

UNIVERSITY OF PENNSYLVANIA

CLIMATE AND SUSTAINABILITY ACTION PLAN 3.0 ANNUAL REPORT FY20



CONTENTS

- 3 > Introduction
- 4 > Progress Summary
- 6 > Academics
- 9 > Utilities and Operations
- 12 > Physical Environment
- 15 > Waste Minimization and Recycling
- 18 > Purchasing
- 21 > Transportation
- 24 > Outreach and Engagement
- 27 > Looking Forward



This is, in a sense, Penn’s own moon landing—an enormous challenge of great logistical and technical complexity. In this effort, our greatest asset is the depth of faculty, student, and staff commitment to solving these problems.

—DR. AMY GUTMANN, UNIVERSITY PRESIDENT

TIMELINE OF SUSTAINABILITY

'07

JUNE

President Gutmann signs the *American College and University Presidents Climate Commitment* (ACUPCC).

'09

SEPTEMBER

Penn launches its first *Climate Action Plan* defining its University-wide sustainability goals through 2014.

'10

MARCH

Penn issues *Century Bonds*, with \$200 million earmarked for projects that combine deep energy retrofits, deferred maintenance, and sustainability.

'12

JANUARY

Penn commits to being a 100% carbon neutral campus by 2042.

'14

OCTOBER

Penn launches its *Climate Action Plan 2.0*, reporting on five years of accomplishments and establishing goals through 2019.

'17

JUNE

Penn joins eleven Ivy Plus universities in reaffirming commitment to climate change mitigation after U.S. withdrawal from the Paris Agreement.

'19

OCTOBER

Penn launches its *CSAP 3.0* reporting on ten years of accomplishments and establishing goals through 2024.

'20

APRIL

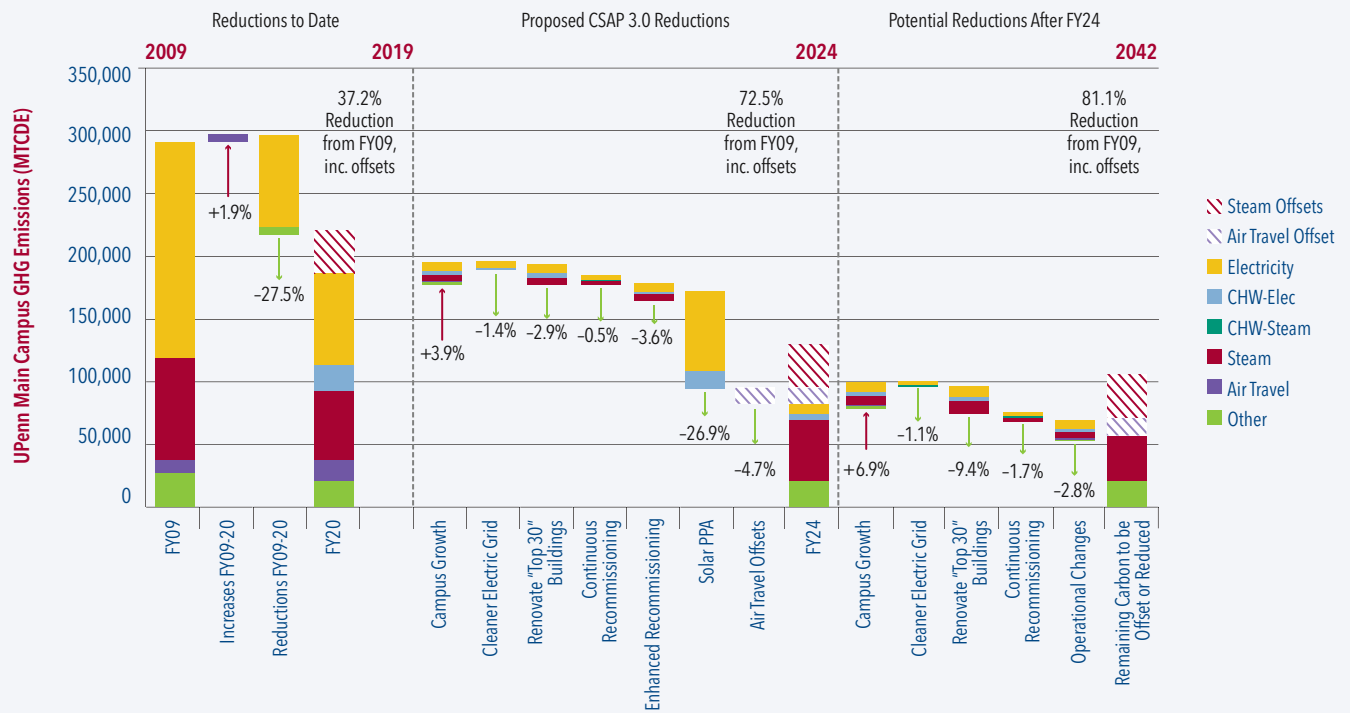
Penn announces the signing of a *Power Purchase Agreement* (PPA) designed to offset approximately 75% of electricity use for the University and Health System.

PROGRESS SUMMARY

At the center of Penn's *Climate and Sustainability Action Plan 3.0 (CSAP 3.0)* is our path to become a 100% carbon neutral campus by 2042 (100X42). This report provides metrics on the status of the seven initiatives of the CSAP 3.0 - initiatives designed to transform campus planning, design, and operations, as well as how the campus is used by the Penn community. Each of these initiatives is made up of smaller goals and strategies which are stepping stones on our path to achieving 100x42 and improving environmental sustainability on campus. This report highlights fiscal year 2020 progress on achieving the goals of the *Climate and Sustainability Action Plan 3.0*, Penn's guiding document for campus sustainability.

