



Yale Sustainability
Strategic Plan
PROGRESS REPORT 2016

“We have a responsibility to future generations to ensure that sustainable practices are at the heart of our university.”

*— Peter Salovey
President and Chris Argyris Professor of Psychology*

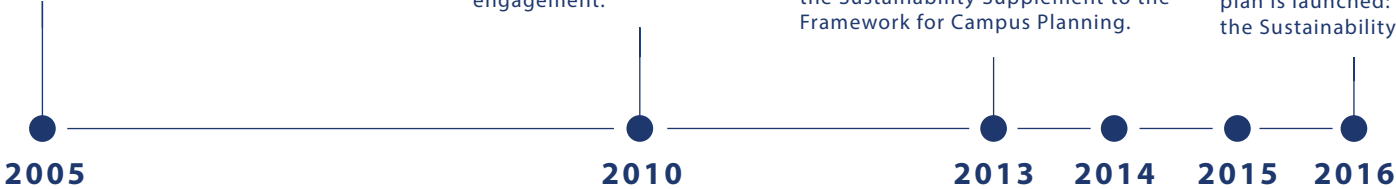
*Sustainability Strategic Plan
2013–2016*

This report is an overview of progress toward the twenty-five sustainability goals contained in the Yale Sustainability Strategic Plan 2013–2016. These goals focus on improving operational systems, creating innovative solutions, and promoting cross-departmental efforts so that sustainable behaviors enrich the culture of the Yale community.

In the final year of implementing this strategic plan, we focused on creating and strengthening partnerships across the University and within the community, increasing our efforts in energy reduction and awareness about energy efficiency, and harnessing the University’s interdisciplinary expertise.

As we move forward with our Sustainability Plan 2025, we look forward to maintaining our position as a leader in higher education sustainability through a comprehensive and iterative exploration of sustainability aspirations.

President Levin signs Yale's Greenhouse Gas Reduction Commitment, promising a 43% reduction in the University's greenhouse gas emissions by 2020.



Yale's third sustainability plan is launched: the Sustainability Plan 2025.

President Salovey's Sustainability Initiatives



\$21 Million

was invested in energy conservation and GHG reduction over three years.

Yale Carbon Charge

After experimenting with the design and implementation of a carbon charge on a small scale in the 2015 to 2016 academic year, Yale is now expanding its experiment and continuing to work toward campus-wide implementation.



Expanded deployment of renewable energy:

The West Campus solar array provides one megawatt of installed capacity. Additional opportunities for solar are being explored and implemented on central campus.

GHG disclosure:

For transparency and consistency, the University now reports its GHG emissions inventory to The Climate Registry. The process includes third party verification in order to ensure data accuracy.



Green Innovation Fellowships:

In 2015 the Yale Entrepreneurial Institute awarded a Green Innovation Fellowship to Coral Vita, a student start-up focused on reviving the world's dying coral reefs.

Research and teaching at Yale extend beyond the University's borders, and have positive impacts locally, regionally, and across the globe.



WORLD BUSINESS COUNCIL
FOR SUSTAINABLE DEVELOPMENT

In 2015 Yale became the first knowledge partner of the World Business Council for Sustainable Development (WBCSD)—a CEO-led organization of 200 forward-thinking member companies that galvanizes the global business community to create a sustainable future for business, society, and the environment. This new partnership presents an exciting opportunity for WBCSD member companies and Yale faculty and students by linking challenging projects with talent and bringing scientific rigor to scalable business solutions.

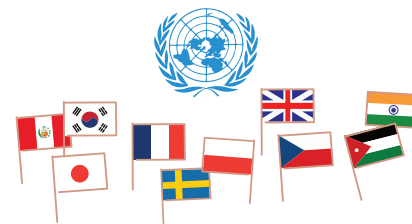
Over sixty Yale students, faculty, and staff members participated in the 21st Conference of the Parties (COP21) held by the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in December of 2015. They each played a part in achieving a historic agreement, which sets an ambitious target to limit global warming to 1.5 degrees Celsius.



CARBON PRICING
LEADERSHIP COALITION

Yale became the first university to join the Global Carbon Pricing Leadership Coalition, a private-public partnership among the World Bank, International Monetary Fund, governments, nonprofits, and private sector companies that strengthen carbon pricing policies through the development of a network for sharing best practices.

Yale's Institute for the Preservation of Cultural Heritage hosted the annual Global Colloquium of University Presidents, that included a workshop on Sustainable Conservation of Cultural Heritage.



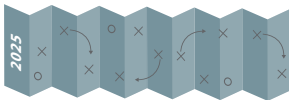
The consortium workshop featured speakers from Jordan, Japan, and the Czech Republic, among many other countries, and aimed to address important challenges in sustainable conservation.

