



Our Progress
Sustainability Report 2010-2013

Yale

Introduction

June 2013 marked the completion of Yale University’s Sustainability Strategic Plan 2010–2013. This plan set out to achieve a combination of goals, strategies, and tactics expanding the University’s efforts to improve its environmental performance, enhance the quality of life for campus users and the surrounding community, and reduce costs through streamlining systems and processes. Our performance goals struck a balance between what could be practically achieved and what would set a high bar for sustainability at Yale.

This report outlines Yale’s progress toward achieving the goals set forth in the Sustainability Strategic Plan 2010–2013. We exceeded our own expectations for several of the goals. We hope by sharing these success stories, Yale’s progress will inspire organizations around the world to take similar actions. Just as critical as sharing our success is sharing the challenges we faced and acknowledging where more work must be done. Yale’s sustainability commitment does not end here, but rather sets the stage for Yale to take on new and more ambitious challenges that lead to meaningful sustainable outcomes, not just in the short term, but for generations to come. Building on the foundation of this plan, Yale is now implementing a new set of performance goals in its Sustainability Strategic Plan 2013–2016 which can be found at sustainability.yale.edu.

We invite you to explore this report and learn how Yale University is working to create a shared vision of sustainability for our campus, our community, and the world.

Performance at Glance

Page 3 summarizes our progress toward achieving all 43 performance goals. While this represents the final results for all of our goals, the body of this report provides details which best demonstrate both our successes and challenges.

Key

Throughout the report you will find the following icons. These icons are a visual representation of Yale’s progress toward achieving the goals set in the Sustainability Strategic Plan 2010–2013. Unless otherwise indicated, the baseline for each goal is fiscal year 2009.

- ✓ We have achieved our goal.
- We did not achieve our goal.
- r The goal was revised based on what we learned.



ACHIEVEMENT

Campus Planning, Building Design, and Construction

1. All new building construction and comprehensive renovation projects will be designed to a minimum of LEED Gold standards. ✓
2. All construction and renovation projects will achieve the goals set forth in other sections of this plan for custodial services. ✓
3. The University Planner will publish a supplement to the Yale Framework for Campus Planning entitled “A Sustainability Supplement.” ✓
4. All Yale Project Managers and Planners will be certified as LEED Green Associates by June 2013. ✓

Waste Management

1. Decrease Yale’s municipal solid waste 25% by June 30, 2013. ○
2. Increase Yale’s recycling rate 25% by June 30, 2013. ✓
3. Increase by 20% the amount of bulky waste diverted from the municipal solid waste stream for subsequent “reuse” by June 30, 2013. r

Transportation

1. Establish a Transportation Master Plan by June 30, 2011. ✓
2. Have no net increase in parking spaces on University owned or leased property beyond those already planned from now until 2013. ✓
3. Measure and benchmark Yale’s transportation-related carbon footprint by June 2011. ✓
4. Pilot a teleworking initiative during fiscal year 2011 and continue to explore other flexible work arrangements where appropriate. ✓
5. Reduce reliance on single occupancy vehicles for travel to and from campus 1-3% by 2013. ✓
6. Reduce University fleet by 80-100 vehicles by June 2011. ○
7. Assess the impacts of internal deliveries around campus, and then by June 30, 2011 recommend changes to the current system to reduce those impacts. ✓

Food and Dining

1. Ensure that 40% of total food purchases meet at least one of four sustainability criteria: local, eco-sensitive, humane, fair. ○
2. Reduce the number of truck deliveries through consolidation and bulk purchasing by June 30, 2010. ✓
3. Eliminate use of certain harmful chemicals such as phosphates and develop best practices for chemicals, disposables, paper, uniforms, and kitchen equipment. Revise purchasing guidelines to capture best practices by June 30, 2011. ✓
4. Reduce the pre-consumer and post-consumer solid waste produced in each dining hall 30% below 2009 levels by June 30, 2013. r
5. Achieve by June 2013 the goal that pre- and post-consumer food waste generated within University-managed dining halls and kitchens will be composted. ✓

