

UNIVERSITY OF PENNSYLVANIA

Climate & Sustainability Action Plan 4.0

Progress Report FY25

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Student organization, WasteWise at Penn, during Earth Week



CSAP 4.0 Launch Event

Introduction



Penn is among the rare institutions that address climate and sustainability in several dimensions at once: academically, with preeminent and innovative teaching, research, and service; operationally, through the administration and functioning of our campus and health system; and publicly, by offering unbiased data to inform policy and by modeling how a research university can serve the community and the country. This progress report offers a comprehensive snapshot of Penn's impressively broad and integrated efforts on this critical challenge of our times.



J. Larry Jameson, MD, PhD
President

Progress on climate and sustainability is one of our most important campus-wide goals. It is central to our strategic framework, In Principle and Practice, and among the highest priorities of Penn Forward, our university-wide initiative to shape Penn's future around the most significant global challenges and opportunities. I am especially pleased this year to welcome Sanya Carley and Stephen Decina as the new Vice Provost and Executive Director for Climate Science, Policy, and Action at Penn. They will help lead us in accelerating new ideas, catalyzing interdisciplinary collaborations, and discovering innovative new solutions that will inform the future of climate research and policy across the world.



John L. Jackson Jr., PhD
Provost

At Penn, progress in sustainability is driven by a shared commitment across our schools, centers, and the health system. Through deliberate planning and close collaboration, we're seeing the many ways in which every part of the University contributes to meaningful change. This report illustrates how sustainability is woven into our operations and reflects the collective work of teams turning ambition into measurable results. From procurement to utilities and facilities management, we're advancing practical solutions that strengthen Penn today and translate strategy into lasting impact.



Mark F. Dingfield, PhD
Executive Vice President

Executive Summary



Penn's Climate & Sustainability Action Plan 4.0 FY25 Progress Report highlights dozens of accomplishments made this year at the University's main campus, Health System, Morris Arboretum & Gardens, New Bolton Center, and throughout Penn's real estate portfolio. Over the next four years, Penn Sustainability and its collaborators will continue to build upon these initial developments, taking collective action to address the goals outlined in the Climate & Sustainability Action Plan 4.0.



Environmental Sustainability Advisory Committee Leadership

Key developments in FY25 include:

- **ACADEMICS** - Penn created the Office of the Vice Provost for Climate Science, Policy, and Action, or **Penn Climate**. Now overseen by Vice Provost Sanya Carley, this office is working across the University's 12 schools to bolster Penn's leadership in sustainability and climate. Penn Climate's inaugural seminar series is taking place in fall 2025.
- **UTILITIES & OPERATIONS** - The main campus's **net emissions fell by 4.5%** between FY24 and FY25, and have **dropped by 49% since FY09**. The solar Power Purchase Agreement (PPA) became fully operational in FY25 and helped to reduce the main campus's **electricity emissions by 36%**. Penn also offset 12,218 metric tons of carbon dioxide equivalent through its Climate Impact Offset charge and support of offset projects.
- **PHYSICAL ENVIRONMENT** - Penn has continued to prioritize the construction of **sustainable, energy-efficient buildings**. The **Vagelos Laboratory for Energy Science and Technology**, with its signature sunshades, received top marks in the Energy and Atmosphere category of the LEED scorecard, as well as in the areas of Materials, Resources, and Innovation. This **LEED Platinum** certification reflects the University's leadership in green building practices and its dedication to advancing energy research in a sustainable environment. Awarded LEED Gold, **Amy Gutmann Hall** is one of the largest mass timber structures on the East Coast with a cutting-edge system that significantly reduces the building's carbon footprint. The **Jane and David Ott Center for Track & Field**, which can seat nearly 1,000 spectators, was awarded LEED Silver.
- **PROCUREMENT** - Penn continued its commitment to supporting local vendors and commerce, with **\$702M spent regionally** and **\$467M in Philadelphia** in FY25. Penn Procurement also announced the inaugural Penn Local Business Exchange, a forum and expo that took place in October 2025.

Executive Summary



Key developments in FY25 (continued):

- **STRATEGIC WASTE** - Prudent management of campus waste led to Penn achieving a **33% landfill diversion rate** in FY25, an improvement from 29% in FY24. Some of that improvement can be attributed to augmented composting programs, which resulted in **313 tons of material composted** in FY25, up 55% from 201 tons in FY24. The University also disposed of 92 tons of electronic waste this year, in partnership with several hauling and recycling partners.
- **TRANSPORTATION** - Penn began offering full-time, benefits-eligible faculty, professional staff, and post-doctoral research fellows **discounted memberships with Indego**, Philadelphia's bike share program. Riders can now more affordably utilize the **six Indego stations on Penn's campus**, as well as the 250+ throughout the city. The discount is available to staff and faculty regardless of whether they are already enrolled in a Penn Commuter Benefit.
- **CIVIC ENGAGEMENT & OUTREACH** - In collaboration with local organizations, Penn facilitated an expanded **off-campus move-out program** in spring 2025, reducing litter and streamlining the capture of unwanted items through furniture drives, bulk trash pick-up, and donation stations. The initiative resulted in over 150 orders and the diversion of **670 items, an estimated 14,000 pounds of materials**, donated to individuals transitioning out of homelessness via the Philadelphia Furniture Bank.
- **HEALTH SYSTEM** - Penn Medicine developed a Carbon Reduction Strategy to reduce carbon emissions by 50% by 2030 and achieve net zero by 2042. This strategy has four goals with phased strategies:
 - **Energy Efficiency**: Instituting energy efficiency measures and creating a culture of energy conservation.
 - **100% Renewable Electricity**: Purchasing 100% renewable energy through onsite and offsite solar, wind, and geothermal.
 - **Smart Electrification**: Replacing systems with electrified options at the end of the useful life or during renovations to achieve an electrified health system.
 - **Embracing Emerging Technology**: Monitor technological advancements to replace natural gas-consuming cogeneration facilities with alternative power sources.



Penn Arts & Sciences Finance & Administration staff displaying their Level 3 Green Office certification



Year at a Glance

ACADEMICS

Penn created the Office of the Vice Provost for Climate Science, Policy, and Action, or Penn Climate.

RELATED CSAP 4.0 GOAL:

Elevate Penn's reputation as a leader in environmental education, research, service, and policy, both locally and globally.



Climate Week 2024

UTILITIES & OPERATIONS

Three projects funded through the PPA Renewable Energy Research Program explore the environmental tradeoffs of solar array design, assess stormwater impacts at Penn's solar site, and examine public perceptions of large-scale solar development in Pennsylvania.



PPA Great Cove Solar Project

RELATED CSAP 4.0 GOAL:

Ensure the Power Purchase Agreement (PPA) research funds are distributed to projects that support renewable energy and sustainability.



New Bolton Center

PHYSICAL ENVIRONMENT

Carbon emission reports developed for the main campus, Morris Arboretum & Gardens, New Bolton Center, and real estate carbon footprints.

RELATED CSAP 4.0 GOAL:

Expand Penn's 100% x 2042 carbon neutrality goal for the West Philadelphia campus to include emissions from the Morris Arboretum & Gardens, New Bolton Center, Pennovation Works, and other University-owned real estate portfolio properties.

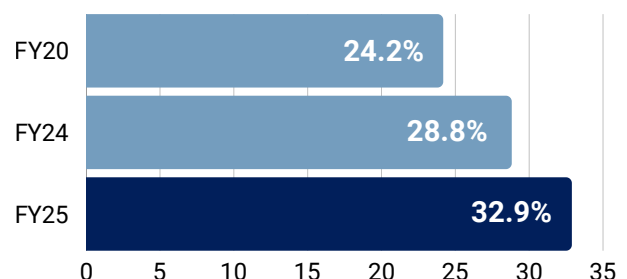
STRATEGIC WASTE

Penn's landfill diversion rate was 33% in FY25, up from 29% in FY24, and from 24% in FY20.

