

PRESIDENT’S COMMITTEE ON SUSTAINABILITY
MUHLENBERG COLLEGE
SUSTAINABILITY STRATEGIC PLAN
UPDATED: 27 APRIL 2023

INTRODUCTION

Sustainability is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. A sustainable future requires us to use natural resources in ways that maximize renewal, encourage re-use, and minimize waste. This must include the minimization of pollution and the mitigation of climate change. Also, essential to a sustainable future is the elevation of the quality of human life through improved health, education, and the promotion of basic human rights for all. Finally, a sustainable future entails a model of global economic growth that is inclusionary and does not violate the above environmental and social conditions. There is considerable evidence that the global environment, human condition, and economic equity have been in decline and continue to be threatened. However, there is also much to be hopeful about. We have begun to understand that we as individuals, social groups, communities, and institutions can play a major role in the creation of a just and sustainable future for the health of our planet and the well-being of all people. The seeds of transformation in the way we teach, do business and act as individuals have been planted, and their growth is being amplified through the development of new technologies and fundamental changes in values.

The majority of institutions of higher education have come to recognize their important role in contributing to this transition towards a sustainable future. Increasingly colleges and universities have acknowledged the moral imperative of addressing their own impact on human and ecological health; and have accordingly integrated all of the elements of sustainability into their missions and operations. This is being accomplished through the development and implementation of strategic plans focused specifically on campus sustainability. Recently, President John Williams formed The President’s Committee on Sustainability at Muhlenberg College to do just that. Through this strategic plan we provide an opportunity for Muhlenberg to not only join, but serve as a leader in what has become a sustainability movement in higher education.

Muhlenberg’s mission statement and fundamental institutional values already embrace the principles of sustainability. We are committed to being good citizens of the Earth, and to making institutional decisions that are mindful of our complex relations with its ecosystems. We acknowledge our obligation to improve the lives of all who have less access to education and political power, fewer privileges and resources, and will bear the burden of discrimination. We recognize that it is our ethical responsibility to do everything we can to improve both the environmental and human condition of all people as we carry out the work of the College. This includes all aspects of how we operate as an institution. As well, it is our responsibility to prepare our students to contribute to the creation of a just and sustainable future through changes

in their lifestyles and through their future professions. This strategic plan provides direction and specific recommendations that will guide us as we work to live by these values and meet our own stated obligations.

The sustainability initiatives presented here will serve the College in other ways. They will support our current curricular foci on human difference and global engagement, integrative learning, and our commitments to community engagement and environmental literacy. Integrating sustainability into our daily operations and future planning creates unique learning opportunities by allowing curricular and co-curricular activities to seamlessly interface with the non-academic aspects of the College. This is a unique form of learning for which Muhlenberg already has a growing reputation. Sustainability initiatives also provide the potential for long-term cost savings for the College through their reduction in resource use and increases in efficiency. Prioritizing sustainability will offer increased advancement opportunities by the broadening our donor pool to include those with specific interests in sustainability. This is particularly true for Millennials, who by 2020, will comprise nearly half the working population. According to a study by Morgan Stanley, in what is referred to as *The Millennial Effect*, members of this demographic are twice as likely to support organizations that target sustainability related outcomes such as directly address climate change or reducing global poverty compared to the total pool of donors. There is also an increasing number of grant opportunities for projects that support sustainability initiatives. Our increased commitment to sustainability will allow us to broaden our application pool as campus sustainability has increasingly become an important criterion for diverse, prospective students in making their decision on where to pursue their higher education.

PROCESS

In 2016, President John Williams restructured the existing Campus Greening Committee as the President's Committee on Sustainability and tasked it to consider how Muhlenberg College might continue to further sustainability in its academics, co-curricular initiatives, operations and planning. He directed the creation of a sustainability plan to develop strategic and operational sustainability goals.

The President's Committee on Sustainability created five Sub-Committees highlighting target areas of sustainability integration. Academic and Co-Curricular, Buildings and Grounds, Dining, Energy and Climate, and Administration and Planning. Each Subcommittee consisted of students, faculty, staff, and alumni. Input was also gathered from College suppliers, advisors and partners. These Sub-Committees met numerous times to develop the goals and strategies. Throughout this process, the President's Committee on Sustainability met to comment on progress and provide feedback to the groups. This document is a synthesis of the ideas, goals, and strategies generated by the Sub-Committees. It is endorsed by the President's Committee on Sustainability.

OVERVIEW – CORE PLANNING AREAS AND GOALS

Our overall goal of this planning process is to develop strategic initiatives that will move sustainability education, operations, and administration forward at Muhlenberg College. We will educate our students and community in sustainable practices to allow all of us the opportunity to be better citizens of our local communities and our world; measure the difference our efforts make; operate the school according to a sustainability ethic; use fewer resources in all areas; and incorporate sustainable values into our administrative practices.

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MUHLENBERG COLLEGE SUSTAINABILITY STRATEGIC GOALS

Curriculum and Co-Curricular Integration

Goal #1: Recognize that equity and inclusion priorities share common goals with sustainability objectives.

