. The highest demand is usually on the hottest day. So, the target for peak demand control is the chiller plant. The campus' chiller plant has a 1,500 ton cooling capacity and was built to handle the College's master plan. Currently we are at capacity. Though the plant is fairly new and operates efficiently, it still draws the most power during the period of highest demand. The way to control the peak is to generate our cooling during periods of low demand; at night. Thermal storage can be accomplished using either chilled water or ice. Though the initial study indicates storing water may be less expensive to implement, ice is more practical. We require further study to define our approach before making such a significant investment. We do not have an indefinite amount of time, however, as our plant is at its current capacity and expansion beyond the Berman addition will require additional cooling resources.

Another strategy for peak load reduction is solar. Solar produces its highest output when it is sunny and hot, which is also when we hit our peak demand. If we are able to execute a Power Purchase Agreement and install a 350 kW solar array, it will help us to reduce our peak demand.

Summer is the time of year when our electricity use peaks because of air conditioning. Therefore we have put a number of practices into place to mitigate our use of A/C (see the table below). We continue to work to decrease our need for A/C, however, there are certain

[9] This arrangement is typically put in place for large-scale customers that have a sizeable electrical infrastructure in place. It protects the electricity provider from losses. However it also leads to excess energy use since the customer pays a percentage of peak demand regardless of actual kWh use.

factors that we cannot get around. We have to keep at least one residence hall operational during the summer to house our students who stay on campus. We keep the A/C on in whichever large residence hall (Richter/North or New) is housing summer fellows. We also have some buildings which have cooling requirements that must be met, such as our library, certain science labs, and our museum. Another factor on our campus is the age of our buildings. We have many older buildings which are very much part of our campus, but which have their own set of complexities. We are working to make those buildings as weather-proof as possible, but they will remain old buildings with challenges.

With regard to investing in energy efficiency to reduce our GHG emissions, our first priority is our own infrastructure; however, we recognize that we will not be able to reach our ultimate goal of becoming carbon neutral without investing in renewable energy sources. To that end, we have generally investigated alternative energy sources as a means of stabilizing energy cost and reducing college greenhouse gas emissions. The College intends to continue to investigate alternative fuel sources as it moves forward in time. We are open to considering options that will save the College money, promote the educational experience of our students, and reduce our GHG emissions.

Solar energy is part of our plan to reach carbon neutrality. To date, Ursinus has been unsuccessful in its attempts to enter into a Power Purchase Agreement (PPA) that would bring solar panels to the roofs of several of our buildings. Although this is disappointing, it is somewhat tempered by the fact that having a solar array through a PPA would not lower our carbon emissions unless we also purchased the RECs (Renewable Energy Credits) associated with the power that was generated.

Geothermal is also an option for the College. Though it will not be fiscally feasible to convert the entire campus to geothermal energy, we will examine the possibility of using geothermal energy for heating/cooling any new buildings that are constructed on our campus.

Campus-generated wind energy is unfortunately not an option for Ursinus. The College initiated discussions about wind energy production on the campus, however, initial estimates were that there is not enough wind energy potential on our campus to make it a viable option with current technologies.

6.4 Current: Electric & Chiller

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight areas. These areas are further delineated by type of action.

Table 6.4-1: Mitigation Project/Initiative - Electricity & Chiller Plant

Type of Project	Mitigation Project/Initiative: Electricity & Chiller Plant
Policy	Athletic Complex Lighting Study • We completed a lighting study of the athletic complex, our biggest lighting energy consumer. Overall, the study showed that we rarely have lights on in unused spaces, but still spend a lot on expensive lighting in large areas that may have few occupants. The overall simple payback is 4.12 years. Much of this work is now complete. The field house has been converted to more efficient, fluorescent lighting from metal halide. Every fixture is on its own motion sensor. We have also converted the pool and main gym from HID lighting to fluorescent. All Athletic Complex classrooms have been converted from T-12 fluorescent to T-8 and placed on motion sensors. Energy Curtailment - Demand Response Program • We participate in a Demand Response program which enables us to sell unused electrical grid rights on the open market via a third party (PJM). Ursinus has successfully participated in a Peak Load Reduction (PLR) program for several summers. The college agrees to drop 940 kW when a grid emergency is declared. This program has yielded between $25K and $40K in revenues to Ursinus annually. We are preparing to enter a new three-year contract that would yield $40K in 2012, $63K in 2013 and $46K in 2014. Energy Saving Measures • Thermostat timing is set weekly, depending on the buildings' schedules. • Run exchange programs to provide compact fluorescent bulbs in exchange for incandescent bulbs. • Adjusts temperatures in campus buildings during the summer to reflect the occupied or unoccupied status of the building, increasing temperatures during weekends and evenings, when buildings are normally unoccupied. Heating Master Plan • We commissioned a campus heating master plan to help us determine the most prudent course of action with regard heating on campus. Though this study was primarily concerned with our Heat Plant, there were also recommendations regarding solar hot water heating, which would potentially have an impact on any future solar projects.

	Pfahler Hall Energy Study • We commissioned an energy study of our biggest energy-consuming building, Pfahler Hall. The study found that Pfahler is responsible for 1/3 of the college's overall energy use. The study provides a list of efficiency projects to bring this science building's consumption down. The overall simple payback for the projects is 2.3 years. The College makes funding decisions on a case-by-case basis. Currently, it does not have the capital to invest in expensive upgrades except for those with a short payback. • Space Heaters • Space heaters are not allowed on campus in residential areas and are discouraged in office spaces.
Infrastructure	Science Labs • *Ursinus has worked with science faculty and installed manual switches to place some labs in an unoccupied mode and reduce air changes to the minimum accepted by departments*. Energy Saving Upgrades to Infrastructure • UC is in the process of installing insulation in ceilings & walls of campus buildings to improve seasonal temperature retention • Updated HVAC controls have been installed in most campus buildings. We have also installed variable frequency drives (VFDs) and we winterize annually to reduce lost energy.
Operations	Air Handling Units (AHUs) with Variable Frequency Drives (VFDs) • We have been putting Variable Frequency Drives (VFDs) on our air handling units. This saves money by reducing our electricity consumption. Pumps increase or decrease speed as needed rather than operating at a constant rate. Air Handling System Operation • We have identified opportunities to better match the air handling system operation to building use. If the air handling system is operated 24 hours a day, this is likely wasting energy at night. Shutting down the air handlers when they are not needed saves both heating and cooling energy Electric Metering • I*nstall HVAC tracking campus-wide so that we can operate our buildings more efficiently.* Energy Curtailment - Demand Response Program. • When an energy emergency is declared, the College shuts down all non-essential electricity in the academic and non-residential areas. We have achieved up to 60% reductions in our power load during these events. Energy Saving: A/C Regulation • We cool our buildings to 75-78 degrees/May 15-October 1st. The temperature is set between 75-78 degrees. The air conditioning is turned off at night in non-residential buildings. The daytime start up time for the cooling system is 6 am. • Thermostat timing is set weekly, depending on the buildings' schedules for each week.

	• During the month between April 15-May 15th and again between October 1st and 15th, we use circulating air as much as possible rather than heating or cooling. • The cooling temperatures of academic and administrative buildings are set back based upon what is going on in a building in the evening – which we determine weekly based upon the buildings' online calendar. • Once a residence hall closes in May, those halls that are centrally air conditioned stay off until the students start coming back. • On campus, the A/C units are turned on when the average evening temperature reaches 70 degrees and 85 percent humidity. Energy Savings: Lighting Usage • Installed motion sensors on lights in bathrooms, offices, classrooms and renovated residence hall bedrooms. • Custodial services works during daytime, reducing lighting requirements at night. • West Parking Lot - closed at times during the summer with lights off to save energy required to light the area. • Conducted a lighting study in the gym to determine needs, as noted above. Energy Savings: Lighting Upgrades • Energy efficient lighting retrofits have been completed in most campus buildings. • LED lights installed for outdoor walking lights (last 10x longer than fluorescents). • Replace 28-32 watt fluorescent lamps with 25 watt low-mercury tubes (all fixtures with suitable ballasts). • Replaced incandescent-bulb exit signs with LED signs. Energy Savings: Machine-related • Vending Misers have been installed in all campus vending machines. • Office machines set to low power mode overnight and on weekends when usage is low, automatically start up during the work day. • Appliances are replaced with Energy Star/energy saving models, as needed. Power Factor • We checked the buildings on campus approximately 10 years ago for their power factor (see the Facilities Services glossary). All UC buildings have a power factor of over 90%. This allows the buildings to use energy more efficiently. The power factor is on each building meter.
Procurement	Laundry • We increased the efficiency of our laundry by leasing machines that use two-thirds less energy and water than our old machines. Lighting • Local purchasing (e.g., lamp posts were bought locally - Spring City). Science Labs • We have made updates in our science buildings that are more energy efficient (e.g., fume hoods). Windows

	• Energy efficient windows purchased (as needed/able). This lowers the cost of heating and cooling buildings on campus. Printers • Printers have been replaced with more efficient models.
IT Changes	Energy Dashboard • The College is in the process of getting our energy metering onto an online energy "dashboard" that will allow students to see real-time energy usage. The meters are up and running, we are now working on the Information Technology (IT) interface. Scheduling Thermostat Changes • Facilities Services uses the Blackboard Facilities Management schedule to alert them to when events or classes are happening on campus. This allows them to adjust the building temperatures when not in use.
Behavior Change & Ed.	Energy Curtailment - Demand Response Program • The Demand Response Program, in which we agree to curtail our energy use as a campus during periods of high demand to the grid, is an excellent tool for making the campus community aware of energy usage and how to cut down on energy usage. Events • Facilities Services participated in the College's first annual Sustainability Week by creating a week-long Scavenger Hunt for students to participate in. This event included finding information about Energy Use, Water, Heating, and Recycling. Strategy • Facilities Services works with The OS to develop strategies to educate and influence student behavior with regard to heating/cooling, electricity, and water usage on campus.
Waste & Recycling	None at this time
Transportation	None at this time
Community Outreach	None at this time

6.4 Goals: Electric & Chiller

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of Electricity/Energy Use.

Goal 2: Within the UC Community, including the Facilities Services Department, increase awareness of the Facilities Services Department's commitment to sustainability and the importance of conserving resources.

Goal 3: Set waste reduction/GHG emissions reduction goals within the College community.

Goal 4: Set energy-use reduction goals for all buildings on campus.

6.4 PA: Electric & Chiller - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.4 PA-1: Electricity & Chiller – Prospective Actions: Policy

Immediate (2013-2018)

Alternative Energy

- Work to establish a policy that would require that we get at least 10% of our electricity from alternative energy sources by 2016.
- If we enter into a PPA for solar power, investigate having the contract written so that Ursinus would purchase the RECs at a discounted prices after the initial five-years of the contract. This might make it easier to obtain financing and would then allow us to reduce our carbon emissions in our annual inventory for those years.

Capital Expenditures

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Energy Consumption

- Institute a policy that requires all appliances purchased for, and potentially those brought to campus by UC community members, be Energy Star certified after a date to be determined. This includes those in offices, in student rooms, and in

the kitchens. This would not apply to lab refrigerators or other lab equipment that must be maintained to certain specifications unless Energy Star certifications are available for those.

- Institute a fee for non-Energy Star personal refrigerators brought to campus after the date above.
- Set a limit on the total number of amps allowed on electronic equipment in each dorm room.

Energy Cost Accounting

- For projects that require large capital expenditures, consider adopting a policy of incorporating energy costs associated with the lifetime of the project into the overall project cost. Consider taking the project's energy efficiently related savings and payback time into account when making decisions about capital expenditures.

Energy Performance Contracting

- Set energy performance standards for contractors and only contract with those who can demonstrate that they can meet those standards.

Goal Setting

- Set goals for reducing our electricity-related GHG emissions. These goals should put us on track for meeting our overall goal of reducing our emissions to zero by 2060.
-

Mid-Term (2019-2030)

Alternative Energy

- Research the possibilities of increasing the percentages of our electricity that comes from alternative energy as the years move on, for example: 25% of our electricity from alternative sources by 2020; 35% by 2025; 50% by 2040; etc.
- Incorporate geothermal HVAC systems when/if possible when constructing new buildings.

Offsets

- When we have made all of the improvements to our campus that we can to reduce our GHG emission, investigate the purchase of carbon offsets to continue to meet our goal of becoming carbon neutral.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.4 PA-2: Electricity & Chiller – Prospective Actions: Internal Operations

Immediate (2013-2018)

Chiller Loop

- Look for opportunities for raising chiller loop temperatures for greater efficiency.
    - Raise chiller loop temperatures and monitor impact on users and energy savings. This zero-cost measure could potentially save energy and related costs and emissions by optimizing loop temperatures to meet cooling demand efficiently.

Electricity Use

- Identify campus buildings (or lockable areas of buildings) that are not in use over the weekends and at night and determine if it would be possible to program the lighting and possibly some of the outlets in those buildings and/or building areas to stay off during unused times.
- Install motion sensors in all classrooms.
- Determine the minimum amount of lighting/square feet required for various types of spaces on campus (classrooms, labs, hallways, bathrooms, dining rooms, offices, storage areas, etc.), and ensure that the College is not over-lighting spaces. Remove light bulbs (including fluorescent tubes) when possible.

Electric metering

- Meter to the lowest unit possible for real time feedback to residents and building users.
- Install HVAC tracking campus-wide so that we can operate our buildings more efficiently.

- Installing occupancy sensor control of HVAC package units.

Energy Audits

- When we have accomplished all actionable items from our most recent energy audit, conduct new energy audits on all buildings, including residence halls and houses, as feasible.

Free Cooling: Non-Residential Buildings

- Application: Non-residential buildings only. Changes would not be made that affect the temperature settings required to preserve archival material and artwork, and would need to support the specific preservation, educational and athletic programs that have different environmental requirements.
    - Maximize free heating opportunities and monitor impact on energy savings. This zero-cost measure should save wasted energy by using ambient temperature air during mild weather to assist heating needs and reduce need for steam heat. Our heating and chilling plants share the steam distribution system, so they cannot function simultaneously. When we switch from heating to cooling, we do not switch back until the seasons change.[10]
    - Thermostat Settings in Non-Residential Buildings: For cooling, consider changing the temperature range for daytime cooling from 75-78 degrees to 77-79 degrees.
    - Consider changing the startup time for heating/cooling from 6 a.m. to 6:30 a.m. or 7 a.m. This would depend on building use, but would save additional heating requirements. This would likely require an educational campaign for faculty and staff.
    - When the outside air temperature is higher than the daytime heating range, consider lowering the temperature of the heating system to take advantage of this "free" heating opportunity. Alert campus on these days that they may open their windows if they

[10] Our current settings are as follows: **Heating**: daytime 67-70 degrees F; nighttime 60 degrees F, Oct. 15-April 15; **Cooling**: daytime 75-78 degrees F, nighttime system shut off, May 15-Oct. 1.

would like to get some fresh air.

- Investigate technology that would automatically turn the cooling system off when the outside air temperature is below a certain level. This would need to accompany an educational campaign for staff & faculty to have fans in their work spaces.
- Consider extending the period of no heating or cooling in the fall from a two-week period (Oct. 1-15) to a month-long period (set as deemed appropriate) similar to the April 15-May 15 period in the spring. Even if this is only extended for a week, this would save energy.

Free Cooling: Residential Buildings

- Currently, residence halls do not have cut back times/dates. Buildings are currently available for student occupancy during school year breaks. Most of our residential houses and halls are closed during the summer. Although it is not feasible at this time to shift students from one room to another to facilitate shutting down some buildings during breaks, this is something to investigate for the future. Consider instituting such times and days.
- Once a residence hall closes in May, those buildings that are centrally air conditioned stay off until the students start coming back. The air conditioning stays on in whichever large residence hall (Richter/North or New) is used to house summer fellows and other students on campus.
- Consider changing the temperature range for daytime cooling from 75-78 degrees to 77-79 degrees.
- Investigate technology that would automatically turn the cooling system off when the outside air temperature is below a certain level. This would need to accompany an educational campaign for students to have fans in their rooms.
- Consider increasing the nighttime temperature range by one or two degrees.

Refrigerants

- Continue to update current cooling/refrigerants to more eco-friendly systems, including moving away from R-22 refrigerants, as per legal requirements.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.4 PA-3: Electricity & Chiller – Prospective Actions: Procurement

Immediate (2013-2018)

Responsible Consumption

- Reduce use of products wherever possible and implement sustainability practices in everyday operations.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.4 PA-4: Electricity & Chiller – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Information Tracking

- Track average building-level use of electricity as a percentage of average overall energy use. Display this information on our energy page.

Mid-Term (2019-2030)

6.4 PA-5: Electricity & Chiller – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Alternative Cooling

- Encourage the use of fans to circulate air if the temperature feels too warm in buildings.

Collaboration

- Work across facilities and with administrative departments on campus that deal with buildings and community-member behavior to strategize decreasing the College's consumption of electricity.

Fees

- Consider charging a fee for non-Energy Star residential refrigerators.
- Consider allowing only two appliances in each dorm room free of charge (i.e., students may choose to bring two of the types of appliances that they are allowed to bring (including refrigerator, microwave, stereo, TV, etc.). Consider imposing a charge on rooms that have more than two.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Pilot Energy Program

- Consider running the separately metered student houses such that average electricity/water/fuel use is calculated to determine what students are allowed to use. Students would then be charged for overages on those amounts. The program at Guilford College offers a grace period of one month to get their use down into the target range.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.4 PA-6: Electricity & Chiller – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.4 PA-7: Electricity & Chiller – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.4 PA-8: Electricity & Chiller – Prospective Actions: Community Outreach

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Alternative Energy Collaboration

- Explore collaborating with local businesses and/or governmental bodies on a PPA for solar energy on larger scale.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.4 PA-9: Electricity & Chiller – Prospective Actions: Infrastructure

Immediate (2013-2018)

Renewable Energy

- Investigate installing RevolutionTM Bikes (or similar) in the Floy Lewis Bakes Center for athletics. The bikes could be connected to the facility's electrical grid through an inverter. This would provide students with a hands-on opportunity to participate in lowering the College's carbon footprint. It would also function as an educational tool that would show students how much electricity is used compared with what can be generated. Depending on the success of the program, it could be expanded so that human-created electricity could be used to power increasingly large percentages of the facility.

Chiller Plant

- Conduct upgrades to the central chiller, as needed.

Refrigerants

- Continue to update current cooling/refrigerants to more eco-friendly systems, including moving away from R-22 refrigerants, as per legal requirements.

Mid-Term (2019-2030)

Chiller Plant

- When needed, replace the main chillers for campus with a new more energy efficient system.

Renewable Energy

- Strategically plan and contract with solar providers to incorporate solar arrays across campus to shift to a dependence on solar power rather than on fossil fuels or nuclear energy.
    - www.epa.gov/greenpower/buygp/solarpower.htm

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.5: Water, Waste & Recycling

Back to Table of Contents

On campus our water, waste and recycling are handled through our Facilities Services Department. However, parts of our recycling programs are administered and budgeted through the Office of Sustainability (OS). The actions that are the responsibility of the OS staff appear in the OS chapter of the CSAP.

Water: Our water on campus comes from the Collegeville-Trappe Joint Public Works Department. The source is local groundwater, so we are mindful of the quality of our groundwater and of local and regional practices that might negatively impact our water supply. In the past two fiscal years (2009-10 and 2010-11), we used over 30 million gallons of water annually. At a cost of $3.10 per 1,000 gallons, this is a major expenditure for the College. Much of our water is used in our cooling towers that are associated with our chiller plant. Athletic field irrigation is another high-demand area for water. Water Infrastructure on campus includes: our cooling tower and chiller plant, a water pipe system that runs throughout campus, the irrigation system for the athletic fields and domestic water use by students for bathing, laundry and waste removal.

Water conservation measures undertaken to date include installation of water-saving laundry equipment, appliances and low-flow toilets (see table below). Irrigation remains costly, especially for the field hockey, baseball, softball and practice and fields. Our large-scale water conservation initiatives include the following:

- Install cooling tower blow-down reuse system to water our athletic fields.
- Continue fixture replacement with low-flow units through normal maintenance and renovation.
- Use Energy Star water-based appliances.
- Use front-loading washing machines.
- Install a recovery tank and pump to reclaim turf field irrigation water to reuse on grass athletic fields.
- Pilot low-flow shower heads.

Sewer: Our sewer infrastructure runs underneath the campus in a system of pipes that are connected to the Collegeville/Trappe Municipal Authority's sewer system. All water that is not used for irrigation goes back into the sewer system, and we are charged for that service. In addition, we have an extensive stormwater drainage system, which handles any extra runoff from field irrigation. Stormwater on the west side of campus is diverted to naturalized stormwater basin so that it can be filtered back into the groundwater system. The rest of our stormwater is directed into local streams, as per local code.

As of January 2012, sewer rates for the College are $5.00/1000 gallons. The sewer-use calculation is based on our overall water consumption (over 30 million gallons) less the amount of water used for non-sewer uses, such as irrigation. Thus, removing water from the sewer system has become increasingly appealing as a cost cutting measure that is also sustainable. To this end, we have received approval from the Pennsylvania Department of Environmental Protection to use the cooling tower blow-down water for athletic field irrigation, however we have not yet located funding to implement this project. By putting this water (approximately 1,000,000 gallons) into the natural water system rather than the sewer system, this initiative will save us over $5,000/year in sewer costs. In addition to this large-scale water re-use project, we also use a number of smaller-scale water-saving devices: we use front-loading washing machines and install low-flow toilets and urinals when we renovate or replace fixtures, and we also have a food pulper and tray less system in our dining hall which reuses water in the tray less system. Using water-saving shower heads could also save a substantial amount of water, however, in the past there has been significant student protest when we have used these fixtures.

Composting: Ursinus College started composting food scraps (including meat and dairy) from the Wismer Dining Hall in the fall of 2009. The Ursinus Environmental Studies faculty and students collaborated with the directors of Facilities Services and Dining Services to create a compost program that reduces campus waste, supports a local sustainable business and transforms a renewable resource (food waste) into a marketable product (compost). Our current compost facility, ArbOrganic Acres is located in Pottstown, approximately 15 miles from campus. This composting facility allows us to compost many different items that are produced on campus, including paper napkins, food boats and all of our food waste. The composting program is made more effective by the fact that we have a food pulper (we had the pulper prior to the composting program's origination). The pulper allows us to create a slurry and remove most of the water from the food before we dispose of it. This limits the number of trips that must be made for pickups. The food pulper also allows us to reuse water that is removed from

the food. The water is removed from the food, purified, and then used to keep the tray less conveyor belt system moving smoothly. We deliver our compost to the facility, so this transportation cost will need to be accounted in our GHG inventory. Our compost facility is approximately 15 miles from campus.

Recycling: We currently have single stream recycling on campus. This allows us to recycle plastics 1-7, paper (including cardboard), glass, and metal cans. Our recycling program is overseen by an OS staff member, and falls under the purview of Facilities Services; Housekeeping (also under Facilities Services) is responsible for the collection of our recycling. The program started as a club in the 1990s, reformed into a student-run program in the early 2000s, and was picked up by Facilities Services prior to 2010. The program is bolstered by effective start- and end-of-year recycling and reuse programs (Move-In and Move-Out) that are run by the OS. The recycling program boasts outreach to all campus buildings, including our off-campus residential houses. Current concerns in the program are lack of unified presentation of our recycling bins (we currently have four different styles of bins on campus) and the need for on-going educational campaigns to help all members of the campus community as well as staff who come in for events understand the parameters of the program.

6.5 Current: Water, Waste & Recycling

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.5-1: Mitigation Projects and initiatives – Water, Waste and Recycling

Type of Project	Mitigation Project/Initiative: Water, Waste and Recycling
Policy	Recycled Paper • We require that our Housekeeping contractor uses recycled toilet paper and paper towels Composting • Facilities Services has recently changed our contract for composting to a company that will allow us to compost additional items, including paper food boats. • Contract with a composting facility that picks up our compost rather than having to deliver it ourselves (combining transportation costs with other pickups that are being made). • Contract with a composting facility that supports student visits and research on site. Energy Accounting • For projects that require large capital expenditures, we incorporate energy costs associated with the lifetime of the project. We take savings from energy efficiency aspects of the project into account and consider payback time. Recycling • *Facilities Services has upgraded our recycling contract to include increasing amounts of materials and single-stream recycling*.

Operations	Recycling
	• We recycle the following items on campus:
	  ○ Mixed: bottles & cans, glass, mixed paper, plastics 1-7, & newsprint
	  ○ Compact fluorescent light bulbs
	  ○ Rechargeable batteries
	  ○ Printer cartridges
	  ○ Electronics and backup batteries
	  ○ Hazardous waste
	  ○ Scrap metal
	  ○ Cardboard
	• A compacter is used on all trash to reduce the number of waste pick-ups.
	• We have worked to ensure that our cleaning staff (who are responsible for picking up recycling) are trained in what is/isn't recyclable and what constitutes contamination.
	• Recycling and trash are picked up on a schedule (not daily) and are picked up simultaneously to reduce the number of trips.
	• When bags are all collected, record many bags are collected and location and number of contaminated bags.
	Composting - Food
	• All post-consumer food from dining services is collected in five 40-gallon totes for delivery to our composting contractor.

	• Food pulper is utilized. This reduces the volume of our compost and the overall weight of our compost by removing the water from the food. Composting – Yard Waste • All yard waste is deposited in an unused area behind New Hall. This is not an official composting facility, but rather a natural site for allowing yard waste to decompose naturally. • Grass cuttings are mulched back into the lawns by our mowers. Water • Newly installed turf field will help reduce the amount of water used on our athletic fields. • We have installed low flow toilets & urinals. • Flow restrictors have been installed on shower heads & faucets. • We will be installing power assist toilets.
Procurement	Recycling Bags • We use clear plastic bags for regular trash and green plastic bags for our recycling. This has helped with the clarify the perception that recycling and trash are not intermixed by our cleaning staff. • We use stickers that indicate that recycling bags are "contaminated" so that….. Recycling Bins • We have purchased recycling bins for our academic and administrative buildings as well as personal blue bins for offices and residential rooms. • Athletics bins for outdoor use were purchased in summer 2011.
IT Changes	Web Page • We have a dedicated webpage that educates our community about waste and recycling on and off campus. • We have a dedicated webpage for educating our community about campus composting opportunities.
Behavior Change & Ed.	Events & Campus Program Support • Facilities Services supports campus sustainability events and oversees the Office of Sustainability. • Hosted a Sustainability Scavenger Hunt during Sustainability Week to encourage student awareness of Facilities Services' role in campus sustainability efforts. • Provides assistance to students organizations and the OS in arranging for major events such as Move-In and Sustainable Move-Out.
Waste & Recycling	Furniture • Sent surplus, used, college furniture to Haiti during the summers of 2010 and 2011 rather than to local organizations. While this ended up adding to our emissions through transportation, it also supported environmental justice concerns in Haiti, helping those who had little left after the hurricane. Water • Facilities Services applied for a grant to reclaim water from our cooling tower. We will continue to apply for grants to make this important project a reality.
Transportation	Water Bottles

	• We provide filtered tap water rather than using plastic or glass water bottles that would then end up having to be recycled. Bottled water also must be transported to campus and then transported away (either to the landfill or the recycling facility). • We have water filtration stations in Wismer (lower and upper) and in the Myrin Library. We plan to install additional stations in high-use areas as water fountains need to be replaced. • Campus Safety replaced its bottle-supplied water cooler with a water-fed filtered one. Composting • Our food pulper in Dining Services allows us to make fewer trips to our compost facility. The machine removes as much as 90% of the bulk from our food waste.
Community Outreach	Partnerships • We partner with local organizations on a number of events, including the Perkiomen Watershed Conservancy's annual stream cleanup and electronics recycling.
Infrastructure	Recycling Bins • Residential – we have large bins in every residence hall; we have large bins in most of the residential houses. • Academic & Administrative Buildings – we have large bins in all of these buildings. These bins are all the same except for those in the Kaleidoscope. This promotes awareness and consistency. • Personal bins. We have personal bins for offices by request. Each first year residential center room is equipped with a personal recycling bin. Also, the RAs in residential houses can request personal bins for all rooms in the house. When personal bins are in residential rooms, they become part of the room inventory. • Outside: General – we have recycling bins outside near some of the existing outdoor trash cans. These bins are all the same model, which is good for consistency and awareness. Unfortunately these bins are very similar in style to the trash bins and they get a large amount of trash in them. Also they have old labeling and don't indicate that paper can be deposited there. • Outside: Athletics venues – we have large blue recycling bins located around many of our outdoor athletics venues. These were purchased fall of 2011. • Green plastic bags. We use color-coded plastic bags to line our larger recycling bins. We did this to increase awareness of our recycling vs. trash practices. Though this has been helpful, there are still areas for improvement. Cardboard Shed • We have a shed for storing and dropping off corrugated cardboard before it's picked up by our waste hauler for recycling. Compacter • All of our trash is compacted on site, allowing for fewer pick-ups by our waste contractor. Composting • We have five 40-gallon, lockable totes for storing ground food scraps. • We have a food pulper which removes 90% of the volume and weight of our food by removing the water. This reduces the number of trips that we make to drop off our compost.

6.5 Goals: Water, Waste & Recycling

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of Water, Waste and Recycling, and advertise that commitment within the community.

Goal 2: Within the Facilities Services employee population, increase awareness of the Facilities Services Department's commitment to sustainability and the importance of conserving resources.

Goal 3: Set waste reduction/GHG emissions reduction goals within the College community.

Goal 4: Set goals for increasing our recycling rate and for decreasing the amount of waste generated per UC community member.

Goal 5: Work with the OS to set goals for reducing our water, waste, and recycling-related GHG emissions from transportation.

Goal 6: Determine and work to implement waste reduction goals for each building with interim goals.

6.5 PA: Water, Waste & Recycling - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.5 PA-1: Water, Waste & Recycling – Prospective Actions: Policy

Immediate (2013-2018)

Recycling Contracts

- Stipulate specific actions for the cleaning staff to take with regard to recycling and waste.
    - Require labeling of each contaminated recycling bag at the collection site.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.5 PA-2: Water, Waste & Recycling – Prospective Actions: Internal Operations

Immediate (2013-2018)

Recycling

- Determine our recycling rate. Set interim targets to increase our rates.
- Increase the recycling program to include bins (and thus pickups) at all College-owned residences.
- Gather and analyze data on the effectiveness of campus recycling bins by location, based on volume of recyclables; modify bin placement accordingly.
- Catalog how much recycling is created at the building level.
- Work with contracted waste haulers to ensure effectiveness of our recycling program and emphasize our commitment to lowering our landfill contributions.
- Determine if it is possible to track the amount of land-fill waste and recycling coming out of individual buildings; if so, begin tracking this information to identify areas where we can increase recycling and decrease land-fill waste.
- Create a Contamination Pilot Program. Hire student workers to sort through recycling that has been collected to remove contaminants.
    - This program could start in one or two highly visible locations where students would benefit from visual reinforcement of our recycling program. (First year centers, Reimert Hall, Wismer).
    - To further separate the recycling from the trash, investigate the possibility of having these student workers drive the recycling over to the pick-up area.

Composting

- Increase the composting program to include all residential halls and houses. Institutionalize this program.

Water

- Install flow-restrictors on all lavatory faucets

Day to Day Operations

- Distribute documents digitally whenever possible; when printing is required, print official documents double-sided on recycled, recyclable paper.

Mid-Term (2019-2030)

Tracking

- Conduct a waste audit of the campus. This year-long process would illustrate the amount of recycling, trash, and composting created on campus, the sources for all waste (building, campus, events, etc.). Volume, cost, and contamination levels are all calculated. This would allow us to fully understand our waste production and would provide us with baseline information from which we could track our progress toward waste-reduction goals.

Water

- Decrease the amount of water that is used on athletic fields.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.5 PA-3: Water, Waste & Recycling – Prospective Actions: Procurement

Immediate (2013-2018)

Energy Accounting

- For projects that require large capital expenditures, incorporate energy costs associated with the lifetime of the project. Take savings from energy efficiency aspects of the project into account and consider payback time.

Recycling Bins

- Make purchases of bins based on our determination of a consistent branding for our recycling bins (color, size, shape, messaging).
- Purchase enough blue bins for every residential room on campus and every office on campus.

Composting

- Purchase bins, as needed, to facilitate the institutionalization of the composting program throughout the residential halls and houses.
- Purchase differently colored plastic bags for residential composting bins when/if the program is institutionalized. They should be clearly different from the garbage and recycling bags for educational purposes.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Water

- Purchase and install low flow plumbing fixtures.
- Purchase and install water filtration stations in key high-traffic areas around campus, including the Bakes Athletic Complex, Pfahler and Thomas halls.
- Purchase and attach water bottle fillers onto regular water fountains.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.5 PA-4: Water, Waste & Recycling – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Collaboration with the OS

- Work with staff in the OS to create various online educational and informative tools. These could include:
  - Interactive Recycling Maps: These would be maps that students and UC community members can access online. The maps would show where recycling bins and other resources are on the UC campus. This would include composting, unusual recyclables, e-waste, etc.
  - Educational Videos: These videos would be aimed at students and would educate and entertain on the topics of recycling, waste, and composting. Videos would be posted on the OS and Facilities Services websites as well as shown in Wismer Lower periodically.
  - Multimedia flyers: These flyers would be designed for display on the Wismer video display and would cover topics relevant to the campus waste and recycling program. They would also be posted to the OS and Facilities Services websites.
  - Online Polls & Surveys: Topics for these polls (located on the OS and Facilities Services websites) would include recycling, composting and waste on campus. These polls would be monitored and interpreted by OS staff.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.5 PA-5: Water, Waste & Recycling – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Behavior

- Support UC-sponsored behavior change programs that influence waste production by all UC community members (see Office of Sustainability section for additional details).

Education

- Work with OS staff to promote education about our waste, recycling and water usage.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Training

- Require all Dining Services employees to attend a training session on composting.

Water: Laundry

- Consider contracting with our laundry provider to institute a laundry quota system. This would allow students a certain number of "free" laundry cycles (washer or dryer). After they used their quota, they would have to purchase additional cycles. This would theoretically lead to larger and fewer loads of laundry being done, and could encourage the use of drying racks rather than the use of a cycle to dry small amounts of clothing.
- Investigate the feasibility of eliminating hot water in non-residential lavatories; implement if possible.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

6.5 PA-6: Water, Waste & Recycling – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.5 PA-7: Water, Waste & Recycling – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.5 PA-8: Water, Waste & Recycling – Prospective Actions: Community Outreach

Immediate (2013-2018)

Community Partnerships

- Partner with outside organizations to participate in educational programs to collect various unusual waste items. For example, political signs, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.5 PA-9: Water, Waste & Recycling – Prospective Actions: Infrastructure

Immediate (2013-2018)

Recycling Bins

- Determine a consistent branding for our recycling bins (color, size, shape, messaging).

Water

- Increase the number of water filtration stations or water fountains with bottle fillers across campus.
- Upgrade water fountains with bottle filler adapters when possible, feasible and deemed appropriate for the usage of the fountain.

Mid-Term (2019-2030)

Large Scale Water Recycling from A/C cooling Towers

- Set up a system to re-use to the ~1 million gallons of water (per year) used by the air conditioning cooling towers for use for watering the athletic fields.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.6: Landscape & Grounds

Back to Table of Contents

Ursinus College extends over 170 acres of which approximately 30-35 acres are maintained, either in lawn or in playing fields. These areas vary in their treatment: some are mown regularly; some have grass that must be maintained at particular heights; some areas are planted with shrubs interspersed with lawn. Of note, the campus does have a naturalized stormwater basin that is designed to filter stormwater runoff from the back part of the campus. This area has a management plan that is implemented by the Facilities Services Department.

Five of the campus' 170 acres are maintained in forested cover adjacent to the campus, and approximately 85% of this forested land is in deciduous trees. The main campus has the benefit of a long history of planting and maintaining large trees. Approximately 65 acres of the campus have partial mature tree cover; these trees are primarily deciduous trees, many of which are in decline due to age, disease, or other factors. Though this is not a forested area, these trees do function to sequester some carbon; they also provide shade and wind protection for the buildings that are nearby as well as providing other benefits to the campus. The College's Tree Master Plan recommends planting many additional trees to supplement trees that have already been lost to disease or environmental impacts as well as planting trees to increase the tree cover on the main campus.

In order to care for the grounds, Facilities Services owns a sizable number of vehicles, including mowers, golf carts, wheel loaders, forklift, a skid steers, large tractors, snow blowers, etc. In addition, the department uses numerous gasoline-powered tools. (See Appendix K for an approximated list of College owned equipment.)

The grounds at Ursinus College provide opportunities for offsets and other improvements. Since fertilizer use contributes to the majority of the ground's GHG emission, switching over to more natural alternatives that have a smaller carbon footprint should be a main priority. Forest and soil sequestration are interesting options, however, their offset potential should be further investigated before serious consideration. Installing a green roof is expensive, but it has many benefits including lowered heating and cooling costs, offsetting, and increased education and awareness opportunities.

Our tree master plan identifies almost 800 individual trees on the campus, not including the trees on the forested acres, in/around the Hunsberger Woods area, or around the residential houses. Of those, the contractor identified 35 (4.5%) as needing to be removed immediately. Most of these trees are in the areas of campus where the soils are heavily compacted by foot traffic as well as event and day-to-day use. The total number of trees in this more heavily used part of campus is closer to 300. This makes the percentage of trees from this area that need to be removed closer to 12%. There were an additional 35 trees that were identified as having a 5-10 year life expectancy. All of these additional trees are also in the area that is more heavily used on campus. Thus, this is an additional 12% of the trees that will be gone in 10 years. Together this is almost 25% of the trees in the most heavily used areas of campus that either need to be removed immediately or will likely be dead in the next 10 years. This is clearly an area where the College will need to put a good deal of attention, as the trees on the campus are highly valued and are seen as being a great attribute of the College.

6.6 Current: Landscape & Grounds

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.6-1: Mitigation Project/Initiative: Campus Planning, Landscape & Grounds

Type of Project	Mitigation Project/Initiative: Campus Planning, Landscape & Grounds
Policy	Grounds • Facilities Services has been integral in making decisions regarding: how to treat our grounds with less pesticide; planting and maintaining old and new trees; mulching leaves rather than landfilling them; reducing the need for watering the grounds through plantings; managing stormwater runoff; designing and implementing the construction of athletic fields to be more sustainable; and more. Tree Planting • The College has set aside annual funds to replace trees that are lost due to disease and age. • Tree Master Plan • We have prepared a tree master plan that addresses, at least briefly, a variety of topics in addition to trees, including: stormwater runoff, lawn maintenance and protection, native plant species, rain gardens, edible landscape opportunities, etc. (2011). This master plan will guide all future activities on the campus grounds by our workers. The college is currently undertaking strategic planning. This effort will likely be followed by a master planning effort. The tree master plan will need to be modified commensurate with the master plan.

