

University of Kentucky.

SUSTAINABILITY STRATEGIC PLAN

 Sustainability



THE SUSTAINABILITY STRATEGIC PLAN STEERING COMMITTEE

The Sustainability Strategic Plan Steering Committee was established by Mary Vosevich, Vice President for Facilities Management, in September of 2016.

CHARGE

Develop a campus sustainability strategic plan to guide the University’s efforts and investment of resources relative to sustainability in campus operations for the next five years. Engage the campus community in the development of the plan.

MEMBERS

Rachel Cook,

Student - Double majoring in Natural Resource and Environmental Science and Environmental and Sustainability Studies (2019)

Melody Flowers,

Office of the Executive Vice President for Finance and Administration

Whitney Harder,

Public Relations and Marketing

Bill Harris,

Director of Purchasing

Mari Long,

Waste Management and Recycling

Rebecca McCulley,

Director of the Tracy Farmer Institute for Sustainability and the Environment

Lauren Renée Moore,

Sustainability Manager for UK Dining

Judy Needham,

Campus Planning

Shane Tedder,

Campus Sustainability Coordinator

Ben Troupe,

Student - Philosophy with minor in Political Science (2018)

Jeff Zumwalt,

Director of Utilities and Energy Management

TABLE OF CONTENTS

- Letter from the President.....3
- Executive Summary.....5
- Introduction8
 - o Scope.....9
 - o Components.....9
 - o Process and Organization 10
 - o Campus Engagement..... 10
 - o Curriculum and Research 11
 - o Student Initiatives 12
 - o The Emissions Reduction Commitment 12
 - o Tactic teams 16
- Strategies
 - * Materials Management..... 17
 - * Energy 19
 - * Food and Dining Services..... 21
 - * Transportation 23
 - * Buildings and Grounds..... 25
 - * Greenhouse Gas Emissions .. 27
 - * Water 29

THIS IS A LIVING DOCUMENT.

The University released this draft of the Sustainability Strategic Plan in the spring of 2018. Updates to the document will be posted at www.uky.edu/sustainability/strategicplan. Please send all comments and suggestions to Shane Tedder at shane.tedder@uky.edu.

Water was added as seventh strategy to this document on 12/7/2018.

Letter from the President

Sustainability is essential in industries, endeavors and communities across the world.

Indeed, it is a value of the University of Kentucky as a leader in education, research and innovation. As Kentucky's university, we are charged with addressing the challenges that confront our Commonwealth and those we serve beyond its borders. As such, we have both a moral imperative and financial obligation to implement practices that streamline and build capacity as a sustainable campus.

As an institutional priority, sustainable practice has guided our work over the last several years. It is one of the principles guiding our Campus Master Plan, and has helped shape the remarkable physical transformation of the University in recent years:

- Since 2010, new construction projects have targeted Leadership in Energy and Environmental Design (LEED) Certification by the Green Building Council.
- Our commitment to sustainability led to our bold efforts to reduce our carbon footprint by 25 percent by 2025.
- The University's Transportation Master Plan is changing our campus by encouraging multi-modal transportation and improving our bicycle, pedestrian and public transit infrastructure.
- Since 2011, UK has received annual recognition as a Tree Campus USA campus by the Arbor Day Foundation for our commitment to restoring the campus tree canopy.

As a learning institution, the University engages in this work by collaborating with faculty, staff and students across all colleges and departments. Sustainability efforts have been integrated into research programs and classroom coursework.

The Sustainability Challenge Grant Program, for example, has provided \$700,000 in funding for more than 20 faculty- or staff-led projects. Across all fields of study, discovery and service, we provide every member of our campus community with opportunities to engage with our physical campus as a living laboratory for cultivating and testing ideas promoting sustainable development.

Institutions of higher learning play vital leadership roles in the communities they serve. They contribute to economic success, ensure social well-being and enhance our shared sense of place.

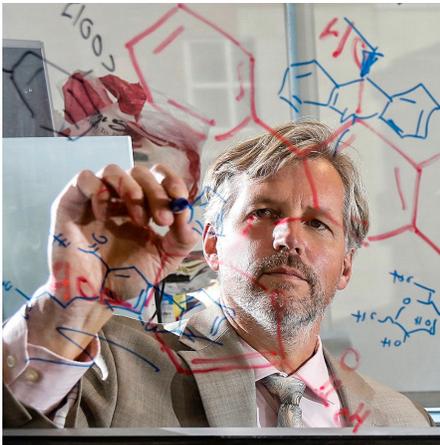
Sustainability is a crucial component of that leadership role, and this document highlights our future commitment to sustainable practice.

The "Sustainability Strategic Plan" will guide our effort to more fully embrace this institutional priority across the academic, research and health care enterprise. As importantly, it will guide the integration of these practices with all facets of campus operations over the next five years - a future bright with the potential for growth in our mission and in our commitment to sustainability that benefits this campus and the Commonwealth we serve.

