

University of Mount Union Sustainability Plan

Incorporating a Climate Action Plan

Updated Version

May 2016

(Refer corrections, suggestions, additions, and comments to the Sustainability Management Advisory Committee, sustainability@mountunion.edu)



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Introduction

University of Mount Union has a long tradition of preparing students to be contributing members of our society. Since 1846, the institution has combined a broad-based education in the liberal arts tradition with practical experiences designed to help students find meaningful and satisfying work. This tradition continues under the University's current mission statement:

"University of Mount Union offers a liberal arts education grounded in the Judeo-Christian tradition. The University affirms the importance of reason, open inquiry, living faith, and individual worth. Mount Union's mission is to prepare students for meaningful work, fulfilling lives, and responsible citizenship."

Sustainability is important in all three aspects of our mission statement, but particularly in the realm of preparing our students for responsible citizenship.

Over the last several decades, Mount Union has worked to create a financially sound institution that is socially and environmentally responsible. Thus, the institution is not new to the concepts of sustainability on campus. What is new is the need to become more proactive in the realm of sustainability while continuing to respond creatively and prudently to economic, social, and environmental needs.

In 2015-2016 Mount Union began the process of drafting a new 5-year Strategic Plan for the University. The Steering Committee narrowed the focus to six key initiative areas. Each of these principles are linked to sustainability or can be enhanced by an increased focus on sustainability. The guiding principles are:

1. Enrich the student experience (by fostering an inclusive culture and providing appropriate support for a more diverse student body).
2. Foster an innovative academic environment (considering new programs, enhancements of current programs, supporting innovative teaching, developing academic "centers," focusing on globalization).
3. Strengthen the University's enrollment and finances to preserve and extend access and affordability.
4. Brand the University as a remarkable Midwestern institution (committed to student achievement, leadership development, and after-graduation success).
5. Effectively use technology (to enable effective teaching and learning, project information about the University to internal and external audiences, and support effective administration of the University).

6. Create an engaging workplace (one that is quality-focused, empowers employee creativity, fosters collaboration, and responds nimbly to opportunities and challenges).

Sustainability Management Advisory Committee

Accepting the challenge and realizing the opportunities, the University administration convened a Sustainability Task Force in spring of 2007. The task force was composed of representatives from the student body, administration, faculty, and the Alliance community. Membership is provided in Appendix B.

The first action of the Task Force was to develop the following mission statement:

“It is the goal of University of Mount Union’s Sustainability Task Force to meet the growing concern for sustainability on our campus. Through education and communication, we will encourage and facilitate awareness and action on our campus and throughout the Alliance community. We will assist the University in its decision-making process in these aspects, and will search out opportunities that are socially, financially, and environmentally sound in order to create a sustainable, efficient, and healthy atmosphere for our students, faculty, and staff.”

The second major action that was undertaken was to review the American College and University Presidents Climate Commitment (ACUPCC). After reviewing the commitment and its implications, the Task Force recommended that President Giese sign the commitment. University of Mount Union became a signatory institution in December 2007. Having signed the commitment, we were obligated to take some specific actions.

Our first obligations under the ACUPCC were to complete two tangible actions and complete a campus-wide greenhouse gas inventory. We completed these interim obligations in 2008 and the public report is published on the ACUPCC website:

<http://reporting.secondnature.org/>. We initiated three tangible actions:

1. We established 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.
2. We adopted an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
3. We participated in the Waste Minimization components of the national RecycleMania competition, and adopted 3 or more associated measures to reduce waste.

We completed a campus-wide greenhouse gas inventory covering the period since 2001 and reported the results. The past and most current public reports are located at: <http://reporting.secondnature.org/> and most current results are summarized below.

Table 1. University of Mount Union Greenhouse Gas Emissions (2008 vs. 2016) For definition of “scopes” see Appendix A.

SOURCE	Total Metric tons CO ₂ E		Per FTE student		Per 1000 Sq. Ft.	
	2008	2016	2008	2016	2008	2016
Gross emissions (Scopes 1 + 2)	15.0	17.9	7.1	7.1	14.0	13.5
Gross emissions (Scopes 1+2+ 3)	16.9	21.5	8.0	8.5	15.8	16.2

In 2010, after several months of discussion and deliberation it was determined that it would be more appropriate for our institution to develop a broad sustainability plan that incorporated a climate action plan. Our sustainability plan would thus include all aspects of sustainability on campus: administration, operations, and education, and would also explicitly include a climate action plan as required by our commitment to the ACUPCC. The Task Force concluded that to be successful, a climate action plan needs to include more than just the energy consumption of the institution; it must also consider the entire institution and its community. Only with this broader approach can we fulfill our mission “to create a sustainable, efficient, and healthy atmosphere for our students, faculty, and staff.”

Our working definition of sustainability is derived from the most common definition, the 1987 report of the UN Commission on Environment and Development, Our Common Future, which defined “sustainable development” (sustainability) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Embedded in that definition are two important elements:

1. A long-term view (generations)
2. A systemic or ecological sense of life

Thus, sustainability is about the interdependence of living organisms and communities (both human and nonhuman) over the long haul. Instead of seeing environmental, social, and economic needs as a collection of discrete characteristics or problems, sustainability

looks at them as interdependent and connected. Each has an impact on and consequences for the others. Because this plan is necessarily long-term in nature, it focuses on principles rather than specifics. Just as a college frequently adds, deletes, and modifies courses in its curriculum in response to changes in knowledge and student and societal needs, we recognize the need for flexibility to respond to inevitable but unpredictable changes in economics and technology.

This sustainability plan is organized into five sections:

1. Climate Action
2. Education
3. Operations
4. Planning, Administration, and Engagement
5. Implementation, Revision and Assessment

Our climate action plan is the first component and will be tied into all three of the Sustainability Tracking, Assessment, and Rating System (STARS) categories which are sections two through four. The plan includes, where appropriate, short, medium, and long-term actions. It is ambitious but realistic. Above all it is intended to be a dynamic plan that allows for modification of the means of achieving our goals without compromising the goals themselves as circumstances change. We recognize that sustainability is as much a process as it is a goal and that we will always be seeking to become more sustainable. The plan serves as a recommendation to the campus. The Task Force had no policy-making authority and the successful implementation of the plan will ultimately depend upon the actions of various policymakers on campus, including the board of trustees, the administration, the faculty, the staff, and the students.

In fall 2010, University of Mount Union President Dr. Richard F. Giese created the Sustainability Management Advisory Committee (SMAC). The purpose of the SMAC is to assist the President and the President's Council in executive-level, strategic sustainability decisions. The SMAC also recommends directions and priorities for overall campus sustainability by spearheading the implementation of the short, medium, and long-term goals of the sustainability plan, reviewing campus projects and programs and offering comment on the sustainable aspects of each, and collecting and publicizing data relating to progress on the plan.

The Sustainability Management Advisory Committee uses eight goals to guide its work:

1. Continually review and update the strategic sustainability plan for the implementation of sustainability measure throughout the University.
2. Annually report on progress towards meeting the goals of the sustainability plan, specifically including reports to ACUPCC and AASHE STARS.
3. Review and recommend appropriate changes in the plan in response to new technologies and changing campus needs and abilities.
4. Work with public affairs to promote sustainability on campus and to our off-campus constituents.
5. Participate in review of proposed campus projects and programs and provide recommendations relative to sustainability.
6. Recommend priorities for sustainability initiatives.
7. Prepare a formal update to the plan every three years to the President and President's Council.
8. Cooperate with the Alliance Mayor's Green Commission and other community organizations on matters of mutual interest.

The SMAC past and current membership can be found in Appendix B. Accomplishments (2015-16 and 2016-17) can be found in Appendix F.

In 2015, the ACUPCC was re-signed by President Merriman, as the new Carbon Commitment. Currently, Second Nature has three options for colleges and universities. The Carbon Commitment is focused on reducing Greenhouse Gas emissions and achieving carbon neutrality as soon as possible. The Resilience Commitment is focused on climate adaptation and community capacity-building to deal with a changing climate and resulting extremes. The Climate Commitment integrates carbon neutrality with climate resilience and provides a systems approach to mitigating and adapting to a changing climate. An established goal for 2016-17 is to research and develop, in conjunction with the Alliance City Green Commission, a Campus Resiliency Plan that will complement our existing Sustainability Plan. Once this plan is developed the University will become a signatory of the Climate Commitment.

The Role of STARS

To assess our current level of sustainability we volunteered in 2008 to be a pilot institution for the Sustainability Tracking, Assessment, and Rating System (STARS) developed by the Association for the Advancement of Sustainability in Higher Education (AASHE). The exercise was highly beneficial to us as we learned more about our institution. We were one of about 70 institutions nationwide to participate in the STARS

Pilot Program. This work helped us gather data about ourselves to guide this planning process. Overall, we qualified for about one third of the available points with administrative areas earning about 50% of available points, and operations and education receiving about 20% of the available points. This suggests that we are off to a good start on the road to sustainability but that many opportunities remain to be considered. The pilot data from individual schools was not released by AASHE. On April 27, 2011, we submitted our report for participation in the STARS Version 1.0 Program.

Again, this work helped us gather data about our entire institution, which allowed us to assess actions we have already taken while planning future endeavors. We were awarded a score of 40.28, which equated to a Bronze rating. We qualified for approximately 27% of the education and research credits, 27% of the operations credits, and 57% of the planning, administration, and engagement credits. We have made progress since reporting our efforts in the STARS Pilot Program. Our most recent submission in 2014 resulted in a rating of Silver (48.88). Our STARS reports is available online at:

<https://stars.aashe.org/media/secure/48/submission-61/university-of-mount-union-oh.pdf>.

Acknowledgements

This plan is the product of many people working together. In addition to the Task Force members listed in Appendix B, many other members of the campus community have spent hundreds of hours collecting data, working on special tasks, and providing input. We are particularly grateful for the efforts of the Physical Plant and Business Office. Many of the ideas in this plan have been gleaned from other institutions and through various professional organizations with whom we have connections. We have borrowed heavily from the resources provided by AASHE and the STARS program at: <http://www.aashe.org>.

Part One-Climate Action Plan

The Commitment

University of Mount Union has committed to climate neutrality. We define climate neutrality as our institution having no net emissions of greenhouse gasses. The following is excerpted from our ACUPCC (Carbon) commitment:

“Within two years of signing this document (for University of Mount Union the due date was May 15, 2010), develop an institutional action plan for becoming climate neutral, which will include:

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

Our Status

We currently (2016) release 21,500 metric tons of carbon dioxide equivalents each year (Scopes 1, 2, and 3). Of that, approximately 17,900 tons are the direct results of campus activities (Scopes 1 and 2). Approximately 59% of the total emissions is from our electrical consumption and 24% is from burning natural gas. Thus, our climate action plan must focus on those two aspects of energy use. Our recent trend in total emissions has been upward, due to more building space and increased use of electricity. We have begun improving our energy intensity and use because our emissions per 1,000 square foot of building space has declined (down 3.97%), as well as our emissions per full time enrollment (down 0.93%). However, these are not close to our goal of 25% reductions by 2015.

Target Dates

We propose to reach climate neutrality based on our **Scope 1 and 2 emissions NO LATER THAN COMMENCEMENT DAY IN MAY 2046**, which is the bicentennial year of our institution’s founding (30 years from now). For purposes of the Carbon Commitment, climate neutrality is defined as having no net greenhouse gas (GHG) emissions, to be achieved by minimizing GHG emissions as much as possible, and using carbon offsets or other measures to mitigate the remaining emissions.

INTERIM TARGETS:

2010-2015-Focus on conservation

We will continue to find ways to CONSERVE energy. We will improve our monitoring capabilities and expand our educational efforts to increase energy efficiency and minimize waste. This will be our top priority for the five-year period 2010-2015. Pending further study, we anticipate that conservation measures could reduce our energy consumption and GHG output by 10-20%. Conservation is the least expensive step and should reduce net university expenses. During this time, we will continue retrofits to existing buildings, design new construction and renovations according to best practices (LEED or similar), expand our metering of individual buildings, and support expansion of sustainability education in our curriculum.

2010-2030

We will begin studying possibilities to improve the EFFICIENCY of energy consumption focusing primarily on buildings (HVAC, lighting, improved building envelopes). We propose that a revolving capital improvement fund be established that will provide for investments in buildings, HVAC equipment, and controls that will improve efficiency. The savings realized from initial investments would then be reinvested on future energy saving improvements, with those savings again reinvested. This procedure would continue indefinitely so long as the investments have a definable return period. This will be an ongoing process that could reduce our energy consumption by 30-40% of current levels over 30 years. This process would include both retrofits of existing buildings, construction of new buildings, and changes in all areas of our operations.

We will immediately begin investigating the possibilities of ONSITE PRODUCTION or energy collection, such as solar voltaic, solar thermal, geothermal heat pumps, and small wind. The potential of these will depend on both economic and technological development. The potential for reducing GHG emissions could range from 1 to 10% or more depending on costs and efficiencies.

We will immediately begin investigation of the possibility of acquiring OFFSITE ALTERNATIVE RENEWABLE ENERGY, possibly through consortia or agreements with other institutions. Our intent is to encourage the development of regional alternative energy sources such as wind, or possibly biomass, that may not be feasible on-site or locally but that would stimulate the economy in our state and region and provide great energy independence. Current Ohio law contains a renewable energy portfolio that requires that 12.5% of electricity sold by Ohio's electric distribution utilities or electric service companies must be generated from renewable energy sources by 2027. Additionally, of the 12.5%, at least 0.5% must come from solar sources. The law sets annual

benchmarks, or incremental percentage requirements for renewable energy, through 2027. Each utility and electric services company is subject to compliance payments if the annual benchmarks are not met. Utilities and electric services companies may purchase renewable energy credits to meet the renewable energy standard. Previously, this law was much more aggressive, mandating that by 2025 at least 25% of all electricity sold in the state must come from alternative energy sources. This would have allowed us to more easily purchase renewable energy as well as to have a market for any renewable energy that we produce on campus. Part of our goal setting was based on this 25% requirement. The reduction to 12.5% will likely slow our progress toward carbon neutrality.

We will investigate and implement measures to reduce the carbon output from commuting and transportation. We will also continue to improve our waste management and recycling practices. These will reduce our greenhouse gas emissions that come from landfill gases. These will be described more in later sections.

The costs of some of these initiatives may be quite large and will be undertaken only after a thorough examination of the short and long-term costs and benefits. An initial capital investment into efficiency related items could achieve significant savings that could go back into a revolving fund to initiate additional efficiency measures or on-site energy production.

2031-2046

During this period, we will continue to monitor conservation and efficiency, but we will also need to begin considering ways to fulfill our commitment to net zero emissions. We will investigate and utilize OFFSETS and CREDITS only as a last resort to fulfill our commitment. We anticipate that the market for these items or some appropriate replacement will be well established and adequately monitored and regulated so that we can make prudent decisions as to how to offset our emissions that we are unable to eliminate through other means.

