SUSTAINABILITY
2020

TABLE OF CONTENTS

GOALS AT A GLANCE

Encourage the development of environmentally literate students and faculty

Develop degree programs that train students to be practitioners of sustainability studies and science with a curriculum that embodies breadth and depth

Develop excellence in research that includes cross-disciplinary studies, promotes competitiveness in grant applications, and produces transformative findings

_____

Strengthen awareness of existing campus sustainability practices and set targets to increase activity

Establish the USC campuses as living laboratories for sustainability

Engage the community in the principles of sustainability

_____

Reduce greenhouse gas emissions per square foot by 20% from 2014 levels by 2020

Capitalize on energy risks and opportunities

_____

Reduce the number of single occupancy vehicles (SOVs) traveling to and from the USC campuses

Increase student, faculty, and staff participation in alternative transportation programs

_____

Engage 75% of USC departments and offices in responsible purchasing practices by 2020

Purchase 10% of food from sustainable sources by 2017 and 20% by 2020

_____

Achieve 75% waste diversion levels by 2020

Increase education on waste reduction and recycling and expand diversion and recycling programs

_____

Decrease potable water use 10% by 2017 and 25% By 2020

Increase awareness of current water conservation practices

Implement audience-appropriate educational campaigns designed to modify behavior and increase conservation

> "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*"

Brundtland Commission Report, United Nations, 1987

INTRODUCTION

As we come to better understand global environmental challenges, we become better equipped to respond to these challenges through innovation, education, and action.

Sustainability has emerged as a way of living and working in response to these challenges, including climate change, a reduction of land and water resources, and the loss of biodiversity. Sustainable development was defined in the 1987 U.N. Brundtland Commission Report, Our Common Future, as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Sustainability considers a triple bottom line of ecology, economy, and equity, all of which are necessary for a thriving society.

The implementation of sustainable practices is of even greater relevance as California experiences a historic drought affecting both infrastructure and food security. Meanwhile, energy and waste disposal costs rise and create financial strains. To preserve the viability of our common future, modifications to culture and behavior are necessary.

As USC rises to meet the formidable challenges of the 21st century, environmental sustainability must take priority in our teaching, research, operations, and facilities. USC will be called upon to cultivate scientific and policy-relevant scholarly work, build stronger collaborative relationships with community stakeholders, and drive our own operations towards less waste and more efficient use of resources. To fulfill our mission as a world-class university, USC will need to assume greater responsibility at the local, regional, and global levels.

USC campuses are diverse islands within a larger urban ecosystem in which humans and other species coexist and interact daily. Biodiversity in the urban landscape is important for its intrinsic value and to enrich the lives and personal well-being within the campus community. A vibrant and healthy campus forest contributes to that diversity and mitigates the heat of the city. Recent, extensive tree planting has enhanced the park-like atmosphere of the University Park campus and will abate warmer temperatures in the future.

As a top private educational research institution and the largest private employer in Los Angeles, USC is in a unique position to have a meaningful impact in the region and create and implement groundbreaking solutions on an international stage.

SUSTAINABILITY 2020

embraces the integration of sustainability into all facets of the university. This plan supports coordination and implementation through USC's decentralized management model by focusing on policies that affect the university as a whole.