Please send any comments or questions to the Penn Sustainability Office (PSO) at sustainability@upenn.edu. For more information, please visit sustainability.upenn.edu.

CARBON REDUCTION 2009-2042



Since 2009, Penn has been moving purposefully toward our commitment of a 100% carbon neutral campus by 2042. To date, a 37.2% reduction has been achieved as compared to FY09. Future emissions reductions are expected as we continue our path to carbon neutrality by improving building sustainability in the top 30 buildings with the greatest potential for improvement on campus, testing and updating building systems through continuous and enhanced building recommissioning, investing in renewable energy through a solar Power Purchase Agreement, and finding new solutions to offset our air travel emissions.



We are achieving our goal



We have made progress



Goals to be achieved
in a future year*

*Throughout this report, we use these symbols to denote progress.

HIGHLIGHTS | Seven Initiatives

| | | |
|---|---|---|
| Academics |  | <p>Significant achievements have been made through the development of the Environmental Innovations Initiative (EII) and the Faculty Senate Committee on the Institutional Response to the Climate Emergency (CIRCE). More focus will follow on advancing regional sustainability objectives, assessing and improving climate literacy of Penn students, and improving opportunities for a cohesive sustainability undergraduate education at Penn.</p> |
| Utilities & Operations |  | <p>In FY20, Penn reduced overall emissions by 37% and building-related emissions by 41% as compared to the 2009 baseline year. Penn signed a PPA designed to offset carbon emissions equal to 75% of total campus electricity demand for the academic campus and the University of Pennsylvania Health System. Working groups have been developed to address campus steam emissions and future offsets.</p> |
| Physical Environment |  | <p>Perry World House received LEED Silver certification for New Construction. Bird-friendly guidelines have been developed. A cross-sectional team is working to determine how best to integrate practices within an Ecological Landscape Stewardship Plan (ELSP). A working group has been formed to assess opportunities to more fully incorporate wellness practices into campus design.</p> |
| Waste Minimization & Recycling |  | <p>Working groups have been formed to address water bottle use and special waste materials on campus. An internal dashboard has been created to support evaluation and improvement of campus waste infrastructure.</p> |
| Purchasing |  | <p>A request for proposal (RFP) was issued for air travel offset providers in Spring of 2020. Penn's dining facilities continue to maintain 20% local food purchases and seek opportunities to purchase more sustainable options. Penn Purchasing launched a new catering website, which includes vendor sustainability criteria to help staff make greener choices.</p> |
| Transportation |  | <p>Eight new electric vehicle charging stations were installed on campus. A working group was formed to better assess faculty and staff commuting behavior. Two new Indego bike share stations were installed at 34th and Chestnut and 34th and Spruce Streets.</p> |
| Outreach & Engagement |  | <p>Sustainability has been incorporated as a formal component of the Wellness at Penn Initiative. The number of committed Green Labs has doubled over the past year, and there are 17% more participants in the Staff and Faculty Eco-Reps program as compared to the previous year. A Sustainability 101 module is now available in KnowledgeLink for Penn staff and faculty.</p> |

ACADEMICS

MISSION

- Make climate change and sustainability part of the curriculum and educational experience available to all students, including classroom instruction, extracurricular experiences, and research & internship opportunities
- Support faculty teaching, learning, research, and scholarship on sustainability
- Inform the entire University community of the principles of sustainability and its three key constituent pillars: environmental protection, economic prosperity, and equitable distribution of resources



| GOALS | STRATEGIES | FY20 PROGRESS |
|---|---|---|
| <p>Campus as Lab: Support the use of campus-as-lab to promote applied learning</p> | <p>Develop a formal Campus-as-Lab initiative to merge Penn's operational sustainability goals with applied learning and research for faculty and students.</p> | <p>EII is a new undertaking, launched by the President and the Provost in December 2019. Its goal is to put Penn in the vanguard of research and education aimed at building pathways towards lasting prosperity and well-being for all people in harmony with nature and its life-supporting systems, following the principles of justice. The goal of the EII is to integrate all relevant kinds of expert knowledge already well established in different parts of the University and to build upon the existing capacities by strategic additions and external partnerships (both in the academic world and the world of practice, at the local, national, and international scales) that will catalyze and streamline progress towards the EII's goal. EII will have a global focus and a broad interdisciplinary mandate to produce new knowledge and to engage and educate Penn students and others from the local community to the world. The Initiative is led by two faculty directors, Joe Francisco and Kathleen Morrison, and the search for an Executive Director is ongoing.</p> <p>A professor in the Weitzman School of Design worked with students in their Advanced Transportation seminar in the Spring of 2020 and members of the Purchasing Air Travel working Group to evaluate the impact and potential solutions to the carbon emissions associated with air travel. The students worked with University data, provided by Business Services, and were guided by Penn Purchasing, Penn faculty, and PSO.</p> |
| <p>Help advance the City's regional sustainability objectives and provide professional development and real-world learning opportunities to Penn students</p> | <p>Formalize a Civic Sustainability Fellowship program to place Penn students in internships with City agencies.</p> | <p>This past summer, one student worked for the Philadelphia Energy Authority advancing the Philadelphia Energy Campaign, a \$1 billion, 10-year investment in energy efficiency and clean energy projects in four sectors: City buildings, public schools, low- and moderate-income housing, and small businesses. Specifically, this student focused on Solarize Philly, a citywide initiative to help all Philadelphians go solar.</p> |
| <p>Improve the Climate Literacy of Penn Students</p> | <p>Develop a climate literacy assessment of Penn's undergraduate student body and recommendations to strengthen climate change education across the curriculum.</p> | <p>The Faculty Senate CIRCE was established in December 2019 with three Subcommittees including Community and Policy, Operations, and Research and Education.</p> |
| <p>Expand tracking and reporting of student enrollment in sustainability-related majors, minors, and concentrations</p> | <p>Document students in sustainability-related majors, minors, and concentrations.</p> | <p>7,922 students were enrolled in sustainability related courses during the 2019-2020 Academic Year, demonstrating that nearly 30% of the Penn student population were enrolled in sustainability-related courses.</p> |
| <p>Improve opportunities for a cohesive sustainability education at Penn</p> | <p>Improve opportunities for a cohesive sustainability undergraduate education by identifying course sequencing and essential early-curricular courses.</p> | <p>Progress forthcoming.</p> |