RELATED CSAP 4.0 GOAL:

Increase the diversion rate for items sent to landfill and incineration through improved data-informed education, signage, and operational improvements.

Landfill Diversion Rate





Year at a Glance

PROCUREMENT

Penn achieved nearly \$702M in regional spending for the fiscal year, with \$467M of that being within the Philadelphia city limits.

**FY25
PHILLY SPEND**

\$467M

**FY25
REGION SPEND**

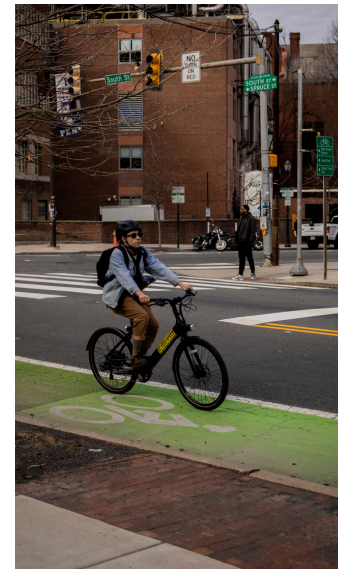
\$702M

RELATED CSAP 4.0 GOAL:
Increase spend with local vendors.

TRANSPORTATION

Penn introduced an opportunity for staff and faculty to receive discounted Indego bikeshare passes.

RELATED CSAP 4.0 GOAL:
Collaborate with stakeholders to educate, improve infrastructure, and encourage safety for the campus biking environment.



Bike Lane on South Street

CIVIC ENGAGEMENT & OUTREACH

In collaboration with local organizations, Penn facilitated an off-campus move-out program, reducing litter and streamlining the capture of unwanted items through furniture drives, bulk trash pick-up, and donation stations.

This initiative resulted in over 150 orders and the diversion of 670 items, an estimated 14,000 pounds of materials, donated to individuals transitioning out of homelessness via the Philadelphia Furniture Bank.



Off-Campus Move Out

RELATED CSAP 4.0 GOAL:
Develop action-oriented, democratic partnerships that will increase the sustainability outcomes of Philadelphia.



The Clifton Center for Medical Breakthroughs

HEALTH SYSTEM

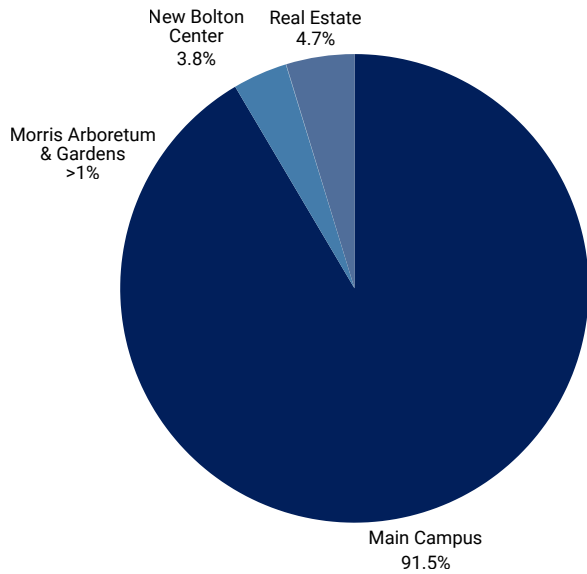
UPHS developed its first energy carbon reduction strategy.

RELATED CSAP 4.0 GOAL:
Energy: Reduce carbon emissions by 40% by 2030 through continuous evaluation and reduction of steam and natural gas consumption.

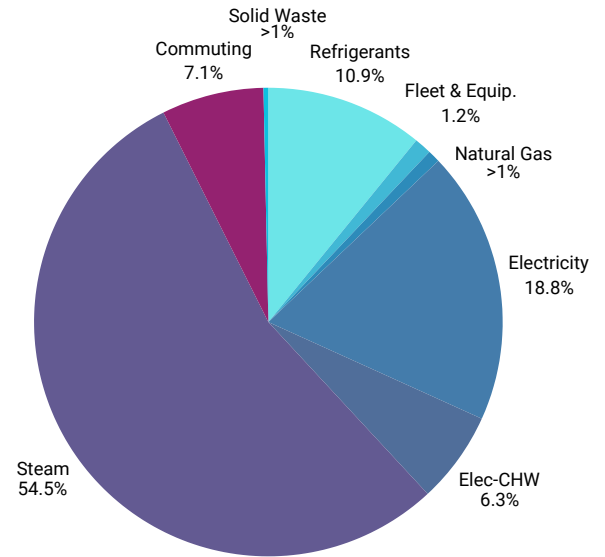
Carbon Footprint



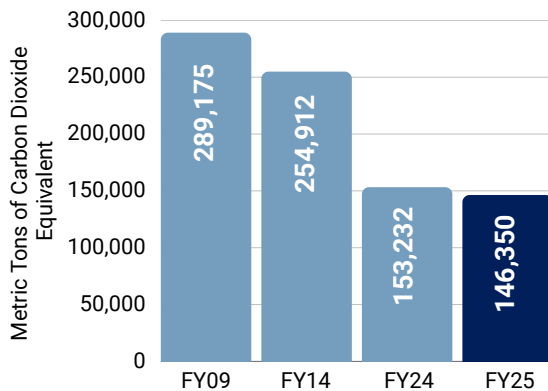
Overall Net Emissions, FY25



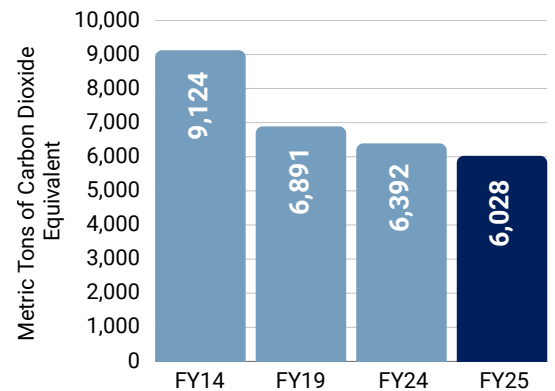
Main Campus Net Emissions, FY25



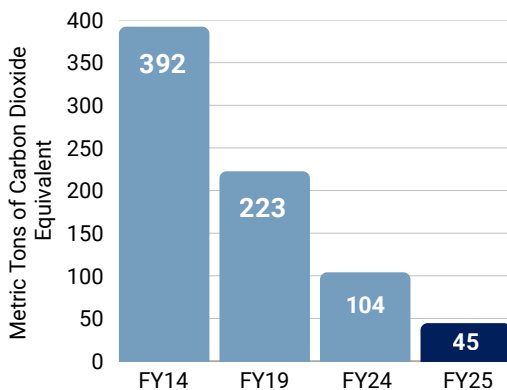
Main Campus Net Emissions, FY25



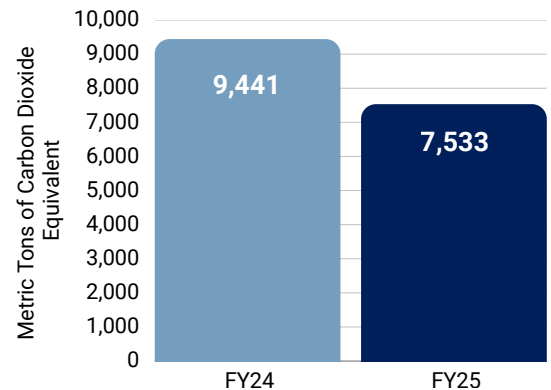
New Bolton Center Net Emissions, FY25



Morris Arboretum & Gardens Net Emissions, FY25



Real Estate Net Emissions, FY25





NEW FACULTY AND STAFF HIRES

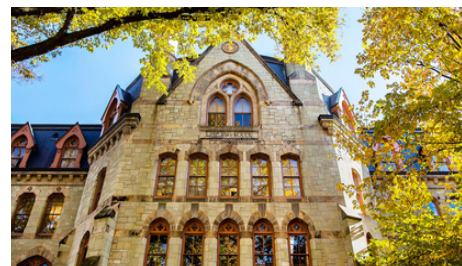
Nearly 20 new faculty hires in the 2024–25 and 2025–26 academic years bring expertise in wind energy, glaciers, climate modeling, and the history of climate change, among other areas, augmenting the community's strength and capacity to contribute to solutions to daunting environmental challenges.



