

# University of Pennsylvania Climate Action Plan



Executive Summary



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## Meeting on College Green Takes on a Whole New Meaning These Days for the Red and the Blue

Environmental sustainability is a defining issue of the 21st century. Higher education can play a leadership role in addressing global climate change. Through its research, teaching, and operational practices, Penn is dedicated to promoting a sustainable culture and implementing environmentally-conscious policies. I signed the American College and University President's Climate Commitment in 2007 and pledged that Penn would develop plans to reduce our emissions of greenhouse gases. Our renewable energy purchases and our efficient operations have allowed us to exceed the Kyoto Protocol carbon reduction targets. Our Plan represents a new approach to how we think and behave. I am pleased to share with you this summary of our strategies, and I invite you to visit the Green Campus Partnership website.

Please join in our efforts to foster a more sustainable University community that raises environmental awareness and contributes to a healthier planet.

AMY GUTMANN  
President



# Acknowledgements

We would like to extend grateful thanks to the following listed people, who contributed to the development of the University of Pennsylvania’s *Climate Action Plan* over the past two years. We are indebted to your good judgment, fair evaluations, and green conscience.

## University of Pennsylvania Administration

Amy Gutmann	President
Craig Carnaroli	Executive Vice President
Vincent Price	Provost
Gregory S. Rost	Vice President and Chief of Staff
Anne Papageorge	Vice President, Facilities and Real Estate Services
Marie Witt	Vice President, Business Services
Daniel Garofalo	Environmental Sustainability Coordinator

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Andrew Binns	Co-Chair Academics, School of Arts and Sciences & Provosts Office
Marsha Lester	Co-Chair Academics, School of Arts and Sciences
Anthony Sorrentino	Chair Communications, Office of the Executive Vice President
David Hollenberg	Co-Chair Physical Environment, University Architect
Eric Weckel	Co-Chair Physical Environment, School of Medicine
Kyle Rosato	Chair Recycling, Environmental Health and Radiation Safety
Larry Bell	Co-Chair Transportation, Business Services Division
Vukan Vuchic	Co-Chair Transportation, School of Engineering and Applied Sciences
William Braham	Co-Chair Utilities and Operations, PennDesign
Joe Monahan	Co-Chair Utilities and Operations, Facilities and Real Estate Services

(A complete list of ESAC members and subcommittee participants is included in Appendix C)

## Sustainability Team Associates

Sarah Abrams	2008- 2009 Assistant Sustainability Coordinator, BA in Biology, 2008
Steve Belfiglio	Sustainability Communications Associate, BA in Communications, 2007
Brittany Bonnette	Sustainability Initiatives Associate, BA in Urban Studies, 2008
Sarah Fisher	Sustainability Associate, Master of City Planning, 2009
Lydia Nicole Hermo	Sustainability Associate, Master of Architecture, 2009
Kathy Lent	Sustainability Associate, Master of Architecture, 2007
Sarah-Jane Littleford	Assistant Sustainability Coordinator, BA in Sustainable Development, 2009



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In 2007, University of Pennsylvania President Amy Gutmann signed the American College and University President’s Climate Commitment (ACUPCC). This pledge committed Penn to developing plans for long-term reduction of its emissions of climate-altering greenhouse gases. The following *Climate Action Plan* lays out the strategies that will be adopted by the University of Pennsylvania to achieve this goal, as well as the means to track and communicate progress to the Penn community and external audiences.

Penn is well positioned to enhance its leadership in environmental sustainability and responsible use of resources. The University is already recognized by the US Environmental Protection Agency (EPA) as a leader in green energy purchasing, having received the *Green Power Award* for the past three years, as the number one purchaser of wind-power renewable energy credits among American colleges and universities.

As an institution dedicated to excellence in teaching and research, Penn benefits from a strong shared mission and interdisciplinary collaboration across its twelve liberal arts and professional schools. One of Penn’s greatest strengths is its ability to assemble resources from both academia and its administration, to mobilize the enthusiasm, expertise, and dedication of its faculty, staff, and students to find solutions to complex societal issues. Penn’s response to sustainability and to the threat of global warming presents just such a challenge.