PROGRESS SUMMARY

Since the launch of the CSAP 3.0, academic sustainability has set a path for increased research, collaboration, and student engagement. This path is further illuminated by the launch of the EII in December 2019. EII is a Provost's Office initiative and will bring together researchers, scholars, and students to develop new ideas and innovative solutions for our global environment. EII will play an integral role in achieving the academic goals set forth in the CSAP 3.0. In addition, the Faculty Senate CIRCE was established in December 2019 with three Subcommittees including Community and Policy, Operations, and Research and Education. In addition, a farm at Penn Park was established as part of the Provost's *Your Big Idea Wellness Challenge*. The farm is in development and updates can be found on the Center for Public Health Initiatives [website](#).

Photo: Tom Stanley





UTILITIES AND OPERATIONS

MISSION

To reduce campus carbon emissions and the costs associated with maintaining campus operations by:

- Adopting best practices in energy conservation through design, operation, and maintenance of both building infrastructure and district energy systems
- Exploring and adopting best practices for campus energy procurement



| GOALS | STRATEGIES | FY20 PROGRESS |
|--|--|---|
| Reduce Penn's overall carbon footprint towards 2042 carbon neutrality goal | Investigate a renewable Power Purchase Agreement to reduce Penn's emissions from electricity. | Penn signed a PPA with Community Energy for the supply of electricity, capacity, and renewable energy credits from two solar energy facilities with combined capacity of 220 MW. The facilities will be built in central PA and are expected to be operational in December of 2022. Once built, the arrays are projected to generate 450,000 MWh of carbon-free electricity annually, offsetting carbon emissions equal to about 75% of the total electricity demand of the academic campus and University of Pennsylvania Health System. |
| | Study options to mitigate emissions from campus steam consumption, including low-carbon steam, alternative heating solutions, and viable offsets. | A working group has been created to further investigate long-term options for low-carbon steam and steam alternatives. |
| | Expand School and Center awareness and training sessions through energy data awareness programs and the expansion of Energy Dashboards for FRES Operations and Maintenance (O&M) and School and Centers. | Penn's Energy Engineers have met with all Schools and Centers to review energy consumption. The division of Facilities and Real Estate Services (FRES) is in the process of working with two schools to implement energy dashboards. |
| | Identify and implement approved energy and carbon reducing measures as part of the Enhanced Recommissioning program. | Eleven Enhanced Recommissioning (ERCx) studies are complete and awaiting funding. |
| | Leverage Supervisory Control and Data Acquisition (SCADA) capabilities to transition towards a continuous recommissioning O&M process. | FRES will pursue a pilot program to test our ability to standardize building controls for communication with SCADA. If successful, global commands can be applied to improve efficiency and building function. |
| | Optimize maintenance activities to improve energy efficiency through pro-active maintenance. | The FRES O&M team is working on a three-stage strategy to expand their preventative maintenance approach to all Schools and Centers. |
| | Work with academic centers to determine an internal cost of carbon and incorporate into capital planning. | A working group has been developed to explore possible approaches to an internal cost of carbon. |



PROGRESS SUMMARY

Since the launch of the first Climate Action Plan in 2009, Penn has made noteworthy progress in reducing carbon emissions. Overall emissions have been reduced by 37% and building-related emissions have been reduced by 41%. In order to achieve the 100 x 42 goal of carbon neutrality by 2042, further action must be taken. The PPA moves us closer to our goal. The the waterfall chart on p4 shows Penn’s path to carbon neutrality. At the end of FY20, we had achieved a 27% reduction in our carbon footprint as compared to FY09 when steam offsets are not considered, and a 37% reduction in our carbon footprint if we include steam offsets.

We have made significant progress, and our roadmap calls for continued action from all Penn community members to promote sustainable and responsible use of resources both on and off campus. Over the next five years, we expect to implement additional enhanced recommissioning measures, set a strategy for air travel emissions offsets, and complete the construction of two solar facilities. These actions combined with continuous recommissioning, operational changes, and renovation of the top 30 energy consuming buildings will set us on the trajectory to neutrality.