Jon Hawkings (at right) observes Greenland's Isunguata Sermia Glacier with collaborators from Charles University in Prague

RELATED CSAP 4.0 GOAL:

Increase opportunities and reduce barriers for transdisciplinary scholarship on climate- and environment-related topics by expanding faculty hiring and increasing opportunities for student research and mentoring at all levels.



MEETINGS WITH SCHOOL DEANS

The Environmental Innovations Initiative (EII) and Penn Sustainability staff met with deans and school leadership to reflect on their progress and track metrics related to climate and sustainability research and education. EII published these metrics and 2023–24 progress statements from each of the 12 schools in its most recent Annual Report.

RELATED CSAP 4.0 GOAL:

Continue to partner with each of Penn's schools to further the Academic Climate Commitments.

COURSE INVENTORY

EII continued to update and promote its course inventory, showcasing more than 330 environment-related courses across the University at all levels. In addition, in the coming year, two new certificates, on One Health and Ecological Horticulture, will be offering novel opportunities for students to prepare for careers that touch climate and sustainability.



RELATED CSAP 4.0 GOAL:

Augment climate- and sustainability-related educational offerings so that every student at Penn can access majors, minors, certificates, concentrations, and graduate programs that meaningfully address their discipline.

Academics



Extreme Heat Working Group Meeting



WORKING GROUPS

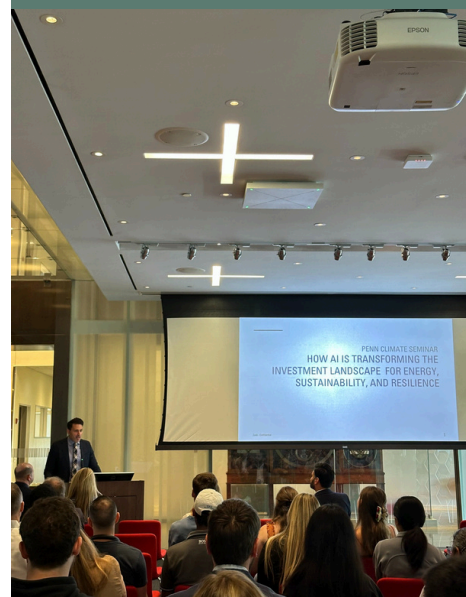
The Environmental Centers Working Group launched with representation from three dozen centers around campus, providing a forum for sharing best practices and developing collaborations. Additional working groups on extreme heat and biodiversity convened to bolster interdisciplinary research.

RELATED CSAP 4.0 GOAL:

Forge strong connections among relevant centers and programs at Penn to coordinate efforts (programming, projects, communications, and opportunities for faculty, students, and staff) focused on climate and sustainability.

INAUGURAL VICE PROVOST

Penn created the Office of the Vice Provost for Climate Science, Policy, and Action, or Penn Climate.



Penn Climate Lecture Series

RELATED CSAP 4.0 GOAL:

Elevate Penn's reputation as a leader in environmental education, research, service, and policy, both locally and globally.



Fernanda Jiménez and Carolina Angel Botero were part of Penn's delegation at COP16

UNCBD COP16

Penn sent a delegation to the United Nations' Conference of the Parties to the Convention on Biological Resources (CBD COP) for the first time in the fall of 2024.

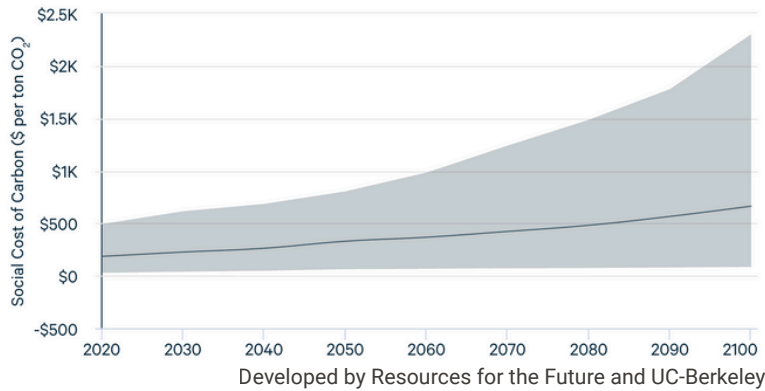
RELATED CSAP 4.0 GOAL:

Elevate Penn's reputation as a leader in environmental education, research, service, and policy, both locally and globally.



Utilities & Operations

GIVE Model Projection, 2020-2100



SHADOW PRICE FOR CARBON

The subcommittee identified the Greenhouse Gas Impact Value Estimator (GIVE) model to establish a shadow price for carbon. Next, the group will offer a recommendation for how this can be implemented in life-cycle costing for building renovations and new construction at Penn.

RELATED CSAP 4.0 GOAL:

Establish an internal shadow price for carbon at least as high as the price set by the EPA for new construction and renovations and implement a standardized life-cycle cost projection of different project options. This will reflect the environmental/social costs of carbon emissions and help to buffer against the potential future imposition of a carbon tax by federal or state governments.

SOLAR OPPORTUNITIES

Penn Vet is evaluating opportunities for both rooftop and ground-mounted solar installations at New Bolton Center.



New Bolton Center

RELATED CSAP 4.0 GOAL:

Develop a Request for Proposal (RFP) to explore an onsite solar project that provides co-benefits such as visibility, community awareness, and educational opportunities to campus and local communities.

Great Cove Solar Project



PPA RESEARCH PROJECTS

Three research projects funded in 2024: (1) Understanding Carbon Tradeoffs in Site Design for Photovoltaic Arrays: Comparison of Solar Photovoltaic, Agricultural Cropping, and Agrivoltaic Arrangements, (2) Evaluating Stormwater Runoff at UPenn's Solar Project in Central Pennsylvania, and (3) Shine On Pennsylvania: Assessing Community Acceptance of Large-Scale Solar Projects.

RELATED CSAP 4.0 GOAL:

Ensure the Power Purchase Agreement research funds are distributed to projects that support renewable energy and sustainability.



Utilities & Operations

Modular 7 Chiller Plant



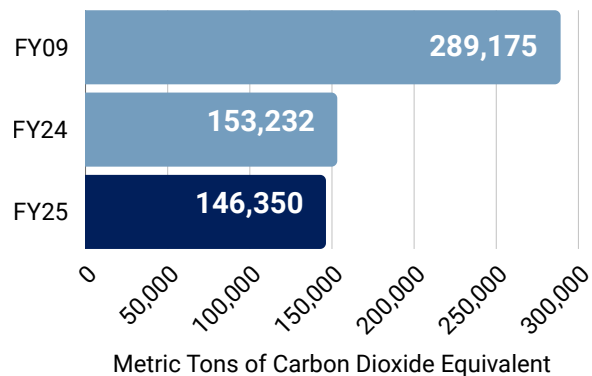
DECARBONIZATION PLAN

A Request for Proposals for a detailed decarbonization plan is under development. The scope of the plan will extend to the main campus, Morris Arboretum & Gardens, New Bolton Center, and the Penn-owned real estate portfolio.