Sincerely,



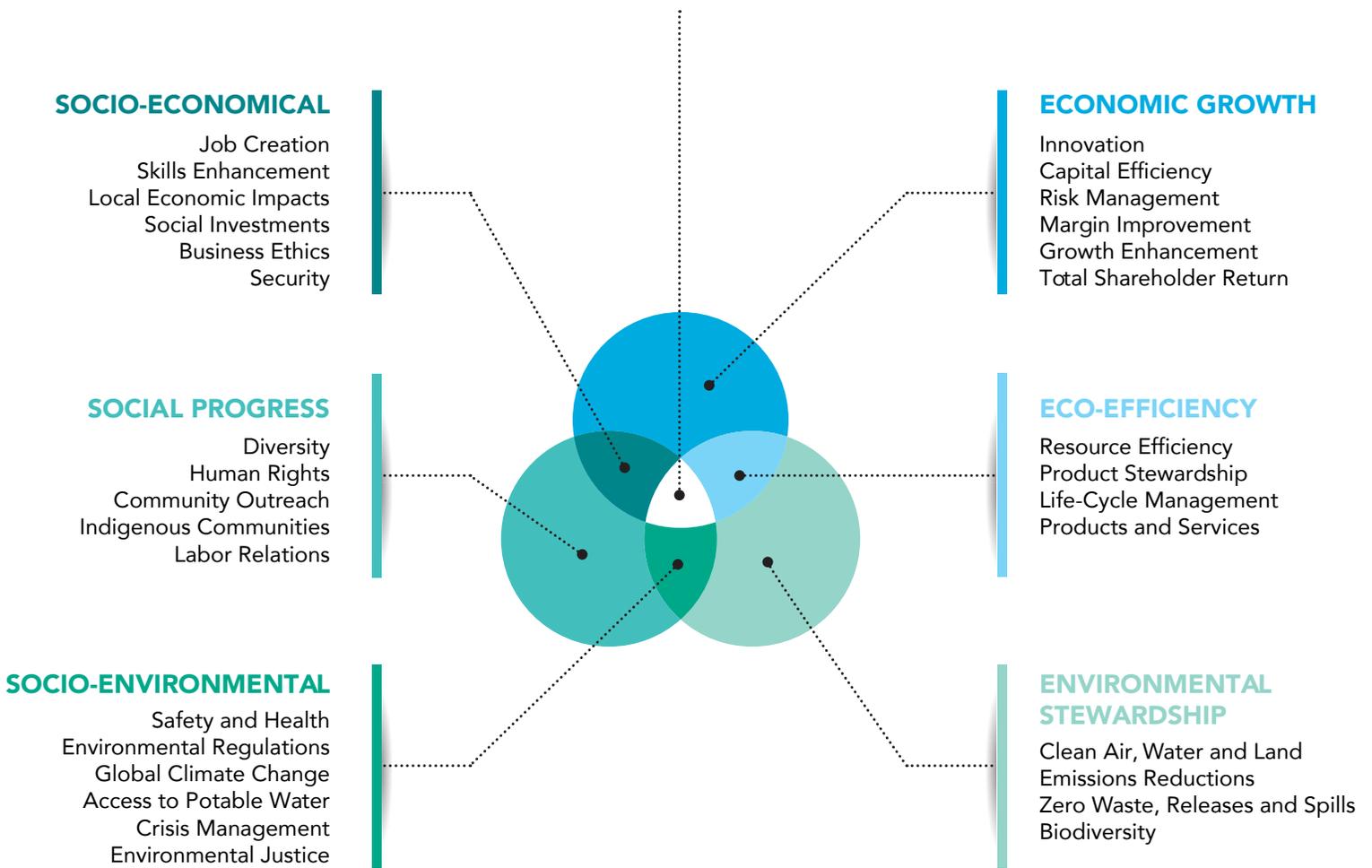
Eli Capilouto, President



Executive Summary

Sustainability implies that the activities of the University of Kentucky are ecologically sound, socially responsible and economically viable; and that they will continue to be so for future generations. A sustainability focus also encourages the integration of these principles in curricula, research and outreach. This principled approach to operational practices and intellectual pursuits prepares students and empowers the campus community to support sustainable development in the Commonwealth and beyond.

SUSTAINABILITY



Sustainability has blossomed at the University of Kentucky over the last decade and is now manifest in a broad set of initiatives, programs and guiding documents. A team of students, staff and faculty assisted the UK Office of Sustainability in the creation of this plan to guide the University's efforts relative to sustainability in campus operations for the next five years. Tactic teams, working with input from the campus community, selected six operational areas of focus and developed strategies, tactics and action items for each.

STRATEGIES



1. MATERIALS MANAGEMENT:

Gain a deeper understanding of the life cycle of materials at UK; engage in education, waste reduction and landfill diversion; and improve the sustainability of material purchased across all areas of the University. These efforts will include materials from day-to-day operations, public-private partnerships and new construction.



2. ENERGY:

Reduce the financial, social and environmental impacts of campus energy consumption through conservation, efficiency and production/delivery system improvements.



3. FOOD AND DINING SERVICES:

Implement innovative strategies for a comprehensive and increasingly sustainable campus food system. Enhance existing practices and develop new initiatives in the areas of procurement, operations and disposal across all dining services.



4. TRANSPORTATION:

Promote safety, health and environmental stewardship by providing incentives and programs designed to increase the number of faculty, staff and students using sustainable transportation options.



5. BUILDINGS AND GROUNDS:

Design, construct, operate and maintain spaces that support the mission of the University while promoting environmental stewardship and the well-being of the community.



6. GREENHOUSE GAS EMISSIONS:

Reduce the greenhouse gas emissions of the campus to 25 percent below 2010 levels by 2025.



Sustainability Strategic Plan

INTRODUCTION

The University of Kentucky is a public, land grant university dedicated to improving people's lives through excellence in education, research and creative work, service and health care. As Kentucky's flagship institution, the University plays a critical leadership role by promoting diversity, inclusion, economic development and human well-being.

Though not explicit in this mission statement, sustainability is an institutional priority of growing importance and integration at the University of Kentucky. We strive to ensure that the activities of our campus are ecologically sound, socially responsible and economically viable; and that they will continue to be so for future generations. This focus also encourages the integration of these principles in the teaching, research and outreach efforts of our community. Through this principled approach to operational practices and intellectual pursuits, we strive to prepare students and empower the campus community to support sustainable development in the Commonwealth and beyond.

This document will serve as a guide to the integration of sustainability with the operations of the University of Kentucky for the next five years. Specific performance targets are set for tactics organized by six key operational focus areas. The scope, components, process and organization used in developing this plan are described in detail below.

BACKGROUND

Sustainability was included as one of the seven core principles in the Campus Master Plan adopted in 2014 and has been an important component of all the planning documents that have been adopted since, including the Transportation Master Plan, the Campus Landscape Guidelines and the Utilities Master Plan. UK collaborated with a private sector partner in 2016 to conduct an in-depth evaluation of campus operations. The establishment of campus-wide sustainability targets was one of the key recommendations of the resulting report and served as a catalyst for development of this plan.



SCOPE

This plan encompasses the operational aspects of the University’s core academic campus in Lexington, Kentucky. This includes UK Athletics, UK HealthCare, and our partners in housing and dining.

By the numbers, the operational areas included in this plan cover:

- More than 19 million gross square feet of building space in more than 400 buildings connected across an 800-acre campus with an urban forest of over 9,000 trees that provide a 17 percent canopy cover.
- 20 miles of roadway, 75 miles of sidewalks and 16 miles of dedicated bicycle facilities connect the campus.
- Utilities consumption of \$23 million of electricity, 600 million gallons of water, and on-campus production of 1,200,000 mmbtus of steam in natural gas and coal boilers at three campus heating plants.
- More than 30,000 students, 12,000 employees and thousands of patients and visitors.
- More than a half million metric tons of greenhouse gas emissions annually.

This plan does not set specific goals for integrating sustainability with curriculum and research, and does not set targets for student involvement. Independent efforts are underway to set goals for the integration of sustainability within the curricula and research initiatives of the University. Similarly, student efforts to promote sustainability are critically important and growing in number. A summary of these efforts is provided on the following pages.