8 BIOSWALES IN WESTVILLE



As part of a Long Island Sound Futures Fund grant, the Hixon Center for Urban Ecology has constructed eight bioswales in the Westville neighborhood of New Haven. A bioswale, also known as a rain garden, is a type of green infrastructure aimed at reducing pollution and flooding associated with stormwater runoff.

The Sustainability Strategic Plan 2013–2016 underwent rigorous analysis by the World Business Council for Sustainable Development, and was the subject of a course offered by the School of Forestry & Environmental Studies in the fall of 2014.



The outcomes of this work are reflected in the university's Sustainability Plan 2025, which emphasizes opportunities for academic engagement and has an ambitious nine-year timeline.



The Community Alliance for Research and Engagement (CARE) at the School of Public Health conducted a survey measuring the health status and health habits of six New Haven neighborhoods.

1,200 ADULTS INTERVIEWED

"We are seeing some discernible shifts in perceptions about the importance of a healthy diet and exercise. However, we know that deeper change will be difficult. That is why we need local residents to come together to share their ideas and help develop neighborhood action plans. Together, we can bring this evidence to action to improve health."

—Jeannette Ickovics, YSPH professor



Together with the City of New Haven and local partners, Yale launched goNewHaven, a collaborative campaign designed to encourage organizations and individuals to choose healthier, cleaner, and cheaper travel in the Greater New Haven Area. Every September, the coalition hosts the CarFree Challenge, which rewards participants who commute sustainably.

In 2016 the School of Forestry & Environmental Studies offered a course called "Cities in Hot Water: Urban Climate Mitigation and Adaptation," which worked in partnership with the City of New Haven to analyze and make recommendations for how city planners and engineers should cope with heat stress and extreme rainfalls in current and future climate conditions.



PERFORMANCE SUMMARY / AT A GLANCE



we have achieved
our goal



we adjusted our
goal and are
making progress



we can do
better

These icons are visual representations of our progress toward achieving the goals set in the Yale Sustainability Strategic Plan 2013–2016. This report reflects data that is available on a fiscal year basis.

GOALS

2014

2015

2016



ENERGY & GHG EMISSIONS

Reduce energy consumption and GHG emissions by 5%



Increase renewable energy produced onsite to 1%



Reduce fleet GHG emissions by 80 MTCO₂e per year



NATURAL & BUILT ENVIRONMENT

Develop and implement sustainable landscaping practices



Set a stormwater reduction target



Reduce potable water use by 5%



Reduce single occupancy vehicle use to and from campus by 5%



Increase participation in the Federal Pre-Tax Commuter Benefits Program by 25%



Earn a minimum of LEED Gold Certification in all new construction



Implement the Sustainability Supplement to the Framework for Campus Planning



GOALS
2014
2015
2016

MATERIALS MANAGEMENT

Reduce paper and office supply purchases by 10%



Establish sustainable procurement standards



Develop sustainable IT purchasing and disposal practices



Achieve a 50% waste diversion rate



Set a target for total volume waste reduction


FOOD & WELL-BEING

Ensure that 37% of dining purchases meets sustainability criteria



Increase plant-based foods served in dining halls by 15%



Reduce sodium content in on-campus food



Reduce the use of cleaning chemicals by 30%



Promote human well-being and ecosystem vitality


LEADERSHIP & CAPACITY BUILDING

Establish departmental and professional school Sustainability Action Plans



Promote sustainability as a core business value



Create a regional food alliance



Create sustainability-focused ITS training



Expand green certification programs



ENERGY & GHG EMISSIONS

GOALS

CURRENT PROGRESS

Reduce energy and GHG emissions by 5% below 2013 levels

In 2016 Yale decreased its GHG emissions by 8.7% from 2013 levels. This represents a 23.6% decrease from our 2005 baseline year. Also in 2016, energy usage decreased 16.8% from 2013.



Increase renewable energy produced onsite to 1%



During 2016, 1.6% of the electricity generated on campus was from renewable sources.



Reduce fleet GHG emissions by 80 metric tons of carbon dioxide equivalent (MTCO₂e) per year below 2013 levels

From 2015 to 2016, fleet GHG emissions increased by 2 MTCO₂e. While the University did not meet the annual goal, it did decrease emissions by 208 MTCO₂e from our 2013 baseline.



GOALS

CURRENT PROGRESS

Develop and implement sustainable landscaping practices

In 2016 a landscape planning study was undertaken that will inform and direct the proposed Science Hill Tree Management Plan. The Plan, which will be a collaboration between Facilities Planning, Facilities Grounds, and the Urban Resources Initiative, will serve as a pilot for other precincts on Yale's campus.