REDUCING PENN'S CARBON EMISSIONS

FY25 Main Campus emissions were 146,350 Metric Tons of Carbon Dioxide Equivalent (MTCDE), reduced from 153,232 MTCDE in FY24 and 289,175 MTCDE in FY09.

Emissions Reductions, FY09 - FY25



RELATED CSAP 4.0 GOAL:

In support of the 2042 carbon neutrality goal, develop a decarbonization plan for reducing scope 1 and 2 emissions (heating, cooling, fleet, equipment, and electric power) directly produced by Penn or its utility suppliers. The plan will include the main campus, Morris Arboretum & Gardens, New Bolton Center and the Penn-owned real estate portfolio, with a recommendation for funding.

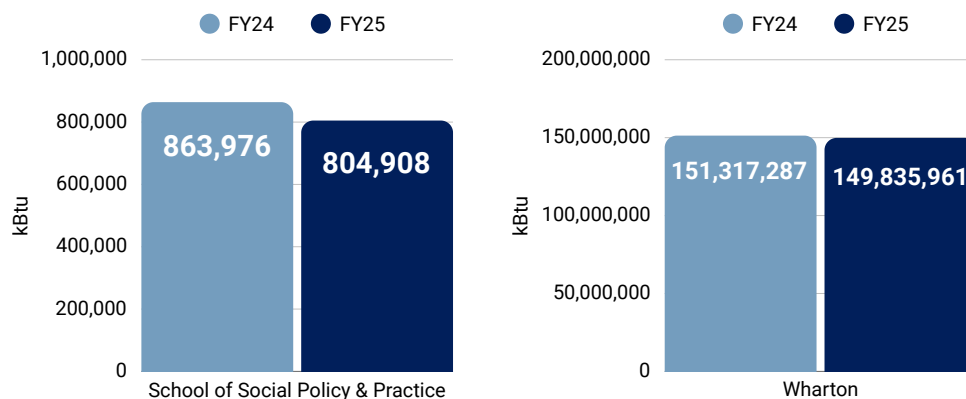
ENERGY CONSUMPTION REDUCTIONS

From FY24 to FY25, the School of Social Policy & Practice and Wharton saw the largest percentage decreases in energy use, with reductions of 6.8% and 1%, respectively.

RELATED CSAP 4.0 GOAL:

Establish school/center carbon and energy reduction plans to prioritize energy efficiency across Penn's building portfolio.

Energy Consumption Decreases, FY24 - FY25



Physical Environment



LEED-CERTIFIED PROJECTS

Penn currently has 55 LEED certified completed projects, with 10 projects pending certification in design or under construction, an increase from 37 projects in FY20. The subcommittee will begin its review of Penn's LEED Silver certification standard in 2026 once LEED v5 is in use and there is a body of certified projects to conduct the review.



Vagelos Laboratory for Energy Science and Technology

RELATED CSAP 4.0 GOAL:

Penn currently maintains a LEED v4.1 Silver certification standard for all new construction and major renovation projects. As LEED v5 is preparing to launch, evaluate its impact on our capital projects and our LEED Silver certification standard.

NEW LEED CERTIFICATIONS

Three newly constructed buildings earned LEED certifications from the U.S. Green Building Council: Vagelos Laboratory for Energy Science and Technology achieved Platinum, Amy Gutmann Hall (pictured) earned Gold, and Ott Center for Track and Field received Silver.



Amy Gutmann Hall

SUSTAINABLE SOIL BLEND

Penn and two local companies combined food waste compost and recycled glass to develop a new soil blend that has been used for street tree plantings. The glass helps avoid compaction to increase drainage during flooding and hold onto moisture during droughts.



New Soil Blend

RELATED CSAP 4.0 GOAL:

Review opportunities to further protect Penn's campus against climate change and address resiliency risks. Specific measures should include potential impacts from rising temperatures and increased stormwater challenges.



Physical Environment

CARING FOR THE CAMPUS FOREST

Penn's landscape team and the Morris Arboretum & Gardens Urban Forestry Consultant team collaborated using mapping software to track and monitor trees with stem girdling roots to complement tree care.



College Green

RELATED CSAP 4.0 GOAL:

In alignment with the Environmental Landscape Stewardship Plan (ELSP), continue to track efforts to protect and plan for the Penn campus urban forest, such as support of the City of Philadelphia's tree canopy goals, reducing urban heat island effect, improving air quality, and supporting biodiversity and a bird-friendly campus.



Morris Arboretum

UPDATED CARBON FOOTPRINT REPORTS

Carbon emission reports developed for the main campus, Morris Arboretum & Gardens, New Bolton Center, and real estate carbon footprints.

RELATED CSAP 4.0 GOAL:

Expand Penn's 100% x 2042 carbon neutrality goal for the West Philadelphia campus to include emissions from the Morris Arboretum & Gardens, New Bolton Center, Pennovation Works, and other University-owned real estate portfolio properties.



Shoemaker Green

SITES CERTIFICATION

The Physical Environment Subcommittee of the Environmental Sustainability Advisory Committee met with the U. S. Green Building Council's Partnerships Manager to discuss opportunities for future SITES projects at Penn.

RELATED CSAP 4.0 GOAL:

Evaluate the opportunity for Sustainable SITES certification on capital projects.

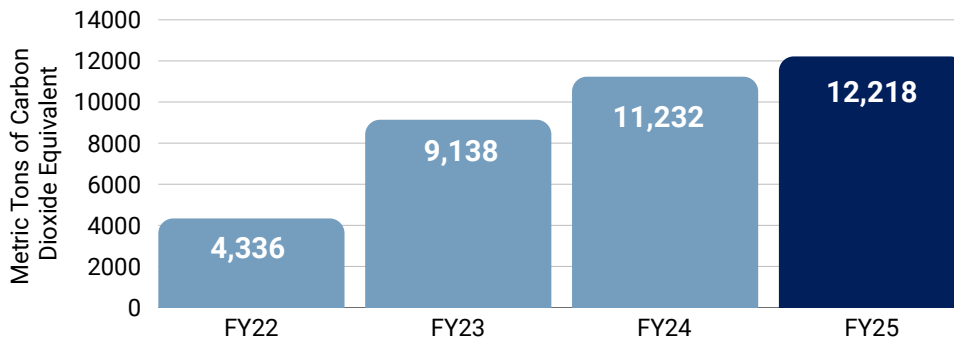


Procurement

AIR TRAVEL OFFSETS

Penn collected \$252,389 through its Climate Impact Offset charge and offset 12,218 metric tons of carbon dioxide equivalent (MTCDE) from domestic and international flights taken in FY25. The MTCDE offset is the highest since the program's inception. The new Carbon Offsets Working Group assisted in choosing offset projects to support.

Air Travel Carbon Offsets by Fiscal Year



RELATED CSAP 4.0

GOAL:

Formalize the Air Travel Working Group as the Carbon Offset Working Group to review and inform the selection of all carbon offset projects for Penn.

ELECTRIC VEHICLES

Eight electric vehicles were purchased and operationalized by Penn in FY25, bringing the fleet total to 50.



RELATED CSAP 4.0 GOAL:

In coordination with the goal overseen by the Transportation Subcommittee of the Environmental Sustainability Advisory Committee, facilitate an optimization of Penn's fleet toward zero-emission vehicles.

ZERO-WASTE DINING

Penn Dining, Bon Appetit, and Penn Sustainability are collaborating to establish Quaker Kitchen as a zero-waste dining hall.