COMPONENTS

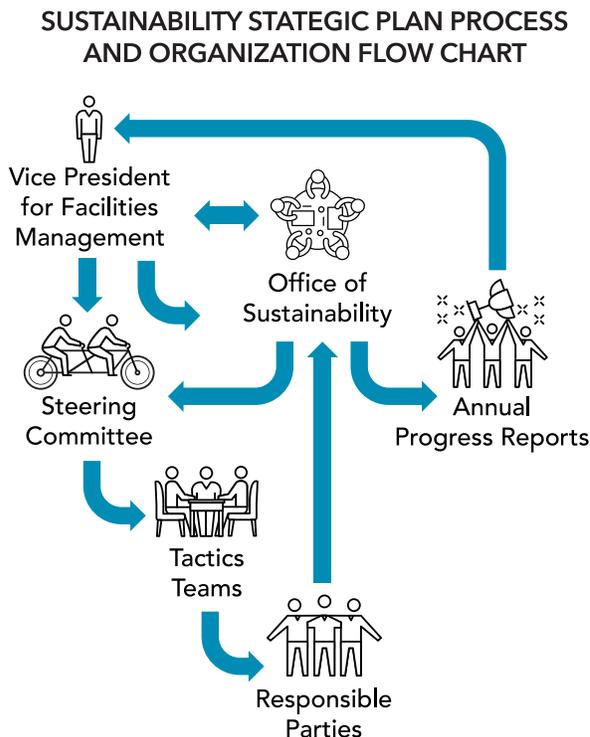
Strategies, action items, target dates, performance measures and responsible parties are the structural components used to organize the plan. Strategies are high-level directives focused on sustainability and encompassing multiple operational units. Tactics are quantified targets related to fulfilling the strategy. Action items are deliverables necessary to complete each tactic. Measures of success are the performance metrics that will be used to track progress toward the completion of each action item. The diagram below provides a description of each of these components and illustrates how they relate to one another.



PROCESS AND ORGANIZATION

UK's Vice President for Facilities Management, Mary Vosevich, charged the Office of Sustainability with the creation of this plan and appointed a leadership team to the task in the fall of 2016. This steering committee, composed of students, staff and faculty, guided the creation of the plan and selected six, interconnected areas of strategic focus. Six tactic teams, composed of key campus stakeholders, developed the tactics and action items associated with the strategic areas listed below.

- **MATERIALS MANAGEMENT:** The life cycle of the goods and services that we purchase, including use, reuse/recycling and disposal.
- **ENERGY:** The production, delivery and consumption of the heat and electricity used by the campus.
- **FOOD AND DINING SERVICES:** The sources and processes that provide food and dining options to the campus.
- **TRANSPORTATION:** The ways our community moves to, from and around our campus.
- **BUILDINGS AND GROUNDS:** The design, construction and maintenance of campus structures and green space.
- **GREENHOUSE GAS EMISSIONS:** The heat trapping gases produced by the activities of the campus.



The six key areas of emphasis for this plan were selected based on relevance to sustainability, connection to current campus priorities and existing efforts and resources. The strategies and tactics included in this five-year plan are not exhaustive of all possible areas for the integration of sustainability with campus operations. Rather, they represent the six areas identified as the most strategically important for the next five years by members of our community during the planning process.

CAMPUS ENGAGEMENT

More than 700 students, faculty, staff and community members provided input relative to the potential tactics for the plan through a campus-wide survey conducted in February 2017. The tactic teams carefully considered this feedback as they developed the scope and priorities for their tactics and action items. This plan is a living document. Please send feedback and suggestions regarding any aspect of the plan to Shane Tedder at shane.tedder@uky.edu.



CURRICULUM AND RESEARCH

Many colleges across campus have courses, faculty and research programs with connections to sustainability. The Environment and Sustainability Studies (ENS), Sustainable Agriculture (SAG) and Natural Resources and Environmental Science (NRES) degree programs focus specifically on sustainability. In addition, there are several academic entities on campus that work on the integration of sustainability with curricula and research (e.g., the Tracy Farmer Institute for Sustainability and the Environment, the Institute for Sustainable Manufacturing, the Center for Applied Energy Research and the Food Connection).

The Provost, the Vice President for Research and the Executive Vice President for Finance and Administration have demonstrated their support for promoting sustainability research and curricula development on campus by providing funding to the Sustainability Challenge Grant Program. This program was created, and is administered jointly, by the Tracy Farmer Institute for Sustainability and the Environment, the Office of Sustainability and the President’s Sustainability Advisory Committee. This program provides funding support to faculty-led, multidisciplinary teams for the creation and implementation of student-oriented projects that address sustainability challenges on our campus and beyond.

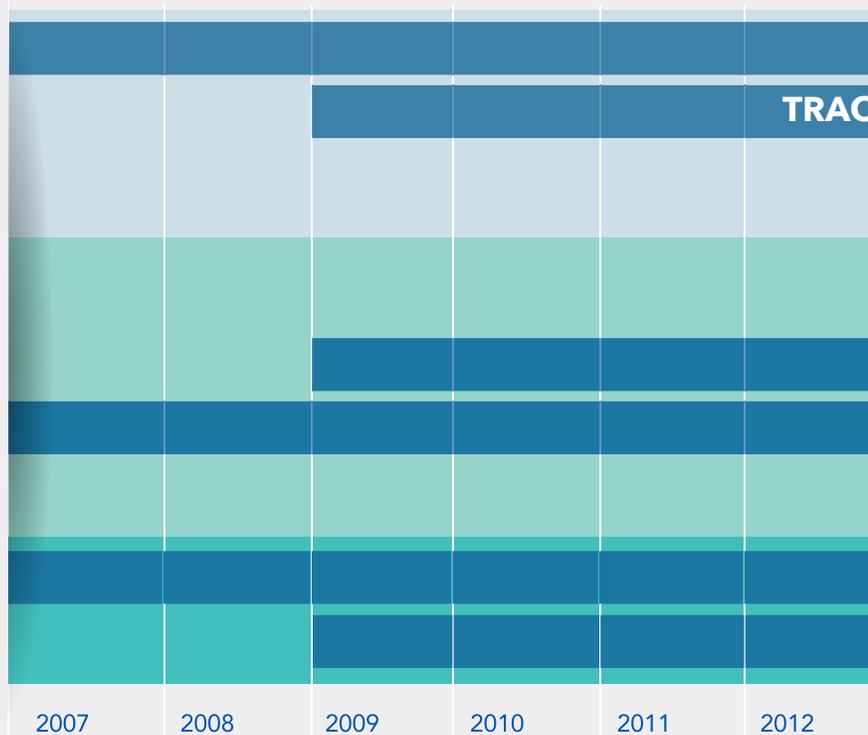
In early 2017, acting on the recommendation of the President’s Sustainability Advisory Committee, Provost Tim Tracy created the Faculty Sustainability Council (FSC), an interdisciplinary group of 14 members, representing 10 colleges, institutes and centers on campus. Provost Tracy charged the group to:

- Review the efforts of benchmark institutions and national leaders at integrating sustainability within their curriculum and research.
- Evaluate the strengths, weaknesses, opportunities and challenges of the current of state of sustainability in the curriculum and research.
- Propose short, medium and long-term goals for better supporting and promoting this integration.

