



Highlights

Report on Sustainability 2010

www.princeton.edu/reports/2010/sustainability

Office of Sustainability
November 2010

Resource Conservation

Dining

Progress

- University sustainable food purchases increased from 36 percent in 2007 to 61 percent in 2010.
- Local food purchases (within 250 miles) increased from 27 percent in 2007 to 52 percent in 2010.
- Efficient new dishwashers installed in dining halls each are saving about 300,000 gallons of water per year, or a total of 1.5 million gallons — more than enough to fill two Olympic-size swimming pools.
- Tray-free dining (providing larger plates and glasses and eliminating trays), which has been implemented in five of six dining halls, has the potential to reduce water and energy costs by \$4,000 per year, save up to 1.2 percent on food purchases, reduce food waste by up to 30 percent and avoid more than 23 metric tons of CO₂ emissions.

What's Next

- Transition to tray-free dining across all six dining halls and continue to monitor associated savings.
- Develop a dining carbon-footprint application for use on mobile devices.
- Determine the feasibility of a “daylight dining” program in which dining halls turn off overhead lights and rely on ambient lighting.
- Evaluate an alternative food waste recycling system (all food waste currently is processed off-site for pig feed), considering on-site and off-site options for composting and/or conversion.

Purchasing

Progress

- The University purchased 34 fewer tons of paper in 2010 than 2009. If each saved sheet of paper was stacked, the pile would be more than 2,260 feet tall — equivalent in height to almost two Empire State Buildings.
- In 2010, the University recycled approximately 35 percent of its toner/ink cartridges. Eleven percent of purchased cartridges were re-manufactured.
- More than 33 percent by volume (60 percent by dollars spent) of chemical cleaners and soaps purchased in 2010 were Green Seal certified.

What's Next

- Increase purchases of re-manufactured toner cartridges from 11 to 20 percent by the end of 2011; increase the toner cartridge recycling program from a current approximate rate of 35 percent to 40 percent by end of 2011.
- Continue to seek options for specialty cleaning products that are Green Seal certified, or equivalent.
- Develop more advanced Life Cycle Assessment modeling techniques to effectively incorporate sustainability into daily purchasing operations.

Waste Reduction

Progress

- From 2007 to 2009, overall campus landfill waste decreased by 11.5 percent (368 tons); in the first six months of 2010, landfill waste declined an additional 2.2 percent compared to the same period in 2009.
- Through the Print Less initiative, the number of sheets of office paper printed was reduced by 18 percent (2.1 million sheets) between 2009 and 2010. If stacked, these saved sheets would have reached the height of a 50-story skyscraper.
- Since implementation in 2008, some 812 linear miles of hand towels have been saved by converting bathroom hand towel dispensers to non-electric proportioning versions — a savings of 15.2 percent.

What's Next

- Continue to monitor the impact of the Print Less initiative and adjust the printing quotas as necessary to continue reductions.
- Conduct a feasibility study of on-site food waste composting.
- Evaluate a proposal for the elimination of 65 dumpster sites on campus in favor of centralized compactor locations.

Landscape

Progress

- Nearly six acres of the planned 10 acres of woodland reconstruction are complete.
- While Princeton has been composting 100 percent of its leaves and landscape trimmings since 2008, the University now is able to report an annual average volume of more than 4,400 cubic yards of “green” waste composted — enough leaves and trimmings to cover 2.7 acres one foot thick.
- Since June 2010, 3,000 yards of construction site topsoil — a six-month supply — has been set aside for reuse on campus in ongoing landscape projects. Rather than importing off-site soil, this topsoil is amended with on-site sand and organic compost into a high-quality product.

What's Next

- Reforest four acres of woodland as part of the Washington Road stream project.
- Begin tracking sustainable plant selection and soil-health enhancing procedures.
- Continue to provide better connections to campus for pedestrians and bicycles by extending sidewalks and constructing new walkways.

Domestic Water

Progress

- Overall campus water usage has declined by 11 percent since 2007.
- Since 2006, water usage in the residence halls alone has declined by 24 percent (12 million gallons, or the equivalent of 20 Olympic-size swimming pools), due to the installation of low-flow fixtures and efficient clothes washing machines, among other water-saving measures.
- The University has installed a combined 18,000 gallons of capacity for rainwater storage and reuse with the addition of a cistern at the new Frick Chemistry Laboratory to the one at Butler College.

What's Next

- Complete low-flow bathroom fixture replacements in athletic facilities, and academic and administrative buildings.
- Support behavior-changing water conservation initiatives through student organizations.
- Continue to evaluate drought-tolerant lawn species.

