

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 Presidents' 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

Photo by Stuart Watson



EVP Craig Carnaroli, Environmental Sustainability Coordinator Dan Garofalo, Provost Vincent Price, President Amy Gutmann, GAPSA Chair Corbett Brown, Vice President for Facilities and Real Estate Services Anne Papageorge and UA Chair Alec Webley at the September 16 kick-off event for the launch of the Climate Action Plan which was spurred by President Gutmann's signing of the American College and University Presidents' Climate Commitment Pledge in 2007.

Excerpts of remarks by Anne Papageorge, Vice President of Facilities and Real Estate Services at the Climate Action Plan kick-off event.

There are opportunities in life when numerous pursuits—educational, professional and personal—converge. For me and many of my colleagues, the Environmental Sustainability Advisory Committee has been such an event.

Today is the historic moment we have been working toward, the announcement of Penn's *Climate Action Plan*.

Two years ago Penn took a giant institutional step forward when Dr. Gutmann publicly pledged to develop a strategy to reduce our carbon emissions and enhance our overall sustainability by September 2009.

That pledge was a serious commitment to meet.

I am proud to say that getting from the aspiration of the pledge, to the reality of the plan, was a fascinating and rewarding process, resulting in a new mindset about Penn's role and responsibility to act as sustainably as possible.

Taking this pledge sparked some action.

We created Penn's first Environmental Sustainability Coordinator Position, to work across Penn and leverage all the excellent work being done and connect this work with the goals and objectives of our Climate Action Plan.

We formed the Environmental Sustainability Advisory Committee, or ESAC, which brought together more than 40 faculty, students and staff to research and develop this plan. Six sub committees were formed.

Developing this plan was a true team effort and I would like to ac-

knowledge some of my colleagues who lent their resources and commitment, including Bill Braham and Ali Makawi of the TC Chan Center in the School of Design, Marie Witt, Vice President of Business Services and her team, and all the individuals who chaired these committees.

One of the wonderful results of this process is that it brought together people from across the Penn community to collaborate across disciplines to meet this common purpose.

The guiding principles of this plan focus our efforts in five areas:

1. *Learn sustainability*—by taking classes and participating in professional development
2. *Conserve Energy*—by reducing our consumption by 5% this year, and by 17% in 2014.
3. *Minimize Waste*—by 2014, by recycling 40% of our waste, up from today's 20%
4. *Design Green*—by building a more sustainable urban campus through high performance buildings with green roofs and smart systems and expanded open space
5. *Reduce emission*—by motivating half of Penn's population to use public transit, car pooling, biking or walking in their commute, up from 40%

It is an ambitious plan, but we are dedicated to implementing it with your help. Weaving all this together is leadership. We are most thankful to President Gutmann for leading us to this day.

Penn's Climate Action Plan

Executive Summary

In 2007, University of Pennsylvania President Amy Gutmann signed the American College and University Presidents' 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.

"This is a defining issue of the 21st century, and I am proud to sign on and promote higher education as a leader in addressing global climate change through research, education and reduction of greenhouse gas emissions. At Penn, we must recognize the impact of a research institution of our size and acknowledge that our actions extend beyond our campus and have global consequences."

*President Amy Gutmann,
February 13, 2007*

Development of the 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 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

The Middle Class Task Force Event:

In February 2009, Penn hosted Vice President Joe Biden as he presided over the Obama Administration's inaugural "Middle Class Task Force" meeting on the green collar economy. Penn was featured prominently for its dedication to energy management and greening the built environment.

Photo by Stuart Watson



ESAC Recommendations

The following recommendations make up the *Climate Action Plan* and align with the carbon reduction action plan developed by the TC Chan Center (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 2007 baseline in fiscal year 2010, and a 17 percent decrease from the 2007 baseline by 2014.*

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).

Physical Environment (Section 5.6): *The goals are to create and maintain a sustainable campus by increasing green space, decreasing building energy consumption, and increasing education and awareness of sustainable design.*

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 goal is to emphasize and plan a quality pedestrian campus environment, encourage use of public transportation for commuting, and provide safe, efficient local transportation services for the University community.*

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 double Penn's diversion rate of paper, cardboard, commingled recyclables to 40 percent by 2014, and reduce Penn's overall waste stream through improved purchasing practices, and by providing education to the Penn community.*

Strategies include:

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

Academics (Section 5.9): *The goal is to make climate change and environmental sustainability a part of the curriculum and educational experience for all Penn students.*

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.

The full *Climate Action Plan* is available on Penn's Green Campus Partnership (GCP) website, www.upenn.edu/sustainability in PDF format. The *Climate Action Plan* is a 120-page document in its entirety and was submitted to the American College and University Presidents' Climate Commitment on September 15, 2009. GCP is the umbrella group that addresses environmental sustainability and stewardship, and advocates for enhanced sustainability policies at Penn. It includes ESAC as well as faculty and student groups. The GCP was formed after President Gutmann signed the ACUPCC in February 2007, the first Ivy League president to do so.

Communications (Section 5.10): *The goals are to develop clear, concise, and accurate information about Penn's sustainability commitments, while encouraging Penn's community to participate in continued learning in this field.*

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.

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:

- *The entire Penn community must contribute to the goal of energy conservation.* Energy consumption represents the largest environmental and financial component of Penn's operations;
- *Penn must invest in high-performance renovations and new construction, and ensure that buildings are maintained and operated to support Penn's sustainability mission.* 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;
- *Every effort should be made to embrace sustainable transportation to reduce emissions and congestion.* Vehicle use has a significant effect on local environmental quality and on Penn's livability;
- *Penn's community must minimize unnecessary consumption and recycle waste.* Individual consumer choices have an enormous impact on waste, handling costs, and energy use;
- *Penn must educate its stakeholders to meet the environmental challenges of the future.* A prepared citizenry is the best strategy to mitigate environmental threats.

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).

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.

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 Marie Witt, Vice President, Business Services
 Daniel Garofalo, Environmental Sustainability Coordinator

Environmental Sustainability Advisory Committee (ESAC) Chairs

Andrew Binns, Co-Chair Academics, School of Arts and Sciences & Provost's 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

Sustainability Team Associates

Sarah Abroms, 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

THE FATE OF YOUR WASTE



To learn more about Penn's recycling program, visit:
www.upenn.edu/sustainability