Measures

We propose to reach climate neutrality by applying the following measures. Details on how we plan to engage our faculty, staff, and students are provided in Part 2, the Education section of this plan. Explanations of how we plan to modify our operations to reach these targets are found in Part 3.

Educational Components

We will identify existing components of our curriculum that include sustainability and will begin discussion of how we could incorporate sustainability more explicitly into our curriculum, our co-curricular activities, and in our staff training and professional development. We will also identify and implement ways to educate our community on sustainability. These are detailed later in the Education section of the plan. Two members of our sustainability Task Force participated in AASHE's "Sustainability Across the Curriculum Leadership" workshop in January 2010. The workshop was for faculty leaders of all disciplines who wished to develop curriculum change programs around sustainability on their campuses.

Research

We will expand and improve monitoring of our energy consumption and will incorporate energy studies into classes in environmental science. We will encourage and recognize faculty and students who undertake research that has applicability to issues of sustainability at any level. These actions are described in more detail in the Operations section of the plan.

Tracking

We have specific and measurable ways to track our progress. We will continue annual monitoring of our energy consumption and GHG emissions using the Clean Air Cool Planet software. This will provide us with an annual update on our progress towards climate neutrality. We will also continue to track our overall level of sustainability using the AASHE STARS program. We propose to conduct these assessments on every third year basis. Beyond the basic requirements of these two tracking tools we will also continue to monitor the amount and composition of our solid waste stream, including recycling, and with more refined metering of buildings we will improve our ability to monitor building performance. We will also monitor expenses and return on investment for all sustainability projects to see how well our projected costs and savings match to reality and to better understand what the next appropriate steps should be. This will be described in the Planning and Administration section of the plan.

Assumptions

Federal and state energy policies are currently undergoing scrutiny and new legislation is almost certain. The form that the new policy will have is not known at present, but it seems likely that several things will occur:

1. Renewable portfolio standards at the national level will emerge. This is essential for large electrical generation companies so that they have a common standard across the country. The effect of this will be to increase the amount of renewable, including low or no carbon, electricity over the next 50 years. At present it is a conservative guess that these portfolio standards will require a minimum of 30-50% renewable energy by 2050.
2. Carbon emissions from electrical generation will likely be limited through some form of federal regulation such as cap and trade. This will result in an increased cost for electrical energy and probably an increased cost in carbon offsets (which are currently going for \$5-25 per metric ton with retail climate offset providers). We anticipate that the cost of these credits will increase and that the rate of increase will depend on the nature of the carbon emissions legislation. We assume that by the time we are ready to purchase offsets, the regulatory oversight will have developed to the point that prices will stabilize. We further assume that University of Mount Union will grow from its current size of approximately 2,100 students to 2,400 students within the next decade and that new offerings will involve more year-round use of the campus, new ways of delivering instruction, and more technology-supported instruction.

Approach to Neutrality

Figure 3 illustrates how we plan to reach carbon neutrality as was described in the previous section. We will begin by emphasizing **conservation** practices. Initially this will simply include turning off lights and computers and controlling room temperatures. Eventually it will move into more refined control systems and increased education of the campus. We believe that we can reduce GHG emissions by about 10% over the first 10 years and by an additional 0.5% per year thereafter.

We will also initiate major energy **efficiency** measures that will include improving building envelopes, insulation efficiency of air handlers, and other HVAC equipment on campus and by replacing low efficiency machinery and appliances with higher efficiency units. We intend to reduce our energy consumption by 30% within 10 years by improving efficiency and continue to improve efficiency by about 1.5% per year thereafter.

The third measure relates to our **energy portfolio**. The State of Ohio currently is requiring electric utilities to increase the share of renewable energy sources in their portfolios. We will achieve significant reductions in GHG due to this change alone. We anticipate that this shift will continue throughout our planning time frame and that we will be able to purchase electricity generated from renewable resources from regional generators in case the utility portfolios do not meet our expectations. Our **on-site generation** capacity

increased greatly in 2010 with the installation of a 54kW photovoltaic roof panel that will supply up to 1% of our electrical needs. We will implement other on-site generation during the life of the plan with a goal of achieving five to six times more on-site production.

We do not anticipate that internal **offsets** will be a significant component of our plan. To date we have not included the 130 acres of forest and 100 plus acres of wetland that we own or lease. We estimate that our current holdings would create about 100 tons per year of offsets and that we could find ways to double that level during the implementation.

Finally, we may need to resort to the purchase of **credits**. We will begin by purchasing credits for our air travel with the intent of offsetting 100% of that within ten years. To focus our financial investments on efficiency measures we will delay purchasing additional credits for at least ten years until we have implemented efficiency savings that will save money. This will motivate us to seek the most cost effective and economically responsible measures to reduce our energy consumption and thereby minimize the number of credits that we will eventually have to purchase. The cost of credits will vary depending on the nature of any legislation that is passed creating and regulating credits on the national level.

According to Second Nature, “The price of carbon offsets varies a great deal by project type, wholesale vs. retail price, offset provider, and any verification/standards processes [*part of quotation excluded*] Offset prices can range from as little as \$2 to more than \$50 per metric ton of CO₂e. Some projects are cheaper to carry out than others. For example, ocean sequestration can be quite expensive, as can large wind or hydro projects, while industrial gas destruction and some energy efficiency projects can be inexpensive, but cost is not the only important consideration in choosing offset projects.” Given the above figures the current cost of purchasing credits to offset 100% of our current GHG emissions could cost between \$43,000 and \$1,075,000 per year.

Part Two-Education and Engagement

Education in this context is broadly defined to include our academic curriculum, our professional development programs for faculty and staff, and our community outreach programs. We have been involved in education about sustainability in these areas but we do not have a coherent program to support the inclusion of sustainability in all these places or to evaluate the effectiveness of our programs.

Goals

1. Increase all stakeholders' (students, staff, faculty, alumni, board of trustees, and surrounding community) awareness of sustainability.
2. Increase motivation and willingness to act in a sustainable manner.
3. Encourage behavioral change in students and employees.
4. Build sustainability into the social fabric of the campus including housing, student activities, and business office.
5. Involve students in monitoring our campus by collecting data, analyzing it, and sharing it with the campus and beyond.
6. Promote the campus' sustainability goals and offer rewards for improvements.

Our plan addresses three areas: Co-curricular Education, Curriculum, and Faculty and Staff Development.

Co-Curricular Education

Vision

This co-curricular section proposes ways that Mount Union can provide our students with sustainability learning experiences outside the formal curriculum. Engaging in sustainability through co-curricular activities allows student to deepen and apply their understandings of sustainability principles. University sponsored co-curricular sustainability offerings, possibly coordinated by the office of student affairs and student organizations, could help to integrate sustainability into the campus culture and set a positive tone for the institution.

History (Updated through March 2016)

University of Mount Union has several co-curricular activities and programs that support sustainability:

1. One student organization, SEA-Students for Environmental Awareness, has been active on campus and provides programs and activities for their members and others. Another organization, True North, focuses on wilderness and other environmental issues and was started in the fall of 2015.
2. The student newspaper, "The Dynamo," had regularly published articles on sustainability actions at the University and currently Sustainability is featured in a weekly column in Raider Weekly.
3. A faculty member, with the support of the Sustainability Task Force, organized the first Stark County based component of the Ohio Solar Tour. In the fall of 2015 Mount Union participated in a Community Solar Forum.
4. The University co-sponsored the first Sustainable Alliance Festival with the City of Alliance.
5. The University sponsored the first No Impact Week. A week in the Fall 2015 semester was devoted to reducing our impact on the environment in a wide variety of ways. Each day involved different activities focused around sustainability issues.
6. The Green Raiders developed and led a session focused on a variety of sustainability issues for all incoming freshmen during Orientation.
7. A staff development workshop focused on sustainability was developed and presented each month for new UMU staff members.
8. A faculty development session was held, focused on sustainability as part of the Teaching Matters Program.
9. The Green Raiders have made numerous presentations on a variety of issues related to sustainability to various organizations and residence halls on campus beginning in the Spring of 2015 and continuing.
10. The Green Raiders have developed and implemented a number of programs on campus to raise awareness of different issues related to sustainability. These include Recyclemania, Game Day Challenge, America Recycles, Earth Hour, Earth Month.
11. We have developed a new approach in the Fall of 2015 to recycling and trash collection in classroom buildings by eliminating containers in the classrooms and placing larger containers at each end of the hallways outside the classrooms. This was piloted in Chapman Hall and will gradually be done in all other classroom buildings on campus.
12. We have implemented an annual Green Raider award to go to a worthy student, staff member and faculty member based on their commitment to sustainability.

Actions 2016 and beyond

Our overall goal is to support student groups and campus offices to encourage sponsorship of activities and events for students and dissemination of sustainability concepts. Some details follow:

1. We have continued our involvement in RecycleMania and we propose to continue that. Our overall recycling rates have increased, but we can increase them further. We need to begin planning earlier and get more students involved in the program as well as increase the number of activities surrounding the event.
2. We will work with Student Senate and seek to have a designated representative on the SMAC. We will ask Student Senate to designate a student to serve as a liaison between SMAC and the Student Senate. The student would be a full member of SMAC.
3. We will continue developing and attempting to implement the Green Raider program. We will assess the results of this program each year and work to develop the program based on input from students, faculty, and staff. As part of this program we continue some competitions for sustainable living practices among residence units. We would also work with Student Affairs to promote working sustainability principles and concepts into residence hall educational programs and activities.
4. We will investigate the possibility of creating a “model” residence hall room, apartment, or small house that would display sustainable living practices and green design. We would seek outside funding for this and also involve engineering majors, as well as other students, in the design and monitoring of the unit.
5. Work with Greek Life to create a sustainability outreach activity or event, perhaps co-sponsored by several organizations. This event could also take the form of a competition.
6. Continue periodic “tray less days” in the cafeteria along with publicity about the results.
7. Continue some type of sustainability presentation for entering freshmen in Orientation
8. Incorporate Sustainability into Raider Guide Tours with the introduction of a Campus Sustainability Map.
9. Work with career services to provide information on jobs and internships that are available in sustainability-related career fields.
10. Expand support for student organizations that are focused on different aspects of sustainability.
11. Develop and implement presentations about different aspects of sustainability to various organizations and residence halls on campus. These would be done by the Green Raiders primarily.
12. The Green Raiders will make regular reports to Student Senate about issues related to sustainability on campus.

Curriculum

Vision

This section proposes ways that Mount Union can expand and improve our formal educational programs and courses that address sustainability. A primary function of colleges and universities is to educate students. By training and educating future leaders, scholars, workers, and professionals, higher education institutions are positioned uniquely to prepare students to understand and address sustainability challenges. By offering courses and a curriculum that is relevant to sustainability issues we will help equip students to lead society to a sustainable future. This is clearly aligned with our University's mission, "to prepare students for meaningful work, fulfilling lives, and responsible citizenship."

History (Updated through March 2016)

1. Two of our faculty members attended a workshop sponsored by AASHE to promote the incorporation of sustainability across the curriculum. As a result, "Project Headwaters" was launched on campus and 11 faculty engaged in a one-day workshop on developing classes that include sustainability. Most of the new or revised classes were introduced in the 2010-2011 academic calendar, and continue today.
2. Mount Union already has courses that are focused on or related to sustainability. Of 750 undergraduate and 21 graduate courses offered for credit in the 2014-15 academic year, twelve were focused on sustainability and 60 were related to sustainability which equates to a total of 72 courses or 288 total credit hours. As an example, for many years the Philosophy department has sponsored a Wilderness Trip to the Adirondacks that allows students to learn and reflect about the natural environment in an experiential setting. Mount Union's Environmental Science major, which replaced a less comprehensive Environmental Biology major, contains several courses with explicit learning outcomes related to sustainability.
3. Sixteen of 24 departments offer courses that are related to sustainability:
 - a. Art; Biology; Chemistry; Computer Science; Criminal Justice; Economics; Education; English; Environmental Science; Foreign Language; Geology; Philosophy & Religious Studies; Political Science Psychology; Sociology; Sports Business
4. We have established criteria for classification of courses as either sustainability related or sustainability focused. These can be found in Appendix A.
5. We have taken or sent students and leaders to the AASHE conferences when they are relatively nearby. In 2012, three leaders and several students went to the conference in Pittsburg. In 2013, two leaders and two students went to the Denver conference and in 2015, one leader and 2 students went to the Minneapolis conference.

6. We have had Green Raiders make presentations in various classes and organizations on campus on topics related to sustainability.
7. We have acknowledged the work of some faculty through the annual Green Raider award.
8. We have implemented an assessment process for gauging the sustainability awareness of students as they enter the university as freshmen and as they exit as seniors. We will be using this information to help determine areas we need to focus on for continued improvement.

Actions

2016 and beyond

We will continue to encourage faculty to identify where they are already incorporating sustainability in their courses. We suspect that sustainability is even more ingrained into our curriculum than is indicated by the statistics above. We will also propose measures that will make it easier to identify the ways that the University is addressing sustainability in its curriculum. The proposed revision of the General Education program will provide opportunities for including sustainability and much of our work will be geared towards helping faculty develop general education courses that will also include sustainability. We propose the following ideas for possible implementation:

1. We will continue researching assessment tools and conducting an assessment of students' sustainability literacy and engagement upon entry and again at graduation. We will continue to work with the Office of Assessment and other faculty members to improve our efforts in this area.
2. Obtain sustainability related course offerings from other schools (syllabi, etc.) to help our faculty and perhaps provide a useful beginning point for creating additional sustainability courses in our curriculum.
3. Utilize AASHE resources to enable faculty to better develop courses related to sustainability
4. Work with instructors in the new general education program to support those who desire to incorporate sustainability education into their classes, perhaps utilizing stipends as encouragement.
5. Develop specific courses, a concentration, or certificate program in sustainability in Environmental Science, Engineering, Liberal Studies, or in more than one.
6. Continue to support and expand sustainability focused service learning activities.
7. Utilize Physical Plant staff in teaching moments- HVAC, electricity, and water consumption.
8. Develop a Theme cluster related to sustainability.
9. Develop one or more Capstone courses related to sustainability.

10. Develop and distribute a Campus Sustainability Map which points out campus sites that are utilizing ideas or projects related to sustainability.

Faculty and Staff Development

Vision

This section proposes means by which Mount Union can incorporate sustainability into our faculty and staff training and development programs. Faculty and staff members' daily decisions impact our institution's sustainability performance. Equipping faculty and staff with the tools, knowledge, and motivation to adopt behavior changes that promote sustainability is an essential activity of a sustainable campus.

History (Updated through March 2016)

We actively support professional development and training for all employees on Sustainability.