Environmental Health and Safety

1. By June 2012, implement a plan to reduce laboratory related waste and energy use, and to promote the use of safer research materials. ✓
2. Expand the Green Labs Certification program to 50% of the labs by June 2011, and to 100% by June 2012. r
3. Develop a chemical inventory system by June 2013. ✓
4. Develop a University-wide stormwater discharge reduction goal and strategy by 2013. ✓

Finance and Business Operations

1. Ensure that sustainability is a mandatory and measurable element in the planning and execution of Finance and Business Operations by June 30, 2011. ✓
2. Achieve a 25% reduction in the purchase of copy paper for printing and copying by June 2013. ○

Procurement

1. Finalize a set of University-wide Sustainable Procurement Standards for other common-use commodities by September 2010. ✓
2. Assess the impacts of external deliveries to campus, and then by June 30, 2011, recommend changes to the current system to reduce those impacts. ✓

Cleaning and Maintenance

1. Adhere to the Yale Green Cleaning standards where available so that green cleaning products are used in all Yale owned and occupied buildings. ✓
2. As leases for off-campus space is renewed, efforts will be made to have the Yale green cleaning standards observed. ✓

Energy and Greenhouse Gas Emissions

1. Make progress toward the University goal of reducing GHG emissions to 10% below 1990 levels by 2020, a 43% reduction from 2005 levels. ✓
2. Based on the 2005 building gross square footage benchmark, reduce energy consumption 15% by 2013; this represents a 4% reduction from FY 2009. ✓
3. Increase the supply of energy from on-campus and off-campus renewable sources, with a target of obtaining 25% of our energy from such sources by 2020. ✓
4. Reduce workstation electricity consumption 40% by June 2013. r

Water Use

1. Develop a Water Management Plan by June 2013. ✓

Land Management

1. Establish an Ecosystem Services Plan by June 30, 2013. ✓
2. Develop University-wide sustainable landscape management standards that will reduce impacts on the local landscape and environment by January 30, 2012. r

Educating and Engaging the Yale Community

1. Launch the next phase of outreach programs to educate the community about the plan and to engage them in its success. ✓
2. Pilot a Yale Green Workplace certification program by September 2010 whereby individual departments can get recognition for their program in meeting sustainability goals. Make the program available to all units by January 2011. ✓
3. Develop professional training programs tailored to specific departments; by June 2011 partner with procurement and grounds maintenance to introduce department-specific programs. ✓
4. Introduce a microloan fund of \$100,000 so that departments can request small funds for sustainability projects that will have a positive return on that investment within three years. ✓
5. Integrate sustainability as a topic in new employee and student orientation by June 2011. ✓
6. Create online sustainability training modules by January 2012. ✓
7. Develop and implement behavior change strategies as they relate to goals throughout the Sustainability Strategic Plan. ✓

WASTE MANAGEMENT

We achieved a 1,481 ton reduction in our annual Municipal Solid Waste (MSW), bringing Yale just under its 25% reduction target. This highlights the challenge of setting ambitious but achievable targets. It is important to acknowledge that significant progress has been made over the past five years due to the success of our efforts to divert waste through reuse, recycling, and composting. For example, within the same time period, the University's recycling rate increased from 21% to 28%, and the diversion rate also increased from 22% to 40%. Additionally, a robust program to compost 95% of all pre- and post-consumer food waste in residential dining halls and kitchens has been established. We are proud of our achievements to date, but recognize that additional work must be done to improve the university's impact around waste related issues.

28.0%
recycling rate

24.4%
waste reduction

Diversion Rate:



GOAL

Campus Planning, Design, & Construction

All new building construction and comprehensive renovation projects will be designed to a minimum of LEED Gold standards.

All Yale Project Managers and Planners will be certified as LEED Green Associates by June 2013.

Waste Management

Decrease Yale's municipal solid waste by 25% by June 30, 2013.