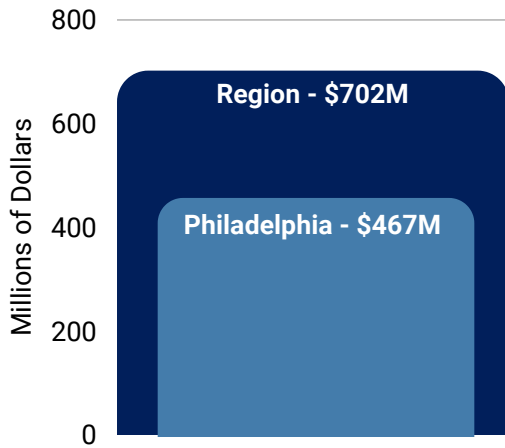
RELATED CSAP 4.0 GOAL:

Pilot zero-waste operations in at least one residential dining hall and begin a phased transition to require all providers to operate zero-waste residential dining halls.



Procurement

Local Vendor Spending, FY25



LOCAL SPEND

Penn achieved \$701,925,020 in regional spending for the fiscal year, with \$466,709,229 of that being within the Philadelphia city limits.

RELATED CSAP 4.0 GOAL:
Increase spend with local vendors.

FOOD PROCUREMENT DATA

A dining vendor provided Penn with comprehensive food procurement data for the entirety of FY25 and will be doing so going forward.



Penn Park Farm Harvest

RELATED CSAP 4.0 GOAL:

Track and regularly report consistent dining metrics for primary campus providers, including spend on animal/plant products and procurement of products recognized by third-party certifications.



Penn Dining Meal

NITROGEN FOOTPRINT

In partnership with Penn Dining and the Penn Sustainability Office, a Master of Environmental Studies student is analyzing food procurement data to more accurately assess Penn's nitrogen footprint.

RELATED CSAP 4.0 GOAL:

Incorporate student research to inform an approach to track Scope 3 emissions associated with Penn's food purchases. Recommendations will align with any other Scope 3 frameworks developed or adopted by Penn.

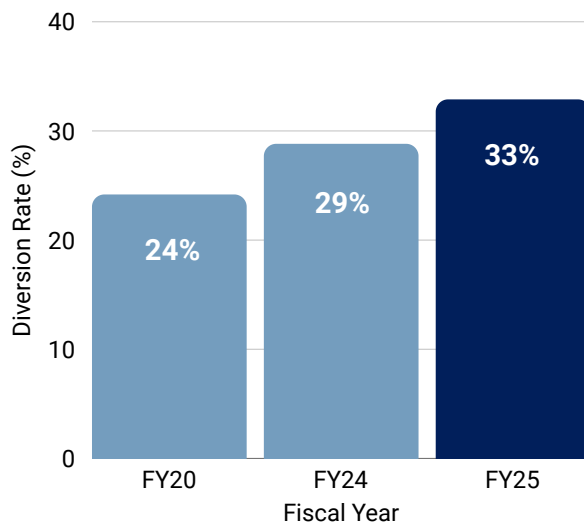


Strategic Waste

LANDFILL DIVERSION

Penn's landfill diversion rate was 33% in FY25, up from 29% in FY24, and from 24% in FY20.

Landfill Diversion Rate, FY20-25



RELATED CSAP 4.0 GOAL:

Increase the diversion rate for items sent to landfill and incineration through improved data-informed education, signage, and operational improvements.



Hey Day Low Waste 2025

HEY DAY COMPOSTING

267 lbs composted at Hey Day 2025, with a contamination rate of less than 1%.

RELATED CSAP 4.0 GOAL:

Develop new resources and strategies to increase the number of zero-waste campus events year over year.

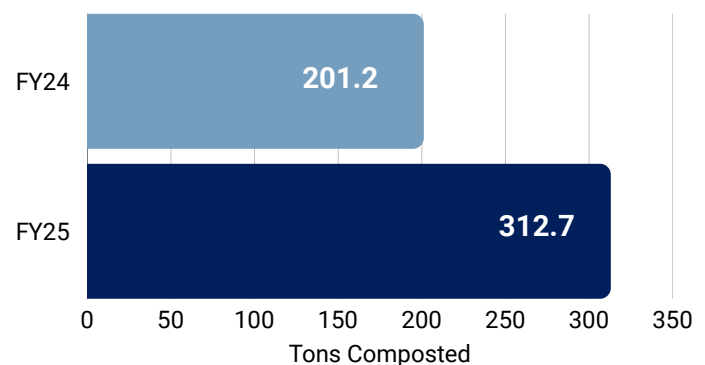
INCREASED COMPOSTING

Penn composted 111.5 tons more in FY25 than in FY24, a 55% increase.

RELATED CSAP 4.0 GOAL:

Facilitate an increase in composted tonnage and collection sites.

Compost Rate, FY24-25



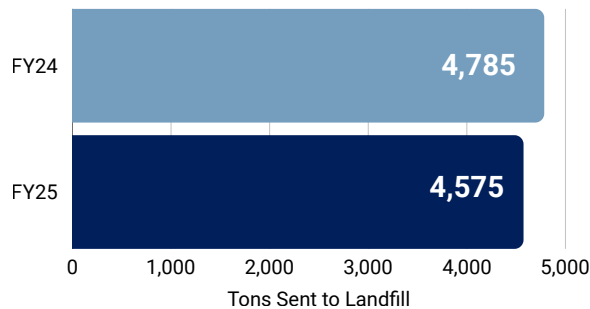


Strategic Waste

REDUCED LANDFILL WASTE

Penn generated 210 fewer tons of landfill waste in FY25 than in FY24, a 4% decrease.

Tons of Landfill Waste, FY24-25



RELATED CSAP 4.0 GOAL:

Increase the diversion rate for items sent to landfill and incineration through improved data-informed education, signage, and operational improvements.

LAB SUPPLY EXCHANGE PROGRAM

The Green Labs program launched a Lab Supply Exchange program in FY25 to reduce lab waste. In April, Green Labs rehomed 409 unopened boxes of gloves, worth approximately \$7,267, from the Quattrone Nanofabrication Facility to teaching labs in Chemistry and Biology, as well as a local non-profit.



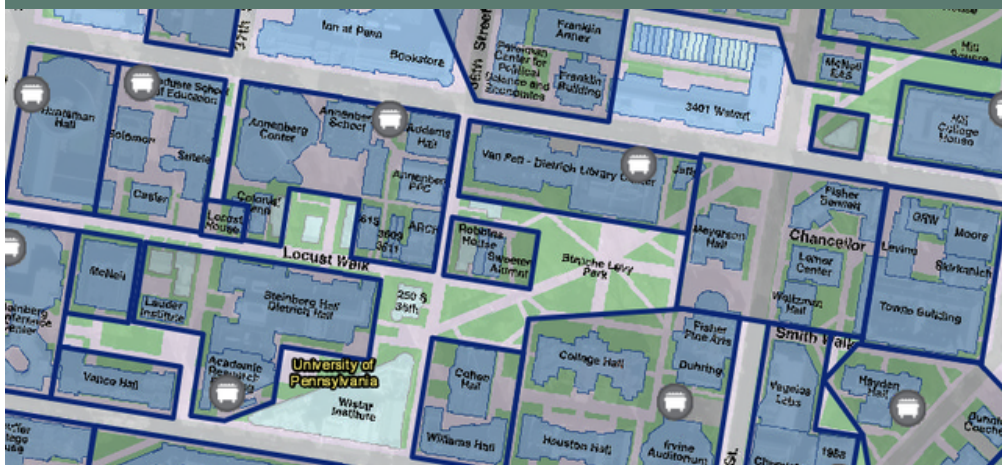
Boxed Glove Rehoming

RELATED CSAP 4.0 GOAL:

Explore opportunities to expand surplus property programming accessible to all schools and centers that will facilitate a higher volume of intracampus exchange and donations throughout local communities.