Infrastructure	Naturalized Stormwater Basin • In 2006-2007, the Facilities Services Department worked with the Environmental Studies Department to design and construct a naturalized basin area to help stormwater runoff go through a natural filtration process and recharge the groundwater rather than being channeled directly into the Perkiomen Creek. This naturalized stormwater basin area is on the north side of campus and pulls in water from the main campus parking lot, Kaleidoscope Performing Arts Center, Bakes Athletics Center as well as our baseball field, Snell Field , softball field and practice football field. Green Roof • Have installed a small green roof on the Berman Museum of Art's new wing. Lighting • The lights of the Main St. crosswalks, 201 9th parking, 500 Main & Maples lot, Corson lot, walkway from Edgar Gate to Myrin Library, and the walkway in front of Wismer Student Center are all LED lights. • Musco sports lights, the most efficient in the industry, were installed in 2011 on Patterson Field. • Ursinus was awarded a Pennsylvania Energy Development Authority (PEDA) grant to retrofit all of the West Parking lot lights and much of the campus walkway lights to LED. This work was completed in 2013. Pedestrian Campus • In 2004, as we were constructing the Kaleidoscope Theatre on our campus, we made a strategic decision to remove the road that transected the campus. This made our internal campus into a pedestrian campus. We were able to save the trees that had lined the internal road, and they now line a pedestrian thoroughfare. We have paths that traverse the campus and are suitable for pedestrians and bicycles. • The College provides bike racks outside of most buildings, including residence halls. Plants • Use native species when planting on campus. • The College maintains five acres of forested land adjacent to the campus.
Operations	Athletic Fields • 2010-11: the athletic fields were top dressed with compost rather than chemically fertilized. Parking Lots • We turn off a portion of the lights in the West parking lot during school breaks to save energy and reduce our electricity consumption. Pesticides • We use integrated pest management, which focuses pesticide application only to trouble areas – rather than everywhere Downed Trees • In wooded campus areas, trees that fall are left to decompose in order to

	support ecological health of the ecosystem.
Procurement	Fertilizers • We are purchasing organic fertilizers and compost for parts of the campus.
IT Changes	None at this time
Behavior Change & Ed.	Education • Environmental Studies has worked with the Facilities Services Department to expand the student-run organic farm to include an orchard, fruits/vegetables, bees, and chickens. • Work with Environmental Studies faculty to design and implement an ethnobotany garden next in one of the existing planting beds.
Waste & Recycling	Leaf Composting • We have an area where leaves are left to compost naturally. This lowers our waste disposal budget and allows for natural decomposition.
Transportation	Longevity of Use • Our Facilities Services staff are using some vehicles that are over 20 years old. Six of our vehicles are over ten years old. This is perhaps the best way to be sustainable – use what we have.
Community Outreach	None at this time

6.6 Goals: Landscape & Grounds

There are currently no goals identified for Landscape and Grounds.

6.6 PA: Landscape & Grounds - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.6 PA-1: Landscape & Grounds – Prospective Actions: Policy

Immediate (2013-2018)

Tree Master Plan

- Ensure that all grounds staff members are aware of the campus Tree Master Plan, and educate them about why this important to the College and to them.
- Ensure that all grounds staff members know what they will be accountable for within the scope of the tree master plan.
- Work with faculty to determine if there is a role to be played by students in the implementation of the Tree Master Plan.

Parking

- Work with the Borough of Collegeville to get a special exception to the regulation or a variance to the building code that requires additional parking spaces with each new building on campus.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.6 PA-2: Landscape & Grounds – Prospective Actions: Operations

Immediate (2013-2018)

Landscape

- Greenscape the campus using native plants, non-chemical fertilizers, natural pesticides (when needed).
- Use chopped up leaves as mulch for planting beds.
- Use compost as soil amendment on all fields and in planting beds.
- Cut the grass on the lawns to a higher length (4") so that the grass maintains its ability to recover from cuts more easily. This has a side benefit of allowing more clover flowers to survive. Clover flowers support the populations of bees at the UC Organic Farm.

Master Plan

- Work to implement the campus tree master plan, with particular emphasis on measures that will lower our impact on the ecosystem, such as stormwater management and landscape design, and that improve the ability of our grounds to absorb GHGs from the atmosphere, such as planting pine trees with high ability to absorb GHGs.
- Identify parts of the Master Plan that are particularly in alignment with our commitment to becoming carbon neutral as well as more ecologically sound (e.g., planting only native species of plants), and put emphasis on implementing those parts of the plan.
    - This should be done in coordination with the Environmental Studies Department and/or the OS, to maximize student academic and service learning opportunities.

Mid-Term (2019-2030)

Plant Trees on Campus

- In order to expand the forested area, consider planting native tree species throughout campus. Other colleges such as Montgomery County Community College and Northland College are increasing tree quantity on their campuses in an attempt to offset their GHG emissions.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.6 PA-3: Landscape & Grounds – Prospective Actions: Procurement

Immediate (2013-2018)

Fertilizers, Pesticides and Other Products

- Increase the percentage of environmentally "friendly" and sustainable products purchased for treating the landscape and grounds, including fertilizers and pesticides.
- Work with the Office of Sustainability to identify products that are needed for use on the grounds and more environmentally friendly options for these products.
    - Use this identified list to make purchased for maintaining the UC grounds.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Responsible Consumption

- Reduce use of products wherever possible and implement sustainability practices in everyday operations.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

6.6 PA-4: Landscape & Grounds – Prospective Actions: Information Technology Changes

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.6 PA-5: Landscape & Grounds – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Practices

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., riding bikes to work areas, eco-friendly procurement, cutting cycles for the lawn, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.6 PA-6: Landscape & Grounds – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Leaves & Yard Waste

- Assess current practices periodically to determine if there are methods that could be used that would improve waste and recycling of organic materials on the College grounds.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.6 PA-7: Landscape & Grounds – Prospective Actions: Transportation

Immediate (2013-2018)

Bicycle Use

- Whenever possible, use bicycles (with trailers, if needed) instead of trucks or golf carts to get from one campus location to another. This has multiple benefits: lowers our campus emissions of GHGs, reduces the need to maintain vehicles, increases awareness of bicycle use on campus, and improves the health of College employees. This could be tied into our health insurance program's interest in improving the UC employee population's health (NewU).

Engine shut off

- Do not idle vehicles operated on the UC campus.

Vehicles

- Periodically test the gas caps on grounds vehicles. About 30 gallons of gas a year can be lost due to faulty gas caps.

- Maintain the grounds vehicles and gasoline-powered equipment to ensure they are running efficiently.
- Investigate the possibility of upgrading some of Facilities Services grounds vehicles to biodiesel. If possible, work with students on these upgrades.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.6 PA-8: Landscape & Grounds – Prospective Actions: Community Outreach

Immediate (2013-2018)

Signage

- Post signage about the College's policies that affect the community.
- Post interpretive signage around the campus at locations that highlight our sustainable/environmental projects or programs. These would include: the Berman green roof and addition; the Patterson Field; the naturalized stormwater basin; the Organic Farm; the solar array (when installed); the Bikeshare Program; etc.

Mid-Term (2019-2030)

Stormwater

- Work with Collegeville Borough to help the borough meet its stormwater runoff quantity and quality mandates.

Community Involvement

- Maintain a college presence on The Perkiomen Watershed Conservancy Board of Trustees.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.6 PA-9: Landscape & Grounds – Prospective Actions: Infrastructure

Immediate (2013-2018)

Bike Racks

- Install bike racks, preferably in covered areas, next to all campus buildings that do not already have racks.

Naturalized Stormwater Basin (Constructed Wetland)

- Work with the Environmental Studies faculty and students to assess how the maintenance plan for the naturalized stormwater basin is being implemented. Determine if there are aspects of the plan that need to be readdressed or handled differently. Encourage incorporating students in longer-term use of the area as an educational tool.

GHG Sequestration

- Choose trees with high carbon sequestration capabilities when planting trees on campus grounds. Different tree species are able to sequester more carbon than others so the species proposed should be carefully researched to allow the maximum carbon sequestration. An example of this can be seen in a comparison of maple trees versus pine trees. Approximately 36 maple trees will sequester one ton of carbon over 25 years while it takes only six pine trees to sequester one ton of carbon over that same time period (Erase Carbon Footprint, 2009). The cost of this project would depend on the species and number of trees and will not necessarily save the college any money, except as an alternative to a more expensive carbon offset.

Native Species

- Choose native plant species for all applications on campus. Non-native species of trees and shrubs can be detrimental to native species by outcompeting them

for resources such as water. They may also be less supportive of native animals and ecosystems and may have unknown deleterious impacts on our local ecosystem. Although we are not in an undisturbed ecosystem, we are nevertheless part of a larger ecosystem and support a local watershed here on the Ursinus Campus. As good stewards of the land, it is important to protect the ecosystem of which we are a part. To do this, we need to commit to promoting native species of plants and animals as well as attempting to limit our negative impacts on the ecosystem.

Stormwater Runoff

- Identify realistic and cost-effective strategies to reduce the amount of stormwater runoff that is created on our campus. Our campus drains into the Perkiomen Creek, which runs along the northern border of our campus, across a heavily trafficked road from our property. To do this, we should consider:
  - Installing rain gardens where feasible on campus.
  - Increasing the amount of campus that drains to our naturalized stormwater basin (if possible). It is likely that the sciences expansion will result in Thomas, Pfahler and Reimert runoff being re-routed to the basin.
  - Protecting areas where erosion may be an issue.
  - Ensuring that areas that are currently in forest continue to serve the function of filtering stormwater runoff.

Mid-Term (2019-2030)

Bike Racks

- Install additional bike racks, as needed, next to all campus buildings.
- Investigate the possibility of installing a covered central bike storage area that would allow bike users to park their bikes in a sheltered area.

GHG Sequestration

- Investigate the possibility of using soil and landscape sequestration as an offset to our carbon emissions. As increasing amounts of research are done and knowledge is acquired in the field of sustainability, additional ecological carbon offset alternatives are likely to emerge.

Extensive Green Roof

- Work toward the addition of at least one extensive green roof system at Ursinus College. An extensive green roof is a roof layering system that consists of approximately six layers. These layers not only serve to protect the roof, but also nourish the plants that grow on the top layer. The layering system and the plants act as an insulator, keeping the cool air in the building in the hot summer months and also keeping the warm heated air in during the winter. Green roofs can also be helpful in storm water management. The addition of a green roof to campus has the potential to decrease heating and air-conditioning usage, reducing GHG emissions, while also saving the college money.

Parking Areas

- Proceed with the plan to remove the parking area behind Wismer and the road that runs between Richter/North Hall and New Hall.
- Address expected soil compaction issues during site restoration.

Soil Compaction

- Because of the heavy use of the lawn areas on the Ursinus campus, the soils in these areas are substantially compacted. This has negative implications for all of our plants, including our trees. As we focus on keeping our trees and shrubs healthy on campus, we will need to address this basic infrastructure issue on our grounds.
- Soil compaction has implications for how well trees sequester carbon as well as stormwater runoff and the grounds' ability to recharge the groundwater. If the soil is too compacted, water cannot effectively infiltrate and reach the root systems of trees and other plants.

Stormwater Runoff

- Implement strategies to reduce the amount of stormwater runoff that is created on our campus. Much of our campus currently drains into the Perkiomen Creek, which runs along the northern border of our campus, across a heavily trafficked road from our property. To do this, we should consider:
    - Installing rain gardens where feasible on campus.
    - Increasing the amount of campus that drains to our naturalized stormwater basin (if possible).
    - Protecting areas where erosion may be an issue.

  - Ensuring that areas that are currently in forest continue to serve the function of filtering stormwater runoff.
  - The campus master planning effort will likely plan for an extended retention basin to be constructed for the East campus outflow as well.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.7: Renovations and New Construction

Back to Table of Contents

One of Ursinus' greatest assets is its historic building stock. They provide a graceful beauty to our campus. However, they also represent a liability in terms of energy usage. Most of these buildings were built before energy conservation was a thought in anyone's mind, and prior to the invention of many of the current most common energy saving practices and/or equipment. Because of these factors and the high cost of renovating older buildings, we will have to renovate and retrofit them to current energy conservation standards as financial resources allow. Major renovations (and even some minor ones) represent an opportunity for Ursinus to address more serious energy concerns, however costly retrofits can have a long-term return on investment timeframe, thus having a negative impact on our energy budget's bottom line. If Ursinus College is going to decrease its future energy use, costs and emissions, we must design new buildings and plan renovations to minimize life-cycle costs.

In committing to the ACUPCC, the College also committed to building new buildings and major renovations to Leadership in Energy and Environmental Design (LEED) silver standards.[11] In recent years, the College has undertaken several renovations to LEED silver standards, including the Berman Art Museum addition, Wismer renovations, the bookstore renovation and two science lab renovations. These projects have not been LEED certified as a cost saving measure, but we attain the same energy-saving benefits from them. And our renovations and retrofits and other conservation measures are having a demonstrable impact. Between 2001 and 2010, the College increased its total building square footage by almost 400,000 square feet. During that same time, because of energy efficiency upgrades, renovations, and construction practices, the College's level of net CO_2 emissions remained static.[12] The College typically includes some or all of the following in its renovations: low flow water systems, recycling of construction

[11] LEED certification is obtained by including all required sustainability elements in a project as well as a certain number of additional elements (each given a number of points). Projects with more points can qualify for higher LEED certifications (there are four in all: Certified; Silver; Gold; and Platinum). (U.S. Green Building Council 2011)

[12] In 2001 Ursinus' total building square footage was 816,727 and its net emissions were 9,003.1 MT eCO_2. In 2010, The College's total building square footage was 1,160,464 and its net emissions were 8,683.1 MT eCO_2.

waste/removal, energy efficient lighting and windows, insulation improvements, room occupancy sensors, variable speed drives and pumps, and heat recovery. (See Figure ___ for a list of sustainability projects and initiatives.)

From time to time, the College also needs to add new structures to the campus. We have been in a long-term discussion about updating our science buildings (Pfahler and Thomas Halls). This is likely to include both a major addition that would connect our science buildings and substantial renovations to both buildings. This renovation is needed, but will be costly and represents a major capital commitment. Pfahler Hall is our largest energy user, thus any renovation to it has the potential to create sizeable GHG emission reductions. Additionally, the Facilities Services Department has identified projects that will reduce energy consumption related to energy consumption in campus buildings and move us toward our long term goal of becoming carbon neutral.

We currently are planning to do phased renovations of two residence halls: BWC and BPS over the coming ten years. (2016-2020) These renovations will include many energy saving measures. A green roof on Wismer Dining Hall is also in the 10-year plan for the College. The College has a plan for renovating the kitchen in Wismer as well. This will be accomplished between 2016 - 2019, depending on other projects. The renovation of the kitchen will include replacing old energy inefficient equipment throughout the kitchen and will also have a significant and positive impact on energy usage.

6.7 Current: Renovations & New Construction

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.7-1: Sustainability projects & initiatives – Renovations and new construction.

Type of Project	Sustainability Project/Initiative: Renovations and New Construction
Policy	Waste Removal • We require our contractors to haul away waste products and to recycle as much of it as is possible.
Operations	Organization • We have a plan for upgrading and retrofitting existing buildings with more sustainable systems. We update this plan regularly and work with the administration to ensure that our goals are aligned with those of the college. Energy Saving Initiatives • Conversion of many Main St. houses to natural gas from oil over last several years (2009 - 2012). • Insulation. UC is in the process of installing insulation in ceilings & walls of campus buildings to improve seasonal temperature retention. • Thermostats. Updated to electric and separated for each room to take into account windows left open. LEED Construction • Berman Art Museum addition built to LEED Silver specifications. Though we do not have official certification, we tracked points on the Berman addition to make sure that we are maintaining LEED silver standards (33-38 points). • Wismer phases 5 & 7 (STV Architects & Bono Construction) was designed to LEED silver standards. • Bookstore second floor (KSS Architects & Warfel Construction): Designed to LEED silver standards. • Two of the laboratories in Thomas Hall were renovated during the summer of 2011: built to LEED silver specifications. Sustainable Practice in Renovations • In smaller-scale renovations of Reimert Hall, toilets and showers were replaced with low-flow, motion sensors were put in place for all lighting, epoxy floors were installed instead of carpet, higher efficiency HVAC units were installed and old furniture was donated to Haiti. • Myrin Library renovations were done with sustainable practices, though on a very small scale. Green Roof • Green roof installed on Berman Art Museum addition. • Green roof to be installed on Wismer (outside of dining area) between 2016-2023. Kitchen

	• Kitchen. The College has a plan for renovating the kitchen in Wismer Hall. We hope that this will be accomplished in 2016 or 2017, depending on the completion of other projects as well as fiscal considerations. The renovation of the kitchen will include replacing old energy-inefficient equipment throughout the kitchen. This will have a significant impact on Dining Services' energy usage.
Procurement	Energy Efficiency • Energy efficient windows are purchased for renovation jobs. This lowers the cost of heating and cooling buildings on campus. Local • We purchase materials and equipment locally when possible (e.g., lamp posts were bought locally in Spring City). Sustainable Materials • Epoxy floors are installed in areas that need high durability instead of carpet (carpet often needs to be thrown out annually). • VCT floors are installed, as needed, as a replacement for carpets in dorm rooms and other applications. • Green carpet (from Interface Flooring) is used when we purchase carpeting.
IT Changes	None at this time
Behavior Change & Ed.	None at this time
Waste & Recycling	Construction Waste • We work to reuse/re-purpose as much material, equipment and furniture as we can.
Transportation	None at this time
Community Outreach	None at this time

6.7 Goals: Renovations & New Construction

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of Construction and Renovation, and make that commitment public within the UC community.

Goal 2: Set energy-use reduction targets for all buildings on campus.

Goal 3: When undertaking a major renovation of existing buildings, aim to reduce annual average energy consumption for that building by at least 15% per gross square foot of space.

6.7 PA: Renovations & New Construction - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.7 PA-1: Renovations & New Construction – Prospective Actions: Policy

Immediate (2013-2018)

Contractors and Vendors

- Give preference to contractors and vendors who can help us meet our sustainability commitments without increasing our costs.
- Encourage vendors to provide products and services that will help us meet our sustainability commitments.

LEED Construction Standards

- Whenever possible, increase the energy efficiency standards on new construction or renovation projects, with a target of supplementing the existing LEED Silver requirement.
    - This could be achieved by increasing the minimum number of points for the LEED energy conservation credit or by setting an overall minimum building Energy Use Intensity (EUI) standard.
    - Use similar buildings at other institutions to inform energy guidelines; vary these guidelines based on building type.
- Evaluate the LEED Existing Building Rating System for guidance on building renovations that are not required to be built to LEED silver specifications.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

LEED Construction

- If possible, build renovations and new construction to LEED gold or platinum standards.
- When possible, have one or more of our built-to-LEED-standard buildings certified because…..

6.7 PA-2: Renovations & New Construction – Prospective Actions: Operations

Immediate (2013-2018)

Building Energy Use Intensity (EUI)[13]

- Work with OS staff to calculate the EUI for each of the main campus buildings as a way of tracking our campus energy efficiency.

Energy Sub-Meters

- Install electrical energy sub-meters as a standard practice. If possible, also install water and steam sub-meters.

HVAC

[13] "A building's EUI is calculated by taking the total energy consumed in one year (measured in kBtu) and dividing it by the total floor space of the building. For example, if a 50,000-square-foot school consumed 7,500,000 kBtu of energy last year, its EUI would be 150. A similarly sized school that consumed 9,000,000 kBtu of energy last year would have a higher EUI (180) to reflect its higher energy use. Generally, a low EUI signifies good energy performance." (U.S. DOE and U.S. EPA 2011)

- Work with Office of Sustainability staff to create an HVAC Efficiency Plan that includes potential energy saving projects with cost analysis for HVAC applications across campus.

Renovations - Dining Hall

- Consider heat recovery ventilation as an improvement to the HVAC or water heating systems. This is most commonly used in food service facilities by transferring waste heat from refrigeration compressors to water for hot water use or the ventilation system for warm air.
- Consider upgrading the commercial kitchen ventilation (CKV) system to a variable speed exhaust system in the dining hall kitchen. Demand exhaust hoods detect heat and carbon dioxide levels and adjust fans accordingly.

Sustainability Renovation Best Practices

- Install thermostats, motion sensors, and CO_2 detectors in buildings that make air changes in response to CO_2 levels rather than automatically on timer, etc.
- Install HVAC tracking so that we can operate our buildings more efficiently.
- Incorporate geothermal HVAC systems when possible.
- Install insulation with higher R value insulation materials on pipes, windows, walls, ceilings, roofs, when and where possible.
- Use low VOC paints on campus.
- Investigate the viability of vegetative roofs for new and remodeled buildings.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.7 PA-3: Renovations & New Construction – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

6.7 PA-4: Renovations & New Construction – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Website

- Work with OS staff to create a "Sustainable Buildings" webpage that details to our sustainable construction practices and highlights the College's achievements in this area. Link this webpage to both the Facilities Services webpage and the OS's webpage.
- Update FSD's building page to inform the campus about renovated or new buildings to include sustainability facts for each building. Include a table of these facts on the Sustainable Building webpage.
- Create a page for each building or renovated area that highlights some of its sustainable features and like to the Sustainable Buildings website. This would serve to educate the UC community about what we are doing as well as allow us to be transparent as to what we are claiming on our renovations and construction.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.7 PA-5: Renovations & New Construction – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Education

- Consider having annual think tank meetings to strategize about sustainability within the FSD.
- Invite students to participate in a roundtable discussion about construction practices on campus.
- Offer occasional sustainability tours of buildings that are built/renovated to LEED specifications.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Tracking LEED points

- Consider publishing LEED standards and points that we track for each of our buildings on our "Sustainable Buildings" webpage (detailed above). This would serve to educate the UC community about what we are doing as well as allow us to be transparent as to what we are claiming on our renovations and construction.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

6.7 PA-6: Renovations & New Construction – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.7 PA-7: Renovations & New Construction – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.7 PA-8: Renovations & New Construction – Prospective Actions: Community Outreach

Immediate (2013-2018)

There are currently no identified Prospective Actions in this area.

Mid-Term (2019-2030)

Public Access

- If Ursinus has a LEED certified building, offer occasional tours to the public.

6.7 PA-9: Renovations & New Construction – Prospective Actions: Infrastructure

Immediate (2013-2018)

Bike Racks

- Install bike racks, preferably in covered areas, next to all new campus buildings.

Mid-Term (2019-2030)

Bike Racks

- Install additional bike racks, as needed, next to all campus buildings.
- Investigate the possibility of installing a covered central bike storage area that would allow bike users to park their bikes in a sheltered area.

Extensive Green Roof

- Plan an extensive green roof into any new buildings on campus.
    - An extensive green roof is a roof layering system that consists of approximately six layers. These layers not only serve to protect the roof, but also nourish the plants that grow on the top layer. The layering system and the plants act as an insulator, keeping the cool air in the building in the hot summer months and also keeping the warm heated air in during the winter. Green roofs can also be helpful in storm water management. The addition of a green roof to campus has the potential to decrease heating and air-conditioning usage, reducing GHG emissions, while also saving the college money.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.8: Building Maintenance and Upgrades

Back to Table of Contents

The College's Facilities Services Department is responsible for the maintenance on 69 buildings on campus, not including smaller storage buildings. This includes 45 residential buildings, two science buildings, a museum, a state of the art theater, an administrative office building, the facilities building, the athletic complex, and three additional academic buildings. (See Appendix L for a list of the buildings, and their purposes and Appendix M for a list of buildings by type.)

Campus buildings provide the setting for and/or the cause of most of the College's GHG emission-producing activities that are not related to transportation. Of the buildings, our two science buildings, Pfahler and Thomas Halls, are the largest contributors to Ursinus' GHG emissions. Because of this, the College has invested substantially in making sustainability-related improvements to its buildings. These updates tend to be long-term improvements, and range from installing insulation in roofs and upgrading windows to insulated windows to upgrading the HVAC systems to variable speed drives and installing electric thermostats. The College has made fairly sizeable investments in this area and have reaped the benefits; while the student population and square footage has increased, the College has been able to stay fairly stable with its resource use.

As the College moves forward in unstable financial times, it will be looking carefully at each expense, including those related to its buildings. Decisions will likely be made based on payback periods at least to an extent, but we hope to be able to continue to make improvements to campus buildings that will make them more economically sustainable for the long term.

6.8 Current: Building Maintenance & Upgrades

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Figure 6.8-1: Mitigation projects & initiatives – Renovations and new construction.

Type of Project	Mitigation Project/Initiative: Existing Buildings: Maintenance
Policy	Building Maintenance • Facilities Services encourages all workers to fix things right the first time. This is a fundamentally sustainable approach that has helped the College save money and reduced the need to spend time, money and resources to fix various problems repeatedly. Quality is one of the department's guiding principles. • Facilities Services has a list of energy-saving projects that it works from, called the Energy Pool. This allows us to track our progress toward our sustainability goals.
Operations	Heating/Cooling • Conversion of many Main St. houses to natural gas from oil over last several years (2009-2012). • Facilities Services has been putting Variable Frequency Drives (VFDs) on our air handling units and pumps. This saves money by reducing our energy consumption. Motors increase or decrease speed as needed rather than operating at a constant rate. • Thermostats. Updated to electric & separate for each room to take into account windows left open. Insulation • The College is in the process of installing insulation in ceilings and walls of campus buildings to improve seasonal temperature retention and create an envelope of protection from the cold/hot air outside. • Insulation upgrades are made throughout our residential buildings when feasible. Our goal is to have all ceilings insulated with R30 insulation. Due to the need for flexibility in budgeting and difficulty accessing occupied spaces, we do not currently have a time line for this goal. Insulation is upgraded when renovations are made. Lighting: Usage Patterns • Installed motion sensors on lights in bathrooms, offices, and classrooms. • Custodial services works during daytime, reducing lighting requirements at night. • West Parking Lot is closed at certain times to save energy required to light the area. • Conducted a lighting study in the athletic complex to determine needs. • Lighting: Upgrades • LED lights installed for outdoor walking lights are more energy efficient and last 10x longer than fluorescents • Replace 28-32 watt fluorescent lamps with 25 watt low-mercury tubes (all fixtures with suitable ballasts). • Replace incandescent-bulb exit signs with LED signs.

	Machine-Related Energy Saving • Vending Miser installed in all campus vending machines. • Office machines set to low power mode overnight and on weekends when usage is low, automatically start up during the work day. • Appliances are replaced with Energy Star/energy saving models, as needed. Maintenance • We plan to develop a list of sustainable products to use in our day-to-day routine repairs. • We currently use no- and low-VOC paint in many of our campus locations. • Our staff members perform regular maintenance checks and cleaning on the air handling, heating, plumbing and other systems in our existing buildings. • HVAC: Facilities Services winterizes our HVAC systems annually to save energy and money. • Carpets: Carpets in high-replacement frequency areas are replaced with vinyl composition tiles (VCT) as they need replacing. The VCT has a 20+ year life expectancy, which is much better than carpet in a college setting. Science Labs • We have made updates in our science buildings that are more energy efficient (e.g., to fume hoods). For more information on this, see the chapter on the science labs. Water • Facilities Services has installed low flow shower heads and faucets aerators in some of the bathrooms in residential buildings. • Facilities Services has installed low flow toilets in some residential building bathrooms. • We have water meters in all residential houses. Windows • Due to cost of wholesale replacement of all windows, Facilities Services installs energy efficient replacement windows as they are needed. This will take time to implement. We currently have energy efficient windows in approximately 80 % of residential windows.
Procurement	Approach • Our Facilities Services purchases are made with longevity of use as well as fiscal reasoning in mind. While we would prefer to purchase only sustainable products, economically we are not well-positioned to do this when cost differentials are large. However, we typically use products until the end of their useful life and then do our best to replace those products with a reasonable alternative that makes sense both fiscally and environmentally. Please see the Facilities Services Administration section for a list of products.
IT Changes	Work Orders • We have instituted an online work order request system that enables us to streamline our operations and reduce our paper usage and waste stream contributions.
Behavior Change & Ed.	Energy Dashboard • Facilities Services has installed real time energy monitors in all of the main campus buildings.
Waste & Recycling	Recycling • Facilities Services maintenance workers collect and recycle used hazardous materials from the buildings. These items include fluorescent bulbs, batteries, smoke

	detectors, etc. Repurposing • Facilities Services has partnered with outside organizations to repurpose building materials, furniture and lights for several of our building renovations.
Transportation	None at this time
Community Outreach	None at this time

6.8 Goals: Building Maintenance & Upgrades

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of building maintenance, and publicize that commitment to the campus community.

Goal 2: Within the UC Community, including the Facilities Services Department, increase awareness of the Facilities Services Department's commitment to sustainability and the importance of conserving resources.

Goal 3: Set energy-use reduction targets for each building on campus. And work with the OS and building occupants to reach those targets.

6.8 PA: Building Maintenance & Upgrades - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.8 PA-1: Building Maintenance & Upgrades – Prospective Actions: Policy

Immediate (2013-2018)

Residential Houses

- If our student population decreases in size, consider closing up some of our smaller residential houses or renting them to faculty/staff.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.8 PA-2: Building Maintenance & Upgrades – Prospective Actions: Operations

Immediate (2013-2018)

Electric metering

- When feasible, meter to the lowest unit possible for real time feedback to residents and building users (i.e., by floor rather than just by building).

Energy Saving Initiatives

- Convert Main St. houses that are using heating oil to natural gas.
- Put motion sensors in all classrooms. Sensors should be able to pick up motion from most of the classroom so that students taking tests can wave their arm and have the lights go back on.
- Continue installing insulation in ceilings and walls of campus buildings to improve seasonal temperature retention and create an envelope of protection from the cold/hot air outside, including: walls and ceilings.
- Continue to update thermostats to electric and install separate devices for each classroom and office to take into account windows left open.

Heating/Cooling

- Install insulation behind the switch and outlet plates on outside walls of all buildings.
- Reduce solar heat gain through the use of shading devices and window glazing options to reduce space cooling demands (up to a 30% decrease).
- Regulate fresh air intake via real-time CO_2 sensing in return-air buildings where occupancy varies widely.
- Conduct energy audits on all of the residential buildings, halls and houses.

Lighting

- Decrease interior lighting power per square foot to the minimum required. Conduct site surveys to determine reduction of the number of light bulbs. De-lamping to be based on those site surveys. Final foot-candle readings for all spaces should be at or above the standards established by the Society of Illuminating Engineers.[14]
- Decrease exterior lighting power per square foot (percentage to be determined based on current lighting).

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.8 PA-3: Building Maintenance & Upgrades – Prospective Actions: Procurement

Immediate (2013-2018)

Green Materials

[14] See - http://www.northwestern.edu/fm/environmental_sustainability.htm - for more information.

- Work with OS staff to create a list of sustainable or "green" materials to use for day-to-day maintenance jobs. This list should cover the types of materials that are commonly used.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.8 PA-4: Building Maintenance & Upgrades – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Preventative Maintenance

- Create a schedule for preventative maintenance on all our buildings. This schedule should include all items that need either on-going or periodic maintenance. By maintaining the buildings and their contents we will increase our sustainability by extending the useful life of building components, thus decreasing our need to purchase replacements.
- Move to a paperless maintenance system.

Mid-Term (2019-2030)

- Replace gas-powered Facilities Service vehicles with diesel (biodiesel) or electric.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.8 PA-5: Building Maintenance & Upgrades – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Staff Education

- Consider offering in-house training to help staff change old practices.
- Consider having annual think tank meetings to strategize about sustainability within the FSD. Invite students to participate in these discussions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.8 PA-6: Building Maintenance & Upgrades – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Materials Recycling

- When renovating spaces on campus, investigate the possibility of having an architectural salvage company come in to assess whether they could use any materials that would otherwise be put into the landfill.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.8 PA-7: Building Maintenance & Upgrades – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.8 PA-8: Building Maintenance & Upgrades – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.8 PA-9: Building Maintenance & Upgrades – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Facilities – Chapter 6.9: Transportation & Fleet

Back to Table of Contents

Facilities Services' fleet includes a variety of vehicles that are used on and off campus. These range from hybrid automobiles to a bucket truck, which can be driven on streets, and from electric golf carts to mowers and wheel loaders, which are confined to campus. See Appendix N for a list of the UC Fleet vehicles. We own a number of trucks and vans that are older than ten years; and several that are over 20 years old. These are all vehicles that do not travel long distances and are primarily (some exclusively) used on the campus. This reflects our commitment to maintenance, fiscal responsibility, and by virtue of association, to sustainability.

The college leases all of the vehicles that we use for admissions, the president's car, and our five 7-passenger vans. This allows us to have smaller payments and not have to put a great deal of money into maintaining our high-mileage vehicles. Several of these vehicles are coming to the end of their lease periods. We will be reviewing these vehicles to determine if leasing hybrids continues to make fiscal sense.

6.9 Current: Transportation

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.9-1: Mitigation Project/Initiative: Transportation

Type of Project	Mitigation Project/Initiative: Transportation
Policy	Fleet • Decisions about purchasing new vehicles for the Facilities Services fleet are made with lowering our carbon footprint in mind, particularly with regard to decreasing our gasoline consumption.
Operations	None at this time
Procurement	Vehicles • The College has invested in biodiesel and electric powered vehicles for Facilities Services. • The College has leased hybrid cars for Admissions/ administrative use.
IT Changes	None at this time
Behavior Change & Ed.	None at this time
Waste & Recycling	None at this time
Transportation	None at this time
Community Outreach	None at this time
Infrastructure	Longevity of Use • Our Facilities Services staff are using some vehicles that are over 20 years old. Six of our vehicles are over ten years old. This is perhaps the best way to be sustainable – use what we have.

6.9 Goals: Transportation

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of Transportation, and publicize that commitment within the community.

Goal 2: Within the UC Community, including the Facilities Services Department, increase awareness of the Facilities Services Department's commitment to sustainability and the importance of conserving resources.

Goal 3: Set transportation-related GHG emissions reduction goals within the College community.

6.9 PA: Transportation - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.9 PA-1: Transportation – Prospective Actions: Policy

Immediate (2013-2018)

Goal Setting

- Identify benchmarks for MPG, fuel use, and fuel efficiency within the College fleet.
- Set goals and interim targets for waste reduction, procurement, and energy-use reduction.
- Set a timeline for achieving interim targets and implementing these goals.

Contracts - Vendors

- Give preference to vendors who can help us meet our sustainability commitments.
- Encourage vendors to provide products and services that will help us meet our sustainability commitments.
- When making leasing decisions, consider savings from gas mileage in overall long-term cost of leasing the automobiles.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.9 PA-2: Transportation – Prospective Actions: Operations

Immediate (2013-2018)

Air/Business Travel

- Encourage alternative transportation and/or reduced/no emission vehicles for ground transportation.
- Reduce environmental impacts for university–affiliated travel through fees for offsets.

Alternative Transportation

- Expand staff bicycle usage.

Idling

- Do not idle any vehicles on the UC campus. Idling contributes greenhouse gas emissions, shortens engine life and increases engine maintenance costs.

Vehicles

- Periodically test the fleet's gas caps. About 30 gallons of gas a year can be lost due to faulty gas caps.
- Maintain the fleet to ensure it is running efficiently.
- Investigate the possibility of upgrading more campus Facilities Services vehicles to biodiesel.
    - If possible, work with students on these upgrades.
    - If possible, source the biodiesel fuel on campus from dining services, which currently sells its leftover cooking oil.
- Consider installing speed limiters on fleet vehicles to improve gas mileage so that they operate closer to their optimum efficiency.

Mid-Term (2019-2030)

Vehicles

- When possible, upgrade vehicles that are used by Facilities Services on campus to solar electric or biodiesel.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.9 PA-3: Transportation – Prospective Actions: Procurement

Immediate (2013-2018)

Vehicle Purchasing

- Consider adding more fuel efficient or hybrid vehicles to the fleet when new purchases are made.[15]

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

[15] See EPA's Green Vehicle guide at http://www.epa.gov/greenvehicles/.

6.9 PA-4: Transportation – Prospective Actions: Information Technology Changes

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.9 PA-5: Transportation – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Eco-driving

- Encourage Facilities Services staff as well as all community members who drive fleet vehicles to drive using "eco-driving" principles such as those in Appendix O.
- Encourage all staff members who use the vehicles to keep them in good running condition, walk rather than drive when possible, and to not idle the vehicles.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.9 PA-6: Transportation – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.9 PA-7: Transportation – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.9 PA-8: Transportation – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.9 PA-9: Transportation – Prospective Actions: Infrastructure

Immediate (2013-2018)

- Investigate the possibility of reducing diesel emissions from university–owned vehicles through waste oil sourced bio-diesel.

Mid-Term (2019-2030)

Infrastructure changes

- Create infrastructure to support hybrid and alternative fuel vehicles, such as charging posts and alternative fuel pumps.

- Increase percentage of alternative fuel vehicles in fleet. Alternative fuel vehicles include: electric hybrids, diesel hybrids, electric, hydrogen, B20 or higher, and E85 or higher.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.10: Copy Center

Back to Table of Contents

The Copy Center provides services for the faculty and staff of the College. Located in Ritter Hall, the Copy Center is open Monday through Friday, 8:15 am - 12:15 pm. In addition to basic copying, services offered by the Copy Center include booklet making, color copying, copying on 3-hole paper, multi-part carbonless forms, paper cutting, paper folding, paper supplies, and tablet making.

Equipment in the Copy Center includes: a large black & white copier capable of bulk jobs, a color copier also capable of bulk jobs, a cutting machine, a coning machine (which punches holes in documents and binds them together with a plastic binding, and an engraving machine (which can engrave signs into plastic and metal up to 18”x24”). The Copy Center also holds a substantial inventory of colored and white office paper, much of which has at least some recycled content.

Copy Center staff are responsible for maintenance on all copiers on campus as well as ordering all paper for the campus. We lease our copiers from Xerox. Our copier contract with Xerox includes services and toner for all Xerox copiers.

The Copy Center **accepts copy requests** in person, delivered via interoffice mail, or emailed as an attachment to the Copy Center via email. Turnaround time for most jobs is within 24 hours. Copy requests can be made in person or online, and orders can be dropped off in person or sent via interoffice mail.