Increase Yale's recycling rate by 25% by June 30, 2013.

Increase the amount of bulky waste diverted from the municipal solid waste stream by 20% for subsequent "reuse" by June 30, 2013.

Transportation & Commuting Goals

Establish a Transportation Master Plan by June 30, 2011.

Pilot a teleworking initiative during fiscal year 2011 and continue to explore other flexible work arrangements where appropriate.

Reduce University fleet by 80-100 vehicles by June 2011.

PROGRESS

✓ All comprehensive scope projects achieved LEED Gold certification. Small and limited scope projects adhered to the university's Sustainable Design Requirements.

✓ Department policy now requires that all current and future Project Managers and Planners must achieve LEED Green Associate credentials. In support of this requirement, monthly LEED credential maintenance seminars are coordinated and available for staff to attend.

○ We reduced our total municipal solid waste by 24.4% which is just under our 25% target.

✓ Exceeding the target by 3%, Yale achieved a 28% recycling rate for fiscal year 2013.

r This goal was re-evaluated due to the inability to collect reliable data. However, the Eli Surplus Exchange Program was created to encourage Yale units to reuse and recycle current University resources to reduce the University's waste impact. This unique website allows all Yale departments, offices, and labs to post any surplus items they would like to give or sell to other departments.

✓ A sustainable transportation plan was published in 2013 and can be found here. It outlines sustainability principles and includes a proposal for a new green transportation hierarchy which prioritizes walking, biking and public transit over driving alone.

✓ Yale Human Resources has formalized a flexible work arrangement program for Yale staff. For further information click here.

○ This goal was not achieved. Moving forward, the University will focus on fuel efficiency and cleaner burning fuel types rather than the number of vehicles in the fleet.

Yale's current fleet consists of a total of 460 vehicles: 430 combustion vehicles, 22 hybrid vehicles, 5 electric vehicles, and 3 compressed natural gas vehicles.

GOAL

Food & Dining

Ensure that 40% of total food purchases meets at least one of four sustainable criteria: local, eco-sensitive, humane, fair.

Reduce the number of truck deliveries through consolidation and bulk purchasing by June 30, 2010.

Achieve by June 2013 pre- and post-consumer food waste generated within University-managed dining halls and kitchens will be composted.

Eliminate the use of certain harmful chemicals such as phosphates and develop best practices for chemicals, disposables, paper, uniforms, and kitchen equipment. Revise purchasing guidelines to capture best practices by June 30, 2011.

Environmental Health and Safety

Expand the Green Labs Certification program to 50% of the labs by June 2011, and to 100% by June 2012.

Develop a chemical inventory system by June 2013.

PROGRESS

○ Due to the increased costs of sustainably sourced food, Yale has reduced its target to 37%. Currently 38% of our overall purchasing meets one or more of the following sustainability criteria: Local, Organic, Humanely Raised, Natural (no RBST or antibiotics), Cage free, Fair Trade, Marine Stewardship Council certified. Over 60% of animal proteins are sustainably sourced.

✓ Prior to 2010, Yale Dining sourced products from 57 regular suppliers resulting in approximately 124 trucks coming to campus on a weekly basis. We now utilize 23 suppliers regularly, 10 of which support retail alone. These suppliers send approximately 35 trucks to campus weekly, reducing truck deliveries from 1,650 to less than 300.

✓ To date, 95% of all pre- and post-consumer food waste in residential dining halls and kitchens is composted.

✓ The use of chemicals containing phosphates and/or chlorine have been eliminated. Training on the use of chemicals, waste disposal and equipment with regard to sustainable practices is conducted annually.

✓ Over 80 labs have received Greens Labs Certification, however achieving a 100% participation rate is not feasible. We will continue to expand this program in an effort to reduce the energy and waste impacts of labs across campus.

✓ Thirty-five thousand containers have been inventoried by deployed field teams. Environmental Health and Safety will continue to expand this program for all chemical stockrooms.