WASTE DASHBOARD

Penn Sustainability developed a waste dashboard to track waste data more efficiently and effectively for schools and centers.



RELATED CSAP 4.0 GOAL:

Increase the diversion rate for items sent to landfill and incineration through improved data-informed education, signage, and operational improvements.

Transportation



COMMUTER BENEFITS

In June 2025, 3,406 employees elected monthly transit passes through the Commuter Benefit Program. An additional 423 employees made new elections toward their commuter card through Health Equity, and seven participated in Health Equity's vanpool program. Beyond these elections, 249 employees claimed bike commuter reimbursements for 2024 tax-year expenses, and 645 participated in the occasional parking program, bringing total participation across commuter and parking benefits to 5,790.



Penn Bus East

RELATED CSAP 4.0 GOAL:

Facilitate an increase in commuter trips to Penn made by non-single-occupancy vehicles.

NEW COMMUTER CONCIERGE PROGRAM

Penn Parking and Commuter Benefits launched the Commuter Concierge program in January to provide new and current employees with personalized recommendations for their commute to and from the workplace.

RELATED CSAP 4.0 GOAL:

Develop a tool to aid current and prospective staff and faculty to make commute pattern decisions that incorporates Penn's complete diverse network of transportation modes.



Trolley Station



Transportation

NEW BIKE PARKING INSTALLATIONS

148 new bike parking spaces installed across campus at Solomon Labs (60), Vagelos Laboratory for Energy Science and Technology (40), 3201 Walnut Street Garage (28), and Amy Gutmann Hall (20).



Bike Parking Spaces

RELATED CSAP 4.0 GOAL:

Collaborate with stakeholders to educate, improve infrastructure, and encourage safety for the campus biking environment.

BIKE CO-OP

The Wheelhouse, a student-run bike co-op at Penn, partnered with a local church to host walk-in bike repair nights.



Wheelhouse Bike Co-op

RELATED CSAP 4.0 GOAL:

Collaborate with stakeholders to educate, improve infrastructure, and encourage safety for the campus biking environment.

DISCOUNTED BIKESHARE

Penn Commuter Services introduced an opportunity for staff and faculty to receive discounted Indego bikeshare passes through the Commuter Benefits program.



Indego Bike Share

RELATED CSAP 4.0 GOAL:

Collaborate with stakeholders to educate, improve infrastructure, and encourage safety for the campus biking environment.

Civic Engagement & Outreach



Environmental Sustainability
Advisory Committee Co-chairs



CONNECTING WITH PEER INSTITUTIONS

Environmental Sustainability Advisory Committee Co-chairs, Penn Sustainability, and Student Eco-Reps met with staff at six other universities to discuss how they have made the sustainability of their local communities part of their campus sustainability plans.

RELATED CSAP 4.0 GOAL:

Learn with and from peer institutions implementing sustainability practices with their local community partners.

ENGAGING THE CAMPUS COMMUNITY

Penn Sustainability staff led 24 engagement events and meetings on CSAP 4.0 since the launch of the plan.



CSAP 4.0 Open House

RELATED CSAP 4.0 GOAL:

Increase campus awareness around Climate & Sustainability Action Plan 4.0 progress and accomplishments.

CAREERS IN SUSTAINABILITY

The Kleinman Center for Energy Policy, Wharton Impact, the Environmental Innovations Initiative, Penn Sustainability and The Water Center at Penn partnered with Career Services to present *Building Your Sustainability Pathway* at Penn in February.

2025 MES Graduates



RELATED CSAP 4.0 GOAL:

In collaboration with the Environmental Innovations Initiative, explore and enhance career and professional development offerings related to sustainability professions.

Civic Engagement & Outreach



WEST PHILADELPHIA LITTER CLEANUP

Penn Sustainability partnered with the Cobbs Creek Park Ambassadors in January 2025 for an environmental cleanup.

Cobbs Creek Park Cleanup Volunteers



10 volunteers and two ambassadors removed 10 bags of trash and 72 tires from the southwest edge of Cobbs Creek Park.

RELATED CSAP 4.0 GOAL:

Develop action-oriented, democratic partnerships that will increase the sustainability outcomes of Philadelphia.

ENGAGING OUR STUDENTS

257 students participated in the Green Living program in FY25.

Green Living Tabling



RELATED CSAP 4.0 GOAL:

Enrich the daily sustainability practices of Penn students, faculty, and staff through new and existing programs.

A GREENER MOVE-OUT

Penn collaborated with local nonprofit organizations to facilitate an off-campus move-out initiative that improved move-out periods by reducing litter, providing resources for handling unwanted items, furniture drives, curbside bulk trash pick-up, and donation drop-off stations.



Off-Campus Move Out Truck

Over 150 orders were placed, resulting in 670 items being diverted, equaling an estimated 14,000 pounds of materials going to Philadelphians exiting homelessness through the Philadelphia Furniture Bank.

RELATED CSAP 4.0 GOAL:

Develop action-oriented, democratic partnerships that will increase the sustainability outcomes of Philadelphia.



Cancer Center, Penn Princeton Medical Center



PLANNING FOR EMISSIONS REDUCTIONS

Penn Medicine developed a Carbon Reduction Strategy to reduce carbon emissions by 50% by 2030 and achieve net zero by 2042. The strategy has four goals, each with phased strategies: Energy Efficiency, 100% Renewable Electricity, Smart Electrification, and Embracing Emerging Technology.

RELATED CSAP 4.0 GOAL:

Energy: Reduce carbon emissions by 40% by 2030 through continuous evaluation and reduction of steam and natural gas consumption.

NEW WASTE SERVICES VENDOR

Awarded contract to new waste services vendor who is contractually committed to reduce regulated medical waste and provide transparency and sustainability data and reporting.



UPHS Recycling

RELATED CSAP 4.0 GOAL:

Waste: Reduce Regulated Medical Waste stream by 30% and Municipal Solid Waste stream by 20%.

Improve waste management process, data tracking, and transparent reporting.

PREPARING FOR NEW EV CHARGING SITES

Completed assessment of 12 locations (including all 6 hospitals and ambulatory sites) for EV charging station installation. More than 150 stations will be installed in 2026.

EV CHARGING PROPOSAL

PENN MEDICINE



EV Charging Proposal Report

RELATED CSAP 4.0 GOAL:

Transportation: Reduce carbon emissions from fleet vehicles by 20% and from employee commuting by 10%.



TRANSITIONING TO A CLEANER VEHICLE FLEET

Completed assessment of all UPHS-owned fleet vehicles to begin transition to hybrid/EV as charging infrastructure is completed.

RELATED CSAP 4.0 GOAL:

Transportation: Reduce carbon emissions from fleet vehicles by 20% and from employee commuting by 10%.



Vehicles at Wright / Saunders Building

NEW GREEN BUILDING PROJECTS

Began construction on two large projects slated for LEED silver or above certification, the Cancer Center at Penn Medicine Princeton, and Penn Medicine Montgomeryville, which will implement geothermal technology.

Penn Medicine Montgomeryville



RELATED CSAP 4.0 GOAL:

Built Environment: Ensure all new design, construction, and renovation projects integrate sustainable construction best practices and ecological landscapes.

The Health System is working to reduce carbon emissions against its 2022 baseline year to achieve a 50% reduction by 2030, and carbon neutrality by 2042. The Health System currently reports annual emissions in a calendar year cycle. The 2023 and 2024 emissions data is currently being compiled and will be made available at the end of 2025.