The Copy Center schedule roughly coincides with the Mail Services schedule:

8:15 am	Copy Center opens.
9:00 am	Delivery to Corson Hall (and occasionally urgent special deliveries).
10:00 am	Mail, including interoffice orders, is dropped off at the Copy Center; orders that are ready are picked up at this time by Mail Services and are delivered across campus.
12:00-1:15 pm	Mail Services makes another stop at the Copy Center to see if there is anything that has to be delivered that afternoon and that stop is usually between 12:00 and 1:15 pm.

The Copy Center maintains 50 Xerox copiers around campus. Additional copiers are maintained by staff in the information technology services department and are noted in that section of this CSAP.

6.10 Current: Copy Center

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.10-1: Mitigation Project/Initiative: Copy Center

Type of Project	Mitigation Project/Initiative: Copy Center
Policy	None at this time
Operations	Maintenance • Our copy center staff members perform regular tune-ups and cleaning on our copiers. This ensures that our existing copiers last throughout the lease. Energy Saving Initiatives • All copiers go into sleep mode when not being used.
Procurement	Printers • Printers are replaced with energy efficient models. All have maintenance contracts. All consumables (parts, toner, ink cartridges, maintenance) are included in contracts except for paper and staples. Paper • All of our white office paper has 30% post consumer waste paper content. • We also have a number of colored papers that we have in our stock room that have varying amounts of recycled content. • The Copy Center does not place orders for neon colored papers. These papers are not available with any recycled content.
IT Changes	Online Orders • The Copy Center has an online form that UC customers can use to place orders. This saves time and paper. • The online form is in the process of being streamlined for ease of ordering.
Behavior Change & Ed.	Behavior Change • Copy Center staff have begun to encourage UC community members to use staples

	rather than plastic cones to make booklets. They did this by educating the UC community about ways to save money that are also more sustainable. For example, the cost of stapling a document is much less than the cost for coning a document. This saves departments and the College money and reduces the use of plastic cones. • Staff in the copy center also encourage patrons to have all orders printed double-sided.
Waste & Recycling	Recycling • Our staff is aware of the College's recycling efforts and works to recycle as much waste as possible. • Xerox takes some of the printer cartridges back. • The Copy Center recycles the printer cartridges that Xerox won't take back.
Transportation	None at this time
Community Outreach	None at this time
Infrastructure	Copy Center Office • The current office space for the Copy Center was designed specifically with ease of use and efficiency in mind. This has saved time and provided additional ventilation for the machines used in the space.

6.10 Goals: Copy Center

Goal 1: Determine what the Copy Center's commitment to sustainability on campus is, and publish that commitment within the community, including on the Copy Center's website.

Goal 2: Within the Copy Center, increase awareness of the department's commitment to sustainability and the importance of conserving resources.

Goal 3: Work with the Facilities Services Administration to set energy-use reduction goals for the Copy Center.

Goal 4: Work with the Facilities Services Administration to set waste reduction/procurement goals within the Copy Center.

6.10 PA: Copy Center - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.10 PA-1: Copy Center – Prospective Actions: Policy

Immediate (2013-2018)

Goal Setting

- Identify benchmarks for waste, procurement, and energy use within the Copy Center.
- Set goals and interim targets for waste reduction, procurement, and energy-use reduction.
- Set a timeline for achieving interim targets and implementing these goals.
- Before the end of the current lease, determine whether it is still necessary to provide a central copy service or whether this function should be outsourced. This scrutiny should be applied at the end of each lease.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Contracts - Vendors

- Give preference to vendors who can help us meet our sustainability commitments.
- Encourage vendors to provide products and services that will help us meet our sustainability commitments.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.10 PA-2: Copy Center – Prospective Actions: Internal Operations

Immediate (2013-2018)

Double-Sided Copying

- Charge extra for single-sided printing where double-sided printing is possible.

Forms

- Expand the Supplies Request form so that it includes papers of different recycled content along with prices for that paper.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.10 PA-3: Copy Center – Prospective Actions: Procurement

Immediate (2013-2018)

Copiers

- Ensure all copiers across campus are Energy Star rated.
- Lease or purchase copiers that have toner cartridges that can be recycled/reused.
- Investigate leasing or purchasing copiers that can use soy-based inks.

Paper

- In addition to white office paper, increase to 50% the amount of paper purchased that has recycled content.
- Consider purchasing papers graded 4, 5, or N.
- Continue to try papers with higher post consumer waste recycled content. When economically feasible, switch to papers that have higher recycled content for all colors.

Inks

- Investigate the possibility of purchasing and using soy-based inks in some of our campus printers.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.10 PA-4: Copy Center – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Update the website to include information about what the Copy Center does to encourage sustainability in the office as well as in its business dealings with companies. Information could include: recycling lists (what is recycled), sustainable product availability with prices, how people can be more environmental when copying, etc. Work with Office of Sustainability Staff on this project.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.10 PA-5: Copy Center – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Behavior Change

- Offer incentives for “sustainable copying”, including printing double-sided, using stocked recycled-content colored paper colors.
- Increase the cost of copying single sided when double sided is an option. For example, if someone has only a single page document, they shouldn’t pay more. Or if there’s a form that can only be single sided b/c someone needs to sign it and turn it back in, etc.

Education

- Make the Ursinus community aware of the sustainable activities and procedures that happen within the Copy Center.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.10 PA-6: Copy Center – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Recycling

- Participate in toner cartridge recycling programs whenever possible.
- Investigate additional reuse programs for materials that Xerox will not take back.

- Work with companies that recycle components or entire copier units when they are done.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.10 PA-7: Copy Center – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.10 PA-8: Copy Center – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.10 PA-9: Copy Center – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Facilities – Chapter 6.11: Mail Services

Back to Table of Contents

Ursinus College Mail Services provides mail and package services for the campus community. This arm of the Facilities Services department accepts most campus deliveries, from overnight package deliveries to office supplies and equipment, furniture and large chemical tanks. They have computer programs that allow them to track all student packages as well as a program that allows them to keep track of all other deliveries. They have a Vantage VanGo that is used to deliver mail across campus. For other deliveries, they have access to Facilities Services vehicles on an as-needed basis, including the fork lift and larger trucks for heavy or over-sized items. They do not handle deliveries for Dining Services or the campus bookstore, and there are some departments that occasionally receive deliveries directly, including Athletics and Theater & Dance.

In addition to deliveries, Mail Services handles shipping for the campus community. They ship individual packages as well as large, pre-packaged shipments, such as the campus laptops when they are returned to Dell. Mail Services projects that it will have processed approximately 17,000 incoming packages for students during the 2011-12 school year. This represents a 15% increase over the previous year. Much of this volume is due to students placing individual book orders.

We have a single scheduled daily pickup for express packages from FedEx. Otherwise shippers stop at Ursinus only when they are dropping off packages or if they are called.

Located at the Facilities Services building, Mail Services is open 8 am-4:15 pm Monday-Friday.

Package deliveries are increasing throughout Mail Services department. The cause is primarily the rise of online text book purchases. Students now have the option to order used copies of text books for classes at a fraction of the cost of purchasing them new. This fact has led to significantly increased numbers of packages that must be processed through our mail room.

In the beginning of 2011, Mail Services started using a new technology that allows them to track student packages online, creating a digital paper trail for each package and alerting students electronically when they have received a package (and where it is located – either in their mail box or at Mail Services). This system has become increasingly critical to the daily task of handling student packages as the number of packages increases.

Mail Services is planning to upgrade the software that they use to track non-student packages as well. This software would not include an alert system for recipients, but would allow Mail Services staff to more accurately track when and where any given package was delivered using the bar codes that are already on packages when they arrive on campus.

6.11 Current: Mail Services

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.11-1: Mitigation Project/Initiative: Mail Services

Type of Project	Mitigation Project/Initiative: Mail Services
Policy	None at this time
Operations	On-Campus Envelopes • These envelopes are used repeatedly for campus or internal mailings, saving paper and money.
Procurement	None at this time
IT Changes	Student Package Tracking • In 2011, Mail Services began using software that tracks packages that are received for students and then automatically generates an email alert to the student as to where the package can be retrieved. This saves Mail Services staff a great deal of time and substantially improves their ability to handle the increasing volume of packages. • The system also saves paper, as staff no longer need to place paper alerts in students' mail boxes.
Behavior Change & Ed.	None at this time
Waste & Recycling	None at this time
Transportation	Post Office Delivery • The USPS picks up our outgoing mail daily. This alleviates the need for us to count delivery to the local post office in our emissions.
Community Outreach	None at this time
Infrastructure	None at this time

6.11 Goals: Mail Services

There are no goals identified currently for Mail Services.

6.11 PA: Mail Services - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.11 PA-1: Mail Services – Prospective Actions: Policy

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.11 PA-2: Mail Services – Prospective Actions: Internal Operations

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.11 PA-3: Mail Services – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

6.11 PA-4: Mail Services – Prospective Actions: Information Technology Changes

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)
Mid-Term (2019-2030)

6.11 PA-5: Mail Services – Prospective Actions: Behavior Change & Education

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Immediate (2013-2018)
Mid-Term (2019-2030)

6.11 PA-6: Mail Services – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)
Mid-Term (2019-2030)

6.11 PA-7: Mail Services – Prospective Actions: Transportation

Immediate (2013-2018)

Pick-ups

- Determine if it is possible to arrange for overnight carriers to make stops at Ursinus only if they have been alerted that there is a package to pick-up, rather than stopping on a regular route.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.11 PA-8: Mail Services – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.11 PA-9: Mail Services – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Facilities – Chapter 6.12: Science Labs

Back to Table of Contents

Other than our central heat plant, our science buildings are the biggest individual contributors to our GHG emissions. These are Pfahler and Thomas Halls; Pfahler is both newer and larger than Thomas, but both are older buildings by the standards of current science buildings. We have recently completed substantial updates to some of the labs in Thomas Hall. The buildings have laboratories for chemistry, biology, psychology, physics, and geology.

Science labs are one of the main energy users in science buildings; they require multiple air changes per hour) to protect the users from the build-up of dangerous chemical levels (this consists of venting heated/cooled air to the outside and bringing in fresh outside air which then must be heated/cooled to room temperature. All of our chemistry and most of our biology labs have fume hoods, which are designed to vent air (and the chemical fumes in the air) out of the lab (and particularly the area directly under the fume hood) like a vacuum. The fumes vent externally on the roof. Each hood has a sash that operates like a window sash – and for safety, should be shut when not in use (for variable air volume (VAV) hoods being shut also prevents air changes from over-ventilating the room).

Fume hoods are either constant air volume (CAV) or VAV. This distinction determines how much energy the hoods use. In order to maintain a constant volume of air moving through the hood at all times, CAV hoods have a bypass opening (typically behind a grill near the top of the hood) that widens as the sash is closed to prevent increased air velocity at the sash, which could be detrimental to safety or the integrity of experiments in the hood. On average, CAV fume hoods use as much energy as 3 to 3.5 typical residential homes (at a cost of between $2,500-$3,000/year). (University of Colorado Boulder Facilities Management n.d.) (UND Sustainability 2012) We have 23 CAV hoods. VAV hoods, conversely, have variable volume levels, but constant air velocity, with the result being that there is a lower volume of air moving through. However, this is only true when the sash is closed. In order to save energy with our VAV hoods, it is critical to close the sash when work is completed. We have 62 VAV hoods. In addition to these, we also have two HEPA Biosafety fume hoods. (See Appendix P for a list of Ursinus' lab spaces, their use and associated fume hoods.

The fume hoods themselves do not consume most of this energy: they are simply enclosed workstations where lab work is carried out. The energy is consumed mostly through the heating or cooling of the replacement outside air cycled in through release of the contaminated exhaust air. It is therefore most energy efficient to use the fume hoods when the outside temperatures are equivalent to the inside temperatures.

In addition to the fume hoods, our labs have equipment that pulls a great deal of electricity, including: autoclaves, minus 80^{o} freezers, other freezers, cold rooms, centrifuges, incubators, heated fish tanks, microscopes, computers, and lighting.

Individual faculty members are responsible for training students and checking on compliance within their own labs with regard to hoods, freezers, and other equipment. The effectiveness of this approach may be compromised by student reticence to risk social stigma (even if imagined) by asking respected faculty members for information about how various equipment should work. Some of the practices that will lower our lab-related emissions require a shift in behaviors, but some will require cultural change at the organizational level. Information on how other labs are achieving sustainability is readily available through a variety of sources, including the National Institutes of Health, Massachusetts Institute of Technology (MIT), and Yale and Harvard Universities.[16]

In Pfahler Hall, we have 20 lab spaces with fume hoods, including those for the Chemistry, Physics/Astronomy, Environmental Studies, and Math and Computer Science departments, and one observatory. Within these labs, we have 60 VAV and 14 CAV fume hoods – all in our Chemistry labs. Our four largest labs also have an unoccupied setting for the entire lab that allows users to lower the HVAC air changes to minimum levels when appropriate. The CAV hoods can be switched off, however, this is not currently practiced for a variety of reasons, including habit and safety. Our Physics & Astronomy labs do not have any fume hoods, however they do have special HVAC requirements due to equipment-related cooling needs. This is also true for the math student computer research lab. See Appendix Q for a list of Pfahler Hall laboratories and equipment.

In Thomas Hall, we have 15 Biology labs. We also have a number of rooms in our Psychology Department where research takes place, including a computer lab. In the Biology labs we have

[16] See http://www.labmanager.com/?articles.view/articleNo/3610/article/Sustainable-Lab-Operations for additional information.

nine CAV hoods, two VAV hoods, and two HEPA Biosafety Hoods. The CAV hoods can be switched off, however, this is not currently practiced for a variety of reasons, including habit and safety. . See Appendix R for a list of Thomas Hall laboratories.

6.12 Current: Science Labs

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.12-1: Mitigation projects/initiatives for campus laboratories.

Type of Project	Mitigation Project/Initiative: Labs
Policy	Lab Hours • Biology labs are closed for students between midnight and 6 a.m.
Operations	Energy Saving Initiatives • Thomas research labs in rooms 112 & 210 (NSF, Ballinger & Warfel Construction) were updated to LEED standard construction. Chemicals • We use less toxic chemicals if and when experiments permit. • The organic chemists will use small scale equipment for experiments that will yield enough product for the students to examine; otherwise, the larger scale glassware is used. • We recycle/reuse paint thinner and ferric chloride in the printmaking area until it is no longer effective. • We keep information about chemicals used in all labs in an easily accessible location within each department, including where the chemicals are stored and safety data sheets.
Procurement	Energy Efficient Purchases • We have made updates in our science buildings that are more energy efficient (e.g., fume hoods). Chemicals • For our introductory labs, we place bulk orders once a month or at the beginning of the semester. Researchers (faculty and students) are encouraged to include their orders with this bulk order in order to decrease shipping costs. This also reduces transportation emissions related to these orders. • Additionally, we purchase chemicals in small quantities, as needed, for many orders. This enables us to purchase only small amounts of certain chemicals on hand. • One staff member tracks the chemical inventory, handles waste, and can coordinate sharing of chemicals.

Information Technology	Website • Information about lab safety (and sustainability related to chemical safety) is available on the Facilities Services Environmental Health & Safety website. • Chemistry has information available on its website about lab usage, including one reference to fume hood functionality.
Behavior Change & Ed.	Lab Usage Guidelines • Chemistry has a lab usage guide that they require all student researchers to sign. This document includes keeping doors and windows closed so that the fume hoods function properly. It also requires that all chemical containers be clearly marked with contents (not chemical formulas) and dates opened. • Biology has a set of lab guidelines and requires student researchers to be trained before using the department's autoclaves.
Waste & Recycling	Hazardous Chemicals • We reduce our waste first by being careful with procurement of chemicals. • We have strict protocols for labeling chemicals, and all chemicals are disposed of properly. • All hazardous chemical waste containers are sealed except when adding waste chemicals. • Glassware is used over and over as well as most equipment in the chemistry labs. • Chemical containers are re-used to collect waste whenever safe to do so. Equipment • Switched most of our thermometers from mercury to alcohol based – some mercury thermometers remain in use for some of our Chemistry research.
Transportation	
Community Outreach	Science in Motion • Environmental Studies created a climate change lab for this educational lab program that travels to local schools. • Environmental Studies is working on creating a Waste and Recycling lab for this program (2013).
Infrastructure	HVAC Modifications • The modifications to the HVAC system in two labs (Thomas 112 and 210) during the summer of 2011 have an energy recovery component. • In 2011 we decreased the air changes for the fume hoods from about 25/hour all the time to 17/hour in occupied mode and 6-7/hour in unoccupied mode. • The HVAC systems are set to sense the static pressure in the duct work and automatically increase or decrease the air handler unit to adjust to a set point. Fume Hoods • The CAV fume hoods in the labs all have on/off switches on them. • Our VAV hoods in Pfahler are sash-linked such that the air flow changes depending on how high the sash is raised. Lab Switches • In 1997, Facilities Services installed a binary on/off switch in four of our large teaching labs (Pfahler 215, 301, 314, and 315), which allows users to set the lab to occupied/unoccupied mode. Decision Making • For projects that require large capital expenditures, the College incorporates energy costs associated with the lifetime of the project. We take savings from energy efficiency aspects of the project into account and consider payback time.

6.12 Goals: Science Labs

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of the Science Labs, and publicize that commitment within the campus community.

Goal 2: For departments that include a lab science (biology, chemistry, physics, environmental studies), determine the departments' commitment to sustainability principles within the science labs, and publicize that commitment within those departments' communities and to the campus.

Goal 3: Within the community of science lab users at UC in both Pfahler and Thomas Halls, increase awareness of the related Department's and the College's commitment to sustainability and the importance of conserving resources.

Goal 4: Coordinate between the relevant academic departments and Facilities Services Department to set energy-use reduction targets within the science labs.

Goal 5: Set sustainability goals for the science labs.

6.12 PA: Science Labs - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.12 PA-1: Science Labs – Prospective Actions: Policy

Immediate (2013-2018)

Fume Hoods

- Consider having the Safety Committee coordinate with OS staff to create a set of guidelines or a policy for fume hood use on campus.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-2: Science Labs – Prospective Actions: Internal Operations

Immediate (2013-2018)

Sustainability Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage departments to use the Green Purchasing Guidelines (Appendix H).
- When possible and feasible, incorporate sustainable event guidelines into event planning. (Appendix G)

Consider implementing sustainability measures such as those listed below, which were suggested by the National Institutes of Health, Massachusetts Institute of Technology (MIT), Yale and Harvard Universities, and Lab Manager Magazine (Vyas 2010):

"Chemical Handling System

- Consider adopting the following U.S. EPA recommendations regarding chemical products and processes: (US EPA 2011)

- Green Chemistry: Source Reduction/Prevention of Chemical Hazards
  - Design chemical products to be less hazardous to human health and the environment[17].
  - Design syntheses and other processes to be less energy and materials intensive (high atom economy, low E-factor).
  - Reuse or recycle Chemicals.

Chemical Storage

- Identify one (or several) fume hoods in each lab to act as dispensing hoods, where chemicals may be stored overnight. Leave all other hoods with no chemicals storage. Ensure that the sashes are closed on all hoods at night or when not in use, and work with Facilities Services to determine if some of the hoods (or all but the dispensing hoods) could be turned off overnight.
- Continue to educate and train users of the fume hoods about the importance of storing chemicals in designated locations (in the cabinet under the fume hood or shelf in lab) instead of in the hood so that there is optimal air flow in the hoods.

Energy Use Plan

- Work with Facilities Services to create a sustainable energy use plan for the labs to help lower UC's electricity load. Below is a list of items suggested by Harvard University to lower energy use in their labs (Harvard University Office for Sustainability 2011):
  - "Close variable volume fume hood sashes whenever possible to reduce ventilation rates. Encourage lab mates to do the same.
  - Defer autoclave cycles and dishwasher runs, if possible, until the end of the day so that they run overnight after the peak air conditioning load has passed.
  - Avoid opening freezers for prolonged periods of time in case a brownout might impact their ability to maintain temperature, particularly if these freezers are not on backup power.
  - Close blinds in order to reduce solar heat load, particularly if there is direct sunlight coming in.
  - Have the faculty or staff member who is in charge of each lab email all lab users about sustainability initiatives, requesting that group members adapt their practices when possible, and find equipment that can be turned off when not in use."

[17] "Chemicals that are less hazardous to human health and the environment are: Less toxic to organisms and ecosystems; Not persistent or bioaccumulative in organisms or the environment; Inherently safer with respect to handling and use." (US EPA 2011)

- Determine which, if any, electrical equipment (e.g., chilled centrifuges, ovens, refrigerators) can be turned off (and on) to save electricity. Any equipment that is deemed suitable should be indicated as such and marked with an easily identifiable sticker that indicates warm-up times so that users can plan accordingly.
- Identify when equipment is being underutilized. If it is underutilized and realistic and safe, share the equipment between different departments and lower the overall number of appliances that are in use.

Experiments

- For labs that have occupied/unoccupied switches, consider creating a system that would alert other users to experiments that are running for longer than a few hours and that require the labs to be left on the "occupied" setting. This would ensure that labs are not inadvertently turned to the "unoccupied" setting during the experiment, and would allow others to turn the lab to "unoccupied" knowing that there would be no harm to another's experiment.
- Utilize virtual experiments instead of actual experiments, reducing or eliminating the need for materials.

Fume Hood Sashes

- Set up a check system to ensure that fume hoods are closed at the end of the day.
- Place stickers on the side of each fume hood (or on the sash) to remind users to close them when done.
- If fume hoods are not in use over a long time period (for example, in the event that lab needs have changed), and if safe and practical, investigate turning off unused fume hoods. If this is feasible, Facilities Services must be notified so they can rebalance the return air. Also, the fume hood should be marked as "non-operational" clearly so that it is not used inadvertently.

Lighting

- Seek ways to reduce the general illumination of laboratory spaces to the Illuminating Engineering Society of North America (IESNA)-recommended levels. These levels have gone down significantly over time and are likely to be lower than our current light settings.
- Use CFLs or LED bulbs wherever possible. Identify areas where bulbs are not needed and remove them from their ballasts, marking the ballasts as intentionally bulb-free.

- Use task lighting rather than overhead ambient lighting when possible, including when there are only a few people working in the lab at a given time.

Managing Refrigerators, Freezers, and Ultra-Low Temperature (ULT) Freezers

- Clean and defrost freezers and vacuum the condenser coils periodically (e.g., yearly) or as needed (as when the ice is more than 2 cm thick) to increase their energy efficiency.
- Clean out old samples regularly. Assess whether all refrigerators are in use and/or needed, whether samples could be combined into fewer refrigerators, and unplug those refrigerators that are not being used.
- If possible, unplug/turn off ice makers at night and/or over the weekends."
- Operate the -80^{o}C ULT freezers with sustainability and proper functioning in mind (UTMB Research Technical Services 2011):
  - Keep ambient air temperature around the freezers at no more than 78^{o}F.
  - When possible, do not put room temperature samples in the freezer (first place them in a "cold drop" freezer (e.g., liquid nitrogen).
  - Limit the time the freezer door is open (opening the door for one minute can cause the temperature to rise by 20^{o}C).
  - Gently scrape ice accumulation from the door areas with an ice scraper (not a screwdriver or knife).
  - When excessive ice has built up, thaw the freezer in order to remove it. (Contents will need to be removed to another freezer and the unit unplugged and opened. Once the ice is thawed, plug the freezer back in and adjust the setpoint to -20^{o}C for 24 hours. Once it has reached that temperature, lower the setpoint to -80^{o}C.)
  - Clean the inlet air filters and condenser coils inside the freezer at least once a year.
  - Ensure that the two condenser fans are running while the freezer is turned on. If they are not, there is a problem.
- Coordinate with all users to perform regular annual (or more frequently, if needed) preventive maintenance on -80^{o} freezers, and operate them to increase their efficiency.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-3: Science Labs – Prospective Actions: Procurement

Immediate (2013-2018)

Equipment

- When making equipment purchases, consider energy costs as part of the decision making process.
- Purchase Energy Star rated products when available (this is the norm on campus for all appliances, and is a commitment that we have agreed to as a College).
- When feasible, consider purchasing equipment with other departments and sharing time on the equipment (rather than having multiples of the same equipment).
- When upgrading fume hoods, replace CAV hoods with VAV hoods if appropriate to the lab use. If it's necessary to replace a hood with a CAV hood, ensure that there is an on-off switch available for users.

Green Chemistry

- Whenever possible, make use of MIT's Green Chemistry wizard. This interactive tool provides alternatives to approximately 200 of the most commonly used hazardous chemicals. These alternatives are often less expensive, saving the departments money for procurement. http://ehs.mit.edu/site/content/green-chemical-alternatives-purchasing-wizard

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.

- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-4: Science Labs – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Website

- Link the websites for each department that has a laboratory with fume hoods, energy-intensive equipment, chemicals, green chemistry alternative website etc. to the Laboratory Safety page on the UC website: http://www.ursinus.edu/netcommunity/page.aspx?pid=1655.
- Work with OS staff to create a lab sustainability guideline sheet. Include a link on each of these department's websites to this document.
- Link departmental websites to outside websites that provide information about "green labs" such as the U.S. EPA's Green Chemistry website: http://epa.gov/greenchemistry/pubs/about_gc.html.

Mid-Term (2019-2030)

Website

- Work with the Office of Sustainability to develop a "sustainable lab" website.
- Include a link on each of the related department's websites to a sustainable lab website.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-5: Science Labs – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Fume Hoods

- Educate and encourage laboratory users to close fume hoods when not in use through education and/or incentive programs (including peer-to-peer programs).
- Work with OS and Facilities Services staff to develop an educational training program around lowering user-driven fume hood energy use.

Green Chemistry

- Encourage faculty members and students to apply "Green Chemistry" principles to each step of their chemical research.

Lab Sustainability

- Work with OS staff to develop a mandatory educational program for all student lab users to teach them about sustainability in the labs and why it is important. A program such as this would serve students well when they go into the workplace where liability issues will be very important. It could include:
  - Closing the fume hoods whenever they are not in use (energy savings, reducing heat/air conditioning loads, preventing off-gassing of chemicals not under the fume hood, etc.).
  - Closing all chemical bottles except when removing/adding chemicals (VOC reduction, money savings from less off-gassing; health and safety issues).
  - Covering beakers that have chemicals in them (same as chemical containers).
  - Turning off power switches on equipment when finished using; this only includes equipment that doesn't need to be powered at all times (energy savings, extending the life of the equipment, etc.).
  - Turning off lights when leaving any empty rooms… and turning off lights of rooms that you see are empty (energy savings).
  - Keeping doors and windows closed when not in use (energy savings and safety).
  - Disposing of lab waste (recycling, hazardous, trash) properly (health, safety, legal requirements). This should include what should/should not go down the drain.
  - For labs that have an "unoccupied" setting, this should be utilized whenever the lab is not occupied.

- Include information about lab sustainability in course descriptions or syllabi, similar to those sections that discuss lab safety.
- Update any lab use guidelines-type documents to include: closing fume hoods, keeping windows and doors to labs closed, closing chemical storage containers, turning off fume hoods (if allowed), turning off lights, setting room to unoccupied (if possible appropriate), etc.

Volatile Chemicals

- Require students and faculty to cover beakers that hold volatile chemicals when not in use, even when under a fume hood. These chemicals off-gas more quickly in high air-flow areas like labs. Also there is no filter on the fume hoods, so chemicals are diluted by air flow, but not filtered. Covering beakers will save chemicals (and the money used to purchase them) and it will reduce pollution. (Harvard University Office For Sustainability 2011)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-6: Science Labs – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Equipment

- When equipment is no longer needed, find a new home for it, either on campus or at another institution, rather than throwing it away.
- If repurposing or finding a new home for equipment is not possible, work with OS staff to recycle as much of the equipment as possible (unless arrangements need to be made through the granting institution).

Recycling

- Ensure that there are recycling bins in all lab areas for all the types of waste that are recyclable in the labs.

- Establish a culture in the labs that encourages recycling and reuse (when possible).

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-7: Science Labs – Prospective Actions: Transportation

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.12 PA-8: Science Labs – Prospective Actions: Community Outreach

Immediate (2013-2018)

Science in Motion

- Investigate including additional sustainability topics in the Science in Motion curriculum.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.12 PA-9: Science Labs – Prospective Actions: Infrastructure

Immediate (2013-2018)

Fume Hoods

- Convert CAV fume hoods to VAV hoods when possible and appropriate.
- Work with faculty and lab staff to determine where it would be acceptable to install on/off switches on fume hoods. Work with faculty/lab staff and Office of Sustainability (OS) staff to develop a educational plan for implementation.
- If possible, install sash stops on all fume hood sashes that currently do not already have stops installed.
- Work with OS staff to determine actual energy usage of fume hoods as well as strategies for and cost of reducing that use.
    - Include strategies for reducing fume hood energy use in the HVAC Efficiency Plan.

HVAC Changes

- Modernize HVAC systems in older buildings concurrent with renovations.
- Install occupancy sensor-based HVAC night setbacks in laboratories, if feasible with lab use.
- Reduce air changes and fan speeds in laboratories and other buildings with unnecessarily high air changes. Industry standards are between 4-12 air changes per hour or more, depending on the chemicals being used in the lab. (Harvard University Office for Sustainability 2011) (Harvard University Office for Sustainability 2011)
- If safe and there are no adverse effects on on-going experiments, set a separate night-time temperature set-back for the labs (from current 68^{o}-72^{o} to 65^{o}), similar to the night set-backs on all campus buildings.

Lighting

- Determine the amount of light that is being used in the science labs. Work to have them correspond to those recommended by the NIH: 50 footcandles for ambient light; 75 footcandles for bench work.

Mid-Term (2019-2030)

Fume Hoods

- Investigate the possibility of installing a room-level occupancy sensor on the labs with more than one fume hood. A sensor like this would sense when there was no one in the lab and shut down designated fume hoods unless the manual over-ride for experiments was turned on.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.13: Dining Services

Back to Table of Contents

Wismer Hall houses several programs, most notably the Ursinus College Dining Services. The building was constructed in the early 1970s and has undergone several additions and renovations, most recently during the summer of 2011. The kitchen itself is due for an overhaul in the next five years. At that time much of the equipment in the kitchen will be replaced with more energy efficient models. During the summer of 2011, we renovated a portion of our Student Center that opened up the main stairway to the lower floor and expanded the front of the building into the plaza.

Wismer Dining Hall offers a wide variety of fresh and prepared foods to our students, faculty, staff and guests. The Market Place at Wismer Dining Hall is a buffet-style facility. Wismer Dining Hall stations serve a wide array of foods, including home-style entrees, freshly baked pizza and pasta, deli sandwiches and wraps, fresh fruit and salads, and desserts. Located in the lower level of Wismer Center is Zack's Food Court, a food court-style facility that offers eat-in and take-out services. Zack's stations include Jazzman's Café, Sandella's, 155 Grill, and SubConnection. There is also a Jazzman's located in the Myrin Library.

Sodexo Dining Services has 1,585 students signed up for the meal plan. They serve approximately 3,400 meals per day (roughly 500 at breakfast; 800 for lunch & dinner upstairs; 650 for lunch and dinner downstairs). Over the course of the school year, this is approximately 840,000 meals served. The customers are primarily students, with a small number (30-40) of faculty and staff at each lunch.

The weekday breakfast hours run later than some of our comparable schools, however this allows students to attend their 9:00 classes and still eat breakfast afterwards.

Summer service is much abbreviated. Dining is available during lunch only, and only for faculty and staff. Summer Fellows students are provided with one lunch per week during their eight-week time on campus. If the College were interested in expanding this service for the Summer Fellows, Sodexo would need commitment from 35 students before the Summer Fellows term began. This would enable the company to retain staff over the summer, which would, in turn, provide the campus with lower staff turnover in the dining areas. Sodexo professional staff members spend several days in August just prior to first year Move-In in annual training of the dining services staff.

Ursinus Dining Services keeps an **average** of 2.5 days worth of food on hand. This is significantly less than the Sodexo standard of seven days and substantially less than the 10-15 days of food that our peer institutions keep on hand. Food is inventoried on Thursday and the accounting week starts every Friday with deliveries. This reduces our need for storage and reduces the GHG emissions from truck deliveries.

Sodexo has an in-house marketing team that can create educational materials aimed at students. This information can be disseminated in the dining hall for maximum impact.

In an effort to become more sustainable, Dining Services has recently implemented a variety of changes. In 2010, all dining locations became tray-less, reducing food waste and conserving water and energy. Extensive efforts have been made to increase the amount of food waste that is composted at the on-campus composting area behind New Hall. A new vegan/vegetarian food station was established in Wismer Dining Hall, providing the Ursinus community with new and more sustainable food options. Also, Dining Services has expanded its vegetarian options such that there are multiple vegetarian/vegan options at each dining station.

Multiple student groups have also worked to increase the sustainability of Dining Services. Wismer on Wheels is a student-run daily program that delivers unused food from Wismer Dining Hall to a homeless shelter in Norristown. This is food that has not been put out at all.

Dining services plays a major role in our students' on-campus experience. They typically eat three meals a day at one of the dining areas. This means that there are three opportunities every day for messages about food-related or other sustainability to reach our student population.

6.13 Current: Dining Services

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.13-1: Mitigation and Sustainability Project/Initiative: Wismer Dining Services

Type of Project	Mitigation and Sustainability Project/Initiative: Wismer Dining Services
Policy	None at this time
Internal Operations	Dishware • We currently reuse dishware approximately 200 times before it must be replaced. Refrigeration • Food on hand. Dining Services keeps on average 2.5 days-worth of food on hand. (Sodexo standard is 7 days of food; peer institutions' standard is 10-15 days of food.) This reduces the amount of energy needed to store food that requires refrigeration. • Consolidation. Food stored in refrigerators during breaks and summer is consolidated to reduce the cubic footage of chilled space. • Freezers. Thermal barriers are used at night on three of the open food coolers. Food storage • Perishable meats are packed in cryovac-sealed packaging to extend the time during which they can be used.
Procurement	Food Purchased & Served • Healthy Practices. Dining Services serves only fresh produce, makes its soups and mashed potatoes from scratch, does not use MSG in foods, uses no microwaves to heat foods, and uses trans-fat-free oils for cooking. • Breads. Sodexo purchases and serves only locally sourced bagels and breads. • Eggs. Sodexo purchases and serves only cage-free eggs or liquid pasteurized cage-free eggs in the dining hall, bakery and Jazzman's. • Locally Grown Vegetables. Dining Services works with its produce suppliers to purchase locally grown vegetables. They are in talks with a second produce supplier on this topic. • Milk. Dining Services purchases and serves only antibiotic and bovine growth hormone free milk. • Organically grown meat. Dining Services is investigating purchasing meat grown organically, possibly for special events, as this method of raising animals is less resource-intensive for the earth. • Meat. Dining Services purchases and serves mostly hormone-free and antibiotic-free meats. • Seafood. All seafood served has been cleared by the Monterey Bay Aquarium's Seafood Watch program.

	• Vegetarian options. Dining Services has increased the number of vegetable offerings that are available to students. We ensure that there are multiple vegetable options at each station in the dining area.
Behavior Change & Education	Awareness • Food Waste. Two different student groups have held week-long food waste events where leftover food was scraped onto piles, weighed and then findings were reported. • Local Food Banquet. An occasional dinner that celebrates local food. • Local Food Fair. An occasional event that brings in local vendors so that students can learn more about where their food comes from. • Sustainability Week. Sodexo participated in our Sustainability Week activities by putting together a presentation for students and giving away reusable grocery bags. Incentives • We have a BYO Cup reduced price incentive program at our coffee shop, and plan to expand that program to our informal dining area, Zack's. Student Sustainability Workers • As fiscally feasible, Sodexo Dining Services hires Sustainability Student Promotion Coordinators. These students research ideas for improving the sustainability of the services offered by Dining Services. (See Appendix S for job description.) • Real Food Challenge. This is a national program that two students working with Sodexo brought to the campus. We began working with this program in the spring semester of 2011, but are currently in a holding pattern with it. We hope to re-engage as the program encourages serving locally-grown, unprocessed food to the students.
Waste	Composting • All prepared food from Dining Services that is not used by Wismer on Wheels is composted. • All food that is left on plates is composted. This food is run through a Somat food pulper, which removes most of the water in the food. This removes almost 90% of the volume of the food, which allows us to have fewer compost containers on our loading dock and reduces the cost to deliver it to the compost facility. • All utensils and bowls used in the smaller dining areas are recyclable. However, students do not always recycle. Water Use • Tray less system in the dining hall began as a student research project and was subsequently implemented in Wismer Dining Hall. • The water that is removed from the compostable food with the food pulper is then filtered and reused to help operate the food pulper and the tray less conveyor belt system. This reduces the amount of water used to operate these systems by approximately 75%. Repurposing • Used cooking oil is sold for biofuel to Waste Oil Recyclers in Modena, PA. Gallon for gallon, the cooking oil we recycle prevents the release of 26% of the CO and 39% of the particulate matter associated with a gallon of standard diesel fuel. It

	also prevents CO_2 that would be emitted by that diesel fuel by 100%. • Students run a daily program where unused food from the dining hall is taken to a homeless shelter in the neighboring city of Norristown. This program diverts between 60 and 75 pounds of food from the compost facility (or landfill) every day. This is approximately 20-25 pounds of food each meal, three times a day Monday through Friday, and twice a day Saturday and Sunday (only two meals are served in Wismer Dining Hall on Saturdays and Sundays).
Transportation	Local Food • Dining Services uses locally grown produce and herbs when possible. Deliveries • Dining Services receives most of its food each week in a single delivery on Fridays, reducing transportation-related expenses as well as person-power for putting the food away after delivery. • By switching to a Philadelphia vendor (Sysco[18]), Dining Services has reduced the transportation-related mileage from the weekly 200 miles-round-trip to a weekly 50-miles round-trip.
Infrastructure	Green Building • A green roof is planned for installation on Wismer Hall (outside of dining area) between 2011 and 2016. Renovations • Kitchen. The College has a plan for renovating the kitchen in Wismer Hall. We hope that this will be accomplished in 2016 or 2018, depending on the completion of other projects as well as fiscal considerations. The renovation of the kitchen will include replacing old energy-inefficient equipment throughout the kitchen. This will have a significant impact on Dining Services' energy usage.

6.13 Goals: Dining Services

There are no currently identified goals for Dining Services.

[18] See http://syscophilly.com

6.13 PA: Dining Services - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.13 PA-1: Dining Services – Prospective Actions: Policy

Immediate (2013-2018)

Evaluation

- If Ursinus determines that it is appropriate to participate in an evaluation and rating system, such as STARS, have Dining Services participate in filling in the Dining Services portion of the information requested. (See Appendix T to see a sample blank AASHE STARS checklist for dining services.)