Sustainability 2020 provides achievable goals with practical objectives. The Sustainability Steering Committee, consisting of faculty, staff, and students from across the university, has determined these goals based on a thorough evaluation of USC's vision and abilities. Topic-specific subcommittees have met to discuss baselines and case studies from within USC, as well as best practices employed at comparable peer institutions from around the country. Tailored to the specific circumstances of the university, the plan considers data and trend lines collected by those working on the frontlines of USC's sustainability initiative.
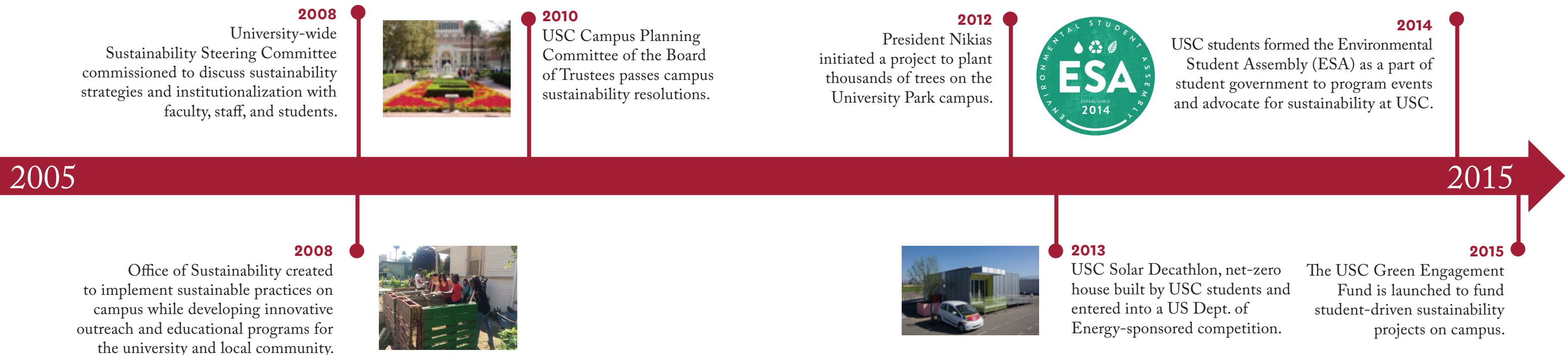
This plan has been further informed by the nationally recognized Sustainability Tracking, Assessment & Rating System (STARS), a program of the Association for the Advancement of Sustainability in Higher Education. Comparing ourselves to peer institutions within the STARS system, such as Stanford, UCLA, Cornell, Harvard, and UC Berkeley, we have engaged students, staff, faculty, and other university stakeholders to assess our current sustainability profile, and to develop a strategy plan proposal for the next five years.

Sustainability 2020 is organized around seven areas: education and research, community engagement, energy conservation and greenhouse gas mitigation, sustainable transportation, sustainable procurement, waste diversion, and water conservation. Comprehensive research on best practices related to these areas has determined a variety of potential actions through which goals may be achieved.

Research by the Steering Committee has also identified several ongoing university initiatives already aimed at improving sustainability. These efforts are highlighted by the campus icon featured at the bottom, left-hand corner of some of the pages.

This plan guides USC to a university-wide foundation of environmentally conscious development and is a significant step forward on the journey towards a more sustainable future. The opportunities and successes that stem from this plan will benefit future, long-term sustainability plans.

2008
University-wide Sustainability Steering Committee commissioned to discuss sustainability strategies and institutionalization with faculty, staff, and students.

2010
USC Campus Planning Committee of the Board of Trustees passes campus sustainability resolutions.

2012
President Nikias initiated a project to plant thousands of trees on the University Park campus.

2014
USC students formed the Environmental Student Assembly (ESA) as a part of student government to program events and advocate for sustainability at USC.

2008
Office of Sustainability created to implement sustainable practices on campus while developing innovative outreach and educational programs for the university and local community.

2013
USC Solar Decathlon, net-zero house built by USC students and entered into a US Dept. of Energy-sponsored competition.

2015
The USC Green Engagement Fund is launched to fund student-driven sustainability projects on campus.

2005 ——————————————————————— 2015

While holding to the ideal of scholarship with consequence, USC must prioritize sustainability, its core concepts and integrative elements, as an educational and research imperative. To meet this imperative, we need to embrace the cross-disciplinary nature of the sustainability challenge, building on foundational efforts such as the Wrigley Institute, Energy Institute, and Center for Sustainable Cities. As a university, we must promote environmental literacy and train the next generation of sustainability leaders to work across disciplinary boundaries with ease. Facilitating the translation of knowledge will promote equitable progress and societal advance.

At USC, cross-disciplinary sustainability research collaborations extend across many fields including: Biological, Chemical and Earth Sciences, Policy, Psychology, Business, Medicine, Economics, Communications, Engineering, Spatial Sciences, Architecture, Computer Science, Sociology, and International Relations.