1. The work of the Sustainability Management Advisory Committee is presented at faculty meetings and through various media sources on campus.
2. In January of 2010, Mount Union sent representatives to the AASHE Sustainability Across the Curriculum Workshop in Atlanta. This workshop presented ideas for small group faculty development, such as the Ponderosa and Piedmont Projects.
3. A Green Raider Award is given annually to a faculty and staff member who have made significant contributions toward increasing the awareness of sustainability and/or improving the sustainable behavior of the campus community.
4. In 2014, four faculty, each in different departments, were actively involved in Sustainability Research Projects.
5. Presentations on sustainability have been given to new staff as part of their staff orientation beginning in 2015.
6. A Lunch and Learn session was presented on Sustainability in 2015.
7. A presentation on sustainability was given to Faculty as part of the Faculty Matters program in 2016.

Actions

2016 and beyond

1. Continue to develop, through Human Resources or other campus offices, training or information in aspects of sustainable living, much as was done with wellness related activities for all employees. Take advantage of our new wellness center to enhance educational opportunities about healthy, sustainable personal lifestyles.

2. Offer sustainability education programs to all employees at least once each year. The programs would include information on recent and proposed sustainability initiatives, policies that help the campus to be more sustainable, and opportunities to learn about and discuss sustainability on our campus.
3. Continue to provide recognition of employees who exemplify high standards of sustainability in their jobs.
4. Continue to work with Human Resources to provide information on campus sustainability policies and initiatives to all newly hired employees.
5. Incorporate a sustainability component into the new faculty orientation process.
6. Create a link to the course offerings posted on AASHE's website to supplement and inform our faculty on course development.
7. Offer support for incorporating sustainability into teaching to faculty who are developing new courses in response to the new General Education program.
8. Continue support or incentives for faculty who wish to incorporate sustainability into their courses or develop a sustainability focused course.
9. Develop a resource base that includes a bibliography and a syllabus bank from both internal and external courses that include sustainability.
10. Work with the Faculty Development Committee to support faculty who want to learn more about incorporating sustainability into their classes. For example, in 2016 we began support of ongoing engineering class projects on developing a bio-gas digester and a solar thermal heat project for the swimming pool.

Part Three-Operations

Our operations plan is divided into eight sections: 1) Buildings, 2) Energy and Climate, 3) Grounds, 4) Materials-Recycling and Waste, 5) Transportation, 6) Information Technology, 7) Dining, and 8) Purchasing. The first five of these are largely under the purview of our Physical Plant and all are under the purview of the Office of Business Affairs.

University of Mount Union's Physical Plant has been pursuing more sustainable practices for many years. Their mission statement highlights their commitment to the goals of sustainability:

"Physical Plant will provide a clean and comfortable environment in all buildings that will support the learning process. We will provide a safe and secure community that fosters a feeling of personal security and protects individuals and university property. The Physical Plant will provide a campus that is pleasantly landscaped, functionally designed, and environmentally responsible."

Buildings

Vision

University of Mount Union desires to maintain and renovate existing buildings and construct new buildings that reflect the best available sustainability practices to create healthy environments for users of the buildings and reduce operating costs. At University of Mount Union, buildings are by far the largest users of energy and the largest source of greenhouse gas emissions on campus. Buildings also use significant amounts of potable water. University of Mount Union will therefore design, build, and maintain buildings in ways that provide a safe and healthy indoor environment for inhabitants while simultaneously mitigating the building's impact on the outdoor environment.

History (updated through March 2016)

The University has already initiated many measures to reduce energy and materials use in buildings:

1. University of Mount Union has an aggressive practice of maintaining and improving the existing buildings on our campus. We use the guidelines and principles of LEED-EB in all of the work we do. However, we have not had any of our renovated buildings certified using the LEED-EB criteria.

2. University of Mount Union has reduced its potable water consumption per square foot through the following measures:
 - a. Eighty five percent of toilets on campus are low flush toilets that use 1.6 gallons of water per flush compared to the older toilets that take 4.5 gallons of water per flush.
 - b. One hundred percent of shower heads on campus are equipped with low flow shower valves that reduce the water used from 5 gallons per minute to 2.5 gallons per minute. This allows us to use less water and conserve energy to make hot water.
 - c. During the 2010-2011 academic year, the water-cooled air conditioning system in the HPCC kitchen was replaced. This saved approximately 1.5 million gallons of water per year.
3. High efficiency furnaces have taken the place of old out dated furnaces in twenty percent of university owned houses. These furnaces on average are 20% more efficient than the old ones. During the 2010-2011 academic year, the boiler in Cope music hall was retubed, the ductwork was cleaned in seven buildings, and the furnace was replaced in 742 Vincent.
4. Individual room sensors for controlling heat have been installed in McCready, Bica-Ross, and Shields residence halls and in all apartment housing. These devices help control the comfort of each room rather than having rooms controlled by a zone thermometer.
5. As existing buildings are renovated we use recycled material for bathroom partitions and carpeting.
6. Window replacements in renovation projects or new construction are double and triple pane products. We are also using low e (low emissivity) glass which minimizes radiative heat transfer, keeping heat in during the winter and out during the summer. Advanced glazing has now been installed in all residence halls. Advanced glazing was completed on all university-owned houses during the 2010-2011 academic year.
7. The conversion to all LED lighting is in process. Completed projects include Haupt House and the Chapel and exterior lighting in the HPCC and King parking lots.
8. Based on what we learn from the initial metering experience we will expand individual building monitoring of building energy usage. Complete the metering of all dormitories and student residences (18 currently completed, 4 in process).
9. Make current solar energy input information available on the website (as of 12/19/2011).

Actions

2016 and beyond

1. Continue to convert all lighting to LED campus-wide (interior and exterior).
2. Continue to upgrade roofs, windows, and walls in existing buildings.

3. Meter all sports facilities and future facilities.
4. Create an online dashboard that compares metered information for all campus residence halls, apartments, and townhouses and includes comparisons to other institutions of similar size and scope.
5. Review and reconsider temperature standards for working spaces (currently 72°F (+/- 2°) year-round).
6. Develop a green cleaning policy in conformance with Green Seal certification.
7. Improve the Building Coordinator role on campus to encourage sustainable practices.
8. Implement or expand programs in residential housing to promote sustainable living practices. These could be high-efficiency lighting give-a-ways, floor competitions, vending misers on vending machines, and installing high efficiency washers/dryers.
9. Install individual room sensors and controllers in residence halls and other buildings as appropriate.

Energy and Climate

Vision

University of Mount Union will reduce its energy consumption through conservation and efficiency, and by switching to cleaner and renewable sources of energy such as solar, wind, geothermal, and low-impact hydropower. At Mount Union, energy consumption is the largest source of greenhouse gas emissions that contribute to climate change. In addition to accelerating climate change, energy generation from fossil fuels, especially coal, produces air pollutants such as sulfur dioxide, nitrogen oxides, mercury, dioxins, arsenic, cadmium, and lead. These pollutants contribute to acid rain as well as health problems such as heart and respiratory diseases and cancer. Coal mining and oil/gas drilling can also damage environmentally and/or culturally significant ecosystems. Nuclear power creates highly toxic and long-lasting radioactive waste. Large-scale hydropower floods habitats and disrupts fish migration.

Implementing conservation measures and switching to renewable sources of energy can help Mount Union save money and protect us from potential utility rate volatility. Renewable energy may be generated locally or regionally and allow us to support local economic development. Furthermore, we can help shape markets by creating demand for cleaner, renewable sources of energy.

History (updated through March 2016)

Energy costs have been increasing over the past decade making energy conservation and efficiency more important and cost effective than ever. We have recognized this and have begun taking specific action to improve our energy intensity.

Most of our buildings were on a single electrical loop and data for individual building use of both electricity and natural gas were not available. To resolve this, we installed electrical metering in 16 of the 20 major buildings on our campus, and installed gas metering in all 20. University of Mount Union is committed to reducing our electricity consumption in all areas, especially in the HVAC system on campus. We are replacing major boiler and chiller systems to improve operating efficiency. We are also adding and upgrading our temperature control systems to use technology to help reduce energy consumption. During the 2010-2011 academic year, we replaced the cooling tower in Chapman Hall, re-tubed the boiler in Cope, upgraded the air conditioning in McPherson, completed ductwork cleaning in seven buildings, and replaced the furnace in one of the University owned houses.

In 2016 we signed a 5-year contract to purchase green energy. Also, in 2016 a Green Revolving Fund, funded initially by the EnerNoc participation dollars, was approved by the Board of Trustees and the first series of projects (totaling no more than \$50,000 with a 5 year ROI) was recommended for approval. In 2015 energy audits were conducted by Plug-Smart in Bracy Hall and Miller Residence Hall. Numerous energy saving projects were suggested, many of which will be included in the Green Revolving Fund Projects.

Actions - Ongoing

Below are policies and procedures that Mount Union will continue to expand. Many of these are developed further below or in other parts of this plan.

1. Continue to replace boilers, chillers, and air handlers with more energy efficient systems.
2. Replace old electric transformers.
3. Use renewable energy sources.
4. Complete individual electric metering of all buildings on campus and continue monitoring utility usage of each building.
5. Install timers and lighting controls in all campus buildings and elsewhere, as appropriate.
6. Attend informational seminars to increase our knowledge of sustainable best practices.
7. Build to LEED Silver specifications in all new and renovated buildings.
8. Educate students, faculty, and staff on energy conservation practices.
9. Upgrade building temperature controls to improve operating efficiency.
10. Continue to conduct energy audits, possibly at several levels (one overall audit for the campus and specific audits for energy consuming systems, like air handlers).

Actions

2016 and beyond

1. Continue to initiate energy conservation policies
 - a. Conservation is the first priority for energy management in our plan. This will focus primarily on behavior modification of campus members and improved monitoring and response (overlap with education/administration).
 - i. Formalize “lights and computer off at night” policy.
 - ii. Work with IT so that only Energy Star computers and peripherals are purchased and other energy conservation measures are initiated. Other examples include sleep modes or software on equipment, server space reduction through new server virtualization or other technology, and paper monitoring and reduction.
 - iii. Educate students and initiate energy conservation competitions for students.
 - iv. Initiate energy conservation competitions or incentives for campus departments.
 - v. Maintain our emphasis on energy conservation, with periodic review and assessment of executed actions.
2. Increase efficiency in existing and new buildings and activities
 - a. Continue to conduct energy audits focusing first on known energy consumers and then on a more general, campus-wide basis.
 - i. Evaluate opportunities for waste-heat recapture.
 - ii. Evaluate use of ground heat pumps throughout campus.
 - iii. Evaluate the feasibility/sustainability of district heating or co-generation.
 - b. Continue retrofitting existing buildings by upgrading windows and lighting systems.
 - c. When roofs need replaced, replace them with reflective or planted “green” roofs.
 - d. Adjust the existing HVAC system as recommended.
 - e. Install motion/light sensors in all facilities.
 - f. Initiate a “green” student residence showcasing efficiency.
 - g. Explore working towards meeting the Architecture 2030 Challenge. The Challenge asks the global architecture and building community to adopt the following targets:
 - i. All new buildings, developments, and major renovations shall be designed to meet a fossil fuel, GHG-emitting, energy consumption performance standard of 50% of the regional (or country) average for that building type.
 - ii. At a minimum, an equal amount of existing building area shall be renovated annually to meet a fossil fuel, GHG-emitting energy

consumption performance standards of 50% of the regional (or country) average for that building type.

- iii. The fossil fuel reduction standard for all new buildings and major renovations shall be increased to:
 1. 60% in 2010
 2. 70% in 2015
 3. 80% in 2020
 4. 90% in 2025
 5. Carbon neutral in 2030 (using no fossil fuel, GHG-emitting energy to operate). These targets may be accomplished by implementing innovative sustainable design strategies, generating on-site renewable power and/or purchasing (20% maximum) renewable energy and/or certified renewable energy credits.

3. On-Site Energy Production

- a. We currently have a 1 kW photovoltaic (PV) array on the roof of the Hoover-Price Campus Center and a 54 kW thin-film PV system on the roof of the Peterson Field House.
 - i. Install a wind turbine at the Huston-Brumbaugh Nature Center.
 - ii. Investigate the installation of solar-thermal for residences, the pool, and locker rooms.
 - iii. Investigate the use of geothermal throughout campus (Gartner Welcome Center (LEED Silver), operates on geothermal).
 - iv. Collect energy from exercise equipment as part of student education.

4. Off-site Alternative Energy

- a. Investigate opportunities for regional alternative energy sources.
- b. Investigate opportunities for collaborative regional facilities (i.e. wind on Lake Erie in conjunction with other institutions).
- c. Investigate options for regional biomass facilities.

5. Offset and Credits

- a. Offsets and credits will likely be a part of our portfolio, but we view them as the last resort after we have achieved a high level of energy conservation, efficiency, and local generation of renewable energy. With the exception of air travel, described in the section on transportation, we will defer purchasing credits in the short term. Some of the questions that we need to answer are:
 - i. Besides air travel, what other areas will require offsets?
 - ii. Do renewable energy credits make sense economically?
 - iii. Will the purchase of credits change behavior?
 - iv. Does the purchase of credits put people to work locally or does it eliminate local jobs?
 - v. Study the availability and cost of credits.

Grounds

Vision

University of Mount Union is proud of its beautiful and welcoming campus. We propose to continue to maintain our campus in a regionally appropriate manner that will use water wisely and minimize the use of harmful landscape chemicals.

History (updated through March 2016)

Our campus is 135 acres in a small city (population approximately 22,000) setting.

University of Mount Union uses limited amounts of fertilizers and pesticides in the care and maintenance of our grounds. We responsibly manage all applications to minimize the risk of environmental damage. We plant and maintain many local species of native plants in our landscaping areas. We have an inventory of our trees, including recommendations for care. We have received the Tree Campus USA certification since 2010. Our trees are part of the city-wide arboretum. When trees need to be removed, those appropriate are sent to be milled and used for on-campus furniture or sold to the mill for use in blocking containers and pallets. Those trees not appropriate for milling are sent to a local lawn care company which makes them into mulch.

Actions

2016 and beyond

1. Continue to update our tree inventory annually
2. Determine areas that could be shifted into lower maintenance plantings with more native, drought tolerant plants, which would result in less watering.
3. Review our grounds-related chemical use to determine ways to further reduce it.
4. Evaluate use of more environmentally-friendly products for snow/ice removal.
5. Look at ways to use landscaping to improve building heating and cooling and minimize the need for mowing and the use of chemicals and fertilizers, all as part of our campus master plan.
6. Investigate the possibility of utilizing water from our university ponds for any needed irrigation.
7. Create educational gardens on campus, including agricultural, native plants, and rain gardens.
8. Implement more solar-powered landscape lighting to reduce our electric costs.
9. Support students in the Engineering Department on their work to design and build a bio-digester that will utilize waste materials from our grounds and dining service, removing it from the landfill

10. Investigate becoming a Bee Campus USA designee by having a pollinator-friendly campus.

Materials Recycling and Waste

Vision

Mount Union intends to move towards zero waste by reducing, reusing, recycling, and composting. These actions mitigate the need to extract virgin materials such as trees and metals. It generally takes less energy to make a product with recycled material than with virgin resources. Reducing waste generation also reduces the flow of waste to incinerators and landfills, which produce greenhouse gas emissions, can contaminate air and groundwater supplies, and tend to have disproportionate negative impacts on low-income communities. In addition, waste reduction campaigns can engage the entire campus community in contributing to our sustainability goals.