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- President Amy Gutmann,  
February 13, 2007

## “1”²³° “±. ²©.«” *Climate Action Plan*

Penn’s *Climate Action Plan* builds on extensive experience in energy and resource management. The TC Chan Center for Energy and Simulation in Penn’s School of Design was commissioned in 2006 by the Division of Facilities and Real Estate Services (FRES) to conduct a comprehensive environmental assessment of campus operations. This study, carried out in close collaboration with FRES staff, demonstrated expertise in assessing campus energy systems, and provided invaluable guidance for Penn’s sustainability mission. Building on the capacity developed during this assessment, Penn now tracks campus carbon emissions, and has published carbon inventories for fiscal years 2007, 2008, and 2009 (Sections 5.2, 5.3, and 5.4).

While the work with the TC Chan Center provided a good foundation, the signing of the ACUPCC focused campus attention on the need to gain input from a broader set of campus constituencies. Penn created the Environmental Sustainability Advisory Committee (ESAC), made up of faculty, administrators, and students, and chaired by the Vice President of FRES, and charged this group to develop University-wide recommendations and implementation strategies for a *Climate Action Plan*. ESAC established six comprehensive themes and disciplines as the most significant avenues for reducing Penn's carbon footprint and enhancing overall sustainability; subcommittees were assembled to focus on these specific aspects of the broad ESAC goals. To manage the subcommittees and research the feasibility of specific recommendations, a Sustainability Team, under the Environmental Sustainability Coordinator, was established, consisting of a coordinator assisted by a

One of Penn's greatest strengths is its ability to assemble resources from both academia and administration, and to mobilize the enthusiasm, expertise, and dedication of its faculty, staff, and students in finding solutions to complex societal issues.

number of sustainability associates. Finally, an umbrella organization, the Green Campus Partnership (GCP), was created to develop initiatives across the University. The GCP is a virtual organization, made up of constituents from across the university, which facilitates communication and dialogue. The Green Campus Partnership is comprised of senior staff from across the university, and leaders from student groups, and is staffed by current students and recent graduates.

Over the course of 2009, the recommended goals and strategies of the committee were vetted with key stakeholder groups across campus such as:

- Council of Deans
- Faculty Senate
- Graduate and Professional Student Assembly
- Undergraduate Assembly
- Vice Provost Council for Research
- Senior Roundtable
- Penn Professional Staff Assembly
- University Council,
- Trustees of the University of Pennsylvania

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Conserve Energy

Design Green

Reduce Emissions

Minimize Waste

Learn Sustainability

## ESAC Recommendations

The following recommendations from make up the *Climate Action Plan* and align with the carbon reduction action plan developed by the TC Chan Center (see Section 5.1), and fit into an overall campus strategy to reduce carbon emissions:

**Utilities and Operations** (Section 5.5): *The goals are to reduce energy usage by 5 percent from the*

Strategies include:

- €# Eliminate the growth in energy use in existing buildings through education and management;
- €# Improve the efficiency of existing buildings' utility systems, and adopt conservation measures such as building re-commissioning, metering, and incentives for better energy performance; and
- €# Continue purchase of renewable energy credits (RECs).

**Building Envelope** (Section 5.6): *The goals are to*

Strategies include:

- €# Adopt LEED Silver Certification, with Penn-specific goals, as a minimum standard for new construction and major renovations;
- €# Provide training to Penn staff on sustainable design and construction practices; and
- €# Implement increasingly sustainable protocols for site planning and landscape maintenance.

**Transportation** (Section 5.7): *The goals are to*

Strategies include:

- €# Investigate public transportation subsidy through partnership with SEPTA;
- €# Improve bicycle and pedestrian environments; and
- €# Improve the fuel efficiency of Penn's vehicle fleet.

**Waste Minimization and Recycling** (Section 5.8): *The goals are to*

Strategies include:

- €# Institute a comprehensive waste minimization and recycling policy;
- €# Provide widespread education about why and how Penn recycles; and
- €# Ensure adequate provision of recycling and waste bins within campus buildings and public spaces.

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**Academics** (Section 5.9): ' « " a2x-ff.2 ° xR  
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Strategies include:

- # Launch a new University undergraduate minor in Sustainability and Environmental Management, available in Fall 2009;
- # Provide sustainability-related programs for faculty, staff and students, such as workshops, proseminar classes, and the focus of the 2010 Penn Reading Project; and
- # Expand student participation in sustainability research.