The Century Bond program has funded the replacement of Leidy Laboratory's HVAC system in an effort to improve energy efficiency.

PHYSICAL ENVIRONMENT



MISSION

- Create and maintain a sustainable campus by increasing ecologically managed green space, reducing building energy consumption, and expanding awareness of sustainable design



| GOALS | STRATEGIES | FY20 PROGRESS |
|---|---|---|
| Update Campus Design Standards | Update Penn’s engineering, landscape, and design standards. | Working Groups have created bird-friendly guidelines and an ELSP, and are in the process of updating Penn’s Green Guidelines for Renovation and creating guidance for incorporating wellness into design guidelines. |
| | Incorporate the Green Guidelines for Renovations into Penn design standards. | The Green Guidelines were developed in 2014 with cross university input and support. These guidelines are currently being updated. Once complete, they will be hosted on the FRES website . |
| Improve Penn’s Landscape Ecology Practices | Identify priority areas within the Ecological Landscape Stewardship Plan (ELSP) . | An ELSP has been developed in collaboration with the FRES Landscape Architecture staff and Operations and Maintenance team. A tentative priority list was developed and is currently under review. Once finalized, priorities within the ELSP will be implemented. |
| | Reduce the number of bird strikes on campus. | Penn’s Landscape Architecture staff, along with Student Eco-Reps, developed bird-friendly guidelines in an effort to reduce the number of bird-strikes on campus. Once approved, the guidelines will be available on the FRES website . |
| Continue to improve the sustainability of Penn’s Real Estate Holdings | Continue to emphasize Penn’s commitment to sustainability and work with landlords to integrate sustainability-related policies. | Penn’s Real Estate team has engaged with the major 3rd Party Landlords to confirm sustainability efforts in their properties. Summaries of these programs have been shared with the PSO. |
| | Continue to integrate green leasing policies for Penn owned retail and commercial tenants when possible and encourage tenants to integrate sustainability-related policies. | Penn’s Real Estate team maintains a tenant handbook which includes sustainability practices in order to promote sustainability in leases. The Environmental Sustainability Advisory Committee (ESAC) Physical Environment Subcommittee is exploring opportunities to support the Real Estate team with this guidance. |
| | Continue to track energy use and develop metrics to quantify the impact across the Penn Real Estate portfolio. | The large apartment buildings in Penn’s portfolio are tracked in Portfolio Manager; smaller properties are monitored, but not tracked in Portfolio Manager. |



| GOALS | STRATEGIES | FY20 PROGRESS |
|--|--|--|
| Formalize expansion of Penn's carbon footprint geography to include Morris Arboretum and New Bolton Center (NBC) | Expand Penn's carbon footprint to include Morris Arboretum and NBC. | Morris Arboretum and the New Bolton Center will be incorporated into future emissions reporting. |
| Integrate best practices in occupant health and wellness to Penn's building standards | Assess opportunities for implementation of WELL Building criteria in new construction and major renovations. | A working group, co-led by SAS and FRES Design and Construction, is developing wellness recommendations for new construction and major renovations. |
| Improve water use and management on campus | Minimize potable water use. | Student Eco-Reps will research Penn's campus water footprint during the 2020/2021 Academic Year. |
| | Improve stormwater management. | Student Eco-Reps will include green stormwater infrastructure in their assessment of Penn's campus water footprint during the 2020/2021 Academic Year. |
| Improve Penn's Preparedness, Resiliency, and Adaptation to Climate Change | Develop a climate resiliency study to combine resiliency, adaptation, and mission continuity. | Progress forthcoming. |

PROGRESS SUMMARY

Penn's commitment to a sustainable built environment and ecologically managed landscape continues. LEED Silver continues to be the minimum standard for new construction and major renovations, though many projects achieve and exceed Gold level certification. In January of 2020, [Perry World House](#) received LEED Silver for New Construction. In addition, Philadelphia's new building codes for energy performance are driving high performance building, and Penn continues to push for progressive design by focusing on high performance and wellness-focused spaces. The Wellness Working Group will evaluate best practices in healthy interiors, the WELL Building Standard, and other wellness-focused design practices to develop building guidelines for design professionals and project managers. Ecological landscape management continues to evolve and thrive. Bird-friendly guidance was developed and a bird-friendly film installation on new construction was piloted to reduce the number of bird collisions with buildings on campus.



WASTE MINIMIZATION AND RECYCLING

MISSION

- Increase diversion and minimize solid waste through community education, strategic purchasing, appropriate infrastructure, and proper disposal, strengthened by relevant and accurate metrics