The work of these entities in general, and specifically the deliverables for the FSC, will complement the targets identified for the six operational areas covered by this plan. Taken together, these goals will represent a comprehensive set of sustainability targets for operations, curriculum and research at the University of Kentucky.

Sustainability has blossomed at the University of Kentucky over the last decade and is now manifest in a broad set of initiatives, programs and guiding documents.

- CURRICULUM AND RESEARCH
- OPERATIONS
- STUDENT INVOLVEMENT



TRAC

STUDENT INITIATIVES

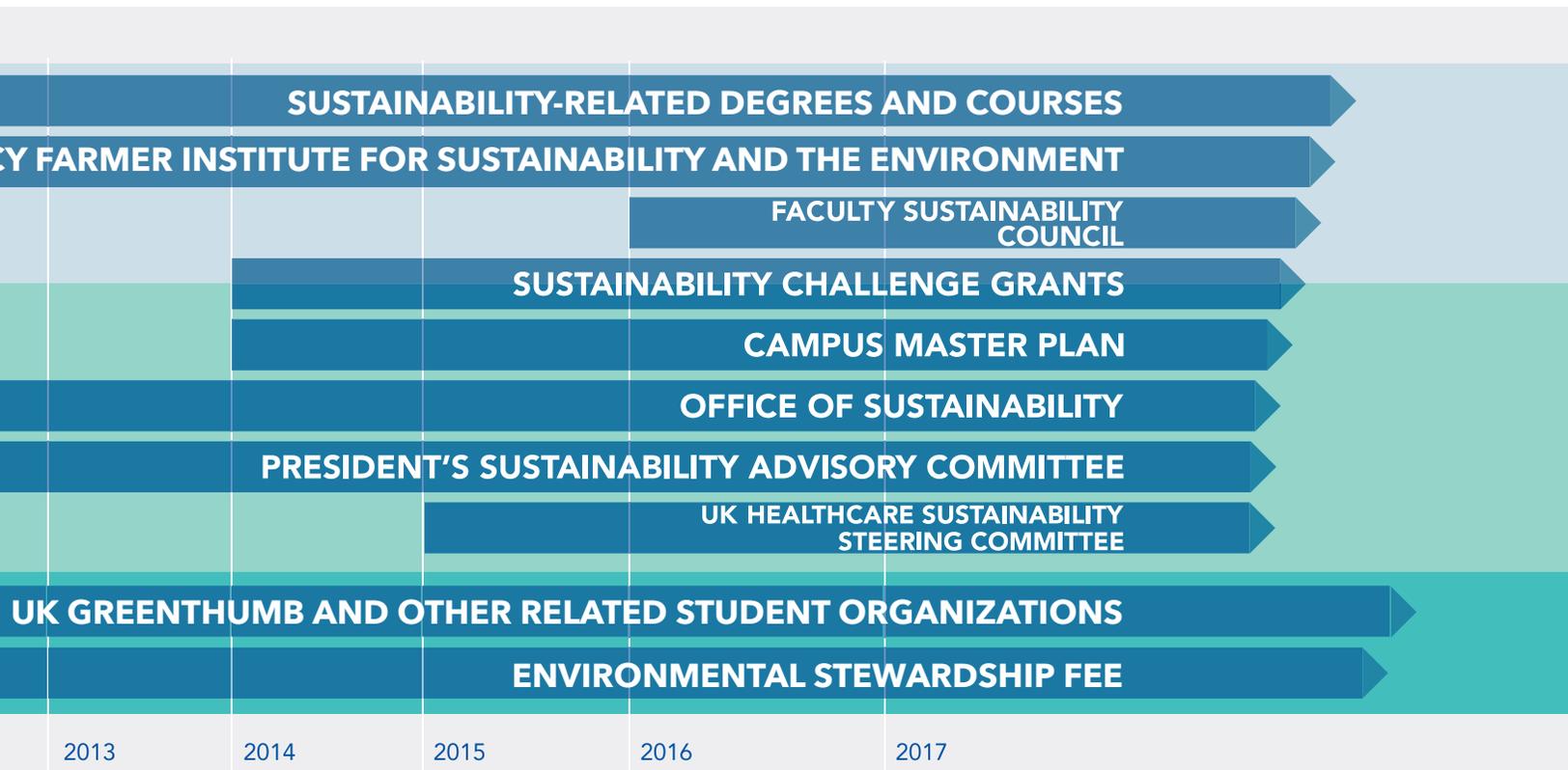
Student interest in sustainability at the University of Kentucky is strong and hundreds of students are involved in co-curricular initiatives and organizations that promote sustainability. The Student Sustainability Council invests more than \$190,000 in student-focused sustainability initiatives each year, and has been a major catalyst for sustainability at UK since 2009. Other organizations focus on specific aspects of sustainability. Campus Kitchens and Big Blue Pantry are two student initiatives dedicated to relieving hunger in our community by recovering and repurposing food from campus dining services, area farms, and local business that would have otherwise ended up in area landfills. The Lexington Environmental Youth Outreach (LEYO) works with public schools in Lexington to promote a passion for sustainability issues while providing marginalized youth in Lexington with skills necessary to combat environmental injustices. UK Greenthumb, a student environmental organization founded in the early 1990s, worked closely with the University over the past few years to promote the adoption of an emissions reduction commitment. The efforts described above highlight just a few key student initiatives. For more information on student efforts, visit www.uky.edu/sustainability/student-organizations.

THE UNIVERSITY OF KENTUCKY EMISSIONS REDUCTION COMMITMENT

On December 15, 2016, the University established its first Greenhouse Gas Emissions Reduction Commitment. That commitment, a 25 percent reduction in emissions by 2025, has been included in this plan as one of the six core strategies. The effort to establish this commitment predates the work of developing this plan by several years and the timeframe for achieving the emissions reduction is slightly longer than the period for the other strategies. A task force established by the President’s Sustainability Advisory Committee has developed a draft implementation plan for the emissions reduction commitment. As a result, the format of the emission reduction strategy section is slightly different from that of the other strategies in this plan. For more detailed information on the Greenhouse Gas Emissions Reduction Commitment, visit www.uky.edu/sustainability/greenhouse-gas-emissions-reduction-commitment.

TRACKING PROGRESS AND ANNUAL REPORTS

The Office of Sustainability will track and report progress toward the goals in this report on an annual basis. The website www.uky.edu/sustainability/sustainability-strategic-plan will include progress reports and a detailed annual report will be shared with the campus each fall.