- Create and support collaborative programs, projects and initiatives with social justice, community engagement and diversity groups on campus.
 - Year 2 (2020) - Currently paused pending funding decisions.
 - Year 3-5 (2021-2023) -
 - Dr. Brooke Vick Appointed as Muhlenberg's Inaugural Chief Diversity Officer (Aug 2022)
 - Jennifer Storm hired as the first full-time Director of Equity and Title IX (2022)
 - Sustainability Committee Co-Sponsored Title IX office events Spring (2023)
 - Sustainability office conducted bi-annual OML DEIB & Title IX office meetings (2022/23)

Goal #2: Increase and assess broader sustainability education to all students by integrating into existing and new co-curricular programming.

- Create new student orientation program and integrate into the annual orientation program for first year students.
 - Year 1 (2019) – Sustainability module incorporated into Housing and Residential Life's First year programming.
 - Year 2 (2020) - Students developed orientation sustainability treasure hunt. Implementation and further progress deferred due to COVID.
 - Year 3-5 (2021-2023) –
 - Green Move-In Cardboard Collection - 0.93 tons of cardboard recycled at Green Move-In (2022)
 - Just Tap It Water Bottle Give Always
 - Creating Sustainability Campus Map & Scavenger Hunt for Residence Life (In Progress)
- Create an Eco-Reps sustainability peer training program whose goal is supporting Muhlenberg College's Sustainability Action Plan through peer projects, outreach, and events.
 - Year 2 (2020) - Students developed Eco-Reps guide through internship with Office of Campus Sustainability. Guide containing roadmap for structure and activities.

- Year 3-5 (2021-2023) –
 - Created and Hired 2 work Study positions for Office of Sustainability. (2023)
 - enACT Student Group in conjunction with the office of sustainability hosted over 40 engagement events with over 600 interaction points covering topics such as environMENTAL health, Recycling, free clothing swaps, watersheds, planting succulents, tabling, Serpentine Garden revitalization and more.
- Create cross-curricular and co-curricular partnerships where students, faculty, staff, and Muhlenberg Dining Services improve food sustainability in Wood Dining Commons.
 - Year 3-5 (2021-2023) –
 - 3 Dining Services Sustainability Interns funded by Sodexo
 - Weigh the Waste program measures & displays food waste in Woods Dinning Hall
 - Berg To Go Containers promote reuse instead of disposal
 - Vegan & Vegetarian takeovers of the dining hall promote plant based diets
- Develop workshops and educational materials with campus organizations linking sustainable food practices with health, fitness, nutrition, culture, and ethics.¹
 - Year 3-5 (2021-2023) – No Progress
- Organize regular speakers, lecture and/or workshops on sustainability topics.
 - Year 1 (2019) – Center for Ethics Lecture Series focused on Ethics of the Anthropocene and ethical investigations of climate change.
 - Year 2 (2020) - Sustainability Community Hour online weekly open discussion during COVID remote learning including guest speakers developed. In CEDARS network, faculty members working on food insecurity and food waste.
 - Year 3-5 (2021-2023) – 2022/2023 Academic Year:
 - Consent Conversations at the Berg
 - A multilayered approach to engaging the Muhlenberg Community in education, prevention, and dialogue around the concept of consent and how to have hard conversations around topics like healthy relationships, boundaries, sexuality, intimacy, desires, wants, needs, harm, prevention, assault, trauma, healing, Self-love and all the things that come with those topics.
 - Bending the Arc

¹ Partners could include Health Center, Counseling Services, Life Sports Center and Residential Life, Muhlenberg Dining Services, Multicultural Life, Office of Community Engagement, Religious Life, or Global Education.

- Dr. Paul Farmer, Dr. Jim Yong Kim, and Ophelia Dahl—all barely out of their teens at the time—began a movement that would change global health forever by co-founding Partners In Health. PIH’s revolutionary model of training community members as health workers and treating all people, with dignity and world-class medicine, has forever changed public health.
 - Traveling While Black Through the Arts
 - A cinematic virtual reality experience (at Zoellner) that immerses viewers in the long history of restriction of movement for Black Americans. “Traveling While Black Community Conversations” throughout the Lehigh Valley, including at Muhlenberg, on different elements of the Black traveling experience.
 - Viral Justice
 - Ruha Benjamin, a professor of African American studies at Princeton University who has a Ph.D. in sociology from the University of California, Berkeley, discussed her 2022 book *Viral Justice: How We Grow the World We Want*. “... small things — seemingly minor actions, decisions, habits — could transform the world around us, have exponential effects in the other direction, tipping the scales towards justice, affirming life, invigorating society, fostering well being?”
 - The Struggle for Urban Climate Justice
 - Joan Fitzgerald, professor of Urban and Public Policy at Northeastern University. The legacy of racism and the pillaging of the natural environment are the twin catastrophes of our age. We have reached a point of no return where even if we do everything right, there will be permanent damage to the planet.
 - Hope, Opportunity and Despair: Speculating the Future of United Nations' Sustainable Development Goals.
 - Ambassador Ramu Damodaran address how climate change, the pandemic, global economic downturn, regional conflicts, migration and refugee crises are challenging the fulfillment of the SDG goals. SDGs are framing a vision of a future for us. In that sense they connect with our CFE series Speculative Futures.
 - Climate and Environmental Justice and distributed renewable energy in Puerto Rico and Beyond
 - Ruth Santiago, Community and environmental attorney and member of the White House Environmental Justice Advisory Council Hosted by Promise Neighborhoods of the Lehigh Valley Youth Coordinator President
- Assess sustainability learning at beginning of first year and end of senior year to

determine knowledge, growth, behavior, and attitudes.