Food

- Investigate Farm-to-College programs that have been implemented at other colleges and universities. [19]

Procurement

- Establish a policy that bans the purchase and use of all kitchen cleaning chemicals that are not environmentally friendly.[20]

Responsible Consumption

[19] Information about the Farm-to-College program can be accessed at http://www.farmtocollege.org.

[20] Many organizations, such as Green Seal (http://www.greenseal.org/), have online databases of "green products" that have been certified as non-toxic and non-harmful to the environment.

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Students

- Work with the administration to determine what the consequences are of stealing dishware, glasses, etc. from the dining hall. For example, Sodexo estimates that they have almost 100% loss of their plastic cups (4,000-5,000 cups) every school year. This is an annual of loss to the College of approximately $3,000.
- Work with the administration to determine some method of deterring students from taking food off premises.

Waste

- Institute composting food prep waste into the kitchen culture.
- Work with Residence Life and the administration to establish a fee for cups and other take out containers that accounts for the cost of the materials used/waste.
    - This could be a backdoor fee that is shown as a discount for students who either eat in or bring their own cups/mugs for drinks.
    - This may have health code implications, which should be considered.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.13 PA-2: Dining Services – Prospective Actions: Internal Operations

Immediate (2013-2018)

Food

- Open a local/organic food station in Wismer Dining Hall. Serve food from the Organic Garden at this station when available. Label the food as coming from the UC Organic Garden.
- Increase the percentage of organic food options offered at all campus locations.
- Serve only fair trade coffee and tea at Wismer Dining Hall.
- Promote and support sustainable agriculture through choice of vendors.
- Introduce an eco-friendly, reusable takeout container that students can purchase with Dining Dollars or cash and can use at Zack's instead of traditional takeout containers.[21]
- Consider eliminating ice dispensed with refrigerated beverages.

Energy Usage

- Investigate the installation of thermal barriers for walk-in coolers.
- Energy reduction goals. Work with Facilities Services to determine energy use reduction goals.

Sustainability Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage departments to use the Green Purchasing Guidelines (Appendix H).
- When possible and feasible, incorporate sustainable event guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Composting

- Continue to strengthen composting practices within Dining Services and meet the food waste-composted goal of 100%.
- Work with the staff of Dining Services to compost pre-consumer waste products as well.

[21] For example, G.E.T. Enterprises has created reusable food containers called "Eco-Takeouts." They are 100% BPA free polypropylene. http://ecotakeouts.com/

Energy

- Work toward energy use reduction goals.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.13 PA-3: Dining Services – Prospective Actions: Procurement

Immediate (2013-2018)

Food

- Purchase food from local sources whenever possible to reduce transportation-related emissions.[22]
- Investigate purchasing locally-roasted and/or fair trade organic coffee.[23] Coordinate this purchase with the school's purchasing office if Sodexo's purchasing system doesn't allow for this arrangement with a local producer.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Uniforms

- Purchase uniforms and T-shirts made from recycled and/or sustainably grown/harvested material.

Waste

- Introduce an eco-friendly water bottles and coffee mugs (metal or PBA-free plastic) available for purchase with Dining Dollars or cash.

[22] An excellent online resource for finding local farmers is www.localharvest.org.

[23] One Village is an example of a local company that roasts fair trade coffee. They are located in Souderton, PA. http://onevillagecoffee.com/

- Purchase and use compostable containers, plates, utensils and cups for all to-go meals (if student does not have reusable food container) and catered events.
- Purchase and handout composting bags to campus community members for them to use in their residence or office space. These bags are then brought back and put through the food pulper.

Mid-Term (2019-2030)

Food

- Work toward purchasing and serving only cage-free or liquid pasteurized cage-free eggs for the dining hall.
- Work toward purchasing and serving only hormone-free and antibiotic-free meat products.[24]
- Work toward introducing and getting acceptance of grass fed beef, depending on cost and availability.
- Set a goal and take steps to achieve this goal of providing locally sourced produce during seasonal availability at least 50% of the time.

Responsible Consumption

- Reduce use of products wherever possible and implement sustainability practices in everyday operations.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.13 PA-4: Dining Services – Prospective Actions: Information Technology

There are currently no identified Prospective Actions in this area.

[24] www.sustainabletable.org has an "rBGH-free Dairy Map" that lists providers of hormone-free dairy products by state.

6.13 PA-5: Dining Services – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Events

- Campaigns. Institute sustainability as a Dining Services campaign.
- Use food from the Organic Garden to make soups and invite students to small-scale speaker series where they can discuss sustainability in terms of food.
- Co-host once/semester sustainability lunches with The OS.
- Organize regularly scheduled themed dinners that focus on sustainability topics.

Hands-On

- Introduce an eco-friendly water bottle and coffee mug (metal or PBA-free plastic) available for purchase with Dining Dollars or cash. Promote this to students by offering a discount to students who use them.
- Weigh and display dining waste for a week during Sustainability Week. Have students scrape excess food off of plates into trash can to help establish a connection between the individual and their food waste. This would be combined with a substantial educational component about the impact of food waste.
- Offer cooking classes that shift students away from microwavable products, fast foods, vending machines, etc.

Information

- Table-top Triangles. Design informational table-top information sheets that can be placed on all tables in the dining room.
- Display ingredients lists for all foods offered in all campus locations.
- Educate students about what they are and are not allowed to take from the dining areas and what the consequences are. (There is currently no way to enforce this due to the cost of personnel to staff exits)
- Enlarge the signs indicating vegan/vegetarian/organic foods within the signing area.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Real Food Challenge

- Re-engage in the Real Food Challenge program and become and remain active participants.

SSPC workers

- Reinstate the SSPC program.
    - Have SSPC students determine carbon emissions associated with various foods served in the dining hall. Label food entrees as low/medium/high-carbon at point-of-service.
    - Have SSPC students conduct a survey of students to determine attitudes about eliminating ice for beverages.
    - Have SSPC students conduct an inventory of pounds of food per delivery so that we can better account for the amount of food that is wasted.
    - Develop an educational campaign around composting of food, eating less food, and eating locally.
    - Require all Dining Services employees to attend a training session on composting.

Staff Education

- Consider offering in-house training to help staff change old practices so that lights get switched off, waste is recycled/reused, etc.
- Consider purchasing books about sustainability in dining services. Keep the books somewhere that they can be accessed easily.
- Consider having annual think tank meetings to strategize about sustainability within dining services. Invite students and kitchen staff to participate in these discussions.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Food

- Have sustainability student workers develop a way for the Ursinus community to easily access information about where all food served by Dining Services comes from.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.13 PA-6: Dining Services – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Recycling & Composting

- Work toward composting the food scraps and leftovers that are generated in the preparation of food for the dining hall and other dining areas.
  - Train kitchen staff in how to compost this food and what can and what cannot be recycled.
- Recycle the plastics and cans that are generated in the preparation of food for the dining hall and other dining areas.
- Ensure that all Ursinus students, faculty, staff, and guests can easily locate recycling receptacles. Put descriptive label on all recycling bins describing what can and cannot be placed inside.

- Ensure that all plates, cups, and bowls that are provided at events are either recyclable or compostable. Depending on which, make sure that there are recycling or composting receptacles at the events.
- If the College contracts with a composting facility that takes compostable utensils, plates, bowls, etc., work toward ensuring that all such ware that is provided by Dining Services is compostable.

Waste Reduction

- Eliminate the use of polystyrene foam (Styrofoam) serving cups and plates. This elimination would have to be flexible in the face of a health emergency.
- Eliminate plastic bags for take-out food, or charge a fee to students who choose to purchase one.

Food Waste

- Strive to improve the percentage of food waste that is composted by Dining Services.
- Collect more accurate data on the amount of food waste that is diverted from composting by the Wismer on Wheels program. Have students who run this program track data as a stipulation for providing the food.
- Increase the amount of compostable materials that actually make it into the compost.
- Institute a yearly food waste collection to remind students of how much food is wasted every day. Have this collection coincide with Sustainability Week in September.

SPCC Workers

- Work with SSPC workers to determine if there is a way to further reduce the amount of waste per student per meal. Implement ideas that seem feasible and cost effective.

Mid-Term (2019-2030)

Zero Waste Goal

- Work toward attaining "Zero Waste" operations by working to have all incoming and outgoing materials reduced, reused, recycled, or composted.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.13 PA-7: Dining Services – Prospective Actions: Transportation

Immediate (2013-2018)

Alternative Fuel

- Reuse. Investigate technology and resources involved in using cooking oil to fuel biodiesel cars/trucks involved in campus operations.

Mid-Term (2019-2030)

Alternative Fuel

- If feasible, reuse oil from cooking to fuel one or more biodiesel cars/trucks involved in campus operations. This would be a project that would require ongoing coordination with student groups, The OS and Facilities Services.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.13 PA-7: Dining Services – Prospective Actions: Community Outreach

There are currently no prospective actions in this area.

6.13 PA-9: Dining Services – Prospective Actions: Infrastructure

Immediate (2013-2018)

Composting Infrastructure

- When purchasing additional or replacement compost bins, purchase locking bins so that food smells will not leach into the surrounding area.
- Consider expanding the Wismer loading dock to accommodate the additional composting bins.

Composting Contracting

- Re-assess our composting contractor and consider other options.
- Assess contractors based on cost, what they can compost for us and other services (including educational) that they can offer to the College.

Energy Goal

- Work with the Dining Services director to determine goals for energy use reduction.

Energy Saving - Electricity

- Food coolers. Investigate thermal barriers on the walk-in coolers in the kitchen. These have been cumbersome and difficult to clean in the past. We will need to find an alternative that more effectively meets all operational needs and sustainability goals.
- Appliances. Consider removing deep-fryers.[25]
- Ice machines. Depending on survey results, consider eliminating ice dispensed for beverages.
- Insulation. Ensure that refrigerated areas and hot water supplies are properly insulated.

[25] According to Sustainable Foodservice Consulting, fryers are often the most expensive piece of equipment in dining service facilities. They use large amounts of energy and produce fryer oil that is costly to dispose of. Fried foods are high-fat and associated with health issues. Many traditionally fried foods that are currently served by Dining Services could be replaced with baked versions.

- Lighting. Ensure that all lighting is energy-efficient. This includes replacing incandescent bulbs with Compact Fluorescent Lamps or LEDs and installing occupancy sensors.

HVAC

- Investigate the possibility of installing kitchen exhaust hoods with heat recovery components.
- Investigate the pressure of the HVAC system for the building. If there is negative pressure, work to increase the pressure to acceptable levels (1" of air pressure is ideal in commercial settings).

Procurement

- Appliances. Ensure that all newly-purchased appliances are Energy Star qualified.
- Food coolers. As the current equipment ages out, we will explore new options for more energy-efficient models with daytime thermal barriers for open food coolers. Transition to non-ozone-depleting refrigerants.

Water

- Water Saving. Acquire a low-flow pre-rinse spray valve for use in the process of washing dishes in Wismer.

Mid-Term (2019-2030)

Hot water

- Solar. Consider using solar hot water heaters to supply all Dining Services locations with the energy needed to produce hot water.
- Cooking Oil. Investigate water heating technology that runs off of used cooking oil and weigh this option against other possible uses for the oil (sale for biofuel) or the removal of the deep fryers.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Facilities – Chapter 6.14: Housekeeping

Back to Table of Contents

Ursinus College contracts out housekeeping to an independent contractor. The housekeeping staff is comprised of approximately 25 employees. These employees are responsible for cleaning the public spaces in all campus buildings, as well as staff/faculty offices. They take out the garbage from the bins in those areas as well as removing the recycling from bins in public spaces indoors and share the responsibility with Facilities Services for bins located outdoors. They are responsible for transferring recycling and garbage to their respective dumpsters and determining whether there is contamination in the recycling bags.

Our housekeeping staff members have been trained in how to identify recycling that is contaminated as well as the importance of recycling for our campus overall. Contamination in the recycling is a concern in certain areas of the campus. Housekeeping staff have "contaminated" stickers to place on the contaminated bags as an educational initiative to help Ursinus community members know why certain bags of recycling are being put in the trash. We also use green bags for our recycling bins so that it is easier for all community members to know what is and isn't recycling.

6.14 Current: Housekeeping

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.14-1: Mitigation and Sustainability Projects/Initiatives - Housekeeping

Type of Project	Mitigation and Sustainability Projects/Initiatives - Housekeeping
Policy	None at this time
Infrastructure	None at this time
Operations	Work hours • Converted custodial services to daytime hours in order to reduce lighting requirements at night. Energy Saving Initiatives • Housekeeping staff have been instructed to turn lights off in rooms and buildings when they are finished with their work in those spaces. Recycling • We have instituted a system that allows the housekeeping staff to publicly identify recycling bags that have been contaminated with a "contaminated" sticker placed on such bags. This has helped change the perception that our housekeeping staff is not participating in the recycling program as well as educating our community members about the fact that contamination means that recycling becomes "trash".
Procurement	Cleaning • We use almost exclusively green cleaning products, chemicals, etc. Recycled Paper • We require that our Housekeeping contractor provide recycled toilet paper and paper towels in campus lavatories.
IT Changes	None at this time
Behavior Change & Ed.	Stickers • Bags of recycling that are contaminated are labeled as such with stickers. This allows community members to know why some recycling is thrown in with the garbage.
Waste & Recycling	Single Stream Waste • Our housekeeping staff members are on the front lines of our recycling efforts. They collect and distribute both trash and recycling for the academic and non-academic buildings on campus. They are educated about what can and cannot be recycled and recycling contamination issues. Data Tracking • Keep track of how many bags of recycling are "contaminated." This level of data tracking would assist the OS and the College in understanding where to concentrate efforts.
Transportation	Car Pooling • Many of our housekeeping staff carpool to work, which saves them money and

	reduces the College's staff-commuting-related emissions.
Community Outreach	None at this time

6.14 Goals: Housekeeping

Goal 1: Determine what the Facilities Services Department's commitment to sustainability is within the realm of Housekeeping, and publicize that commitment within the community.

Goal 2: Set staff education goals within housekeeping.

a. Green cleaning, products and processes.
b. Recycling, our process and why it matters.
c. Ursinus' sustainability commitment and where Housekeeping fits in.

6.14 PA: Housekeeping - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.14 PA-1: Housekeeping – Prospective Actions: Policy

Immediate (2013-2018)

Policy Recommendations: See the Facilities Services Administration section of the CSAP.

Mid-Term (2019-2030)

6.14 PA-2: Housekeeping – Prospective Actions: Internal Operations

Immediate (2013-2018)

Day to Day

- Clean the outsides of the recycling and trash receptacles on a monthly- or as-needed basis so that it is clear that they are being maintained. This should help UC community members understand that the College is supportive of this effort.
- Emblazon the cleaning carts with eye-catching stickers that contain messages about "green" cleaning on campus.
- Ensure that lights are turned off in unused classrooms and office spaces.
- Include Spanish translations on the recycling bins as a way to be inclusive of our housekeeping staff members whose primary language is Spanish.

Events

- Ensure that there are clean, well-marked recycling receptacles placed at all campus events. There should be recycling containers next to every trash can.

Training

- Provide periodic training, in both English and Spanish, to housekeeping staff members to reinforce the importance of recycling and their role in our success.
- Identify and address problem areas where there is more recycling or concerns around housekeeping staff compliance and provide additional training for staff members in those areas.
- Seek input from housekeeping staff about areas of concern to them with regard to sustainability requirements.

Mid-Term (2019-2030)

Recycling

- Investigate whether housekeeping staff could be assigned to remove trash from recycling bins when there is minimal contamination. If this is deemed to be a possibility, implement it as part of the recycling contamination solution.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.14 PA-3: Housekeeping – Prospective Actions: Procurement

Immediate (2013-2018)

Green Cleaning Products

- Work with housekeeping to purchase more green products to increase our green cleaning program. Products could include:
  - Non-toxic cleaning solutions (e.g., vinegar, baking soda, non-toxic detergents, etc.). These are made by many companies, including Seventh Generation, Sustainable Earth, and??.
  - Use unbleached cotton cloths that can be washed (by a contracted company) and reused instead of using paper towels and throwing them away.
- Avoid products that have warnings on them such as “danger” and “poison” or that contain ingredients that are “corrosives” or are labeled as any of the following: “Chronic Health Hazard”, “vapor harmful”, “causes burns”, or “may be fatal or cause blindness if swallowed.”

Purchase consumer-used products that have a lower impact on the environment

- Purchase only non-bleached lavatory tissue products (paper towels and toilet tissue) for all lavatories on campus.
- Purchase hand soaps that are environmentally friendly for soap dispensers.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.14 PA-4: Housekeeping – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Online Comments

- Investigate the creation of an online form that students/staff can fill out to report issues and also to write comments (positive and negative). The point of such an online form would be to automate the process of pointing out areas that need attention, similar to the work request form that Facilities Services currently operates for repairs.
    - Benefits of an online form would include: the ability to track problem areas (both locations and types of problems), the ability to identify locations and campus populations where educational campaigns would help, the ability to better meet the needs of the UC community.
    - The importance of this stems in part from the fact that the housekeeping staff is so important to the success of the recycling program on campus. But also because they interact with or are seen by the community every day.
- If this is deemed to be feasible and reasonable, implement this online form system.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

6.14 PA-5: Housekeeping – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Training

- Conduct training sessions with staff members (in their native language) to explain what the College is doing overall regarding sustainability and what their role is in meeting the College's goals. It is critical for our housekeeping staff members to understand why it is important for them to be on board… not only because they are being paid to do so, but because it is healthier for them as well as the overall community. Make sure that there are feedback loops to inform the process and make implementation more effective.
- Training sessions should revolve around specific tasks that individuals are involved with, but all housekeeping staff members should also be exposed to the overall picture of what the other housekeeping staff members are being asked to do.

Public Relations

- Have Housekeeping employees wear a pin that has a "green" message.
    - These pins could say something that communicates the message that they are working on sustainability on the campus: "Greening Ursinus Housekeeping", "Recycling: Ask me how" (for those whose English would support conversation), "Housekeeping is Going Green", etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.14 PA-6: Housekeeping – Prospective Actions: Waste & Recycling

Our housekeeping staff is on the front lines of our recycling program. They are responsible for collecting the recycling and waste and determining whether the recycling is contaminated, and thus not recyclable. This puts them in a delicate and important PR position, made somewhat more awkward because these workers are contract employees. UC community members have, in the past, been suspicious that the waste and recycling are not actually being separated, in large part due to the contamination of the recycling (and thus the need to throw a bag of recyclable materials into the trash), but potentially also due to cultural differences and poor communication of process. The solution to this complex situation lies only in part with the Housekeeping staff.

Immediate (2013-2018)

PR

- Work with the OS to determine ways to make it clear what is and is not being recycled and why.
    - This could involve having housekeeping staff place "Contaminated" stickers on recycling bags that have been contaminated by users. This would educate community members about why that particular bag of recycling is actually "trash" and help community members understand why it is important to use the recycling bins appropriately.
    - This could also involve an educational campaign about Housekeeping's role in the recycling program run by the OS. See the CSAP section on the OS for more information.
- Institute recycling of paper towels in bathrooms

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.14 PA-7: Housekeeping – Prospective Actions: Transportation

Immediate (2013-2018)

Vehicles

- Do not idle any vehicles on the UC campus.

Mid-Term (2019-2030)

There are currently no identified Prospective Actions in this area.

6.14 PA-8: Housekeeping – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

6.14 PA-9: Housekeeping – Prospective Actions: Infrastructure

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

Facilities – Chapter 6.15: Bookstore

Back to Table of Contents

The Ursinus Bookstore is located in the Wismer Center. The store is operated by Barnes & Noble Booksellers. Barnes & Noble supports sustainability efforts at colleges and universities that promote these efforts. The facilities have recently been renovated so that there is slightly less floor space in the store. The inventory consists of books for classes (ordered ahead by faculty), a limited selection of books for general reading, Ursinus clothing and gear, some residence hall room merchandise, and other small items.

6.15 Current: Bookstore

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 6.15-1: Sustainability projects & initiatives – UC Bookstore.

Type of Project	Mitigation Project/Initiative: Transportation
Policy	Sustainable Sourcing • Currently, Barnes and Noble is partnered with a company called Alta Gracia for some clothing, and this partnership is to extend further in the future. Worksites are monitored by Barnes and Noble, to ensure best practices are adhered to, living wages paid, and quality of life for workers is bettered.
Operations	Books • Promotes textbook rentals • Promotes used textbooks • Promotes e-text books Paper • Less paper used in checkout process, as only one receipt now prints for rental agreements. Suggested to company that ALL receipts be generated through email. Backup of documents, instead of being printed, will now be saved to desktop and filed in appropriate folders, eliminating unnecessary consumption Marketing Sustainability • Emphasize buy-backs, used and digital textbooks and rentals. • Provide students with the opportunity to purchase collegiate clothing from socially and environmentally conscious brands, such as Alta Gracia

	• Sell reusable shopping bags-currently do Customer Service • B&N does not typically offer bags for purchases unless asked. • B&N is planning to stop printing emails unless absolutely critical.
Procurement	
IT Changes	E-improvements • Online Ordering • E-Textbooks • B&N is undertaking a Nook Study
Behavior Change & Ed.	Drink-ware • Bookstore's website sells a variety of reusable drink-ware, including metal and plastic water bottles and ceramic mugs.
Waste & Recycling	Recycling • *We recycle cardboard boxes, light bulbs, paper goods, plastic, and* aluminum.
Transportation	None at this time
Community Outreach	None at this time
Infrastructure	Energy Saving Initiatives • Bookstore lights are on an energy saving, programmable auto off/on schedule. • Air conditioning and heating units are on a programmable schedule-shutting down when the Bookstore is closed. Housekeeping • Uses environmentally friendly "Green Safe" cleaning products and cleaning supplies.

6.15 Goals: Bookstore

There are no goals currently identified for the Bookstore.

6.15 PA: Bookstore - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

6.15 PA-1: Bookstore – Prospective Actions: Policy

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for the bookstore that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with UCGreen on this mission. Adopt as much as possible from the Barnes & Noble statement of support for sustainability.

Goal Setting

- Commit to (1) discover best practices; (2) innovate when solutions don't exist; (3) reduce waste and inefficiencies; (4) adopt and embrace new habits; and (5) measure and celebrate progress.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Sustainable Sourcing Policy

- Consider adopting a 'no sweat' policy for the Bookstore's clothing suppliers to ensure it is manufactured in ethical conditions.
- When possible, source Fair Trade products which ensure a fair working wage for workers.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-2: Bookstore – Prospective Actions: Internal Operations

Immediate (2013-2018)

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Textbooks

- When possible, buy back used textbooks for use in future semesters to encourage students to sell and to encourage more students to purchase used books.
    - Consider offering higher buy-back prices for textbooks to encourage students to sell them.

  - Make it clear to students ahead of time what used textbooks will be worth in trade-in value vs. cash-back value.
  - Inform students of the value of used books based on the condition they are in (with examples). Students like to feel that they are aware of the process.
  - Resell textbooks, preferably on campus, but otherwise to wholesalers.
- Encourage the sale of eBooks
- Work to reduce inventory of books that are not purchased.
- Consider offering a discount (based on the cost of excess inventory) to students who purchase text books ahead of the semester order . List books that are being ordered online as faculty send in orders; offer students a discount if they place their order prior to when you place your order.
- Encourage in-store sales
  - Identify in-store advantages to students purchasing textbooks and capitalize on those advantages. Some of these advantages are: convenience, the ability to examine the book, assurance that they are purchasing the correct text book, student-centric return policies, loyalty cards, and customer service. (DeVito 2006)
  - Eliminate "channel conflict" between the B&N bookstore and wholesalers, if present.
  - Educate students about the benefits of shopping in the B&N campus bookstore: use every purchase as an opportunity to do so.
  - Use an online promotion strategy to encourage students to purchase from the campus B&N rather than ordering online from an outside retailer.

Responsible Consumption

- Reduce use of products wherever possible and implement sustainability practices in everyday operations.

Marketing Sustainability

- Market sustainability actions within the Bookstore to the campus community.
- Work with IT and the OS to reduce peripheral energy use on campus by encouraging the use of "smart" power strips (and then selling them at a low price).

Customer Service: Consider all of the following:

- Use recycling bins for paper, cardboard, and plastic gift cards at registers
- Power off all registers and computers at the end of the day to conserve energy.
- Use cleaning rags instead of paper towels.
- Reuse plastic bags and reuse paper for scratch paper.
- Minimize the content of emails to fit on one page-
- Communicate with costumers primarily via email and phone instead of using paper mail.
- Arrange shipments using the smallest amount of packaging material as possible.
- Use a single sheet of tissue for each custom wrapped item.
- Registers and computers go into energy saver mode when not in use.
- Recycle shredded paperwork.
- Reuse office supplies such as rubber bands, paperclips, etc.
- Provide recycled/sustainable office and school supply choices, such as: content notebooks, multi-use printer paper, fine business stationery, folders, planners, filler paper, art pads, index cards, journals, pens, pencils, highlighters, paper clips, staples, rulers, indexes, sheet protectors, binders, post it notes, energy saving, long life light bulbs, rechargeable batteries, and battery chargers.

Accounting

- Send outdated documents to a shredding/recycling company.
- Reuse boxes that are in good shape for storage and filing.
- Reuse reporting paper for scratch paper.

Receiving and Delivery division:

- Reuses inbound boxes/cartons and packaging materials for shipping.
- Lights and computers are shut off at the end of each day.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-3: Bookstore – Prospective Actions: Procurement

Immediate (2013-2018)

Sustainable Products

- Promote on-campus sustainability initiatives by purchasing and marketing sustainable products, including, recycled products, locally-produced products. These could include items such as:
  - recycled notebooks, index cards, greeting cards
  - filler and printer paper,
  - pens and pencils
  - Dividers and binders
  - Expanding files and pencil cases
  - Sketch and writing journals
  - Flash drives
  - t-shirts
  - reusable tote bags,
  - energy efficient light bulbs
- APC surge protectors which eliminate standby power from computer peripherals (standby power accounts for 5%-10% of all residential power consumed.)
- Laptop bags (Act2 GreenSmart) made entirely of recycled plastic bottles.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-4: Bookstore – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

QR codes

- If asked to provide coupons for events, make them available on-line via a coupon code on the website or a QR code.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-5: Bookstore – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Best Practices

- Consider developing a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sales Items

- Consider adding a line of "green" products to the online and in store sales items. Consider including organic fabric clothing, recycled fabric clothing, "green"

tchotchkes, recycled office products, CFL light bulbs, sustainable material laptop bag,

Staff Education

- Consider offering in-house training to help staff change old practices so that lights get switched off, waste is recycled/reused, etc.
- Staff participation in sustainability educational sessions.
- Spearhead the design and production of one or more Ursinus branded reusable bags, offering them for sale
- Spearhead Bookstore communication concerning our sustainability efforts.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-6: Bookstore – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Recycling

- Investigate the possibility of purchasing recyclable graduation caps and gowns.
- Provide recycling receptacles on the sales floor for rechargeable batteries and empty ink jet cartridges.
- Recycle newspapers and cardboard.

Reusing

- Reuse cardboard cartons and packing materials for returns
- Reuse packing materials such as peanuts, bubble wrap, newspaper and Kraft paper.

Reducing

- Work to produce minimal waste. Business materials should reused to the furthest of their extent whenever possible.

- Don't put unnecessary advertising inserts in bags in order to reduce waste.
- Designate a target for cutting back on plastic bags

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-7: Bookstore – Prospective Actions: Transportation

Immediate (2013-2018)

Delivery

- When students order online, shipping/transportation is handled in bulk and orders are picked up in-store. This eliminates the need to have items shipped directly and separately to them.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

6.15 PA-8: Bookstore – Prospective Actions: Community Outreach

There are currently no identified Prospective Actions in this area.

6.15 PA-9: Bookstore – Prospective Actions: Infrastructure

Immediate (2013-2018)

Lighting

- Utilize natural lighting whenever possible. Upgrade the lighting system to use a control panel that dims all Bookstore lighting as it gets brighter outside. (Daylight harvesting)

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Section 7: Special Use Buildings and Spaces

Special Use Buildings – Chapter 7.1: Bakes Athletics Center & Athletics Department

Back to Table of Contents

The Athletics program at Ursinus College sponsors teams in 25 sports. 508 Ursinus students (about a third of the student body) participate in our team sports. Additionally, we have over 1,000 participants in six intramural sport teams and approximately 170 participants in seven club teams. Though there is some overlap between intramural participation and varsity teams, we estimate that approximately half of the Ursinus student body participates in some form of organized sports here on campus. Athletics is an important part of the Ursinus experience; thus it is also an excellent venue for extending the message of sustainability to our student body as well as to our staff.

Our program encompasses indoor and outdoor facilities. The Floy Lewis Bakes Athletics Center is a recently renovated facility. Together with the Helfferich Gymnasium and our field house, it comprises our indoor athletics facilities. Our outdoor facilities include two artificial turf fields (both include lighting and one includes an irrigation system), a baseball diamond, eight tennis courts (two of which have lighting), a softball field, and four practice fields (one of which has lights). The table below details our athletic facilities.

By far the largest source of GHG emissions that is related to Athletics comes from transportation. At this point we are not tracking emissions from travel for most of the College and not at all for Athletics, making it impossible to say what the exact emissions from Athletics'-related transportation are. However, our teams travel extensively, both for local trips and for events that are further afield. For example, our 2011 football travel schedule, which included

five away games, produced approximately 159 kg of eCO_2 emissions.[26] Our football team plays fewer games than some of our teams, but it travels in three large buses and travels roughly the same number of trips as some of our teams with more games.[27]

Many of our teams make special trips to exhibition games and tournaments. Many of our spring athletic teams go to Florida, California, or elsewhere during spring break to train. All of these trips have CO_2 emissions associated with them – a figure which will need to be added to our GHG emissions report. When we have calculated this figure, we will need to assess options for lowering and/or offsetting our emissions.

See Appendix U for a list of our athletic facilities.

[26] The standard metric for measuring transportation-related CO_2 emissions is grams of CO_2 emissions per passenger mile (g/pass-mi). The figure shown above was converted to kilograms.

[27] Some of our teams play very few away games, some play more. This figure is given only as an example, not to indicate an average.

7.1 Current: Athletics

The largest carbon footprint impact from athletics in Division III sports comes from travel and building usage. Travel includes both team travel and recruitment-related travel. Typically, up to 70% of a Division III athletic program's budget goes toward travel. Building-related energy use typically accounts for the majority of energy used by the Athletics program. This represents an excellent opportunity for reducing energy consumption.

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into nine areas. These areas are further delineated by type of action.

Table 7.1-1: Mitigation and Sustainability Projects/Initiatives – Bakes Athletic Complex

Type of Project	Mitigation Project/Initiative – Bakes Athletic Complex
Administrative Unit Operations	Personnel • Athletics has appointed one of their head coaches to serve as a sustainability point person for the Department. Lighting • Lights in the athletics complex are turned off when not in use. This includes the fitness center, pool, field house, etc. The field house has the longest hours, open from 6 am until 2 am during the academic year. These lights have been retrofitted from metal halide to more efficient fluorescent and every fixture is on its own motion sensor. Lights in the pool, main gym and gymnastics gym have also been retrofitted from metal halide to fluorescent. • Lighting is set up so that only necessary lights are on, particularly in areas that have low or no traffic and where limited lighting has no repercussions for safety.
Waste & Recycling	• A virtual program for game days is being developed. This will enable fans to scan programs directly into their phone or laptop, reducing paper waste. • The OS and Facilities Services procured new large recycling bins for public use during sporting events. These bins are located around our new football field as well as at other athletics venues on campus.
Behavior Change & Education	• Many of our athletic teams volunteer with sustainability efforts, such as Move-In and Move-Out. We also have teams who volunteer at our Organic Farm. • Provide condiments for food only in bulk containers (no individual packets).
Transportation	• Athletics coaches and administrators use phone conferencing when possible to reduce the need to travel. • We attempted to coordinate teams' events through the conference scheduling of multiple teams at one venue. However, this proved to be

	ineffective due to the excess amount of time that athletes were required to wait for the other team.
Outreach	• Teams currently run a used clothing/shoe drive that benefits a Philadelphia program called "Back on Your Feet" as well as sending reusable footwear to athletes in Kenya.
Infrastructure	Lighting • Lighting upgrades have been made throughout the athletics complex, including CFL installation and other fluorescent lighting. • Motion sensors have been installed on the lights in the field house to reduce unnecessary energy use. • Motion sensors have been installed in various areas of the athletics complex. HVAC • The field house is heated by four, constant volume air handlers. Facilities Services has installed variable frequency drives (VFD's) on two of the units and plans to install on the other two in 2012. These allow the units to run at speeds proportionate to demand, thus saving a lot of electricity used by the motors. Field Management • Athletic fields are dressed with compost instead of topsoil to help maintain the health of the fields and add nutrients to the soil. • We use pelletized organic fertilizer made from composted products on athletic fields. Field Construction • Patterson Field, our football field, was replaced with artificial turf – easier upkeep, less time spent tending the field. The field is made from recycled rubber, sand and other materials that are recyclable at the end of their life. This field is also laid in strips so that if a section of it wears more quickly than the rest of the field, it can be replaced, extending the overall life of the field. • Patterson Field will now host multiple sporting events, which will assist in meeting the need for playing spaces. • The new field has lighting, which will allow it to be used during the day or night.

7.1 Goals: Athletics

Goal 1: Determine what the Athletics Department's commitment to sustainability on campus is, and promote that commitment within the community.

Goal 2: Within the Athletics population, increase awareness of the Athletics Department's commitment to sustainability and the importance of conserving resources (this includes all athletes, staff, and coaches within the Athletics Department).

Goal 3: Work with the Facilities Services Department to set energy-use reduction goals within the Athletics venues.

Goal 4: Work with the Facilities Services Department to set waste reduction goals within the Athletics Department.

Goal 5: Work with Facilities Services and the OS to set goals for reducing Athletics' transportation-related GHG emissions.

7.1 PA: Athletics - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

7.1 PA-1: Athletics – Prospective Actions: Policy

Immediate (2013-2018)

CSAP and Planning Documents

- Adopt the Climate & Sustainability Action Plan for the Athletics Department.
- Write a green mission for the Athletics Department.

- Write a strategic plan to implement the Climate and Sustainability Plan for Athletics that will offer short- and long-term suggestions for improvements that can be made in operations and practices throughout the program.

Operational Documents

- Establish a set of green standards for UC athletic events that reflect best practices researched and demonstrated at other institutions.
- Adopt a green procurement policy for Athletics.

Energy & Resource Use Survey

- Assess the Athletic Department's operations with regard to energy and resource use.
- Work with Facilities Services to determine energy reduction goals.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Transportation

- Create a transportation policy that addresses limits on or guidelines for team travel, including distances, number of trips, etc.
- Work with the OS to determine transportation within Athletics and track emissions, possibly by team.

Mid-Term (2019-2030)

Assessment & Updates

- Update the Climate and Sustainability Plan for Athletics as new technologies and practices become available and acceptable.
- Expand the green procurement policy for Athletics.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-2: Athletics – Prospective Actions: Internal Operations

Immediate (2013-2018)

General

- Use eco-friendly laundry detergent for cleaning uniforms and towels.
- Develop a virtual program for all games that can be scanned onto hand held electronic devices using QR codes.

Paper

- Print team tickets & programs on recycled paper.
- Print official documents double-sided on recycled, recyclable paper, and mark the documents as such.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Staffing

- Select a sustainability staff member or student sustainability workers whose job is to incorporate sustainability into athletics. This staff member would be in addition to the Green and Bear It Team, which is a volunteer group.

Energy Goals

- Work with Facilities Services to create a strategic plan to decrease energy usage resulting from operations or offset resultant carbon emissions by at least 25% of

2010 levels by 2020. This may include the use of alternative energy sources, energy reduction and management techniques, or other strategies.

- Work with Facilities Services to create a strategic plan to decrease energy usage resulting from operations or offset resultant carbon emissions by 50% of 2010 levels by 2030.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-3: Athletics – Prospective Actions: Procurement

Immediate (2013-2018)

General Building

- Work with purchasing office to procure furniture that is more sustainable (e.g., made from sustainable materials, has a longer life, will not scratch floors, etc.).
- Look into types of mats for external entrances to determine if there are better models for removing rock salt and other chemical from shoes.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Office Equipment

- Purchase office supplies with recycled content.

Sports Equipment

- Purchase equipment from a fair trade sports company to promote awareness among students – this may just be for intramural sports, but could be expanded to others as well. (Fairtradesports.com)

Uniforms & T-shirts

- Purchase athletic uniforms that are made from recycled fabrics.

- Purchase organic cottons when possible and feasible.

Mid-Term (2019-2030)

Vehicles

- We should continue to investigate transportation companies that have more efficient vehicles.

General Purchasing

- Investigate options for recycled, recyclable, and/or sustainable products for all athletics purchases

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-4: Athletics – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Internet Communications Tools

- Set up a UC Bears Sustainability Facebook page or Twitter feed (with student/s assigned to regular postings or tweets)
- Add Green & Bear It webpage linkable from the main UC Athletics website to promote the current and future programming efforts

Sustainability Guidelines for Athletics

- Create a database of sustainability guidelines for Athletics in coordination with the OS.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-5: Athletics – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Incentive Program

- Create an incentive program for athletes to encourage participation in Green & Bear It programming and general sustainability programming in Athletics.
    - This could be in the form of tracking hours through the UC Green Office of Sustainability (would require coaches to sign off on hours worked) toward the Green Key award (a senior graduation honor bestowed by Environmental Studies and the Office of Sustainability that is in the development stage), but would likely be more successful as a separate Green Bear type of award given to senior athletes at graduation who have completed a certain amount of sustainability volunteer work.

Green Team

- Have one student from each sport team serve on the Green & Bear It Team (GrABIT). The GrABIT members will collaborate with the Athletics sustainability staff member and the OS. Each GrABIT member will be responsible for being the sustainability liaison for their sport; GrABIT members will work together to encourage collaboration between teams; create competitions between teams, develop incentive programs to get teams involved, and work on outreach and education programs. See Appendix V for a list of what such a team would be responsible for.

Own Sustainability

- Work to make sustainability part of the UC brand. State the College's values and approach to sustainability up front in communications with prospective students, parents, and the press. Own sustainability at the College and wear it proudly.
- Expect staff to fall in line with the College's policies, practices, and expectations around Sustainability.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-6: Athletics – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Waste Stream Assessment

- Work with Office of Sustainability staff to conduct a waste stream assessment of home football games – both in the stadium and in the parking lots.
    - Use a team of student volunteers to assess waste generated, type of waste generated.
    - Use data to assess use of the existing recycling program to deal with waste.
    - Data will also serve as a baseline to demonstrate the effectiveness of the recycling program, once it is implemented.

