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West Chester University Zero Waste Atlas Campus Assessment 2021

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WEST CHESTER UNIVERSITY

ZERO WASTE ATLAS CAMPUS ASSESSMENT 2021

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PLAN Post-Landfill Action Network

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INTRODUCTION

In Spring 2021, West Chester University's Office of Sustainability hired the Post-Landfill Action Network (PLAN) to support two Sustainability Peer Educators, Grace Bowden '21 and Andrew James '21, to conduct a holistic assessment of the University's waste management system. WCU's Climate Action Plan includes a goal of achieving zero waste (as defined by 90% diversion from landfills and incinerators), with no defined timeline for achievement. The plan also outlines a number of key next steps in working towards that goal, many of which have yet to be achieved as outlined in this report. WCU remains committed to reduce waste sent to landfill and to change the ways the campus purchases and manages goods to be in the best interests of the environment and WCU. The following report is intended to identify concrete steps that WCU can take to shift towards holistic zero waste systems.

WCU's Atlas Fellows used PLAN's Atlas Zero Waste Assessment - a project designed to help campuses assess and streamline campus systems for materials management - to collect the information used to inform this report. This report offers a snapshot of existing programs, services and infrastructure, illustrates ideal material flows throughout a campus, and proposes recommendations to fill the gaps identified during the assessment. While this Atlas assessment provides numerous suggestions based on its assessment of the capacity of existing campus systems and best practices from other campuses, campus stakeholders must ultimately decide on the exact path the University takes to achieve zero waste. Numerous resources are available to WCU as a PLAN member campus to guide it in making these decisions.

Note: This report is currently being produced during the COVID-19 Pandemic when most colleges switched to virtual learning. All systems were assessed as they were pre-COVID-19. Concerns and questions about Reuse Programs and the COVID-19 pandemic are addressed in this fact sheet.

Terms used in this report can be found in the Atlas Glossary of Terms.

This report was prepared for West Chester University by the Post-Landfill Action Network, a non-profit zero waste advising organization based in Dover, New Hampshire. Any views, thoughts, or opinions expressed in the text belong solely to the Post-Landfill Action Network and do not reflect the views of West Chester University.

ASSESSMENT PROCESS

Andrew and Grace were trained by PLAN's Atlas team on the findings and theories that originally informed PLAN's Atlas Zero Waste Program, and on the interview process central to the assessment. They used PLAN's Atlas Stage 1 Campus Programs Checklist to complete in-depth interviews with 34 representatives from various campus departments, documenting and gathering data through a series of yes/no questions on the current infrastructure, policies, and communication channels related to the University's waste mitigation and management. A complete list of the interviewed representatives can be found in the Acknowledgements section of this report.

Following data collection, the interns scored the campus checklist - points are awarded in accordance with the zero waste hierarchy, with **3 points** awarded for source reduction initiatives, **2 points** for reuse initiatives, and **1 point** for recycling/compost initiatives. The campus was awarded an overall score, scores for the two major systems of campus materials management described in the following section, and specific programmatic scores, which are all collectively used to guide this report.

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	Disposable Dishware
Lab / Art Equipment	Disposable To-Go Ware
Vehicles / Tires / Oil	Compostable Dishware
Chemicals / EH&S	Compostable To-Go Ware
Facilities / C&D	Reusable Dishware
	Reusable To-Go Ware

The Zero Waste Atlas project is unique in that it does not simply measure waste outputs, but instead looks holistically at the entire campus materials management system from purchase to use to collection to disposal.

In **Scope 1 - "Hard Goods"**: We assess the materials management system for all materials the campus has direct control over - namely, items that the campus purchases, manages, uses, and maintains ownership over, and is ultimately fully responsible for the method in which they are discarded. Below is an **example** of how a campus would manage materials in an ideal version of this system. You can also chart the path of this item through the idealized system map provided below.

A faculty member wants to **purchase** a file cabinet. First, per **campus policy**, they check the **campus surplus property program** and other local reuse facilities before buying a new item. When reuse isn't an option, the faculty member **purchases** the file cabinet following the campus's procurement policies. Years later, when the file cabinet is being discarded - the staff member contacts the **surplus property program** to schedule a **pick-up,** and the item is picked up for free. The item is **catalogued**, listed for sale on the **University's online surplus sale site**, and possibly also on sale at a **surplus storefront**. If the item goes unsold for weeks or months, the item is **donated to the community** or sent to the **campus aggregation point for hard-to-recycle materials** - where it is stripped into parts. In this case, the file cabinet parts would go to **industrial metal recycling**.