- Year 3-5 (2021-2023) – Commenced Conversations with IR (2022)

Goal #3: Support the integration of sustainability concepts and themes into existing courses across the entire curriculum and the development and promotion of new courses specifically focused on sustainability.

- Develop and offer a “Sustainability Across the Curriculum Workshop” based on the pioneering success of the Ponderosa Project at Northern Arizona University and the Piedmont Project at Emory University² for all faculty.
 - Year 2 (2020) - Faculty and Student attended AASHE. Other programs deferred due to COVID.
 - Year 3-5 (2021-2023) – No Further Updates
- Incorporate food sustainability studies into courses and sustainability curriculum.
 - Year 3-5 (2021-2023) – SOC 323 - Sociology of Food
- Explore possibility of integrating sustainability into Fitness and Wellness or Intergroup dialogue course.
 - Year 1 (2019) - Curriculum module integrating sustainability into Foundation for Student Success Course developed and implemented. This course is required for every student.
 - Year 2 (2020) - Focus of class adjusted, sustainability is not currently a module for the class.
 - Year 3-5 (2021-2023) – No Further Updates

Goal #4 - Create a sustainable living learning program in buildings that facilitates sustainable living, teaches a sustainability ethic, and integrates academic and student life.³

- Create a sustainability living learning program that considers integrating mixed use learning spaces, providing space for live-in staff, introducing staff/faculty office spaces, staffing the program and ensuring ongoing programming within the space in planning for Prosser Hall renovation, residential retail space and other upcoming capital projects.
 - Year 2 (2020) - Treehouse re-established.
 - Year 3-5 (2021-2023) –

² This model has now been implemented successfully at dozens of institutions around the country, and has successfully achieved the goal of broadening sustainability education across entire curricula.
<https://www.aacu.org/publications-research/periodicals/curricular-innovation-sustainabilitythe-piedmont-ponderosa-model>

³ Harvard’s recent House Zero project provides a good model of an ultra-efficient building that requires almost zero energy, relies on natural day lighting, and produces no carbon emissions.

- Treehouse Operational Post COVID-19 (Fall 2022)
- Garden House Operational Post COVID-19 (Fall 2023)
- Dedication of the Diane M. Williams '72 House (Spring 2023)

Buildings and Grounds

Goal #1 – Decrease resources used campus-wide.

- Identify specific target reductions in energy, chemical usage, recycling, paper, water, greenhouse gases, and waste.
 - Year 1 (2019) –
 - Reduce electric consumption. Electric consumption reduced due to the new chiller in Moyer Hall and new LED lighting in South Hall by 100KWh.
 - Increase recycling of scrap metal. Scrap metal amounting to 291,511 lbs. recycled.
 - Utilize eco-friendly tannin boiler treatment to reduce water waste. College utilized 150 gallons of tannins to reduce water waste.
 - Increase use of environmentally friendly, low-emissions refrigerant. The College used 300 lbs. of environmentally friendly refrigerants.
 - Convert tree-clippings to mulch on-site. The College converted 50 yards of tree chipping to mulch on-site.
 - Upgrade new boilers using low NOx burners utilizing natural gas. The College upgraded new boilers.
 - Convert Aerco.350 to non-ozone depletion. Aerco.350 converted.
 - Eliminate leaky pipes. Leaky pipes eliminated near boiler system due to boiler decentralization.
 - Replace old windows. Windows in 5 MILE houses were replaced.
 - Year 2 (2020) - 5 toilets replaced with high efficiency toilets in MILE and other houses.
 - Year 3-5 (2021-2023) –
 - Secure Print on Papercut continues to reduce paper consumption on campus.
 - Collaboration with Local Sustainability Course to improve GHG inventory methodology
 - 100% of paper used in printing Alumni Magazine is offset with tree planting.

- Just Tap-It - 7,326,122 Gallon Bottles Saved YTD
 - Boilers
 - Oil Gas Conversion 2625 Liberty Street - Savings \$3700/year
 - Trexler Pavilion replaced Gas Boiler
 - Hot Water Heaters
 - Three 100 gallon Gas water Heaters - Brown Hall
 - Two 100 Gallon Electric Water heaters - 2201 Chew Street
 - Chiller replacement
 - Waltz Hall
 - Seegers Union rooftop chiller for Kitchen area
 - HVAC system Replacement
 - Rehearsal House
 - LED Lighting Upgrades
 - Trexler Library LED Lighting - Savings \$21,000/Year
 - Memorial Hall LED Lighting upgrades
 - Deitrich Field House Lighting Upgrades
- Decrease chemical use in housekeeping.
 - Year 1 (2019) –
 - The College purchased 55 gallons of Friendly Z Green products.
 - The College purchased 2 auto-scrubbers to clean hallway floors in the science buildings. They do not require cleaning products and use very little water.
 - Year 2 (2020) - replaced flooring to be maintenance-free starting with Walz basement. Specific faculty houses may follow.
 - Year 3-5 (2021-2023) – Housekeeping utilizes Green Seal Products
- Implement a paperless Plant Operations work-order system.
 - Year 2 (2020) - Paperless work-order system selected.
 - Year 3-5 (2021-2023) – Implementation Completed
- Replace and upgrade College-owned vehicles and equipment, when needed, to decrease use of fossil fuels.
 - Year 1 (2019) – Purchased 3 new electric vehicles. New electric mower purchased.
 - Year 2 (2020) - Purchased backpack blowers for grounds keeping.