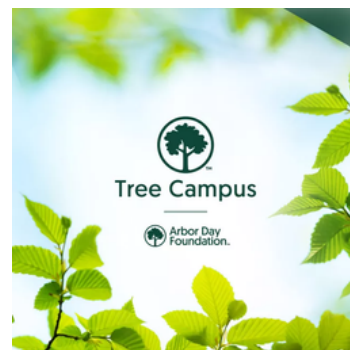
Recognition



Sustainability Director Nina Morris was one of ten individuals selected to be a recipient of the inaugural AASHE Fellows Award. The award recognizes individuals who are significantly contributing to the advancement of sustainability in higher education.



Three new buildings, Ott Center for Track and Field, Amy Gutmann Hall, and Vagelos Laboratory for Energy Science and Technology were constructed in FY25 which achieved silver, gold, and platinum by US Green Building Council's Leadership in Energy Efficiency and Design (LEED) certification respectively.



Penn received Tree Campus Higher Education Status from the Arbor Day Foundation for the 16th year in a row.



The International Sustainable Campus Network awarded Penn one of its 2024 Excellence Awards in recognition of Penn's Power Purchase Agreement (PPA) and Great Cove Solar Project. The honor recognizes the significance of Penn's PPA in slashing greenhouse gas emissions while also furthering the University's academic goals through support of research and education related to renewable energy.



The University of Pennsylvania has earned a Gold Rating in recognition of its sustainability achievements from the Association for the Advancement of Sustainability in Higher Education. The achievement underscores Penn's comprehensive approach to sustainability, exemplified by meeting 100% of the goals outlined in the University's sustainability strategic plan.



The National Association of College & University Food Services awarded Penn the Silver prize in the Best Local Foods Recipe of the Year category at their 2025 Nutrition Awards. The chefs at King's Court English House were recognized for their beet lentil burger bar, with ingredients sourced from Lancaster Farm Fresh, a co-operative of organic farms located throughout Lancaster County.

One Year of Progress



MESSAGE FROM PENN SUSTAINABILITY



Penn Sustainability Office team (standing, L to R: Siying Song, Intern; Austin Studner, Analyst; Alisha Ramirez, Sustainable Labs Manager; Jonah McDowell, Intern; Nina Morris, Director; Anna Balfanz, Coordinator; Noah Swistak, Manager; Srishti Jainapur, Intern)

In November 2024, Penn released its fourth Climate & Sustainability Action Plan (CSAP 4.0) and brought together hundreds of students, faculty, and staff to discuss and drive forward eight initiative areas that structure Penn's sustainability work. Through the dialogue and efforts of our activated community, CSAP 4.0 has already been incorporated into classroom projects, research questions, operations, and community engagement. CSAP 4.0 isn't just words on a page. It is our shared commitment to address the environmental challenges that we face together.

In addition to new goals for the University to address, the scope of CSAP 4.0 expanded beyond the West Philadelphia academic campus to also include the Health System, Morris Arboretum & Gardens, New Bolton Center, and Penn-owned real estate properties. CSAP 4.0 also reaffirms Penn's commitment to carbon neutrality by 2042. This Progress Report illustrates the activity of the subcommittees of Penn's Environmental Sustainability Advisory Committee - Academics, Utilities & Operations, Physical Environment, Procurement, Strategic Waste, Transportation, Civic Engagement & Outreach, as well as the Health System.

One year into Penn's CSAP 4.0, we hope you see how our expanded scope and deepened commitment have already led to exciting progress and innovative action. This progress report provides insight into how Penn is answering the call to climate action, and we invite your participation and passion to help us meet these ambitious goals.

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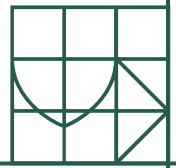
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CSAP 4.0 Goals

Academics

Research and Scholarship

- ☐ Increase opportunities and reduce barriers for transdisciplinary scholarship on climate and environment related topics by expanding faculty hiring and opportunities for student research and mentoring at all levels.
- ☐ Promote ethical community engaged research that addresses environmental challenges while centering community perspectives and needs.

Education

- ☐ Augment climate and sustainability educational offerings so every student at Penn can access majors, minors, certificates, concentrations, and graduate programs that meaningfully address their discipline.
- ☐ Enhance applied and experiential learning in areas of climate, sustainability, energy, and the environment, using a Campus as a Living Lab model.

Communication and Connection

- ☐ Forge strong connections among relevant centers and programs at Penn to coordinate efforts (programming, projects, communications, and opportunities for faculty, students, and staff) focused on sustainability.
- ☐ Continue to partner with each of Penn's schools to further their Academic Climate Commitments.
- ☐ Elevate Penn's reputation as a leader in environmental education, research, service, and policy, both locally and globally.

Utilities & Operations

- ☐ In support of the 2042 carbon neutrality goal, develop a decarbonization plan for reducing Scope 1 and 2 emissions (heating, cooling, fleet, equipment, and electric power) directly produced by Penn or its utility suppliers. The plan will include the main campus, Morris Arboretum & Gardens, New Bolton Center, and the Penn-owned real estate portfolio, with a recommendation for funding.
- ☐ Establish school/center carbon and energy reduction plans to prioritize energy efficiency across Penn's building portfolio.
- ☐ Explore ways to enhance Penn's existing energy standards for new construction and major renovations to improve building energy performance.
- ☐ Establish an internal shadow price for carbon at least as high as the price set by the EPA for new construction and renovations and implement a standardized life-cycle cost projection of different project options. This will reflect the environmental/social costs of carbon emissions and help to buffer against the potential future imposition of a carbon tax by federal or state governments.
- ☐ Ensure the Power Purchase Agreement research funds are distributed to projects that support renewable energy and sustainability.
- ☐ Develop a Request for Proposal (RFP) to explore an onsite solar project that provides co-benefits such as visibility, community awareness, and educational opportunities to campus and local communities.
- ☐ Study and adjust the current Red Day model to optimize grid resilience and responses by schools and centers and their occupants to more frequent extreme heat days.

Physical Environment

- ☐ Expand Penn's 100% x 2042 carbon neutrality goal for the West Philadelphia campus to include emissions from the Morris Arboretum & Gardens, New Bolton Center, Pennovation Works, and other University-owned real estate portfolio properties.
- ☐ Penn currently maintains a LEED v4.1 Silver certification standard for all new construction and major renovation projects. As LEED v5 is preparing to launch, evaluate its impact on our capital projects and our LEED Silver certification standard.
- ☐ Evaluate the opportunity for Sustainable SITES certification on capital projects.
- ☐ Smaller capital projects that are not LEED-certifiable are governed by Penn's Sustainable Building Guidelines (2024). Define an effective review process to ensure compliance with these guidelines.
- ☐ Evaluate the viability of a dedicated sustainability fund and potential school/center shared revenue sources in support of sustainable capital project initiatives.

Physical Environment (continued)

- ☐ Review opportunities to further protect Penn's campus against climate change and address resiliency risks. Specific measures should include potential impacts from rising temperatures and increased stormwater challenges.
- ☐ In alignment with the Ecological Landscape Stewardship Plan (ELSP), continue to track efforts to protect and plan for the Penn campus urban forest, such as support of the City of Philadelphia's tree canopy goals, reducing urban heat island effect, improving air quality, and supporting biodiversity and a bird-friendly campus.
- ☐ In response to the University's strategic vision, In Principle and Practice, align the new campus development plan with CSAP 4.0 goals and engage school/center representation in the consultative process.