Game Day Waste Management

- Institute the following measures at games/events:
    - Programs
        - Reduce printing of game programs; print programs on recycled paper; create and distribute online a virtual program and educate fans about it.
    - Recycling

        - Have three Sustainable Game Days per year for the first two years; then increase to one per sport per year; then increase from there.
        - Participate in the US EPA Game Day Challenge. This is a friendly competition for colleges and universities to promote waste reduction at their football games.
        - Have a Green Gang offshoot of the Green and Bear It Team that is responsible for handling recycling at games:
            - Distribute clear recycling bags and educational information to tailgaters - have Green Gang pick them up.
            - In-game proactive collection team
            - Post-game bowl sweep for recyclables
        - Put recycling bins every 30-40 feet on the concourses of games. These should be larger than the trash bins and distinctively colored and marked as a visible cue to fans that they are expected to prioritize recycling.
            - Studies show that people will not walk further than this.
    - Food
        - Concessions- offer local and/or organic food.
        - Research the use of compost bins at stadiums. Look into having food vendors provide compostable foods at UC games.
        - Use and compost biodegradable plates, cups, etc.

Mid-Term (2019-2030)

Net Zero Games

- Set a goal of a net zero-waste season.
- Set a goals to make all games net zero games.
    - Ideally, all materials could be recycled, reused, or composted after an event

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-7: Athletics – Prospective Actions: Transportation

Immediate (2013-2018)

Bike Riding

- Promote bike riding for exercise – consider introducing an intramural bicycling program that would incorporate the Perkiomen Trail.

Team Travel

- Review the shared busing of teams to sports venues.
  - This is not functioning well currently; however, there may be ways to have it work more effectively – for example, having the sports teams' events scheduled concurrently.
  - Work with organizations charged with scheduling events to determine if a more student-friendly schedule could be arranged.
- Encourage team coaches to keep track of recruiting travel miles and method of transportation so that a good estimate of GHG emissions can be obtained.
  - When possible, have coaches travel together for coordinated recruiting trips.
- All team travel, to games as well as travel that is not required (exhibition games, travel to training sites), has CO_2 emissions associated with it, all of which the College must report and eventually eliminate (or offset).
  - Facilitate the collection of data about travel with the OS.
  - Assess options for lowering and/or offsetting travel-related emissions.
  - Implement options as they are deemed feasible.

All Travel

- Encourage staff members to consider renting hybrid vehicles for traveling if a vehicle is being rented.
- Encourage staff members to consider extending their carbon-reduction awareness to their private purchases: purchasing hybrid vehicles, buying carbon offsets for personal travel, etc.

Mid-Term (2019-2030)

Team Travel

- Encourage teams to purchase carbon offsets for team travel.
- Consider purchasing carbon offsets for some or all of Athletics recruiting travel.
- Investigate contracting with a bus company to have hybrid buses for transportation to and from games.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-8: Athletics – Prospective Actions: Community Outreach

Immediate (2013-2018)

School District Collaboration

- If allowed by NCAA rules, collaborate with local school district (Perkiomen Valley) on recycling programs and other sustainability programming.
- If allowed by NCAA rules, collaborate with local school district (Perkiomen Valley) to create a green mentoring system that would bring green team members from varsity, club or intramural teams to talk to local high school teams about green efforts.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.1 PA-9: Athletics – Prospective Actions: Infrastructure

Immediate (2013-2018)

Buildings – Energy

- Strategic Plan
  - Create a strategic plan to decrease energy usage in the facilities or offset resultant carbon emissions by 25% of 2010 levels by 2020. This may include the use of alternative energy sources, energy reduction and management techniques, purchased offsets or other strategies.
- Solar Array
  - Add solar array to the flat roofs of the Athletics buildings when fiscally feasible.

- Install 300 kW solar array on the Athletics complex.

Buildings – General

- Grey water: Investigate grey water reclamation systems for showers, laundry facilities in athletics, and irrigation systems.
- Pest Control: Use Integrated Pest Management techniques in all facilities.
  - See the EPA fact sheet on IPM: http://www.epa.gov/pesticides/factsheets/ipm.htm
- Lighting
  - Continue to make lighting updates throughout the Athletics complex to more energy efficient bulbs and fixtures. When possible reduce the total lumens in a given space to minimum levels as determined by a body such as the Illuminating Engineering Society of North America or another reliable source.

Buildings – Fitness Center

- Investigate alternative energy options that have high educational benefit within the context of the Athletics Facilities on campus. For example:
  - Hook bikes up to help power or cool the fitness room.
    - One person generates between 50 to 150 watts of electricity when exercising. This could be used to power televisions, lighting or fans in the fitness center.
  - Outfit the machines that do not draw current (bikes, rowers, stair steppers) so that users can plug in and recharge their cell phones, iPods, and other handheld devices using the energy generated by the workout.

Buildings – Pool

- Install a pool dehumidification unit that will allow waste heat from the unit to be used to maintain pool water temperatures during summer operation.

Grounds – Field Maintenance

- Maintain fields in different ways, depending on the season. For example, in field hockey the grass needs to be cut to a specific height, different from other sports, but during off-season all fields can be cut to the same length. Work with coaches to ensure that everyone understands the reasons for changes in the field care regime, particularly the value in protecting the usefulness of the field.
- Pest Control: Use Integrated Pest Management techniques at all facilities.

Institute water saving measures in the following areas:

- Indoor facilities
    - Install low flow faucets, showers, urinals/toilets, waterless urinals.
    - Measure water use.
    - Set water reduction goals.
- Outdoor facilities
    - Install rain water capture and gray water systems, soil moisture/irrigation control systems, and Xeriscaping.
    - Measure water use.
    - Set water reduction goals.
    - Reduce irrigation use on The Snell Field.
    - Capture cooling tower blow-down water and use it to irrigate the practice field.
    - Capture Snell Field irrigation water and use it to irrigate the baseball field.

Housekeeping

- Use green cleaning supplies.

Mid-Term (2019-2030)

Decreased Energy Usage

- Implement the strategic plan to decrease energy usage in the facilities or offset resultant carbon emissions by 25% of 2010 levels by 2020.
- Work with the Facilities Services Department and the OS to create a strategic plan to decrease energy usage in the facilities or offset resultant carbon emissions by 50% of 2010 levels by 2030.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Special Use Buildings– Chapter 7.2: Berman Museum of Art

Back to Table of Contents

The Berman Museum of Art at Ursinus College opened in 1989 and is regarded as one of the nation's finest small college art museums. The Museum is one of only 900 or so museums nationwide fully accredited by the American Association of Museums and houses over 4,000 paintings, prints, drawings, sculpture, decorative, and cultural objects representing a broad array of art historical genres. In addition, a collection of large-scale outdoor sculpture is integrated throughout the living and learning environment of the 170-acre campus, making it an ideal place to study, stroll and contemplate. This also offers opportunities for marrying art and environment.

With over 30,000 visitors annually, the Berman Museum enriches the fabric of the community and has redefined liberal learning at Ursinus College. Our museum professionals remain committed to providing a positive, informative and enjoyable experience for both the novice and the art aficionado. The Berman is also committed to reaching out to the local community and supporting issues of importance to both the campus and the broader community, including social and environmental justice issues.

The Berman Museum has one classroom that is used daily as well as the main gallery, a smaller upstairs gallery, and the newly added Pfeiffer wing, green roof and sculpture garden. The Berman serves as a venue for teaching about a broad spectrum of topics and is an ideal location for cultivating learning opportunities. In addition, the Museum has a permanent collection that staff care for and preserve. The Berman is proud to provide access, education, and opportunities for learning to its constituents – both on- and off-campus.

7.2 Current: Berman Museum

The Berman Museum is already home to many environmental initiatives and exhibits. From a recent addition built to LEED standards and a green roof that incorporates a sculpture garden to community parades that feature recycled art and energy saving features that are common across campus, the Museum is working toward embracing environmental themes and practices. The table below is a list of some of the initiatives that exist here:

Table 7.2-1: Mitigation and Sustainability Projects and Initiatives: Berman Museum of Art

Type of Project	Mitigation/ Sustainability Project/Initiative: Berman Museum of Art
Operations	Environmentally Themed Exhibits • "Clyde Butcher: Visions for the Next Millennium, Wilderness Photography" (2004-2005) • "'To Follow Nature in Her Walks': The Art and Environmentalism of John James Audubon" (2006) • "Min(d)ing the Landscape", an exhibit of photographs by Edward Burtynsky (2010) • "Re-Imagining the Distaff Toolkit": a guest-curated exhibition of contemporary art in which artists re-appropriate objects traditionally associated with "women's work" (2012) • A show of the sea grass baskets made by islanders off the South Carolina coast (2013)
Behavior Change & Awareness	Environmental Art Award • The Berman Museum of Art provides a venue for the presentation and viewing of the annual Environmental Art Award. The award is given to a student who has submitted art with an environmental theme for the annual art show. This award is sponsored by the Rinde family and was initiated in the past five years. On-Campus Education & Partnerships • The Museum also brings in artists to guest-lecture and conduct workshops or participate on campus as artists-in-residence, often in tandem with specific exhibitions. • The Museum has established long-term, ongoing partnerships with student groups on campus, such as Art Exhibitionists and UCARE (among others). These partnerships emphasize engagement with campus initiatives such as community engagement through the arts, environmental sustainability, etc.
Waste & Recycling	Recycling • Berman staff members recycle much of the materials that are produced and/or used within the museum. Reusing • Berman staff members reuse materials used for protecting art work in transit whenever possible, including bubble wrap, tissue paper, corrugated cardboard, shipping boxes and crates. This saves materials and cut costs.
Transportation	Group Shipments • The Museum groups shipments with other museums when possible to reduce transportation costs and emissions.
Community Outreach	Community Parade • In 2010, the Berman held a community partnership parade (and workshops leading up to it) where community members were invited to come in and make art out of recycled materials. We hope to continue this event in the current and future years. Partnerships • Staff members at the Berman have established educational partnerships with several regional school districts. One partnership this coming year will include programming that will have recycling and re-use as underlying concepts. • The Museum partners with local environmental and community

		organizations around art and the environment to help spread the word both about the benefits of sustainability and about the efforts of the Berman.
Infrastructure	Construction • LEED Silver construction standards were used in the construction of the Pfeiffer Wing of the museum in 2010. Green Roof • The Pfeiffer Wing of the Museum is home to Ursinus College's first installed green roof, opened in 2010. The roof is also home to a sculpture garden and is open for viewing and enjoying year-round. Lighting • Lighting upgrades to CFLs throughout the office spaces and storage spaces, standard across campus. • Motion sensors on office lights, standard across campus.	

7.2 Goals: Berman Museum

There are no identified goals for the Berman Museum of Art.

7.2 PA: Berman Museum - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

7.2 PA-1: Berman Museum – Prospective Actions: Policy

Immediate (2013-2018)

Policy

- Create a "green vendor" policy that encourages or requires vendors to provide environmentally-conscious products in order to do business with the Museum.

Mission

- Develop a green mission statement regarding the Berman's intentions for becoming more sustainable.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-2: Berman Museum – Prospective Actions: Internal Operations

Immediate (2013-2018)

Exhibitions & Collections

- Regularly schedule exhibitions with themes related to the environment and/or sustainability. Coordinate with Environmental Studies faculty, Office of Sustainability staff, and others to organize additional related campus activities.

Energy Audit

- Undergo a museum-specific energy audit to determine additional operational changes that would help the museum become more energy efficient.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

Exhibitions & Collections:

- Aim to have an "Energy Neutral" or "Net Zero" exhibit. Such an exhibit would take into account all emissions produced from the show, and mitigate those emissions. This type of exhibit would incorporate an educational component to show visitors how the Museum was able to do this.

Exhibit Lights:

- Investigate installing motion sensors that automatically turn lights on when a visitor walks into the room in one of the exhibit halls as a pilot project. If the pilot project is successful, expand the project to include additional exhibition spaces. This measure will cut electricity costs and reduce the amount of time art works are exposed to light.

- Install clock timers on the motion sensors that will track the amount of time the lights are on. This will enable curators to more accurately keep track of light exposure while at the same time enabling Facilities Services to track energy savings.
- It will be critical to include signage throughout the Museum to explain the system to visitors and to get their buy-in.

Power strips:

- Use power strips on all non-phone, corded electronic items in the building, including microwave ovens, any device with a remote control, and any device that has a light or clock that stays on after it is turned "off". Turn the power strips off every night.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-3: Berman Museum – Prospective Actions: Procurement

Immediate (2013-2018)

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-4: Berman Museum – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Web

- Update the Berman Museum of Art web pages to include a "Greening the Museum" section as one of the main categories.
    - This webpage would include a list of the items listed above in the "Current Situation" section for the Museum.
    - Include a section on how patrons can get involved in greening art.

General

- Consider other ways to incorporate technology in the Museum to educate visitors about greening efforts in the Museum.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-5: Berman Museum – Prospective Actions: Behavior Change & Awareness

Immediate (2013-2018)

Signage

- Post signs in the Museum about the greening initiatives that are happening. This informs visitors of practices and educates them about why they should care.

  Specific signage needs:
  - Interpretive signage for the Green Roof.
  - Interpretive signage for any sustainability themed exhibits.
  - Informational signage about sustainable initiatives at the Museum.
  - Signage specific to new initiatives.

"Talk the Walk"

- Write articles about green programming at the Berman in the bi-annual newsletter, Mixed Media. Contribute articles to the OS newsletter to inform the campus community about green programming at the Berman, and work with the Communications Office to create articles in the Ursinus magazine about the Berman's sustainability programming. Also host campus-wide discussions about the greening efforts underway at the Berman.

Student Handbook

- Update the Berman's student handbook to include a section on green initiatives and practices at the Museum. This should include information for the students about their participation in the initiatives.

Recycling

- Educate Museum staff, including student workers, about what materials can be recycled, particularly those that are unique to a museum setting.

Reusing

- Educate Museum staff, including student workers, about the types of materials that can be re-used under what circumstance to expand reuse of materials.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-6: Berman Museum – Prospective Actions: Waste & Recycling

Immediate (2013-2018)

Recycling

- Put all recyclables into the recycling bins, including items that may have insect infestations from shipping. These can be recycled safely by our trash and recycling haulers.
    - Attempt to get estimates for percentages of waste that is recycled as baseline information.

Reusing

- Increase the amount and/or types of materials re-used for protecting art work in transit whenever possible, including bubble wrap, tissue paper, corrugated cardboard, shipping boxes and crates. This will save materials and cut costs.
    - Attempt to get estimates for percentages of waste that is reused as baseline information.

Events

- Work with campus catering to incorporate sustainability into the events at the Berman. This should include:
    - Use of compostable paper products, when possible.

- Use of recyclable plastic ware.
- Presence of recycling bins to accept the amount of waste created at the event.
- Possibly a composting container, at least at any net zero events.
- Signage about what to compost, what to recycle, what to trash.
- Locally produced coffee.
- Local produce, when available.

Mid-Term (2019-2030)

Goal setting

- Set goals for amounts of waste recycled and reused that is in line with campus goals.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-7: Berman Museum – Prospective Actions: Transportation

Immediate (2013-2018)

Shipping

- Continue to group shipments with other museums when possible to reduce transportation costs and emissions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-8: Berman Museum – Prospective Actions: Community Outreach

Immediate (2013-2018)

Events

- Continue to host community events that draw visitors into the Berman around environmental themes.

Mid-Term (2019-2030)

Partnerships

- Expand partnerships with local environmental and community organizations around the topics of art and the environment to help spread the word both about the benefits of sustainability in art and about the efforts of the Berman.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.2 PA-9: Berman Museum – Prospective Actions: Infrastructure

Immediate (2013-2018)

Green Roof

- Maintain the Berman's Green Roof plants to assure that they are healthy and attractive for visitors to this very public space.

Lighting

- Work with Berman administrators to determine whether to and how to go about increasing the areas of the museum that are on motion sensors for lights, including exhibit space.

Cleaning

- Use non-toxic cleaning products in all areas of the building.

Paint

- Use low/no VOC paints when preparing the walls for new exhibits.

Energy Audit

- Work with museum administrators to arrange a museum-specific energy audit to determine additional operational changes that would help the museum become more energy efficient.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Special Use Buildings – Chapter 7.3: Kaleidoscope Theater

Back to Table of Contents

The Kaleidoscope is the home of the college's Department of Theater and Dance. The department offers coursework in acting, dance, choreography, directing, history and theory of performance, theatrical design, and production. The building is also a base for many other campus wide arts and cultural events from student run arts organizations to professional music and theatrical productions to film and speaker presentations. The building is also used for its classroom space; this scheduling is controlled by campus administrators who schedule all classes for campus. The Kaleidoscope houses[28]:

- The Lenfest Theater, a 380 seat state-of-the-art Proscenium Arch Theater
- Flexible seated Black Box Studio Theater (100 – 150 Seats)
- Box Office and Concessions Booth
- Rehearsal Studio
- Costume Storage Room
- Scenic Workshop
- Classrooms that include a design studio
- Laundry facilities
- Scenic storage
- Prop storage room

Our facilities are available for rental during the month of December and from mid May – July. Occasionally, we rent our facilities for individual performances during the academic year. 2012 marked the first summer use of the building for a high school summer drama camp.

By implementing energy-saving measures throughout the Kaleidoscope, we have reduced the cost of staging theatrical events. Though we do not have a way to track this savings, we know that it is substantial.

[28] http://www.ursinus.edu/netcommunity/page.aspx?pid=330

The building, financed entirely by gifts from alumni and friends of the college and a state community development grant, was built in 2004-2005. This was two years prior to our signing of the ACUPCC and environmentally-friendly design standards were not employed in the design or construction of this 51,622 square foot building. The building is one of our larger consumers of heating, cooling and electricity due largely to the high ceilings, open spaces, and lighting requirements of theatrical spaces. In the face of this, the College has hired a full time building manager for the Kaleidoscope. This staff member has managed the building to conserve energy where and when possible. However, issues remain with the building temperatures which are hard to regulate in wide open spaces. The performance spaces are particularly susceptible to temperature extremes in the "shoulder seasons" of spring and fall (when the heat plant has not been switched from heating to cooling).

7.3 Current: Kaleidoscope Theater

Back to Table of Contents

The table below shows the mitigation or sustainability projects and/or initiatives that have already or currently are taking place within this administrative unit of the College. These initiatives are broken into eight or nine types, depending on whether there are items related to Facilities Services Department included. These items are further delineated by type of action.

Table 7.3-1: Mitigation/Sustainability Projects and Initiatives: Kaleidoscope Performing Arts Center

Type of Project	Mitigation/Sustainability Project/Initiative: Kaleidoscope Performing Arts Center
Policy	• We focus on areas that have high environmental impact, are inexpensive, and are easily influenced (biggest bang for the buck). Examples: energy efficiency, recycled content of materials, reusability, and sustainably managed timber products (e.g., Lowe's sells products that are certified by the Forest Stewardship Council (FSC)).
Internal Operations	Lighting & Electrical Energy • Stage lighting and theater lighting is kept off during the summer except during tours or when the building is rented. • The general building lighting is set for summer hours. Lights go off at 5:30 during the summer; machines are powered down; etc. This will be altered when the building is in use as a rental space. • During the academic year, the stage lighting is turned on only when the stage is in use for an event or event preparation (fluorescents are used otherwise). • There is a tour setting for both the Lenfest Theater and the Black Box

Theater.

- The ventilation systems on the building computers are regularly checked and cleaned in house.
- Photocopiers are set to energy saving mode.
- All office equipment not in use at the end of the day, such as lights, computers, monitors, printers and photocopiers is switched off.
- We practice general good building management, for example turn off building lights when not in use, don't run air-conditioning with windows open, and ensure windows and buildings are adequately insulated.
- Work with suppliers to purchase lights that use less energy while still supplying the required lighting for stage.

Building Facilities

- We check regularly for dripping taps or running toilets and file work orders with Facilities when drips or leaks are found.

Office Equipment & Appliances

- The plotter uses 100 % recycled paper for printing plans/drawings… 40' drawing (comes in roll)
- The washer/dryer in the Kaleidoscope that are used for cleaning costumes are energy efficient models.

Set Construction, Props & Costumes

- We use minimal amounts of foam; we reuse it whenever possible and recycle it when possible through the OS.
- We do not use hot knife techniques with foam to reduce the release of toxic chemicals.
- We use architectural wood screws that are safer and can be reused for future set construction.
- We use low VOC paints when possible.
- We generate a great deal of sawdust, and we save it for texturing and other scenic treatments.
- We reuse sets, wood and other materials on our sets whenever possible.
- Used props and costumes are purchased from local thrift shops and consignment stores or rentals, saving both money and resources.
- Storage areas are maintained for both props and costumes, alleviating the need to purchase new items.
- We inspect our facility for proper ventilation; don't use toxic chemicals in our set construction; dust collection in place for saw dust (installed in building).
- We design our sets to be disassembled (use less glue; more screws). We also use wood screws that are stronger and safer and can be reused.
- Refrain from cutting lumber that could be used uncut (10 foot tall flats instead of 9). Or we purchase lumber of such a size that we can, with several cuts, fill our needs exactly.
- We use non-toxic latex paints with low/no VOC.
- We use modular sets when possible.

Paper Use

- We print on both sides of paper to reduce paper use in script production.
- We print numbers of programs for productions based on ticket sales, and only print more on the Friday of a production run if we will need more for the weekend.

Rehearsal activity

	• Rehearsals use mostly fluorescent lighting; show lighting is not used until Tech Weekend.
Procurement	Building • *Used equipment is considered and purchased when appropriate* and applicable. • Energy efficient equipment is preferred. • LED theatrical lighting is a viable option that is considered when making purchases. Production • We reuse, rent, borrow/lend, or buy used props and costumes rather than purchasing new, including sharing or renting as options. • We purchase materials from "green" sources when possible. • When items that we expect to keep and use long term, we use whole life costing rather purchasing lower quality items that are less expensive.
Information Technology Changes	• When making upgrades to equipment, we purchase more efficient replacement equipment. • Computers and systems equipment is shut down when not in use. • The Kaleidoscope staff has begun to virtualize the servers in the building. The virtualized servers can take the place of up to eight regular servers, depending on the requirements of the regular servers. This reduces the electricity demand from the servers (though this is not a large demand), and also produces the heat of a single server, thus lessening the cooling requirements for the space. Virtualized servers also improve systems functions.
Behavior Change & Education	In-house Awareness • We keep Material Safety Data Sheets (MSDS) on all chemicals used in all shops. The sheets are kept in binders that are easy to access in the shop and shop users are told about the binders and where to find them. • All students are required to take a course in stagecraft. During this class theater safety and sustainability are discussed. Rentals • We encourage rental customers to use minimum lighting for rehearsals and to switch off lights when rooms are not in use.
Waste & Recycling	Set Design • Scenery that can be reused is salvaged and used on future productions. • Oil based paints are not used. However, if they are donated, they are collected and disposed of as part of the College's disposal pick-up. Shellac is used instead polyurethane. This product is used up rather than disposed of. Light bulbs and lamps • Our fluorescent light bulbs are recycled. Foam • We recycle foam whenever possible.
Transportation	• We reduce the frequency and quantity of deliveries and collections through planning and bulk purchasing. • The Department uses a shared College-owned truck when picking up rented furniture and scenery for shows. Videoconferencing • When possible, we use virtual meeting tools such as tele- or videoconferencing to reduce travel requirements.

Community Outreach	• Patrons are encouraged to recycle programs from shows. • Patrons are encouraged to recycle containers for beverages consumed during shows.

Infrastructure	Classroom facilities
	• We have motion sensors installed in most of our offices and classrooms in the Kaleidoscope.
	Heating & Cooling Energy
	• The HVAC system is set for summer hours. A/C temperatures are programmed to go up at 5:30 p.m. during the summer.
	• HVAC in the Lenfest Theater is set in two zones: a stage zone and an auditorium zone. This allows greater control over the energy expended during rehearsals and events.
	• HVAC systems in our theater spaces are only turned on when those spaces are reserved to be used. They are controlled through a software program that allows them to be programmed by need.
	• *If HVAC is needed in the theaters unexpectedly, there is a manual override to the HVAC for both zones in the Lenfest and for the entire Black Box theater. If the HVAC in these areas is turned on, it turns off automatically after four hours.*
	Lighting
	• Lighting has been upgraded to energy efficient lights for the entire building, including the stages.
	• Lobby lights are kept off during the day and are on light sensors that turn them on automatically at dusk.
	• Stage lighting in both theaters has an automated system that allows users to set lighting with a single touch.
	Staffing
	• The Kaleidoscope has a dedicated operations manager who manages and enforces energy, waste management and procurement strategies.
	• We ensure that all heat/cooling sources (like direct sunlight, drafts, a fridge, photocopier, or coffee maker) are located away from your thermostat, in order to make sure the thermostat is measuring the proper temperature.
	• When possible, we set the thermostat for lower temperatures in workshops and storage areas.
	• The Big Switch-Off – we switch off the lighting rig when not in use
	  ○ When not required for actual performance, switch off discharge lighting between the end of the reset or rig check in the late afternoon and at the half-hour call (35 minutes before the show starts), and between matinee and evening performances. When first adopting this approach, it may give extra confidence to have the lighting technicians return to the theatre for the half-hour call.
	• Exterior lighting and hoardings
	  ○ We have switched to low-energy bulbs – swap standard tungsten bulbs with low-energy compact fluorescent light (CFL) bulbs, or consider retrofitting external lighting schemes with LEDs. Switch off exterior lighting in the daytime when lighting impact isn't visible.
	• Front of house: We have switched to low-energy bulbs in the foyer and backstage lighting. Use motion sensors and timer switches to switch off lights in the theatre office, bar, cloakroom, corridors, lobby, foyers and

	toilets when not in use. (Note: if installing motion sensors to switch lights off and on, consider using the same sensors to switch off heating and ventilation in some areas).

7.3 Goals: Kaleidoscope Theater

Back to Table of Contents

Goal 1: Determine what the Theater & Dance Department's commitment to sustainability on campus is, and publicize that commitment within the community.

Goal 2: Within the Theater & Dance population, increase awareness of the Department's commitment to sustainability and the importance of conserving resources (this includes all actors, dancers, stage crew and managers, directors, set designers, etc. within the Theater & Dance Department).

Goal 3: Work with the Facilities Services Department to set energy-use reduction goals for the Kaleidoscope.

7.3 PA: Kaleidoscope Theater - Prospective Actions

The following prospective actions are suggestions for consideration. It is assumed for the purposes of this document that any on-going activities that are listed above in the "current situation" section will continue. As it is difficult to see far in advance what the needs and constraints on the College will be, there are a wide variety of options presented here to consider. Some may be viable options for immediate implementation; some may seem impossible to implement in the current situation or foreseeable future, but may be viable at a later date depending on changing circumstances. These prospective actions will be reviewed periodically by staff in our Office of Sustainability (OS) and with relevant parties in the affected areas of the College.

7.3 PA-1: Kaleidoscope Theater – Prospective Actions: Policy

Back to Table of Contents

Immediate (2013-2018)

Mission Statement

- Investigate the possibility of writing a green mission statement for the Department and the Kaleidoscope that includes: procurement, operations, transportation, education & behavior change, waste reduction and recycling. Work with UCGreen on this mission.

Goal Setting

- Set goals and benchmarks for waste reduction, procurement and energy-use reduction within the Kaleidoscope.
- Set a timeline for achieving benchmarks and implementing these goals.

Purchasing Policy

- Consider agreeing on green purchasing objectives and then writing and implementing a green purchasing policy. As part of this policy, consider including the following (some of which are already common practice in the Kaleidoscope):
    - Reuse, rent, borrow/lend, or buy used props and costumes rather than purchasing new, including sharing or renting as options.
    - Identify one person who can help facilitate green purchasing within the department.
    - Ensure that the department's intentions are clear in the wording of the policy.
    - Increase green sources for materials that are needed.
    - Focus on products that have high environmental impact, expensive, and are easily influenced (biggest bang for the buck). Examples: energy efficiency, recycled content of materials, reusability, and sustainably managed timber products (e.g., both Lowe's and Home Depot sell products that are certified by the Forest Stewardship Council (FSC)).
    - Use whole life costing rather than awarding contracts on the lowest price basis.

Responsible Consumption

- Consider setting low consumption targets for all departments. E.g., 25% reduction of office paper used by 2020, 50% reduction of office paper used by 2030, etc.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.3 PA-2: Kaleidoscope Theater – Prospective Actions: Internal Operations

Immediate (2013-2018)

Set Construction

- Consider implementing the following suggestions from http://www.thegreentheater.org/50Things.html:
  - Plan the season around the set. Coordinate between Theater and Dance departments.
  - Investigate local industries to see if there is a market for wood waste (for example for press logs or hog fuel.)

Costumes

- Consider writing a set of guidelines for costuming based on the following suggestions from http://www.thegreentheater.org/50Things.html . Encourage costume contractors (freelance designers), and in house staff (when applicable) to do the following:
  - Use sustainable fabrics such as hemp, bamboo, organic cotton, wool when reusable fabric is not available.
  - Dye fabrics less often, and use fewer toxic dyes when fabric must be dyed.
  - Avoid bleaching fabrics.
  - Buy/use only non-toxic makeup.

- Use only pump hairsprays (no aerosols).
- Dry clean less. Make fewer costumes that need dry cleaning and use Woolite or shampoo when possible as an alternative to dry cleaning.
- Investigate local industries to see if there is a market for fabric waste (Recycling Services, Inc. (RSI) in Pottstown is a possibility).

Building

- Waste Electrical and Electronic Equipment
  - When buying electronic equipment, ensure supplier specifies in the contract how these items will be disposed of at the end of their life cycle
- Use electronic mailings and digital marketing such as blue tooth communications.
- Dressing room lighting: Investigate ways to reduce the number of bulbs used in the dressing rooms.

Building Rental

- Specify that production companies that rent theater space must comply with the theatre's recycling and waste management practices and policies and buy from environmentally friendly sources, such as timber from sustainable forests with (FSC) certification.

Office Guidelines

- Whenever possible and feasible, incorporate office-wide practices suggested in the Sustainable Office Guidelines into day-to-day operations (Appendix F).
- Encourage offices, departments and individual staff and faculty members to participate in OS green certification programs, once developed.

Event Guidelines

- When possible and feasible, incorporate items from the Sustainable Event Guidelines into event planning. (Appendix G)

Mid-Term (2019-2030)

- Tracking & Assessment
- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.

- Reassess goals and prospective actions.

7.3 PA-3: Kaleidoscope Theater – Prospective Actions: Procurement

Immediate (2013-2018)

Costumes

- If costumes must be purchased or created from scratch, consider using natural fibers and fabrics that do not need to be dyed.

Purchasing Guidelines

- Use the Green Purchasing Guidelines in Appendix H to help guide purchasing decisions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.3 PA-4: Kaleidoscope Theater – Prospective Actions: Information Technology Changes

Immediate (2013-2018)

Email

- Consider adopting the use of a footer message such as "Please consider the environment before printing this e-mail." in all emails.

Website

- Create a link from the main Ursinus webpage (and other locations on the UC website that make sense) to the Kaleidoscope landing page. Have a link from the Kaleidoscope landing page to a webpage about sustainability initiatives in the theater. Work with UCGreen to create content, including:

- A list of current initiatives in the Kaleidoscope
- Information about recycling in the Kaleidoscope
- An overview of sustainability in Theater
- Links to other sites about sustainability in Theater

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.3 PA-5: Kaleidoscope Theater – Prospective Actions: Behavior Change & Education

Immediate (2013-2018)

Advertisement

- If possible, print programs and posters on recycled paper, and let audience know. State that documents are "printed on recycled paper" at the bottom.

In-house Awareness

- All Theater majors are required to take a course in stagecraft. During this class theater safety and sustainability are discussed. Expand this discussion to include one or two class periods devoted to discussing sustainability in theaters, the role it plays in the environment and the role it plays in keeping theater users safe.
- Consider writing sustainability goals into the student safety book for theater students.
  - Post this book on the webpage, where it is easily accessible to all theater students.

Staff Education

- Purchase additional books about sustainability in the theater for the department. Keep the books somewhere that they can be accessed easily.

- Consider having an annual designated faculty/staff think tank meeting to strategize and check in about sustainability within the Kaleidoscope.
    - Consider inviting students to participate in these discussions.

Sustainability Action List

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.3 PA-6: Kaleidoscope Theater – Prospective Actions: Waste & Recycling

There are currently no identified Prospective Actions in this area.

Immediate (2013-2018)

Mid-Term (2019-2030)

7.3 PA-7: Kaleidoscope Theater – Prospective Actions: Transportation

Immediate (2013-2018)

- Try to avoid last minute supplier calls, which will usually require a dedicated trip.

Mid-Term (2019-2030)

7.3 PA-8: Kaleidoscope Theater – Prospective Actions: Community Outreach

Immediate (2013-2018)

Advertisement/Programs

- Provide a QR code on the back of all programs for dance and theater shows at the Kaleidoscope that links to sustainability information about the Kaleidoscope. Work with Office of Sustainability staff to create content. This information might include items such as:
    - Sustainability measures taken related to the show (e.g., reused materials or costumes)
    - Sustainability measures that are taken at the Kaleidoscope
    - Things theater patrons can do to be sustainable (e.g., recycle their cups and programs, carpool or walk if they can, etc.)
- Reuse programs when possible; have ushers ask patrons if they would like to have their program reused (rather than taking it away or recycling it).
- Print programs on recycled paper and make note of that fact on the programs.

Recycling at Shows

- Ensure that there are Kaleidoscope recycling bins are available at all shows for both programs and for mixed recycling.

Building Rental

- Include sustainability principles in rental contracts. Encourage renters to follow some of the guidelines and actions in this document while they are using the Kaleidoscope facilities.
- If an energy meter is installed on the stage lights, consider charging rental customers a surcharge for going over some set amount of energy usage. This would both encourage them to cut down on their use, and lower our GHG emissions.

Mid-Term (2019-2030)

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.
- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

7.3 PA-9: Kaleidoscope Theater – Prospective Actions: Infrastructure

Immediate (2013-2018)

Energy Audit

- Work with Kaleidoscope staff to conduct an energy audit of the Kaleidoscope to determine where energy is being used, and how to lower the building's overall energy usage.

Energy Monitoring

- Consider installing air quality sensors and temperature sensors in the theater spaces to enable the system to run at a reduced rate when the auditorium is not fully occupied.
- Consider installing an electric meter on the stage lights for the Black Box and the Lenfest Theater. This would allow directors, actors, and rental customers, to better understand the amount of energy that is required to put on a performance. It would also allow directors to track the electricity use of any given show.

Lighting

- Investigate the possibility of having lights in stairwells that have natural lighting be on a light sensor that would turn off during daylight hours.
- Investigate the possibility of installing light sensors on the outdoor lights above theater exits so that they turn off during daylight hours.

Maintenance

- Ensure filters are clean in air handling units, as dirty filters reduce air flow, making fans work hard and increasing energy usage.

Mid-Term (2019-2030)

Power Factor Assessment

- Conduct a power factor survey to identify potential savings from incorrect power factors on the Kaleidoscope.
    - Check electrical equipment following any power factor corrections.

Tracking & Assessment

- Continue the efforts noted above.
- Track progress toward goals.

- Track sustainability actions taken within the Department and building.
- Reassess goals and prospective actions.

Works Cited

42U. Energy efficiency best practices. 2012. http://www.42u.com/efficiency/data-center-best-practices.htm (accessed March 15, 2012).

About.com. Kilowatt per Hour. 2011. http://saveenergy.about.com/od/energyefficientappliances/g/kilowatt_def.htm (accessed 2011 йил 14-September).

ACUPCC. ACUPCC Implementer. 2011 йил September.

American College and University Presidents' Climate Commitment. “Implementation Guide.” Presidents Climate Commitment. (accessed 2010 йил 1-December).

Clean Air-Cool Planet. Clean Air-Cool Planet Carbon Calculator Users Guide. 2010. http://www.cleanair-coolplanet.org/toolkit/calculator/v6.5_Users_Guide.pdf (accessed 2010 йил 6-December).

DeVito, David and Nate Rempe. "Textbook Insights: What is in store for the college bookstore? Whitepaper." Textbook Insights: What is in store for the college bookstore? Nebraska Book Company. 2006. http://www.nebook.com/images/KIP_whitepaper1.pdf (accessed 02 27, 2013).

“Summary for Policy Makers.” In In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation, by O., R. Pichs-Madruga, Y. Sokona, K. Seyboth, D. Arvizu, T. Bruckner, J. Christensen, J.-M. Devernay, A. Faaij, M. Fischedick, B. Goldstein, G. Hansen, J. Huckerby, A. Jäger-Waldau, S. Kadner, D. Kammen, V. Krey, A. Kumar, A. Lewis, O. Lucon, P. Edenhofer, edited by R. Pichs-Madruga, Y.Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. v. Stechow (eds) O. Edenhofer, 25. Cambridge, United Kingdom and New York, USA: Cambridge University Press,, 2011.

Gardner, Andrew. “Middlebury Athletics Adopts Green Mission.” About Middlebury Athletics. 2009 йил 8-June. http://www.middlebury.edu/athletics/about/generalnews/node/112741 (accessed 2011 йил 7-July).

GHG Protocol Initiative. About the Greenhouse Gas Protocol Initiative. 2011. http://www.ghgprotocol.org/ (accessed 2011 йил 15-September).

Harvard University Office for Sustainability. "Peak Energy Demand in the Summer." Harvard University Office for Sustainability. Harvard University. 2011. http://green.harvard.edu/node/4270 (accessed February 3, 2012).

Harvard University Office For Sustainability. "Volatile Chemicals." Harvard University Office for Sustainability. Harvard University. 2011. http://green.harvard.edu/node/2800 (accessed February 3, 2012).

Monitoring Analytics, LLC. “State of the market report for PJM.” 2010 йил 15-11. http://www.pjm.com/documents/reports/~/media/documents/reports/state-of-market/2010/2010q3-som-pjm.ashx (accessed 2011 йил 11-05).

Pennsylvania Bus Association. “Act 124 (Idling Restrictions) and Motorcoaches.” PBA Bulletin. 2008 йил 11. http://www.pabus.org/documents/Bulletins/2008%20November%20%20Reporter%20Idling%20ACT%20124.pdf (accessed 2011 йил 17-05).

Santa Clara University Office of Sustainability. “Climate Neutrality Action Plan.” 2010 йил 15-01. http://www.scu.edu/sustainability/upload/SCU-Climate-Action-Plan-011510.pdf (accessed 2011 йил 24-05).

Schaper, Louise L. "Let green creep: Ten steps to sustainable library operations." Library Journal Archive. Library Journal. 05 15, 2010. http://www.libraryjournal.com/article/CA6727897.html (accessed 03 21, 2012).