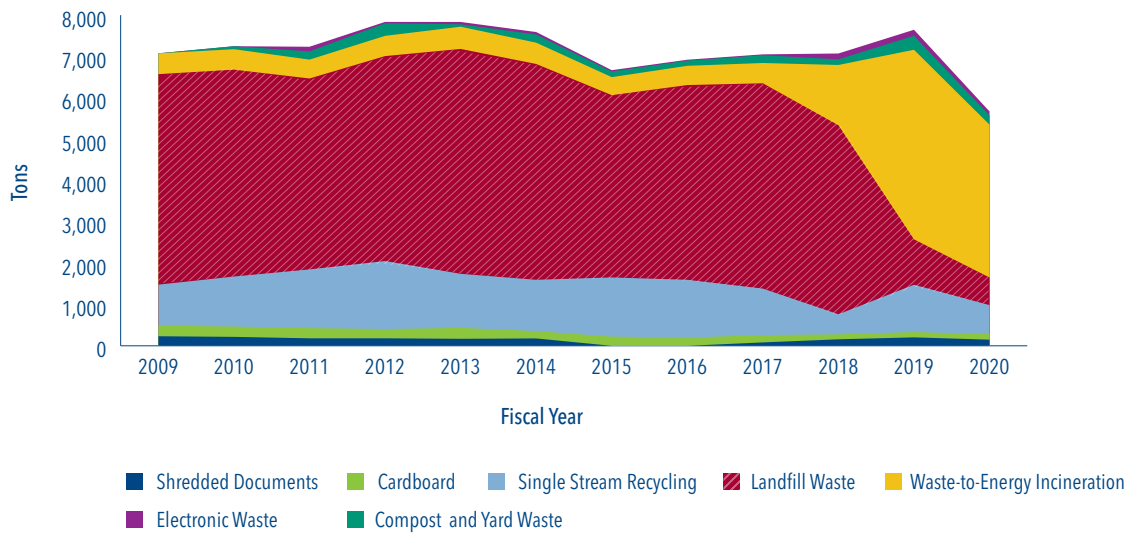
| GOALS | STRATEGIES | FY20 PROGRESS |
|---|---|---|
| Increase Penn's Overall Waste Diversion and Minimize Waste Sent to Landfill | Improve waste data tracking and reporting. | PSO worked with a PhD student to develop a web-deployable waste dashboard. Once finalized, it will be available on the PSO website. |
| | Evaluate and improve campus waste practices, recycling, and all diversion streams. | Scales for trucks will be included in the RFP for new trucks when it is time to purchase them. |
| | | The campus waste dashboard, created with the support of a Penn PhD student, will be used to help identify poor performance and problem areas on campus. |
| | | Current waste practices will be evaluated in FY21 and FY22. A deskside recycling and centralized trash guide was created. |
| | A working group was developed to identify a plan for reducing bottled water use on campus. | |
| | Strengthen education, training, and transparency. | A Strategic Marketing and Communications Working Group has been developed as part of Penn's Outreach and Engagement goals. This group will collaborate with Penn's Solid Waste Management Working Group on their communications plan. |
| Expand the University's Surplus Property Program. | PSO has identified key members for a working group to evaluate Penn's surplus property program. Implementation of this working group has been delayed due to remote work during COVID-19. | |
| Support Regional Waste Goals | Support the City's 2035 Zero Waste Goal. | Penn is currently evaluating which buildings would be a good fit for the program and have the capability to track these waste data. |

PROGRESS SUMMARY

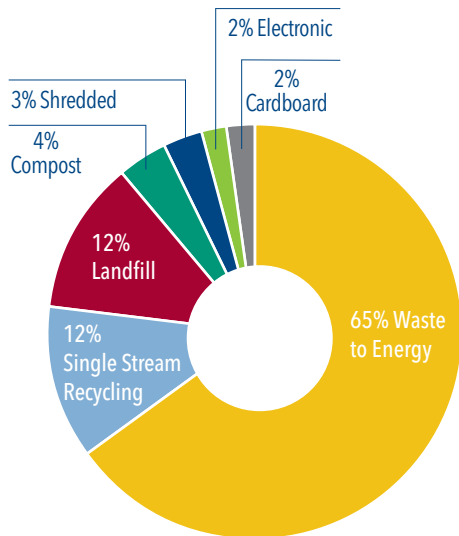
Increasing material diversion and reducing the waste sent to landfill and waste-to-energy incinerators continue to be priorities for Penn. Together with our waste vendor, Penn has reduced solid waste by 23% percent in FY20 compared to FY09. COVID-19 has had a large effect on campus waste collection starting in March 2020, leading to an overall reduction in solid waste generated. In addition to staff working remotely, all students were receiving remote instruction, and research activities were greatly reduced. Move-out was vastly different from other years and, as a result, less material was captured in the recycling and diversion streams.



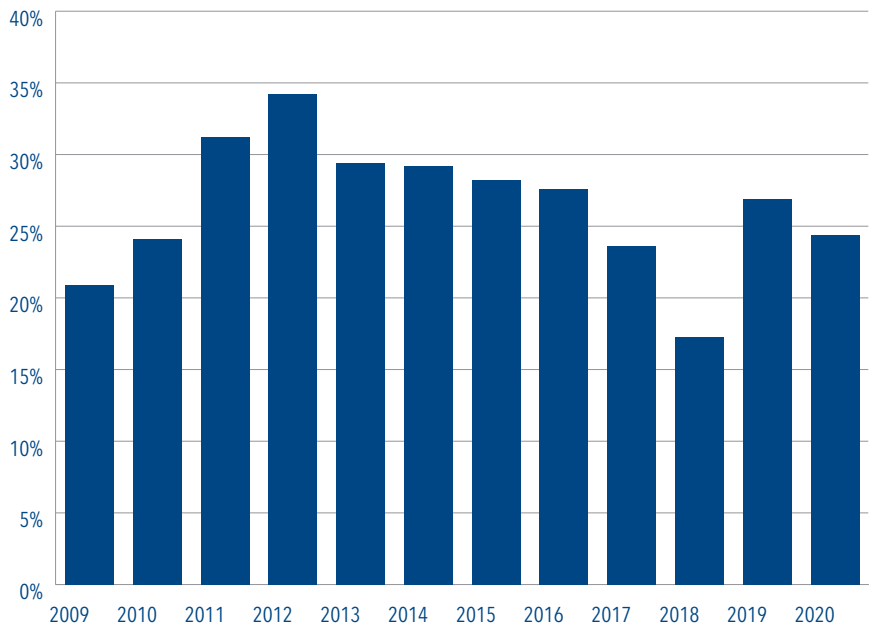
2009-2020 | Municipal Solid Waste and Recycling