TACTIC TEAMS

Each tactic team was chaired by a member of the Sustainability Strategic Plan Steering Committee. Each team was charged with developing a list of potential tactics for their respective areas. The teams selected the final tactics for this plan after considering the feedback received from the campus community. For each tactic, the teams also developed action items, target dates, performance measures and responsible parties.



Materials Management Team

Steve Feese
 Scott Henry
 Debbie Konichek
 Mari Long
 Nathan Maiwald
 Esther Moberly (chair)
 Lauren Moore
 Sarah Nikirk
 Cassie Odom (student)



Energy Team

Richard Krysiak
 Ron Mercer
 Britney Ragland
 Galen Tolliver
 Ben Troupe (student)
 Zack Tyler
 Carter Whitton
 Jeff Zumwalt (chair)



Food and Dining Services Team

Lilian Brislen
 Madison Elder (student)
 Bill Harris (co-chair)
 Scott Henry
 Lee Meyer
 Lauren Moore (co-chair)
 Bradley Scarboro
 Erika Wilkins



Transportation Team

Sandra Broadus
 Melody Flowers (chair)
 Stuart Kearns
 Judy Needham
 Lee Poore
 Shane Tedder
 Chrissie Tune



Buildings and Grounds Team

Stacy Borden
 Bob Brashear
 Kelvin Bright
 Dall Clark
 Tim Clark
 Jerry Hart
 Krishna Hobbs
 Chris Sass
 Martin Summers
 Shane Tedder (chair)
 Helen Turner



Greenhouse Gas Emissions Reduction Team

John Garlasco (student)
 Tyler Hill (student)
 Bob Kjelland
 Britney Ragland
 Andrea Smith
 Shane Tedder (chair)
 Alice Turkington
 Paul Vincelli
 George Wagner
 Jeff Zumwalt



MATERIALS MANAGEMENT

Gain a deeper understanding of the life cycle of materials at UK; engage in education, waste reduction and landfill diversion; and seek to improve the sustainability of material purchased across all areas of the University.

Using our purchasing power to promote sustainable, resilient economies and moving toward zero waste by reducing, reusing and recycling are two critical and connected components of sustainability in the University's operations. Together these processes can be considered as materials management. Reducing the generation of waste decreases the flow of material to incinerators and landfills. These facilities produce greenhouse gas emissions, can contaminate air and groundwater supplies and may have disproportionate negative impacts on low-income communities. Human rights and working conditions can also be improved through purchasing protocols that prioritize human rights throughout the supply chain.

TACTICS



1. Increase UK's waste diversion rate to 50 percent



2. Develop and implement a sustainability purchasing protocol



3. Conduct waste audits to understand the University's waste stream and identify reduction, diversion and procurement improvements



4. Increase education and outreach on waste diversion/reduction and procurement practices

TACTICS AND ACTION ITEMS

1. Increase UK's waste diversion rate to 50 percent

- 1.1 Establish protocols for collecting, handling and tracking for these waste streams: surplus, recycling, organics, universal waste, Healthcare waste (non-regulated), and construction waste
- 1.2 Reduce production and increase diversion of organic waste, including food, pallets and other organics (i.e. limbs, leaves, tree stumps)
- 1.3 Increase waste diversion through the surplus program and other reuse programs
- 1.4 Increase recycling rate by 25 percent (vs. 2017) by expanding options and promoting participation
- 1.5 Increase waste diversion from construction and renovation projects and capture weight data for each project
- 1.6 Identify opportunities to increase waste diversion from UK HealthCare operations

2. Develop and implement a sustainability purchasing protocol

- 2.1 Assemble team to draft the protocol

- 2.2 Present protocol to President's Sustainability Advisory Committee for review
- 2.3 Present protocol to EVPFA for review and approval

3. Conduct waste audits to understand the University's waste stream and identify reduction, diversion and procurement improvements

- 3.1 Conduct waste audits
- 3.2 Use audit results to strategically identify waste minimization and diversion opportunities

4. Increase education and outreach on waste diversion/reduction and procurement practices

- 4.1 Create comprehensive outreach and education plan using audit results
- 4.2 Conduct targeted education and outreach efforts
- 4.3 Improve and expand web pages for Recycling, Waste Management and Surplus Property
- 4.4 Target print publications and request that they are printed on recycled content paper, include statements of recycled content and encourage recycling of the publication





ENERGY

Reduce the financial, social and environmental impacts of campus energy consumption through conservation, efficiency and production/delivery system improvements.

The primary use of energy at the University of Kentucky is to provide comfortable and effective environments for learning, research and health care. The energy used to power, heat and cool our campus comes from electricity we purchase from a private utility and on-campus combustion of natural gas and coal. Natural gas and coal are used for heating campus buildings, cooking and producing hot water. Electricity is used to produce chilled water and to provide ventilation, lighting and power. These functions are the University's primary source of greenhouse gas emissions and a significant component of campus operational expenses. Efforts to reduce campus energy use must include a thorough understanding of how our academic and health care activities consume energy. This understanding will help determine the best tactics for reducing energy consumption.

TACTICS



1. Optimize, renovate and upgrade buildings for energy efficiency



2. Optimize electricity used for campus lighting



3. Increase energy awareness



4. Optimize utility plants and distribution systems

TACTICS AND ACTION ITEMS

1. Optimize, renovate and upgrade buildings for energy efficiency

- 1.1 Work with private partner to achieve contractual targets for optimizing buildings for energy efficiency
- 1.2 Determine energy consumption of buildings and list in accordance with potential for energy conservation and synergy with capital plan
- 1.3 Identify energy saving projects in up to 10 buildings; focus on heating, ventilation and cooling improvements
- 1.4 Obtain funding for 2019 projects, assign to project team and complete projects
- 1.5 Repeat actions 1.2 and 1.3 for 2020, 2021 and 2022 projects

2. Optimize electricity used for campus lighting

- 2.1 Update campus standards for indoor and outdoor lighting
- 2.2 Create inventory of indoor and outdoor lighting with metrics and list in accordance with potential for energy conservation and synergy with capital plan
- 2.3 Identify up to 10 opportunities for optimizing lighting and develop a scope of work for each
- 2.4 Obtain funding for 2020 projects, assign to project team, complete projects
- 2.5 Repeat actions 2.3 and 2.4 for 2021 and 2022 projects

3. Increase energy awareness

- 3.1 Develop and distribute regular communications about energy awareness for the campus through a variety of channels
- 3.2 Develop and distribute key documents relative to campus energy awareness including energy policy, usage guidelines and an annual energy report

- 3.3 Organize and participate in campus outreach events focused on energy awareness

- 3.4 Develop and implement annual assessment instrument to track energy awareness among students and employees

4. Optimize utility plants and distribution systems

- 4.1 Survey campus utility distribution systems and identify, prioritize and implement efficiency improvements, such as targeting 85 percent return rate on condensate systems

- 4.2 Optimize heat exchangers with poor performance (low differential between the chilled water supply and return or Delta-T); target a minimum Delta-T of 10 degrees system wide

- 4.3 Improve plant metering to increase operator awareness of energy consumption in order to increase plant production efficiency

- 4.4 Establish preventative maintenance programs in these areas to sustain savings/performance





FOOD AND DINING SERVICES

Implement innovative strategies for a comprehensive and increasingly sustainable campus food system. Enhance existing practices and develop new initiatives in the areas of procurement, operations and disposal across all dining services.