- Year 3-5 (2021-2023) – Vehicle Fleet Inventory Update

<i>Vehicle Type</i>	2018	2019
<i>Total</i>	47	47
<i>Gasoline-Only</i>	22	16
<i>Diesel-Only</i>	3	3
<i>Gasoline-Electric Hybrid</i>	3	3
<i>Plug-In Hybrid</i>	-	1
<i>100% Electric</i>	13	17
<i>Fueled with Compressed Natural Gas</i>	-	1

- Purchase in bulk to reduce packaging waste and work with suppliers to decrease packaging sent to the College.
 - Year 1 (2019) – Purchased bulk salt, mulch, pretreat for snow melt, and plant material.
 - Year 2 (2020) - Deferred due to COVID.
 - Year 3-5 (2021-2023) – No Further Updates
- Improve data collection and reporting of waste, recycling, composting/yard waste, fuel and energy use.
 - Year 2 (2020) - Deferred due to COVID.
 - Year 3-5 (2021-2023) – No Further Updates

Goal #2 – Establish and prioritize sustainability and sustainable practices in campus operations.

- Create sustainable policies and practices in campus operations including: purchasing, chemical application, fossil fuel use, building automation systems, energy use, integrated pest management, planting and grounds, water conservation, Life-cycle Cost Analysis, lighting, building envelopes, and campus construction.
 - Year 1 (2019) – Plant Operations developed internal policy to plant only native plants.
 - Year 3-5 (2021-2023) – The following Sustainable initiatives are posted on campus website
 - Sustainable Building Operations and Maintenance Policy
 - College Coatings Policy
 - Equipment Maintenance plan

- Green Cleaning Standard
 - Healthy Environment policy
 - Muhlenberg Integrated Pest Management Plan
 - Muhlenberg Landscape Design Guidelines
 - PA Diesel Powered Motor Vehicle Idling Act 124
 - Renovation/Maintenance Projects
- Increase grounds initiatives of native drought-resistant plants, limit use of sprinklers, create no-mow zones or meadows, replace trees, and reduce chemical applications.
 - Year 1 (2019) –
 - A new rain/ re-charge garden was planted in back of the New Science building.
 - Cardinal Flower, a native plant, was planted around campus per recommendation of Local Sustainability class.
 - Year 2 (2020) - All flower beds are being converted over to perennials, and native plants. The areas by Pete Muhlenberg Statute, Burkholder Quad, and Wescoe have been converted.
 - Year 3-5 (2021-2023) –
 - Trees Planting Ceremonies hosted by Sustainability office, Plant Ops and Graver Arboretum on Arbor Day (2022 & 2023)
 - Rain Gardens and Meadow planted in conjunction with Fahy Commons Construction
 - Serpentine Garden Restoration Project using Native Plants
- Follow national green building design standards in new construction and renovation. (Ex. LEED, Net-Zero, Living Building Challenge, BREAM etc.)
 - Year 2 (2020) - LEED, Living Building Challenge, Passive House standards investigated for new building.
 - Year 3-5 (2021-2023) –
 - Fahy Commons: LEED Platinum & Currently being Audited for Living Building Challenge
- Operate and maintain buildings consistent with LEED or similar green Operations and Maintenance policies.
 - Year 2 (2020) - Replaced a 40 year old cooling tower in the CA, Both chillers at South and Robertson. LED lights were installed in all of the common areas in South, Robertson and Brown Hall.
 - Year 3-5 (2021-2023) – No Further Updates

- Renovate or replace retiring campus buildings with facilities that consider sustainable and biophilic architectural and landscape design, adhere to sustainable urban design/ Smart Growth principles, utilize sustainable construction practices, and incorporate other green building strategies.
 - Year 2 (2020) - Upgraded HVAC system, completed renovations in Trumbower 103, and Library and communications house using sustainable construction practices. Investigated biophilic design, water conservation and other green building strategies in renovations of new building. Held charrette including sustainability staff and students.
 - Year 3-5 (2021-2023) – Initial RFP for Seegers’ remodel require consideration of Green Building design standards
- Expand the reuse and recycling of renovation byproducts. (Ex. metal, wood products, blocks, stone, etc.)
 - Year 2 (2020) - 133,021 pounds (net weight of light Iron, Iron, Copper, and Aluminum were taken to a scrap metal facility in 2019; 183,357 lbs pounds (net weight of light Iron, Iron, Copper, and Aluminum were taken to a scrap metal facility in 2020
 - Year 3-5 (2021-2023) – Over 90% of construction waste at Fahy Commons was recycled or repurposed.