U.S. EPA. Creating an ENERGY STAR Showcase Dorm Room. http://www.energystar.gov/index.cfm?c=higher_ed.bus_dormroom (accessed 2011 йил 24-05).

UND Sustainability. Close the fume hood. 2012. http://green.nd.edu/education/college-of-science-energy-challenge/close-the-fume-hood/ (accessed March 20, 2012).

Union of Concerned Scientists. Climate change impacts and solutions for Pennsylvania: How today's actions shape the state's future. Cambridge, MA, MA: Union of Concerned Scientists, 2008.

University of Colorado Boulder Facilities Management. Lab fume hoods. http://www.colorado.edu/FacMan/about/conservation/FumeHoods.html (accessed March 2, 2012).

Ursinus College. Ursinus College - About Us. 2010. http://www.ursinus.edu/netcommunity/page.aspx?pid=418 (accessed 2010 йил 10-December).

US EPA. Introduction to the concept of green chemistry. 08 10, 2011. http://epa.gov/greenchemistry/pubs/about_gc.html (accessed 02 23, 2012).

USGBC. USGBC: What LEED is. 2011. http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1988 (accessed 2011 йил 14-September).

UTMB Research Technical Services. "RTS Tech Tips." University of Texas Medical Branch Health - Research Services. Dec. 30, 2011. http://research.utmb.edu/RTS/tech_projects.shtm (accessed Feb. 22, 2012).

Vyas, Nandita and John C. Mlade. "Sustainable Lab Operations." Lab Manager Magazine. LabXMedia Group. April 2, 2010. http://www.labmanager.com/?articles.view/articleNo/3610/article/Sustainable-Lab-Operations (accessed February 3, 2012).

Appendices

Appendix A: American College & University Presidents' Climate Commitment Text

Back to Table of Contents

We, the undersigned presidents and chancellors of colleges and universities, are deeply concerned about the unprecedented scale and speed of global warming and its potential for large-scale, adverse health, social, economic and ecological effects. We recognize the scientific consensus that global warming is real and is largely being caused by humans. We further recognize the need to reduce the global emission of greenhouse gases by 80% by mid-century at the latest, in order to avert the worst impacts of global warming and to reestablish the more stable climatic conditions that have made human progress over the last 10,000 years possible.

While we understand that there might be short-term challenges associated with this effort, we believe that there will be great short-, medium-, and long-term economic, health, social and environmental benefits, including achieving energy independence for the U.S. as quickly as possible.

We believe colleges and universities must exercise leadership in their communities and throughout society by modeling ways to minimize global warming emissions, and by providing the knowledge and the educated graduates to achieve climate neutrality. Campuses that address the climate challenge by reducing global warming emissions and by integrating sustainability into their curriculum will better serve their students and meet their social mandate to help create a thriving, ethical and civil society. These colleges and universities will be providing students with the knowledge and skills needed to address the critical, systemic challenges faced by the world in this new century and enable them to benefit from the economic opportunities that will arise as a result of solutions they develop.

We further believe that colleges and universities that exert leadership in addressing climate change will stabilize and reduce their long-term energy costs, attract excellent students and faculty, attract new sources of funding, and increase the support of alumni and local communities. Accordingly, we commit our institutions to taking the following steps in pursuit of climate neutrality.

1. Initiate the development of a comprehensive plan to achieve climate neutrality as soon as possible.

a. Within two months of signing this document, create institutional structures to guide the development and implementation of the plan.
b. Within one year of signing this document, complete a comprehensive inventory of all greenhouse gas emissions (including emissions from electricity, heating, commuting, and air travel) and update the inventory every other year thereafter.
c. Within two years of signing this document, develop an institutional action plan for becoming climate neutral, which will include:
    i. A target date for achieving climate neutrality as soon as possible.
    ii. Interim targets for goals and actions that will lead to climate neutrality.
    iii. Actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.
    iv. Actions to expand research or other efforts necessary to achieve climate neutrality.
    v. Mechanisms for tracking progress on goals and actions.

2. Initiate two or more of the following tangible actions to reduce greenhouse gases while the more comprehensive plan is being developed.

    a. Establish a policy that all new campus construction will be built to at least the U.S. Green Building Council's LEED Silver standard or equivalent.
    b. Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
    c. Establish a policy of offsetting all greenhouse gas emissions generated by air travel paid for by our institution.
    d. Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at our institution.
    e. Within one year of signing this document, begin purchasing or producing at least 15% of our institution's electricity consumption from renewable sources.
    f. Establish a policy or a committee that supports climate and sustainability shareholder proposals at companies where our institution's endowment is invested.
    g. Participate in the Waste Minimization component of the national RecycleMania competition, and adopt 3 or more associated measures to reduce waste.
3. Make the action plan, inventory, and periodic progress reports publicly available by submitting them to the ACUPCC Reporting System for posting and dissemination.

In recognition of the need to build support for this effort among college and university administrations across America, we will encourage other presidents to join this effort and become signatories to this commitment.

Signed,

The Signatories of the American College & University Presidents' Climate Commitment

Appendix B: Ursinus College Campus Map

Back to Table of Contents

Campus Map Legend

Academic & Administrative Locations

By Name

20 Baseball Field
3 Berman Museum of Art
5 Bomberger Hall
11 Bookstore
13 Campus Safety
1 Corson Hall
14 Facilities Services
5a Fetterolf House (Center for Continuous Learning)
15 Floy Lewis Bakes Center (including Helfferich Hall Gym)
7 Hillel House
25 Hunsberger Woods
10 Kaleidoscope Performing Arts Center
6 Myrin Library
4 Olin Hall
18 Patterson Football Field
8 Pfahler Hall
23 Practice Field (North)
17 Practice Field (South)
16 Ritter Center
19 Snell Field Hockey Field
24 Soccer and Lacrosse Field
22 Softball Field
21 Tennis Courts
9 Thomas Hall
2 Unity House
12 Wismer Center

By Number

1 Corson Hall
2 Unity House
3 Berman Museum of Art
4 Olin Hall
5 Bomberger Hall
5a Fetterolf House (Center for Continuous Learning)
6 Myrin Library
7 Hillel House
8 Pfahler Hall
9 Thomas Hall
10 Kaleidoscope Performing Arts Center
11 Bookstore
12 Wismer Center
13 Campus Safety
14 Facilities Services
15 Floy Lewis Bakes Center (including Helfferich Hall Gym)
16 Ritter Center
17 Practice Field (South)
18 Patterson Football Field
19 Snell Field Hockey Field
20 Baseball Field
21 Tennis Courts
22 Softball Field
23 Practice Field (North)
24 Soccer and Lacrosse Field
25 Hunsberger Woods

Residence Halls

By Name

C 201-203 Ninth Avenue
Z 30-32 Sixth
NN 424-426 Main
MM 444 Main
S 624 Main
P 702 Main
F 732 Main
I 777 Main Street
B 942 Main Street
A 944 Main Street
KK Barbershop (476 Main)
AA Beardwood Hall
O Brodbeck Hall
LL Clamer Hall (409 Main)
D Cloak House (811 Main)
II Commonwealth (500 Main)
M Curtis Hall
U Duryea Hall (612 Main)
G Elliott House (785 Main)
FF Fetterolf House (554 Main)
X Hobson Hall (568 Main)
E Isenberg Hall (801 Main)
HH Kelgwin Hall (513 Main)
GG Maples Hall (512 Main)
W Musser Hall (23 Sixth)
JJ New Hall
EE North Hall
R Olevian Hall
K Omwake Hall (701 Main)
BB Paisley Hall
L Reimert Hall
DD Richter Hall
Q Schaff Hall
V Schreiner Hall (600 Main)
XX Sprankle Hall
CC Stauffer Hall
Y Sturgis Hall (26 Sixth)
H Todd Hall (724 Main)
J Wicks House (716 Main)
N Wilkinson Hall
T Zwingli Hall (620 Main)

By Letter

A 944 Main Street
B 942 Main Street
C 201-203 Ninth Avenue
D Cloak House (811 Main)
E Isenberg Hall (801 Main)
F 732 Main
G Elliott House (785 Main)
H Todd Hall (724 Main)
I 777 Main Street
J Wicks House (716 Main)
K Omwake Hall (701 Main)
L Reimert Hall
M Curtis Hall
N Wilkinson Hall
O Brodbeck Hall
P 702 Main
Q Schaff Hall
R Olevian Hall
S 624 Main
T Zwingli Hall (620 Main)
U Duryea Hall (612 Main)
V Schreiner Hall (600 Main)
W Musser Hall (23 Sixth)
X Hobson Hall (568 Main)
XX Sprankle Hall
Y Sturgis Hall (26 Sixth)
Z 30-32 Sixth
AA Beardwood Hall
BB Paisley Hall
CC Stauffer Hall
DD Richter Hall
EE North Hall
FF Fetterolf House (554 Main)
GG Maples Hall (512 Main)
HH Kelgwin Hall (513 Main)
II Commonwealth (500 Main)
JJ New Hall
KK Barbershop (476 Main)
LL Clamer Hall (409 Main)
MM 444 Main
NN 424-426 Main

Appendix C: Ursinus College Sustainability History

Back to Table of Contents

The table below shows the history of sustainability programming at the College, however, it does not reflect the many programs, courses, and actions taken throughout the College which have a positive impact on our ecological footprint or our educational efforts.

History of Sustainability Programming at Ursinus College

Date	Type	Event
2000	Academic Program	The Ursinus College Environmental Studies (ENV) curriculum was established in January 2000 by a committee of Ursinus faculty interested in promoting environmental pedagogy. These faculty members all taught classes that fell within the Environmental Studies discipline. Collectively, their courses, with the addition of a new introductory class, were organized to form the ENV major and minor. The founding faculty each had full-time appointments in departments other than ENV, and contributed courses to the Environmental Studies major and minor which were cross-listed between their home departments and ENV.
2002	Faculty Hire	Richard Wallace, the first full-time faculty member in ENV, was hired to serve as director (later department chair) and build a program around the major. Dr. Wallace was the first of what is now three full-time tenure-track faculty hires in Environmental Studies since the establishment of the major. His work focuses on policy and programs that protect biological diversity and sustainable agriculture.
2002-current	Speakers	The Environmental Speaker Series was initiated. Speakers have included Wendell Berry, Francis Moore Lappé, Anna Lappé, Scott Weidensal, Stephen Schneider, and others.
2003 (sp)	Recycling	ENV 100 class researched and convinced the administration to start a recycling program on campus. After that a student committee overseen by ENV faculty, was responsible for collecting the green bins on campus. In late 2008 or 2009, it became the responsibility of Housekeeping because it had grown so large…and as such became part of the infrastructure of the college.
2002	Students	Students in the Environmental Studies Department began a student recycling committee, called UC Recycles. internship program, called Sustain UC, that enabled students to pursue projects in sustainability and recycling.
2003 (fall)	Garden	The organic garden initially conceived and planned by students/faculty.
2004??	Membership	Ursinus College became a member of Pennsylvania Environmental Resource Consortium (PERC).
2004 (spring)	Garden	The Ursinus Organic Garden was established through the efforts of a student/faculty collaboration as an initiative of the College.
2004	Faculty Hire	A second Environmental Studies faculty line was approved in 2003 and Leah

		Joseph was hired in 2004. Dr. Joseph's work focuses on climate change through analysis of deep sea sediment.
2004	Stormwater Basin	The Ursinus naturalized stormwater basin (also known as the constructed wetland) was conceived by a student as part of an ENV course. It evolved into a Summer Fellows and then an Honors project for a student. It was presented to and approved by the College administration.
2004 - current	Policy & Program	The College committed to purchasing Energy Star appliances. The Facilities Services Department has also upgraded lighting across campus, installed motion sensors in most classrooms and academic offices, conducts a light bulb exchange for CFLs, has installed variable speed drives on A/C units, uses Vending Miser programs for vending machines, manages parking lots for energy efficiency, uses green carpeting and low VOC paints, and purchased high efficiency laundry machines, among many other actions.
2005-current	Outreach	The Environmental Studies Department sponsors an annual Environmental Roundtable event with Senator John Rafferty (44th District).
2005 (summer)	Garden	The Ursinus Organic Garden had its first growing season.
2006	Student Leadership	UC Recycles was transformed into Sustain UC – a student fellowship program with students working on a variety of sustainability programs.
2007	Membership	Ursinus College became a member of the American Association for Sustainability in Higher Education (AASHE).
2007 (fall)	Stormwater Basin	Engineering and landscaping for the Naturalized Stormwater Basin was completed.
2007	Climate	President John Strassburger signed the American College and University Presidents' Climate Commitment (ACUPCC), committing the College to creating a plan to become carbon neutral.
2007	Program	The College formed a temporary Sustainability Committee.
2007	Policy	The College began implementing a policy to build new structures to LEED Silver construction standards.
2008	Move-In	The first Move-In event (recycling of cardboard primarily) was run by a student. This program grew into one supported by the Office of Sustainability.
2009 (fall)	Move-In	Move-In oversight shifted from an ENV class to sustainability staff. Students continue to help coordinate this initiative.
2007	Green Roof	A green roof project (proposed and run by a student) was installed on the roof of our largest science building. This pilot program is still functioning and has allowed our facilities staff to become more familiar with how green roofs function. This project has been used by students to conduct research.
2008	Faculty Hire	The third Environmental Studies faculty line was approved in 2006 and Patrick Hurley was hired in 2008. Dr. Hurley's work focuses on political ecology and human interactions with the natural world.
2008 (sp)	Climate	The College hosted a four-day conference-style event as part of the national Focus The Nation event about global climate change and solutions to which campus and public were invited and attended, led by ENV faculty members, but with help and support of many faculty and staff members across campus. This multi-day conference featured 21 different speakers and events around the topic of climate change.
2008 (spring)	Climate	Environmental Studies students conducted the first GHG inventory, as required by the ACUPCC. This was conducted as part of a course.
2008	Climate	President John Strassburger committed Ursinus College to hiring a Summer

(summer)		Fellow to work on the college's annual greenhouse gas inventory.
2008 (fall)	Stormwater Basin	A planting and maintenance plan for the Ursinus naturalized storm water basin (constructed wetland) was completed by a contractor and implemented by the Facilities Services Department.
2008	Bikeshare	A student cycling enthusiast worked with the College to start a student bike sharing program, called UCBikeshare.
2009	Recycling	The College began participating in the national Recyclemania contest.
2009	Climate	The College's first unofficial Climate Action Plan (CAP) was completed by students as part of the ENV Senior Seminar. This plan led to many changes being undertaken by the Facilities Service Department. It was never submitted for ratification by the College.
2009 (spring)	Hire	A part-time position of Sustainability Coordinator was created in March, 2009. Kyle Rush was appointed to this position. Environmental Studies faculty had requested a full- or part-time sustainability coordinator to act as liaison between students, faculty, and staff in promoting stewardship and leadership projects and initiatives on and off campus.
2009	Energy	Energy monitoring equipment was purchased for installation in all campus buildings.
2009	Dining	Wismer Dining Hall began its existing composting program.
2009 (fall)	Dining	Wismer Dining Hall installed a tray-less system for handling food service.
2010	LEED construction	The addition to the Berman Art Museum was built to LEED Silver standards (though not certified).
2010	Green Roof	The Berman Art Museum addition included a green roof. Though primarily an art installation, the green roof is an excellent educational tool about environmental efforts on campus.
2010 (spring)	Move-Out	The first large-scale Move-Out event was held. Move-Out was conceived as a project by students in an Environmental Studies capstone course on Waste as a Resource (now called Talking Trash) and coordinated with the SPC.
2010 (fall)		ENV capstone students complete analysis of campus landscape management, making recommendations about future changes to campus (e.g., native species enhancements, expanded edible landscaping). Recommendations incorporated within newly completed Master Tree Plan.
2010 (fall)	Staff	A part-time position of Sustainability Program Coordinator (SPC) was established to handle increasing program demands. This position was filled by Maryanne Berthel ('10). This position reported to ENV.
2010 (fall)	Staff	A part-time position of Climate Action Manager (now Campus Sustainability Planner) was established to address the commitment made to the ACUPCC. This position was/is filled by Shannon Spencer. This position reported to Facilities.
2010	Program	The UC Bikeshare program came under the umbrella of the Sustainability Program. Bikeshare provides bicycles to campus community members. The program was student run and was previously housed in ResLife.
2011 (spring)	Program	The College agreed to change the designation of the sustainability program to the Office of Sustainability (OS).
2011 (spring)	Program	The OS submitted its first combined budget. This streamlined budget items from multiple College departments, including ENV, Residence Life, and the President's budget.
2011 (spring)	Climate	2009-2010 GHG Inventory was completed. This was undertaken by a Summer Fellows student with oversight by Leah Joseph, Environmental

		Studies Department Chair, and Shannon Spencer, Climate Action Manager.
2011	Climate	A new organizational structure was approved for the Climate and Sustainability Action Plan, involving separate chapters for each administrative unit at the College, with the goal of facilitating implementation in mind.
2011 (spring)	Advertising	The first issue of the UCGreen Connection newsletter was published.
2011 (spring)	Staff	The College made a further commitment to sustainability by making the SPC position into a full time position.
2011	Staff	Facilities Services tasked one person, Mike Degler, with handling recycling. He worked with the SPC in the OS.
2011	Events	First Sustainability Week event held (to date, this has not been repeated)
2012 (spring)		Final plan and recommendations for the creation of a campus ethnobotany garden are completed. Garden installation awaiting funding.
2012 (sp)	Staffing	First SPC left the College; replacement hiring process began summer of 2012.
2012	Organizational	The OS was shifted into the Facilities Services Department. Both OS staff members now report to Andrew Feick, Director of Facilities Services.
2012 (fall)	Staff	Brandon Hoover was hired to fill SPC position.
2013	Education	The first 1-credit course for Sustainability Fellows was offered by the Office of Sustainability in conjunction with ENV.
2013 (spring)	Grounds	First online map of campus urban forest, highlighting ecosystem services and cultural values, completed by ENV student as part of independent research project.
2013 (sp)	Energy	The first Mock Energy Bills were created and distributed to residents of our Main Street houses as an educational campaign to raise awareness of energy use on campus.
2013	Climate	The Climate and Sustainability Action Plan was completed for review by President Bobby Fong.
2014	Energy	Real-time energy monitoring software expected to go online for students to use for educational purposes.

Appendix D: UC - Sustainability Initiatives List

Back to Table of Contents

Sustainability initiatives on the Ursinus College campus, by type or sector.

Sector	Sustainability Activity	Who is Responsible	Dept
Building	Energy - Reduce VFDs - various buildings; some with AHU	Facilities - Andrew Feick	Fac
Events	Initiative - Greeks Go Green	Senior Seminar Class Project	Var.
Educ.	UC Organic Farm	Office of Sustainability	OS
Building	Green Building - Berman Addition LEED silver	Facilities - Andrew Feick	Fac
Building	Green Building - Green Roof on Berman Museum	Facilities and ENV	Fac/ENV
Building	Green Building - green roof on Wismer (outside of dining area)	Facilities - Andrew Feick	Fac
Building	Policy - Green building - UC commitment that all major renovations will be built to LEEDS standards	Facilities; Administration	Fac
Educ	Education - Courses (see separate list of sustainability-related courses)	ENV faculty: Patrick Hurley, Leah Joseph, and Rich Wallace	ENV
Educ	Education - Speaking about ENV Studies topics at student/parent orientations, with dorm Ras, at alumni events	OS, ENV Faculty & staff	ENV
Educ	Education - Eco-Art - bringing sustainable artists on campus	Various Art Dept., Berman	Art
Educ	Event - Energy management competition in dorms	OS	OS
Educ	Event - Environmental Art Award	ENV faculty: Patrick Hurley, Leah Joseph, and Rich Wallace	ENV
Educ	Event - Environmental Roundtables with Senator John Rafferty	ENV	ENV
Educ	Event - Environmental Speaker Series (Anna Lappe, Frances Moore Lappe, Manny Howard, Katie Tripp, Scott Wiedensaul, Douglas Tallamy, etc.	OS and ENV faculty	ENV
Educ	Event - Focus the Nation (Climate Change Conference)	ENV: Rich Wallace, Leah Joseph	ENV
Educ	Event - Food-leftovers scraped and weighed over the course of a week (3/day).	ENV	ENV

Educ	Event - Just Food	OS	ENV
Educ	Event - Local Food Banquet	Rich Wallace, Food, Society & Envt class members	ENV
Educ	Event - Recycled Art & Presentations	ENV, Art, Psychology	ENV
Educ	Event - Tree planting on campus	Facilities & various departments	Var.
Educ	Event - Unplugged program	OS	OS
Educ	Habitat - Bat houses installed/maintained	ENV & facilities	ENV
Educ	Habitat - Bird Houses	ENV - Rich Wallace	ENV
Educ	Initiative - Student "service hours" working the garden/wetland/recycling program	UCARE	UCARE
Educ	Initiative – Sustainability Fellows	OS	OS
Educ	Initiative - EcoReps	OS	ENV
Educ	Initiative - UCEA	Student organization	Student
Educ	Organic Farm	OS - Farm Director (student)	OS
Educ	Organic Farm - Bee Keeping	OS – Farm Director (student)	OS
Educ	Organic Farm - chickens	OS – Farm Director (student)	OS
Educ	Organic Farm - Orchard	OS – Farm Director (student)	OS
Educ	Personnel - faculty and staff hired with sustainability as part of their job responsibilities	OS and various	OS
Educ	Policy - Presidents' Climate Commitment Signatory	President of College & OS	Admin
Educ	Research - Biodiesel converstion of vehicles -found Mercedes worked - VW didn't	student	ENV
Educ	Research - Faculty (see list)	various	Var.
Educ	Research - Reducing Pesticides in Agriculture	Biology: Cory Straub	Bio
Educ	Research - Climate Change Perspectives Survey	Bruce Rideout	Psych
Educ	Signage at major Sustainability initiative sites (garden, wetland, green roof)	OS & Facilities - Andrew Feick	Fac
Elec	2x Electricity Grid Emergency Response	Facilities	?
Elec	Energy - A/C - variable speed drives	Facilities - Andrew Feick	Fac
Elec	Energy - CFC Replacement Program	Facilities - Andrew Feick	FAC
Elec	Energy - efficiency - motion sensors on lights in bathrooms, offices, classrooms, dorm rooms?; AHU VFDs?; winterize A/C; lighting study in gym; flourescent & LED lights, etc	Facilities - Andrew Feick	Fac
Elec	Energy - Light bulb exchange	Facilities	Fac

Elec	Energy - Vending Miser in vending machines	Facilities - Andrew Feick	Fac
Elec	Energy - West Parking Lot - closed at times to save energy	Facilities	Fac
Elec	Policy - UC committed to replacing outdated appliances with Energy Star certified efficient models, when available	Facilities	Fac
Elec	Purchase - carpet green (Cool Carpets)	Facilities	FAC
Elec	Purchase - Energy Star - replace outdated appliances with more efficient energy star models	Facilities - Andrew Feick	Fac
Elec	Purchase - Increased Laundry Efficiency with machines that use 1/3 of energy and water	Facilities	FAC
Elec	purchase - LED lights for outdoor walking lights (last 10x longer than flourescents)	Facilities - Andrew Feick	Fac
Elec	Purchase - Printers replaced to be more efficient	Facilities	FAC
Elec	Purchase - updates in science buildings (e.g., fume hoods)	Facilities	FAC
Food	Composting - area behind New Hall	Facilities	FAC
Food	Composting - food	Dining Services	
Food	Composting - Ucompost	OS/Students - UCompost Volunteer Team and Supervisors (not currently functioning)	OS
Food	Organic Dinner	SIFE	Food
Food	Organic Dinner benefitting WWF	Greeks Go Green	Food
Food	Energy - Trayless Dining Hall (Implementation)	Dining Services, Facilities	Food
Food	Research - Trayless Dining Hall (Research Project)	Dining Services, Facilities	Fac
Food	Wismer on Wheels?	UCARE	
Grounds	Green Building - Green Roof Maintenance	Facilities and ENV	
Grounds	Habitat - Constructed Wetland	Facilities	
Grounds	Habitat - Wetland cleanup by Frat	Fraternity	
Grounds	Athletic fields dressed with compost instead of topsoil	Facilities - Andrew Feick	Fac
H&C	Energy - efficiency - boiler tune-up	Facilities - Andrew Feick	Fac

H&C	Energy - Heating - conversion of many Main St. houses to natural gas from oil over last several years (2009)	facilities	Fac
H&C	Energy - Insulation in ceilings & walls	Facilities - Andrew Feick	Fac
H&C	Energy monitoring meters w/ visual system purchased for all buildings	Facilities - Andrew Feick	Fac
H&C	Energy - Offset purchases (same as power purchase agreement?)	ENV	ENV
H&C	Energy - Thermostats - updated to electric & separate for each room to take into account windows left open	Facilities	Fac
H&C	Purchase - energy efficient windows (as needed/able)	Facilities	FAC
H&C	Purchase - Water savers: Low flow toilets/shower heads/faucets. Moving to power assist toilets	Facilities	Fac
Outreach	Event - Earth Day	UCEA/OS	ENV
Outreach	Organic Farm at Collegeville Farmers' Market	OS	OS
Outreach	Outreach - Bullfrog Creek Restoration Project (with Lower Salford Township and PWC)	ENV - Rich Wallace	ENV
Outreach	Outreach - CISPES - El Salvador water testing at mining site	Christian Rice	UCARE
Outreach	Outreach - Climate Club at Springford Elementary	Leah Joseph (a project of the Global Climate Change class)	ENV
Outreach	Outreach - DEP Air monitoring	Leah Joseph	ENV
Outreach	Outreach - Owl Banding	UCEA	ENV
Outreach	Outreach - Partnership with Farmers' Market Steering Committee	Rich Wallace - class; Foods, Society, and the Envt	ENV
Outreach	Outreach - PWC Watershed Cleanup	Leah Joseph	ENV
Outreach	Outreach - Sustainable Landscape/Senior Seminar	Patrick Hurley & Senior Seminar Students (ENV 470w)	ENV
Outreach	Outreach - OS Website	OS	OS
Transport	Coordination of bus schedules for athletic teams	Athletics Dept	Athletics
Transport	Policy - Local purchasing	Business Office	BO
Transport	Purchase - Biodiesel and electric powered vehicles for Facilities	Facilities	FAC
Transport	Purchase - Campus Safety replace with electric cart	Facilities/Campus Safety	FAC
Transport	Purchase - electric golf cart for environmental studies department and OS	ENV & Facilities	ENV

Transport	Purchase - Local Food Sources	Dining Services	Food
Transport	Purchase - local purchasing (Lamp posts bought locally - Spring City; other??)	Facilities	Fac
Transport	Purchase/Lease - hybrid cars for Admissions/ administrative use	Facilities	FAC
Transport	Transport – UC Bikeshare Program	OS	OS
Transport	Transport - Philly Car Share	Student Activities Office	SAO
Transport	Transport - Ride Share Program	Student Activities Office	SAO
Transport	Transport - Shuttle Bus	Residents Life/SAO office	SAO
Transport	Transportation - drinking water tanks provide filtered tap water rather than using transported plastic or glass water bottles	Dining Services	dine
Waste	Composting - cardboard (used to recycle)	Facilities - Andrew Feick	Fac
Waste	Composting - Compostable "plastic" spoons Wismer	Dining Services	
Waste	Composting - Compostable bowls Wismer	Dining Services	
Waste	Event - Recycle team move in/move out	Sustainability Fellows/OS	OS
Waste	Event- Recyclemania	SIFE, Sig Pi	
Waste	Policy - Computer packaging more sustainable - Dell	Env; facilities	Fac
Waste	Policy - Garbage contract - renegotiated	Facilities	FAC
Waste	Policy - Inclusion of sustainability concepts within contracting (i.e., waste, housekeeping)	Business Office	BO
Waste	Policy - No More plastic bottles sold on campus (not a currently functioning initiative)	President	PRES
Waste	Purchase - green cleaning products, chemicals, etc.	Housekeeping	House
Waste	Purchase - Recycled paper - business cards	Facilities	FAC
Waste	Purchase - Recycled Paper use (30% + FSC)	Facilities	FAC
Waste	Purchase - recycled toilet paper	Housekeeping	House
Waste	Purchase - vinyl flooring over carpet (which is thrown out annually)	Facilities	FAC
Waste	Recycling - bottles & cans	Facilities	FAC
Waste	Recycling - cardboard	Facilities	Fac
Waste	Recycling - Mixed	Facilities	Fac

Waste	recycling - paper - Sig Pi		
Waste	Recycling - paper (extended to dorms)	Facilities	FAC
Waste	Recycling - Plastics 1-7	Facilities/OS	FAC/OS
Waste	Recycling - Rechargeable Batteries, Flourescent & other specialty Lamps	Facilities	Fac
Waste	Recycling - technology	Technology Services	Tech
Waste	Recycling -Newspaper		
Waste	Waste - compacter to be installed to reduce the number of wast pick-ups	Facilities?	FAC
Waste	Waste - Oil sold for biofuel	Facilities	Fac
Waste	Waste - Pelletized organic fertilizer on fields from composted product	Facilities - Andrew Feick	Fac
Waste	Waste - Pesticides - integrated pest management focuses pesticide application only to trouble areas - not everywhere)	Facilities	Fac
	Education - Red & Gold Day	OS	OS
	Funding - Grant proposals written (unfunded) to Chiller PEDA, LOI greenroof, Energy Harvest LED lights (PEDA too?)	ENV/OS/Facilities	ENV
	Initiative - Carbon Inventory	OS	OS
	Initiative - President's Climate Commitment - Implementation	OS	OS
Waste	Shipped old/unused furniture to Haiti in partnership with IRN	Facilities - Andrew Feick	Fac

Appendix E: Ursinus' Academic Course Listings for Sustainability Related Courses

Back to Table of Contents

This appendix includes a list of courses offered in our catalogue that cover topics related to sustainability. They include courses from the following academic departments: Environmental Studies, Anthropology, Business & Economics, Biology, Chemistry, English, Philosophy, Political Science, Psychology, Sociology, and French.

Course listings for sustainability-related topics at Ursinus College

ENV-100 **Issues in Environmental Studies(**Faculty) An introductory interdisciplinary course with readings and research on topics across all fields of environmental studies. This course examines environmental issues through many lenses, including ecology, economics, ethics, policy analysis, and the arts. Issues explored include (but are not limited to) population, energy, biodiversity and ecosystem conservation, food and agriculture, global warming, ozone depletion, air pollution, water resources management, and solid waste. Student projects include investigations of local environmental issues and applied conservation activities within the Ursinus and surrounding communities. Open to first-year and sophomore students or others by special permission of instructor. Four hours per week. Four semester hours.
ENV-268 **Wetlands** (Faculty) An exploration of the features common to all wetlands, the great variety of wetlands that exist due to differences in climate and geomorphology, and the many ways in which humans are connected to wetlands. Weekend field trips to area wetlands will broaden our view of regional types and increase awareness and appreciation of the vital role wetlands play. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three hours of lecture per week plus three or four, one-day, weekend field trips. Four semester hours.
ENV-272 **Marine Mammal Conservation and Management** (Dr. Wallace) This course addresses historical and current issues concerning the conservation and management of marine mammals, their habitats, and related marine resources. It integrates the biological sciences, policy, law, economics, and humanities (in the form of ethics and values) in presenting and engaging the students in discussions about the history of human-marine mammal interactions, changes in human values and attitudes about the marine environment, the role of human-marine mammal interactions in societal changes, and the policy arena that has developed around marine mammals in the past century. Prerequisite: ENV-100. Three hours per week. Four semester hours.
ENV-299 **Readings in Environmental Studies** (Faculty) Individual study and directed reading of a particular topic or book within the discipline. Students will work closely with a member of the ENV faculty in selecting, reading, and discussing the topic, and in determining a proper written assignment. Prerequisites: ENV-100 and permission of the instructor. One semester hour.
ENV-332 **Urbanization & the Environment** (Dr. Hurley) An introduction to the diversity of environmental transformations that accompany the process of urbanization and their implications for urban sustainability through exploration of the historical, political, social, economic, and ecological dimensions of the human-environment interactions .Field trips to local neighborhoods, nearby towns, and sites in Metropolitan Philadelphia are required. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. Four semester hours.
ENV-336 **Environmental Planning** (Dr. Hurley) An introduction to a diversity of conceptual approaches in the field of environmental planning and management, including smart growth management, regional planning, land-use planning, collaborative planning, natural hazard mitigation, conservation planning, and watershed management. Field trips in the Philadelphia region will occur. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture and three laboratory hours per week. Four semester hours.
ENV-340W **Food, Society, & the Environment** (Dr. Wallace) Few issues are as complex and interdisciplinary as what we eat. The seemingly simple every-day choices we make about our food have repercussions far beyond our diets and wallets. We will explore the food systems in which we live from many different perspectives to achieve an understanding of what food and food decisions mean in terms of personal health, welfare, and budgets, and in the context of society, economy, and sustainability. Written and oral communication of critical thinking is emphasized. Sophomores and above welcomed. Prerequisite: ENV-100. Three hours of lecture plus three hours of field or lab work per week. Four semester hours.
ENV-342 **Globalization & the Environment** (Dr. Hurley) An examination of the cultural, political, and economic linkages that characterize globalization and the consequences these linkages (e.g. through consumption practices) have for specific

places, diverse peoples and cultures, and the environments where they live. Students will examine specific cases from Africa, South America, East and Southeast Asia, and Australia. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. Four semester hours. (G.)

ENV-350 **Topics in Environmental Studies** (Faculty) A study of a contemporary issue or specific subject area relating to the environment. Topics are often cross-disciplinary and vary according to the special interests of students and faculty. Potential topics include: energy and the environment; landscape architecture; urban environmental studies; and birds in their habitats. Prerequisite: permission of the instructor. Independent written work required. Lab and field work required in some cases. Three hours of class per week. Four semester hours.

ENV-360 **Conserving Biological Diversity** (Dr. Wallace) A study of the conservation of biological diversity in the United States and abroad. Interdisciplinary analytical methods are used to investigate the loss and conservation of wildlife and habitats, with an emphasis on the development of conservation policy in the United States and comparative international case studies of endangered species protection. Specific topics include current trends in global biodiversity loss; the role of human values in biodiversity conservation; international biodiversity conservation strategies, initiatives at zoos and aquariums; and the protection of forests, rangelands, oceans, and coastal zones, birds, fish, marine mammals, and endangered species in the United States. Prerequisite: ENV-100. Three hours per week. Four semester hours.

ENV-362 **Managing Parks & Protected Areas** (Dr. Wallace) A study of strategies for managing parks and protected natural areas locally and internationally. Emphasis is on learning the interdisciplinary tools necessary for developing management plans and implementing protected area policies. Case studies will address issues such as urban and suburban sprawl, pollution, natural resource extraction, biodiversity conservation, and the rights and concerns of indigenous peoples. Local field trips will supplement in-class learning by exposing students to protected areas studied in the classroom. Prerequisite: ENV-100. Three hours of lecture plus three hours of field work per week. Four semester hours.

ENV-364 **Ecosystem Management (**Dr. Wallace) Sustainability is an important social goal, but learning how to achieve it at large scales is challenging and complex. This course examines the conceptual and contextual basis for managing and conserving nature at the ecosystem level. We will explore methods and theories for large-scale conservation, discuss how science, management, and policy are integrated in these efforts, apply problem solving methods to the challenges of large scale conservation, and investigate cases from the terrestrial and marine environments. Prerequisite: ENV-100. Three hours per week. Four semester hours.

ENV-366 **Ecological Change in Historical Perspective** (Dr. Hurley) An introduction to longer-term perspectives on human-environment interactions, drawing on approaches found within environmental history, historical ecology, and historical geography. Particular emphasis is placed on case studies from North America and on regional ecosystems in the Eastern United States. Saturday or Sunday field trips to regional sites are required. Prerequisite: ENV 100 or permission of the instructor. Offered every other year. Three lecture hours per week. Four semester hours.

ENV-370 **Global Climate (**Dr. Joseph) This course focuses on the science of climate, investigating what climate is and what factors determine and influence the climate of an area. Both the natural and anthropogenic (human) forces that may cause climate change are presented from a geological and historical perspective in addition to covering current climatic trends and predictions for future climate. Prerequisite: ENV-100 or permission of the instructor. Offered every other year. Three hours of lecture and three hours of laboratory per week. Four semester hours. (LS.)

ENV-372 **Environmental Issues in Oceanography** (Dr. Joseph) An introduction to the basic scientific concepts of oceanography, focusing on the aspects of oceanography that affect and are affected by humans. Topics include plate tectonics, properties of seawater (chemical and physical), coastal processes (coastal erosion, tsunamis, hurricanes), the effects of/on the ocean in climate change, el Niño/la Niña, the ocean as a resource (fisheries, mining), and pollution of the ocean (ocean dumping, mercury, and oil spills). Saturday or Sunday fieldtrips may be required. Prerequisite: ENV-100 or permission of the instructor. Offered every other year. Three hours of lecture; three hours of laboratory per week. Four semester hours. (LS.)

ENV-381A **Internship (**Faculty) An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor, comprising between 120 and 159 hours of work during the course of the internship. Students must have completed 12 semester hours of environmental studies courses including ENV-100 and have permission of the supervising faculty member to be eligible for an internship. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Graded S/U. Three semester hours. (I.)

ENV-381B **Internship (**Faculty) An off-campus academic/work experience under the supervision of a faculty internship advisor and an on-site supervisor, comprising at least 160 hours of work during the course of the internship. Students must have completed 12 semester hours of environmental studies courses including ENV-100 and have permission of the supervising faculty member to be eligible for an internship. Students must document their experience according to the requirements delineated in the College catalogue section on Off-Campus Study. Graded S/U. Four semester hours. (I.)

ENV-382 **Political Ecology** (Dr. Hurley) An introduction to an interdisciplinary field of inquiry concerned with the ecological and social drivers of environmental change and their politicization. Students will explore cases representing a diversity of

ecosystems at local, regional, and national scales from a diversity of locations across the globe, including in Africa, North America, South America, and Southeast Asia. Prerequisite: ENV 100. Offered every other year. Three lecture hours per week. Four semester hours.

ENV-430W **Advanced Environmental Policy Analysis** (Dr. Wallace) An intensive seminar in methods of interdisciplinary environmental problem solving designed to improve professional development and practice in the many fields of conservation. This course will help students develop an understanding of and technical proficiency in using qualitative analytical methods. Theory and cases will address environmental concerns at the local, regional, national, and international levels. Prerequisite: ENV-100, at least one ENV synthesis course, and junior standing. Three hours per week. Four semester hours. (SS.)