Set a stormwater reduction target

Yale is working to align its stormwater reduction target with regional goals and plans that are still in development.



Reduce potable water use by 5% below 2013 levels

While Yale did not meet its 5% reduction in water consumption, the University did reduce water consumption by 0.5% from its baseline value. Yale was successful in implementing water conservation projects around campus such as the installation of low-flow showerheads in residential colleges and Payne Whitney Gym. However, these efforts were counterbalanced by campus growth and maintenance issues.



Increase participation in the Federal Pre-Tax Commuter Benefits Program by 25% above 2013 levels

Participation in the Federal Pre-tax Commuter Benefits Program decreased by 0.68%. The Office of Sustainability now presents at each New Employee Orientation on various topics including commuter benefits to help increase participation in this program going forward.



Earn a minimum of LEED Gold Certification in all new construction

Since 2010, all projects have earned a minimum LEED Gold Certification.



LEED
certified
building
projects



Reduce single occupancy vehicle use to and from campus by 2% below 2013 levels

The biennial Transportation Survey shows that between 2013 and 2015, single-occupancy vehicle commuting among Yale employees increased by 0.15%. Although this is a very small increase, it is important for the University to consider employee transportation trends as it encourages more sustainable commuting options.



MATERIALS MANAGEMENT

GOALS

CURRENT PROGRESS

Reduce paper and office supply purchases by 10% from 2013 levels

Office supply purchases have decreased by 15.9% since 2013, and paper purchases have decreased by 32.1%.



Establish sustainable procurement standards

Yale continues to use W.B. Mason as its primary office supply vendor, which provides users with green product options.



Develop sustainable IT purchasing and disposal practices

Procurement and ITS vendor management tailor each request for proposal (RFP) to include sustainability language that match the sustainability components of that commodity.



Achieve a 50% waste diversion rate



Yale achieved a 40.4% diversion rate in 2016. Until recently, data for construction and demolition materials was unavailable, and therefore not included in the waste diversion rate calculation. However, by including this data, our diversion rate increases to 63.1%.



Set a target for total volume waste reduction

In 2016 the University drafted a Materials Management Plan, highlighting key commodity groups at Yale, including the opportunities for and challenges of efficient and sustainable practices. This Plan will serve as a starting point for waste reduction goals in the forthcoming Yale Sustainability Plan 2025.



GOALS

CURRENT PROGRESS

Ensure that 37% of dining purchases meet sustainability criteria

By always considering the well-being of our planet, the interests of those who grow and produce our foods, the welfare of animals our food comes from, and the nutritional impact of those who eat the food they produce, Yale Hospitality has increased the amount of sustainably sourced food to over 50%.



Increase plant-based foods served in dining halls by 15% over 2013 levels

Yale Hospitality has continued to increase the amount of plant-based foods by double digits each year. In 2016 the menu features 80% plant-based entrees, desserts, and salads.



Reduce sodium content in on-campus food

Continual increase in the number of items that Yale Hospitality produces in-house has allowed the highly skilled culinary staff to reduce overall sodium content of the menu offerings by 37% through the judicious use of herbs, spices, and other flavor enrichment.



Reduce the use of cleaning chemicals by 30% from 2013 levels

Cleaning chemical purchases have increased by 34.7% from 2013 to 2016. In an effort to reduce cleaning chemical purchases, alternative green cleaning technology that uses ionized water has been implemented in a number of sites on campus. Facilities is evaluating locations to determine how best to expand the use of this new cleaning technology, and in the interim, have more than doubled their purchases of green-certified chemicals since 2013.



Promote human well-being and ecosystem vitality



Over the past three years, the connection between environmental sustainability and health and well-being has been strengthened through increased partnerships across campus. Researchers at the Yale School of Public Health are working with Yale Hospitality to research and implement healthy vending options on campus, and the Office of Sustainability is working with Student Wellness on a “Declutter, Destress, Donate” campaign to promote well-being, reduce waste on campus, and give back to the local community.



LEADERSHIP & CAPACITY BUILDING

GOALS

CURRENT PROGRESS

Establish departmental and professional school Sustainability Action Plans

Yale Athletics and the Yale Library each published their first Sustainability Action Plan in 2016. The following departments and schools have Action Plans, many of which will be revised and updated over the course of the Yale Sustainability Plan 2025: all professional schools, the Institute for Preservation of Cultural Heritage, the Peabody Museum of Natural History, and the University Art Gallery.



Create a regional food alliance





Yale Hospitality maintains and develops alliances with local and regional businesses that are committed to providing, sustainable, healthier, less processed food products. This supports the regional economy while adding fresh products that are cultivated, harvested, or produced locally. One example of this is a recent collaboration with a longtime New Haven-based bakery. Yale Hospitality significantly increased the amount of local artisan breads served in the residential dining program, which offers 12,000 meals per day. This enriched the dining hall experience while supporting a local business.



