



UNIVERSITY OF LOUISVILLE
SUSTAINABILITY PLAN
PATHWAY TO PLATINUM
FINAL DRAFT

2022 – UofL Sustainability Council

Introduction

The University of Louisville participates in the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) reporting system, with Silver STARS ratings in 2010 and 2013, and Gold STARS ratings in 2016, 2019 and 2022. The ultimate goal is to achieve Platinum status on this transparent self-reporting framework for colleges and universities to determine sustainability performance. The STARS framework engages and recognizes the range of higher education institutions from community and technical colleges to research universities, including short-term and long-term sustainability goals for those schools on the front-end of sustainability initiatives to those highly experienced institutions that still want to improve organizational sustainability.

At the core of this plan is the university's dedication to social justice as intrinsic to any work to expand and deepen sustainability. This includes an acknowledgment and understanding that this plan focuses by definition and scope largely on the UofL as an institution and is often bound to the human, environmental, and physical contours of the university's staff, students, buildings, and landscapes. These limits offer many opportunities to develop environmental and social justice programs, but also suggest the need for other programs and work beyond this plan in the areas of community engagement, policy, research, and teaching that will connect campus-based sustainability work to that within our wider Louisville communities. Future sustainability work framed within this plan and that conducted more widely within the university should also be closely linked to the UofL's Cardinal Anti-Racism Agenda (CARA) and the work of the Office of Diversity and Equity, the Diversity Council, the Commission on Diversity and Racial Equity, the Cultural and Equity Center, and other crucial actors within the UofL community working for social, racial, and environmental justice.

This sustainability plan is a dynamic document created for the University of Louisville and will be implemented by the Provost's Assistant for Sustainability Initiatives and the UofL Sustainability Council. The sustainability plan serves as an umbrella plan for other plans, such as the Climate Action Plan Update, the Zero Waste Plan, and other plans as they are created. This plan is based on UofL's scores on the last STARS rating highlighting the areas within the university that can benefit from improvement and are in the control of UofL. The recommendations included are based on the previous STARS scores, allowing the university to use the STARS checklist not just to collect more points, but as a strategic planning framework for sustainability on campus.

Work within this plan will be accelerated by the creation of a stronger institutional position for sustainability work within the UofL, both for the work of the existing staff and Sustainability Council and for expanded programming and proposals. We encourage UofL leadership to explore and support options for developing and funding sustainability work through a strategic institutional approach, such as the creation of an Office of Sustainability.

UofL's Pathway to Platinum is proposed as part of a developing culture of sustainability requiring the support of UofL students, staff, and faculty. Over the past decade, we have accomplished much in our sustainability initiatives, but there is always more to improve. With the institutional support of our President, Provost, VPs, and Deans, UofL is committed to the sustainability change process through initiatives that are student centric, data driven, and set for continuous improvement.

Thanks to the students, faculty, and staff who participated in the crafting of the sustainability plan and the climate action plan update. The group read the book *"Switch: How To Change Things When Change Is Hard"* as a part of our planning efforts considering ideas from the book as we create the sustainability plan.

Take away ideas:

- Change is not an event, it's a process. Change happens by speaking to people's feelings.
- Find small victories, visible goals that are easy to achieve.
- See it – Feel it – Change it – sustainability requires creativity, flexibility and ingenuity.
- When you spot movement, reinforce it (requires patience)
- Who are our sustainability champions in the middle at UofL who can propel change?
Find unexpected sustainability leaders
- What kinds of reinforcement can we use in response to the plans?
- Cognitive dissonance: people don't like to think one way and act another.

Authors of the Sustainability Plan and its Sub-Plans

Justin Mog, Ph.D., Assistant to the Provost
for Sustainability Initiatives

Angela Storey, Anthropology, Assistant
Professor and Chair of Sustainability
Council

Brent Fryrear, Partnership for a Green
City and Chair, Planning & Administration
Committee

Karen Blake, University Planning, Design &
Construction

Lissa McCracken, Kentucky Pollution
Prevention Center

Samantha Gordon, Kentucky Pollution
Prevention Center

Tamara Sluss, Urban & Public Affairs,
Associate Professor and Director of the
Interdisciplinary Master's in
Sustainability; Chair, Education &
Research Committee

Aiden Blake, Environmental Health &
Safety

Jacob Foushee, Student and Zero Waste
Intern

Briant Grant, Student and AASHE STARS
Intern

Sam Kessler, Student

Caroline Shackelford, Student

Lily Stewart, Student and Zero Waste
Intern

Patty Payette, Ph.D., Delphi Center/
Reading Circle

David Simpson, Chair and Professor,
Urban & Public Affairs and Past Chair of
the Sustainability Council

Historical Background

The University of Louisville entered the sustainability arena in 2004, when the President of the university, the Mayor of Louisville Metro, and the public schools Superintendent created a sustainability collaboration as public partners, working together to improve sustainability in the merged city and county. The three public organizations are three of the largest public employers in the state and the leaders believed that the “green” initiatives to be undertaken transcended the institutions, being good stewards of the community environment and the taxpayer’s funding. This collaboration sparked interest from a number of the people within the organizations who began to not only work collaboratively on sustainability, but to really increase internal sustainability at each institution.

Following forays into sustainability at each organization, internal sustainability initiatives improved the programs at each public partner. In 2009, the University hired its first Assistant to the Provost for Sustainability Initiatives, Justin Mog, to motivate the faculty, staff, and students to think and act sustainably. Dr. Mog took the reins and has led UofL through AASHE STARS, worked through administrative changes, three different Sustainability Council Chairs and countless committee members, attending meetings, making a difference, and living the example that he teaches.

With an early focus on greenhouse gas emissions and a climate action plan, the university president signed the American College & University Presidents’ Climate Commitment in 2008. Greenhouse gas emission inventories began in 2008 with the Climate Action Plan being released in September, 2010. UofL’s dynamic goal to achieve climate neutrality by 2050, and is coordinated across the Sustainability Plan, Climate Action Plan, and Zero Waste Plan.

Over the past year, with a new university administration, we have undertaken the planning process with the goal of completing the Sustainability Plan as the umbrella document under which the other sustainability-related plans fit. Our current interim president, Lori Gonzalez, is committed to sustainability and helping UofL achieve its sustainability goals. With Dr. Gonzalez’s committed to promoting the university’s anti-racist agenda (WFPL, 12/13/21), we have been focused on the social dimension of sustainability in ways many have not previously considered. Our interim president stated in Sustainability appointment letters “Everyone in the Cardinal community should know that sustainability is one of our core values at UofL and that we all have an important role to play in moving us forward”.

As we proceed down the path from AASHE STARS Gold on our “Pathway to Platinum”, we will discuss:

- where we are as we seek to achieve platinum status; and
- the roadmap on our Pathway to the future.

Examining the four major areas of AASHE STARS from the last STARS submittal, we will discuss each section in more depth.

Academics: Education & Research

Within Academics, the realms of education and research include excellent foundational programs and space for further growth. Concerted work over the past decade has developed programs that reach across the university to support education and fund research. These include the Green Threads and Green Tapestries program to develop new sustainability-related coursework; the BA degree in Sustainability; the MA/MS interdisciplinary degrees in Sustainability; and support across departments for sustainability-linked research, especially that conducted with students, including through the Conn Center Fellows program, the Anne Braden Institute Social Justice paper awards, and the Ali Scholars program. In the coming years we will continue to prioritize support for these programs, grow their use across campus, and integrate them within the wider set of sustainability initiatives. The institution intends to implement the following programs and action in order to expand our priority work over the coming years in the following areas: (1) Academic Courses: inventory sustainability-related and -focused courses across departments and work to expand the number of offered courses through outreach about the Green Threads/Tapestries program and explore possibilities to expand academic programs on environmental topics in various colleges and disciplines, including work within environmental humanities; (2) Learning Outcomes: inventory the degree programs with a sustainability-related learning outcome and expand this number through outreach to departments and colleges; and (3) Research and Scholarship: inventory sustainability-related research across departments and encourage its expansion through dedicated funding, including a clear focus on supporting interdisciplinary research emphasizing connections between social, environmental and economic justice.

Engagement

While technologies, infrastructure, policies, and investments are all critical, we know that hearts, minds, and communities are the true drivers for a more sustainable society. Engaging people both on and off campus in the necessary process of societal transformation is vital to our success and must accompany every step on the path to platinum. Like our work in Diversity, Equity, Inclusion, and Anti-Racism, Sustainability cannot remain a niche concern, visible only to those who seek it out. It must be part of daily life on campus, integrated into business as usual, and celebrated as part of our campus culture. The practice of hiding or erasing our sustainability initiatives, whether by design or by accident, must come to an end. UofL must mature beyond a fear about being different or not fitting in. This is our moment to embrace that which makes us stand out as leaders for a more sustainable future.

Fortunately, Engagement has always been UofL's area of greatest strength in STARS, with a 78.68% achievement rating in 2019. Yet, there is still room to grow and in the drive toward platinum, we need to continue supporting and expanding our engagement both on and off campus. The first step is to consistently measure our campus sustainability culture – we must benchmark the awareness, attitudes, and behaviors of our students, faculty and staff with respect to sustainability (EN-6). From that solid foundation and regular feedback, we will be able to better target our outreach and engagement. We must also provide more consistent sustainability training and orientation for employees (EN-9). Integrated into our broader Community Engagement strategies, we must expand our collaboration with other schools around sustainability (EN-11), offer more continuing education in sustainability (EN-12) engage the entire student body in significant community service (EN-13), and renew our membership in the Workers Rights Consortium (or at least the Fair Labor Association) to help ensure that UofL apparel is ethically sourced.

Operations

The University of Louisville can improve sustainability performance through operations. There are many opportunities in the operations sector to improve our sustainability initiatives. The university is focused on reducing greenhouse gas emissions, improving building operations and maintenance, increasing clean and renewable energy, food and beverage purchasing, improving student and employee transportation, decreasing water use, and increasing waste minimization and diversion. These are strategic initiatives under plans like the Climate Action Plan, Bike Friendly University, Zero Waste Strategic Vision (in coordination with the Post Landfill Action Network,) Tree Campus Higher Education, and other plans yet to be created. The results of these initiatives will reduce GHG emissions, improve air quality, decrease building energy consumption, – all vital pieces to making our campus more sustainable. These efforts combined with the other categories will help make the University of Louisville a more sustainable community.

Planning & Administration (P&A)

P&A is a broad category that covers students, faculty and staff in sustainability planning and governance; diversity and affordability; investment and finance; and wellbeing and work. These areas provide a foundation for the social dimension of sustainability that is so often not the focus of sustainability efforts. We need to plan for sustainability across UofL, engaging constituents in that planning and governance. The university has an anti-racism focus and we work to include diversity of people and opinions as we seek increased sustainability. We also seek to make higher education more accessible and affordable to disadvantaged students or first-generation college students without the financial support of their families. We seek to be more transparent with our investments and finance, revealing where the university endowment is invested and divesting of unsustainable investments or investments that promote climate instability as we seek a voice from all constituency groups on the Committee for Sustainable Investing. Finally, wellbeing and work incorporates sustainability into UofL's human resources programs and policies, including a sustainable living wage and employee health and safety.

Sustainability Planning Process

Planning for sustainability has been an ongoing process since Dr. Mog was hired in 2009. As the only dedicated, full-time sustainability professional at UofL, he juggles many competing priorities. In order to reflect changing priorities and context, Dr. Mog and the Sustainability Council began in 2020 to work toward a full Sustainability Plan, including an update to the Climate Action Plan. The COVID-19 pandemic delayed this process, while also providing monetary savings through energy reductions and reduced water use; environmental savings through reduced transportation and kilowatt hours; as well as social equity and social distancing through online education.

During this time, former Provost Beth Boehm asked us to prepare a sustainability plan and update the Climate Action Plan. Concurrently, the Zero Waste Committee was working with the Post Landfill Action Network (PLAN) on assessing the university constituencies regarding moving UofL toward Zero Waste. In the past year, we have worked diligently to formulate one plan, update another plan, and examine what to change to improve sustainability initiatives.

Goals

Sustainability Plan

While UofL's Sustainability Council has a goal of achieving AASHE STARS Platinum status, joining some of the most sustainable colleges and universities in the country, we realize that sustained progress and change does take time. The goals of this Sustainability Plan are:

- GOAL 1: Increase STARS Score to at least 75 points in 2025
- GOAL 2: Achieve STARS Platinum Status (85 points) by 2028
- GOAL 3: Incorporate Sustainability into the University Strategic Plan
- GOAL 4: Better align Sustainability with the Cardinal Anti-Racist Agenda (CARA)

These goals can be revised and updated as goals are accomplished, and new achievements are possible.

Climate Action Plan

Similarly, the Climate Action Plan Update is much more focused on realistic, specific, achievable goals and as a dynamic document, we can adjust the CAP as necessary as goals are met or exceeded. As an intersection part of the Sustainability Plan, the goals of this Climate Action Plan are:

- GOAL 5: Reduce Greenhouse Gases (GHG) 60% from 2008 baseline by 2030
- GOAL 6: Reduce GHG emissions 80% from 2008 baseline by 2040
- GOAL 7: University Carbon Neutrality by 2050
- GOAL 8: Renewable Energy Goal of 50% in 2030 and 100% in 2050

Zero Waste Plan

The Zero Waste Plan is a natural fit under the umbrella of the Sustainability Plan with the following goals:

- GOAL 9: Translate Zero Waste Vision into a Zero Waste Plan for the University
- GOAL 10: Expand composting to all buildings on campuses
- GOAL 11: Expand Surplus and Reusable items capture on all three campuses
- GOAL 12: Reduce Single Use Plastics/Eliminate polystyrene foam
- GOAL 13: Establish landfill diversions goals to 90% diversion rate (zero waste) by 2030

The subsequent Tables detail the pathway to platinum.



2019 STARS

Academics

MISSION & GOALS

The University of Louisville is committed to a healthier and more sustainable community through our strategic mission of engaging service and providing outreach that improve the quality of life for local and global communities.

The Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) report provides a transparent, self-reporting framework to measure the University's sustainable performance.

The University currently maintains a GOLD STARS rating of 66.24% and through short and long-term goals is striving for PLATINUM (85%) by 202x.

STARS

The 2019 STARS report identified strengths and weaknesses in five major STARS categories: Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership.

Although we have made great strides in Academics and Research, there are still ways to improve education and research to increase sustainability at UofL.

Items in the Green filled areas have been tasked as a UofL Priority Category

Category

What we want to achieve.....

How we get there.....