History (updated through March 2016)

Mount Union has undertaken many actions to reduce waste, including:

1. Increased recycling through visible placement of recycling bins throughout campus and revised mechanisms for handling waste.
2. Decreased paper use through a print monitoring program on all computers (personal and public computer labs).
3. Decreased waste at the end of the year through a program to intercept items that students would throw away and divert them to charities or recycling (Trash to Treasure Sale).
4. Increased awareness of our waste generation by participating in the RecycleMania program.
5. Achievement of a 29% diversion rate for solid waste (2016).
6. University of Mount Union minimizes construction and demolition waste. We donate all concrete and masonry debris to a local contractor for recycling use for new road bed materials. We keep and re-use wood doors and trim, hardware and other similar building materials when renovation or demolition projects are done.
7. We currently have a recycling program for computers. Our IT department collects all old or outdated equipment. We normally donate it to local school systems. If we are not able to donate them, we contact a recycling company to handle the pickup and disposal.
8. We have a Bio Hazardous Waste Policy. All bio hazardous waste is placed in red bags then picked up and brought to the Physical Plant. We then have the bags placed in a locked cabinet. Pickups are done every two weeks by Stericycle. All chemical wastes are disposed of through EPA approved waste handling companies. Of the total chemical

waste, 175 pounds were considered hazardous. Inventories are maintained in the office of our Chemical Hygiene Officer.

Actions

2016-2020

1. Continue to participate in RecycleMania or other campus-wide waste awareness and reduction activities.
2. Increase our marketing and awareness campaigns for campus-wide recycling. Add more signage on campus to make students aware of the benefits of recycling and the consequences of not recycling.
3. Encourage more recycling during campus tailgating to eliminate cans, bottles, and plastic containers in the trash.
4. Add more exterior recycling bins and improve the accessibility of the existing bins
5. Continue to consolidate recycling and trash collection in the academic buildings to the hallways (eliminate bins in individual classrooms and place larger bins in the hallways). This has been completed in all Academic Buildings.
6. Continue to pursue composting.
7. Plan some zero waste events for the campus through such companies as Terracycle.
8. Achieve a 35% diversion rate for solid waste.
9. Adopt a policy of diverting at least 75% of non-hazardous construction waste from landfills or incinerators.
10. Expand our e-waste program to cover the recycling and reuse of donated items, such as office machines and student computers that are not covered under our current policy.

2020 and beyond

1. Achieve a 50% diversion rate for solid waste
2. Implement a plan for moving to zero waste across campus.
3. Monitor our success at zero waste and develop new plans as technologies change with the intention of achieving overall zero waste by our target year of 2046.

Transportation

Vision

Mount Union recognizes that transportation is a major source of greenhouse gas emissions and other pollutants that contribute to health problems, including heart and respiratory diseases and cancer. Because of our relatively small size and compact campus, our fleet emissions are relatively small. We can reap benefits from implementing sustainable changes to our transportation systems. Bicycling and walking provide human health

benefits and mitigate the need for large paved surfaces, which can help campuses better manage storm water. Also, we can realize cost savings that help support local economies by reducing our dependency on petroleum-based fuels for transportation.

History (updated through March 2016)

University of Mount Union has not developed any programs to encourage their employees and students to bike, walk, carpool, or take mass transit to and from campus since we are a relatively small (135 acre) residential campus. We are in a small city and some of the more common public transit services are not available.

Air travel is an area for which no alternative to carbon-based fuels is currently available, so we will need to consider credits for air travel. The University used a general survey of air travel reimbursement requests to determine the most frequent air travel destinations. Based on an estimation of the number of trips to these destinations and others, a general estimation of air miles flown was 1.7 million (2015). By entering these miles in the Clean Air Cool Planet Inventory of gas emissions, we could estimate that 924 tons of CO₂ are emitted annually (2015).

Vehicles are generally not kept in the fleet for more than 4 years, which means that we are always running the most up-to-date vehicles available. Additionally, the institution has a full-time mechanical staff that maintains current vehicles to peak efficiency.

Mount Union has made some progress in sustainable transportation:

1. More than half of our campus community (59%) walks or bikes for their primary means of transportation.
2. Our GHG emissions per passenger mile are less than 0.9 pounds (2015).
3. SARTA stops exist on Union Ave. by Cope and State St. by MAAC.
4. 246 Bike racks have been placed throughout campus, as well as a Bike Fix-it Station.
5. Campus shuttles are provided to events at the Huston-Brumbaugh Nature Center.
6. Removed interior campus roadway system to provide a more pedestrian/bike friendly space.

Actions

2016-2020

1. Implement a bike trail through campus to connect to the Iron Horse Trail (work with Alliance City Green Commission)
2. Continue to improve the use of local public transportation by working with SARTA to offer reduced price passes to students, staff, and faculty.

3. Try to reduce student transportation energy use and associated emissions by establishing a “ride share” system.
4. Try to improve faculty and staff transportation efficiency by providing desirable dedicated carpool parking spaces or offering carpool incentives.
5. Reduce fleet emissions by purchasing hybrid or other high efficiency, low emissions vehicles.
6. Replace aging gas-powered grounds crew golf carts with electric models to reduce emissions and dependency on fossil fuels.
7. Investigate the need for and cost of parking spaces dedicated to electric only vehicles, including charging stations.
8. Build bins at the Physical Plant for topsoil, mulch, and compost to reduce off campus trips and increase efficiency for small landscape projects.
9. Provide incentives for train or bus travel rather than air travel.
10. Continue to work with the Alliance Mayor’s Green Commission in support of “Fuel-less Fridays”

2020 and beyond

1. Get more detailed records on the nature of our air travel and calculate the emission associated with that more accurately.
2. Study alternatives for air travel offsets.
3. Analyze the budgetary implications of offsets and establish a policy for offsets related to air travel.
4. Continue to replace existing campus automobiles with hybrid or electric, or the currently best available technology. Replacement of vans and trucks will depend on the available of technology. But in any case, we will consider fuel efficiency and level of emissions in selecting replacement vehicles.
5. Require the purchase of offsets for air travel.

Information Technology

Vision

Mount Union relies heavily on its information technology infrastructure for all aspects of our operations. IT activities can consume large amounts of energy and materials. The University will maintain a high-level of service while minimizing economic and environmental costs.

History (updated through March 2016)

University of Mount Union is like many institutions in that it has seen a rapid increase in the demand for information technology services. The numbers of servers, office and laboratory computer, printers, copiers, and other technological devices have increased. Also, the number of multimedia classrooms has increased.

University of Mount Union began a pay to print policy for students several years ago. Each student is allowed 1000 pages on public printers and then was assessed a fee for additional printing. Special cases could be appealed. The result was a decrease in paper consumption.

The IT department has developed a Green IT Initiative that incorporates many of the ideas covered in this section:

1. A Green IT section is included in the IT newsletters distributed electronically to the campus community each quarter.
2. One goal of the IT department, in finding ways to reduce costs and increase environmental sustainability, is through implementing policies on campus machines to save power. This is done by setting the machines to use features that will cause the machines to go into power saving modes when not in use. The IT department is currently in the process of testing these policies on some lab and library computers. According to the software designed to save power, each computer using these settings could provide for considerable savings. Mount Union has approximately 1300 computers on campus as of 2015 and could therefore experience substantial monetary savings.
3. Each year the IT department liquidates unusable equipment. During the 2014-2015 academic year 8,178 pounds of equipment was recycled.
4. Conducted a study on the use of storage area networking and virtual server. Virtualization technology increases the server's efficiency by adding a section within the server called software managements. Server virtualization project has grown to encompass 8 actual servers housing just over 100 virtual servers. This is a consolidation of approximately 12.5:1.
5. Network Operations Center (NOC) renovations in 2014-2015 included the replacement of the air conditioner with row cooling.
6. The server farm has been upgraded to a hot isle containment increasing the efficiency of both power distribution and cooling dramatically from prior configuration.
7. Reviewed patterns and intensity of printing and reduced the number of desktop and superfluous printers to reduce paper and toner, as well as electrical consumption.
8. The University has and will continue to improve server technology using a combination of storage area networking (SAN) and virtualization. These should reduce both electrical consumption and overall cost of maintaining large numbers of uninterrupted

power supplies and servers and improving speed and efficiency of network management, file storage, and backup and user access.

9. Developed policies for sleep mode or other energy saving practices on campus computers.
10. Helped develop sustainable purchasing policies for computers and peripherals.

Actions

2016 and beyond

1. The IT department will continue to monitor its activities and determine means to lower costs and improve efficiency.
2. Continue management of projectors in multimedia classrooms to reduce energy usage.
3. Continue implementation of Desktop virtualization. This process allows for smaller and more efficient desktop clients reducing the energy consumption from an end user perspective.
4. Increase the density of server farm virtualization due to the resources now available in server technologies. Our goal for 2017 is a 20:1 ratio of servers to guest operating systems.
5. Decrease the number of thick clients in labs and replace them with zero clients with an overall reduction of power consumption from the device side without a large increase in power consumption at the datacenter.
6. Continue to use an R2 certified recycler for annual liquidation effort.

Dining Services

Vision

University of Mount Union wants to provide, through its food service contractor (currently AVI), a high quality of healthy food in ways that minimize waste, support local purchasing, and include organic and fair trade certified products. We want to minimize waste in the energy required for food storage and preparation and minimize waste of food and production of solid waste.

History (updated through March 2016)

University of Mount Union has contracted with AVI to provide its dining services. AVI's sustainability principles are outlined on their website, <http://www.avifresh.com/sustainability.html>.

We have had productive discussions with AVI management and although they are willing to work with us on sustainability in food service, we have two major obstacles. First, there is

not a large demand from our student body for a more sustainable food service. Second, we are told that these measures will substantially increase the cost of our food service. Thus, much of our effort here needs to be in education and in the development of local markets.

1. Food service recycles 100% of its corrugated boxes, glass, steel, aluminum, #1 and #2 plastics, and waste vegetable oil.
2. A study on how to use waste vegetable oil in our grounds fleet by making our own biodiesel at the Huston-Brumbaugh Nature Center was completed in 2011; however, due to the condition of the oil, was not successful
3. Food Waste Audits have been conducted to determine the possibility of using a pulper to convert dining hall waste into compost that can be land applied. A presentation from Paglio and Associates on pulpers and processors was conducted and found to be cost prohibitive.
4. Dining Hall implemented a program of shutting off equipment and lights in certain areas when not in use
5. Established a recycle program for office/paper waste.
6. Installed flat screen televisions at each station for menu displaying, instead of paper usage twice daily.

Actions

2016 and beyond

1. Continue to educate the campus community on food waste.
2. Continue to evaluate bio-digesters, composters, or pulpers for dining hall food waste.
 - a. Utilize Engineering Department
3. Consider blackouts of selected parts of the dining commons.
4. Continue to monitor dish machine use to maximize efficiency.
5. Revisit tray less dining.
6. Increase the amount of locally produced food we offer.
7. Review and increase the purchase of fair-trade and organic foods.
8. Implement zero waste meals. All waste should be biodegradable and none should be going to the land fill.

Purchasing

Vision

Mount Union desires to use our purchasing power to help build a sustainable economy, especially focused on our own state and region. Our institution purchases millions of dollars of goods and services every year. Each purchasing delegation represents an opportunity for us to choose environmentally and socially preferable products and services

and support companies with strong commitments to sustainability.

History (Updated through March 2016)

University of Mount Union adopted a Green - Sustainable Purchasing Policy in 2008 that continues today (Appendix C).

Actions

2016 and beyond

Most of the purchasing actions involve initial commitments that have already been made and continual follow up and refinement. Purchasing wants to continue to expand the current purchasing policy to an even more sustainable purchasing policy that encompasses such things as materials and supplies, utilization of companies that promote sustainability, local suppliers (within 250 miles), recyclable shipping containers, and Minority and Women owned businesses.

1. Increase our emphasis on the purchasing of local or regional products.
2. Continue our policy of only purchasing Energy Star appliances where such designations are available.
3. Include explicit sustainability specifications in requests for proposals.
4. Adopt an electronics purchasing policy similar to EPEAT. EPEAT is a system that helps purchasers evaluate, compare, and select electronic products based on their environmental attributes. The system currently covers desktop and laptop computers, thin clients, workstations, and computer monitors (<http://www.epeat.net/default.aspx>).
5. Adopt a paper purchasing policy that will lead us to purchase paper that is made from environmentally preferable materials, maximizing recycled content and using Forest Stewardship Council approved products from virgin fiber (<http://fsc.org/index.html>).
6. Adopt a furniture purchasing policy that will lead us to purchase furniture that is made of environmentally preferable materials.
7. Adopt a policy that will encourage use of recycled or waste-avoided materials such as paint or upholstery whenever possible.
8. Adopt a cleaning product policy similar to Green Seal. Green Seal provides science-based environmental certification standards that are credible, transparent, and essential in an increasingly educated and competitive marketplace (<http://www.greenseal.org>).
9. Adopt a vendor code of conduct for our major suppliers.

Part Four – Planning and Administration

A truly sustainable campus must have an administration that understands and supports the value of sustainability for the vitality and long-term well-being of the institution. We have that at the University of Mount Union and are open to formalizing our commitments in ways that will make the institution stronger economically and a model to our community for environmental and social responsibility. In a sense, we want to operate our institution in ways that model our mission statement. Just as it is our mission to prepare our students for “meaningful work, fulfilling lives, and responsible citizenship,” we want University of Mount Union and its constituents to feel that our work here has meaning and provides fulfillment to our employees and friends and that as an institution we behave as a responsible member of our local community and of the larger academic community.

We understand sustainability in its deepest sense is about the long term. As such, it will require initial investments and policies that may have initial costs associated with them. To be truly sustainable, those investments and costs must be more than repaid in the long term.

Planning

Vision

Planning at several levels is critical to operating a successful institution and providing quality programs. Strategic and master plans guide an institution and its physical campus. These important documents establish an institution’s priorities and influence budgeting and decision-making for the institution. Incorporating sustainability into these plans is an important step in making sustainability a campus priority and may help advocates implement sustainable changes. Sustainability plans and climate action plans provide road maps for how to achieve our sustainability goals.

History (Updated through March 2016)

University of Mount Union has both a Master Plan and a Strategic Plan, both of which receive periodic updates. This document is itself both a sustainability plan and a climate action plan. Our goal with all of these plans is to create them in such a way that they can be informative in the larger planning scheme.