**Communications** (Section 5.10): ' « " a2x ff µi  
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Strategies include:

- # Establish and reinforce messages that individual behavior is critical in meeting the *Climate Action Plan* goals;
- # Ensure that all communications are accurate, easily accessible, and provide valuable up-to-date information; and
- # Create events that galvanize the campus community and bring attention to the University's sustainability campaign.



A plan which involves the entire Penn community in the effort to reduce campus carbon emissions



The recommendations of the *Climate Action Plan* are measurable, achievable, and consistent with the imperatives associated with Penn's sustainability aspirations. These recommendations contribute to meeting Penn's sustainability aspirations as follows:

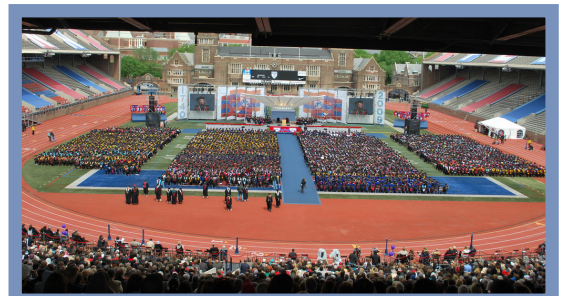
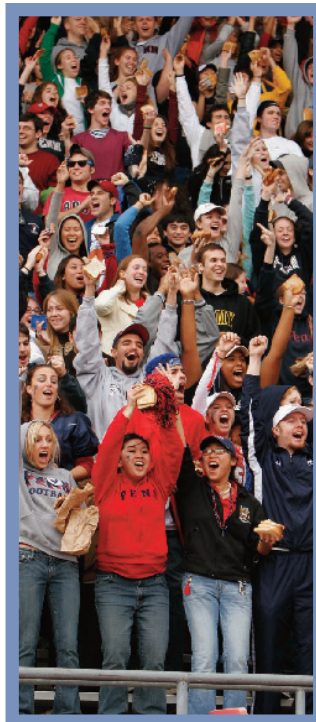
Energy consumption represents the largest environmental and financial component of Penn's operations;

A well-designed and well-built campus can minimize life cycle operation and utility costs, and maintaining a healthy indoor and outdoor environment for learning, teaching, and research;

Vehicle use has a significant effect on local environmental quality and on Penn's livability;

waste. Individual consumer choices have an enormous impact on waste, handling costs, and energy use;

A prepared citizenry is the best strategy to mitigate environmental threats.



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## Responsibility

Implementation of an endeavor as large and complicated as a University sustainability plan depends on the support and endorsement of the Trustees and the University president and the senior administration, as well as enthusiastic participation of the institution's students, faculty, and staff. Penn's implementation strategy is designed to educate and motivate Penn's 40,000-person community to reduce campus carbon emissions, as well as to encourage Penn's expansive alumni network and external community to live more sustainably. Achieving this shared goal requires significant input and actions from each school and center on Penn's campus. Components of the strategy include:

- €# The GCP's continued outreach and education efforts, such as a strong website presence and the creation of a robust communications plan.
- €# The Sustainability Team, led by Penn's Environmental Sustainability Coordinator, will manage sustainability projects, and education and outreach programs. This office is anticipated to grow and take on expanded responsibilities to ensure the robust implementation of the *Climate Action Plan*.
- €# The Environmental Sustainability Advisory Committee will continue to meet, vet new ideas, and monitor progress of the plan. As ESAC is comprised of members from a variety of backgrounds and roles, these stakeholders serve as sustainability ambassadors to their constituencies and through them to the University community at large.
- €# Annual funding has been budgeted for key projects (see Appendix B), with proposed expenses currently under review. Senior administrators with budgetary authority are apprised of the *Climate Action Plan's* goals to ensure that future funding plans are developed to continue implementation into the future.
- €# Key metrics for success are monitored and reported regularly, and are easily available to every member of the Penn community through the GCP website ([www.upenn.edu/sustainability](http://www.upenn.edu/sustainability)).
- €# A robust communications plan, launching in Fall 2009, is designed to both motivate and educate the Penn community and report on the University's progress on its commitment.
- €# A dedicated Green Fund for sustainability projects will be launched in Fall 2009, to make available grants of up to \$50,000 to any member of the Penn community. A project will be selected for funding based on ability to change behavior, educate, or implement solutions that reduce campus emissions and improve sustainability.