Goal #3 – Advance the presence of sustainability through education in building and grounds management, making it simple and visible to students, faculty, and staff.

- Educate staff on buildings and grounds sustainable practices during staff Professional Development Day.
 - Year 1 (2019) – Plant Operations participated in Earth Day, film student interviews, providing data for the Center for Ethics lectures, providing tour for students of solar hot water systems.
 - Year 2 (2020) - Deferred due to COVID.
 - Year 3-5 (2021-2023) –
 - Ongoing training of Fahy building occupants
 - Plant Operations assist in data collection, campus tours, and program analysis for student coursework
 - Plant Operations participated in annual Earth Day Festivals
- Publicize Plant Operations best practices through Plant Operations website, Sustainability website, social media, annual report, and STARS reporting.
 - Year 2 (2020) - Deferred due to COVID.

- Year 3-5 (2021-2023) – [Sustainable Initiatives | Muhlenberg College](#)
- Provide students information on sustainable behavior and responsibilities in student housing agreements and MILE house-specific packets.
 - Year 2 (2020) - Fraternity/Sorority agreements in progress and MILE guide in progress to be completed for 21-22 residents. Building specific reminders were sent to traditional buildings.
 - Year 3-5 (2021-2023) – Treehouse established coffee grounds composting program and red solo cup recycling initiatives for MILE Houses.
- Engage community in Allentown Recyclebank Program Incentives for Allentown residents and Recyclemania.
 - Year 3-5 (2021-2023) – No Progress
- Collaborate with Eco-Reps and classes on projects.
 - Year 3-5 (2021-2023) – No Progress

Food and Dining

Goal #1 – Educate and conduct outreach activities on sustainable food across campus.

- Engage in ongoing outreach to students and community about sustainable foods including regular workshops, supporting student projects, and enabling Farmer’s Markets and farm trips.
 - Year 1 (2019) –
 - Dining Services supported fall and spring Farmer’s Market, local farm tour during Staff Development Day, Student tour of Butter Valley Harvest, developed Berg Focus article and participated in student sustainability film project.
 - Dining Services engaged with the Center for Ethics Offset Projects on water conservation.
 - Year 2 (2020) - On hold during COVID. Will plan for Fall 2021 Farmer's Market.
 - Year 3-5 (2021-2023) –
 - Dining Services supported fall and spring Farmer’s Market
 - On-Site Hydroponics Garden crops used in Woods Dining Hall meals
- Expand outreach efforts and marketing in the area of meatless alternatives including vegan options.
 - Year 1 (2019) – Dining Services began weekly meetings with Plant Based Advocates and conducted two samplings of sweet pea burgers and Aztec Burgers, vegan items made in house. Eliminated meat lasagna from menu for

one meal in conjunction with Center for Ethics student project.

- Year 2 (2020) - On hold after shutdown in March 2020 and Fall 2020. Started weekly meetings with PBA to set agenda for Spring 2021 and plan for Fall 2021. Increase labeling and pre-packaged products at Croutons.
- Year 3-5 (2021-2023) –
 - Vegan & Vegetarian takeovers of the dining hall promote plant based diets
- Market Muhlenberg Dining Services programs to engage faculty, student, and staff in existing and new sustainability initiatives to increase participation.
 - Year 2 (2020) - Discontinued Berg to Go in Fall of 2020 after unsuccessfully running the program with first students only. The majority, over 700 containers, were disposed of or never returned. We have switched to all compostable to go containers until fall of 2021.
 - Year 3-5 (2021-2023) – Berg to Go reinstated

Goal #2 - Reduce pre and post consumer food waste, packaging waste, and energy consumption.

- Develop and implement pre-consumer and post-consumer food waste reduction programs at all outlets including catering.
 - Year 1 (2019) –
 - Dining Services continued to support Weigh the Waste in the Wood Dining Commons with Enact providing volunteers. Waste data was categorized as liquid, protein, plant-based, and paper.
 - Dining Services supported Food Recovery Network program for leftover foods from Wood Dining Commons and Catering.
 - Year 2 (2020) - On hold during COVID.
 - Year 3-5 (2021-2023)
 - Dining Services continued to support Weigh the Waste in the Wood Dining Commons with Enact providing volunteers. Waste data was categorized as liquid, protein, plant-based, and paper.
 - Dining Services supported Food Recovery Network program for leftover foods from Wood Dining Commons and Catering.
 - Implementation of Berg Bites to advertise availability of leftover food from catered events to the campus community
- Investigate replacing disposable containers at all dining outlets with reusable containers.
 - Year 1 (2019) – Reusable clamshells were expanded to Mule Express, General's Quarters, Life Sports Center. Dining Services conducted two tabling events at Mule Express.