1 Academic Courses ★★★★★☆☆☆☆☆☆☆☆ **CURRICULUM** ★☆☆☆☆☆☆☆☆ **Learning Outcomes** 2

Inventory and expand offerings of sustainability-related and -focused courses across departments *Expand number degree programs with sustainability-related learning outcomes*

- 5.64 out of 14 points —Regularly inventory existing courses with a link to sustainability
- Encourage connections among faculty through Green Threads/Tapestries and other means with an interdisciplinary focus on environmental, social and economic justice
- Conduct outreach to departments to identify and develop new sustainability-focused or -related courses, especially in departments without one currently
- Work with school district to offer dual credit on SUST 101—Intro to Sustainability

- 1.17 out of 8 points—Conduct outreach to departments and colleges to implement sustainability – related learning outcomes for degree programs
- Provide example language to departments for learning outcomes related to sustainability
- Support new programs and courses with an environmental focus, especially within the humanities
- Make strong connections between social, environmental, and economic justice through learning outcomes

3 Undergraduate Program ★★★ **CURRICULUM** ★★★ **Graduate Program** 4

Continue to build Sustainability BA program and support development of additional degrees *Continue to build Sustainability MS/MA program and support development of additional degrees*

- Support the BA in Sustainability Program
- Support the development of additional undergraduate programs (degrees, minors, concentrations) across the UofL related to sustainability topics in varied colleges

- Support the MS/MA in Sustainability
- Support the development of additional graduate programs (degrees, minors, concentrations, certificates) across the UofL related to sustainability topics in varied colleges

5 Immersive Experience ★★ **CURRICULUM** ★☆☆☆☆ **Sustainability Literacy Assessment** 6

Support and grow immersive programs on- and off-campus *Conduct an annual sustainability literacy survey*

- Support the annual Sustainability Living Learning Community in collaboration with UofL Housing
- Hire an intern annually to work with the LLC Students
- Support additional programs within related fields and topics

- Administer an annual sustainability literacy assessment to the student body
- Distribute findings and identify ways to expand knowledge of sustainability literacy across the institution

7 Incentives for Developing Courses ★★ **CURRICULUM** ★★★★★ **Campus as a Living Laboratory** 8

Continue to support and grow the Green Threads/Green Tapestries program *Continue to expand student learning into campus infrastructure and operations as a living laboratory for multidisciplinary learning and applied research.*

- Fund and support faculty to develop sustainability-related courses
- Support faculty to collaborate on interdisciplinary courses and to build related pedagogies

- Support faculty, students and staff engaging in sustainability research on campus
- Continue to support and grow Campus as a Living Lab programs
- Expand partnership with other research programs at UofL to extend sustainability research into new disciplines
- Provide funding for sustainability research on campus

9 Research and Scholarship ★★★★★☆☆☆☆☆☆ **RESEARCH** ★★★★★ **Support for Sustainability Research** 10

Inventory existing research and expand support for sustainability research across colleges *Expand programs that fund and support sustainability research*

- Regularly inventory faculty and staff working on sustainability-related research
- Support the expansion of sustainability research through funding, course releases, interdisciplinary collaboration, and other means, with an emphasis on justice-oriented work

- Support new sustainability research through dedicated internal funding including grants, seed funds, fellowships, course releases, and other funded means
- Support and forge connections between existing sustainability researchers and centers at UofL

11 Open Access to Research ☆☆☆☆☆

Facilitate open access publishing

- Work with UofL Libraries to offer open access repository and journal hosting
- Work with ThinkIR to expand access to sustainability-related campus research



2019 STARS

Sustainability Engagement

MISSION & GOALS

The University of Louisville is committed to a healthier and more sustainable community through our strategic mission of engaging service and providing outreach that improve the quality of life for local and global communities.

The Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) report provides a transparent, self-reporting framework to measure the University's sustainable performance.

The University currently maintains a GOLDSTARS rating of 66.24% and through short and long-term goals is striving for PLATINUM (85%) by 2025.

STARS

The 2019 STARS report identified strengths and weaknesses in five major STARS categories: Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership.

Engagement has always been UofL's area of greatest strength in STARS, with a 78.68% achievement rating in 2019. Yet, there is still room to grow and, in the drive toward platinum, we need to continue supporting and expanding our engagement both on and off campus.

Like our work in Diversity, Equity, Inclusion, and Anti-Racism, Sustainability cannot remain a niche concern, visible only to those who seek it out. It must be part of daily life on campus, integrated into business as usual, and celebrated as part of our campus culture.

Category

What we want to achieve.....

How we get there.....

STARS Points ☆ Potential ★ Earned

CAMPUS ENGAGEMENT		PUBLIC ENGAGEMENT	
<p>1 Student Educators Program ★★★★★</p> <p><i>Maintain a student peer-to-peer sustainability outreach and education program (EcoReps).</i></p> <ul style="list-style-type: none"> Expand participation in UofL's EcoReps Program. Keep training videoseries updated & develop a network of mutual support among EcoReps. 	<p>2 Student Orientation ★★</p> <p><i>Provide all incoming students with orientation programming that prominently includes sustainability.</i></p> <ul style="list-style-type: none"> Maintain updated sustainability content in orientations for first year, transfer, and graduate students. 	<p>3 Student Life ★★</p> <p><i>Support sustainability student groups and experiential learning opportunities.</i></p> <ul style="list-style-type: none"> Support continued presence of student groups focused on sustainability. Maintain sustainability experiential learning opportunities: campus gardens, student-run enterprises and investment funds, conferences/speaker series, outdoors programs, living-learning community, internships, graduation pledge, etc. 	<p>4 Outreach Materials & Publications ★★</p> <p><i>Maintain updated sustainability outreach and communication.</i></p> <ul style="list-style-type: none"> Maintain an updated sustainability website, social media platforms, newsletter, campus tour, etc. Ensure that sustainability is covered in campus news, signage, brochures, etc.
<p>5 Outreach Campaign ★★★★★</p> <p><i>Operate sustainability outreach campaigns that engage the campus population.</i></p> <ul style="list-style-type: none"> Organize an outreach campaign each semester that raises awareness and encourages behavior change, e.g. Cards Commuter Challenge, Ecolympics, Campus Race to Zero Waste 	<p>6 Assessing Sustainability Culture ☆</p> <p><i>Conduct an assessment of campus sustainability culture (awareness, values, behaviors and beliefs)</i></p> <ul style="list-style-type: none"> Develop & administer a longitudinal survey to entire campus community or representative sample. Analyze and share the results for the purposes of continuous improvement. 	<p>7 Employee Educators Program ★★★★★</p> <p><i>Maintain a faculty/staff peer-to-peer sustainability outreach and education program (EcoReps).</i></p> <ul style="list-style-type: none"> Expand participation in UofL's EcoReps Program. Keep training videoseries updated & develop a network of mutual support among EcoReps. 	<p>8 Employee Orientation ★</p> <p><i>Ensure new faculty & staff are offered orientation, outreach & guidance about sustainability.</i></p> <ul style="list-style-type: none"> Reintegrate into new employee orientation and new faculty orientations basic sustainability topics such as commuting, energy & water conservation, food, and waste reduction, recycling & composting
<p>9 Staff Professional Development ★☆☆</p> <p><i>Offer professional development and training in sustainability to all staff at least once per year</i></p> <ul style="list-style-type: none"> Work with the Employee Success Center to ensure that sustainability trainings are offered and work toward participation by 75+% of regular (full-time and part-time) staff. 	<p>10 Community Partnerships ★★★★★</p> <p><i>Maintain formal partnerships to advance sustainability with equal engagement of the marginalized.</i></p> <ul style="list-style-type: none"> Maintain the Partnership for a Green City and Signature Partnership. Seek opportunities to expand these partnerships and create new ones, especially those advancing environmental justice 	<p>11 Inter-Campus Collaboration ★★☆☆</p> <p><i>Collaborate with other universities to advance sustainability.</i></p> <ul style="list-style-type: none"> Submit case studies to a sustainability resource center or awards program. Encourage staff, students, or faculty to serve on a board or committee of a sustainability network. Have an ongoing mentoring relationship with another school's sustainability reporting/program. Have staff, faculty, or students serve as peer reviewers of another school's sustainability data. 	<p>12 Continuing Education ★★★★★</p> <p><i>Increase sustainability offerings in continuing education.</i></p> <ul style="list-style-type: none"> Ensure that courses addressing sustainability comprise 10+% of all continuing education courses. Offer at least one sustainability-themed certificate program through continuing education.
<p>13 Community Service ★★★★★</p> <p><i>Work toward engaging the entire student body in some form of community service.</i></p> <ul style="list-style-type: none"> Expand community service opportunities as we work toward engaging all students in an average of 20+ hours of community service per year. 	<p>14 Participation in Public Policy ★★</p> <p><i>Advocate for public policies that advance sustainability at the local, state, federal & global levels.</i></p> <ul style="list-style-type: none"> Seek opportunities to support sustainable policy-making at all levels. 	<p>15 Trademark Licensing ☆☆☆</p> <p><i>Take steps to ensure that university apparel is not manufactured in sweatshops.</i></p> <ul style="list-style-type: none"> Rejoin as a member of the Worker Rights Consortium (WRC) and/or the Fair Labor Association (FLA). 	



2019 STARS

Operations Initiative

MISSION & GOALS

The University of Louisville is committed to a healthier and more sustainable community through our strategic mission of engaging service and providing outreach that improve the quality of life for local and global communities.

The Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) report provides a transparent, self-reporting framework to measure the University's sustainable performance.

The University currently maintains a GOLD STARS rating of 66.24% and through short and long-term goals is striving for PLATINUM (85%) by 202x.

STARS

The 2019 STARS report identified strengths and weaknesses in five major STARS categories: Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership.

Although University Operations has realized the most improvement from 2011 to 2019 (24.8%), it still represents the largest area needing improvement with only a 53.34% achievement rating in 2019.

This Operations Initiative provides high level guidance for improvement in some of the lowest scoring categories and suggestions for addressing continuous areas of improvement.

Category

What we want to achieve....

How we get there.....

STARS Points ☆ Potential ★ Earned

1 Greenhouse Gas Emissions ★★★★★☆☆☆☆☆

AIR & CLIMATE ★

Reduce greenhouse gas emissions with a long-term goal of carbon neutrality by 2050.

- Increase renewable energy opportunities & initiatives
 - Install geothermal energy systems
- Decrease building energy consumption
- Increase recycling & composting opportunities
- Reduce single occupancy travel to & around campus

Outdoor Air Quality 2

Improve outdoor air quality and minimize air pollutant emissions from campus sources.

- Decrease single occupancy vehicle travel
- Maintain equipment & use clean fueled or battery operated equipment
- Maintain tree canopy on campus & replace damaged or dead trees
- Increase low maintenance landscaping & no mow zones

3 Building Operations & Maintenance ☆☆☆☆☆

BUILDINGS ★★☆☆

Certify existing buildings & interior spaces as LEED Operations + Maintenance.

- Operate & maintain sustainable policies
 - Indoor air quality management policy
 - Green cleaning policy, program or contract
 - Energy management or benchmarking program
 - Integrated pest management
 - Light pollution reduction
- Enhanced refrigeration management
- Water & waste management & tracking
- Conduct transportation survey
- Heat island mitigation practices
- Conduct site assessment & improve site management practices

Building Design & Construction 4

Increase % building space completed previous 5 years LEED certified (or Living Building Challenge).

- Increase LEED rating levels on new construction & obtain LEED certification for renovation projects
- Minimize landfill disposal through reuse & recycling
- Use water based coatings with low VOCs
- Maximize use of space & minimize building to site area
- Increase daylight usage & promote natural ventilation

5 Building Energy Consumption ★★★★★☆☆

ENERGY ☆☆☆☆☆

Reduce building energy consumption per sf by 50% & annual building energy consumption to 90% below minimum performance threshold of 65 BTU/sf/degree day.

- Implement energy efficiency policy for use of space heaters
- Increase Energy Savings Performance Contracting requirements
- Use LED & other Energy STAR lighting technology
- Investigate & create behavioral change opportunities
- Implement policies to minimize idling equipment/computers when not in use

Clean & Renewable Energy 6

Increase clean & renewable energy portfolio with mid-term goal 50% by 2030 and long-term goal 100% by 2050.

- Obtain energy from renewable sources (on or off-site)
- National RFP for virtual Power Purchase Agreement for renewable energy cover 20% electricity needs
- Use University resources to fund priority energy savings projects
- Enter into Power Purchase Agreement to install solar systems on campus
- Create public-private partnership to design & construct biomass digester

7 Food & Beverage Purchasing ☆☆☆☆☆

FOOD & DINING ★★

Use sustainable, local, and seasonal food & beverages on campus.

- Reduce below 30% total expenditure on conventional animal products (currently 26.6%)
- Increase up to 75% of dining services (3/4 pts) and on-site franchises, convenience stores, vending services & concessions (1/4 pts)
- Food & beverage purchases as third party verified and/or sourced from local community-based producers.

Sustainable Dining 8

Support sustainable food systems by preventing food waste, diverting food materials from waste stream, providing low impact dining options, and educating on sustainable options & practices.

- Source food from campus garden
- Establish sustainability-themed food outlet
- Host famers market & support CSA programs
- Host low impact dining events
- Provide plant-forward or vegan options
- Reduce post-consumer food waste
- Donate food that would otherwise go to waste
- Participate in US EPA Food Recovery Challenge
- Use food waste prevention system (eg Lean-Path)

9 Landscape Management ★★☆☆

GROUNDS ★★

Increase % of grounds managed in accordance with organic land care stand or sustainable landscape management program.

- Eliminate use of inorganic fertilizers & chemical pesticides, fungicides and herbicides in favor of ecologically preferable materials.
- Integrated Pest Management Program
- Develop Organic Land Standards or Landscape Management Program Plans
- Continued involvement in Tree Campus USA standards & energy efficient landscape design

Biodiversity 10

Identify, monitor, & assess endangered & vulnerable species at the Horner Bird & Wildlife Sanctuary (Moore Observatory property).

- Collect & report data of the annual Horner Butterfly Count
- Identify & asses other endangered or vulnerable species (including migratory species)
- Identify & assess environmentally sensitive areas
- Prepare plan or program to protect identified species, habitats, &/or environmentally sensitive areas.



2019 STARS

Operations Initiative

19 Waste Minimization & Diversion ★★★★☆☆☆☆

Develop & implement Zero Waste Plan using coordinated approach to minimize waste, maximize reuse, repair, recycling & composting.

- Develop & implement campus wide behavior change plan to reduce waste generation through prevention, reduction, recycling & reuse.
- Achieve sustainable management & efficient use of natural resources by diverting material from landfills & conserving resources by composting & recycling.

20 Construction & Demolition Waste Diversion ★

Decrease quantities of construction & demolition waste in landfills with ultimate goal of 90% diversion to Construction & Demolition facility.

- Increase opportunities to recycle or reuse construction & demolition materials.
- For RFPs give priority to companies that prioritize waste diversion practices.
- Create sustainable designs that maximize reuse of materials.

21 Hazardous Waste Management ★

Minimize toxicity of products used & decrease quantity of waste generated.

- Work with teaching labs to develop micro-scale experiments.
- Increase chemical exchange practices across campus.
- Maximize electronic waste recycling, reuse, & refurbish programs.

11 Sustainable Procurement ★★★★

Prioritize & enforce green & sustainable purchasing practices.

- Limit office supplies to sustainable & green products
- Work with vendors to expand sustainable & green product lines
- For RFPs give priority to companies that demonstrate sustainable programs
- Encourage research to develop sustainable products
- Add sustainable packing practices language in vendor contract renewals

13 Cleaning & Janitorial Purchasing ★

Increase purchase of certified green cleaning products & practice sustainable product use.

- Avoid single use cleaning supplies
- Purchase & use least toxic product
- Provide training for waste stream management
- Order in bulk to minimize excess packaging

15 Campus Fleet ★

Increase % motorized vehicle fleet: hybrid, EV, CNG, hydrogen, B20+ (or locally produced B5) biofuel for more than 4 months of the year.

- Fleet includes all leased or owned cars, carts, trucks, tractors, buses and similar vehicles used for transporting people and/or goods. Excludes: heavy construction equipment (e.g. excavators and pavers), maintenance equipment (e.g. lawn-mowers and leaf blowers), and demonstration/test vehicles used for educational purposes.

17 Employee Commute Modal Split ★★

Increase % employees telecommuting, walking, bicycling, vanpooling, carpooling, taking public transportation, riding motorcycles or scooters to campus.

- Create incentives to carpool such as reduced parking permit prices, shared permits, preferred parking, university recognition, etc.
- Create university specific online ride board to encourage ride sharing
- Provide university support & incentives for faculty & staff to move into homes close to campus
- Allow more opportunities to work from home

22 Water Use ★★★★☆☆☆☆

Maximize water conservation on campus & minimize waste water generation & disposal.

- Install low flow fixture on campus.
- Limit irrigation operations & monitor during wet weather.
- Collect condensate water & reuse for irrigation or non-potable use.

PURCHASING



Electronic Purchasing 12

Support markets with environmentally preferable computers & other electronic products.

- Increase purchase of Electronic Product Environmental Assessment Tool (EPEAT) certified equipment.
- Reinforce energy star purchasing requirements
- Educate & encourage use of energy star products brought to campus
- Require vendors to install energy star equipment on campus



Office Paper Purchasing 14

Increase % post-consumer recycled, agricultural residue, and/or FSC certified content in office paper purchased to 100%.