1. The Strategic plan for the University of Mount Union is currently being updated to go to the Board of Trustees in early Fall 2016. We currently have a strategic planning committee that is working on developing the new plan. The previous Strategic Plan

from 2011 included an entire section on ensuring the sustainable management of resources. Within that section there were goals to make the University of Mount Union a leader in the higher education sustainability movement. Several themes identified and accomplished in that plan were:

- a. Updating the campus master plan that would prioritize projects to support the plan.
 - b. Partnerships with local businesses.
 - c. Creating and maintaining a beautiful campus.
 - d. Building additional buildings with LEED standards
 - e. Providing education and awareness on sustainable practices
 - f. Incorporating “green” principles into our operations, administration, and financial structure
 - g. Balancing our financial operational budget
 - h. Continued monitoring of our progress on the initiatives through the steering committee and with an annual update to the Board of Trustees.
2. The University is currently using, and will continue to use, sustainable practices to make good business decisions. Within the Physical Plant, we are consistently looking at retrofits to save energy costs, monitoring our output from geothermal and solar, and utilizing local contractors. Within food service, we are working through several sustainable practices and will continue to do so to meet the mission of the institution. A smaller and indirect sustainability project was the replacement of our payroll system that eliminated all paper distribution of deposit receipts. In all cases, a financial benefit model will be assessed and if it is a break-even proposition, consideration for environmental issues or carbon reduction possibilities will also be considered in the final decision-making process.
 3. In 2016 the Board of Trustees reviewed and approved a Green Revolving Fund. The seed money for the Fund will come from ENERNOC (\$100,000). The first year will support \$50,000 in projects, with paybacks of 5 years or less. All savings will be fed back into the fund for future projects.
 4. Developed sustainable initiatives in and out of the classroom. For example:
 - a. Physical Plant employees have given tours and provided information to students regarding sustainable improvements on campus
 5. Incorporated sustainable elements in our Campus Master Plan, including:
 - a. Promotion of sustainable design, with LEED Silver being the standard for both new construction and renovation.
 - b. Parking and building infrastructure to collect water runoff and re-use it for irrigation.
 - c. Used our energy audit to develop improvement plans and establish priority needs.
 - d. Utilized the facilities’ audit process currently used by Physical Plant to develop a deferred maintenance plan.

- e. Assisted in city infrastructure (roads, storm-water retention).
- f. Enhanced planting and increased native species in landscaping plans.
- g. Improved tree plantings to take advantage of natural shading.
- h. Preserved architectural integrity of historic buildings and still improved energy efficiency.
- i. Created and maintained pedestrian friendly areas – eliminated roadways through campus.
- j. Implemented composting at the Huston-Brumbaugh Nature Center for Nature Center food waste (not campus food waste).

Actions

2016 and beyond

1. Incorporate explicit references to sustainability in the University’s new Strategic Plan.
 - a. Add strategies to use existing resources in a cost-effective manner, effective conservation, recycling, disposal, or renewal of physical assets in a sustainable way, and promoting environmental sustainability.
2. Continue to develop sustainable initiatives in and out of the classroom. For example:
 - a. Tour of the boiler rooms
 - b. Scientific information on electrical, water, and natural gas consumption.
 - c. Effective lighting, sustainable appliances, recycling of existing waste.
 - d. Supporting student research on sustainable initiatives (bio-digesters, alternative energy projects, etc.)
3. Continue to monitor compliance with progress towards the Climate Commitment.
4. Reinforce sustainability in the annual campus planning process and encourage and reward those areas that suggest, implement, and maintain sustainable initiatives.
5. Continue promotion of sustainable design, with LEED Silver being the standard for both new construction and renovation.
6. Develop “green” theme housing.
7. Build carbon/GHG reduction goals in the planning process.
8. Use life-cycle costing to evaluate analytically the dollar decisions being made.
9. Establish means for tracking improvements and benchmarking against other institutions.

Investments

Vision

University of Mount Union can make investment decisions that promote sustainability. Most institutions invest some of their assets to generate income. Together, colleges and universities invest hundreds of billions of dollars. Schools with transparent and democratic investment processes promote accountability and community engagement. Furthermore,

institutions can support the development of sustainable products and services by investing in these industries. Likewise, they can support sustainability by investing in companies and funds that, in addition to providing a strong rate of return, are committed to social and environmental responsibility. Finally, campuses can engage with the businesses in which they are invested in order to promote sustainable practices.

History (Updated through March 2016)

Mount Union has developed a healthy endowment over the last few decades that contributes importantly to the success of our institution. Our Board of Trustees works together with our administration to set guidelines for investments and the investments are managed by professional investment managers. Currently our specific investments are not public knowledge.

Mount Union is affiliated with the United Methodist Church. Their guidelines list some specific social issues that should be avoided and make a more general admonition to choose investments that conform to these social principles:

1. An ecologically just world and a better quality of life for all creation
2. Social justice and the sacred worth of all persons
3. Sound fiscal policies that protect the economic life of all individuals
4. Political and governmental responsibility for protection of basic rights
5. The unity of the world community

Actions

2016 and beyond

1. The investment committee of the board of trustees reviewed several candidates for endowment consulting. One of the criteria was knowledge in socially responsible investing. We decided to maintain the relationship with our current firm and will be studying how to implement sustainability principles into the investments at Mount Union.
2. Once the trustees have advised as to how sustainable investing fits into the overall portfolio of investments consideration will be given to establish a socially responsible advisory committee to oversee investments. This advisory committee would include trustees, faculty, students, and staff (up to 9). Their duties could include:
 - a. Monitoring voter proxies
 - b. Monitoring performance
 - c. Shareholder advocacy
3. In 2016 a Green Revolving Fund was established, which is an internal fund to cycle back savings from energy efficiency improvements to fund new projects in the future.

The establishment of this fund is an indicator of the University's strong commitment to sustainability. This fund establishes a sustainable funding mechanism while reducing operating costs and environmental impacts. The anticipation for this fund is that it will engage the entire campus community in proposing energy efficiency projects and address the established goals of the Sustainability Management Advisory Committee (SMAC). The focus of the fund is renewable energy, water conservation, and energy consumption projects. The fund requires that all projects have a measurable Return on Investment (ROI) of 5 years or less to reinvest for future projects. All project ideas must be submitted to SMAC. SMAC and the Physical Plant Committee will review all project ideas and select those projects that will be funded. The project ideas must include the upfront cost, not to exceed \$50,000, and provide evidence of at least a 20% payback each year after execution (5 year ROI). The Revolving Green Fund is also an option for donors. Therefore, anyone with a passion for renewable energy and sustainability can make a direct donation to support campus projects.

- a. The following is a list of the Green Revolving Fund – Proposed Projects for 2016-2017 (those with an asterisk (*) were selected for funding in Year 1, the others will be considered in proceeding years):
 - i. *Light switch motion detectors. Sensors would turn off the lights when areas are not being used. **Project cost is \$10,000** allowance (100 sensors @ \$100 each). Energy savings is estimated to be \$52/year per sensor. **Payback is 1.9 years**
 - ii. Remote control thermostats for student housing apartments (townhouses and manors). Remote stats would reduce heating and air conditioning settings when the apartments are unoccupied. **Project cost is \$9,000** allowance (30 remote stats @ \$300 each). Energy savings is estimated to be \$100/year each stat. **Payback is 3.0 years**
 - iii. Gulling and Bracy parking lot high mast light pole lights retrofitted to LED bulbs. **Project cost is \$12,000** (12 @ \$1,000 each). Energy savings is estimated to be \$218/year each light. **Payback is 4.6 years.**
 - iv. Campus light poles retrofitted to LED bulbs. **Project cost is \$10,200** (50 poles @ \$204 each). 560 poles total: 150 are done; 410 to do. Energy savings is estimated to be \$42/year (each). **Payback is 4.9 years.**
 - v. Classroom lighting fixtures retrofitted to LED bulbs. **Project cost is \$10,000** allowance (20 classrooms @ \$500 each average cost). Energy savings is estimated to be \$135/year/ each classroom. 74 classrooms total: 0 are done. **Payback is 3.7 years.**

- vi. Bracy Hall chemistry lab fume hood retrofits in Bio-Chem lab 347. **Project cost is \$25,000.** Energy savings is estimated to be \$9,000/year. **Payback is 2.7 years.**
- vii. *Bracy Hall chemistry lab fume hood retrofit in P-Chem lab 332. **Project cost is \$9,500.** Energy savings is estimated to be \$5,500/year. **Payback is 1.7 years.**
- viii. Bracy Hall chemistry lab fume hood retrofit in Faculty Research lab 317. **Project cost is \$9,500.** Energy savings is estimated to be \$3,900/year. **Payback is 2.4 years.**
- ix. Plug Smart Company's Bracy Hall HVAC system chilled water optimization retrofit. **Total project cost is \$20,000** (Plug Smart to contract out all labor and materials). Total savings is estimated to be \$5,945/year. **Payback is 3.4 years.**
- x. Plug Smart Company's Bracy Hall total building lighting retrofit to LED. **Total project cost is \$102,110** (Plug Smart to contract out all labor and materials). Total savings of energy and labor is estimated to be \$20,649/year. **Payback is 4.9 years.**
- xi. *Mount Union's in-house Bracy Hall total building lighting retrofit to LED. **Project cost is \$36,872** for materials only; all installation labor by Physical Plant staff. Energy savings is estimated to be \$16,616/year. **Payback is 2.2 years.**

Sustainability Infrastructure

Vision

Mount Union has many offices and individuals committed to making the campus more sustainable. As we move forward in this work it will become more complex and we will need infrastructure to coordinate our activities, review our successes, and identify our challenges. We will also need to have the ability to be aware of new developments that should impact our efforts.

History (Updated through March 2016)

The University formally established an infrastructure for sustainability when the President's Council created the Sustainability Task Force in 2007. This is described in the Introduction of this plan. The size of the task relating to overall sustainability was becoming increasingly apparent and the need for a position that could serve as a coordinator and clearing house for information and activities was clear. As a result, a proposal was made that a part-time, volunteer position of sustainability coordinator be created. This was a trial position, during which time the Sustainability Task Force and the

sustainability coordinator worked together to determine the scope of work required and made recommendations for the future. Work study students (Sustainability Assistants) were first hired in 2009 and continue to assist with the sustainability work. In 2010 the position of Academic Outreach Coordinator was modified to include sustainability responsibilities. Also, in 2010, the Assistant Director of Physical Plant was named as the Sustainability Coordinator for Physical Plant. In 2015 the title was changed to Sustainability and Campus Outreach Manager and is described in Appendix D.

Actions

2016 and beyond

1. Continue hiring work study students to participate in sustainability work, which includes student education and programming initiatives.
2. Continue the recognition program for students, faculty, and staff who are exemplars of sustainability (Green Raider Award).
3. Plan for and expand publicity about Mount Union's sustainability actions to both internal and external audiences.
4. Work with Academic Affairs to investigate ways that a Center for Sustainability can be developed in conjunction with the existing Brumbaugh Center for Environmental Science. This could be developed using resources from the current Brumbaugh Center but would be substantially expanded to include the full range of sustainability initiatives. Some of the activities that could be the responsibility of the Center for Sustainability would be:
 - a. Serving as the hub for students engaged in sustainability, including the work-study students described above
 - b. Administering recognition programs
 - c. Providing a liaison to Academic Affairs, Physical Plant, Food Service, Purchasing, Human Resources, Information Technology
 - d. Developing inter-campus partnerships/collaboration
 - e. Seeking funding possibilities
 - f. Utilizing student senate representatives, in addition to those from SEA, to be representatives to the Sustainability Management Advisory Committee

Human Resources

Vision

University of Mount Union desires to treat and remunerate its workers responsibly and fairly. Mount Union's people define its character and capacity to perform. Our success as an institution can only be as strong as the community that we build and maintain. Mount Union will bolster the strength of its community by making fair and responsible

investments in its human capital. Such investments include offering benefits, wages, and other assistance that serve to respectfully and ethically compensate workers. Investment in human resources is integral to the achievement of a healthy and sustainable balance between human capital, natural capital, and financial capital.

History (Updated through March 2016)

Mount Union has worked to provide a competitive wage and benefits plan. Mount Union has been able to maintain pay and benefit levels and avoid laying-off any employees, despite a declining student enrollment and a volatile economic environment. Open positions are evaluated against peer and institutional need. Annual increases are comparable to the Consumer Price Index (CPI).

Benefits are made accessible to all employees by offering various premium levels with differing benefit options. All full-time employees are eligible to receive medical and dental insurance, including health and welfare benefits. We provide family medical leave in accordance with the Family and Medical Leave Act (FMLA). University of Mount Union offers domestic partner fringe benefits to both same sex and opposite sex domestic partners of University faculty and staff.

In addition to bi-annual student satisfaction surveys through Noel-Levitz, a higher education consultant, in fall 2015, faculty and staff participated in a campus climate survey. A follow-up survey is expected in future years for comparison and to gauge the effectiveness of initiatives implemented as a result of the survey.

Actions

2016 and beyond

1. The University continues to benchmark compensation (salary and benefits) against peer and aspirant institutions to analyze our competitiveness. Medical insurance offerings are reviewed annually by a Benefits Committee to ensure benefits are meeting the needs of our faculty and staff, while cost savings for the institution are kept in mind.
2. The University is considering a merit-based model of compensation for faculty and staff.
3. The University continues to provide a wellness program, called Healthy Campus, for employees and access to a state-of-the-art fitness center. The fitness center offers many fitness and recreation programs in which employees can participate. In addition, exercise science students offer personal training opportunities for employees. Work will continue through our Human Resources office to educate our employees about sustainable practices at home and at work.
 - a. Biometric screenings are offered annually for all faculty and staff to obtain a health risk assessment.

4. Many programs exist to provide community within the campus structure:
 - a. New Staff Orientation is a one-day program to which each new staff member is invited to learn about the major areas of campus, including a 30 minute session on the history and importance of sustainability at Mount Union
 - b. New Faculty Orientation is similar to New Staff Orientation, but is coordinated by a faculty committee.
 - c. All faculty and staff are invited to attend luncheons, lectures, athletic events, musical, theatre and art exhibitions held throughout the year.
 - d. A campus-wide event to honor retirees, service award recipients, and staff awards is held annually at the conclusion of the academic year.

Diversity, Access, and Affordability

Vision

Mount Union desires to advance diversity, access, and affordability both on campus and in society at large. To build a sustainable society, diverse groups will need to be able to come together and work collaboratively to address sustainability challenges. People of color and low-income communities tend to suffer disproportionate exposure to environmental problems. This environmental injustice happens as a result of unequal and segregated communities. To achieve environmental justice, societies must work to address discrimination and promote equality. Higher education opens doors to opportunities that can help create a more equitable world. The historical legacy and persistence of discrimination based on racial, gender, religious, and other differences make a proactive approach to promoting a culture of inclusiveness an important component of creating an equitable society. In addition, a diverse student body, faculty, and staff provides rich resources for learning and collaboration.