ENV-470W **Environmental Studies Senior Seminar** (Faculty) This is a capstone seminar in the methodology and application of critical thinking and other applied analytical and practical skills in environmental studies. It is designed to help students learn practical problem solving skills, and the theories that underlie them, that will help them to identify, define, and analyze environmental problems and develop responses to them. The seminar is designed to provide a synthesis experience for environmental studies majors and will entail group and individual work on a semester-long project. Project-related work will draw from the natural and social sciences as well as from ethics and the study of rhetoric. Prerequisites: ENV-100, junior or senior standing, and at least three additional ENV courses. This course fulfills the ENV capstone and oral presentation requirements. Three hours per week. Four semester hours.

ENV-481W **Research/Independent Work** (Faculty) An independent project conducted using research methods in environmental studies, and including original work in the field, laboratory, or other scholarly forum. Students must have completed 12 semester hours of environmental studies courses including ENV-100 or have permission of their adviser to be eligible for independent research. Four semester hours. (I.)

ENV-482W **Research/Independent Work** (Faculty) See course description for ENV-481W. Four semester hours. (I.)

ENV-491W **Research/Independent Work** (Faculty) Students who are eligible for departmental honors can complete independent research work in this course. Work should be comprised of an independent project conducted using research methods in environmental studies, and including original work in the field, laboratory, or other scholarly forum. Students must have completed 12 semester hours of environmental studies courses including ENV-100 or have permission of their adviser to be eligible for independent research. Four semester hours. (I)

ENV-492W **Research/Independent Work** (Faculty See course description for ENV-491W. Four semester hours. (I)

ENV/ANTH-352. **Peoples & Their Environment** (Dr. Oboler) Human cultural patterns and social institutions are adaptations to particular physical and social environments, and also have impacts on those environments. This course is concerned with the relationship between environments and subsistence systems on the one hand, and social/political institutions and belief systems on the other, using case studies from a variety of traditional societies. We will also consider the relationship between the global ecosystem and problems of Third World development, patterns of peasant production, causes and consequences of rapid population growth, and the fate of indigenous peoples. Prerequisites: ANTH-100 or permission of the instructor. Three hours per week. Four semester hours. (SS.)

ENV/BE-213. **Economics of Environment and Natural Resources (**Dr. Randall) Economic analysis is used to inform, analyze, and evaluate current environmental and natural resource policy decisions. Analyses of environmental problems use cost-benefit or efficiency criteria. Topics include externalities, public goods, common property rights, and sustainability. Prerequisite: BE-100. Three hours per week. Four semester hours. (SS.)

ENV/BIO-215 **Biology of Maya Mexico (**Dr. E. Dawley, Dr. R. Dawley) A study of the environments, fauna, and flora of tropical Mexico and their relation to the Maya people who inhabit that region. We will examine coral reefs, coastal waters, and lowland and highland forests, focusing on animals and plants of particular importance to the ecosystem they inhabit and to the Maya people, past and present. Prerequisite: None. Field investigations accompanied by readings, lectures, and an independent project resulting in a review or research paper. Four semester hours. (This course is part of the UC in Maya Mexico Program.)

ENV/BIO-250 **Environmental Biology(**Dr. Sidie) A study of the biological basis of environmental issues. Includes ecosystems, communities, populations, water, energy, geologic resources, biodiversity, weather/climate, pollution, agriculture/hunger, soil resources/pests, solid/toxic hazardous waste, toxicology, land use. Prerequisite: BIO-101Q or permission of the instructor. Three hours of lecture. Three hours of lab per week. Four semester hours. (LS.)

ENV/BIO-270 **Aquatic Biology** (Dr. Goddard) A study of the path that water takes from the headwaters of a creek down to the deepest oceanic trenches plus all of the aquatic communities found along the way. Human use of freshwater and marine resources and impacts of humans on the freshwater and marine environments will be discussed. Laboratories will include studies of fish and invertebrate anatomy and taxonomy, a visit to a beach, salt and freshwater marsh, and creeks and ponds. Students must be available for two Saturday fieldtrips to estuarine and coastal habitats. Three hours of lecture; three hours of laboratory per week. Prerequisites: BIO-101 and BIO-102; or permission of the instructor. Four semester

hours. (LS.)

ENV/BIO-310 **Biological Oceanography** (Dr. Goddard, Dr. Sidie) A study of the biological bases of ocean science. Topics discussed include: ocean basins, seawater physics and chemistry, currents, waves, tides, upwelling zones, tidal rhythms in organisms, ocean habitats/biota, marine virology, marine microbiology, plankton, trophic relationships, hydrothermal vent communities, coral reefs. Prerequisite: BIO-101Q or permission of the instructor. Three hours of lecture; three hours of laboratory per week. (Course may be conducted in part at a marine field station). Four semester hours. (LS.)

ENV/BIO-320 **Biology of the Neotropics** 9Dr. E. Dawley, Dr. R. Dawley) A field study of Costa Rican tropical habitats including rain forests, montane forests, seasonally dry forests, and wetlands conducted at research sites throughout the county. Topics include diversity and natural history of key plants and animals, ecological interactions and evolutionary processes, and conservation. May include side trips to cloud forests or coral reefs. Prerequisite: Permission of instructor and BIO-101Q. Field investigations accompanied by readings, lectures, and a directed research project. Course will meet 15 hours on campus and three weeks in Costa Rica between the Fall and Spring semesters. Four semester hours. (LS.)

ENV/BIO-325 **Insect Biology** (Dr. Straub) This course will introduce students to the insects—the most diverse group of organisms on the planet. We will examine the physiology, development, behavior, ecology, and evolution of insects to better understand why they are so successful, and special emphasis will be placed on understanding the importance of insects to human welfare. Students will learn the taxonomy of local insects by completing an insect collection. The laboratory component of this course will include insect rearing, experiments, and field trips to collect insects from terrestrial and aquatic habitats. Prerequisite: BIO-101 and BIO-102; or permission of the instructor. Three hours of lecture; three hours of laboratory per week. Four semester hours. (LS.)

ENV/BIO-330 **Marine Biology** (Dr. Sidie) A field-oriented study of the important marine habitats, including pelagic and benthic zones, and intertidal communities. Topics include marine biodiversity-plants, protists, invertebrates, vertebrates; marine ecology; primary production in the sea; estuaries; plankton; nektron; marine mammals. Prerequisite: Permission of the instructor and BIO-101Q. Lecture and field investigations. (Course conducted in part at a marine field station.) Four semester hours. (LS.)

ENV/BIO-394 **Watershed Investigations & Actions** (Dr. Goddard) This course combines class time, research, and community action. Scientific and historical aspects of the Darby Creek watershed examined will include a brief survey of creek flora and fauna and physical properties (limnology), land development directly adjacent to the creek starting in the U.S. colonial period and the industries along the creek that lead to the declaration of a Superfund Site along the creek. Laboratory research is an investigation of pollution in a species of creek fish. Community action is a survey of pollution-indicator macroinvertebrate species with elementary schools throughout the watershed. Prerequisite: BIO-201W; or permission of the instructor. Two hours of lecture and 7 hours of laboratory/community action per week. Four semester hours.

ENV/BIO-415W **Ecology** (Dr. Small) Studies of the interrelationships between organisms and their environments that determine their distribution and abundance in natural systems. Aspects of energy flow, biotic and abiotic limits, population growth and community organization are considered in the context of the ecosystem. Laboratories include local field work and emphasize techniques for collecting and analyzing data. Prerequisites: BIO-101Q and 102Q and 201W, or permission of the instructor. This course fulfills the ENV capstone requirement. Three hours of lecture, three hours of laboratory per week. Four semester hours. (LS.)

ENV/CHEM-101 **Introduction to Environmental Chemistry** (Faculty) This course, intended for non-science majors, will examine selected topics in environmental chemistry through an understanding of basic chemical principles. Topics may include global warming, ozone depletion, pollution, and waste management. Three hours of lecture. Three semester hours. (LS if taken with CHEM-101LQ.)

ENV/CHEM-101LQ **Laboratory in Introductory Environmental Chemistry (**Faculty) Laboratory work related to CHEM-101. In addition to mastering basic chemistry laboratory skills, students will analyze air, water, and soil samples using a variety of techniques. Prerequisite: CHEM-101 (or concurrently). Three hours of laboratory per week. One semester hour.

ENV/ENGL-262 **The Environment in Literature (**Faculty) Students in this course will study literature inspired by a variety of environments. Readings will range from classic essays "Nature" by Emerson and "Walking" by Thoreau to Terry Tempest Williams' 1991 environmental/autobiographical study, "Refuge: An Unnatural History of Family and Place." Ecocriticism, the study of the relationship between literature and the physical environment will provide the theoretical framework for the course. Writing for the class will be half-analytical (critical responses to texts), and half-original, creative student writings about their own environments. Prerequisite: CIE-100. Three hours per week. Four semester hours. (H.)

ENV/GEOL-102Q **Geology: The Earth Around Us (**Dr. Joseph, Faculty) This course examines the current state of knowledge about the Earth and investigates the forces and processes that shape it. Topics include the formation of the Earth and solar system, the materials that comprise the Earth, the forces that currently act on, around, and within the planet, and the relationship of these forces to the processes and features we observe and/or experience at the Earth's surface. To address complex and dynamic geologic processes, this course utilizes knowledge and methods from several disciplines in addition to geology, including biology, math, physics, and chemistry. Three hours of lecture and three hours of laboratory per week.

Four semester hours. (LS.)
ENV/GEOL-105Q **Environmental Geology** Dr. Joseph, Faculty An introduction to environmental geosciences. Includes a study of the earth's environmental systems: lithosphere, hydrosphere, atmosphere, mineral resources, weathering, soils, rivers and flooding, ground water, climate, oceans and coastline erosion, energy sources, human populations, and environmental change. Three hours of lecture and three hours of laboratory per week. Four semester hours. (LS.)
ENV/PHIL-248 **Environmental Ethics** (Dr. Sorensen) The central issue in environmental ethics concerns what things in nature have moral standing and how conflicts of interest among them are to be resolved. After an introduction to ethical theory, topics to be covered include anthropocentrism, the moral status of non-human sentient beings, preservation of endangered species and the wilderness, holism versus individualism, and the land ethic. Three hours per week. Four semester hours. (H.)
ENV/POL-326 **Environmental Law** (Dr. Kane) The study of various state, national, and international legal patterns that have arisen to address environmental concerns. The environmental field will be used to examine the nature and effectiveness of civil, criminal, and administrative action to address a complicated and important social issue. Topics will include federal administrative law; international trade and environmental regulation; control of toxic substances and hazardous wastes; the impact of scientific uncertainty on regulation; federal regulatory programs; civil liability under federal regulations; citizen suits; and the preservation of natural areas. Prerequisites: POL-218 for Politics and International Relations majors or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/PSYC-282 **Environmental Psychology** (Faculty) Study of the interrelationship between human behavior and experience and the manmade and natural environments. Topics include: influences of weather, climate, noise, crowding, and stress; personal space and territoriality; work, leisure, and learning environments; the natural environment and behavioral solutions to environmental problems. Prerequisite: PSYC-100. Three hours per week. Four semester hours. (SS.)
ENV/SOC-220 **Environmental Justice (**Dr. J. Clark) This course will examine how the burdens of local and global environmental problems are distributed across race, class, and gender. Through the examination of local, national, and international case studies, we will gain an understanding of how the risks associated with exposure to toxic pollutants and other environmental hazards coincide with pre-existing patterns of inequality, both globally and in the United States. Close attention will be paid to the political-historical processes through which the distribution of environmental hazard has been produced, and how affected communities have resisted these processes. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/SOC-285 **Environmental Sociology** (Dr. J. Clark) This course will introduce the field of environmental sociology – the study of interactions between humans, groups and the environment. Students will become familiar with a variety of theoretical frameworks for analyzing environmental problems and apply them to a range of environmental issues scaled from the local to the global. Participants will emerge with a critical ability to analyze popular accounts of environmental problems and proposed solutions with a sociological eye. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/SOC-288 **Animals & Society** (Dr. J. Clark) In recent years there has been an explosion of research in the humanities and social sciences on what has come to be called the animal question. This course introduces students to the interdisciplinary field of animal studies, with a particular focus on the sociological literature. Students will emerge from the course with a nuanced sociological understanding of some of the most controversial issues raised by our relationship with other animals. Among the issues we will explore are genetic engineering, factory farming, animal experimentation, and the war on "animal rights terrorism." Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours. (SS.)
ENV/SOC-290 **Science, Technology, and Society** (Dr. J. Clark) Society shapes science and technology, which, in turn, help make society what it is. This course introduces students to the interdisciplinary field of Science and Technology Studies (STS). Students will emerge from the course with a sociological understanding of science and technology. Though the course will focus mainly on biotechnology, it will give students a theoretical toolkit that will help them understand other areas of science and technology as well. Prerequisite: any 100-level course in Anthropology or Sociology or permission of the instructor. Three hours per week. Four semester hours.(SS.)
FRENCH 201 (Colette Trout) This class has a unit that focuses on notions and vocabulary in French about ecological issues. Students are informed about what was been done at UC to have a green campus. Though this course is not cross-listed with ENV, it does focus on sustainability.

Appendix F: Ursinus - Sustainable Office Guidelines

Back to Table of Contents

This is not meant to be an exhaustive list, but a set of ideas and guidelines. If you have questions or ideas to add to this list, please contact the Office of Sustainability at sustainability@ursinus.edu.

Policy & Planning

- Develop a list of actions that the department is willing to implement toward improving their sustainability, e.g., printing fewer documents, lowering their paper use, adjusting all departmental computer settings to print double sided as the default.
- Participate in the OS's Green Certification Program, once it is established.

Power Usage

- Centralize devices by plugging them into a power strip, and then turning them off at the end of the day with the flip on a single switch
- Unplug devices and appliances that you seldom use
- Reduce your use at night, over weekends, and holidays by unplugging them.
- Turn off all lighting and electronic devices when not in use.
- Get rid of energy intensive water coolers. Replace with tap water cooled in a refrigerator (or drinking fountains with bottle attachment).

Responsible Consumption

- Instead of using disposable cups (especially polystyrene), ask everyone in the office to bring in their own mug/cup to keep in the office. The mugs/cups just need to be rinsed out at the end of the party.
- Avoid the use of "hard to recycle" materials such as packaging made from StyrofoamTM (polystyrene).
- In the lunch/break room, replace disposables with reusable kitchenware (e.g., mugs, utensils, etc.) and use refillable containers for sugar, salt & pepper, etc. to avoid individual condiment packets.

- For office functions, utilize reusable kitchenware.
- If tea and coffee are provided, make sure they are Fair Trade certified and have low environmental impact (e.g., organic, shade grown, etc.)
- Reduce paper use in the bathroom (toilet paper, paper towels) using informational signage, dispensers that regulate sheet length, etc.
- Prohibit the use of bottled water for office functions.
- Reduce use of products wherever possible and implement sustainability practices in everyday operations.
- Print promotional materials with low or no-VOC inks.
- Designate a sharing and reuse area for office supplies such as binders, folders and staplers.
- If office has a water cooler with disposable cups, use paper cups that can then be recycled.

Paperless

- Whenever possible, use online filing, resources, communication, storage, document exchange. This will save money on paper, printer ink and energy use as well as saving physical storage space.
- Distribute documents digitally whenever possible (make use of scan and send options or make PDF documents and email); when printing is required, print official documents double-sided on recycled, recyclable paper
- Eliminate or redesign forms to use less paper; or switch forms (such as invoices) to electronic format.
- Design marketing and outreach materials that use less paper – such as e-newsletters.
- Conduct more meetings without paper
- For drafts and internal documents, print on previously printed paper; designate a draft printer tray; and/or reuse office paper as scratch pads.
- Send all meeting materials, including agendas, to meeting attendees ahead of time. Set the expectation that attendees will bring their computers with them, if possible, to the meeting (or ask them to let you know if they will need paper copies).

Computer Power Management

- Don’t use a screen saver

- When buying a computer, look for the ENERGY STAR label
- Turn down the brightness setting on your monitor
- Close unused applications and turn off your monitor when you're not using it
- Turn off peripherals such as printers, scanners, and speakers when not in use

Staff Education

- Incorporate sustainability into staff meeting discussions.
- Offer brown bag lunches and workshops with sustainability as a focal topic.
- Elicit staff input into greening the workplace through surveys, suggestion boxes, or other means.
- Hold an annual think tank meetings to strategize about sustainability within the department. Invite students to participate in these discussions.
- Highlight sustainability efforts on your office's website.
- Post educational information in your office space or building about steps you are taking to be a sustainable organization.
- Provide opportunities for employees to learn about greening their personal lives.
- Use signage at light switches reminding staff to turn off lights.
- Put up signs at elevators to encourage the use of stairs.
- Offer in-house training to help staff change old practices so that lights get switched off, waste is recycled/reused, etc.
- Purchase books about sustainability in your particular department. Keep the books somewhere that they can be accessed easily.
- Consider conducting training, in conjunction with Office of Sustainability staff members, around recycling. This should include what can be recycled and what the limitations of the recycling program are (contamination).

Transportation

- Calculate and track travel expenses and the related carbon footprint for each office. Determine if this travel is cost effective for the College (both monetarily and with regard to the related GHG emissions)
- Consider purchasing carbon offsets in the amount of air travel-related emissions related to faculty and staff business travel.

Appendix G: Ursinus Green Events Guidelines

Back to Table of Contents

When organizing an event, please consider adopting some or all of these "green" guidelines to help lower the impact that your event has on the Earth. Did you know that the plastic utensils that are thrown away after one use don't break down for hundreds of years? Your grandchild's grandchild's grandchild could come across a fork that you used once at a party! As an alternative, use reusable utensils, plates, and glasses and help lower your environmental impact. Below you will find guidelines for organizing and implementing "green" events. Good luck!

- Advertising
  - Print advertising for your event on recycled paper with soy-based inks.
  - Send invitations out digitally rather than printing and sending them through the U.S. mail.
  - Make information available online.
  - Allow for online RSVPs
  - Claim your glory – advertise your event as a "Green Event"
- Carbon Footprint
  - Work to decrease the carbon footprint of all campus events. This could include any of the following (or others):
    - Vegetarian food
    - Local and/or organic food
    - No plastic water bottles
    - Recycled paper in any printed materials (with a statement to that effect)
    - Reduce travel required for the event
    - Use reusable tableware and serving dishes
- Composting
  - Work with Sodexo and/or other caterers to ensure that composting takes place at your campus events.
  - Compost all food, paper napkins, paper plates.
  - Encourage guests to participate in our composting efforts. It will help us and will help them feel that they are part of our cause.

- Event goods
    - Give priority to:
        - Reusable dishes, utensils, glasses
        - Washable linens (napkins and table cloths) rather than disposable.
        - Consider serving finger food rather than foods that require utensils.
    - Rent items that you need for your event rather than purchasing and throwing them away).
    - Ban Styrofoam cups and plates from your event.
    - Use paper plates rather than recyclable plastic plates if at all possible. These can be composted.
    - Use compostable utensils rather than throw-away plastic utensils.
- Food
    - Work with Sodexo and/or other caterers to provide organically grown foods (including vegetables, meats, dairy products) whenever possible and feasible.
    - If tea and coffee are provided, make sure they are Fair Trade certified and have low environmental impact (e.g., organic, shade grown, etc.)
    - Work with Sodexo to ensure that food provided is grown on farms that are committed to protecting the human rights of their farm workers.
    - Work with Sodexo and/or other caterers to provide whole foods that are prepared by the caterer (rather than processed foods that are reheated).
    - Serve only tap water (no bottled water, which contains toxic chemicals and creates trash and/or recycling).
    - Offer water bottle refill stations (or allow guests to refill their water bottles/glasses from pitchers that are at the event).
- Recycling
    - Work with Sodexo and/or other caterers to ensure that recycling takes place at your campus events.
    - Provide recycling bins for staff to use as well as for guests.
    - Recycle all glass bottles, plastic bottles, recyclable plates and cups
    - Encourage guests to participate in our recycling efforts. It will help us and will help them feel that they are part of our cause.
- Signage at Your Event

- Post signage to clearly indicate what can and cannot be recycled. (Digital versions of this signage will be available from the Office of Sustainability's website.)

Caterer

- Request of the event caterer that recycling containers be made available at all events. Recycling bins should be larger than trash receptacles to provide a visible illustration of the campus' commitment to sustainability.
- Request of the event caterer that, for events where food is served and taken away by staff, that a composting container be provided and that food be composted by Sodexo staff. Materials put into the compost would then be added to our compost at Wismer.
- Request of the event caterer that all food-related materials used at events be reusable, compostable or recyclable.

Appendix H: Ursinus Green Purchasing Guidelines

Back to Table of Contents

The following Green Purchasing guidelines are meant to serve as a starting point. They reflect some good practices. If you have suggestions for amending this list, please email them to: sustainability@ursinus.edu

- Beginning the green purchasing process:
  - Identify one person who can help facilitate green purchasing within the department.
  - Track green purchases for future planning and assessment (set up attributes for sustainability aspects)
  - Work with the OS to find sources for materials that are needed.
  - Create a list of preferred vendors based on environmental criteria and purchase from them when possible.
  - Encourage purchasers to consider whether existing items can be used rather than purchasing new items, including sharing or renting as options.
  - Use whole life costing rather than awarding contracts on the lowest price basis.
  - Source giveaways that are recycled whenever possible, including t-shirts, reusable water bottles, pens, paper and other products.
  - Focus on purchases that involve products that have high environmental impact, are expensive, and/or are easily influenced (biggest bang for the buck).
- Before purchasing, ask:
  - Does another department have a surplus that they would be willing to share?
  - Does another department have a surplus that they are not using?
  - If there is an existing item, can it be easily/economically repaired (rather than making a new purchase)
- Prioritize purchasing products that are:
  - Locally produced
  - Locally sold by local business
  - Energy Star rated
  - Durable and well made (built to last)
  - High in recycled/reused content
  - Made from materials that are easily taken apart and are then recyclable at the end of their life

- Reusable and/or refillable
- Easily repaired (in whole or in part) rather than having to be replaced.
- Water and energy efficient
- Made from sustainably managed timber products (e.g., both Lowe's and Home Depot sell products that are certified by the Forest Stewardship Council (FSC)).
- Made from natural materials with no or low-VOC; never purchase teak or other woods that are unsustainable forested.
- Can be bulk ordered/shipped
- Shipping materials are compostable, recyclable, or reusable, and/or the vendor is willing to take back and reuse the packaging.

Appendix I: Ursinus Sustainability Projects/programs that Originated in Academic Courses

Back to Table of Contents

Sustainability projects and programs that originated in academic courses

Type of Project	Sustainability Project/Initiative
Sustainability Projects that Resulted **from** Courses (all approved by Academic Council)	• Organic Farm • Constructed Wetland • Recycling Program • Sustainable Move-In • Sustainable Move-Out • Climate Action Plan (first draft) • Greenhouse Gas Inventory (first year) • Green Roof project on Pfahler • UCompost – residential hall composting (this program is not currently functioning) • Trayless System in the dining hall • Reduced packaging in the Dell laptop shipments; bundling of computers; switch from Styrofoam packaging to compostable bamboo packaging • Development of Science in Motion curriculum on Climate Change for students at local schools • Hunsberger Woods Restoration Plan – project that allowed the College partnered with the local government and NGOs. Included tree planting, rain garden creation, stream restoration. • American Chestnut Foundation Partnership to plant a research orchard of chestnuts. Part of program to develop blight resistant chestnut trees. (This project has not yet been implemented) • Local foods banquet • Plastic water bottle free campus policy (Though this is no longer the case on campus, we are working toward

	reducing the number of disposable plastics used on campus.) • Climate Action Club in Springford School District. • ENV has worked with the Facilities Services Department to expand the student-run organic farm to include an orchard, fruits/vegetables, bees, chickens, a community garden, and a stall at the local Farmers' Market. • ENV faculty is working with the Facilities Services Department to design and implement an an ethnobotany garden on campus, possibly starting in one of our existing planting beds. • Tree planting on campus • Tree mapping project for campus. • Bat & bird houses installed and maintained • Organic Dinners* • Environmental Speaker Series. This is run by faculty who bring in speakers during the academic year. Past speakers include: Wendell Berry, Anna Lappe, Frances Moore Lappe, Manny Howard, Katie Tripp, Scott Wiedensaul, and Douglas Tallamy, among many others.
Sustainability Projects that Continue to be Used in Academic Courses	Recycling program Composting Organic Farm Hunsberger Woods Restoration Plan Ethnobotany garden Farmers' Market Constructed Wetland
Courses that Incorporate Sustainability Concepts	There are over 45 courses offered in the UC curriculum in 11 departments that address sustainability in some way. (see complete list of sustainability-related courses in Appendix E).

Appendix J: Ursinus Sustainable Living Guide

Back to Table of Contents

Energy

- Lighting
  - Replace incandescent bulbs with CFLs.
  - Fact: A fluorescent bulb uses 66% less energy and lasts 10 times longer than an incandescent bulb.
  - By replacing one incandescent light bulb with an energy-saving CFL light bulb, you prevent 1,000 pounds of carbon dioxide from being emitted into the atmosphere, and you save $67 dollars in energy costs over the bulb's lifetime. [29]
- Passive solar heating/cooling.
  - Use drapes to help heat/cool residential rooms. Sunlight is our most efficient source of energy. Here's how it works:
    - In cold weather: open drapes and allow the sun to warm your room – even in winter; close drapes at night to keep warmth in.
    - In warm weather: close drapes (and shut your window) to keep hot sun out/cool air in; at night open up the windows and let the cool air in – use a fan to help draw in fresh cool air from outside.
- Fans vs. A/C
  - Bring a window fan to school with you. It will blow a breeze around your room, cooling you off, while allowing you to wear shorts/tank tops (etc) and not be too cold in your room! Fans use MUCH less electricity, and allow you to remember what season your are in.
  - Make sure you head over to the Facilities office to request a window screen if you bring a fan. You don't want a bat to fly into your room! (yes, they do sometimes fly into open windows!!)
- Appliances
  - Limit the number of appliances in your room. Share TVs, microwaves, mini-friges.
  - Use only Energy Star rated appliances.
  - Unplug appliances and cell phone chargers that are not used regularly (and then only plug them in when you need them; some continue to

[29] http://www.housing.berkeley.edu/green-rssp/rssp_green_sustain.html

consume power even when turned off. This burns out the unit faster and heats up the space around it.
    - Plug all your regularly used appliances into a power strip. Turn that off at night so save electricity use called the "phantom load" of electricity use… power that is being used for no reason by appliances that are just waiting to be used.
- Computers
    - Turn off the screen saver function. These do not "save" your screen (that was for several technologies ago). They do use more energy than Sleep mode does.
    - Set your computers energy use settings to low. Check with IT for help with these settings.
    - Turn your computer off when you are not using it.
- Feng Shui – sort of
    - Keep furniture away from the heating and cooling vents to ensure that air is free to flow from the vent. This allows cooled or heated air to reach your room for efficiently.
- Clothing
    - Dress appropriately to the season: wear sweaters in the winter; wear lightweight clothing in the warmer months.
- Laundry
    - Wash your clothes in cold water (in addition to not having to heat the water, it helps your clothes last longer and look better and reduces shrinkage)
    - Line dry your clothes. Invest in a clothes drying rack and hang your clothes in your room.

Food & Drink

- Dining services currently purchases most of it's food within a 75 mile radius of our campus – so rejoice!
- Eat lower on the food chain. Vegetarian meals require much fewer natural resources to produce than meat-based meals.
- Eat organic! Lobby your food service provider to provide more organic food options and to label them as such.
- Avoid drinks delivered to you in plastic. Did you know that it takes over 2 liters of water to produce the bottle that is used for **every** plastic water bottle…and that doesn't include the water in the bottle!

- BYOB – Bring your own Bottle. And make it a stainless steel bottle if you can…you don't want those plastic chemicals leaching into your water!
- Fill your metal water bottle at one of the three water filling stations on campus (there are two in Wismer; one in the Myrin Library). Ask the College to add more of these. If they know you care, they'll be more likely to prioritize it!
- Compost all your food. Dining Services makes this easy to do: composting happens behind the scenes, but you can do your part by putting your paper napkins and food boats on the conveyor belt in Upper Wismer. They can get composted right along with the food! And if you're really motivated, collect your food waste in your room and bring it with you to Wismer to compost (no plastic bags though).
- Vending machines. Our vending machines are on Vending Misers (they turn off when no one is around), but the food out of vending machines is still low quality. Make healthy choices with your money.

Paper

- Reuse paper (turn it over!)
- Don't print multiple drafts of papers – edit on your computer and print only the final.
- Even better: ask your professors if you can turn your paper in electronically.
- Encourage the faculty in your major to adopt paper-free classes (turn in all papers electronically).
- Fact: The average college student discards (to a landfill) 320 pounds of recyclable paper each year. This means that 6.25 students could recycle 1 ton of paper each year with staggering results:
    - One ton of recycled paper will save:
    - 17 Trees
    - 7,000 Gallons of water
    - Enough energy to heat an average home for 6 months
- We have 1,750 students at Ursinus College. If every student at UC recycled their 320 pounds of paper annually, we could save the following amount of resources:
    - (1750/6.25) = 280 tons of paper recycled
        - 280 x 17= 4,760 Trees Saved
        - 280 x 7,000= 1,960,000 Gallons of Water Saved
        - 280 / 2= 140 Homes could be heated for one year

- The entire Ursinus College population (students, faculty, and staff) is 2,200 people. If every student at UC recycled their 320 pounds of paper annually, we could save the following amount of resources:
    - (2,200/6.25) = 352 tons of paper recycled
    - 352 x 17= 5,984 Trees Saved
    - 352 x 7,000= 2,464,000 Gallons of Water Saved
    - 352 / 2= 176 Homes could be heated for one year

Purchasing

- Before you arrive, consider what you'll need to bring. Here's our Green Purchasing Guide for College (this is not an exhaustive list, just some suggestions):
    - Recycled paper, notebooks, etc.
    - Pens that are refillable
    - Pencils that don't have plastic shells…regular wooden pencils are more sustainable!
    - Bike – bring your bike from home. Or join Bikeshare for $10/year and use one of ours!!
    - Fan – to cool your room off
    - Clothes drying rack
    - Environmentally sensitive laundry detergent
    - Organic cotton or bamboo sheets
    - Storage totes that can be used all year (instead of just for transporting to and from school)
    - Reusable bags for shopping (just say "No Thanks!" to plastic bags at **every** checkout you come to)
    - A set of take-out containers for when you go out to dinner and have leftovers.
    - Stainless steel water bottle and a bottle brush to clean it
    - One or two place settings of reusable utensils and plates/bowls to use in your room.
    - Insulated shades or drapes for your window to keep hot sun in or out (depending on time of year)
    - Sweaters, socks, blankets for cold weather.
    - CFL light bulbs
    - Energy-star appliances, if you must bring appliances. Make sure you collaborate with your roomie to make sure you're not duplicating.
    - Power strips – one for things you don't often use; one for things you use all the time.

Transportation

- Join UCBikeshare and ride to local destinations.
- Use public transportation when possible (SEPTA buses run past campus frequently)
- Bike or walk instead of driving.
- Carpool to go to local attractions like the King of Prussia Mall or local movie theaters
- Leave your car at home

Water:

- A five-minute shower uses between 25-50 gallons of water; shorten your shower by one minute and save 5-10 gallons.
    - If every UC student shortened their daily shower by a single minute, we would save 1,960,000 gallons of water over the course of the 32-week academic calendar.
- Turn the water off when you brush your teeth or shave.
- If you live in an apartment, don't run your dishwasher until it is full.
- Throw your food waste in the compost instead of using the trash.
- Watch for leaky faucets, showers, or toilets and enter a work order as soon as you notice one. A leaky faucet can waste 200 gallons of water a month.
- Wash your clothes in a full load of laundry (not a load of just one or two items of clothing).

Get Involved:

- Join a student club that is involved in environmental themes, like UC Environmental Action.
- Apply to work with one of the Office of Sustainability's student groups:
    - UCGreen Sustainability Fellows
    - EcoREPs
- Join UCBikeshare and ride a bike.
- Become an RA and apply to work on the Sustainability Committee
- Encourage the other clubs and activities that you are involved with to embrace sustainability concepts in their actions or activities.
- Encourage your professors to allow electronic submission of papers.

- Participate in the OS's Green Certification Program for Residence Hall Rooms (once in place).
- Write to your local, state and federal elected officials about environmental and/or sustainable topics that are important to you.
- Volunteer at a local environmental organization. Many local organizations have summer internships available.

Appendix K: Ursinus Facilities Equipment

Back to Table of Contents

Updated 1/27/2012

Year Purchased	Make	Model/Description
	Rogers	Leaf Sweeper
	Jacobson	6 Gang Mowers/Frames
1990	Case/IH	Diesel Tractor
		Gang Rollers
	Power	Roller Lawn All AR1 14-62
	Onan	Portable Generator (Trailer)
1985	Yale	Fork Lift #2P28
1985	York	Rake
1985	Wood	Dixie Mower M5-4
1985	ARPS	Model 90 3 PT Hitch Backhoe
	Karcher	Elect. High Press. Sprayer HD820
1985	Turfco	Top Dresser F12B
1987	Case/IH	Diesel Tractor - 385 UT
1987	Case/IH 485	Utility Diesel Tractor\Loadbuc
1987	Jacobson	Turfcat II DW 224
1989	Heinke	Tornado Chipper Grinder-CG650
1991	Mitsubishi	SF27-D 4 WL. Might MIT w/CAP
1992	John Deere	F935
1992	Case/IH	1862 Cub Cadet
	Telescope	
	Coin Changer	
1996	Ditchwitch	2200 Trencher
1996	Hanson	52" Snowblower - T422D
1996	Ariens 12 H.P.	924085 36" Self Prop. Snowthrow
1994	CAB	For Turfcat
1996	Mighty Mac	PS350T 50 Gal. Sprayer
1995	Vicon	PS203 Spreader Seeder
1994	Cub Cadet Diesel	1782 #144-714-100/54" Mower DK
1994	Cub Cadet Diesel	1782 #144-714-100/54" Mower DK
1994	Case IH	2250 Mount O Matic Loader/BKT.
1996	Cub Cadet	44A Used Mower Deck for 1811
1994	Cub Cadet	54" Snow Blades
1994	Cub Cadet	54" Snow Blades
1994	Cub Cadet	190401 Snow Blades
1994	Cub Cadet	190401 Snow Blades
1994	Cub Cadet 8 HP	826T Snowthrower
1994	Cub Cadet 8 HP	826T Snowthrower

1994	Vicon	P50005G2 Salt Spout
1994	Yamaha	Recond. Gia Golf Cart
	Turf Cat	72" Mower Model 66119
	Cub Cadet	42" Snow Blade
1994	Vicon	PS403DM Seed Spreader
	Cub	54" Mower
	Cub	54" Mower
	Cub	54" Mower
	Cub	54" Mower
	Myers	Turfline Sprayer-1 Piston Pump
	Roto-Hoe	Tiller, Model 904
	Delta	Bench Grinder
	Giant	Vac Push Blower (Mag 8)
	Giant	Vac Push Blower (Old 8)
	Giant	Vac Self-P Vac. Model 1780-K
	Jacobsen	Seeder (Self-P) Model 524
	Jacobsen	Areator/Seeder 3 PT. Model 548
	Line Pro	Line Painter
	Shin Daiwa	Back Pack Blower EB-45
		CP-E Pump Sprayer
	Nelson	Rain Train Model 8401
	Muchinex	Dump Trailer
	Parker	Trial Vac
	E-Z Vac	Trail/Vac
	Water Wagon	101 GAL (3 Piston Pump_
	Myers	Truch Plows 7' - (2 of them)
		Snow Chains- 16", 1 Set
	AMT	3" Mud Pump, Model 335
	AMT	2" Trash Pump Model 3930-96R
	Solar	200 Battery/Engine Starter
	Super Pro	800 Exp System
	Little Wonder	Hedge Trimmers
		Tire Machine (Manual)
	Miller	M-180 Elect. Welder
	Ames	Hose Wagon
	Ames	Hose Wagon
	Stihl	Blower BG-72
	Stihl	Blower BG-72
	Stihl	Blower BG-72
	Stihl	Weedeater
	Stihl	Chain Saw
1992	Cub Cadet	20" Push Mower 072R112/072
1992	Cub Cadet	20" Mulching Mower 098R112
	Power	Pole Saw TT21A
	Karcher	Gas Power Washer HD-950
	McCulloch	Pro-Scraper 11-HD
	Black & Decker	5/8" Drill
1994	Turf Cat	SHT-20 M-B Sweeper Attach.
	Sodmaster	Bantam Model J-12

	Scott	Push Spreader
	Fisher	Push Spreader
	KIFCO	Water Reel B-140
	Pallet Jack	BT- Litter
1998	Club Car	Golf Cart, gasoline (Used)
1999	Stihl	F585 Weedwacker
2001	Trynex SP-1075	10.75 CU Salt Spreader with Mount
2001	Ariens	924506 ST1336 Snowblower
2001	Kubota	L3010D 4 Wheel Drive Tractor
2001	Kubota	RC72-29A 72" Mower
2001	Kubota	L2174 61" Two Stage Snowblower
2001	Sims	Cab for 3010 Kubota Tracto
2001	Club Car	Carry All Utility Vehicle
2001	Edge-R-Rite	N2S/P TF8F303
2002	Bobcat	S185 Bobcat Loader
2002	Bobcat	30C Bobcat Auger
2002	Bobcat	84" Bocat Snowblade
2001	Tennant	Model 7200 Disk Brush Bat.Scrub
2002	Turf 2	RG02 Golf Cart
2004	Villager 4	TG04 Gasoline Golf Cart w/canopy
2004	Turf 6	Gasoline Utility Vehicle VGo4 w/cab
2004	Villager 4	Gasoline w/canopy top & windshield
2003	Curtis	8.5' Power V Plow
2003	Stahl	BG85 Blower
2003	Echo	SRM260S Trimmer-Solid
2003	Echo	PB200 Blower-Handheld
2003	Echo	Deep Root Auger
2003	Echo	EDR260 Gas Drill
2004	Scag	STT29KA 29EFI Power Mower
2004	Scag	SMSST72A 72" Tiger Deck
2005	Stihl	Blower Model BG65C
2005	Scag	Sabor Tooth Tiger Rider Model STT31BSD
2005	Scag	72 " Tiger Mower Deck Model SMST72
2005	Scag	Striper Kit Model SGU9269
2005	Carryall 2	2005 Gasoline Pick-up Utilitiy (Golf Cart)
2005	Carryall 2	2006 Electric Golf Cart w canopy & enclos
2005	Genie (Scissor)	Push Around Personnel Lift Model AWP40S-DC
2005	Kubota	RTV900W-H Utility Vehicle
2005	Kubota	Soft Side Cab
2005	Kubota	72" Blade
2005	Trynex	375 Spreader SP-375
2005	Boss	7'6" Super Duty w/RTC Plow
2006	Blower	RMUEBZ8000 Blower
2006	Power Pruner	ECUPPT260 Power Pruner
2006	Line Trimer	ECUSRM261T Line Trimmer
2006	Honda	Rotary Mulching Mower 21" Self Propelled
2006	Vantage	VV-08-06 Model C1000-AT Van Go Cargo Van
2007	Carryall 6	2007 Carryall 6 Electric Flat-bed Utility Vehicle
2007	Carryall 6	2007 Carryall 6 Electric Flat-bed Utility Vehicle

	John Deere	Gator - Small mower for fields donated
2007	Scag	Turf Tiger Model STT61V27CH
2007	Honda	Walk Behind Push Mower Model HRS216K3SDA
2007	Echo	Hedgetrimmer 20 ECUHC150
2007	Curtis	Curtis Soft Sided Cab for 6x4 Gator Heater
2007	Boss	76" Super Duty Boss Plow
2008		Blade Grinder 1 Hp. SIL88-018
2008		GSTT-61V Bagger
2008		Blower
2008		Line Trimmer
2008	Leinbach	Pulverizer 60" LYT51
2008	Fimco	UTL-40-12V 40 Gallon Utility Sprayer, 12 Volt
2009	V-Max	8500 8' long Spreader
2009		BM18522 72" Front Blade
2009		Trimmer
2009	Ariens	Snowblower ST-1028, 10 HP
2010	Ariens	Snowblower ST26DLE Model 926037
2010	Tiger Cat	72" Diesel Deck
2010	Tiger Cat	Tiger Cat Diesel
2010	Echo	Bed Redefiner Flower Bed Edger BRD-280
2011	Ariens	Snowblower ST26DLE
2011	Kubota	Utility Vehicle RTV900W9-H
2011	Subaru	Blower
2011	Super Duty	Plow RT3

Appendix L: Ursinus Main Buildings List

Back to Table of Contents

Campus buildings, by year, size, average kWh/sq.foot, facilities, and programs served.