- Use purchasing power of Partnership for Green City to maximize recycled content & lower pricing
- Implement & enforce paper purchasing through Stockroom
- Educate UofL community on importance of minimizing use paper products

TRANSPORTATION



Student Commute Modal Split 16

Increase % students walking, bicycling, vanpooling, carpooling, taking public transportation, riding motorcycles or scooters to campus.

- Advertise UofL's Bicycling Transportation Plan website: <https://louisville.edu/sustainability/operations/bicycling-for-transportation>
- Create opportunities for bicycle sharing
- Increase & encourage car pooling - ride sharing opportunities
- Make public transportation opportunities convenient



Support for Sustainable Transportation 18

Increase and encourage use of sustainable transportation on and off campus.

- Advocate for alternate public transportation opportunities (light rail)
- Continue relationship with TARC for free rides to UofL community
- Create policy travel expenses for destinations within 250 miles would only be reimbursed for ground transportation.
- Establish carbon off-set policy to require airline travelers to pay an off-set calculated by university.

WATER



Rainwater Management 23

Minimize stormwater runoff to combined sewer system.

- Coordinate with MSD on new development projects to have post-developed flow not to exceed pre-developed flow based on 100-year storm modeling.
- Install underground collection basins with new construction to minimize impacts of stormwater runoff to combined sewer system.
- Install rain barrels around buildings to collect rainwater for irrigation.



2019 STARS

Planning & Admin

MISSION & GOALS

The University of Louisville is committed to a healthier and more sustainable community through our strategic mission of engaging service and providing outreach that improve the quality of life for local and global communities.

The Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) report provides a transparent, self-reporting framework to measure the University's sustainable performance.

The University currently maintains a GOLD STARS rating of 66.24% and through short and long-term goals is striving for PLATINUM (85%) by 202x.

STARS

The 2019 STARS report identified strengths and weaknesses in five major STARS categories: Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership.

Items in the Green filled areas have been tasked for work by the Administration

Category

What we want to achieve.....

How we get there.....

STARS Points Potential Earned

<p>1 Sustainability Coordination ★</p> <p><i>Maintain active committees, offices, or officers charged by the administration or board of trustees to coordinate sustainability work on campus.</i></p> <ul style="list-style-type: none"> UofL has the Assistant to the Provost for Sustainability Initiatives and a Sustainability Council comprised of students, faculty, and staff. UofL will maintain the personnel as the backbone of the sustainability programming at the university. 	<p>COORDINATION & PLANNING ★★★★★</p> <p><i>Create and release a published sustainability plan that includes measurable sustainability objectives that address Investment & Finance.</i></p> <ul style="list-style-type: none"> 3.75 out of 4 points— Publish a sustainability plan that includes measurable sustainability objectives which address Investment & Finance 	<p>Sustainability Planning 2</p>
<p>3 Participatory Governance ★★★</p> <p><i>Develop written policies and procedures to identify and engage local residents in land-use planning, capital investment projects, and other institutional decisions that affect the community.</i></p> <ul style="list-style-type: none"> 2.25 out of 3 points—Determine ways to develop additional policies and procedures engaging constituents and local residents adjacent to our three campuses in land-use planning, capital investment projects and other institutional decisions 	<p>COORDINATION & PLANNING ★</p> <p><i>New in STARS 2.2 1 point available—This credit recognizes institutions that engage in a comprehensive data quality and assurance process before submitting a STARS report. An assured report can provide campus stakeholders with a greater sense of confidence in what is publicly reported, minimize reputational risks associated with inconsistent data quality, and increase the value of sustainability reporting.</i></p>	<p>Reporting Assurance</p>
<p>4 Diversity and Equity Coordination ★★</p> <p><i>Ensure that ALL students, staff, and faculty have participated in cultural competence trainings and activities</i></p> <ul style="list-style-type: none"> 1.56 out of 2 points—Inventory and list all cultural competence training opportunities and activities on all UofL campuses List trainers/facilitators for cultural competence training opportunities and activities Track student, staff, and faculty participation in cultural competence training and activities Consider cultural competency participation in student, staff, and faculty evaluation process 	<p>DIVERSITY & AFFORDABILITY ★</p> <p><i>Implement an assessment process that addresses student outcomes related to diversity, equity and success AND that addresses employee outcomes related to diversity and equity</i></p> <ul style="list-style-type: none"> 0.5 out of 1 point - Determine best ways to implement and promote student outcomes and student success related to anti-racism and assess student outcomes Determine ways to implement and promote employee outcomes related to anti-racism and assess Require students to take at least one course on anti-racism and social justice 	<p>Assessing Diversity and Equity 5</p>
<p>6 Support for Underrepresented Groups ★★★</p> <p><i>Programs in place to support underrepresented groups and foster a more diverse and inclusive campus community</i></p> <ul style="list-style-type: none"> UofL will maintain its support for underrepresented groups in every way possible for every underrepresented group, including the Anchor Mission Initiative through the Office of Community Engagement. 	<p>DIVERSITY & AFFORDABILITY ★★★★★</p> <p><i>Increase the amount of entering students that are low-income of eligible for need-based aid, increase the graduation rate of those students and increase the amount of students graduating with no debt.</i></p> <ul style="list-style-type: none"> 2.79 out of 4 points— UofL will: Increase the percentage of incoming students who are low-income or eligible for need-based aid and increase their graduation/success rate Increase need-based financial assistance to eligible students so those students are not paying tuition out of pocket and are graduating with interest-bearing debt Find innovative ways to ensure students who need aid can access financial assistance services 	<p>Affordability and Access 7</p>
<p>8 Committee on Investor Responsibility ★★</p> <p><i>Establish an active committee on investor responsibility (CIR) with multi-stakeholder representation</i></p> <ul style="list-style-type: none"> UofL will continue its Committee on Investor Responsibility and work to improve its dialogue with the University of Louisville Foundations regarding sustainable investments. 	<p>INVESTMENT & FINANCE ★★☆☆</p> <p><i>Invest 30% of investment pool sustainably (i.e. Sustainable industries (e.g. renewable energy or sustainable forestry))</i></p> <ul style="list-style-type: none"> 1.6 out of 4 — UofL will work to create a sustainable investment fund. Committee on Investor Responsibility will work with Foundation to create sustainable investment policy and make it public and used to guide investment strategies Work with student groups who seek UofL's divestment of fossil fuels and other unsustainable options Engage in policy advocacy by participating in investor networks. 	<p>Sustainable Investment 9</p>



2019 STARS

Planning & Admin

MISSION & GOALS

The University of Louisville is committed to a healthier and more sustainable community through our strategic mission of engaging service and providing outreach that improve the quality of life for local and global communities.

The Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) report provides a transparent, self-reporting framework to measure the University's sustainable performance.

The University currently maintains a GOLD STARS rating of 66.24% and through short and long-term goals is striving for PLATINUM (85%) by 202x.

STARS

The 2019 STARS report identified strengths and weaknesses in five major STARS categories: Academics, Engagement, Operations, Planning & Administration, and Innovation & Leadership.

Items in the Green filled areas have been tasked for work by the Administration

Category

What we want to achieve.....

How we get there.....

10 Investment Disclosure



INVESTMENT & FINANCE

Disclose the investments of the endowment and make them publicly available.

- 0.26 out of 1 point—UofL will work with the Foundation to make a snapshot of UofL's entire investment holdings publicly available including specific funds/companies and proxy voting record—

-

11 Employee Compensation



WELLBEING & WORK



Assessing Employee Satisfaction 12

Ensure that employees and contract employees earn a living wage as defined by the MIT Living Wage chart.

Support the engagement of employees by conducting a regular survey or other evaluation

- 0.39 out of 3 points—
- Increase wages for UofL employees to the STARS MIT living wage for all UofL employees going forward
- Increase wages for all new contract employees to the STARS MIT living wage going forward, or as the contracts are revised

- UofL will continue to engage employees by conducting regular surveys and evaluations

13 Wellness Program



Workplace Health & Safety 14

Support the health and wellbeing of employees and students

Ensure the health and safety of employees

- UofL will continue to support employees and students through a variety of health and wellbeing initiatives and exercise programs.

- 1.38 out of 2 points—UofL will reduce recordable workplace injuries and occupational disease cases to 0-6 per 100 FTE employees per year.

Cardinal Sustainability Plan				5/26/2022		Status		Timeline		Spreadsheet Developed by KPPC	
High Priority Sustainability Goals Pathway to AASHE STARS Platinum											
Section #	Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Start	Finish	Comments	Measurable Outcome(s)	
Academics and Research											
1	Academic Courses - Inventory and expand offerings of sustainability-related and sustainability-focused courses across departments	Regularly inventory existing courses with link to sustainability							8+ points remaining	Good - 3 new courses/year Better - 6 new courses/year Best - 10 new courses/year	
		Encourage connection among faculty through Green Threads/Tapestries and other means as an interdisciplinary focus on environmental, social and economic justice								Good - 5 new faculty/year Better - 10 new faculty/year Best - 15 new faculty/year	
		Conduct outreach to departments to identify and develop new sustainability-focused or -related courses, especially in departments without one currently								Good - 10 new courses/year Better - 15 new courses/year Best - 20 new courses/year	
		Work with school district to offer/expand dual-credit on SUST 101 - Intro to Sustainability								Good - 3 new schools/year Better - 5 new schools/year Best - 7 new schools/year	
2	Learning Outcomes - Expand number of degree programs with sustainability-related learning outcomes	Conduct outreach to departments and colleagues to implement sustainability-related learning outcomes for degree programs							6+ points remaining	Good - 3 new courses/year Better - 5 new courses/year Best - 7 new courses/year	
		Provide example language to departments for learning outcomes related to sustainability								Good - 6 new departments/year Better - 9 new departments/year Best - 12 new departments/year	
		Support new programs and courses with an environmental focus, especially in the humanities								Good - 3 new courses/year Better - 6 new courses/year Best - 10 new courses/year	
		Make strong connections between social, environmental and economic justice through learning outcomes								Good - 3 new courses/year Better - 6 new courses/year Best - 10 new courses/year	
9	Research and Scholarship - Inventory existing research and expand support for sustainability across colleges	Regularly inventory faculty and staff working on sustainability-related research							5 points remaining	Good - 3 new researchers/year Better - 6 new researchers/year Best - 10 new researchers/year	
		Support the expansion of sustainability research through funding, course releases, interdisciplinary collaboration, and other means, with an emphasis on justice-oriented work								Good - 3 new researchers/year Better - 6 new researchers/year Best - 10 new researchers/year	
Sustainability Engagement											
6	Assessing Sustainability Culture - Conduct an assessment of campus sustainability culture (awareness, values, behaviors, & beliefs)	Develop and administer longitudinal survey to entire campus community or representative sample							.75 points remaining		
		Analyze and share the results for the purpose of continuous improvement									
12	Continuing Education - Increase sustainability offerings in continuing education	Ensure that courses addressing sustainability comprise 10+% of all continuing education courses							3.5 points remaining	Good - 1 new course/year Better - 2 new courses/year Best - 3 new courses/year	
		Offer at least one sustainability-themed certificate program through continuing education								Good - 1 new course/ year Better - 2 new courses/year Best - 3 new courses/year	

High Priority Sustainability Goals Pathway to AASHE STARS Platinum		Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Start	Finish	Comments	Measurable Outcome(s)
15	Trademark Licensing	Take steps to ensure that university apparel is not manufactured in sweatshops								2 points remaining	
		Rejoin as a member of the Worker's Rights Consortium (WRC) and/or the Fair Labor Association (FLA)									Rejoin as a member of the Worker's Rights Consortium (WRC) and/or the Fair Labor Association (FLA)
Operations Initiatives											
1	Greenhouse Gas Emissions - -Reduce GHGs with a long-term goal of carbon neutrality by 2050	Increase renewable energy opportunities and initiatives								5+ points remaining	Create a Renewable Energy Plan that details and tracks renewable energy initiatives year over year along with GHG emission reductions
		Decrease building energy consumption									Sub-meter appropriate buildings to track edcreases in energy use and publicize
		Increase recycling and composting opportunities									Weigh and publish on dashboards and report results campus wide
		Reduce single occupancy travel to and around campus									Reduce SOV use 5 - 10% per year for the next five years
3	Building Operations & Maintenance - Certify existing buildings & interior spaces as LEED Operations + Maintenance	Operate and maintain sustainable policies - Indoor air quality management policy Green Cleaning policy, program, or contract								4.25 points remaining	Develop measurable outcomes with policies
		Energy Management or benchmarking program									Implement Energy Management Program that details measureable outcomes in concert with renewable energy
		Integrated pest management									Phase in Inegrated Pest Management by 25% per year for four years
		Light pollution reduction									Reduce light pollution by 10% per year
		Enhanced refrigeration management									
		Water and waste management & tracking									Reduce water use by 5 - 10% per year and publicize results
		Conduct transportation survey									create and distribute annual transportation survey
		Heat Island mitigation practices									Count trees planted and cut down and always end up with more planted. Add green walls, green roofs, cool roofs, pervious pavement as buildingsa re designed or renovated, at least 1/year
		Conduct site assessments and improve site management practices									
6	Clean & Renewable Energy - Increase clean & renewable energy portfolio with mid-term goal of 50% by 2030 and long-term goal of 100% by 2050	Obtain energy from renewable sources (on or off site)								3.5 points remaining	Increase solar and geothermal (and wind power if it works) to meet measurable goals
		National RFP for virtual Power Purchase Agreement for renewable energy cover 20% of electricity costs									Get RFP out nationally with at least 3 - 5 responses
		Use University resources to fund priority energy savings projects									University fund or seek grant funding for energy savings projects on top of those already completed
		Enter into a Power Purchase Agreement to install solar systems on campus									Install at least one solar system on campus each year
		Create public-private partnership to design and construct biomass digester									Install biomass digester at the Steam & Chill plant

High Priority Sustainability Goals Pathway to AASHE STARS Platinum		Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Start	Finish	Comments	Measurable Outcome(s)
7	Food & Beverage Purchasing - Use sustainable, local, and seasonal food and beverages on campus	Reduce below 30% total expenditure on conventional animal products (currently 26.6%)								5+ points remaining	Reduce below 30% total expenditure on conventional animal products (currently 26.6%)
		Increase up to 75% of dining services (3/4 pts) and on-site franchises, convenience stores, vending services and concessions (1/4 pts)									Increase up to 75% of dining services (3/4 pts) and on-site franchises, convenience stores, vending services and concessions (1/4 pts)
		Food and beverage purchases as third party verified and/or sourced from local community-based producers									Increase verified local community based producers by 50-20% per year
16	Student Commute Modal Split - Increase percentage of students walking, bicycling, vanpooling, carpooling, taking public transportation, riding motorcycles or scooters to campus	Advertise UofL's Bicycling Transportation Plan website in every way possible								1+ points remaining	Track number of mentions on building dashboards, articles, emails and websites and publish as an educational opportunity
		Create opportunities for bicycle sharing									
		Increase and encourage carpooling/ride sharing opportunities									Work with SGA to increase ride sharing
		Make public transportation opportunities convenient									
17	Employee Commute Modal Split - Increase percentage of employees telecommuting, walking, bicycling, vanpooling, carpooling, taking public transportation, riding motorcycles or scooters to campus	Create incentives to carpool								1+ points remaining	Implement one incentive per year to start
		Create a University-specific online ride board to encourage ride-sharing									Implement university specific ride-share board
		Provide University support and incentives to move into housing close to campus									
		Allow more opportunities to work from home									Post-Covid, measure the increase in telecommuting and affect of telecommuting policy
19	Waste Minimization and Diversion - Develop and implement zero waste plan using coordinated approach to minimize waste, maximize reuse, repair, recycle, and compost	Develop and implement a campus wide behavior change plan to reduce waste generation through prevention, reduction, recycling, and reuse								4+ points remaining	Implement and monitor success of plan using previous benchmark years
		Achieve sustainable management and efficient use of natural resources by diverting material from landfills and conserving resources by composting and recycling									Increase landfill diversion rate and publize
22	Water Use - Maximize water conservation on campus and minimize waste water generation and disposal	Install low flow fixtures on campus								3+ points remaining	Monitor the number of fixtures that are not low-flow in University properties
		Limit irrigation operations and monitor during wet weather									Implement a monitoring system
		Collect condensate water and reuse it for irrigation and non-potable use									
Planning & Administration											
2	Sustainability Planning - Create and release a published sustainability plan that includes measurable sustainability objectives that address Investment and Finance.	Publish a sustainability plan with measurable sustainability objectives								.25 points remaining	Sustainability plan public and dynamic. Reviewed, revised and updated annually tracking progress.
4	Diversity & Equity Coordination - Ensure that ALL students, staff and faculty have participated in cultural competency trainings and activities	Inventory and list all cultural competency training opportunities and activities								.5 points remaining	Work with the Office of Diversity & Equity and the Diversity Council to complete inventory