History (Updated through March 2016)

University of Mount Union has a Diversity Initiatives Steering Committee (DISC) that works to foster increased diversity on campus. As a subcommittee of the Faculty's Cross Curricular Development Committee, DISC has the responsibility to recommend and propose policies concerning campus-wide efforts in the areas of:

1. Developing an inclusive curriculum
2. Tracking and evaluating diversity programs implemented at the University and assessing the campus climate for diversity
3. Supporting the efforts of appropriate offices at the University in the creation and maintenance of a diverse student body and a diverse faculty.

The University completed an assessment of diversity attitudes in 2009 and it was analyzed by the Diversity Initiatives Steering Committee (DISC). The assessment showed students are generally satisfied with overall campus diversity, but somewhat reluctant to take a lead in diversity initiatives or enroll in diversity focused coursework. DISC recommended a number of items to the President, including:

1. A strategic initiative be implemented that specifically aims to promote a campus message communicating the definition of diversity. The content of this message would encourage the understanding and discussion of diversity in its many aspects in the classroom.
2. Further research on activities in and out of the classroom that encourage 'socialized diversity,' the use of unstructured activities in addition to the curriculum to promote diversity.
3. A workshop be created for the faculty fall conference on how to interject issues of diversity into individual course curriculum.
4. Collaborations among faculty and staff to get each student some kind of positive, growth experience with people different from themselves.

(Adapted from the Diversity Initiatives Steering Committee AY08-09 Report)

In addition, to keep diversity issues at the forefront, the Office of Multicultural Affairs in the Division of Student Affairs was transitioned to the Office of Diversity & Inclusion to advocate for, coordinate, support, and encourage innovation in university programming and student organizations that are designed to enhance diversity. In 2014, responsibility for International Student Services was moved under this umbrella to put all diversity groups in the same administrative area, thereby enhancing their ability to co-program and support each other as they work toward similar goals.

We have well-developed programs to serve international student and students from groups that are underrepresented on our campus. For international students, the International Student Services Office coordinates various cultural and educational programs for University of Mount Union students. Most notable are the International Teas that give international students the opportunity to share about their home country. Presentations are generally given three times per semester and the events include food from the specific country being discussed. The International Student Services Office also coordinates activities for International Education Week.

International students are given the opportunity to be matched with individuals in the greater Alliance community through the Community Friend Program. This program is a friendship based program and not a host program. International students and Community Friends are encouraged to communicate and share about their respective cultures. In addition, numerous cultural excursions are offered to the international student body and

regularly scheduled shopping trips are arranged for students to purchase basic personal needs items from the local Wal-Mart.

Through the Office of Diversity & Inclusion there are dozens of educational, cultural, and social activities available throughout the year, including speakers, conferences, and awards. The following are goals from the most recently completed Strategic Plan that were met by the time of the Plan's expiration.

- Increase international/minority population to 15% of total student body
- Change name from Multicultural Student Affairs to Diversity & Inclusion
 - BSU House also changed to Diversity Center
- Continue to grow the annual Not Another Statistic Diversity Conference

Additional Accomplishments:

- Diversity Council creation (2012)
- Groups include: SPECTRUM (formerly Gay-Straight Alliance (GSA)), Hispanic Organization Latino Students (HOLA), Black Student Union (BSU), Association of International Students (AIS), Spiritual Life Leadership (SLL), Gender Equality Matters (GEM) (formerly Association of Women Students (AWS))

Actions

2016 & Beyond

1. Increase faculty participation in Not Another Statistic Diversity Conference (NASDC), both in terms of presentations and attendance. This could be incentivized via a Wellness program credit; other incentives need to be developed.
2. Provide diversity/social justice training for faculty and staff to create a more welcoming, inclusive environment for our diverse students and to better model inclusive attitudes to our non-diverse students. This training will be pursued by the following means:
 - a. A faculty/staff track at the NASDC that trains attendees on gender inclusivity and/or how to support Muslim students (These are two currently growing needs.)
 - b. Training at May Days facilitated by DISC
 - c. Training at Fall Faculty Conference facilitated by an external entity and sponsored by DISC
 - d. Training series throughout the year provided by the International Student Services Team, a newly created group tasked with preparing our campus to host a large influx of international students from countries that have been underrepresented on campus prior to now (ex: Saudi Arabia, India, China)

3. Diversify the curriculum through DISC initiative that grants seed money on an application-basis to faculty seeking to infuse diversity topics/experience into a particular class. This initiative will begin in April 2016.
4. Build relationships between Diversity & Inclusion, DISC, and the Office of Admission so that diversity officers are more directly involved with the following:
 - Minority Achievement Award Competition
 - Development of new or different scholarship opportunities
 - Revamping Multicultural Recruitment Coordinator position to encourage hiring of a Spanish-speaker in the Office of Admission
 - Converting the admission process to gender inclusivity via language changes in written materials and verbal expression of this value in tours and meetings with reps
5. Create a prayer space for religiously diverse students.
6. Develop a communication plan for deposit-paid international students in cooperation with relevant Student Affairs offices and the Office of Marketing.
7. Create & maintain programs in support of diverse students and to educate majority students
 - Focus area: TIE (Together Initiating Excellence) – increase frequency from monthly and connect it to existing programs with area high school students such as Great Expectations or Dowling Mentors
8. Formalize the Manzilla Diversity Intern process to provide more equal opportunity for students to be aware of this opportunity and for offices to propose a position.

Public Relations

Vision

Mount Union's image is important to us as an institution. Part of that image is now evolving to include sustainability as one of our core values. We will need to constantly cultivate this aspect of our image as we present ourselves to prospective students and our community.

History (Updated through March 2016)

Numerous feature stories detailing the sustainability efforts of the campus community have been published in local newspapers and on the Mount Union website. There is a website dedicated to sustainability on campus as well.

In addition to marketing the institution's sustainability efforts, the Office of Marketing is strategic in its actions to incorporate sustainable practices in the way it markets the institution. In 2010, the office took on a sustainability and economic viability vs. printed materials campaign to encourage the move from print to electronic communication whenever such a change in delivery method makes sense. In addition, the office utilizes

email, digital signage, and web-based communication sources whenever available, such as online proofing, licensing approval, supply ordering, etc., and reduces waste by using electronic means of delivering proofs of publications whenever possible.

The office implemented a **Sustainability Marketing Communication Plan**, which can be found in Appendix E. We recognize the importance of strategically communicating with our internal and external audiences to successfully implement the plan.

Actions 2016 and beyond

1. The Office of Marketing will complete an annual review of the Sustainability Marketing Communication Plan to determine success, make adjustments, and set a course for the next year. As a result of emerging technology and campus advancements, a number of opportunities for the future will be presenting themselves providing additional vehicles for the promotion of sustainability.

Trademark Licensing

Mount Union wants to ensure that apparel and other products bearing the institution's name and logos are made in environmentally and socially responsible ways. We can promote fair, just, and sustainable labor and manufacturing practices by proactively screening, selecting, and monitoring the factories that produce apparel that bears the Mount Union logo.

History (Updated through March 2016)

The University of Mount Union has partnered with Licensing Resource Group (LRG). LRG is responsible for monitoring and verifying that apparel bearing the institution's name is produced under fair conditions. This includes protecting the rights of workers who sew and make products to be sold in the United States. They participate in both the Fair Labor Association (FLA) and Worker's Rights Consortium (WRC) programs. They are responsible for making sure that all licensed apparel purchased by Mount Union conforms to the requirements of both organizations.

Actions 2016 and beyond

1. We will continue these partnerships and contracts and be vigilant about other opportunities to promote fair and healthy labor and manufacturing processes for items that we purchase and sell.

2. We will compile and continually update a list of licensed vendors who manufacture environmentally-friendly promotional products and post it on both the sustainability and licensing portions of the Mount Union website.

Community Relations and Partnerships

Vision

Mount Union has a strong tradition of positive involvement with our community. We work in many ways to give back to our community through community service, engagement and partnerships. Volunteerism and the sense of compassion that community service helps develop are fundamental to achieving sustainability. Students have made tangible contributions that address sustainability challenges through community service in numerous ways. In addition, community engagement can help students develop leadership skills while deepening their understandings of practical, real-world problems. Institutions can contribute to their communities by harnessing their financial and academic resources to address community needs.

History (Updated through March 2016)

Mount Union has an extremely active service learning arena and long tradition of activities that serve the local and the international community. We also provide financial incentives for students to enter public service through tuition remissions and slightly more than 1% of our graduates have taken advantage of that.

The University has provided resources to the Alliance Mayor's Green Commission, including people, meeting spaces, computer access and more. The University has also helped promote a local Farmers' Market in Alliance.

Actions

2016 and beyond

1. Maintain and expand the programs above that will continue strong community relations
2. Continue involvement with the Ohio Solar Tour
3. Continue organizing and sponsoring the end of the year Trash to Treasure sale
4. Continue to keep sustainability education at the forefront of our efforts.
5. Work with the Alliance Green Commission to develop complimentary Campus and Community Resiliency Plans.

Part Five – Plan Implementation, Revision, and Assessment

This is a long-term plan and thus will of necessity be revised many times during its effective life.

Specifically, we will need to:

1. Provide opportunities for the campus community to respond to and contribute to the plan.
2. Intentionally update the plan on an annual basis and conduct major reviews and modifications of the plan every five years.
3. For each major area and task we need to develop specific assessment tools so that we can monitor our progress.
4. Maintain clear channels of communication about the plan both internally and externally.
5. Consider the use of consultants in refining and furthering the plan.
6. Consider the possibility of creating a more permanent infrastructure for coordinating and supporting the implementation of the plan.

Our assessment will include narrative generated by SMAC in an annual report to the president and externally distributed via annual updates to our GHG Inventory and every three years via our STARS submission.

Appendix A. Definitions of Terms and Acronyms

AASHE – Association for the Advancement of Sustainability in Higher Education. AASHE is an association of colleges and universities that are working to create a sustainable future. Their mission is to empower higher education to lead the sustainability transformation. They do this by providing resources, professional development, and a network of support to enable institutions of higher education to model and advance sustainability in everything they do, from governance and operations to education and research. AASHE defines sustainability in an inclusive way, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations. AASHE is a member-driven, independent 501(c)(3). Membership in AASHE covers every individual at an institution. Mount Union has been a member since 2008
<http://www.aashe.org/about/about.php>.

ACUPCC - The American College & University Presidents Climate Commitment is a high-visibility effort to address global warming by garnering institutional commitments to neutralize greenhouse gas emissions, and to accelerate the research and educational efforts of higher education to equip society to re-stabilize the earth's climate. Mount Union became a signatory in December 2007.
<http://www.presidentsclimatecommitment.org/about>

CLEAN AIR – COOL PLANET Software designed specifically for use in calculating carbon emissions on campuses. It is the default standard for such use and is recommended by ACUPCC. It relies on a number of well documented assumptions. For more information, see <http://www.cleanair-coolplanet.org/>

CLIMATE NEUTRALITY – Climate neutrality occurs when The University has zero net emissions of greenhouse gasses. This occurs as the result of reducing emissions, increasing uptake, and purchasing carbon credits.

CO2 EQUIVALENTS (Abbreviated CO₂e) - Different gasses have different abilities to retain heat near the earth's surface. To simplify comparisons the release of every major greenhouse gas is converted to a carbon dioxide equivalent.

CONSERVATION – Measures that save energy by not using it such as turning off lights and appliances and reducing travel.

CREDITS – When an entity reduces its GHG emissions and does not take credit for those reductions, it can sell those credits to others. For example an entrepreneur that generates electricity from wind is effectively reducing the amount of carbon dioxide released as

compared to conventional fossil-fuel generation. The entrepreneur could sell these credits on a carbon exchange. See [OFFSETS](#). Purchasing credits does not reduce the GHG emission of the purchaser but it can reduce the GHG emission on a global scale and support a market for renewable energy resources.

ECO-REPS – Students who are ambassadors or agents for positive change on campus who promote sustainable living in residence halls and through student organizations.

EFFICIENCY – Measures that reduce energy consumption by getting more results out of the energy that is used.

GREENHOUSE GASES (GHG) – Any atmospheric gases other than water vapor that trap heat in the atmosphere are often called greenhouse gases. The principal gases are:

1. **Carbon Dioxide (CO₂)**: Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed
2. from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
3. **Methane (CH₄)**: Methane is emitted during the production and transport of coal, natural
4. gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
5. **Nitrous Oxide (N₂O)**: Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
6. **Fluorinated Gases**: Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial
7. processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases (“High GWP gases”).

LEED – The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria. There are different rating systems including new construction and existing buildings (EB).

OFFSETS – Measures that an institution takes to remove GHG’s from the atmosphere. In our case this would be forests and natural ecosystems that are protected. See [CREDITS](#).

SCOPE OF EMISSIONS - As described by the ACUPCC in their Implementation Guide for colleges and universities:

1. **Scope 1 GHG** emissions are those directly occurring "from sources that are owned or controlled by the institution, including: on-campus stationary combustion of fossil fuels; mobile combustion of fossil fuels by institution owned/controlled vehicles; and "fugitive" emissions. Fugitive emissions result from intentional or unintentional releases of GHGs, including the leakage of HFCs from refrigeration and air conditioning equipment as well as the release of CH₄ from institution-owned farm animals" (ACUPCC Implementation Guide p.11). For University of Mount Union this is almost entirely natural gas used for space and water heating and laboratory use.
2. **Scope 2 GHG** emissions are "indirect emissions generated in the production of electricity consumed by the institution" (ACUPCC Implementation Guide p. 11).
3. **Scope 3 GHG** emissions are all the other indirect emissions that are "a consequence of the activities of the institution, but occur from sources not owned or controlled by the institution" such as commuting, air travel for university activities, waste disposal; embodied emissions from extraction, production, and transportation of purchased goods; outsourced activities; contractor owned- vehicles; and line loss from electricity transmission and distribution" (ACUPCC Implementation Guide p. 11-12).

SMAC – Sustainability Management Advisory Committee. This Committee was developed by Mount Union President Richard F. Giese in 2010 to continue and build upon the work of the Sustainability Task Force.

STARS - Sustainability Tracking, Assessment and Ratings System. This system was developed by AASHE to help institutions of higher education determine their current level of sustainability and to provide a means by which to assess their improvement and if they wish, to compare themselves with other institutions. Mount Union participated during the pilot phase and intends to go through the review process every three years <http://www.aashe.org/about/about.php>.

SUSTAINABILITY FOCUSED COURSES - concentrate on the concept of sustainability.

SUSTAINABILITY RELATED COURSES - contain one or more components of sustainability or deal with one or more sustainability principles (social, economic or environmentally sound practices) without focusing the course on those components.

SUSTAINABILITY RESEARCH - the investigation of ways whose purpose is to improve or increase our understanding of material, financial or human resource utilization in ways that benefit the current generation without compromising the ability of future generations to use those same resources to meet their needs. Examples of Sustainability Research: (1) study of algae growth and potential to harvest alternative fuel bio-oils from it, (2) model the economic impact of a low cost water purification system, and (3) analyze the social risks and benefits associated with city rooftop gardens. Examples of what would not be considered sustainability research: (1) develop a new low cost synthesis of aspirin, (2) analyze the affects of commodity utilization in China, and (3) study the correlation between depression and teen suicide rates.