GOAL 1: ENCOURAGE THE DEVELOPMENT OF ENVIRONMENTALLY LITERATE STUDENTS AND FACULTY
- Incorporate sustainability into the breadth of knowledge expected of our graduates
- Assess student and faculty understanding of sustainability principles

GOAL 2: DEVELOP DEGREE PROGRAMS THAT TRAIN STUDENTS TO BE PRACTITIONERS OF SUSTAINABILITY STUDIES AND SCIENCE WITH A CURRICULUM THAT EMBODIES BREADTH AND DEPTH
- Provide incentives for developing sustainability courses on campus
- Develop an interdisciplinary sustainability curriculum committee

GOAL 3: DEVELOP EXCELLENCE IN RESEARCH THAT INCLUDES CROSS-DISCIPLINARY STUDIES, PROMOTES COMPETITIVENESS IN GRANT APPLICATIONS AND PRODUCES TRANSFORMATIVE FINDINGS
- Recruit prominent scholars to help establish USC as a leading institution of sustainability research
- Support a community of interdisciplinary sustainability researchers with assured long-term funding

The nature of today's environmental problems demands a collaborative response from within the USC community, and alongside our neighborhood stakeholders, to create progressive momentum and positive change. This momentum has recently compelled action by students on campus, who have founded the new Environmental Student Assembly and Green Engagement Fund. Future innovation will require additional support from and interaction with the USC community. Managing USC's campuses as living laboratories for sustainability encourages student pioneers and interdisciplinary academic inquiry.

GOAL 1: INCREASE AWARENESS OF EXISTING CAMPUS SUSTAINABILITY PRACTICES AND SET TARGETS TO INCREASE ACTIVITY

- Develop metrics for sustainability engagement and set relevant targets
- Develop an awareness campaign
- Develop annual sustainability programming
- Implement ongoing programming for sustainable behaviors in USC Housing

GOAL 2: ESTABLISH THE USC CAMPUSES AS LIVING LABORATORIES FOR SUSTAINABILITY

- Connect courses and research to campus projects
- Expand access to students and faculty regarding utility information
- Expand the student Green Engagement Fund, enabling students to implement sustainability projects on campus

GOAL 3: ENGAGE THE COMMUNITY IN SUSTAINABILITY PRACTICES

- Foster external partnerships with local government
- Develop an Urban Sustainability Extension/Sustainability Clinic
- Develop a Sustainability Alumni Network

ENERGY CONSERVATION & GREENHOUSE GAS MITIGATION

As a major consumer of electricity, USC stands to make vast improvements in terms of energy efficiency and greenhouse gas emissions mitigation. USC has identified past opportunities to reduce costs as well as energy usage with projects such as the thermal energy storage system under Cromwell Field. Continuing to make improvements will guide us towards a cleaner, safer, and more responsible future. The solution, like the problem, must be the result of collective action on everybody's part, and discussions on energy conservation and renewable energy must engage staff, faculty, and students.

Photo Credit: Kristi Plaza

GOAL 1: REDUCE GREENHOUSE GAS EMISSIONS PER SQUARE FOOT BY 20% FROM 2014 LEVELS BY 2020[1,2]
• Track and report greenhouse gas emissions
• Implement a Climate Action Plan

GOAL 2: CAPITALIZE ON ENERGY RISKS AND OPPORTUNITIES
• Reduce the financial risk of utility costs through conservation
• Reduce the financial risk of utility costs through renewable energy generation
• Exceed state energy efficiency standards in new construction
• Create a Green Revolving Fund

[1]*Peer institutions, including the UC system, NYU, and George Washington University, have adopted greenhouse gas reduction goals between 15-50% within 2015-2025.*
[2]*California Assembly Bill 32 requires the state to reduce its greenhouse gas emissions to 1990 levels by 2020. Although USC's emissions are not required to be reduced under this bill, our efforts will help the state reach its emissions reduction goal.*

"I KNOW THE ARGUMENTS. I KNOW THE PROCRASTINATION. I KNOW THE LIES AND I KNOW THE DANGERS OF CLIMATE CHANGE, AND SO DO YOU."

– John Kerry , Former U.S. Senator and Secretary of State

GOAL 1: REDUCE THE NUMBER OF SINGLE OCCUPANCY VEHICLES (SOVS) TRAVELING TO AND FROM THE USC CAMPUSES
- Augment commuter data to provide meaningful benchmarks
- Formally adopt a USC bike plan addressing connectivity, safety, and storage

GOAL 2: INCREASE STUDENT, FACULTY, AND STAFF PARTICIPATION IN ALTERNATIVE TRANSPORTATION PROGRAMS.
- Increase communication about transportation programs
- Include information about transportation alternatives at orientation

The pollution associated with trucks and cars is especially relevant in Los Angeles, a city with a long history of smog and poor air quality. A national emissions inventory by the EPA found that Los Angeles experienced more unhealthy air quality days than Houston and New York combined. Particulate matter, nitrogen oxides, and ozone all pose substantial threats to those who inhale them. In working to mitigate the problem, USC must reduce the number of single occupancy vehicles traveling to its facilities and enhance its fleet with cleaner vehicles.