High Priority Sustainability Goals Pathway to AASHE STARS Platinum		Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Start	Finish	Comments	Measurable Outcome(s)
		List trainers/facilitators for cultural competence training opportunities and activities									Work with the Office of Diversity & Equity and the Diversity Council to complete listing of trainers
		Track student, staff, and faculty participation in cultural competency training and activities									Work with the Office of Diversity & Equity and the Diversity Council to track student, faculty and staff participation
		Consider cultural competency participation in student, staff, and faculty evaluation process									Work with Employee Success office to implement this task
5	Assessing Diversity & Equity - Implement an assessment process that addresses student outcomes related to diversity, equity, and success and that addresses employee outcomes related to diversity and equity	Determine best ways to implement and promote student outcomes and student success related to anti-racism and assess student outcomes								.5 Points remaining	Work with Undergraduate and Graduate student Affairs on this task
		Determine ways to implement and promote employee outcomes related to anti-racism and assess									Work with HR on this task
		Require students to take at least one course on anti-racism and social justice									Work with Cardinal Core to implement this task
7	Affordability & Access - Increase the amount of entering students that are low-income or eligible for need-based aid, increase the graduation rate of these students and increase the amount of students graduating without debt	UofL will increase the percentage of incoming students who are low-income or eligible for need-based aid and increase their graduation/success rate								1+ points remaining	
		Increase need-based financial assistance to eligible students so those students are not paying tuition out of pocket and are graduating without interest-bearing debt									
		Find innovative ways to ensure students who need aid can access financial assistance services									
11	Employee Compensation - Ensure employees and contract employees earn a living wage as defined by the MIT Living Wage Chart	Increase wages for UofL employees to the STARS MIT living wage for all UofL employees going forward								2+ points remaining	Work with HR to implement this
		Increase wages for all new contract employees to the STARS MIT living wage									Work with COO and Procurement/Contracting on this

Spreadsheet Developed by KPPC

RED	Tasks within 30 days of Finish date.
AMBER	Tasks within 60 days of Finish date, but not less than 30.
GREEN	Any task greater than 60 days from Finish Date is Green.

These tables can be completed now that the 2022 AASHE STARS Submittal process is complete. We worked on measures as needed in the Sustainability Plan, but we can now assign start and finish dates and match estimated costs and savings, matching the CAP Action Plan where applicable.

Climate Action Plan Update

Our Climate Commitment

At the University of Louisville (UofL), climate change is not “just another issue.” We recognize that it is a symptom of a deep-seated cultural crisis. As a society we must take an honest look in the mirror and realize that in the last 150 years we have developed a debilitating addiction to fossil fuels and the concomitant destruction of natural carbon sinks. Unfettered growth in human population, consumption and technology has led us down this path, but we are beginning to realize that this course is no longer sustainable. The time for reevaluation has come.

The bad news is that we, as a society, have dug ourselves in deep and we can no longer proceed with business-as-usual. The impacts of climate change are not equally borne and often threaten the lives and livelihoods of communities and individuals already experiencing layered marginalization and structural inequities. Thus, work to reduce climate impacts are thus strongly connected to UofL's anti-racist mission and the goals of the Cardinal Anti-Racism Agenda. The good news is that we, as individuals and institutions, can take action immediately to alter our environmental priorities and reverse course on climate impacts. We are the ones who can turn this ship around – individually in the simple choices we make every day and collectively in the priorities we set about how much energy to consume and of what kind.

Together we must create a society that is less wasteful, powered not by concentrated ancient solar energy buried in the ground, but by the clean, renewable energy that Earth receives every day. While this shift will take money, effort and, yes, some sacrifice, it doesn't have to mean a reduction in human happiness, fulfillment or quality of life. We don't have to live in cold, dark caves. We just have to live better and smarter. Indeed a clean, renewable future is a more joyous, secure, carefree one than the world we confront today. It's time for all of us to step up to the task, roll up our sleeves and get to work on creating a new and joyful post-carbon world.

With this Climate Action Plan update, UofL continues charting how it will contribute to this brave new world. We recognize that the climate crisis cannot be solved in isolation but that it is the role of institutions like ours to lead the way and to do our part.

UofL exists to create a better tomorrow through education and research. If we do not take action to address the pollution generated and nonrenewable resources consumed by these endeavors, we risk undermining that progress. Thus, environmental responsibility and climate neutrality have become a part of our strategic plan and a key component of our mission to create a brighter future for all.

Sustain-agility

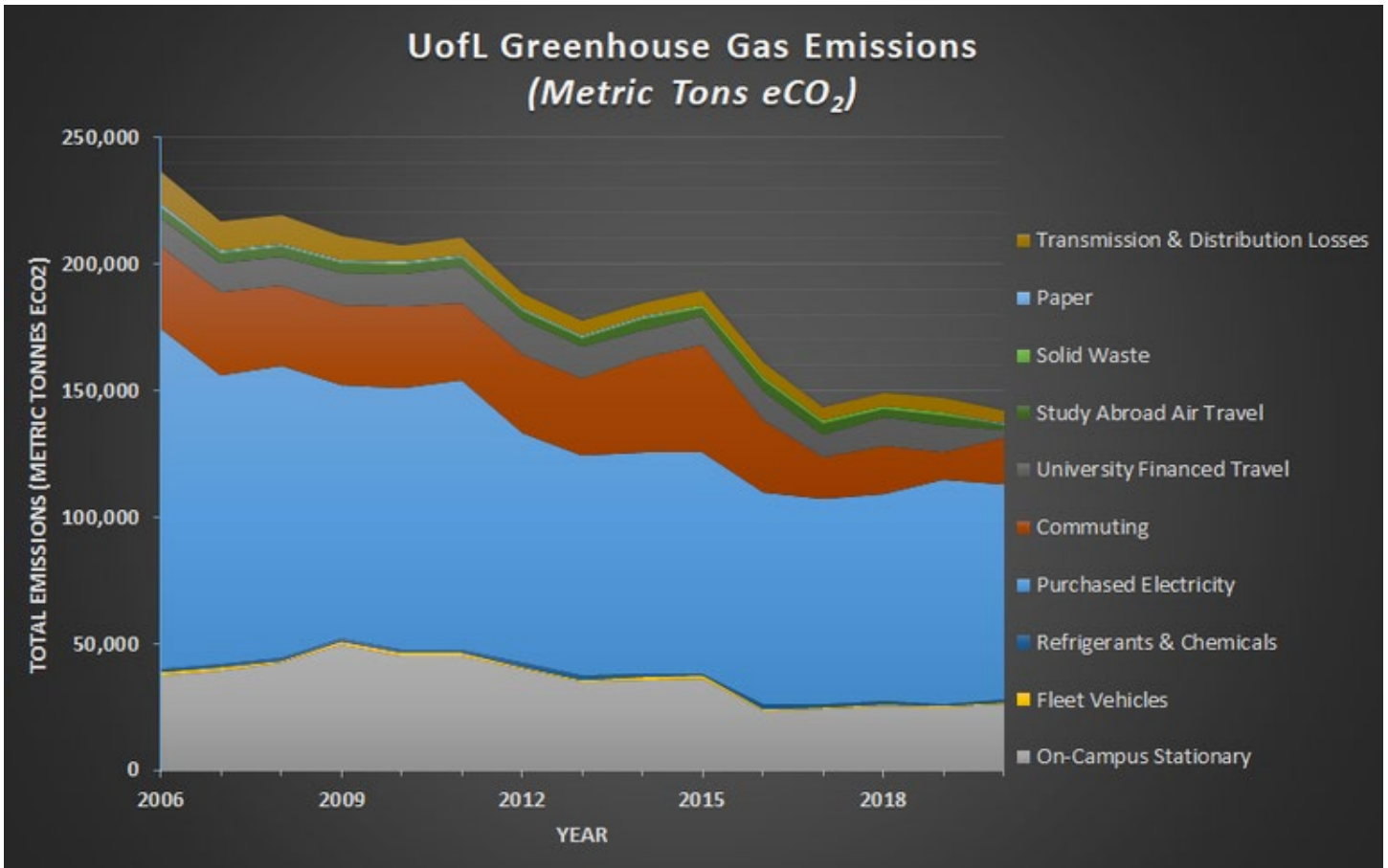
The Sustainability Plan and the Climate Action Plan are dynamic documents. We recognize that true sustainability is born out of flexibility and responsiveness to changes over time. We cannot predict the changes in technology, political will, economics, and ecological conditions that will all shape the pace and nature of our progress toward climate neutrality. We therefore accept that specific strategies, timelines, and technologies may need to be altered as time goes on.

UofL is committed to a dynamic, ongoing sustainability planning and climate action planning process. Our vision and ideas for moving forward are contained herein, but we will continue to revisit them over time. In a spirit of adaptive management we will make every effort to monitor our progress, learn from our successes and failures and revise our plans accordingly. This job will not soon be done and our climate commitment is not something we can ever hope to put behind us. On the contrary, this commitment is something that will continue to guide us and shape our decisions across the long arc of time.

Climate Action Plan History

The goal of the climate action plan was and is to be climate neutral and energy independent by 2050.

In 2008, UofL became a signatory to the American College & University Presidents' Climate Commitment, which is now simply known as the Carbon Commitment. UofL President Neeli Bendapudi recommitted the university by signing in the summer of 2021. As a member of the Climate Leadership Network, UofL is committed to reducing greenhouse gas (GHG) emissions with the ultimate goal of achieving carbon neutrality by 2050 at the latest. After benchmarking our carbon footprint with the 2008 GHG Emissions Baseline Inventory, UofL released its first Climate Action Plan (CAP) on September 15, 2010. This CAP was a comprehensive road map for reducing our emissions to net zero. The Sustainability Council coordinates UofL's climate action planning as well as reporting greenhouse gas emissions.



Efforts to implement the CAP continue through this 2021 CAP update. While we have made great improvements in the last decade, UofL's progress has plateaued and without larger investments, we have been unable to achieve some of our key goals in the CAP, such as sourcing 20% or our energy from renewable sources by 2020. In spite of the goal, renewable energy systems account for only 3.67% of our energy use (excluding vehicle fuels) in 2020.

	Per sq. ft. of building space	Per Capita (Students+Employees)	Per Operating Budget Dollar
Emissions Reduction 2008-2020	49%	41%	45%

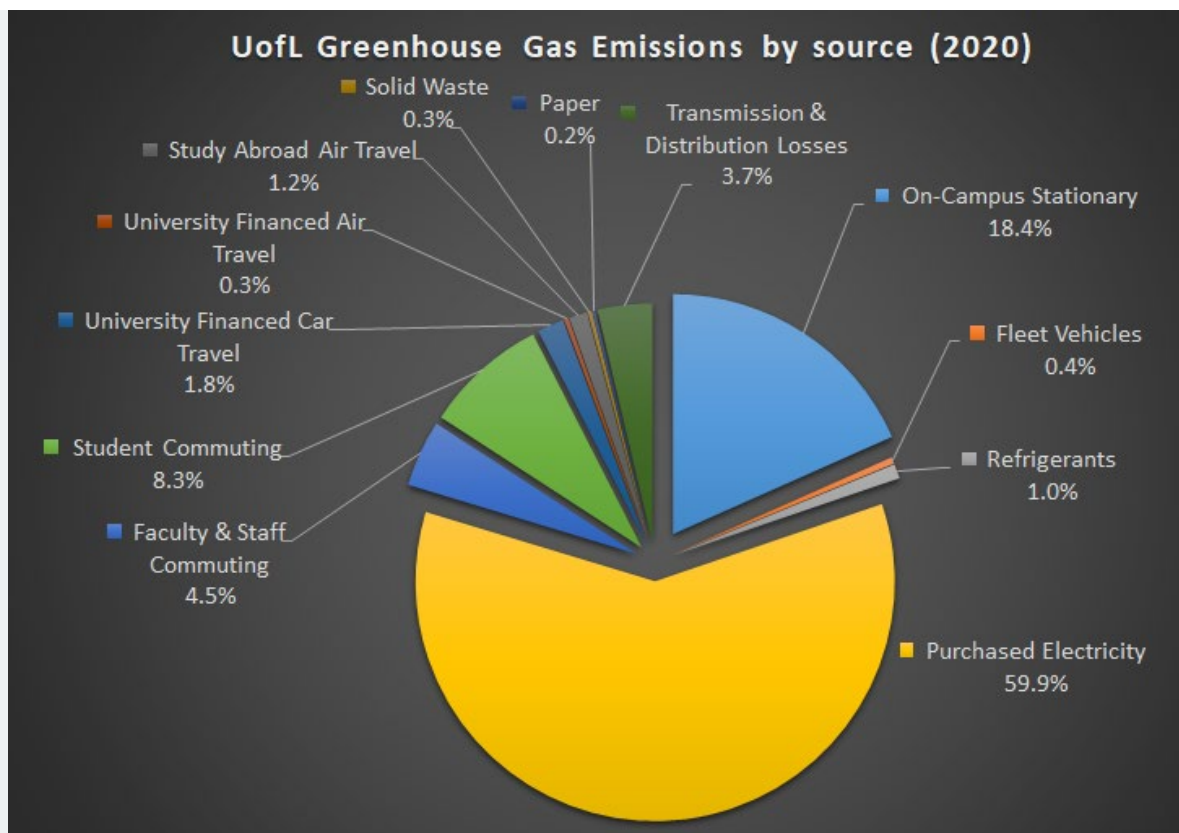
From 2008 to 2020, we estimate that UofL's net carbon emissions have declined by 35.35% from 218,540 to 141,279 metric tons/year.

Given that the social cost of carbon is at least \$40/ton of carbon emissions, UofL's emissions in 2020 were still responsible for **no less than \$5.7 million/year in damage to our planet and its people**. It is not acceptable or

in line with our [CARDINAL principles](#) to continue externalizing these costs and imposing such a debt on the future generations for whom UofL ought to be a source of hope and flourishing.