FY20 | Waste Breakdown



Waste Diversion from Landfill



PURCHASING

MISSION

- Increase awareness and enable the procurement of environmentally responsible products and options
- Engage with suppliers and campus partners to reduce waste, and to identify and promote sustainable supply chains



| GOALS | STRATEGIES | FY20 PROGRESS |
|---|---|---|
| Increase Procurement of Sustainable Food Products | Increase Procurement of Sustainable Food in Penn Dining Cafes. | A Dining Working Group was established to increase tracking and reporting of sustainable food. Approximately 20% of the food used in Penn Dining facilities that are managed by Bon Appetit is sourced from local vendors. |
| | Improve catering practices on campus. | Penn Purchasing Services launched a new catering website " Catering@Penn " which includes sustainability criteria in vendor ranking. The new and interactive webpage is hosted on the Purchasing Services website. |
| Encourage purchasing of low- or zero-emissions vehicles | Encourage purchasing of low- or zero-emissions vehicles. | The Purchasing and Transportation Subcommittees of the ESAC collaborated to develop a scope of work for a student to evaluate departmental vehicle purchasing practices and guidance for low- or zero- emissions vehicle purchases. Due to interruptions because of COVID-19, this work is expected to occur in the summer of 2021. |
| | Expand campus fleet tracking. | The Office of Institutional Research maintains a list of all assets. Combined with the contact information for all University Asset Managers, PSO has been able to expand fleet tracking. |
| | Establish a plan to reduce Penn's carbon emissions from air travel. | Penn Purchasing Services leads an Air Travel Working Group comprised of faculty and staff from across the University. This group developed an RFP to procure carbon emission offsets for air travel, updated Concur messages related to travel, provided recommendations for travel policy, and worked with students to identify solutions. |
| Expand Sustainable Office Equipment Purchases, Options, Standards, and Technology | Expand use of auto-replacements. | Penn's Business Services Division has made progress in implementing auto-replacements for office supplies, and is currently exploring options for expanding auto-replacements in the Penn Marketplace. |
| | Expand use of Managed Print Services to all Schools. | Penn Purchasing Services developed a new RFP for managed print services in order to better meet the needs of Schools and Centers. This RFP went out in Spring of 2020 and new contracts were finalized in July. Purchasing Services is preparing communications to drive awareness and adoption, recognizing COVID impacts and limited on-campus printing activity. |
| | Establish sustainable furniture standards for healthy interiors. | A Furniture Working Group was established to make recommendations and develop guidelines for more sustainable furniture purchasing. The working group developed a process for surveying current suppliers' sustainability practices and is in the process of collecting these data. |
| | Quantify and communicate Penn's supply chain impact. | The ESAC Purchasing Subcommittee will begin to quantify Penn's supply chain impact for the most purchased items in FY21. |