Procurement

- ☐ In coordination with the goal overseen by the Transportation Subcommittee of the Environmental Sustainability Advisory Subcommittee, facilitate an optimization of Penn's fleet toward zero-emission vehicles.
- ☐ Adopt and implement a sustainability policy (in RFPs, contract renewals, etc.) for third-party food retailers vending or operating on Penn's campus, with a focus on utilization of reusable or recyclable, compostable wares, and back-of-house composting.
- ☐ Track and regularly report consistent dining metrics for primary campus providers, including spend on animal/plant products and procurement of products recognized by third-party certifications.
- ☐ Pilot zero-waste operations in at least one residential dining hall and begin a phased transition to require all providers to operate zero-waste residential dining halls.
- ☐ Formalize the Air Travel Working Group as the Carbon Offset Working Group to review and inform the selection of all carbon offset projects for Penn.
- ☐ Increase spend with local vendors.
- ☐ Develop a Sustainability Buying Guide and training program to be provided to all University purchasers.
- ☐ Develop a framework for measuring Scope 3 data from current and prospective vendors.
- ☐ Incorporate student research to inform an approach to track Scope 3 emissions associated with Penn's food purchases. Recommendations will align with any other Scope 3 frameworks developed or adopted by Penn.

Strategic Waste

- ☐ Increase the diversion rate for items sent to landfill and incineration through improved data- informed education, signage, and operational improvements.
- ☐ Enhance collection data to provide schools and centers waste-precinct level information, including trash, recycling, and compost weights to help identify opportunities for further diversion.
- ☐ Establish standards for Penn’s waste program, including all bins and signage, and develop a strategy for schools’ and centers’ compliance.
- ☐ Establish a working group to establish goals and begin reducing single-use plastics from campus by 2029.
- ☐ Develop new resources and strategies to increase the number of zero-waste campus events year over year.
- ☐ Facilitate an increase in composted tonnage and collection sites.
- ☐ Explore opportunities to expand surplus property programming accessible to all schools and centers that will facilitate a higher volume of intracampus exchange and donations throughout local communities.

Transportation

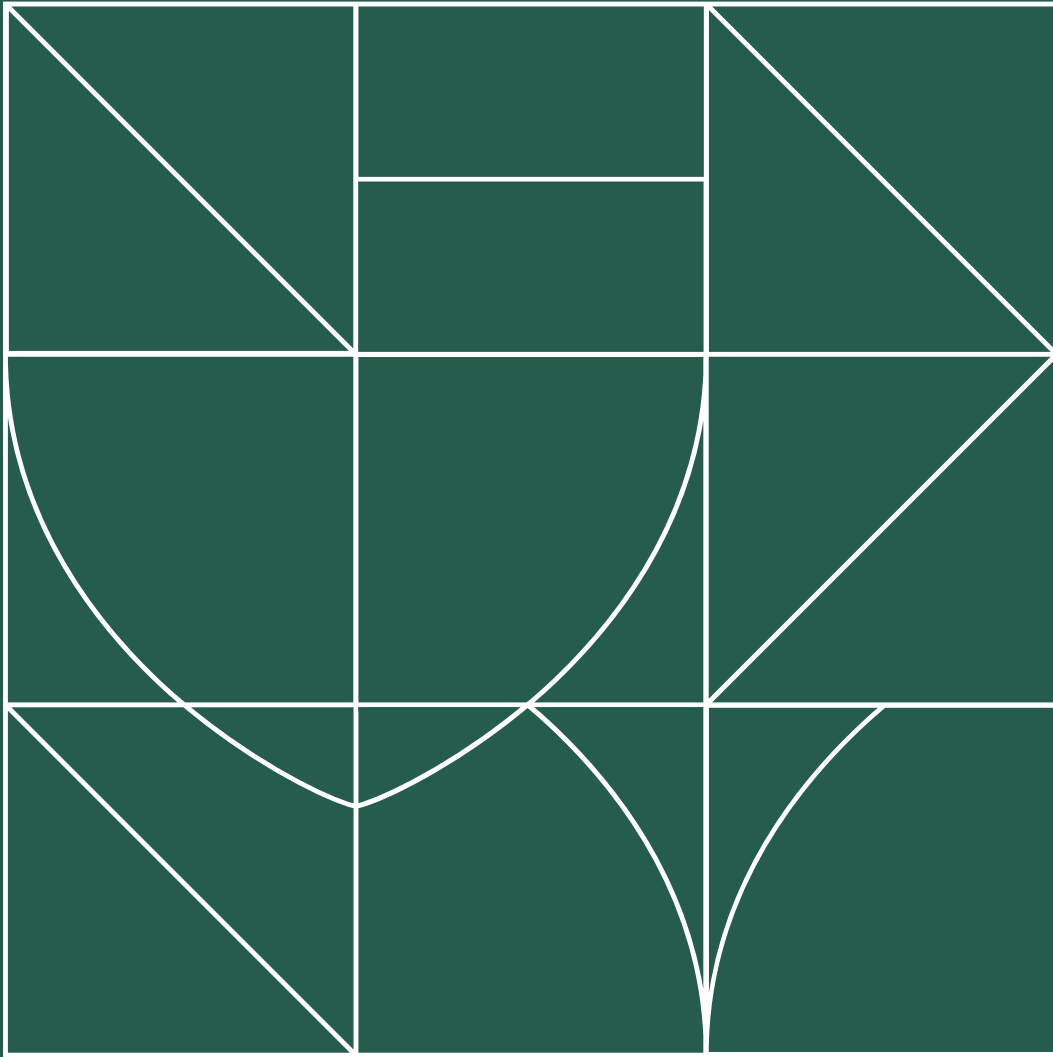
- ☐ Facilitate an increase in commuter trips to Penn made by non-single-occupancy vehicles.
- ☐ Make data-informed recommendations to continue to optimize sustainable options in Penn’s parking infrastructure.
- ☐ Distribute the Staff & Faculty Commuter Survey at least every two years.
- ☐ Collaborate with stakeholders to educate, improve infrastructure, and encourage safety for the campus biking environment.
- ☐ Increase the Penn community’s awareness of available transit options and other sustainable modes through improved communications, wayfinding, and outreach campaigns.
- ☐ In coordination with the goal overseen by the Procurement Subcommittee of the Environmental Sustainability Advisory Committee, facilitate an optimization of Penn’s fleet towards zero-emission vehicles.
- ☐ Develop a tool to aid current and prospective staff and faculty to make commute pattern decisions that incorporates Penn’s complete diverse network of transportation modes.

Civic Engagement & Outreach

- ☐ Enrich the daily sustainability practices of Penn students, faculty, and staff through new and existing programs.
- ☐ Develop action-oriented, democratic partnerships that will increase the sustainability outcomes of Philadelphia.
- ☐ Learn with and from peer institutions implementing sustainability practices with their local community partners.
- ☐ In collaboration with the Environmental Innovations Initiative, explore and enhance career and professional development offerings related to sustainability professions.
- ☐ Increase campus awareness around Climate & Sustainability Action Plan 4.0 progress and accomplishments.

University of Pennsylvania Health System

- ☐ At a minimum, reduce organizational emissions by 50% by 2030 (from a baseline year 2022) and achieve net-zero by 2042 in alignment with Penn goals, publicly accounting for progress on this goal every year.
- ☐ Develop and implement a carbon emissions reduction strategy for energy emissions for all UPHS owned properties.
- ☐ Develop and release a climate resilience plan that anticipates the needs of groups in the healthcare community that experience disproportionate risk of climate-related harm.
- ☐ Apply for a minimum of LEED Silver on all new construction projects.
- ☐ Ensure all UPHS entities maintain certifications from Practice Greenhealth and The Joint Commission.
- ☐ In partnership with Penn, facilitate an optimization of UPHS fleet towards zero-emission vehicles.



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