Appendix B. Sustainability Task Force/Management Advisory Committee Members

Members of the Sustainability Task Force (participants in the development of the original draft plan):

Alexander, Brandon – Student

Babos, Heidi – Student, Students for Environmental Awareness (SEA)

Cunningham, Danielle – AVI Food Service

Draves, Jeffrey – Faculty, Chemistry and Environmental Science

Frazier, John – Administration, Vice President Student Affairs

Gardner, Melissa – Administration, Executive Director Public Affairs

Giese, Sandra – Community

Gotch, Al – Faculty, Chemistry

Gravlee, Tiffany – Community

Heddleston, Patrick – Administration, Vice President Business Affairs

Hord, Elizabeth – Student, Janus

Kelly, Shannon – Student

Kramer, Stephen – Faculty & Sustainability Coordinator

Lewis, Blaine – Administration, Director, Physical Plant

McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science

Moore, Amanda – Student, Student Senate President

Paidas, Harry – Administration & Faculty

Peterson, Rod – Administration, Auxiliary Services

Rhodes, James – Administration, Physical Plant

Smith Alder, Angela – Faculty, Criminal Justice and Political Science

Stuchell, Tina – Information Technology, Director

Tidman, Paul – Faculty, Philosophy

Walker, Ashley – Student, Janus

Members of the Sustainability Management Advisory Committee during the 2010-2011 academic year:

Babos, Heidi – Student, Students for Environmental Awareness (SEA)
Collins, Julia – Student, Students for Environmental Awareness (SEA)
Cunningham, Danielle – AVI Food Service
Frazier, John – Administration, Vice President Student Affairs
Gardner, Melissa – Administration, Executive Director Public Affairs
Giese, Sandra – Community
Gotch, Al – Faculty, Chemistry
Gravlee, Tiffany – Community
Heddleston, Patrick – Administration, Vice President Business Affairs
Horning, Martin – Faculty, Economics, Accounting, & Business Administration
Kee, Natalie – Sustainability and Academic Outreach Coordinator
Kramer, Stephen – Faculty & Sustainability Coordinator
Lewis, Blaine – Administration, Director, Physical Plant
McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science
Muga, Helen – Faculty, Engineering
Peterson, Rod – Administration, Auxiliary Services
Rhodes, James – Administration, Physical Plant
Stuchell, Tina – Information Technology, Director
Suhar, Zak – Student

Members of the Sustainability Management Advisory Committee during the 2011-2012 academic year:

Bair, Danielle – AVI Food Service
Collins, Julia – Student, Students for Environmental Awareness (SEA)
Cooper, Len – Faculty, Communications
Frazier, John – Administration, Vice President Student Affairs
Gardner, Melissa – Administration, Executive Director Public Affairs

Giese, Sandra – Community
Gravlee, Tiffany – Community
Heddleston, Patrick – Administration, Vice President Business Affairs
Kee, Natalie – Sustainability and Academic Outreach Coordinator
Kelly, Sarah – Student, Sustainability Assistant & Student Senate Representative
Kramer, Stephen – Faculty & Sustainability Coordinator
Lewis, Blaine – Administration, Director Physical Plant
McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science
Muga, Helen – Faculty, Engineering
Peterson, Rod – Administration, Auxiliary Services
Phillips, Jesse – Student, Sustainability Assistant
Rhodes, James – Administration, Physical Plant
Stuchell, Tina – Information Technology, Director
Suhar, Zak – Student
Tidman, Paul – Faculty, Philosophy

Members of the Sustainability Management Advisory Committee during the 2012-2013 academic year:

Bair, Danielle – AVI Food Service
Cooper, Len – Faculty, Communications
Frazier, John – Administration, Vice President Student Affairs
Giese, Sandra – Community
Gravlee, Tiffany – Community
Heddleston, Patrick – Administration, Vice President Business Affairs
Kee, Natalie – Sustainability and Academic Outreach Coordinator
Kelly, Sarah – Student, Sustainability Assistant & Student Senate Representative
Kramer, Stephen – Faculty & Sustainability Coordinator
Kruckenberg, Theresa – Student, Sustainability Assistant
Laret, Lindsey – Administration, Residence Life

Lewis, Blaine – Administration, Director Physical Plant

McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science

Muga, Helen – Faculty, Engineering

Phillips, Jesse – Student, Sustainability Assistant

Poorbaugh, Joni – Administration, Marketing

Rhodes, James – Administration, Physical Plant

Smith, Dave – Administration, Information Technology

Stuchell, Tina – Information Technology, Director

Suhar, Zak – Student

Tidman, Paul – Faculty, Philosophy

Members of the Sustainability Management Advisory Committee during the 2013-2014 academic year:

Bair, Danielle – AVI Food Service

Cooper, Len – Faculty, Communications

Frazier, John – Administration, Vice President Student Affairs

Giese, Sandra – Community

Graham, Leah – Sustainability and Academic Outreach Coordinator

Gravlee, Tiffany – Community

Heddleston, Patrick – Administration, Vice President Business Affairs

Kavulla, Marge – Administration, Information Technology

Kelly, Sarah – Student, Sustainability Assistant & Student Senate Representative

Kramer, Stephen – Faculty & Sustainability Coordinator

Kumler, Lori – Faculty, Political Science

Laret, Lindsey – Administration, Residence Life

Lewis, Blaine – Administration, Director Physical Plant

McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science

Muga, Helen – Faculty, Engineering

Poorbaugh, Joni – Administration, Marketing
Rhodes, James – Administration, Physical Plant
Stuchell, Tina – Information Technology, Director
Tidman, Paul – Faculty, Philosophy

Members of the Sustainability Management Advisory Committee during the 2014-2015 academic year:

Baity, Steve – AVI Food Service
Bondoni, Diana – Administration, Physical Plant
Good, Laura – Administration, Assistant to the President
Goswick, Dan – Student, Sustainability Assistant
Graham, Leah – Sustainability and Campus Outreach Manager
Gravlee, Tiffany – Community
Johnstin, Theresa – AVI Food Service
Kavulla, Marge – Administration, Information Technology
Kramer, Stephen – Faculty & Sustainability Coordinator
Kumler, Lori – Faculty, Political Science
Laret, Lindsey – Administration, Residence Life
McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science
Muga, Helen – Faculty, Engineering
Peterson, Rod – Administration, Auxiliary Services
Popovich, Matthew – Student, Student Senate Representative
Poorbaugh, Joni – Administration, Marketing
Rhodes, James – Administration, Physical Plant
Stuchell, Tina – Information Technology, Director
Switzer, Jessica – Student, Sustainability Assistant
Tidman, Paul – Faculty, Philosophy
Treubig, Stephanie – Student, Sustainability Assistant

Members of the Sustainability Management Advisory Committee during the 2015-2016 academic year:

Baity, Steve – AVI Food Service

Bondoni, Diana – Administration, Physical Plant

Canavan, Jess – Administration, Admissions

Cooper, Len – Faculty, Communications

Dawson, Ali – Student, Green Raider

Dietz, Gretchen – Student, Green Raider

Good, Laura (Chair) – Administration, Human Resources

Greiner, Jamie – Sustainability and Campus Outreach Manager

Johnstin, Theresa – AVI Food Service

Kavulla, Marge – Administration – Information Technology

Kramer, Stephen – Faculty & Sustainability Coordinator

Kumler, Lori (Chair) – Faculty, Political Science

Mason, Sheryl – Faculty, Chemistry

McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science

Poorbaugh, Joni – Administration, Marketing

Rhodes, James – Administration, Physical Plant

Rudibaugh, Lindsey – Administration, Residence Life

Schuller, Aimee – Administration, University Store

Sherer, Sara – Administration, Residence Life

Stuchell, Tina – Information Technology, Director

Tidman, Paul – Faculty, Philosophy

Members of the Sustainability Management Advisory Committee during the 2016-2017 academic year:

Arif, Shelah – Faculty, Engineering

Augustine, Reilly – Student, Green Raider

Baity, Steve – AVI Food Service

Bondoni, Diana – Administration, Physical Plant
Canavan, Jess – Administration, Admissions
Cooper, Len – Faculty, Communications
Dietz, Gretchen – Student, Green Raider
Glenn, Mallory – Student, Green Raider
Good, Laura – Administration, Human Resources
Greiner, Jamie – Sustainability and Campus Outreach Manager
Johnstin, Theresa – AVI Food Service
Kavulla, Marge – Administration – Information Technology
Kelman, Margot – Community
Kramer, Stephen – Faculty & Sustainability Coordinator
Kumler, Lori – Faculty, Political Science
Mason, Sheryl – Faculty, Chemistry
McClagherty, Charles – Faculty, Biology & Director, Brumbaugh Center for Environmental Science
Fraley, Justine – Administration, Marketing
Rhodes, James – Administration, Physical Plant
Rudibaugh, Lindsey – Community
Schuller, Aimee – Administration, University Store
Sherer, Sara – Administration, Residence Life
Stallman, Jake – Student, Green Raider
Stamco, Corey – Administration, Admissions
Tidman, Paul (Chair) – Faculty, Philosophy

Eco-Reps, Sustainability Assistants, Green Raiders

Prior to Fall 2013 – Jesse Phillips, Sarah Kelly, Theresa Kruckenberg, Zak Suhar, Kelly Slutz, Celia Kovalik

2013/2014 – Becky Oblak, Cory Ross, Cameron Rudibaugh, Hayley Buzulencia, Jesse Phillips, Rachel Smith, Sarah Kelly, Stephanie Treubig

2014/2015 – Becky Oblak, Taylor Cline, Alana Dawson, Josh Pryor, Natalie Nickles, Dylan

Garritano, Haley Buzulencia, Jessie Swanson, Jessica Switzer, Stephanie Treubig, Dan Goswick, Andy Fields

2015/2016 – Becky Oblak, Taylor Cline, Alana Dawson, Natalie Nickles, Courtney Berish, Brett Radabaugh, Adam Infantino, Reilly Augustine, Gretchen Dietz, Morgan Huffman (Fall only – internship in Spring), Jessamine Klefman (Fall only – study abroad in Spring)

2016/2017 – Angel Myers, Olivia “Sophie” Ramsey, Mallory Glenn, Angelica Bartholomew, Brett Radabaugh, Darren Krolikowski, Jake Stallman, Courtney Berish, Reilly Augustine, Gretchen Dietz (Volunteers: Rebecca Cooper, Megan Hoover, Darrin Redus)

2017-2018 – Olivia “Sophie” Ramsey, Angelica Bartholomew, Brett Radabaugh, Darren Krolikowski, Jake Stallman, Megan Hoover, Barry Grant, Joshua Thorne, Devin Farmiloe, Emily Keller, Jared Marsh (Volunteer: Mallory Glenn)

Appendix C. Green-Sustainability Purchasing Policy

PURPOSE

Responding to the growing need for environmental stewardship and The University's commitment for the implementation of sustainable practices, University of Mount Union has adopted this Green- Sustainability Purchasing Policy. Green-Sustainability Purchasing is defined as taking into consideration the impact of products on the environment and human health when making purchasing decisions, giving preference to more environmentally friendly and energy efficient products when quality and cost are equal or superior. Green purchasing guidelines are a formal set of goals that direct The University's implementation of green-sustainability purchasing.

PURCHASING GUIDELINES

Product specifications and requisitions for products must conform to the following guidelines:

- 1) To the extent such information is known, requisition originators shall identify in the purchase requisition products available with recycled content or qualified ENERGY STAR products and vendors from whom such products are available.
- 2) The Purchasing Department and/or Delegate has the authority to specify a minimum recycled content or approved ENERGY STAR qualified product in bid specifications.
- 3) Specifications and requisitions shall not require the exclusive use of products made from virgin materials, nor specifically exclude the use of recycled-content or ENERGY STAR qualified products.
- 4) Performance standards must be reasonable and related to function and purpose, and shall not be designed to exclude the purchase of recycle-content products or products that are ENERGY STAR qualified.

The current list of ENERGY STAR qualified products is available on-line at www.energystar.gov. In addition, other considerations involved in requisition specifications include the ability of a product and its packaging to be reused, reconditioned, or recycled through The University's existing recycling collection program.

PURCHASING POLICIES AND GOALS

- To maintain a consistent “cradle to grave” supply chain and purchasing process which considers economic, ethical, social and environmental impacts for all contracts and purchases.
- To integrate green-sustainability purchasing concepts and products into architectural designs, final construction documents and into the final construction or renovation of University of Mount Union buildings.
- To utilize environmentally responsible biodegradable solvents and cleaning supplies whenever practicable as long as quality and performance is not compromised.
- To conduct research and procure alternative energy when practicable, from certified alternative energy suppliers.
- To evaluate the purchase of fleet vehicles that utilize alternative fuel and/or increase the average fuel efficiency of the overall fleet.
- To ensure that proper MSDS (Material Safety Data Sheets) are identified in all purchasing specifications and kept on record as required by OSHA.
- To work with suppliers in the area in the areas of reduction and reuse of packaging materials.
- To make suppliers aware of University of Mount Union’s Green Purchasing Policy, sending a clear message that University of Mount Union will favor those suppliers whose products meet the environmental objectives of The University.
- More specifically, University of Mount Union will consider utilizing to the fullest extent possible, environmentally friendly or green products that have the following attributes or qualities:
 - Durable as opposed to single use or disposable items.
 - Made of recycled materials, maximizing post-consumer content.
 - Non-toxic or minimally toxic, preferably biodegradable.
 - Highly energy efficient in production and use.
 - Recyclable, but if not, may be disposed of safely.
 - Made from raw materials obtained in an environmentally sound, sustainable manner.
 - Manufactured in an environmentally sound, sustainable manner by companies with good environmental track records.
 - Cause minimal or no environmental damage during normal use or maintenance.
 - Shipped with minimal packaging (consistent with care of product).
 - Produced locally or regionally to minimize the environmental cost of shipping and the reduction of emissions during transportation.

Hence forth, University of Mount Union will give preference to environmentally superior products, where quality, function and cost are equal or superior. Whenever practicable and possible, products and packaging materials will contain a prescribed minimum postconsumer recycled content and will be minimized and/or substituted with more environmentally appropriate alternatives. All products will be chosen based on efficient use of energy, natural resources and potential for safe, non-hazardous disposal.

Whenever practicable means that the recycled products can perform the function intended at least as well as products from only virgin material, and the cost of the recycled product reasonably approximates the cost of the product produced only from virgin materials.