PLANNING FOR A SUSTAINABLE CAMPUS

Over the past three years Yale has developed three separate plans that enable the University to take a more comprehensive approach to sustainable campus planning, stormwater, and water management. All three documents can be found at sustainability.yale.edu



The *Water Management Plan* calls for an ongoing commitment to gathering comprehensive water use data and performance metrics, aligning design standards and planning documents, and establishing a portfolio of projects and activities to reduce potable water use by 5% over the next three years.



The *Sustainability Supplement to the Framework for Campus Planning* outlines sustainable planning principles for the University and sets specific recommendations for sustainable planning and design.



The *Sustainable Stormwater Management Plan* focuses on the importance of implementing stormwater mitigation strategies and calls for further investigation of green infrastructure, an integration of stormwater management into the University's design and planning standards, and the incorporation of adaptive management strategies.

PAPER

Campus paper consumption decreased by 7.3% from fiscal year 2010 to 2013. While significant efforts were taken to achieve the 25% reduction goal, the University did not meet its target. Yale will continue to address its paper consumption and streamline business practices along with the implementation of outreach strategies to reduce personal paper consumption habits.

7.3%
paper reduction

74%
of paper purchased is
30% recycled content

Paper Reduction:



GOAL

Procurement

Finalize a set of university-wide Sustainable Procurement Standards for other common-use commodities.

Educating and Engaging the Yale Community

Launch the next phase of outreach programs to educate the community about the Strategic Plan and to engage them in its success.

Develop professional training programs tailored to specific departments; by June 2011 partner with procurement and grounds maintenance to introduce department-specific programs.

Create online sustainability training modules by January 2012.

Integrate sustainability as a topic in new employee and student orientation by June 2011.

Pilot a Yale Green Workplace certification program whereby individual departments can get recognition for their program in meeting sustainability goals.

PROGRESS

✓ Yale's Sustainable Procurement Standards are designed to facilitate the University's efforts to monitor and reduce its environmental impacts. Items that meet the standards have fewer negative effects on human health and/or the environment relative to comparable products or services. Yale's Sustainable Procurement Standards can be found here.

✓ Sustainability Action Plans are being developed at the department level. Over 18 departments are currently developing unit-focused plans.

✓ All custodial and dining employees received sustainability related training. Additionally, a quarterly Lunch & Learn sessions is currently being rolled out through Yale's WorkLife program.

✓ Building Occupancy Training programs have been rolled out in 24 units to date. A web-based paper reduction toolkit is being developed to streamline our continued efforts to reduce paper consumption.

✓ Information about Yale Sustainability is integrated into new student orientation at several professional schools and distributed online to undergraduates prior to arrival at Yale. In addition, new staff are contacted after arrival with information about sustainable practices within the workplace.

✓ Through targeted efforts, we continue to increase the number of participants in the green certification programs. Since 2010, 87 events have been green certified and 49 workplaces have been green certified.

GOAL

Cleaning and Maintenance

In maintaining Yale's buildings, adhere to the Yale Green Cleaning Standards where available so that green cleaning products are used in all Yale-owned and -occupied buildings. Reduce to the extent possible the use of chemicals in the cleaning maintenance process.

- ✓ Yale Custodial Services continues to adhere to the University's Green Cleaning Standards, which were updated in 2012. The re-evaluation of products and cleaning processes has also helped to reduce chemical usage across the University. Additionally, green cleaning training has been integrated into the University's online training program as well as each training module.

Energy & Greenhouse Gas Emissions

Based on the 2005 building gross square footage benchmark, reduce energy consumption 15% by 2013; this represents a 4% reduction from fiscal year 2009.

- ✓ Yale exceeded its target by reaching a 5% reduction in energy consumption. We will continue to identify new opportunities for additional reductions in the years ahead.

Make progress toward the university goal of reducing greenhouse gas emissions 43% below 2005 levels by 2020.

- ✓ As of fiscal year 2013, Yale has reduced its greenhouse emissions 16% below 2005 levels. A more detailed account of Yale's greenhouse gas reduction progress can be found here.