Building Name	Year Built	Square Footage	Building Facilities	Programs (if applicable)
Bakes Athletics Center	2001	126,329	The recently renovated facility contains a state-of-the-art fitness center and weight room, a 200-meter indoor track, indoor tennis courts, dance studio, three full-sized basketball courts, spacious locker rooms and team rooms, wrestling room, classrooms, regulation collegiate-sized swimming pool, racquetball court, gymnastics space and the Helferrich gym	Houses the academic department of Exercise and Sport Science and the Department of Athletics and is home to the colleges intramural sports teams
Berman Museum	1921, 2010 (ad'n)	15,447	An art museum and multipurpose space that is used for seminars, lectures and films; a non-circulating art library; three separate exhibition galleries; and complete storage and work areas. Henry and June Pfeifer wing was added in the spring of 2010 and includes a lecture hall, a paper works room, and an outdoor sculpture terrace. Building was formerly a library.	Fine arts museum with exhibition and research spaces. Departments of Art and Art History use this space for classes and exhibits. The space is also used for special events.
Bomberger Hall	1891 (2009r)	20,746	Classrooms, offices, meditation chapel, large auditorium, Heefner Memorial Organ, the second largest organ in Pennsylvania.	Departments of Economics and Business Administration, Anthropology and

				Sociology, Career Services, Campus Chaplain, the Education Department, and Music.
Corson Hall	1969	23,148	Administrative offices	Admission, Advancement, Business Office, Human Resources, President's Office, and Student Financial Services
Kaleidoscope Theater	2005	60,271	Two theaters (black box and a 350-seat proscenium arch theater), dance studios, prop & costume shops, set construction, atrium, green rooms, dressing rooms, classrooms, offices, teaching support space and a gallery and art work space	Houses the Theater and Dance Department. Is used by art students for work and exhibit space. Is also used for special events and is rented to outside groups for events.
Myrin Library	1970	41,640	Book storage (420,000 volumes), lending library,study space for up to 500 people, coffee shop, computing center, offices.	In addition to the library's holdings, Myrin houses the College's Academic Computing Center, the Pennsylvania Folklife Archives, the Ursinusiana Collection of College-Related Artifacts, and

				the offices of the Academic Support, College Communications and Information Technology
F.W. Olin Hall	1990	31,937	Contains a 400-seat lecture hall, a 63-seat tiered classroom, a 42-seat tiered classroom, the college's writing center, eight traditional classrooms and four seminar rooms	Departments of English, History, Modern Languages, Classics, and Philosophy and Religion
Pfahler Hall	1932, 1998r	72,322	Science labs, classrooms, offices, dark room, auditorium, meeting rooms, student work spaces,	Chemistry, Computer Science, ENV, Geology, Mathematics, Physics
Ritter Center	1927, 1980	25,759	An art studio, a television studio, classrooms, auxiliary rooms, offices,	Houses the Media and Communication Studies and Art Departments, and the College's Copy Center.
Thomas Hall	1970, 1991r	34,005	Science labs, classrooms, offices	Biology and Psychology departments
Unity House	1928	2,030	Offices, meeting space, classroom	Multicultural Services, Crigler Institute
Wellness Center	1955	2,652	This building is a converted home and includes offices and examination rooms.	Student Health
Wismer Center	1965, 2009-2011r	59,989	dining facilities, social lounges, an office complex for student activities, retail space, a convenience store, an entertainment room and a	Dining Hall, Zack's, Bookstore, Dean of Student's Office, Residence Life

			multipurpose lounge	Offices, UCARE, Sodexo offices, Student Leadership Offices
Residential buildings - 43	Var.		Consists of approximately 30 houses in a variety of sizes, the majority of which are located on Main Street. All include laundry rooms, common areas, and kitchens	See Appendix M for a list that includes these buildings as well as their square footage and number of residents.

Appendix M: Ursinus Building List, by Type

Back to Table of Contents

Campus Buildings, by type.

Type	St #	St Name	Building Name	Usable Sq. Ft.	Total Sq. Ft.	Construction Date	# of Residents
Academic - Art Studios	511	Main Campus Dr	Ritter Hall & Art Studio	25,759	25,759	1927	
Academic - Classrooms	508	Main Campus Dr	Bomberger Hall	34,042	40,642	1891	
Academic - Classrooms	506	Main Campus Dr	Olin Hall	31,937	45,467	1990	
Academic - Science	610	Main Campus Dr	Pfahler Hall	72,322	72,322	1922	
Academic - Science	700	Main Campus Dr	Thomas Hall	34,005	48,626	1970	
Academic - Theater	612	Main Campus Dr	Kaleidoscope Theater	51,622	60,271	2005	
Administrative Offices	502	Main Campus Dr	Corson Hall	23,148	23,148	1969	
Art Museum	504	Main Campus Dr	Berman Art Museum	18,447	26,833	1921	
Athletics Center	701	Main Campus Dr	Bakes Center/Helferich Gym/Field House	126,329	184,934	1972, 2001	
Dining Hall/Student Center	509	Main Campus Dr	Wismer Center	55,003	59,989	1965	
Library	600	Main Campus Dr	Myrin Library	41,556	55,408	1970	
Wellness Center	789	Main St	Wellness Center (Wagner)	2,652	3,890	1955	
DORM	201-203	E 9TH Ave	201-203 E 9th	6,090	6,090	Not Known	10
DORM	732	Main St	732 Main	5,698	8,688	1925	12
DORM	777	Main St	777 Main	2,128	3,128	1955	7

Type	St #	St Name	Building Name	Usable Sq. Ft.	Total Sq. Ft.	Construction Date	# of Residents
DORM	942	Main St	942 Main	2,744	3,883	1942	9
DORM	944	Main St	944 Main	4,200	4,398	1939	12
DORM	476	Main St	Barbershop - Residence Hall	2,410	4,241	1934	5
DORM	503-507	Main Campus Dr	Beardwood, Paisley, & Stauffer Halls (BPS)	57,778	57,778	1957	163
DORM	604-608	Main Campus Dr	Broadbeck, Wilkinson & Curtis Halls (BWC)	31,761	42,716	1927, 1966 (Wilkinson Hall)	108
DORM	732	Main St	Carriage House	1,628	2,146	1925	3
DORM	409	Main St	Clamer Hall	4,499	7,285	1921	15
DORM	811	Main St	Cloake House	2,584	3,364	Not Known	6
DORM	500	Main St	Commonwealth	6,096	8,762	1920	14
DORM	612	Main St	Duryea Hall	4,110	6,066	1900	9
DORM	785	Main St	Elliot House	3,338	5,298	1958	7
DORM	554	Main St	Fetterolf House	5,033	7,076	1792	9
DORM	33	6TH Ave	Hillel House (Yost)	2,322	3,731	1913	4
DORM	568	Main St	Hobson Hall	3,411	5,793	1898	12
DORM	801	Main St	Isenberg House	4,422	6,057	1895	11
DORM	513	Main St	Keigwin Hall - UC	2,694	4,435	1935	6
DORM	702	Main St	Lynnewood Hall	4,056	6,018	1935	9
DORM	512	Main St	Maples Hall	6,498	6,543	1930	10
DORM	23	6th Ave	Musser Hall	12,036	12,274	Not Known	38
Dorm	514	Main Campus Dr	New Hall	37,677	52,144	2007	127
DORM	640	Main St	Olevian Hall	4,525	6,652	1932	9
DORM	701	Main St	Omwake Hall	3,846	5,515	1925	9
DORM	708	Main Campus Dr	Reimert - Complex A	5,040	7,560	1967	129
DORM	708	Main Campus Dr	Reimert - Complex B	10,890	10,890	1967	
DORM	708	Main Campus Dr	Reimert - Complex C	18,252	18,252	1967	

Type	St #	St Name	Building Name	Usable Sq. Ft .	Total Sq. Ft.	Construction Date	# of Residents
DORM	708	Main Campus Dr	Reimert - Complex D	10,890	10,890	1967	
DORM	30-32	6TH Ave	Residence Hall	3,842	5,594	1920	10
DORM	624	Main St	Residence Hall	2,550	3,720	1910	7
DORM	510	Main Campus Dr	Richter/North Hall	46,388	46,388	2002	109
DORM	646	Main St	Schaff Hall	3,711	5,299	1938	7
DORM	600	Main St	Schreiner Hall	6,432	9,303	1892	16
DORM	55	E 5th Ave	Sprankle Hall	4,217	4,217	1925	13
DORM	26	6th Ave	Sturgis Hall	2,088	3,132	1935	6
DORM	724	Main St	Todd Hall	4,284	6,306	1932	10
DORM	716	Main St	Wicks	5,856	8,332	1936	17
DORM	620	Main St	Zwingli Hall	4,056	6,060	1935	13
DORM	424-426	Main St	424/426 Main	3,055	5,227	1934	10
DORM	444	Main St	444 Main	1,973	3,273	1927	3
DORM & Multi-cultural Affairs	500	Main Campus Dr	Unity House	2,030	3,594	1928	4
Private Residence	65	6TH Ave	65 6th	2,670	4,130	1955	
Private Residence	99	E 9TH Ave	99 9th - President's	4,210	5,889	1943	
Private Residence	100	E 9TH Ave	100 9th	1,380	2,779	1957	
Private Residence	155	E 9TH Ave	155 9th	3,519	3,519	1955	
Private Residence	175	E 9TH Ave	175 9th	1,584	2,996	1962	
Private Residence	275	E 9TH Ave	275 9th	2,260	3,570	1955	
Private Residence	542	Main St	Super House	3,831	5,704	1892	
RENTAL	319	E 9TH Ave	319 9th	1,924	1,924	Not Known	
RENTAL	324	E 9TH Ave	Farmhouse	3,266	3,442	1900	
RENTAL	325	E 9TH Ave	325 9th	1,754	3,508	Not Known	
Facilities	400	Main Campus Dr	Facilities, incl. shop	9,684	9,684	1957	
Facilities	401	Main Campus Dr	Heat Plant	4,453	4,453	1962	
Facilities	408	Main Campus Dr	Chiller Plant	2,500	2,500	~2003	

Type	St #	St Name	Building Name	Usable Sq. Ft.	Total Sq. Ft.	Construction Date	# of Residents
Facilities - Storage/ Private	99	E 9TH Ave	99 9th Garage	0	441	1943	
Facilities - Storage/ Private	99	E 9TH Ave	99 9th Pool House	0	333	1943	
Facilities - Storage	324	E 9th Ave	Barn	0	2041	1900	
Facilities - Storage	325	E 9TH Ave	Garage	0	440		
Facilities - Storage	324	E 9TH Ave	Storage	0	546		
Facilities - Storage	402	Main Campus Dr	Equipment Barn	4,838	4,838	1961	
Facilities - Storage	406	Main Campus Dr	Pole Barn	5,000	5,000	1989	
Facilities - Storage		Main Campus Dr	DLH Garage	0	525		
Facilities - Storage	444	Main St	444 Main Shed	0	200	1927	3
Facilities - Storage	777	Main St	777 Main Garage	0	391	1955	7
Facilities - Storage	785	Main St	Elliot House Garage	0	525	1958	
Facilities - Storage	942	Main St	942 Main Garage	0	418	1942	9
Facilities - Storage	424-426	Main St	424/426 Garage	0	1710	1934	10
Facilities - Storage/ Athletics	701	Main Campus Dr	Utility Storage - Gym	0	759	1972	

Appendix N: Ursinus Fleet Vehicles, Owned and Leased

Back to Table of Contents

Ursinus College Fleet Vehicles – Owned

Year	Make	Model	Dept/Use	Use
1988	EZ	Trailer	DLH	
1991	Dodge	Van	Facilities	
1995	Ford	Super Club Wagon	Facilities	Dining Services
1996	Jeep	Cherokee	Campus Safety	EMS
1999	Ford	F350 Truck	Facilities	
1999	Ford	Altec Lift Bucket Truck	Facilities	
2000	Ford	E-350 SD Cutaway	Chemistry	Science in Motion
2003	GMC	Sierra 1500	Facilities	
2003	Chevrolet	Silverado Pickup	Facilities	
2004	Chevrolet	Express Cargo Van	Chemistry	
2004	Long Chih	LCI-830T Trailer	Facilities	
2005	GMC	Dump Truck	Facilities	
2006	Vantage	VanGO	Facilities	Mail Services
2011	Chevrolet	Silverado 1500	Facilities	

Ursinus College Fleet Vehicles – Leased

Lease Expiry	Year	Make	Model	Dept/Use	Use
2012-03	2009	Toyota	Avalon	President	Personal
2012-08	2010	Toyota	Sienna Van	Facilities	Van #5
2012-09	2010	Toyota	Camry Hybrid	Admissions	
2013-01	2010	Toyota	Sienna Van	Facilities	Van #2
2013-01	2010	Toyota	Sienna Van	Facilities	Van #3
2013-03	2010	Toyota	Camry Hybrid	Admissions	
2013-08	2010	Toyota	RAV 4	Campus Safety	
2014-08	2011	Toyota	Sienna Van	Facilities	Van #4
2014-09	2011	Toyota	Sienna Van (LE)	Facilities	Van #1

Appendix O: Eco-Driving Recommendations

Back to Table of Contents

This is not meant to be an exhaustive list, but a set of guidelines. The list below is from the Automobile Association (a British equivalent of AAA) below.[30] If you have questions or ideas to add to this list, please contact the Office of Sustainability at sustainability@ursinus.edu.

- **"Easy does it:** drive smoothly, accelerate gently and read the road ahead to avoid unnecessary braking.
- **Decelerate smoothly:** when you have to slow down or stop, decelerate smoothly by releasing the accelerator, leaving the car in gear (or put into neutral if driving a stick shift vehicle).
- **Rolling**: in traffic, if you can keep the car moving all the time, so much the better; stopping then starting again uses more fuel than rolling. You should always obey stop signs.
- **Cut down on the A/C:** air-conditioning increases fuel consumption at low speeds, but at higher speeds the effects are less noticeable. So if it's a hot day open the windows around town and save the air conditioning for high speed driving. Don't leave air-conditioning on all the time but aim to run it at least once a week throughout the year to maintain the system in good condition.
- **Turn it off:** electrical loads increase fuel consumption, so turn off your heated rear windscreen, demister blowers and headlights, when you don't need them
- **Stick to speed limits:** the faster you go the greater the fuel consumption and pollution. Driving at 70mph uses up to 9% more fuel than at 60mph and up to 15% more than at 50mph. Cruising at 80mph can use up to 25% more fuel than at 70mph.
- **Don't be idle:** if you do get caught in a queue, avoid wasting fuel – turn the engine off if it looks like you could be waiting for more than three minutes.
- **Don't get lost:** plan unfamiliar journeys to reduce the risk of getting lost and check the traffic news before you leave
- **Don't top off the tank:** Don't "top off" your gas tank. Stop at the click. Topping off your tank allows emissions to escape, sometimes spilling gas.
- **Fuel when cool:** Fuel vehicle when it is cool, not in the heat of the day.
- **Small is good:** Use the smallest vehicle possible for the task. In other words, don't use a van if you really only need an economy car."

[30] See the AA's Eco-Driving advice on their website: http://www.theaa.com/motoring_advice/fuels-and-environment/drive-smart.html

Appendix P: Ursinus Science Labs & Equipment

Back to Table of Contents

Ursinus College Science Labs, Equipment and Fume Hoods

Pfahler Hall Rooms:	Types of Labs	Building Square Footage 72,322	Lab Square Footage	Energy Intensive Equip.	VAV Fume Hoods	CAV Fume Hoods
Chemistry:						
201	Biochemistry			X	4	-
206	Prep Room		410	X	-	1
215	Inorganic Chemistry Lab		1,620	X	7	-
301	Advanced Chemistry Lab		1,050	X	8	-
302	Physical Chemistry Lab		1,040	X	3	-
304	Research Lab			X	-	2
306	Research Lab			X	-	2
307	Research Lab			X	-	2
309	Research Lab			X	-	2
310	Research Lab			X	-	2
312	Research Lab			X	-	2
314	General Chemistry Lab		1,445	X	9	-
314b	Chemistry Stockroom		686	X	-	1
315	Organic Chemistry Lab		2,133	X	29	-
316	General Instrumentation Lab		973		-	-
Physics:						
013	Bio A&P shared with Physics		1,675	X	6	0
013A	Advanced Physics Lab					

013B	Electronics Lab		410			
108	Intro Physics Lab		1,505			
108C	Research Lab			X		
4th Floor	Marsteller Observatory					
Thomas Hall Rooms:	Types of Labs	Square Footage 72,322	Lab Square Footage	Energy Intensive Equip.	VAV Fume Hoods	CAV Fume Hoods
Biology:						
126	Multi-use			X	-	1
128	Intro Biology Lab			X	-	1
206 (wet)	Diatom Population Biology				-	-
220	Physiology/Neurology	34,005	850	X	-	1
007	Ecology				-	-
008	Neurobiology		850	X	-	1
107	Microbiology			X	-	1
110 & Greenhouse	Entomology					
112 (renov.)	Developmental Biology & Neurobiology			X	1	-
118	Biochemistry		1,770	X	-	1
120	Biochemistry		315	2 Bio-Safety Hoods	-	-
121	Developmental Biology & Neurobiology			X	-	-
202	Various			X	-	1
210 (renov.)				X	1	-
217	Cardiac Function			X	-	1

Appendix Q: Pfahler Hall Science Labs & Equipment

Back to Table of Contents

Science labs in Pfahler Hall, descriptions, square footage, and fume hoods.

	Type	Additional Rooms, Special Equipment, Special Features	Net Square Feet (NSF)	VAV Fume Hoods	CAV Fume Hood
PFAHLER					
Chemistry					
Teaching Labs					
Room	Type	Additional Rooms, Special Equipment, Special Features	9,357		
201	Biochemistry			4	-
206	Prep Room	NMR room adjacent (410 sf)	410	-	1
215	Inorganic Chemistry Lab	Unoccupied Setting	1,620	7	-
301	Advanced Chemistry Lab	Equipment: Flame Atomic Absorption (AA) Spectrometer; High Performance Liquid Chromatography (HPLC) attached to Mass Spectrometer	1,050	8	-
302	Physical Chemistry Lab		1,040	3	-
304	Research Lab	Equipment: Fourier-Transform Infrared (FT/IR) Spectrometer		-	2
306	Research Lab	Equipment: High Performance Liquid Chromatograph (HPLC)		-	2
307	Research Lab			-	2
309	Research Lab			-	2
310	Research Lab	Web research Mossbauer Spectrometer		-	2
312	Research Lab			-	2
314	General Chemistry Lab	Unoccupied Setting	1,445	9	-
314b	Chemistry Stockroom	Lab prep & GC - balance room (216sf)	686	-	1
315	Organic Chemistry Lab	Has unoccupied Setting; instrument room (130 sf); balance room (133 sf) - square footage added in; Equipment: HP GCD G1800A (GC/MS)	2,133	29	-
316	General Instrumentation Lab	FT/IR Spectrometer; Thermometric TAM Isothermal Calorimeter; Gold HPLC; Capillary Electrophoresis; HP GC/MS; HP Gas Chromatograph connected to Mass Spectrometer (MS); Electrochemical Analyzer; Flourescence Spectrometer; 2S UV-Visible Spectrometer; 3S UV-Visible Spectrometer; UV-Visible Molecular Absorption Spectrometer; UV-NIR Molecular Absorption Spectrometer	973	-	-

Chemistry Subtotals	14 labs; 1 stockroom		60	14

Math and Computer Science

Teaching Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	690
	Calculator Room		690

Research Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	415
	Hardware Lab		415

Math and Computer Science	1 lab

Physics and Astronomy

Teaching Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	1,915
013	Bio A&P shared with Physics	HVAC air exchange	1,675
013A	Advanced Physics Lab		
013B	Electronics Lab		410
108	Intro Physics Lab	Storage area	1,505
4th Floor	Marsteller Observatory		

Research Labs

Room	Type	Additional Rooms, Special Equipment, Special Features	190
108C	Research Lab	UC Parallel Computing Cluster & HVAC to cool them	190

Physics and Astronomy	5 labs and 1 observatory

Appendix R: Thomas Hall Science Labs & Equipment

Back to Table of Contents

				Net Square Feet (NSF)	VAV Fume Hoods	CAV Fume Hood	Other Hoods
THOMAS							
Biology					VAV hoods	CAV Hoods	
Teaching Labs (all wetlabs)							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	850			
126	Multi-use	genetics, developmental biology; cell biology	refrigerator/freezer; 126A - prep room: autoclave; 2 refrigerator/freezers		-	1	
128	Intro Biology Lab	ecology; cell biology	heated fish tanks		-	1	
206 (wet)	Diatom Population Biology	Teaching and Research			-	-	
220	Physiology/ Neurology			850	-	1	
Research Labs (all wetlabs)							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	2,935			
007	Ecology	Fish	n/a		-	-	
008	Neurobiology	Prenatal Alcohol Exposure (Animal lab - mice)	refrigerator/freezer	850	-	1	
107	Microbiology	Microbiology	Glove Box, autoclave		-	1	
110 & Greenhouse	Entymology	Conservation & ecology of beneficial insects	Greenhouse & 110 (lab)				
112 (renov.)	Developmental Biology & Neurobiology	C. Elegans, (microscopy)	Equipment Room (rm 114): -80oC freezer; 3 incubators; regular freezer; door to		1	-	

			Greenhouse				
118	Biochemistry	Biochemistry & Cell bio	Tissue culture room; cold room (195 SF), -80oC freezer; -20oC freezer; ice maker (all day); centrefuge (unused)	1,770	-	1	
120	Biochemistry	Cold Room? (150 sf) Prep lab? (165 sf)		315	-	-	2 HEPA Biosafety Cabinets
121	Developmental Biology & Neurobiology	C. Elegans, wetlab	Incubator (2)		-	-	
202	Various	Chemo Reception Invertibrates (salamanders & mice)/ Ecology of Suburban mice/ Genetics of fish populations	Animal room; storage; pumps; -80oC; -20oC freezer?; frige/freezers (2); confocal microscope (lasers); facs machine (cell sorting)		-	1	
207					-	1	
210 (renov.)		Prion Proteins in Yeast	Equipment Room: -80oC		1	-	
217	Cardiac Function	Cardiac Function (Animal lab) - mice			-	1	
Biology Subtotal					2	9	2

				Net Square Feet (NSF)	VAV Fume Hoods	CAV Fume Hood	Other Hoods
THOMAS							
Psychology					VAV hoods	CAV Hoods	
Teaching Labs							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	440			
	Quiet CPU Room		multiple computers	190			
	Demonstration CPU Room		multiple computers	250			
Research Labs							
Room	Type	Specifics	Additional Rooms, Special Equipment, Special Features	720			
	Sleep lab			260			
	EEG Lab	two rooms		160			
	Neuro Lab			100			
	Social Process Lab			200			
Psychology Subtotal				1,160			

Appendix S: Sodexo Sustainability Student Promotion Coordinator Job Description

Back to Table of Contents

Sustainability Student Promotion Coordinator

The Sustainability Student Promotion Coordinator (SSPC) supports the on-site campus dining team in the process of developing and implementing sustainable dining promotions, using their input at every stage of the process to inform and inspire creative ideas, and guide the implementation of the resulting promotion campaigns.

In this role, the SSPC interacts with internal team members; district marketing specialist; student promotion coordinator; Pepsi intern; creative agencies (if applicable); media and public relations personnel; client stakeholders, and customers. This person will have a high level of customer contact and must be comfortable assuming a leadership position. The position reports directly to an assigned Dining Manager or District Marketing Specialist.

Qualifications:

- Good Academic Standing – Environmental Sciences Major, Art Major, Media and Communications Major, Theatre Major.
- Demonstrate Strong Presentation, Teamwork, and Leadership Skills.
- Excellent Verbal and Written Communication Skills.
- Dynamic Leadership Abilities.
- Proficient in computer skills, Microsoft Office and Intermediate level of Adobe® Photoshop. Graphic Design and Web Site Design skills are preferred.

Projects: Below is a brief summary of projects for the Sustainability Student Promotions Coordinator.

- Increase awareness of sustainability practices within dining services. Create a clear communication to students, faculty, staff, and the entire College community by the following methods:
    - create advertising plans.
    - develop creative sustainable advertising practices (parents plaza bed sheets, side walk chalk, viral marketing, etc.).
    - messaging, Face book updates, D-txt text messaging.
    - media, web updates, viral marketing.
    - event planning and execution.
- Develop detailed action plans and creative strategies for assigned dining promotions and special events.
- Obtain approval from their Supervisor on all actions including of promotion partners, media coverage, and event hosting/coordination.
- Coordinate with Supervisor to ensure staff is up-to-date on current sustainable facts and activities.
- Positively and professionally represents dining services at any student/campus events they

attend.
- Inform their Supervisor immediately of any potential promotion problems or concerns (budget over-expenditures, partner sponsorship issues, media coverage, etc.)
- Review all media regarding sustainable dining events and awareness to ensure accuracy, content, and plan compliance.

Hours and Compensation:

An average of 10-15 hours per week is expected. Hours are flexible based on academic calendar. Compensation can be hourly or stipend based on experience and skills.
$8.50 to $10.00 per hour or a stipend per semester $500.00 - $900.00 per semester

Tracking: Tactic Sheets and Portfolio:
A digital or printed portfolio is expected at the end of the semester. The portfolio will be a summary of promotion activities, events, tracking results, photos, customer comments, projects from the semester and future recommendations.

Appendix T: Sample AASHE STARS Checklist for Dining Services

Back to Table of Contents

Ursinus College Dining Services
2010-2011 "Green Report Card"
Annual Food Budget

1. Total annual food budget (2010-2011).

2. Please indicate the dollar amount spent in the 2010-2011 academic year on products within each category below.

FOOD PRODUCT	DOLLAR AMOUNT (2010-2011)
Fruits and vegetables	
Dairy	
Eggs	
Meat and poultry	
Seafood	
Coffee	
Locally Grown and Produced Food	

3. Please check the items that you purchase from local growers or processors. We define "local" food as food that has been grown, raised, produced, or processed within 150 miles of campus.

[ ] Vegetables
[ ] Fruits
[ ] Milk
[ ] Processed dairy products (ice cream, cheese, yogurt, butter)
[ ] Grains and beans
[ ] Meat
[ ] Poultry
[ ] Eggs
[ ] Seafood
[ ] Baked goods
[ ] Granola/cereal
[ ] Maple syrup, honey, etc.
[ ] Beverages
[ ] Sauces, spreads, hummus, salad dressing, etc.
[ ] Other. Please describe:

4. What dollar amount of the 2010-2011 food budget was spent on purchasing food that was grown or raised locally?

5. From how many local farms or growers do you purchase food (excluding on-campus farms/gardens)?

Number from which you purchase directly:
Number from which you purchase through a distributor:

Please specify name and location of distributor:

6. How much did you spend in the 2010-2011 academic year on purchasing food that was processed locally?

7. From how many local processors do you purchase (excluding on-campus farms/gardens)?

Number from which you purchase directly:
Number from which you purchase through a distributor:
Please specify name and location of distributor:

8. Do you source any food from an on-campus farm or garden?

If yes, please provide details below.
Source:
Items procured:
Dollar amount spent:
Organic and Sustainably Produced Food
9. Please check items that you purchase that are organically grown or produced. "Organically grown or produced" can be defined accord to USDA or Quality Assurance International standards.

[ ] Vegetables
[ ] Fruits
[ ] Milk
[ ] Processed dairy products (ice cream, cheese, yogurt, butter)
[ ] Grains and beans
[ ] Meat
[ ] Poultry
[ ] Eggs
[ ] Seafood
[ ] Baked goods
[ ] Granola/cereal
[ ] Maple syrup, honey, etc.
[ ] Beverages
[ ] Sauces, spreads, hummus, salad dressing, etc.
[ ] Other. Please describe:

10. How much did you spend on organically grown or produced food in the 2010-2011 academic year?

Please note: For questions 11-14, indicate the percentage based on dollar amount spend in the 2010-2011 academic year.
11. Do you purchase cage-free/free-range eggs and/or confinement-free animal products?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Cage-free/free-range eggs:		
Confinement-free product 1:		
Confinement-free product 2:		
Confinement-free product 3:		
Confinement-free product 4:		

12. Do you purchase any vegetarian-fed animal products?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Vegetarian-fed product 1:		
Vegetarian-fed product 2:		
Vegetarian-fed product 3:		
Vegetarian-fed product 4:		
Vegetarian-fed product 5:		

13. Do you purchase any hormone- and antibiotic-free meat and/or dairy products?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Hormone-free product 1:		
Hormone-free product 2:		
Hormone-free product 3:		
Hormone-free product 4:		
Hormone-free product 5:		

14. Do you purchase seafood that meets Monterey Bay Aquarium Seafood Watch guidelines and/or Marine Stewardship Council Blue Ecolabel standards?

If yes, please provide details below.

	PRODUCT NAME	PERCENTAGE PURCHASED
Seafood product 1:		
Seafood product 2:		
Seafood product 3:		
Seafood product 4:		
Seafood product 5:		

15. Do you offer specifically labeled vegan entrees on a regularly scheduled basis?

If yes, please provide the average number of labeled vegan meals offered each week.

16. Please list and give the dollar values for any other sustainably produced food items you purchase that are not included above:

PRODUCT NAME	DOLLAR AMOUNT
Other food item 1:	
Other food item 2:	
Other food item 3:	
Other food item 4:	
Other food item 5:	

Fair Trade Products

17. Do you purchase Fair Trade Certified coffee?

18. Do you purchase other Fair Trade Certified food products?

If yes, check all that apply:

[ ] Chocolate

[ ] Tea
[ ] Bananas
[ ] Other. Please describe:

Dishware and Eco-Friendly Incentives

19. If you offer disposable dishware at your dining services locations, please indicate materials used.

Check all that apply.
[ ] Plastic
[ ] Polystyrene (Styrofoam)
[ ] Post-consumer recycled content
[ ] Biodegradable/compostable
[ ] Other. Please describe:

20. Do your dining facilities offer discounts or cash incentives to individuals who use reusable dishware, bring a bag, or bring reusable containers?

If yes, please indicate items for which incentives are offered, and describe the incentives below.

DESCRIPTION

[ ] Reusable bag
[ ] Reusable dishware
[ ] Reusable mug
[ ] Reusable to-go container
[ ] Other. Please describe:

Food Composting and Waste Diversion

21. Do your dining facilities compost pre-consumer food scraps?

If yes, please provide details below.

Percentage of meals for which pre-consumer food scraps are composted:
Additional information:

22. Do your dining facilities compost post-consumer food scraps?

If yes, please provide details below.

Percentage of meals for which post-consumer composting is available:
Additional information:

23. Do your dining facilities donate excess food to a food bank, soup kitchen, or shelter?

If yes, please describe below.

24. Do your dining facilities have a trayless dining program?

If yes, please describe below.

Percentage of meals served on campus that are trayless:

Year trayless program was started:
Additional comments:

25. Please tell us about any other steps your dining facilities have taken to reduce waste.

Mark all that apply and describe.

[ ] Food waste audit or study.
[ ] Recycling used cooking oil for biodiesel production.
[ ] Removal of bottled water from all facilities operated by dining services.
[ ] Other. Please describe:

Recycling of Traditional Materials

26. Please indicate which traditional materials your dining facilities recycle. Check all that apply.
Please discuss only the materials you recycle specifically in the dining facilities. Recycling of used cooking oil for biodiesel production should be described in Question 25.

[ ] None
[ ] Aluminum
[ ] Cardboard
[ ] Glass
[ ] Paper
[ ] Plastics (all)
[ ] Plastics (some)
[ ] Other. Please list:

27. Are recycling receptacles located throughout dining locations?

28. What is the dining services' current waste-diversion rate (the percentage of recyclable/compostable waste diverted from traditional disposal)?
Please provide information specifically about your dining services' operation. If information is unavailable, leave blank. Do not use the overall rate for the campus-wide

Appendix U: Ursinus Athletic Facilities List

Back to Table of Contents

Athletics facilities, by type.

Indoor facilities	**Floy Lewis Bakes Athletics Center** • Fitness Center and Weight Room • A regulation collegiate-sized pool • Dance studio • Athletic training room • Racquetball court • 3 classrooms and an exercise lab • Locker rooms • Academic/Administrative/Coaches offices
	Helfferich Gymnasium • Basketball court • Volleyball court • Wrestling room • Gymnastics gym
	Field House • 200-meter track • Three indoor tennis courts • Three full-sized basketball courts • Two batting cages
Outdoor facilities	**Baseball Field** • Baseball diamond is unlighted – used only for day games
	Eleanor Frost Snell Alumnae Field • Artificial turf field hockey field (including lighting and an irrigation system)
	Patterson Field • This is our newly renovated artificial turf football and soccer field. This field was completed during the summer of 2011. • The field is surrounded by a newly resurfaced track. • Lights are installed at this facility and are turned on all night for campus and community runners and walkers.
	Outdoor Field Events • Our field events take place on one of our lower fields, below Patterson. We have a full complement of field

	event venues: pole vault, high jump, long jump, triple jump, discus, shot put & hammer throw
	Eleanor Frost Snell Softball Field • This is an unlit field used for day games.
	Hunsburger Woods Field • This field is located across 9th Ave. from the main campus. • Club Sports practice and potentially competition space
	Practice Fields • Wilkes Field • Lower Football Field (with lighting) • Facilities Field (the old field hockey field)
	Tennis Courts • Ursinus has eight outdoor tennis courts. • Two of the courts have lighting for night practice and/or games

Appendix V: Ursinus Green and Bear It Team Goals

Back to Table of Contents

Green and Bear It Team Goals

Area	Activity	Details
Outreach & Collaboration	Team Development	• Develop draft guidelines for a Green Team certification program. ○ Could include: purchasing carbon offsets for team travel, recycled content uniforms, "green" community service, commitment to environmentally friendly laundry detergents, net zero games, net zero seasons, etc. • Draft ideas for how what incentives might work for team competitions that relate to sustainability. • Create ideas for awards that Athletics Department could give out to seniors for "Green" service to the program.
	Game Day	Green Team members will work together to ensure that sustainability practices are in place for games. This will include: ▪ Placement of appropriate number of recycling containers at game events. ▪ Messaging during games about recycling, the Green & Bear It program, Sustainable Game Days, etc. ▪ Information Booth. Set up information tables at games to inform fans of sustainable programming in Athletics or on their particular team. ▪ Development and publication of an Athletics brochure (scan-able rather than printed).
	Outreach	Work with local school district to collaborate on recycling programs.
Education:	Resource Development	Brochure • Develop brochures about green athletics programming aimed at prospective students, alumni, other audiences. Signage • Create and post signs/posters reminding users to turn off lights, take shorter showers, use stairs, etc. (may include calories burned, energy savings, resource savings, etc). Resource list Create a resource list for the campus community about sustainability in Athletics at UC. This list should have sections on purchasing, recycling, operations, education, outreach and transportation. Each section should provide

		guidance on who to contact, what options are available, and where to find more information. For example: • Recycle used tennis balls (www.rebounces.com); • Recycle used athletic shoes (www.nikereuseashoe.com); • Donate used sporting equipment to www.goodwill.org or Play It Again Sports; • Old sporting trophies can be recycled at www.greentrophyproject.org; and • Yoga mats can be recycled at www.recycleyourmat.org.
	Fan Education	▪ Develop a program within the Athletics Department that will educate and encourage UC Bears fans to participate in energy reduction, waste reduction, and sustainability programming. ▪ Strategize what the message to fans should be, how to communicate the message, how to encourage participation.
	In house education about Sustainability programs	Educate Athletics administrators, coaches and staff on the following aspects of sustainability in athletics ○ Program overview ▪ It will be good if all Athletics staff members know about the Green Athletics program so they can talk to others about it. ▪ Having a brochure will help (online or printed). ○ Student involvement ▪ How student athletes are engaging in the sustainable athletics program. ▪ Benefits of the program to the athletes. ○ Purchasing guidelines for Athletics ▪ Recycled content paper. ▪ "Green" alternatives for athletics supplies/equipment: balls, pads, shoes, uniforms, hats, etc. ○ Promoting your green strategy with sponsors and advertisers
Mission Development		Draft a green mission statement for UC Athletics' Green & Bear It program, e.g., "In considering [Ursinus'] athletic and environmental goals, the department of athletics, through its intramural, club and varsity programs as well as through its physical facilities and interactions with the general public, works to promote a sustainable culture in all of sport."