Appendix D. Sustainability and Campus Outreach Manager

History

Dr. Stephen Kramer was appointed as the volunteer sustainability coordinator for the academic year 2009-2010. Dr. Kramer had recently retired after a long career in the Psychology Department at the University of Mount Union and had extensive experience working with students in the areas of social responsibility and service. In 2010, Natalie Kee was hired as the Sustainability and Academic Outreach Coordinator and worked in conjunction with Dr. Kramer. In 2013, Leah Graham replaced Natalie Kee and in 2015, Jamie Greiner was hired as the Sustainability and Campus Outreach Manager.

The following is the Position Description for the Sustainability and Campus Outreach Manager (10-month full time)

The Sustainability and Campus Outreach Manager will work to achieve three general goals at the University:

1. Support and expand the Campus commitment to sustainability.
2. Initiate and support programs that enhance opportunities for UMU students, faculty, and staff using the resources of the Huston-Brumbaugh Nature Center.
3. Support the educational programs of the Brumbaugh Center for Environmental Science with emphasis on UMU courses, co-curricular programs, and recruitment, retention and placement of UMU students.

Specific duties

1. Work with Nature Center to offer programs with emphasis on programs that would be of interest to campus constituents
2. Support Environmental Science classes and student research at UMU (teaching may be possible if qualified)
3. Work with Student Affairs to develop sustainability activities and education for students and student organizations
4. Train and coordinate sustainability assistants (Green Raiders)
5. Provide administrative and programmatic support to the Sustainability Management Advisory Committee.
6. Operate the AASHE STARS assessment including data collection, verification and entry
7. Develop and operate programs that enhance STEM education including directing District 13 Science Fair or related activities
8. Other activities that promote sustainability and environmental education on campus and in the community.

Qualifications

1. Bachelors degree in natural science or related field. Masters preferred.
2. Understanding of and experience with sustainability, especially as related to universities
3. Ability to create and manage programs involving a variety of internal and external stakeholders
4. Strong oral and written communication skills
5. Good organization and time management skills
6. Experience using Microsoft Office Suite, including Word, Excel, Access
7. Commitment to sustainability

It is NOT intended that this position would replace the Sustainability Management Advisory Committee (SMAC) because the regular participation and input of all aspects of the community will continue to be critical as we resolve the challenges and seize the opportunities that lie ahead of us. Administratively, the position is attached to Academic Affairs and works closely with the SMAC.

Appendix E. Sustainability Marketing Plan Detail

Sustainability Marketing Communication Plan

Updated: April 12, 2016

Objective

The objective of the Sustainability Marketing Communication Plan is to communicate, primarily to the internal audience of Mount Union, the efforts the Mount Union community is undertaking in the mission to be a sustainable environment. This plan will be used to educate the internal community but will also serve as a launching pad on how to approach external communications on the efforts of the institution.

Goals

- Educate the Mount Union campus on the sustainability success stories on campus and the plans to make the campus more sustainable
- Encourage new opportunities to be shared and discovered with the campus
- Search out marketing and communication opportunities that are socially, financially and environmentally sound in order to create a sustainable, efficient and healthy atmosphere for our students, faculty and staff
- Contribute to educating a campus community that is mindful of sustainable actions
- Keep the campus community informed about the sustainability plan and our progress towards implementation

Target Audiences

- Faculty
- Staff
- Students
- Board of Trustees
- Alumni
- Members of the Alliance and surrounding communities
- Media

Target Messages

- In an effort to be a responsible campus, it is necessary that we as a community are sustainable in our actions.
- The Sustainability Management Advisory Committee (SMAC) is a resource for the campus at large and can assist, through its affiliations with various organizations, in the implementation of initiatives.
- Mount Union lives green.
- There are sustainability experts among the Mount Union community with extensive knowledge.

- SMAC organizes programs to encourage and assist students, offices and departments to strive to do more in a sustainable fashion.

Tactics

1. We will share the recently updated sustainability plan and promote it among all Mount Union audiences.
 - Include link to updated plan in Raider Weekly email
 - Use social media platforms to drive campus community members to the updated plan online.
2. We intend to further enhance our public relations efforts with respect to our sustainability plan through the utilization of all media outlets.
 - Work continually with media outlets to pitch stories and provide expert testimony.
 - Promote sustainability-related events on the Mount Union website, in Raider Weekly and on social media channels.
 - Work with the Nature Center to promote programming and facilities to the campus and greater Alliance community.
 - We will utilize the Mount Union website to highlight accomplishments in the news section.
 - We will incorporate social media networks such as Twitter and Facebook to further drive our constituents to web stories that feature our sustainability efforts.
 - Provide updates through e-newsletters such as Mount Union Matters, Trustee Insider, Raider Weekly and the Parent Newsletter.
3. We will continue to enhance the sustainability websites' presence as part of the larger Mount Union marketing site.
 - We will utilize the Mount Union blog to keep our constituents up to date on recent progress and to highlight sustainable efforts.
 - We will strategically use Twitter and Facebook to drive audiences to the sustainability site.
 - We will post "Green Tips" on a regular basis on the Mount Union Twitter site.
4. We will actively promote the sustainability-related work on campus to internal audiences – faculty, staff and current students.
 - We will strategically communicate sustainability news to faculty and staff.
 - Provide a monthly focus on sustainability within Raider Weekly (Green column).
 - Use social media to push sustainability-related messages to students.
 - Create a visual campaign on campus that will identify sustainable practices in action.
 - Utilize digital signage on campus to highlight organizations, activities and opportunities while cutting back on paper and poster bulletin boards.

Appendix F. Sustainability Accomplishments

2015-2016 Academic Year Accomplishments

1. Updated the 2010 Campus Sustainability Plan. Each Sub-Committee was assigned specific sections and worked with numerous campus constituents to update information.
2. Improved campus Sustainability communication through various e-mail blasts, announcements, posters, flyers, and Raider Weekly Articles.
3. Upon approval by the Board of Trustees to initiate a Green Revolving Fund, SMAC worked with members of Physical Plant and Marketing to write an informational article for the Local Newspaper and the UMU webpage explaining the Fund.
4. Administered a campus-wide survey to solicit Green Revolving Fund Project Ideas.
5. Completed the following Green Revolving Fund Projects: 1) LED Lighting retro-fit in Bracy Hall, 2) Installed 100 Motion Sensors, and 3) Upgraded Fume Hood in Bracy 332 to be more energy efficient.
6. Successfully completed the Annual Report and GHG Survey for Second Nature.
7. Gained continued support from President Merriman in the signing of the New Carbon Commitment.
8. Developed Campus Sustainability Map/Tour, designating 23 “Hot Spots” around campus. Offered the tour to campus offices and departments.
9. Supported various faculty in their development of sustainability-related courses, including such courses as Green Chemistry and Environmental Ethics. Gave sustainability presentations in 2 Capstone classes.
10. Worked with HR to complete New Staff Orientations. A Sustainability component was developed and is delivered at each orientation.
11. Administered Sustainability Surveys to all FYS and Capstone classes.
12. Participated in the 2015 Alliance Community Solar Forum.
13. Conducted a Lunch and Learn in December 2015 about Holiday Sustainability.
14. The Education Sub-committee of SMAC developed and delivered a Faculty Matters about Sustainability.
15. Collaborated with First Year Initiatives on incorporating Sustainability into Freshman Orientation – conducted 3 sessions for the entire Freshman Class.
16. Implemented two Trayless days in the dining hall to raise awareness about food waste.
17. Worked with the Regula Center to conduct the annual Trash to Treasure Sale.
18. Conducted Composting Workshop and Rain Garden Workshop at the Nature Center.
19. Supported Environmental Science classes by participating in labs and field trips.
20. Attended the 2015 AASHE Conference and took 2 UMU students (Ali Dawson and Gretchen Dietz).
21. Applied for and was accepted as a Poster Presentation (Freshman Orientation) at AASHE 2016 Conference.

22. Worked with Alliance Shade Tree Commission to plant trees on Arbor Day.
23. Sponsored a Transportation Challenge as part of Campus Sustainability Month. Those persons that walked, biked, or carpoled to work received raffle tickets in a drawing for a FitBit.
24. Increased participation in and awareness of RecycleMania, which Mount Union placed 65 out of 269 participating schools nationally in the Per Capita Classic Competition and 3 out of 15 Ohio participating schools. This is based on per person recycling. We continued to utilize a competition between residential buildings to see which building recycled the highest percentage of their waste. The 2016 winner was McMaster. A Shoe Collection was incorporated into the activities to raise awareness about re-use. 261 pairs of shoes were donated to Soles for Souls. Additionally, the Green Raiders conducted a Basketball Half time event during Recyclemania.
25. Selected and presented the Annual Green Raider Awards (Student – Beck Oblak, Staff – Jim Rhodes, Faculty – Paul Tidman).
26. Continued to operate a Green Raider program made up of approximately 10 students focused on spreading awareness of sustainability issues on campus. These Green Raider positions are students who have been recruited and selected by members of SMAC and they are work-study supported positions.
27. The Green Raiders designed and implemented a 40-minute presentation for all incoming freshmen as part of Orientation.
28. The Green Raiders made about 10 presentations to various residence halls and student organizations during the spring semester primarily.
29. The Green Raiders developed a wide range of activities for No Impact Week (Clothing Swap, Alliance Recycling Center Tour, Campus showing of the movie "Bag-it", Community Bike Ride, SARTA informational table, Local Foods Taste Testing (salsa), Glow in the Dark Frisbee on the Quad, Trayless Lunch, Relax and De-stress event)
30. The Green Raiders participated in Game Day Challenge and America Recycles Day.
31. The Green Raiders implemented activities for two campus-wide Coffee houses and developed a K-Cup Campaign to raise awareness about waste generation.
32. The Green Raiders sponsored Earth Month Activities (Trayless Day, Upcycling Event, Bike Ride, Recycling Trivia Coffeehouse).
33. The Green Raiders met bi-weekly to discuss actions being taken throughout campus and to lead and participate in discussions about readings from a text on sustainability.

2016-2017 Academic Year Accomplishments

1. Completed the following Green Revolving Fund Projects: 1) LED Lighting retro-fits in all Residence Halls, 2) LED Lighting retro-fits all exterior lights, and 3) LED Lighting retro-fits in Campus Center.
2. Successfully completed the Annual Report and GHG Survey for Second Nature.

3. Gained support from President Merriman and Presidents Council to incorporate a Pollinator Habitat on Campus (initial development occurred in June with the assistance of the Nature Center).
4. Worked with HR to complete New Staff Orientations. A Sustainability component was developed and is delivered at each orientation.
5. Administered Sustainability Surveys to all FYS and Capstone classes.
6. Conducted two community presentations on Sustainability and Climate Change on behalf of UMU.
7. Worked with Healthy Campus and the Nature Center to coordinate a Lunch and Learn program, "Gardening for Beginners". This was in response to a campus-wide survey that I conducted about campus gardens.
8. Collaborated with First Year Initiatives on incorporating Sustainability into Freshman Orientation (worked together to design and purchase Nalgene Water Bottles for the entire Freshman Class).
9. Implemented two Trayless days in the dining hall to raise awareness about food waste.
10. Worked with the Regula Center to conduct the annual Trash to Treasure Sale.
11. Conducted 2 programs at the Nature Center: National Parks and Climate Change.
12. Supported Environmental Science classes by participating in labs and field trips.
13. Participated in the STEM Day Admissions event in October (gave two Sustainability presentations and had the Green Raiders offer Sustainability Tours).
14. Collaborated with the IDLS Department to develop a Concept Paper and Feasibility Study for a new Sustainability Minor.
15. Began the process of Resiliency Planning
 - a. Each sub-committee prepared a section of a presentation to explain Resiliency to the entire SMAC
 - b. Organized a joint meeting between SMAC and the Alliance Green Commission to discuss Resiliency
 - c. Collaborated with the Environmental Case Studies Class to prepare a recommendation for joint resiliency planning - UMU and the city of Alliance
 - d. Met with President Merriman to present the recommendations of SMAC
16. Participated in Campus Sustainability Month
 - a. Planned the Transportation Challenge and Wellness Trail Kickoff events
 - b. Organized the Cultivating Sustainability Event in the Giese Center (contacted Alliance Farmers' Market vendors to participate and Breezy Hill Farms (local organic farm) gave a presentation)
17. Increased Communication and Visual Presence of Sustainability on Campus
 - a. Worked with Healthy Campus, the Nature Center, and Physical Plant to develop a Wellness Trail on Campus
 - b. Developed and placed Sustainability Signage around campus to highlight UMU efforts
 - c. Worked with Physical Plant and Student Affairs to create a visual display in the

Campus Center to highlight UMU's LEED, STARS, and Tree Campus USA certifications, as well as provide a communication board for SMAC and Green Raiders to post information

- d. Worked with Marketing to update the Sustainability page on the UMU website
18. Attended the 2016 AASHE Conference in Baltimore and took 2 UMU students (Gretchen Dietz and Angel Myers).
19. The Green Raiders developed and gave a Poster Presentation (Freshman Orientation) at the 2016 AASHE Conference.
20. Increased participation in and awareness of RecycleMania, which Mount Union placed 64 out of 245 participating schools nationally in the Per Capita Classic Competition and 6 out of 18 Ohio participating schools. This is based on per person recycling. We continued to utilize a competition between residential buildings to see which building recycled the highest percentage of their waste. The 2017 winner was Clutter Manor. Also, incorporated a Shoe Collection into the activities. 301 pairs of shoes were donated to Soles for Souls.
21. Selected and presented the Annual Green Raider Awards (Students – Gretchen Dietz and Reilly Augustine, Faculty – Scott Gravlee, and Staff – Gina Maida).
22. Continued to operate a Green Raider program made up of approximately 10 students focused on spreading awareness of sustainability issues on campus. These Green Raider positions are students who have been recruited and selected by members of SMAC and they are work-study supported positions.
23. The Green Raiders designed and implemented a presentation for all incoming freshmen as part of Orientation.
24. The Green Raiders participated and supported SMAC activities for Campus Sustainability Month (supported De-Stress event at the Nature Center).
25. The Green Raiders participated in Game Day Challenge and America Recycles Day.
26. The Green Raiders implemented activities for campus-wide Coffee houses throughout the year in conjunction with RPB – BYOM (Bring Your Own Mug) Contests.
27. Green Raiders participated in Alliance Community Garden Clean-up Day.
28. The Green Raiders developed and gave a presentation on Environmental Justice at the Annual Not Another Statistic Diversity Conference (NASDC).
29. The Green Raiders hosted MLK Day of Service events at the Nature Center (trail clean-up, making green cleaners for the Pregnancy Center, and refurbishment of benches and kiosk).
30. The Green Raiders sponsored Earth Hour Event (Dancing in the Dark) and conducted an LED Lighting Raffle (all funds collected were donated to WWF).
31. The Green Raiders conducted Earth Day Month Activities including, RPB Make your own bag workshop and Sustainability Tours.
32. The Green Raiders met bi-weekly to discuss actions being taken throughout campus and to lead and participate in discussions about readings from a text on sustainability.
33. Sustainability Manager attended a “Sustainability Across the Curriculum” conference.