- Year 2 (2020) - On hold during COVID.
- Year 3-5 (2021-2023) –
 - Reusable clamshells were brought back post-COVID to Mule Express, General’s Quarters, Life Sports Center. Dining Services conducted tabling events to promote their use.
- Monitor and reduce non-food waste throughout all Muhlenberg Dining Services operations including working in-house and with suppliers to reduce packaging waste and serving waste.
 - Year 1 (2019) - Consolidated purchasing from Edward Don and Office Depot to reduce shipping and packaging.
 - Year 2 (2020) - Continue to consolidate orders and increased inventory to reduce the number of trips. Space has been an issue with the volume of paper products we are now using to support to-go/satellite operations.
 - Year 3-5 (2021-2023) – Dining Hall is re-evaluating purchasing as we enter post-COVID operations

Goal #3 - Increase proportion of purchases that are sustainable and local.

- Conduct Muhlenberg Dining Services inventory to identify food and beverage purchases that are third party verified for sustainability standards or local and community based each semester.⁴
 - Year 1 (2019) – Baseline data has been collected.
 - Year 2 (2020) - On hold during COVID
 - Year 3-5 (2021-2023) – Dining Service Intern is establishing post-COVID baselines
- Develop time-based objectives for increasing the proportion of purchases that are sustainable and provide annual reporting for meeting objectives.
 - Year 1 (2019) – Baseline data has been collected.
 - Year 2 (2020) - On hold during COVID
 - Year 3-5 (2021-2023) – Dining Service Intern is establishing post-COVID baselines

Energy and Climate

Goal #1 - Reduce greenhouse gas emissions.

- Re-evaluate signing the President’s Climate Commitment Challenge to limit Greenhouse

⁴ See Stars 2.1(AASHE) technical manual for details.

Gas Emissions.

- Year 2 (2020) - ▪ The College signed a Power Purchase Agreement to purchase renewable energy to eliminate the carbon footprint of electricity in December 2019. College is receiving Renewable Energy Credits (RECs) to account for College's carbon emissions from March 2020. The electricity carbon footprint (Scope 2 emissions) is a significant part of the College's overall carbon footprint. CA Chiller Replaced in 2020.
- Updating Carbon Inventory delayed due to COVID.
- Year 3-5 (2021-2023)
 - Updated GHG inventory Scope 1 & 2 emissions
 - Evaluating procedures to streamline GHG inventory updating process.
- Establish goals for reducing greenhouse gas emissions.
 - Year 1 (2019) –
 - In 5 years Muhlenberg College will no longer have oil-burning high emission on campus.
 - In 10 years Muhlenberg College will be converted to all LED lights.
 - Year 2 (2020) - We will reduce our carbon and other emissions so the College is exempt from a required DEP permit (SOOP). As of January 2021 the college will be exempt from a required DEP permit (SOOP). This has occurred because of the conversions and upgrading to high efficiency units throughout campus. All our emissions have dropped to well below operating limits that require permits. This is determined by potential and actual emissions we produce by natural gas & oil emissions.
 - Year 3-5 (2021-2023) – No Further Updates
- Replace 10% of low efficiency lighting with high efficiency lighting fixtures (LEDs) each year.
 - Year 1 (2019) - Taylor, Trumbower, Moyer basement, Ettinger hallways were converted to LED Lights. The Recital Hall, various office spaces, and Walson Hall were additionally converted.
 - Year 2 (2020) - Installed touchless faucets, urinal and closet fixtures in: Walz, Prosser, ML, East, Brown, Seegers, Haas, Ettinger, Trumbower, Hoffman, LSC, TP, Library, CA and Moyer. The faucets are solar powered with a battery backup power source.
 - Year 3-5 (2021-2023) – Replaced lighting in Field House, Trexler Library and Memorial Hall
- Convert residential housing heating systems from oil to natural gas including annual targets.

- Year 1 (2019) – The College converted 6 MILE Houses from oil to natural gas; 2604 Chew St. 2610 Chew; 2604 Chew; 411 23rd; 437 23rd; 439 23rd.
- Year 2 (2020) - All Mile Houses have been converted from Oil to NG. Three faculty houses remain on oil. Purchasing electric mowers, blowers, trimmers and vehicles.
- Year 3-5 (2021-2023) –Oil to NG conversion 2625 Liberty Street
- Reduce energy inefficiencies in academic and administration buildings.
 - Year 1 (2019) –
 - Building automation system upgraded;
 - Decommissioned boiler system; ▪ Installed Thermostats in MILE houses;
 - Installed high-efficiency burners on Seegers gas burner;
 - Windows replaced in 2216 Liberty, 2251 Liberty, 2315 & 2317 Liberty.
 - Year 2 (2020) - Work in progress. All areas have decreased by roughly 30% due to COVID 19. Implementation delayed due to COVID.
 - Year 3-5 (2021-2023) –Oil to NG conversion 2625 Liberty Street
- Complete decommissioning of central steam plant.
 - Year 1 (2019) – Central Heating Plant has been decommissioned. Project completed.
 - Year 2 (2020) - Central Heating Plant has been decommissioned. Larger buildings are now heated by highly efficient AERCO boilers. Every year we replace the windows on 3 MILE/Faculty houses.
 - Year 3-5 (2021-2023) – No Further Updates

Goal #2 - Reduce indirect carbon emissions and related impact on natural resources.