Stormwater Management

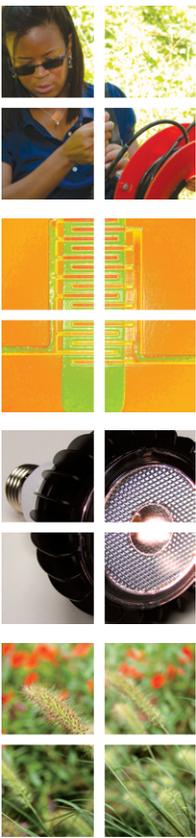
Progress

- The Butler College green roofs are demonstrating a more than 60 percent reduction in peak stormwater runoff, compared to conventional roofs, according to an academic study.
- Rain gardens have been installed adjacent to the new Frick Chemistry Laboratory to absorb stormwater runoff from the surrounding area and help protect the Washington Road stream from excessive peak flows.
- Stormwater detention located beneath certain athletic fields retains and filters runoff created by up to a 100-year storm (has a 1-in-100 chance of occurring in any given year).
- Several pathways and courtyards on campus, such as Shapiro Walk, Butler Green and Holder, Wilson and Forbes Annex courts, have been constructed to divert stormwater runoff toward planted areas.

What's Next

- Complete the Washington Road stream restoration and study its impact on local water quality and during peak runoff events.
- Install real-time green roof performance data at the electronic kiosk in Butler College.
- Assemble and analyze data on Frick Chemistry Laboratory rainwater and condensate collection.
- Incorporate sustainable stormwater strategies into all upcoming major building projects.





Research, Education & Civic Engagement

Research & Education

Plans & Progress

- The number of students receiving environmental studies certificates has tripled since 2002.
- More than 60 unique courses address sustainability by exploring some aspect of the intersection between the environment, economics and society.
- Since 2008, 11 often multiyear faculty research projects have been funded with support from the High Meadows Foundation, stimulating sustainability research, engaging students and using the campus as a laboratory.
- During the 2010 summer Princeton Environmental Institute/Grand Challenges season, 93 Princeton undergraduate students from 12 majors interned in 22 countries across the globe, studying a variety of environmental- and sustainability-related topics.
- The University sponsored more than 50 sustainability-related public lectures and conferences during the 2009 and 2010 academic years.

What's Next

- Work with faculty to define specifically what a sustainability-focused or -related course is.
- Define the role of sustainability in existing University curriculum, both graduate and undergraduate, and explore how to develop a more cohesive curriculum around environment and sustainability.
- Investigate metrics to track the broad influence of Princeton faculty research on societal-scale sustainability progress.

Student Initiatives

Plans & Progress

- Representing more than 1,000 Princeton students, 16 groups currently are active in the Princeton Environmental Network (PEN).
- There are now 25 student Ecology Representatives (Eco-Reps), compared to 14 in 2009 and six in 2008, working for the Office of Sustainability.
- Student groups have organized activities ranging from recycling efforts at Reunions and a Green Fashion Competition to Sunday CycLab Workshops and in-home energy audits.

What's Next

- Improve the visibility of PEN initiatives on campus.
- Increase student involvement in global/national climate change and sustainability campaigns.
- Expand community outreach activities, such as student involvement in the biennial campuswide Sustainability Open House.

Campus Programs

Plans & Progress

- Campus Green Tours were offered for the first time at Reunions 2010, led by Office of Sustainability staff and undergraduate students.
- The Office of Sustainability has partnered with other offices and groups

- to organize public events, such as the biennial Sustainability Open House planned for November 2010 for the campus and local community.
- A pilot Sustainability Ambassador Program has been initiated by the Office of Sustainability in partnership with the Facilities Department to train staff members as advocates for sustainability in their home offices.
- In residence halls, almost 60 existing fountains and common room sinks were retrofitted with water bottle filling spouts during the summer of 2010.

What's Next

- Expand campus Green Tour options for visitors and the campus community.
- Expand the Sustainability Ambassador Program into a campuswide endeavor to identify, appoint and train campus community members as environmental advocates and sustainability leaders for their home administrative departments.
- Develop programs with the Office of Human Resources to begin to explore sustainability competencies as a component in performance evaluations and the learning and development curriculum.

Communication

Plans & Progress

- As a member of core leadership groups, Princeton consulted and collaborated with peer institutions on developing and implementing successful sustainability strategies, especially through the Ivy Plus Sustainability Committee and the Northeast Campus Sustainability Consortium; best practices from these collaborations are informing the development of the sustainability field.
- The Office of Communications produced nearly 40 postings (stories, photos and videos) for the University home page that also were provided to media and used in the Princeton University Bulletin (faculty/staff newspaper), other University publications and newsletters of academic programs.
- The Office of Sustainability has trained 37 students and interns since 2006 through its Student Environmental Communication Network (SECN) in the research and technical skills needed to communicate through podcast and video media.

What's Next

- Continue to document educationally valuable initiatives and community actions in sustainability to share with broader audiences.
- Continue to use SECN to increase the engagement of the undergraduate population with sustainability issues.
- Implement a new sustainability communication strategy, including a Web presence that incorporates tools such as databases, metric-gathering instruments and social media.
- Continue to cultivate closer relations with external media on environmental issues, particularly national media.
- Increase collaborations with outside organizations that have similar interests.

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