Food is one of the areas where the importance of sustainability's triple bottom line is most clear. Sustainable food systems have far-reaching impacts for environments, economies and communities. The production of food has implications for land use, water quality, worker health and producer livelihoods. The preparation, transportation and distribution of food has implications for resource use, human health and hunger.

As an institution of higher education, we recognize the centrality of food and eating to campus operations and the lives of the UK community. We strive to promote ecological sustainability by emphasizing efficient operations, waste reduction and environmental stewardship in our procurement choices. We bring attention to economic sustainability through a focus on locally and fairly sourced products. We focus on community sustainability by prioritizing efforts to track and reduce food insecurity. Through the tactics of this strategic plan, we hope to raise awareness of the importance of food to the sustainability of human and ecological communities near and far.

TACTICS



1. Integrate sustainability metrics and targets in dining operations



2. Improve stakeholder engagement and education



3. Improve sustainability through local and sustainable purchasing goals



4. Work with dining units, catering and UK HealthCare to further integrate sustainability in the campus dining experience



5. Expand programs that address food insecurity

TACTICS AND ACTION ITEMS

1. Integrate sustainability metrics and targets in dining operations

- 1.1 Achieve annual increase in waste diversion rate
- 1.2 Pursue annual decrease in single use beverage cups and to go containers
- 1.3 Improve and track employee training related to sustainability
- 1.4 Minimize, with a goal of elimination, the use of polystyrene (foam) in all dining locations
- 1.5 Increase use of reusable containers by students and other customers

2. Improve stakeholder engagement and education

- 2.1 Increase student knowledge of food and dining sustainability year over year
- 2.2 Increase knowledge of dining and sustainability among non-student customers and staff year over year
- 2.3 Expand opportunities for stakeholder input on local and sustainable dining offerings and initiatives

3. Improve sustainability through purchasing goals

- 3.1 UK Dining shall increase the amount of its total Kentucky Farm and Food Business impact purchases year over year

3.2 Establish purchasing targets for the food and dining operations of UK HealthCare

3.3 Measure and increase the variety of sustainability certified food products offered on campus

3.4 Measure and increase the percentage of given products that fall under one or more sustainability certifications

4. Work with dining units, catering and UK HealthCare to further integrate sustainability in the campus dining experience

4.1 Promote and track dining and franchise participation in existing corporate social responsibility commitments

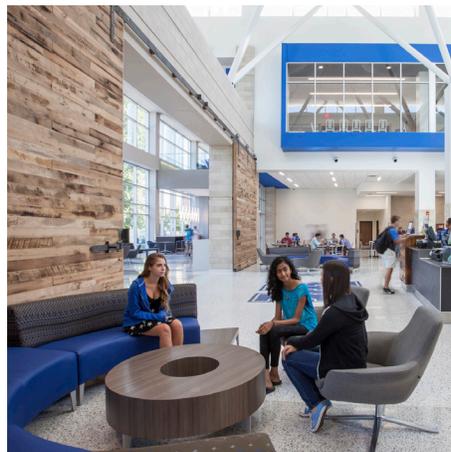
4.2 Improve vending product selection to include and market products with health and sustainability certifications

4.3 Develop and offer zero waste catering options

5. Expand programs that address food insecurity

5.1 Increase efforts to address food insecurity on campus and in the community

5.2 Collect data related to food insecurity from UK community





TRANSPORTATION

Promote safety, health and environmental stewardship by providing incentives and programs designed to increase the number of faculty, staff and students using sustainable transportation options.

As a large campus community consisting of more than 50,000 people visiting each day, we know that transportation is a crucial piece of the sustainability puzzle for the University of Kentucky. We aim to promote sustainability by providing students and employees with a wide variety of mobility choices, as well as encouraging sustainable transportation at an institutional level.

Bicycling, walking and public transit provide tangible health benefits and can mitigate the need for large and costly parking facilities. This helps preserve that space and capital for other uses and has a positive impact on air quality and storm water management. Reducing the demand for parking can also result in cost savings for individual members of the campus community. The tactics of this strategic plan highlight the importance of transportation mode choice to our community, economy and environment. These tactics also incentivize and promote alternatives to driving a single-occupancy vehicle.

TACTICS



1. Improve access to transit options and increase ridership



2. Expand and enhance campus bicycle infrastructure



3. Launch a commuter incentive program



4. Implement parking strategies and technology

TACTICS AND ACTION ITEMS

1. Improve access to transit options and increase ridership

- 1.1 Establish level of service standards for campus transit stops
- 1.2 Evaluate all transit stops on and adjacent to campus and develop a plan to bring all stops up to the newly established standards
- 1.3 Partner with Lextran to improve convenience and efficiency of public transit for campus commuters
- 1.4 Expand BluPass partnership with Lextran to provide free public transit to UK students and employees beyond 2019 with annual increases in ridership

2. Expand and enhance campus bicycle infrastructure

- 2.1 Add on-street facilities in strategic locations and enhance existing facilities
- 2.2 Increase quantity and quality of campus bike parking
- 2.3 Expand bicycle incentive programs, including the bike voucher program and Wildcat Wheels