- Reduce hot water consumption in laundry facilities.
 - Year 3-5 (2021-2023) – No Progress
- Reduce overall student domestic water use.
 - Year 3-5 (2021-2023) –
 - Installed two new water bottle filling stations in East
 - Low flow shower heads, faucets and toilets installed in residence life buildings
- Install water meters to enable meaningful feedback on building water consumption.
 - Year 3-5 (2021-2023) –Water Meters scheduled for install in South Hall, Robertson Hall, 2201 Chew, Village Laundry, Benfer Hall, and Prosser Hall

- Promote reducing individual student car use, increasing efficiency of existing campus shuttle, and using City of Allentown bike share program.
 - Year 1 (2019) –
 - Bike share program in City of Allentown inaugurated in October 2018. Zagster bike share station installed. As of 5/28/19 there were 251 trips taken.
 - Students provided with free LANTA bus service and two buses re-routed to pass through campus
 - Year 2 (2020) - Bike share company bankruptcy due to COVID. Will re-group in the fall. Delayed due to COVID
 - Year 3-5 (2021-2023) –
 - Students provided with free LANTA bus service
 - Planning Phase commenced for new Bike Share Program
 - Installed indoor bike racks
- Promote public and/or alternative transportation for campus employees.
 - Year 1 (2019) - Employees provided with free access to LANTA bus service as of January 2019.
 - Year 2 (2020) - Public relations advertised free access to LANTA for employees and students.
 - Year 3-5 (2021-2023) –
 - Free Access to LANTA
 - Installed 4 electric car chargers & provide free electric car charging (4 hours/day)
- Create incentive program for employees who do not drive to work.
 - Year 1 (2019) - Employees provided with free access to LANTA bus service as of January 2019.
 - Year 2 (2020) - Employees continue to be offered free access to LANTA bus. Summer Fall of 2019 usage was 822 - students, 685 - employees; Spring of 2020 was 71 - students and 147- employees
 - Year 3-5 (2021-2023) –
 - Employees continue to be offered free access to LANTA bus
 - Remote work opportunities continue to be available to employees when appropriate post COVID
- Mitigate greenhouse gas emissions by increasing and/or preserving greenspace and plantings.

- Year 1 (2019) - The Courts residences were removed and the area was returned to green space.
- Year 2 (2020) - Replaced every hazardous, or dead tree on campus. We added an additional 12 native trees in the past two years. We replaced one Grounds truck with an electric vehicle
- Year 3-5 (2021-2023) –
 - Revitalization of Serpentine Garden at Library
 - Planting of two (2) trees for Arbor Day
 - Greenspace an integral part of Fahy Common’s design including meadows & rain garden

Planning and Administration

Goal #1 – Identify and incorporate sustainability as a core value, who we are as well as how we behave.

- Incorporate sustainability into foundational College documents such as Master Plan, Board of Trustees policies, Vision/ Mission/ Values statements, Diversity Strategic Plan, Muhlenberg branding, and key policies.
 - Year 3-5 (2021-2023) – No Progress
- Engage faculty and staff in programming and workshops to increase sustainability knowledge, engagement, and behavior.
 - Year 1 (2019) – The Office of Campus Sustainability and Plant Operations participated in Earth Day programming.
 - Year 2 (2020) - The Office of Campus Sustainability organized an Earth Day social media campaign with students, faculty and staff talking about the importance and personal meaning of Earth Day.
 - Year 3-5 (2021-2023) – No Progress
- Explore ways to invest endowment that are more consistent with sustainability objectives and the values of the College.
 - Year 1 (2019) - The endowment has two investments in ESG funds with one of the funds fossil fuel free for a total in excess of \$10 million.
 - Year 2 (2020) - The two ESG funds are now valued at \$13.2 million. Other investment managers are taking ESG factors under consideration when making investments.
 - Year 3-5 (2021-2023) –INVESTMENTS: We consider ESG issues such as climate change as an investment risk. Identify managers who have thoughtful ESG policies of their own. Although it is not solely determinative to our

investment decisions, ESG is an important factor in our manager diligence process.

- Create a Green Office/ Green Residence Hall Certification.
 - Year 3-5 (2021-2023) – No Progress
- Include sustainability initiatives in new employee orientation.
 - Year 2 (2020) - Sustainability issues are part of the CBO's orientation materials. Employee orientation is now held quarterly with different topics covered each quarter.
 - Year 3-5 (2021-2023) – No Further Updates
- Develop signature behavior change campaigns.
 - Year 1 (2019) - Promise to the Planet, a sustainable behavior pledge developed by the Office of Campus Sustainability. The campaign aims to ensure Muhlenberg community members change their behavior in even a small way, paving the way for larger commitments in the future.
 - Year 2 (2020) - Promise to the Planet shared on social media for Earth Day in electronic format to account for COVID conditions.
 - Year 3-5 (2021-2023) – Program Ended due to COVID
- Convert part-time Sustainability Coordinator position to full-time position.
 - Year 2 (2020) - Funding not available yet to implement this goal.
 - Year 3-5 (2021-2023) – No Progress

Goal #2 – Fund sustainability initiatives and projects.