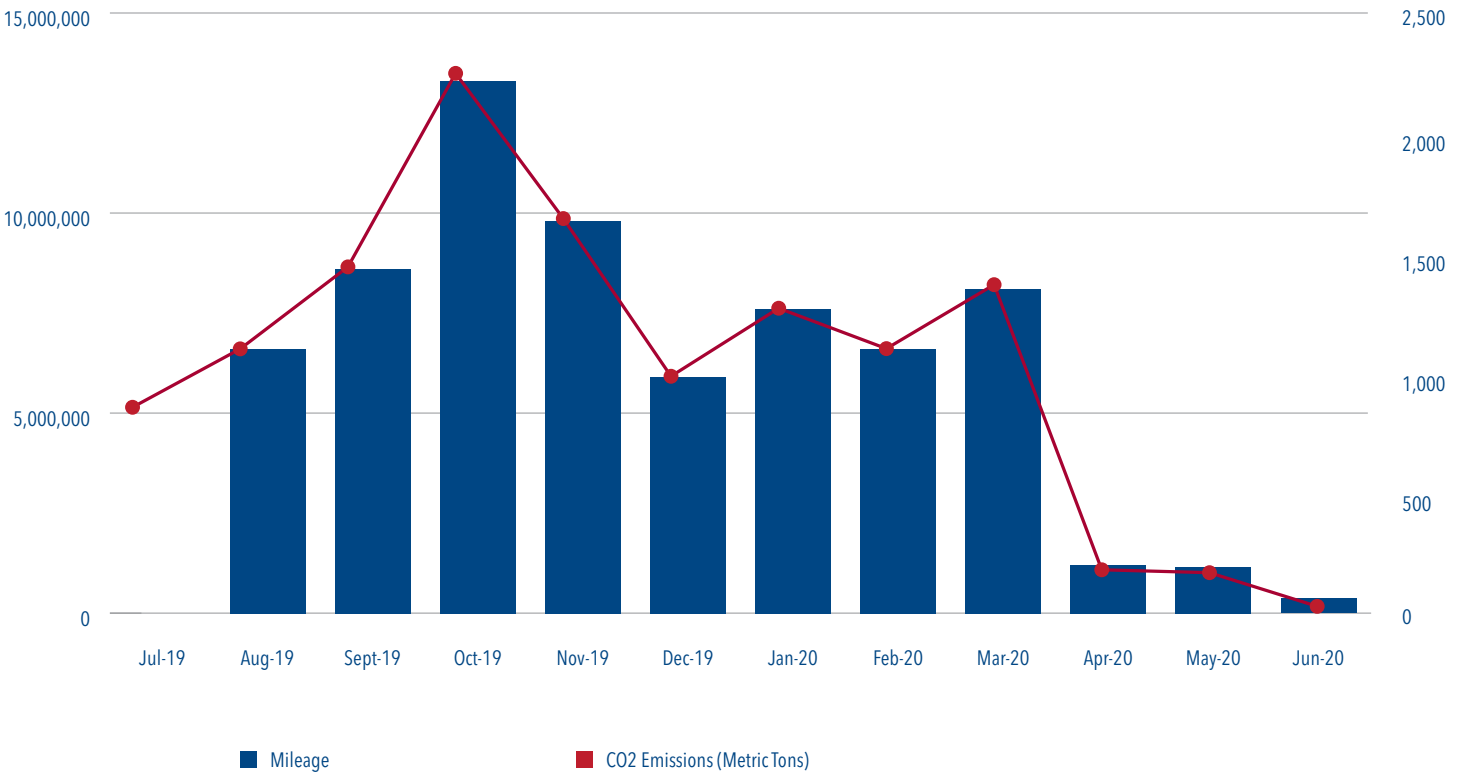


PROGRESS SUMMARY

Key among the purchasing goals is developing a program for offsetting carbon emissions from University-sponsored air travel. In FY20 a working group focused on understanding air travel related emissions and refined Penn’s methodology for determining air travel related emissions. It was previously believed that these emissions made up 20% of Penn’s total carbon emissions. Using the new, more accurate reporting methodology, it is now believed that Penn’s air travel emissions account for closer to 10% of the total carbon emissions for the main campus. Due to extreme reductions in travel due to COVID-19, air travel emissions changed dramatically in 2020. Air travel emissions were reduced by 36% percent in FY20 as compared to FY19 and accounted for 7% of total emissions. A chart illustrating the significant change in travel volume is included below.

To address air travel emissions, an Air Travel Working Group was established with cross-campus representation. This group, led by Penn Purchasing Services, issued an RFP for offset services after developing a plan with the working group. To date, responses from the RFP have been collected and the working group is evaluating responses. In addition to the RFP for offsets, the working group is evaluating air travel policy, sustainable travel guidance, and a governance strategy for all travel-related emissions. Notable in that effort was the collaboration with a professor from the Weitzman School of Design. Through their involvement on the working group, this professor devoted one of their courses - the Advanced Transportation Seminar - to this challenge of air travel sustainability. Their students’ work, and Penn’s work with its strategic travel partners, have helped shape planned changes to travel policy, process, and guidance.

FY20 Travel Bookings



TRANSPORTATION



MISSION

- Continue to prioritize a pedestrian and bike-friendly campus
- Encourage the use of local, alternative, and low-carbon transportation options
- Promote pedestrian and cyclist safety on campus



| GOALS | STRATEGIES | FY20 PROGRESS |
|---|---|---|
| A campus supported by an accessible, integrated multi-modal transportation system | Promote incentive programs for alternative transportation, integrate services with other transit providers, and influence local transportation systems. | Penn Transportation and Parking staff began assessing enhanced marketing for alternative transit incentive programs in conjunction with many other changes resulting from the COVID-19 crisis. Staff began working remotely and students transitioned to off-campus learning in March 2020. Due to the decrease in commuting to campus and other concerns about health and safety on public transportation, subsidy program participation decreased. |
| Have an accessible and safe campus for bicyclists and pedestrians | Promote a pedestrian-friendly and safe campus in support of the City's Vision Zero efforts. | A working group has been developed to explore options for a commuter survey to better understand pedestrian and other commuting practices. |
| | Enhance the University's bicycle policies and coordinate initiatives with the greater Philadelphia bike community. | Participation in the bike commuter reimbursement program remains strong. Two-hundred and eighty-two staff and faculty participated during the 2019 tax year. Ridership is expected to increase as staff return to work, post COVID-19. Two new Indego bike share stations were installed at 34th and Chestnut and 34th and Spruce Streets. The Penn Community now has access to 6 Indego stations near campus . |
| Improved energy efficiency of parking and transportation facilities and fleet composition | Improve energy efficiency in parking facilities operations. | Eight electric vehicle charging stations were installed in FY20; four at the Penn Museum Garage and four at the Walnut 38 Garage. These stations were paid for in part by a Commonwealth grant in cooperation with the University of Pennsylvania Health System (UPHS). Penn's Transportation and Parking division is working on a survey of lighting needs with a focus on installing LED lighting. A partial lighting upgrade was completed for the Walnut 40 lot in FY20, and a full upgrade is planned for 2027. |
| | Transition Penn Transit fleet from high carbon to low carbon or renewable fuels. | Electric buses were evaluated to replace the biodiesel buses currently in operation; at this time, Penn found that they are not economically feasible nor do they reduce emissions by a substantial amount. |