Currently, USC Transportation incentivizes behaviors that reduce single-occupancy vehicle traffic and promote sustainable commuting methods, including free campus shuttles, carpool matching services, and discounted transit passes.

To achieve outstanding leadership in the area of procurement, the university must work towards value chain integration, including the consideration of costs that have historically been externalized by producers. Although USC Procurement has worked to reduce costs for more sustainable products, a comprehensive policy that includes encouraging users to purchase sustainable products can advance procurement efforts. In the long term, USC's observance of sustainable procurement will save money, benefit the local economy, and minimize damage to the environment.

Regarding food procurement, our campaign for a sustainable USC necessitates the purchase of locally grown foods from farms that value animal welfare and nutritional integrity. By requiring the responsible sourcing of food products, USC can lead the legion of schools committed to student health and welfare.

USC Sustainability has worked with several offices across campus to implement sustainable purchasing strategies through the Green Office Certification Program.

GOAL 1: PURCHASE 10% OF FOOD FROM SUSTAINABLE SOURCES BY 2017 AND 20% BY 2020[3]
• Develop metrics for sustainable food sources and measure progress

GOAL 2: ENGAGE 75% OF USC DEPARTMENTS AND OFFICES IN RESPONSIBLE PURCHASING PRACTICES BY 2020[4]
• Implement a purchasing policy of 50% minimum post-consumer cut sheet paper
• Implement a Sustainable Shipping Program and Green Items Online Page with Office Depot
• Revise purchasing and waste procedures to incorporate USC surplus
• Enroll departments and offices in a Green Purchasing Commitment
• Specify preferred vendors with sustainable purchasing and disposal practices
• Create 'Responsible Purchasing at USC' section in Trojan Learn for New Employee Orientation and distribution to existing employees
• Work with on-campus retailers and Food Services to reduce costs and waste to customers

[3]Many of USC's peer institutions (UC System, Stanford, University of Michigan) have implemented purchasing guidelines of 20–40% of food from sustainable sources.
[4]Our peers also have sustainability procurement policies in place, which may include requirements of 30–100% minimum post–consumer recycled paper.

WASTE DIVERSION

Globally, it is estimated that a 1% increase in recycling rates could provide an annual net savings equivalent to 200,000 metric tons of carbon dioxide. Accordingly, even small adjustments in the processing of campus-generated trash could have big impacts in terms of USC's carbon footprint. Such an undertaking will also yield major financial incentives. Since 2001, the average landfill rate has risen from $34 per ton to nearly $54 per ton. A decrease in the amount of waste generated will help offset this steep rise in cost. Additionally, active recycling by students educates them on current sustainability issues and produces a more responsible generation of global citizens. Currently, USC's waste diversion rate over the past few years has been around 52%.

A collaboration of USC Recycling, USC Sustainability and USC Athletics, USC's Tailgate waste diversion program educates tens of thousands of fans each season on how to recycle and compost both on campus and at home.

GOAL 1: ACHIEVE 75% WASTE DIVERSION LEVELS BY 2020[5]
- Develop a University-wide, comprehensive integrated waste management plan by 2016
- Review metrics and standards for waste audits
- Evaluate waste management companies

GOAL 2: INCREASE EDUCATION OF WASTE REDUCTION AND RECYCLING AND EXPAND DIVERSION AND RECYCLING PROGRAMS
- Create educational campaigns about waste reduction and recycling that resonate with specific campus stakeholders (*i.e.*, faculty, students, staff, visitors)
- Improve the recycling program by increasing and standardizing waste disposal bins with a pilot program in USC Housing
- Develop a campus-wide composting program
- Increase education about methods to reduce waste (*e.g.* bottle-filling stations, etc.)
- Apply the recycling policy to demolition and construction programs and implement waste diversion policies in new construction

[5]*USC's peer institutions, including the UC system and the University of Washington, have adopted waste reduction goals for 2020 ranging from 50% to zero waste.*

WATER CONSERVATION

California is in a serious water crisis. The matter has received extensive media coverage and has become the focus of many in the academic arena. But despite the ubiquity of information, there remains a substantial discrepancy between what we know and how we've responded. Although USC has been implementing measures such as drip irrigation to conserve water, as drought conditions persist, it is of immediate importance that USC adopt the technological and cultural mechanisms necessary to conserve water, and safeguard the university against future periods of low rainfall. By taking additional steps to conserve water and educate users, USC can help alleviate the stress on the state water system and act as a model for other universities and institutions facing similar problems.