- Create a Revolving Green Fund, using cost-savings from previously financed projects to invest in sustainability projects with a return on investment.
 - Year 1 (2019) - Fund of \$500,000 has been created and several investments have already been made.
 - Year 2 (2020) - Fund continues to make investments in energy saving projects.
 - Year 3-5 (2021-2023) - Fund continues to make investments in energy saving projects.
- Develop funding streams to support class-related initiatives, faculty and student research, and co-curricular projects in startup and operational and maintenance phases.⁵
 - Year 1 (2019) - One fund agreement signed to provide support for student research in the area of sustainability.

⁵ See model of Campus Sustainability Incubator Fund. <https://sustainability.mit.edu/campus-sustainability-incubator-fund>

- Year 2 (2020) - No further update.
- Year 3-5 (2021-2023) – No Further Updates

Goal #3 – Publicize sustainability goals and achievements.

- Invest in marketing sustainability achievements as part of core Admissions information.
 - Year 1 (2019) –
 - Admissions team consistently highlights during presentations both on campus and off-campus: "Just Tap It" program, Green Team work during move-in, LEED certified facility, Community Garden, and dining services practices of reusable "to go" containers and tumblers.
 - Admissions team promotes new Sustainability Studies major and minor programs.
 - Admissions team promotes Costa Rica MILA course that has conservationist core.
 - Admissions print communications use Forest Stewardship Council paper.
 - Admissions consciously prints communications in quantities that are needed and guard against over-ordering and wastefulness.
 - Admissions increased digital communication which has minimized number of print brochures.
 - Year 3-5 (2021-2023) – No Further Updates
- Develop sustainability elements in prospective student campus tours.
 - Year 3-5 (2021-2023) – Fahy Commons added to campus tour
- Place signs across campus identifying and highlighting sustainability commitments and features.
 - Year 3-5 (2021-2023) – Signage exists in New Science and Fahy Commons to explain sustainability features, Water Filling stations are identified as reducing waste and rain gardens include signage
- Create maps of campus sustainability information.
 - Year 3-5 (2021-2023) – Campus Map aligned with UN sustainable development goals in progress utilizing Google Maps.
- Maintain a website including Sustainability Action Plan materials and updates.
 - Year 1 (2019) - Sustainability Strategic Plan posted to the Muhlenberg College Sustainability website.
 - Year 2 (2020) - Updates to Year 1 (2019) posted to website.

- Year 3-5 (2021-2023) – Student organizations and New Sustainability Staff updated.
- Other Accomplishments
 - Year 1 (2019) – Sustainability publicity and awards
 - Muhlenberg College awarded Gold Rating from Association for the Advancement of Sustainability in Higher Education STARS evaluation.
 - Muhlenberg College received Environmental Innovation Award from the Lehigh Valley Chamber of Commerce in May 2019.
 - Three Articles in the General Press on Zagster Bike Share at Muhlenberg, Earth Day, and removal of straws at Muhlenberg.
 - Four Articles in Muhlenberg Press including Alumni Magazine, overview of Sustainability efforts, Bike Share at Muhlenberg, STARS Gold rating and new Sustainability Studies major.
 - Three articles in Muhlenberg weekly on Bike Share, sustainable fashion, and recycling.
 - Twenty social media posts and Instagram takeover during Earth Week.
 - Year 2 (2020) - Sustainability publicity and awards
 - Muhlenberg won AASHE's Sustainability Achievement award for Solar Partnership with 3 other Colleges.
 - Sustainability website was updated and redesigned.
 - Year 3-5 (2021-2023) –
 - 'Like we're outdoors when we're indoors': Take a look inside Muhlenberg College's newest building, LehighValleyNews.com | By Molly Bilinski, Published April 21, 2023 at 6:00 AM
 - “Trailblazing Sustainability, Innovative Academics” By: Kristine Yahna Todaro. Wednesday, February 1, 2023 03:58 PM – Muhlenberg Website
 - “Internships Allow Sustainability Studies Major to Effect Change Locally” By: Meghan Kita. Thursday, July 28, 2022 04:37 PM PM – Muhlenberg Website
 - “Students Develop a Sustainable Business Concept in Grant-Funded Summer Program” - By: Meghan Kita Tuesday, August 16, 2022 09:49 AM– Muhlenberg Website.
 - “Muhlenberg College Institute of Public Opinion & Sustainability Studies Program | 2022 Pennsylvania Climate and Energy Survey.” This survey from the Muhlenberg College Institute of Public Opinion is

released in partnership with the Muhlenberg College Sustainability Studies Program.

Goal #4 – Develop methods and tools to measure progress towards stated goals.

- Collect building energy information to provide accurate and timely feedback into progress towards sustainability goals.
 - Year 1 (2019) - Building automation upgrade was initiated for \$70,000.
 - Year 2 (2020) - Deferred due to COVID.
 - Year 3-5 (2021-2023) – No Further Updates
- Measure staff and faculty sustainability knowledge, engagement and behavior.
 - Year 3-5 (2021-2023) – No Progress
- Establish regular reporting on Sustainability Action Plan.
 - Year 1 (2019) - The report will be finalized every September. Year 1 (2019) update complete
 - Year 3-5 (2021-2023) - Combined updates completed in Spring of 2023 due to COVID 19 & staffing changes