Land Management

Establish an Ecosystem Services Plan by June 30, 2013.

- ✓ The ecosystem services approach to the management of the Yale campus was studied, developed, and incorporated into the Sustainability Supplement to the Framework for Campus Planning.

Develop University-wide sustainable landscape management standards that will reduce impacts on the local landscape and environment by June 30, 2013.

- r Sustainable landscape management standards will not be published in 2013, rather they will be developed and finalized after specific initiatives and pilots have been implemented. Some of the initiatives that have already been completed or are ongoing include: the publication of a campus tree survey to enable the development of a campus wide tree management plan, campus urban meadows to reduce the impact of mowing, and a compost tea study.

ENERGY

Yale's two on-site cogeneration power plants provide the University with enough energy to heat and cool over 95% of the main campus buildings and provide 50% of its electric needs. Since fiscal year 2009 we have been able to reduce energy consumption by 5% and reduce our greenhouse gas emissions by 10%. To achieve these reductions, we focused on reducing the energy intensity of buildings through conservation and efficiency, deploying new technologies, utilizing cleaner fuels, adhering to sustainable construction and renovation standards, and promoting behavioral shifts and culture change.

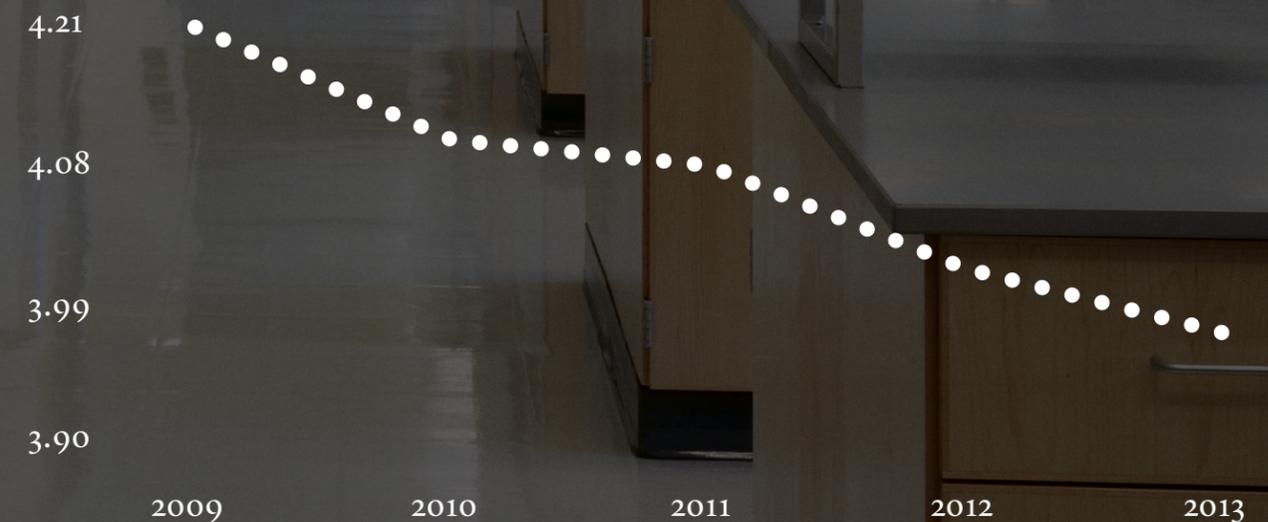
A more detailed account of Yale's progress toward its 2020 greenhouse gas reduction target can be found in our annual Greenhouse Gas Executive Summary.

5%
energy reduction

10%
GHG reduction

Energy Consumption:

Millions of MMBTU





At Yale, we believe that sustainability depends on the entire university community: faculty who conduct leading research and teach the next generation; staff who manage and carry out the operations of our complex organization; and students who inspire and challenge us to even more innovation. We have a responsibility to future generations to ensure that sustainable practices are at the heart of our university.

– letter from President Peter Salovey, August 2013