Photo Credit: Lake Oroville, Justin Sullivan/Getty Images

"THIS HISTORIC DROUGHT DEMANDS UNPRECEDENTED ACTION… AS CALIFORNIANS, WE MUST PULL TOGETHER AND SAVE WATER IN EVERY WAY POSSIBLE."

– Governor Edmund G. Brown

GOAL 1: DECREASE POTABLE WATER USE 10% BY 2017 AND 25% BY 2020[6,7]
- Expand metering on UPC and HSC buildings
- Prioritize mitigation strategies by cost and effectiveness (gallons/dollar)

GOAL 2: INCREASE AWARENESS OF CURRENT WATER CONSERVATION PRACTICES
- Develop and implement an awareness campaign

GOAL 3: IMPLEMENT AUDIENCE-APPROPRIATE EDUCATIONAL CAMPAIGNS DESIGNED TO MODIFY BEHAVIOR AND INCREASE CONSERVATION
- Create conservation campaigns that resonate with specific campus stakeholders (*i.e.*, faculty, students, staff, visitors)
- Increase water conservation messages in higher use areas

[6]USC's peer institutions (especially those in California) have plans to reduce water consumption by 20% before 2020.
[7]In April 2015, Governor Brown issued Executive Order B-29-15, requiring campuses to reduce water consumption by 25%.

The USC Sustainability Steering Committee is an on-going working group;
more information can be found at https://green.usc.edu/2020-plan/committee/

David Wright, Chair
Administrative Operations

Paul Adler
USC Marshall School of Business

Monique Allard
Student Affairs, Student Engagement

Hilda Blanco
Center for Sustainable Cities

Halli Bovia
USC Sustainability

Mark Ewalt
Auxiliary Services

Carol Fern
Facilities Management Services

Abby Fifer*
Society and Business Lab

James Gibson
Environmental Health and Safety

Travis Longcore
USC Spatial Sciences Institute

Carl Marziali
Media Relations

Lila Mauro
Business Services

Naj Meshkati
USC Viterbi School of Engineering

Eddie North-Hager**
Media Relations

Larissa Purnell
Undergraduate Student Government

Shawn Rhoads
Environmental Student Assembly

Jon Soffa
Capital Construction Development

Yohey Tokumitsu
Graduate Student Government

John Welsh
Facilities Management Services

Adlai Wertman
USC Brittingham Social Enterprise Lab

Deona Willes
USC Office of Environmental Health & Safety

Christine Wozniak
Graduate Student Government

* Alternate for Adlai Wertman
** Alternate for Carl Marziali

Education and Research Co-Chairs
Paul Adler
USC Marshall School of Business

Roberta Marinelli,
USC Wrigley Institute for Environmental Studies

Engagement Chair
Hilda Blanco
Center for Sustainable Cities

Energy and Greenhouse Gas Emissions
Carol Fern
Facilities Management Services

Procurement Chair
Halli Bovia
USC Sustainability

Waste Chair
Pix Verendia
USC Facilities Management Services

Water Chair
Halli Bovia
USC Sustainability

Administrative Planning Team

Halli Bovia
USC Sustainability

Brian Gross
Administrative Operations

Melody Shekari
USC Sustainability

In 2008, USC's Senior Vice President of Administration, Todd Dickey, commissioned the USC Sustainability Steering Committee. Members were drawn from a group of senior level administrators, staff, students, and faculty representatives with expertise in sustainable practices or positions that enable them to play a large role in those efforts. Their mission was to guide efforts in further integrating sustainability as a core value in USC's strategic plans as well as guide efforts in establishing and tracking sustainability goals and performance indicators.

In FY 2013, the USC Office of Sustainability collected a wealth of data to complete the Sustainability Tracking, Assessment & Rating System (STARS) Report. The Office of Sustainability benchmarked USC's current practices against peer institutions to set realistic short and long-term sustainability goals.

With the STARS Report as their origin point, the office of Sustainability led the Sustainability Steering Committee through the planning process and worked with subcommittees to adapt specific plans across education, research, engagement, energy and greenhouse gas emissions, transportation, waste, and water. Intense deliberation and revision during FY2015 resulted in the Sustainability 2020 plan as displayed within this document.