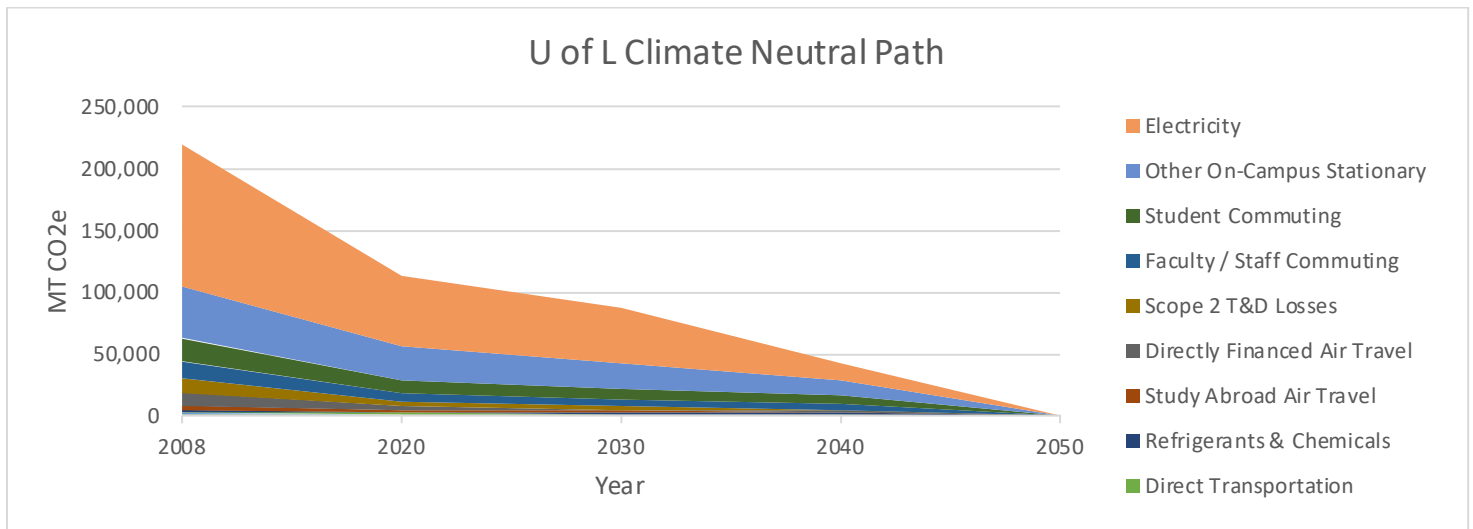
In 2020, we stood at an **35.35% reduction** from the 2008 baseline. **UofL decreased emissions by 77,261 metric tons of CO2 equivalent per year** since 2008. According to the [EPA's greenhouse gas equivalencies calculator](#), this translates to:

- Taking 16,803 cars off the road, or over 194 million miles of driving, or 8.7 million gallons of gas burned;
- 26,279 tons (or 3,754 garbage trucks) of waste recycled instead of landfilled;
- Emissions from 9,304 average U.S. homes' annual energy use;
- 426 rail cars worth of coal burned;
- Over 2.9 million incandescent lamps switched to LEDs; or the
- Carbon sequestered by 94,658 acres of U.S. forests in one year (or 1.3 million tree seedlings grown for 10 years).



While this reduction is important and laudable, this is no time for complacency. Though the reductions to date are certainly worthy of note and should be celebrated, they still do not represent a steep enough decline to achieve our goal of climate neutrality by 2050. We must remain vigilant, committed, and willing to invest resources in order maintain our progress and to ensure a sustained effort toward our ultimate goal of climate neutrality by 2050. We must continue to invest in emissions reduction, to innovate solutions that work in our unique urban setting, and to prioritize efficiency, behavior change, transportation alternatives and renewable energy.

University of Louisville Climate Action Path to Carbon Neutrality



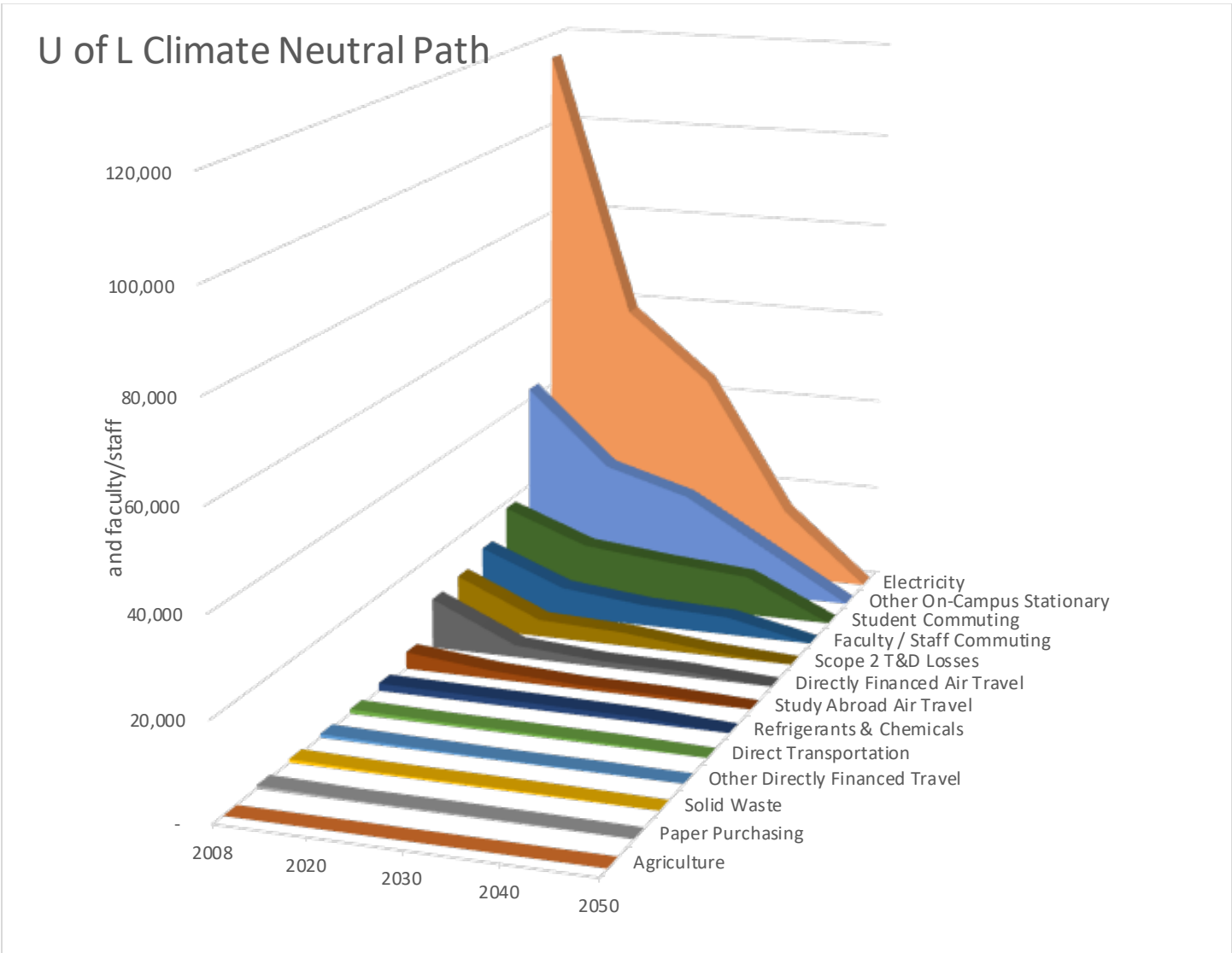
The Sustainability Plan/Climate Action Plan Update Committee has created a tentative path for the University of Louisville to reach energy independence and carbon neutrality by 2050.

- From 2020 to 2030, the low-hanging fruit will be targeted. This could include projects like performance contracting to reduce electric and natural gas usage.
 - This also could include reducing refrigerants, travel, and commuting by 10 to 20 percent from 2020.
 - It would also be advantageous to begin evaluating and purchasing carbon offsets as well as significant investment in renewable energy.
- From 2030 to 2040, a considerable effort in reduction across all categories will need to be met.
- From 2040 to 2050, all the low-hanging fruit and reduction projects must be complete, and offsets and Renewable Energy Credits will need to be considered to meet carbon neutrality by 2050.

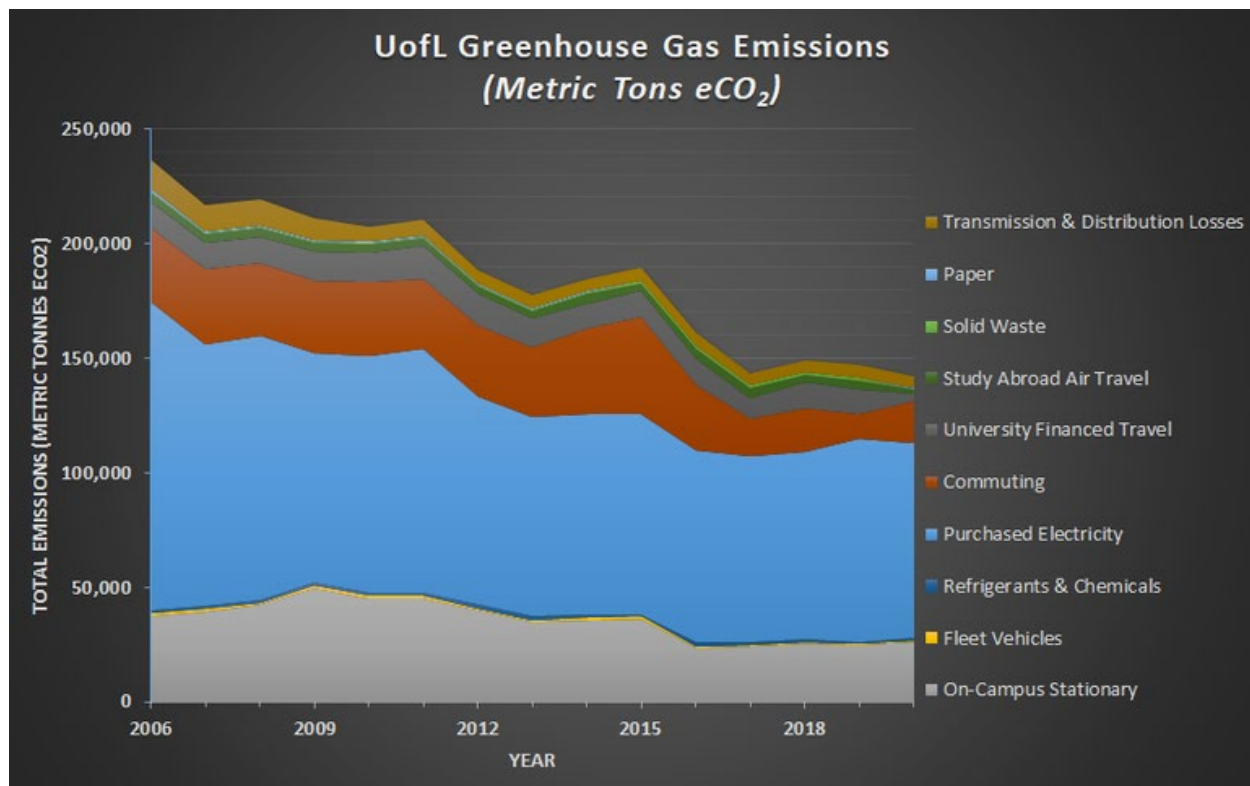
Carbon Reduction Goals were set by the Climate Action Planning Group based on the 202 reductions from the 2008 GHG emissions baseline.

- 2020 35% Reduction – seeking at least a 25% reduction between 2020 and 2030
- 2030 60% Reduction – seeking at least a 20% reduction between 2030 and 2040
- 2040 80% Reduction – seeking a final reduction of 20% between 2040 and 2050
- 2050 100% Reduction = Climate Neutrality

The following graph is another way of looking at the graph above. It breaks out each source and the path to carbon neutrality. The greatest gains are possible through reducing electrical use, greatly increasing renewable energy, and lastly, purchasing carbon offsets for the energy required outside of renewable sources. The next targeted area is on-campus stationary sources, which includes the Steam and Chill plants that provide steam or chilled water to the Belknap and Health Science campuses. Student and faculty/staff commuting offers further opportunities to reduce GHG emissions. Scope 2 transmission and distribution losses (from the generation of purchased electricity). Air travel for work or study abroad rounds out the areas of highest opportunity for GHG reductions.



Multiple recommendations were given and reviewed for various GHG mitigation options and the committee prioritized them as realistic ways to reduce GHG emissions incrementally toward carbon neutrality.



Our efforts to implement our Climate Action Plan (CAP) continue to pay off. **While we have made great strides in the last decade, our progress has stalled and without larger investments, we have not been able to achieve some of our key goals in the CAP, such as sourcing 20% of our energy from renewable sources by 2020.** In fact, UofL’s renewable energy systems accounted for only 3.67% of our energy needs (excluding vehicle fuels) in 2020. Even with a 52% decrease in air travel, a 75% decrease in university-funded rental car mileage, and a 59% decrease in solid waste production due to the pandemic, **UofL’s net emissions decreased only 3.5% from 2019 to 2020.** While any reductions in emissions should be celebrated, the latest science on the global climate crisis suggests that we must take even more aggressive action to cut emissions if we are to avoid the worst effects of runaway climate change.

In May 2021, UofL released its [2020 Greenhouse Gas Emissions Report](#), which documents that, **following several years of swift reduction in pollution, our emissions have essentially stabilized with little progress since 2017, when the Climate Action Plan implementation budget was slashed** to a minimal operating level of \$45,000/year (25% of historical funding levels). The good news is that we were able to exceed our first milestone goal of a 20% emissions reduction by 2020 from our 2008 baseline.

The lack of progress since 2017 is troubling, but it is not unfamiliar territory for UofL. We have been here before and we have righted our ship. In fact, we saw an increase in emissions from 2013 to 2015 and took action to reverse the trend. By continuing to invest in efficiency and behavior change, in 2016, the university was **able to achieve a 15% reduction of carbon emissions in one year.** This is a vital investment for the sake of our students’ futures, and, indeed, for our common future.

UofL 2021 Climate Action Plan

Greenhouse Gas Reduction Goals

			Projects & Targets
2050	Goal		Climate Neutral - 100% Reduction
2040	Goal		80% Reduction
2030	Goal		60% Reduction
2020	Goal		35% Reduction



Projects & Targets

Green Purchasing Goals

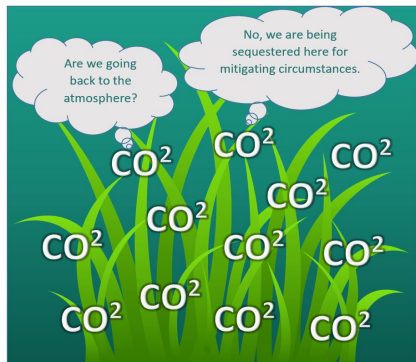
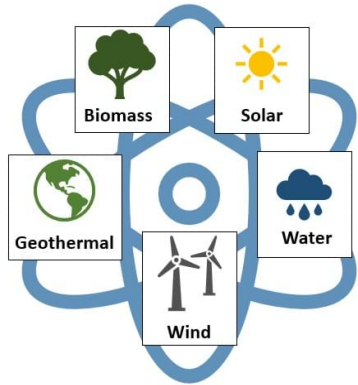
1	1.1	Increase the post-consumer recycled content for paper purchased by UofL from the current 30 percent to 50–100 percent by 2023 (short term)
2	1.2	Develop a policy regarding the use of personal refrigerators in residence halls and offices with the goal of reducing the number of refrigerators by 20 percent by 2025. See Behavior Modification Section of this report (short term)
3	1.3	Add sustainable packing practices language in vendor contract renewals (short term)

Energy Efficiency & Conservation Goals

4	2.1	Use University Resources to fund priority energy savings projects that were not included in the performance contracts (short term)
5	2.2	Implement an energy efficiency policy for use of space heaters and take the necessary steps to fully implement the policy university-wide (short term)



UofL 2021 Climate Action Plan




		Projects & Targets
		Renewable Energy Goals
6	3.1	Enter into a power purchase agreement to install solar systems on campus. Integrate these systems into solar energy research projects at UofL's Conn Center for Renewable Energy Research and Environmental Stewardship, as well as educational opportunities for students. (short term)
7	3.2	Create a public-private partnership to design and construct a biomass digester. Determine whether it would be best to combust the biogas in the central steam and chilled water plant on campus or to generate electricity with the biogas. The second coal-fired boiler on Belknap Campus will be required to be modified by 2015 in accordance with the university's air quality permit. Investigate the feasibility of using biogas for the second boiler. If an economic and engineering feasibility study shows that the better approach is to use the biogas to generate electricity, UofL will explore the feasibility of combined cogeneration to use the waste heat from the generation process. (short term)
8	3.3	50% renewable energy by 2030 (mid-term)
9	3.4	100% renewable energy by 2050. (long term)
10	3.5	Determine feasibility of using geothermal energy to heat/cool buildings on campus, especially as we grow the square footage of campus buildings. (long term)
11	3.6	Examine feasibility of constructing campus buildings using natural cooling and heating capabilities (such as passive solar, solar heat tubes and earthen berms) to minimize or eliminate the need for central heating or cooling systems. (long term)
12	3.7	Issue a national RFP for a virtual Power Purchase Agreement for renewable energy to cover at least 20% of UofL's electricity needs (potentially in consortium with other institutions)
		Carbon Sequestration Goals
13	4.1	1. Create a Tree Management policy to systematically replace all dead, wind damaged and removed trees with enough new trees to replace the annual carbon sequestration during the last year, plus match stored carbon within 10 years. Projects to remove trees should include within the budget sufficient funds to plant and maintain the number of needed trees necessary to sustain the campus carbon sequestration rate. The inventory will be used to identify the annual carbon sequestration rate and the total stored carbon for each tree. Trees may be planted on any land owned by the university or within the surrounding community.
14	4.2.	2. Identify and Protect those trees on UofL property that have particular significance due to their size, historic value, unique species and other specific attribute of significance. Individual trees identified would require a written determination by the university president that its removal is essential and unavoidable.