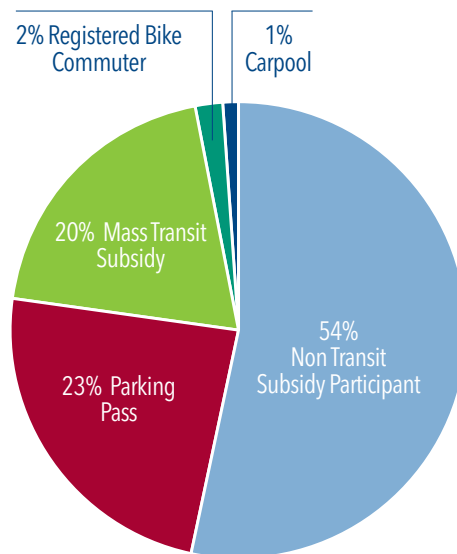


PROGRESS SUMMARY

Penn Transit continues to offer sustainable transportation incentives with the goal of reducing single occupancy automobile commuting. Due to COVID-19 there were dramatic changes to commuting in 2020. All staff began working remotely in March of 2020, and only essential staff were working on campus. Prior to this change, nearly 49% of staff participating in Penn Transit subsidized programs were utilizing sustainable commuting options including: mass transit, biking, occasional parking, vanpooling, and carpooling. The pie chart below shows the percentage of faculty and staff that participate in Penn Transit subsidized programs.

A large number of staff and faculty walk to work and do not participate in one of the Penn Transit offered subsidy programs. These staff and faculty are included as “Non-transit subsidy participants” in the pie chart below. In order to understand transit patterns more holistically, the Transportation Subcommittee is evaluating conducting a controlled survey of faculty and staff to better understand commuting behavior. In addition, the Transportation Subcommittee is working to understand how COVID-19 will impact commuting behavior in the long term.

Penn Staff and Faculty Commuting Prior to March



OUTREACH AND ENGAGEMENT



MISSION

- Continue to highlight the urgency of global environmental concerns, while building a holistic on-campus culture of sustainability



| GOALS | STRATEGIES | FY20 PROGRESS |
|---|--|--|
| Expand and Strengthen Existing Outreach Programs | Incorporate sustainability as a formal component of the Wellness at Penn Initiative. | Environmental wellness has been incorporated as a formal component of the Wellness at Penn Initiative. The Wellness at Penn website provides a number of resources related to sustainability and the environment. |
| | Strengthen the Green Labs Working Group, Green Living, and Green Office programs. | All programs have been strengthened over the past fiscal year. The Green Labs Working Group meets quarterly and has robust membership. In addition, there are now 14 Committed Green Labs (100% increase compared to last year). The Green Living certification had 287 participants this year, and the Green Office program has 71 certified offices. |
| | Develop a comprehensive strategic communication plan for sustainability. | A Strategic Marketing and Communications Working Group has been developed and includes a diverse group of communications professionals from 9 different Schools and Centers. This group will be focused on creating and implementing a Strategic Marketing and Communications Plan for sustainability. |
| | Create a Green IT Working Group. | A Green IT Working Group is in development. Key members have been identified. Progress toward this goal has been slowed due to remote work during COVID-19. |
| | Launch a new sustainability website. | The Strategic Marketing and Communications Working Group will identify priorities for a new website. |
| | Elevate visibility of sustainability as core priority for employee onboarding and training. | A Sustainability 101 KnowledgeLink Module was created and is open to anyone at Penn. The training can be found in KnowledgeLink . |
| Engage Penn’s Leadership to Serve as Sustainability Change Agents | Develop a Senior Facilities Subcommittee to improve communication/collaboration for best practices across Schools & Centers. | Key members and representatives have been identified. |



PROGRESS SUMMARY

Sustainability programs and outreach remain strong. This year, the PSO launched a Sustainability 101 KnowledgeLink training for faculty and staff. This module is assignable to all University faculty and staff and helps users learn about sustainability on campus. Since its release, 355 faculty and staff have taken the training. Modeling this success, a second training, Green Labs @ Penn, is in development with the support of the Green Labs Working Group and Environmental Health and Radiation Safety (EHRS). Executive Vice President (EVP) Craig Carnaroli's annual Eagles Fridays incorporated green tips, allowed staff members in the EVP division to wear green or Eagles gear on Fridays, and invited staff to participate in a Twitter engagement campaign. On the communications front, a Strategic Marketing and Communications Working Group has been developed in order to ensure cross-campus membership and broad support for new messaging. The working group will be instrumental in creating and implementing a Strategic Marketing and Communications Plan for campus sustainability.

While changes to University operations due to COVID-19 altered many campus programs, PSO was able to continue many events and initiatives remotely. Twenty-one Student Eco-Reps completed and presented on [nine year-long projects](#), the Green Fund Review Board reviewed five grant applications, PSO and partners hosted a [PPA 101 Webinar](#) to educate the campus community on the recently signed PPA contract, and PSO [released a new video](#), in recognition of the 50th anniversary of Earth Day.

LOOKING FORWARD

Penn has achieved great success over the first year of the *CSAP 3.0*, and there is still much to be accomplished. As Penn advances the goals within this 5 year action plan, participation from all members of the Penn Community will play a critical role in the success of these initiatives. We invite all students, faculty, and staff to join us and connect on social media and by email at sustainability@upenn.edu.



[Facebook](#)



[Twitter](#)



[YouTube](#)



[Instagram](#)



[LinkedIn](#)



Penn Sustainability