Promote sustainability as a core business value

The University's top buyers received sustainability certification in 2014. The online purchasing portal for office supplies and paper has also been updated to prioritize commonly purchased materials that are more sustainable in their content and production. While significant updates to the business management infrastructure have precluded the implementation of the certification program, awareness and behaviors have shifted.



GOALS	CURRENT PROGRESS	
Create sustainability-focused ITS training	Rather than developing tailored training, ITS is deploying Lynda.com training modules.	
Expand campus green certification programs	Participation in green certification programs has decreased over the past three years, as people choose not to recertify their spaces. Campus community members seek out other opportunities for engagement, including best practice sharing through green team activities, <i>Celebrate Sustainability</i> events, and working groups through the Carbon Charge Project. In the next Sustainability Plan 2025, new metrics will be used to assess engagement on campus.	

“Sustainability, ensuring the future of life on Earth, is an infinite game, the endless expression of generosity on behalf of all.”

*—Paul Hawken
Environmentalist, Author*

Thank you.

In no particular order: Eric Uscinski, James Shelton, Daryl Brereton, James Slattery, Richard Boardman, Thomas Downing, Lisa D'Angelo, Kristina Chmelar, Matthew Garrett, Dana Courtney, Carmine Amento, Stuart DeCew, Stephen Murphy, Bradford Gentry, Nona D'Onofrio, Rafi Taherian, Maxwell Knapp, Cynthia Walker, Keri Enright-Kato, Brenda Armstrong, Linda Lorimer, Sarah Jane Compton, Mark Ashton, Robert Saidi, Russell Sharp, Sophie Janaskie, Timothy O'Connor, Julie Paquette, Julie Grant, Famatta Gibson, Mark Pagani, Betty Soosai, Elizabeth Stauderman, Holly Parker, Susan Castaldi, Harley Pretty, Ronald Gitelman, Mark Bomford, Susan McDonald, David Salerno, Peter Glazer, Sandra Lynch, Roger Goode, Claudine Alexandre, Susan Cascio, Len Peters, Lindsay Toland, Bruce McCann, John Bollier, William Nordhaus, Ryan Laemel, Deborah Armitage, Robin Canavan, George Zdru, Laurie Ongley, Amber Garrard, Lisa LeMontangue, Lisa Kimmel, Kevin Discepolo, Tara Kennedy, Carlos Mercado, Jerry Irizarry, Joseph Vitale, Ed Bebyn, Paul Catalano, Robert Klein, Beata Fiszer, Edward Wittenstein, Jennifer Milikowsky, Rebecca Sender, Barbara Chesler, Donna Harris, Robert Ferretti, Katherine Burgueno, Sara Smiley Smith, Julie Newman, Sharon Oster, James Sirch, Joseph Signore, Dean Takahashi, Joyce Ippolito, Melanie Quigley, Edward Snyder, Mary Hu, Samuel Messer, Colleen Murphy-Dunning, Susan Wells, Jane Lee, David Gallaer, Bethany Zemba, Jason England, Michelle Addington, Peter Reinhardt, Christopher Farmer, John Mayes, Daniel Esty, Suzanne Stringer, Abigail Rider, Cynthia Breault, Steven Percival, Janet Lindner, Joseph Mastracchio, Joann DelVecchio, Virginia Chapman, Philip Rinehart, Donald Relihan, Geraldine Remer, Gail Cameron, Justin Freiberg, Michael Schrier, Vincent Wilczynski, Melissa Goodall, Richard Bascom, Sean Dunn, Valerie Warhall, Heidi Richard, Lisa Fernandez, Daniel Flynn, Anthony Kosior, Colin Brown, Stacey Gemmill, Diane Palmer, Stephanie Perry, Cathy Van Dyke, Jessica Labbe, Walter Debboli, Winny Tan, Annie Harper, Louis Tiseo, Karen Polhemus, Isabella Quagliato, Joanna Esposito, Carol DeNatale, Brenda Naegel, Marcia Schels, Frances Rosenbluth, Deborah Chung, Jan Hewett, Monika Lau, Michael Yaffe, David Heiser, Christopher Mihok, Lori Rasile, Samuel Olmstead, Ann-Marie Piscitelli, John Jacobson, George Longyear, Edward Mockus, William Peabody, Timothy White, Lisa Maloney, Sharon Rose, Lauren Zucker, Ed Frey, Andrea Hart, Martha Highsmith, and many others that continue to keep Yale sustainable.



Made from recycled materials.