UofL 2021 Climate Action Plan



		Projects & Targets
		Master Planning Goals
15	5.1	Institute long-term alternative energy initiatives and implement conservation measures needed to achieve carbon reduction goals. (long term)
16	5.2	Use onsite renewable energy sources. Address future steam loads by adding biofuel boilers. When replacing one of the two multifuel boilers at Belknap’s Steam & Chilled Water Plant (likely to occur no sooner than five years from now), evaluation of biofuel as an energy source will be revisited. Additionally, as future campus growth extends into areas not readily served from the current central plant, biofuel should be evaluated along with other viable alternate energy options. (mid term)
17	5.3	Assess all Roofs for contributions to the heat island effect. Implement cool roof policy so when choosing new construction roofing and/or when reroofing older buildings, white roofs and green roofs that reduce heat buildup and air conditioning loads shall be considered. Some buildings may allow storm water retention through green roofs. (short term)
18	5.4	Use tall canopy trees to define the edge of campus and to line walks and major roads, thereby creating shade. Project a park-like image via the development of an expanded urban forest. Formalize the campus tree inventory into a campus tree management plan. Work with metro government and the Kentucky Department of Transportation for tree planting improvements in nearby public rights of way. (short term)
19	5.5	Use latest innovative lighting technologies such as LED, solar and cutoff illuminates, which direct the light downward onto the walk surface, minimizing light pollution and energy inefficiencies. Develop a comprehensive lighting policy and plan. (short term)
20	5.6	Implement traffic demand management strategies to encourage carpooling by providing preferential parking opportunities. (mid term)
21	5.7	Provide university support and incentives for faculty and staff to move into houses close to campus so they can walk rather than drive. (mid term)
		Green Building Goals
22	6.1	Continue to design to LEED Gold standards and pursue a minimum of LEED Silver for all construction over \$1 million and major renovation projects over \$500,000. (short term)



Benefits Of Green Buildings

Environmental Benefits	Economic Benefits	Social Benefits
 Green Buildings are inherently designed to make the best use of natural resources. A Green Building is much more friendly to the environment than a normal building.	 The overall cost of a Green Building is less as compared to a normal building because it uses less resources like energy & water. It also increases the value of the property.	 Green Buildings are very good for the health of entire eco-system that occupies it. They also decrease the load on local infrastructure.

UofL 2021 Climate Action Plan



		Projects & Targets
		Composting & Horticultural Practice Goals
23	7.1	Increase utilization of the green waste from campus grounds maintenance to produce a useful product through composting. The university shall install a permeable concrete pad to increase the efficiency of turning the mulch piles to aerate them and create a routine cleaning/maintenance plan to keep the concrete permeable. Estimate: \$60,000 one-time expense. (short term)
		Behavioral Change (Green Team Pilot) Goals
24	8.1	Incorporating Behavior Change plan into the classroom/curriculum — Encourage faculty to incorporate elements of the energy conservation plan into existing curricula of offered classes. Faculty across all colleges and departments shall identify ways to incorporate energy use and conservation into class curricula.
25	8.2	Faculty and student organizational awareness — Discuss the plan’s goals and provisions with the Faculty Senate, Student Government Association, and Housing and Residential Life program. The goal is to make these university-wide organizations aware of the plan’s goals and provisions and to solicit their input into the final plan.
26	8.3	Implement sustainability awareness and sustainable behavior change campaign — Develop and implement an awareness campaign on energy focused on meeting this goal by changing faculty, staff and student energy use behavior, primarily to turn off lights and equipment when they are not being used.
27	8.4	University-wide education — The university community already receives a weekly green tip through UofL Today. More could be done to engage the community, including creating a column in the Cardinal and on the UofL website to allow students and employees to ask a question on energy to learn more about ways to reduce energy use. A fact sheet on energy use and energy costs per piece of equipment should be developed and made available to help make informed decisions on equipment purchases. Other issues to cover are Total Materials Management, Composting, Non-SOV Travel, Carpooling and alternative transportation.
28	8.5	Organizational unit assessments — Create an electronic spreadsheet and ask organizational units to calculate the amount of energy they consume. The spreadsheet would provide information to encourage the unit to reduce its overall energy use. The assessment would also provide a context for the group to understand the impacts of its energy use.
29	8.6	Survey of energy use — Conduct a survey (executed by the energy team) to obtain information on energy use within each college.

UofL 2021 Climate Action Plan



		Projects & Targets
		Behavior Change (university-wide) Goals
30	9.1	Create Feedback through Building dashboards — systems to provide information to specific building occupants on energy use within their building. This also assists with competitions and challenges between buildings. If occupants can see how much energy their and other buildings are using, they will have much more motivation to conserve. (short term)
		Recycling Goals
31	10.1	Develop and implement a Zero Waste Plan for UofL which uses a coordinated approach to minimize waste, maximize reuse, repair, recycling & composting.
		Transportation Goals
32	11.1	Identify space on or adjacent to campus for a bicycle repair shop, either through contracting with a private bicycle store, using work-study students to operate the shop or a hybrid of the two. In addition, every residence hall should be provided a bicycle pump and basic tool kit to be stored at the front desk for use by anyone with a UofL ID. (short term)
33	11.2	Significantly expand the bike patrol for UofL parking and police officers to reduce fuel costs and our carbon footprint while improving employee health. (short term)
34	11.3	Create a UofL-specific online ride board to encourage ride sharing to locations outside the metropolitan area, especially among residents of campus and affiliated housing. This would not only reduce trip emissions, but would help facilitate car-free living on campus since many students are reluctant to move to campus without a car because they would have no way to leave town for weekends and breaks.
35	11.4	Create incentives to carpool such as reduced parking permit prices, shared permits, preferred parking, university recognition, etc. (short term)

UofL 2021 Climate Action Plan



		Projects & Targets
36	11.5	Create a policy through which either travel expenses for destinations within 250 miles would only be reimbursed for ground transportation or a requirement that all air travel reimbursement requests include information on the distance traveled and the amount of greenhouse gases produced.[1] The information would be used to remind travelers whether the trip is essential or if it could be conducted via ground transportation, telecommunication or videoconferencing. Incentives could also be built into travel reimbursement policies for expenses incurred by rail, bus or carpooling. (short term)
37	11.6	Establish a carbon off-set policy to require airline travelers to pay an off-set calculated by the university. Travel requests would require a transfer of funds to a university account to be used to further reduce greenhouse gas emissions. (short term)
38	11.7	Work with state and national transportation officials to further reduce car dependency by developing new public transportation modes providing service to Louisville and surrounding cities such as high speed rail and intercity buses and trains. (long term)
39	11.8	Transition from a system of annual parking permits to market-rate hourly/daily parking.
		Food - Campus Garden Goals
		Other Food Related Goals
40	12.1	Create policy for UofL Dining’s collection and delivery of food wastes for composting, potentially expanding into post-consumer collection and scrape-stations. (short term)
41	12.2	Develop and post on appropriate websites a database that lists the submission dates for RFPs for supplying food products such as meats, milk, etc. so that with advance knowledge, more local producers may be able to compete for these contracts and they will be awarded to multiple food vendors. (short term)

Cardinal Sustainability Pathway to Platinum

	Foundational Goals	Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Est. Start Date	Est. Finish Date	Complete	Comments
1	Green Purchasing										
1.1	Increase post-consumer recycled content in items purchased	Purchase 50% - 100% post-consumer recycled content paper			\$203,000	0	GREEN	1-Jul-23	31-Dec-23		Based on \$56.55/case of 100% post consumer recycled content paper vs. \$43.00 for 30% pcrp
1.2	Develop a policy on use of personal refrigerators in residence halls and offices	Survey number of refrigerators and then Reduce number of refrigerators 50% by 2025			No Cost	\$104,152	GREEN	1-Jul-22	30-Jun-23		Assumptions based on 2600 mini refrigerators on campus @ \$6.67/mo. x 12 x 2600/2
1.3	Add sustainability language in all RFPs and Contracts	Add sustainable packaging practices in vendor contract renewals			No Cost		GREEN	1-Jul-22	31-Dec-22		
		Request sustainability information from all potential vendors and create criteria for sustainable preference as well as local MWBE preference			No cost		GREEN	1-Jul-22	31-Dec-22		
2	Energy Efficiency & Conservation Goals										
2.1	Use university resources to fund priority energy savings projects that were not included in the performance contracts (short term)	Review ESPCs and determine what projects were not done			No Cost		GREEN	1-Jul-22	30-Jun-23		
		Research innovative alternatives			No Cost		GREEN	1-Jul-22	30-Jun-23		
		Implement best projects on performance contracts			\$15 - \$20 Million	TBD	GREEN	1-Jul-23	31-Dec-23		Energy Savings should be above \$20 million
2.2	Implement an energy efficiency policy for use of space heaters and take the necessary steps to fully implement the policy university-wide	Create an energy policy for implementation			No Cost	\$500,000	GREEN	1-Jul-22	30-Jun-23		Estimate based on Louisville Metro Energy Manager finding \$750,000 savings in his first year
2.3		Implement an energy awareness and behavior change program			No Cost	\$120,000	GREEN	1-Jul-22	31-Dec-23		Can use sustainability courses and Communications courses to generate ideas. EPA estimates 10% reduction by behavior change
3	Renewable Energy Goals										
3.1	Enter a power purchase agreement to install solar systems on campus.	Investigate PPAs for Solar			Unsure		GREEN	1-Jul-23	31-Dec-23		
		Integrate these systems into solar energy research projects at UofL's Conn Center as well as educational opportunities for students (short-term)						1-Jul-23	30-Jun-24		
3.2	Create a public-private partnership to design and construct a biomass digester (short term)				\$12.5 million	\$2 million annually	GREEN	1-Jul-23	30-Jun-24		According to the UofL Biogas Proposal
3.3	50% renewable energy by 2030 (mid-term)				part of investment		GREEN	1-Jul-23	31-Dec-30		
3.4	100% renewable energy by 2050 (long-term)				part of investment		GREEN	1-Jul-23	31-Dec-50		
3.5	Determine feasibility of using geothermal energy to heat/cool buildings on campus, especially as we grow the square footage of campus buildings (long-term)				Depends on system		GREEN	1-Jul-23	31-Dec-27		30% to 40% more upfront than a traditional furnace and air conditioner. Investing in a geothermal heat pump can mean a 25% to 50% decrease in energy consumed compared to traditional systems that use air. In addition, your geothermal system can be as much as 300% to 600% more efficient, making this a great HVAC investment long term.
3.6	Examine feasibility of constructing campus buildings using natural cooling and heating capabilities to minimize or eliminate the need for central heating and cooling systems (long-term)				Part of design process		GREEN	1-Jul-22	31-Dec-23		

Cardinal Sustainability Pathway to Platinum

	Foundational Goals	Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Est. Start Date	Est. Finish Date	Complete	Comments
3.7	Issue a national RFP for a virtual Power Purchase Agreement for renewable energy to cover at least 20% of UofL's electricity needs				Depends on Contract		GREEN	1-Jul-23	31-Dec-23		Phase I completed with LG&E/KU 125 MW Solar array being built in McCracken County with 10MW of the facility's MW total, meeting 30% of the power on Belknap campus and 15% overall.
4	Carbon Sequestration Goals										
4.1	Create a comprehensive Tree Management Policy	Systematically replace all dead, wind damaged, and removed trees with enough new trees to replace carbon sequestration during the last year and match stored carbon within 10 years			\$25,000/yr. (15-16 trees/year)	Varies	GREEN	1-Jul-23	30-Jun-24		Computer models devised by the U.S. Department of Energy predict that the proper placement of only three trees can save an average household between \$100 and \$250 in energy costs annually. On average, a well designed landscape provides enough energy savings to return your initial investment in less than 8 years.
		Convene Tree Committee of constituency groups to create draft policy to submit to the Administration			No Cost	Unsure	GREEN	1-Jul-22	31-Dec-22		
4.2	Identify and protect those trees on UofL property that have particular significance due to their size, historic value, unique species and other attributes of significance	Tree Committee could add to its work			\$10,000?	Unsure	GREEN	1-Jul-23	30-Jun-24		
5	Master Planning Goals										
5.1	Institute long-term alternative energy initiatives and implement conservation measures needed to achieve carbon reduction goals (Long-term)						GREEN	1-Jul-22	31-Dec-32		Works in conjunction with Energy Efficiency and Renewable Energy Goals
5.2	Use onsite renewable energy sources. Address future steam loads by adding biofuel boilers	When replacing one of the two multifuel boilers, evaluate biofuel as energy source.					GREEN	1-Jul-23	31-Dec-26		See 2.1 above
5.3	Assess all roofs for contribution to the Urban Heat Island (UHI) effect	Implement cool roof policy for new construction or reroofing buildings promoting cool roofs and green roofs, reducing heat buildup and air conditioning loads			Internal cost	Varies	GREEN	1-Jul-22	30-Jun-23		A California study found that cool roofs provide an average yearly net savings of almost 50 cents per square foot. This number includes the price premium for cool roofing products and increased heating costs in the winter as well as summertime energy savings, savings from downsizing cooling equipment, and reduced labor and material costs over time due to the longer life of cool roofs compared with conventional roofs. (EPA)
		Some buildings may allow storm water retention through green roofs (short term).				Varies	GREEN	1-Jul-23	30-Jun-24		Depends on the building structure and the plants installed
5.4	Use tall canopy trees to define the edge of campus and to line walks and major roads, creating shade.	Formalize campus tree inventory into campus tree management plan			Student Opportunity	Unsure	GREEN	1-Jun-22	30-Jun-24		This is a free opportunity to promote student experience in a sustainability initiative
		Work with Metro Government and the KY Department of Transportation for tree planting improvements in nearby public rights of way			No Cost		GREEN	1-Jul-22	30-Jun-24		
5.5	Use latest innovative light technology such as LED, solar and cutoff illuminates, which direct light downward to the walk surface, minimizing light pollution and energy inefficiencies.	Develop comprehensive lighting policy and plan			Depends on plan	Depends on plan	GREEN	1-Jul-23	30-Jun-24		Students and KPPC can be brought in by a Light pollution committee to investigate and assist with recommendations and savings calculations
5.6	Implement traffic demand management strategies to encourage carpooling by providing preferential parking opportunities (mid-term)	Convene Traffic Demand Committee of constituency groups to create draft policy recommendations for the UofL Administration			No Cost		GREEN	1-Jul-22	30-Jun-24		Students can use this as a learning activity.
5.7	Provide university support and incentives for faculty and staff to move into homes close to campus so they can walk rather than drive (mid-term)						GREEN	1-Jul-22	30-Jun-26		