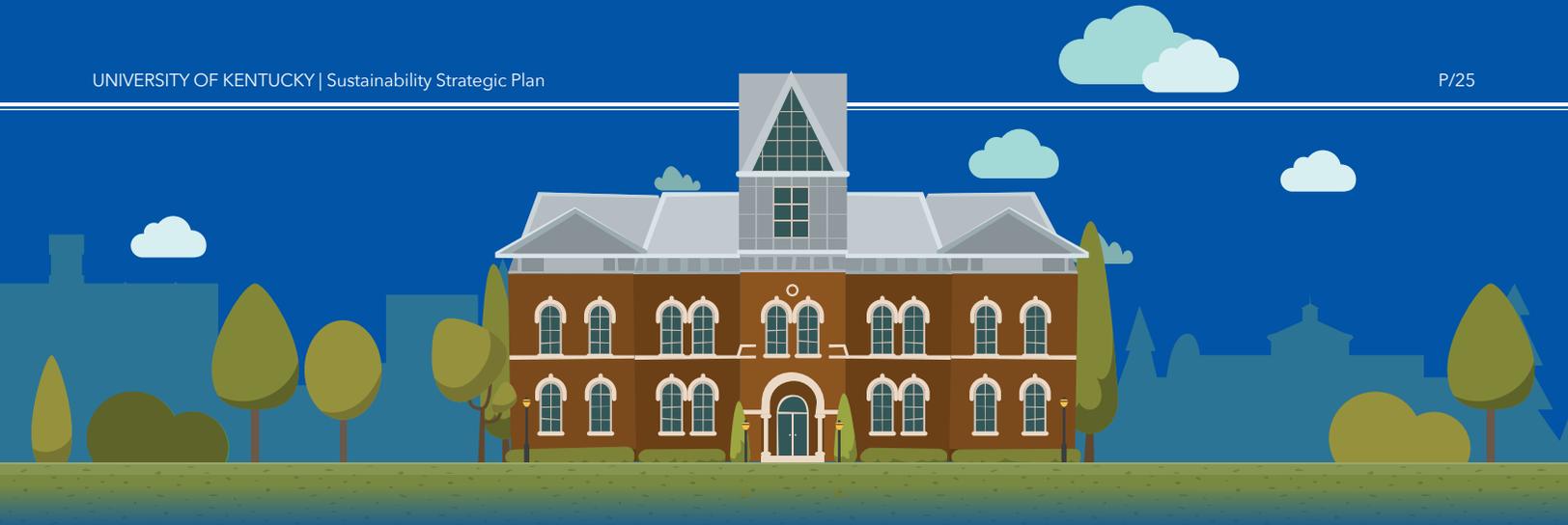
3. Launch a commute club program to incentivize transportation options other than driving alone

- 3.1 Implement a "cash out" program to encourage former permit holders not to renew parking permits
- 3.2 Assess and implement ride sharing options for the campus
- 3.3 Create and promote a robust and convenient guaranteed ride home service
- 3.4 Implement a personalized commute planning program
- 3.5 Implement a car sharing program with incentives for club members

4. Implement parking strategies and technology to increase predictability, save time and reduce vehicle miles traveled

- 4.1 Evaluate and implement parking strategies that improve the predictability of locating available spaces
- 4.2 Add technology to provide real-time data on available spaces in structures





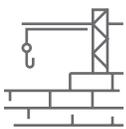
BUILDINGS AND GROUNDS

Design, construct, operate and maintain spaces that support the mission of the University while promoting environmental stewardship and the well-being of the community.

Our buildings and grounds are the spaces where the members of our community gather to pursue the University's mission of excellence in education, research and creative work, service and health care. Our buildings are also the primary consumers of critical resources like energy and water and are our largest source of greenhouse gas emissions. How we design, construct, maintain and operate our buildings can also become part of our curricula and research through use of the campus as a living laboratory/classroom. For these reasons, buildings are a critical component of our sustainability initiatives. Facilities are not islands - they are connected to and by our landscape - another key area for sustainability.

The campus landscape is a fabric that physically and visually connects our campus community and serves as a gateway to and from the broader community. Our goal is to design and maintain this landscape to support the university's commitment to sustainability. In pursuit of this goal, we will enhance ecosystem services and the health of our urban forest; improve habitat for pollinators and other keys species; and reduce erosion and storm water run-off.

TACTICS



1. New construction



2. Building maintenance and operation



3. Building renovations



4. Grounds maintenance and operation



5. Urban forest management

TACTICS AND ACTION ITEMS

The buildings and grounds tactic team chose to prioritize the development of operational protocols to build a secure foundation for the integration of sustainability with these core functions. Five core functions were selected for developing protocols. For each of these areas, a lead person will be selected and charged with assembling a team to draft the protocol. Each of these drafts will be reviewed by appropriate stakeholders and the President's Sustainability Advisory Committee and then submitted to the Vice President for Facilities Management for final approval. The five areas of focus are:

1. New construction

All new construction, including projects managed by Capital Projects Management, those managed by the Physical Plant Division and those constructed/managed by private partners on University property.

2. Building maintenance and operation

Includes custodial services, preventative maintenance, equipment repair/replacement and pest management. Responsibility for these functions falls to one of the following groups: Campus Physical Plant, Medical Center Physical Plant, Contracted Services and building-specific staff.

3. Building renovations

All new renovation projects managed by Capital Projects Management, those managed by the Physical Plant Division and those constructed/managed by private partners on University property.

4. Grounds maintenance and operation

This includes all landscaping and maintenance, litter removal, snow and ice removal and servicing of outdoor furnishings (i.e. recycling bins, tables, benches, etc.). These functions are the responsibility of the Physical Plant Division's Grounds Department.

5. Urban forest management

Includes the management and care of existing trees and oversight of species selection and planting by private partners.





GREENHOUSE GAS EMISSIONS

Reduce the greenhouse gas emissions of the campus to 25 percent below 2010 levels by 2025.

As the Commonwealth's flagship university, the University of Kentucky will serve as an exemplar by implementing strategies that lower greenhouse gas (GHG) emissions while enhancing campus operations and reducing long-term energy costs. The University's approach will be guided by its mission to improve people's lives through excellence in education, research and creative work, service, and health care.

The University has a long-term objective of achieving carbon neutrality. To achieve meaningful and measurable progress, the University committed to reducing campus greenhouse gas emissions to 25 percent below 2010 levels by 2025.

The University will take a two phase approach to accomplishing this goal. Phase 1 will cover July 1, 2017-June 30, 2021. Phase 2 will cover July 1, 2021-June 30, 2025. For more information on the UK Emissions Reduction Plan, visit www.uky.edu/sustainability/greenhouse-gas-emissions-reduction-commitment.

TACTICS



1. Energy conservation and efficiency



2. Waste reduction



3. Transportation



4. Research and evaluate Phase 2 strategies

TACTICS AND ACTION ITEMS

1. Energy conservation and efficiency

- 1.1 Optimize buildings for energy efficiency
- 1.2 Renovate and upgrade buildings for energy efficiency
- 1.3 Optimize electricity used for lighting through equipment upgrades
- 1.4 Add new campus chillers for more efficient chilled water production
- 1.5 Optimize steam distribution systems



