

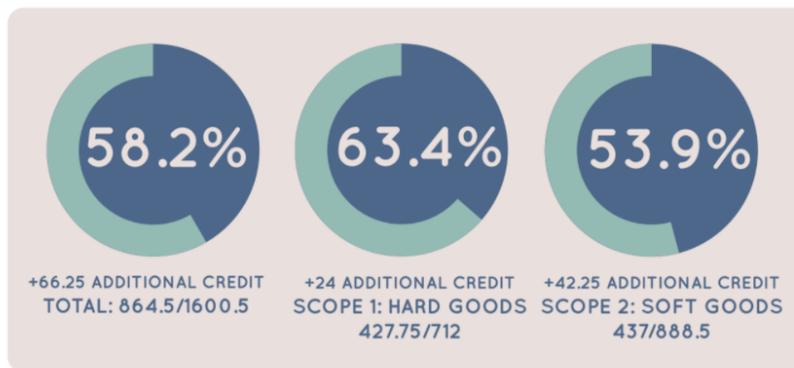


3/29/2021

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



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

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

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

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](#)).

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%

© 2021. Post-Landfill Action Network. All rights reserved.