Cardinal Sustainability Pathway to Platinum

	Foundational Goals	Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Est. Start Date	Est. Finish Date	Complete	Comments
6	Green Building Goals										
6.1	Continue to design to LEED Gold standards and pursue a minimum of LEED Silver for all construction over \$1 million and major renovation projects over \$500,000 (State Law) (short-term)	Work with UPDC to innovate designs and structures that implement green roofs, stormwater mitigation projects, recycling and compost systems, grey-water use, etc. in new construction and renovation projects			No Cost	TBD	GREEN	1-Jul-22	30-Jun-23		Already in place
		Educate administrators on the importance of green building goals			No Cost		GREEN	1-Jul-22	30-Jun-23		Design education and awareness program
		Educate UofL constituency groups and the public on the importance of green building goals			No Cost		GREEN	1-Jul-22	30-Jun-23		Design education and awareness program
7	Composting & Horticultural Practice Goals										
7.1	Increase utilization of the green waste from campus grounds maintenance to produce a useful product through composting	The university shall install a permeable concrete pad to increase efficiency of turning the mulch piles to aerate them and create a routine cleaning/maintenance program to keep the concrete permeable (short term)			\$60,000	\$50,000 first year	GREEN	1-Jul-23	30-Jun-24		Savings averaged \$23 per ton in reduced collection costs and \$32 per ton in reduced disposal costs. Total net benefit was \$43 to \$44 per ton of solid waste.
		Create and implement a composting awareness and commitment plan			No Cost		GREEN	1-Jul-22	30-Jun-23		This will augment capacity in the composting program increasing savings after the first year
8	Behavioral Change (Green Team Pilot) Goals										
8.1	Implement a Behavior Change Plan	Create a Behavior Change Team to create a plan			No Cost	\$190,000	GREEN	1-Jul-22	30-Jun-23		if EPA estimates behavior change reduces energy costs 10% behavior change from reducing water and waste est. 10%
8.2	Incorporate behavior change plan into the classroom/curriculum	Encourage faculty to incorporate elements of the energy conservation and other plans into the existing curricula of offered classes			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		
		Faculty across all colleges and departments shall identify ways to incorporate energy use and conservation into class curricula			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Will increase sustainability awareness and behavior change
8.3	Implement sustainability awareness and sustainable behavior change campaign	Develop and implement an awareness campaign on energy			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Can this increase savings above \$120,000?
		Behavior Change Team work with Marketing Communication classes to create a behavior change campaign that covers energy use, recycling, composting, non-single occupancy vehicles, carpooling, and alternative transportation and other ideas.			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Student opportunity
8.4	Create university-wide education	1. Create ways to engage faculty, staff and students 2. Create column on UofL website and in the Cardinal 3. Solicit questions about topics to learn ways to reduce consumption 4. Create fact-based materials on topics and costs 5. Inform decisions on purchases 6. Publish the monthly costs			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Student opportunity
8.5	Conduct organizational unit assessments	Create electronic spreadsheets and ask organizations to calculate possible savings			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Student opportunity
		Provides sustainability information and tips, understanding, and helps to make informed decisions			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Student opportunity
8.6	Specifically survey energy use in each unit	Conduct survey to obtain information on energy use within each college			No Cost	Unsure	GREEN	1-Jul-22	30-Jun-23		Student opportunity

Cardinal Sustainability Pathway to Platinum

	Foundational Goals	Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Est. Start Date	Est. Finish Date	Complete	Comments
9	University Wide Behavior Change										
9.1	Create Feedback loops	Install building dashboards to provide building occupants on sustainability in their building			\$20,000	> \$20,000	GREEN	1-Jul-23	30-Jun-24		50 buildings with monitors (\$300) and 50 installations \$100)
		Put utility use - energy and water - and costs per building on building dashboards.			No cost		GREEN	1-Jul-22	30-Jun-24		LG&E and Water Bills posted make the costs of the utilities real to those who see them
10	Recycling Goals										
10.1	Develop and Implement a Zero Waste Plan	Working with Post-Landfill Action Network to coordinate approach to minimize waste, maximize reuse, repair, recycling, and composting			\$50,000 to \$100,000	\$100,000 to \$300,000	GREEN	1-Jul-23	30-Jun-24		Purchasing recycling, composting and trash infrastructure in costs with waste diversion from the landfill providing savings
11	Transportation Goals										
11.1	Campus Bicycle Repair Shop	Identify Space and Contract with Bicycle store, use work-study students or hybrid model			Unsure		GREEN	1-Jul-22	30-Jun-23		Depends on the model selected
		Provide bicycle pump and basic tool kit at each residence hall			Unsure		GREEN	1-Jul-22	30-Jun-23		
11.2	Significantly expand bike patrol for UofL Parking and Police Officers	Saves gasoline, promotes health, reduces GHGs			No Cost		GREEN	1-Jul-22	30-Jun-23		Can use bicycles from the Bike Share program
11.3	Create UofL specific Ride Share Board to encourage ride sharing from locations outside the metro area for residence halls and locally for commuters				70,000		GREEN	1-Jul-23	30-Jun-24		Cost could be decreased if Engineering students created this app for the university
11.4	Create incentives to carpool to UofL for faculty, staff, and students (short-term)	Convene an Alternative Transportation Committee to make recommendations to Administration like reduced car-pool parking permit prices, shared permits, preferred parking, university recognition, etc.			Unsure	Unsure	GREEN	1-Jul-22	31-Dec-23		Costs and savings will be dependent on the recommendations
11.5	Create/Update Travel Policy	Reimbursements within 250 miles only reimbursed for ground transportation			No Cost		GREEN	1-Jul-22	30-Jun-23		Saves Greenhouse Gas emissions
		Require all air travel reimbursement requests include distance traveled and the amount of greenhouse gases produced			\$13/flight		GREEN	1-Jul-23	30-Jun-24		Purchasing carbon offsets—an investment into a project or action, like planting trees or building solar panels, to eliminate greenhouse gas emissions. Airlines such as Delta, United, and British Airways have options to pay a small surcharge (in one case the charge was \$13) National Geographic
11.6	Create carbon off-set policy	Require all air travelers to pay a carbon off-set calculated by the university. Travel requests would require transfer of funds to a university account to reduce GHG emissions			No cost		GREEN	1-Jul-22	30-Jun-23		See above
11.7	Promote Alternative Transit	Work with state and national transportation officials to further reduce car dependency by developing new modes of public transportation in Louisville and surrounding cities			No cost		GREEN	1-Jul-22	30-Jun-24		UofL saves money by needing to maintain less parking and creating more green space
11.8	Promote "true costs" of parking	Consider externalities of parking and transition from parking permit system to a market-rate hourly/daily parking paid monthly			No cost		GREEN	1-Jul-22	30-Jun-24		COB count have classes work on this
12	Food Related Goals										
12.1	Create UofL Dining Policy for Dining's collection and delivery of food wastes for composting, potentially expanding into post-consumer collection and scrape stations (short-term)				No cost		GREEN	1-Jul-22	30-Jun-23		See 7.1 above

	Foundational Goals	Tasks/Steps to Accomplish	Priority	Metrics	Est. Cost	Est. Savings	Timeline Status	Est. Start Date	Est. Finish Date	Complete	Comments
12.2	Develop and post database that lists submission dates for RFPs supplying food products	Provide advance knowledge so more local producers may be able to compete for these contracts and they can be awarded to multiple vendors			No cost		GREEN	1-Jul-22	30-Jun-23		

Spreadsheet Developed by KPPC

RED	Tasks within 30 days of Finish date.
AMBER	Tasks within 60 days of Finish date, but not less than 30.
GREEN	Any task greater than 60 days from Finish Date is Green.

Budget Synopsis

The potential first-year investment on estimated costs is \$401,000, including the additional cost of 100% post-consumer recycled content paper.

Estimated savings the first year after implementation are conservatively estimated at \$1,185,000.

Energy Savings Performance Contracts have a larger investment up front that is paid back by guaranteed energy savings over 10 - 13 years and savings continuing when the payback is completed.

The Biogas project is estimated at \$12.5 Million in cost with \$2 Million in savings per year for an approximate 6-year payback with continued annual savings past that.

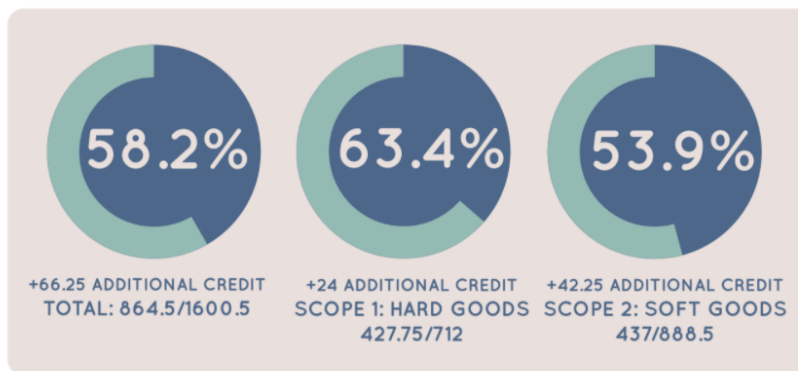


3/29/2021

2021 Strategic Vision for Institutional Zero Waste University of Louisville

Introduction: In Summer, 2020, the University of Louisville [Sustainability Council](#) hired two Zero Waste Interns (Lily Stewart '22 and Jacob Foushee '22) to work with the [Post-Landfill Action Network](#) as Zero Waste Atlas Fellows. As Fellows, Lily and Jacob utilized PLAN's [Atlas Stage 1](#) process to perform a comprehensive assessment of UofL's campus-wide policies, infrastructure, and logistical capacity to establish a materials management system that achieves zero waste. The final Atlas Stage 1 Report and Score Sheet for UofL can be found [here](#). The final campus scores are represented below.

OVERVIEW OF U OF L'S SCORES



During the Spring of 2021, UofL began the Atlas Stage 2 Strategic Visioning process. Strategic visioning sessions with more than 20 key campus stakeholders were co-facilitated by PLAN staff and Zero Waste Interns/Atlas Fellows. The goal of these sessions was to map out a multi-year vision to establish the infrastructure, policies, and standardization systems

necessary to achieve a zero waste campus, and reach a Zero Waste Atlas Score above 90%. This Strategic Vision for Institutional Zero Waste at UofL is a summary of the opportunities discussed at these sessions and articulates the strategy for meeting the recommendations outlined in the strategic plan.

Methodology: This vision serves as the guideline for how the campus plans to manage materials through the following two Materials Management Scopes. These scopes help UofL develop methods for handling materials at a system-wide level.

METHODOLOGY - MATERIAL MANAGEMENT SCOPES

SCOPE 1 HARD GOODS Surplus Property and Hard-to-Recycle Materials Materials the campus has direct control over	SCOPE 2 SOFT GOODS Food and Single-Use Materials Materials the campus purchases, but has limited control over which bin the material is placed in
Electronics	Food Waste
Furniture	Food Packaging
Office Supplies	Disposal To-Go Ware
Lab/Art Equipment	Disposable Dishware
Vehicles/ Tires/ Oil	Compostable Dishware
Chemicals/ EH&S	Compostable To-Go Ware
Facilities/ C&D	Reusable Dishware
	Reusable To-Go Ware

University of Louisville

Summer 2020



Zero Waste[™] Certification
A Program of PLAN

Total Score: 58.2%

SYSTEM SCORES

PROGRAM SCORES

SCOPE 1

Total Score:
63.4%



60.2%
Infrastructure



43.0%
Bin Standardization



76.0%
Policy

Additional Credit

+24



62.5% Surplus Property



45.5% Hard-To-Recycle Materials



74.6% Construction & Renovation



64.1% E-Waste



74.0% Hazardous & Universal Waste

SCOPE 2

Total Score:
53.9%



50.2%
Infrastructure



53.1%
Bin Standardization



46.5%
Policy

Additional Credit

+42.3



44.3% Purchasing & Policies



37.5% Reusable Dishware



59.7% Food Waste Reduction & Food Recovery



53.1% Compost/Recycling System



58.9% Other Soft Goods



Zero Waste Certification A Program of PLAN[™]

Scope 1 - Surplus Property and Hard-to-Recycle Materials Management System

- I. **Goal:** Significantly improve and expand the capacity of UofL's surplus property and Hard-to-Recycle Materials (HRM) management systems. As part of this system expansion:
- Explore opportunities to integrate materials management decision-making through the establishment of campus-wide procurement policies and procedures.
 - Identify a newer and larger centralized physical facility for the campus-wide management of surplus property, HRM materials, and common household products.
 - Explore opportunities for digital asset management and online sales.
 - Identify a permanent location for the campus free store for the free exchange of useful items like clothes, linens, shoes & accessories, dorm/household items, art/school/kitchen supplies, etc.

A. **Physical Infrastructure - Central Surplus and Aggregation Facility:**

Identify a new, larger physical location that will serve as the central aggregation point for the management, handling, and redistribution of

Full completion of goals in **Section 1A and 1B** would result in:
127.5 additional points
17.91% increase in Scope 1 Score
7.97% increase in Total Atlas Zero Waste Score

surplus property and the aggregation and proper disposal of HRM materials. During stakeholder engagement sessions, there was a clear focus on identifying a warehouse the University could purchase as the location for this facility. Here are photo examples of facilities like this at [MSU](#) and [CSU Fort Collins](#). More examples can be found in this [folder](#).

1. Multiple campus departments and students would benefit financially from the existence of this facility. During the stakeholder engagement process, it was identified numerous times that the current facility is not large enough to handle the volume of materials that the campus needs to process. A few examples include reuse of demolition materials for small-scale renovation projects on campus, handling large quantities of items during a renovation or move out, processing materials on a faster timeframe so that surplus items requested for pickup are moved quicker, sharing of office supplies and smaller household items, etc.
2. This physical facility would be modeled off of successful surplus property facilities at dozens of campuses across the U.S., such as [Colorado State University's Surplus Program](#), and would be an expansion of UofL's already successful surplus property and technology recycling programs.

3. The facility would serve as a drop-off/pick-up location for all items listed in the Scope 1 section of the Methodology chart on Page 1.
 4. Materials that move through the facility would be assessed for their highest value: first for institutional reuse on campus, then for possible donation options for reuse off campus, and finally for de-construction into hard-to-recycle material recovery.
 5. Within the facility, there would be various opportunities to creatively extend the life of materials. These opportunities could incorporate a wide range of campus departments, from student employment opportunities to academic explorations and pursuits. These opportunities include furniture, bicycle, or electronics repairs, business proposals to use discarded materials in new product development, and mixed media art projects.
 6. Within the facility, the University would develop a hacker/repair space. This space would operate through a partnership with FirstBuild and would help students develop practical mechanical and repair skills along with building creative projects similar to the [Waste Reclamation and Upcycling Assistant](#) at Michigan State University. More information about MSU's program can be found [here](#).
 7. This facility would have space to aggregate HRM materials (like metals, wood, porcelains, textiles, mattresses, electronics, etc.), making them more economical to properly dispose of. Explore collaboration with Physical Plant and overlap of HRM material collection in other areas of campus and the HRM management that currently happens at the Hughes Lot (scrap metal, pallets, bricks, tires).
- B. Staffing - Surplus and HRM Management:** During the stakeholder engagement process there was an identified need for the hiring of a third full-time staff member to run the surplus warehouse. This position has a typical salary range of \$40-\$60k.
1. Surplus Manager would manage inventory and material flow throughout the warehouse, handle shipments and coordinate campus pickups, and manage other staff within the facility.
- C. Physical Infrastructure - Free Store:**
- Explore opportunities to identify a new, permanent location for the Campus Free Store, in line with the [proposal](#) written by The Services Vice President of the UofL SGA in Fall, 2020.
- Ideally, this would be in a spacious, open layout location within the Student Activities Center (SAC), next to the Commonwealth Credit Union Cardinal Cupboard to provide central accessibility to students and the larger community.
1. The Free Store would follow the “Staffing, Safety and Appearance, and Supply Needs” sections outlined in the Proposal - largely supported by

Full completion of goals in **Section 1C** would result in:
6.5 additional points
0.91% increase in Scope 1 Score
0.41% increase in Total Atlas Zero Waste Score

the UofL Sustainability Council and “Zero Hunger, Zero Waste” Grant provided by Kroger.

2. The Free Store would explore the opportunity to work in collaboration with the surplus property facility and The Cardinal Cupboard as locations to process donations that can't be handled through the Free Store. The Free Store as a central location on campus will make these reuse systems attainable and accessible services to empower community reuse.
3. The Free Store will serve as a central drop-off location for students on campus.
4. Items and materials dropped off at “sharing shelves” locations throughout campus will also be transported to the Free Store by Sustainability interns and/or federal work-study students. More information about the “sharing shelves” program can be found in Section D4.