2. Waste reduction

- 2.1 Increase campus waste diversion rate to 50 percent

3. Transportation

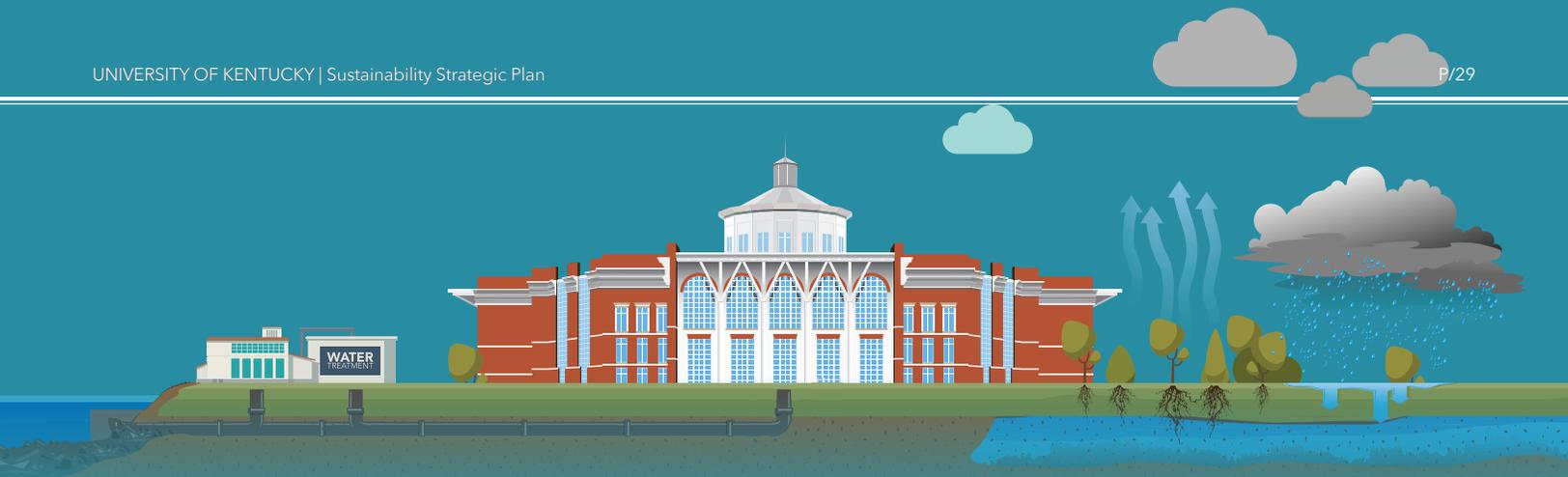
- 3.1 Reduce the emissions from student and employee commuting by launching and promoting programs and policies that increase the convenience, efficiency, safety and cost benefits of modes other than driving alone
- 3.2 Work with campus and community partners to develop a service learning-focused initiative to offset a portion of the annual emissions associated with the passenger air miles resulting from business travel and education abroad



4. Research and evaluate Phase 2 strategies

- 4.1 The President's Sustainability Advisory Committee will assemble a task force in the summer of 2020 to develop emissions reduction strategies for Phase 2. That task force will deliver a Phase 2 Implementation Plan by December 2020.






WATER

Maximize the infiltration and evapotranspiration of stormwater, protect water quality, and conserve water resources.

Water conservation and effective stormwater management reduces effluent discharge into local surface water bodies, which helps improve the health of local water ecosystems. Likewise, conservation, water recycling and reuse, and effective stormwater management practices are important in maintaining and protecting groundwater supplies. Pumping, delivering, and treating water is a major driver of energy consumption, so optimizing use of water on campus will reduce energy use and the greenhouse gas emissions associated with energy generation.

The University of Kentucky has a strong foundation for implementing this strategy thanks to the work of the Water Quality Management Program, the Water System Working group of the Tracy Farmer Institute for Sustainability and the Environment, the Kentucky Water Resources Research Institute, and allied efforts of numerous other researchers and operational units.

TACTICS



1. Maximize stormwater infiltration and evapotranspiration



2. Minimize negative impacts to water quality across all operations



3. Optimize the use of water in campus facilities



4. Optimize the use of water on campus grounds



5. Conduct water-focused outreach and engagement on campus

TACTICS AND ACTION ITEMS

1. Maximize stormwater infiltration and evapotranspiration

- 1.1 Develop a Stormwater Master Plan for campus
- 1.2 Create standards for, and prioritize, low impact development and green infrastructure for stormwater management in support of the Campus Landscape Guidelines
- 1.3 Optimize the use of pervious hardscape by setting standards for construction and identifying priority areas for retrofit
- 1.4 Minimize unnecessary soil compaction and reestablish healthy soil profiles through remediation and construction standards
- 1.5 Support UK's efforts to implement annual increases of campus tree canopy coverage

2. Minimize negative impacts to water quality across all operations

- 2.1 Develop and maintain a Stormwater Quality Management Plan that meets all regulatory requirements and fully expresses the stormwater usage and management aspirations of the University by engaging all of the interests, expertise and knowledge of its faculty, staff and students. This plan shall include a comprehensive section on stormwater procedures that contains all policies/procedures/best management practices (BMPs) utilized to protect water quality and encompassing new initiatives such as an extensive preventative maintenance program, stormwater protection during emergency/unplanned events, and a new waterfowl management program
- 2.2 Optimize the use of riparian buffers and managed no-mow setbacks along streams and waterways where possible
- 2.3 Manage, track and optimize the application of lawn/turf chemicals and deicers/salts
- 2.4 Reduce sanitary sewer exfiltration through lining/replacement projects
- 2.5 Eliminate the discharge of harmful substances into the storm and sanitary sewer systems
- 2.6 Make improvements to our construction project management to provide for better oversight and enforcement of stormwater requirements
- 2.7 Operate an effective illicit discharge detection and elimination program to reduce/eliminate non-stormwater discharges

3. Optimize the use of water in campus facilities

- 3.1 Set performance and construction standards for faucets, showers, fountains, irrigation, etc.
- 3.2 Set targets for water use as a function of indoor building space
- 3.3 Harvest condensate from cooling systems
- 3.4 Monitor and maintain delivery systems to minimize leaks and protect water quality

4. Optimize the use of water on campus grounds

- 4.1 Optimize irrigation systems usage
- 4.2 Utilize stormwater harvesting for irrigation/reuse
- 4.3 Develop strategies and design standards for landscaping that optimizes water use

5. Conduct water-focused outreach and engagement on campus

- 5.1 Develop and maintain social media sites focused on stormwater
- 5.2 Develop and distribute education materials to UK's faculty, staff, students, visitors, and the broader community, and focus efforts on pollutants impairing local waterways
- 5.3 Conduct annual staff training on stormwater impacts and illicit discharge detection and elimination
- 5.4 Routinely evaluate the stormwater program to determine its effectiveness
- 5.5 Develop a stormwater steward program
- 5.6 Host events to increase stormwater awareness
- 5.7 Involve students, faculty, and staff in stormwater activities including planning and operational efforts (drain marking, rain garden maintenance, stream restoration projects, etc)
- 5.8 Develop a consortium of stormwater professionals with a specific focus on college and university campuses





Office of Sustainability
234 Peterson Service Bldg.
Lexington, KY 40506-0054
www.uky.edu/sustainability
859-257-0014

An Equal Opportunity University

see blue.™