D. Physical Infrastructure - Standardized Bins and Signage:

Establish a campus-wide standardization system for collection bins and signage. Multiple examples of this can be found in PLAN's Program Case Library within the Member Hub. Here is an example of [bins](#) and [signage](#).

Full completion of goals in **Section 1D** would result in:
102.5 additional points
14.4% increase in Scope 1 Score
6.4% increase in Total Atlas Zero Waste Score

1. Standardization of collection bins and signage is a key component of a successful program in that it allows all campus staff, students, and visitors to clearly understand the expectations that The University of Louisville has around properly handling and disposing of all material types.
2. Standardization would include color and shape coding for bins, and universal signage for all collection and drop-off locations for items that are being donated to the campus surplus property program or disposed of via the HRM management system.
3. Standardization would also include clear outreach and communication strategies to train all staff, faculty, and students on how to use these new systems and what opportunities exist to extend the life of products like repair and maintenance programs, etc.
4. Establish a few “[sharing shelves](#)” as donation collection systems in residence halls. These are locations where students would be able to regularly drop off or pick up small items, like office supplies, electronics, and household wares. Shelves can be purged or cleaned out monthly, quarterly, or semesterly as needed by Sustainability interns or work-study students, and items can be brought to the Free Store (Section C) as a central management point for these materials.

E. Digital Infrastructure and Procurement Fees:

Explore the process of establishing a digital system for centralized purchasing and the management of

assets at all stages of their lifecycle. Explore possible implementation of an approximately 1% fee attached to all equipment purchases (modeled after the [University of Kentucky's procurement system](#)).

Full completion of goals in **Section 1E & 1F** would result in:
37 additional points
5.2% increase in Scope 1 Score
2.31% increase in Total Atlas Zero Waste Score

1. This system would allow the campus to purchase common items in bulk and distribute them to various departments, therefore cutting down on excess or unnecessary purchases. Explore the need for stockroom expansion.
2. The 1% fee attached to all equipment purchases would allow UofL to set aside funds from the moment an item is purchased to cover the costs of material handling, transportation, off-site recycling, and/or disposal. These fees would be pooled together into a general fund and would be used towards the annual costs of the surplus property facility and staffing. This is a model that has been in place for over 30 years at [The University of Kentucky](#).
3. This system would also allow the campus to keep reusable items in use longer by ensuring that used items are distributed before new items being purchased. This would be in addition to the physical surplus system, as a method of digitizing the process of material flow and managing inventory.

F. Policies: Explore establishing procurement policies for campus-wide material handling.

1. These include:
 - a) Policies that require all staff and faculty on-campus to send items to the surplus program when they are at the end of their use-value for that department:
 - (1) Establish requirements for how items are sent or listed digitally, length of time items should be listed for, how to price items that are for sale, etc.
 - b) Policies that require staff to check the surplus property system before purchasing new items
 - c) Policies that outline the inter-departmental movement of materials and how materials are managed within the surplus facility.
 - d) Policies that require all construction project managers to evaluate materials with the surplus property program during the early stages of planning for a new construction project. This would allow the surplus system enough time to plan logistics for large volumes of materials.

G. Student Engagement:

Explore opportunities for student participation in this program:

1. Interns & Fellows:

Opportunities for

student interns and fellows to have a role in the development and maintenance of these projects.

- a) Possible projects include: building the digital management system (either researching existing asset management software products or building spreadsheet models that could be managed internally), researching outlets for material reuse and recovery, studying the materials that frequently flow through the facility to research new innovative solutions, managing work-order requests, etc.
 - b) This could be through the Sustainability Office or funded through the campus's work-study program.
 - c) Explore opportunities for student-led DIY workshops: upcycling, creative reuse, make your own products, etc.
 - d) Explore opportunities for student engagement via social media - expanding UofL's sustainability social media presence.
 - e) Explore opportunities to implement a zero waste orientation for all first-year students to learn about campus sustainable materials management, understand where materials go, tour facilities, learn how to get involved, etc.
2. Classes: Opportunities for research classes participate in zero waste initiatives.

a) Academic classes could explore a wide variety of integrative uses of a facility like this:

- (1) Projects could include material reuse via art projects and upcycling through the Arts department, developing business plan proposals for material recovery via business classes, sociological or anthropological analysis of discarded materials, philosophical analysis of disposability, architectural analysis of commonly discarded items during construction and renovation, technological analysis of electronics and repair opportunities, sustainability life-cycle analysis of common products, etc.
- (2) This could be for academic credit through professors already engaged in these conversations.
- (3) Identify faculty who can come together to support academic research and engagement.

Full completion of goals in **Section 1G** would result in:

11 additional points

1.54% increase in Scope 1 Score

0.69% increase in Total Atlas Zero Waste Score

Scope 2 - Compost, Dishware, and Bin Standardization

- II. **Goal:** Establish Campus-Wide Bin Standards, Universal Reusable To-Go Ware Programs, and Procurement Policies that streamline material flow, reduce confusion, and eliminate as much disposable waste as possible

A. **Physical Infrastructure - Expand Reusable Dishware and Reusable To-Go**

Container System:

Expand the capacity of campus dining operations to provide universally accepted reusable to-go containers at

all food-service facilities on campus (Example from the [University of Vermont](#)) including the Ville Grille, the Marketplace, corporate chains, campus events, and athletics. Reusable to-go containers would allow UofL to eliminate disposable dishware / to-go containers by providing a reuse option for both sit-down and take-out food service at these locations.

Full completion of goals in **Section 2A** would result in:
77 additional points
10.81% increase in Scope 1 Score
4.81% increase in Total Atlas Zero Waste Score

1. This program would wash all containers at a central location, and distribute them to all food-service facilities for daily use. Used containers would then be dropped off at collection bins distributed around campus (an expansion of the current reusable dish collection bins on campus), and brought to the dishwashing station for sanitization and re-distribution.
2. Utilize all dishwashing units across campus to clean reusable containers.
3. Commit to explore cost-effective alternatives to single-use plastic silverware.
4. Obtain funding to develop and implement the campus-wide reusable to-go ware program and explore possibilities of creating on-campus jobs to support the program.
5. Explore establishing new policies to apply to future vendor contracts that require corporate chains to follow UofL's reusable to-go ware program. Encourage current corporate chains to change from disposable dining ware to reusable.

B. **Physical Infrastructure - Food Recovery:**

Expand the capacity of the Food Recovery Network (FRN) to be able to serve all campus dining facilities and large events. Explore opportunities to institutionalize the FRN

program and establish paid student positions who are doing the work to ensure the durability and success of this program.

Full completion of goals in **Section 2B** would result in:
29 additional points
4.07% increase in Scope 1 Score
1.81% increase in Total Atlas Zero Waste Score

1. Further develop policies to limit food waste, similar to policies already in place like donating leftover ingredients from on-campus dining to catering. Work with a committee led by Dining to explore these.
2. Search for outside organizations, similar to the [Lord's Kitchen](#), to accept donated food when it cannot be used on-campus.

C. Physical Infrastructure - Compost Collection:

Explore expansion of campus-wide compost collection to all facilities on campus including residence halls, academic buildings, athletic facilities, and pop-up collection for major events.

Full completion of goals in **Section 2C** would result in:
55.5 additional points
7.79% increase in Scope 1 Score
3.47% increase in Total Atlas Zero Waste Score

1. UofL has a compost collection system with WestRock that can handle disposable compostable products, and an on-campus compost operation through the UofL Community Compost Project that can help subsidize collection efforts. This effort would establish this program in all locations on campus and increase communications surrounding the program.
2. This would allow UofL to switch all disposable products (that haven't already been switched to reusable) to compostable products for proper disposal.
3. Renegotiate contract with residence hall housekeeping to monitor and maintain different bin types within the halls.

D. Physical Infrastructure - Standardized Bins and Signage:

Establish a campus-wide standardization system for collection bins and signage.

Full completion of goals in **Section 2D** would result in:
49.5 additional points
6.95% increase in Scope 1 Score
3.09% increase in Total Atlas Zero Waste Score

1. Standardization of collection bins and signage is a key component of a successful program in that it allows all campus staff, students, and visitors to clearly understand the expectations that UofL has around how to properly handle and dispose of all different types of materials.
2. These standards would cover bin color and shape for commonly collected streams like compost, recycle, and landfill, as well as for unique collection programs like liquid collection, non-perishable food collection, reusable dishware/to-go ware, etc.
3. **As a next step in Summer 2021:** Phase out recycling bins that only collect aluminum cans (George Howe Red Barn bins). SAC staff will begin implementation of standardized recycling bins that can be modeled across campus. SAC and Grounds/Physical Plant will approach the recycling company to propose an annual donation to

the George Howe scholarship fund to continue to honor the efforts George made to his commitment to campus recycling.

E. Procurement Policy - Environmentally Preferable Purchasing:

Establish policies that apply to all food-service facilities, campus departments, and vendors that state preferences for:

Full completion of goals in **Section 2E** would result in:
173.5 additional points
24.37% increase in Scope 1 Score
10.84% increase in Total Atlas Zero Waste Score

1. Bulk, communal cleaning supplies in residence halls that can be shared between students when needed.
2. Packaging and product standards made from compostable materials or post-consumer recycled content
3. A restriction on disposable swag in favor of products that are durable and reusable, similar to the [University of Massachusetts Lowell](#).
4. Bulk purchasing and the elimination of individually wrapped single-serve items (napkins, oyster crackers, individually wrapped fresh baked goods, mints, toothpicks, etc.)
5. **Plastic Reduction Pledge:** Sign PLAN's [Break Free From Plastics](#) Campus Pledge - A Presidential commitment to many of the long-term goals outlined in this document.

F. Events Infrastructure and Policies:

Establish event policies and infrastructure logistics for [zero waste events](#).

Full completion of goals in **Section 2F** would result in:
67 additional points
9.41% increase in Scope 1 Score
4.19% increase in Total Atlas Zero Waste Score

1. Establish process for how campus events of all sizes can access reusable dishware or to-go ware
2. Establish zero waste guidelines for bringing vendors and caterers to campus
 - a) Explore reusable or compostable alternatives to single-use plastic silverware and dining ware.
3. Establish process for how event hosts can request additional infrastructure like extra compost bins and what large outdoor standardized bin stations will look like for large events
4. **As a next step in Summer 2021:** Use the pilot effort being developed this Summer in the Donald C. & Lavinia L. Swain Student Activities Center(SAC) to model what marketing this program would look like to the rest of the campus community. Develop zero waste event policies, guidelines and resources that clearly explain how all members of

campus (student organizations, campus departments, visitors) can host a zero waste event.

- a) Establish capacity to ensure that this information is shared during the annual Registered Student Organization (RSO) Summit.

This vision was compiled by Jacob Foushee '22 and Lily Stewart '22, Zero Waste Interns - with support from Justin Mog, Assistant to the Provost for Sustainability Initiatives. The release of this Strategic Vision represents the culmination of Jacob and Lily's Stage 2 Fellowship with the Zero Waste Atlas project of the Post-Landfill Action Network (PLAN).

Strategic Vision Section	Gap Points	Percent of Scope Score	Percent of Total Score
1A & 1B	127.5	17.91%	7.97%
1C	6.5	0.91%	0.41%
1D	102.5	14.40%	6.40%
1E & 1F	37	5.20%	2.31%
1G	11	1.54%	0.69%
2A	77	10.81%	4.81%
2B	29	4.07%	1.81%
2C	55.5	7.79%	3.47%
2D	49.5	6.95%	3.09%
2E	173.5	24.37%	10.84%
2F	67	9.41%	4.19%

	Points Given	Points Possible	Points Left to Earn			Strategic Vision Section
			Gap Points	Percent of Scope Score	Percent of Total Score	
Scope 1: Surplus Property & Hard-to-Recycle Materials	427.5	712	284.5	39.96%	17.78%	
Surplus Property						
Policy That Requires Staff Send Material to Surplus	25	25	0	0.00%	0.00%	1F
Policy That Requires Staff Purchase From Surplus	18.5	22	3.5	0.49%	0.22%	1F
General Surplus Policies & Communication	10	21	11	1.54%	0.69%	1F
Surplus Program & Managed Materials	50	90	40	5.62%	2.50%	1A
Thrift Store	4.5	11	6.5	0.91%	0.41%	1C
Res Hall Reuse & Sharing	12	23	11	1.54%	0.69%	1G
Hard to Recycle Materials (HRM)						
HRM from Specialized Facilities	70.5	132	61.5	8.64%	3.84%	1A
HRM Aggregation & Clear Collection Points	24.5	77	52.5	7.37%	3.28%	1D
Construction & Demolition						
Policy Requiring Contractors to Use Surplus & Recycling	42.5	57	14.5	2.04%	0.91%	1F
Electronic Waste						
Policy That Requires Staff Send E-Waste to Surplus/Recycling	19.5	21	1.5	0.21%	0.09%	1F
Procurement Policies for Purchase, Take-Back & Recycling	18.5	25	6.5	0.91%	0.41%	1F
Electronics Repair & Recycling	50	76	26	3.65%	1.62%	1A
E-Waste Collection Infrastructure	28	59	31	4.35%	1.94%	1D
Hazardous Materials						
Hazardous Waste Collection & Management	54	73	19	2.67%	1.19%	1D

			Points Left to Earn				
			Gap Points	Percent of Scope Score	Percent of Total Score	Strategic Vision Section	
Scope 2: Compost, Food and Plastics			437	888.5	451.5	63.41%	28.21%
Purchasing							
Adherence to Campus Procurement Policies	68.5	152	83.5	11.73%	5.22%	2E	
Policies That Favor Bulk Products Over Single-Use	61	127	66	9.27%	4.12%	2E	
Zero Waste Guides & Plans	3	20	17	2.39%	1.06%	2E	
Reusable Dining and To-Go Ware							
Accessibility Policy	4	6	2	0.28%	0.12%	2E	
Reusable Dining Ware Provided	27.5	51.5	24	3.37%	1.50%	2A	
Reusable To-Go Container Program	8	53	45	6.32%	2.81%	2A	
Hydration Stations Available	11	16	5	0.70%	0.31%	2E	
BYO Program	2	10	8	1.12%	0.50%	2A	
Collection Locations for To-Go Ware	2	9	7	0.98%	0.44%	2D	
Food Waste Reduction & Food Recovery							
Food Recovery Program	24	35	11	1.54%	0.69%	2B	
Food Waste Reduction Initiatives & Education	19	37	18	2.53%	1.12%	2B	
Compost & Bin System							
Composting Program	20.5	38	17.5	2.46%	1.09%	2C	
Compostable Dining Ware & Disposables	25	63	38	5.34%	2.37%	2C	
Bin Standardization	65.5	108	42.5	5.97%	2.66%	2D	
Other Soft Goods Initiatives							
Zero Waste Education & Communication	12	27	15	2.11%	0.94%	2F	
Recycling & Reuse	43.5	50	6.5	0.91%	0.41%	2F	
Paper Reduction Initiatives	28.5	74	45.5	6.39%	2.84%	2F	
Student-Led Initiatives	12	12	0	0.00%	0.00%	2F	

Additional Credit	66.25	179.5	113.25	15.91%	7.08%
Additional Credit - Surplus	13	31	18	2.53%	1.12%
Additional Credit - HRM	6	18.5	12.5	1.76%	0.78%
Additional Credit - Hard Goods Programs	5	9	4	0.56%	0.25%
Additional Credit - Reusable Dishware, To-Go Ware, BYO	7.75	28.5	20.75	2.91%	1.30%
Additional Credit - Food Recovery and Waste Minimization	0	8	8	1.12%	0.50%
Additional Credit - Compost	0.5	6.5	6	0.84%	0.37%
Additional Credit - Education, Recycling & Reduction	31.5	52	20.5	2.88%	1.28%
Additional Credit - Soft Goods Policies	2	10	8	1.12%	0.50%
Additional Credit - Liquid Collection	0.5	16	15.5	2.18%	0.97%