Scope 1 - An Example of Material Flow Options Through an Idealized Version of a Hard Goods System Map

* Policy requiring staff to follow specific materials management process - where and how to dipose

** Policy requiring staff to check surplus before purchasing new

*** Multiple policies related to purchasing from off-campus vendors including choosing vendors that use recycled materials, make recyclable products, have takeback programs,
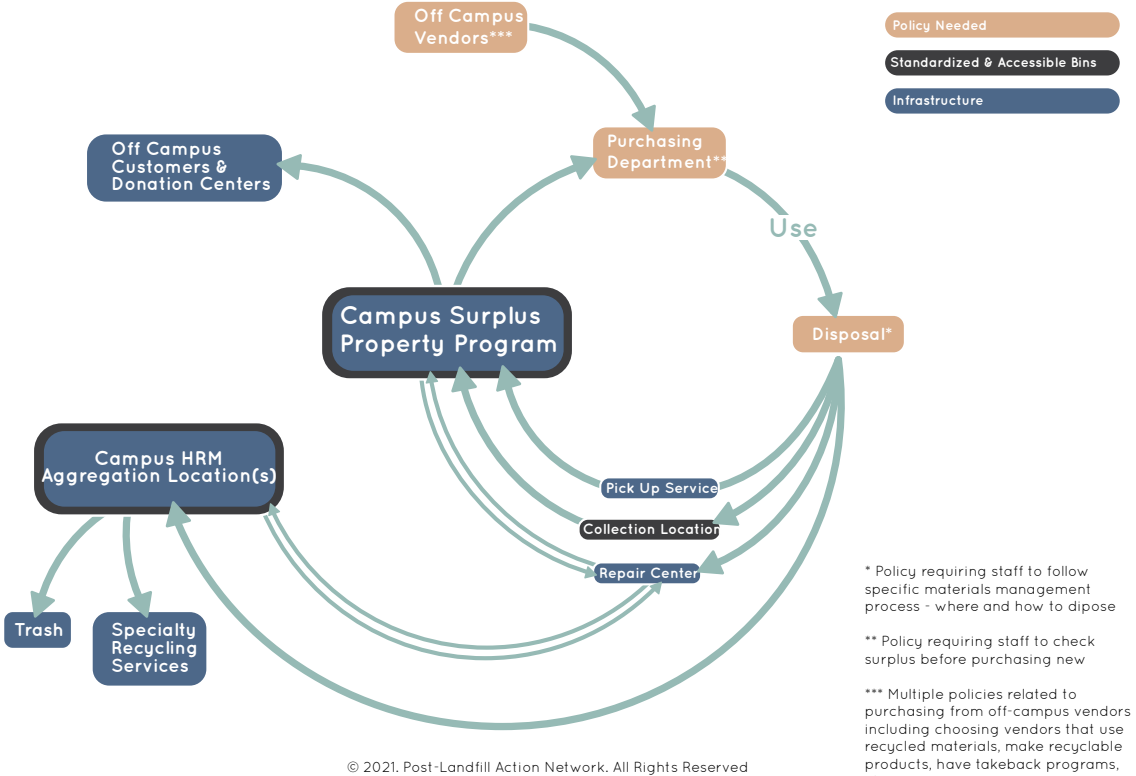
In **Scope 2 - "Soft Goods"**: We assess the materials management system for all materials that the campus purchases, but ultimately wind up in the hands of individual users, leading to limited control over which bin the material is placed in. Below is an **example** of how a campus would manage materials in an ideal version of this system. You can also chart the path of this item through the idealized example of a system map provided below:

A student purchases a coffee from a coffee vendor on campus that is required to comply with the **campus procurement policy**. The student can either get the coffee in a **reusable to-go mug** or in a **compostable cup**. The student walks across campus with their coffee, and when finished, discards their coffee container in the **standardized collection bin** for either compostable materials or reusable dishware, available in every building on campus. If compostable, the material is collected and transported to an **industrial composting facility** (either on or off campus). If reusable, the dishes are taken to a **campus dishwasher** to be washed and re-distributed back to campus food vendors.

Scope 2 - An Example of Material Flow Options Through an Idealized Version of a Soft Goods System Map
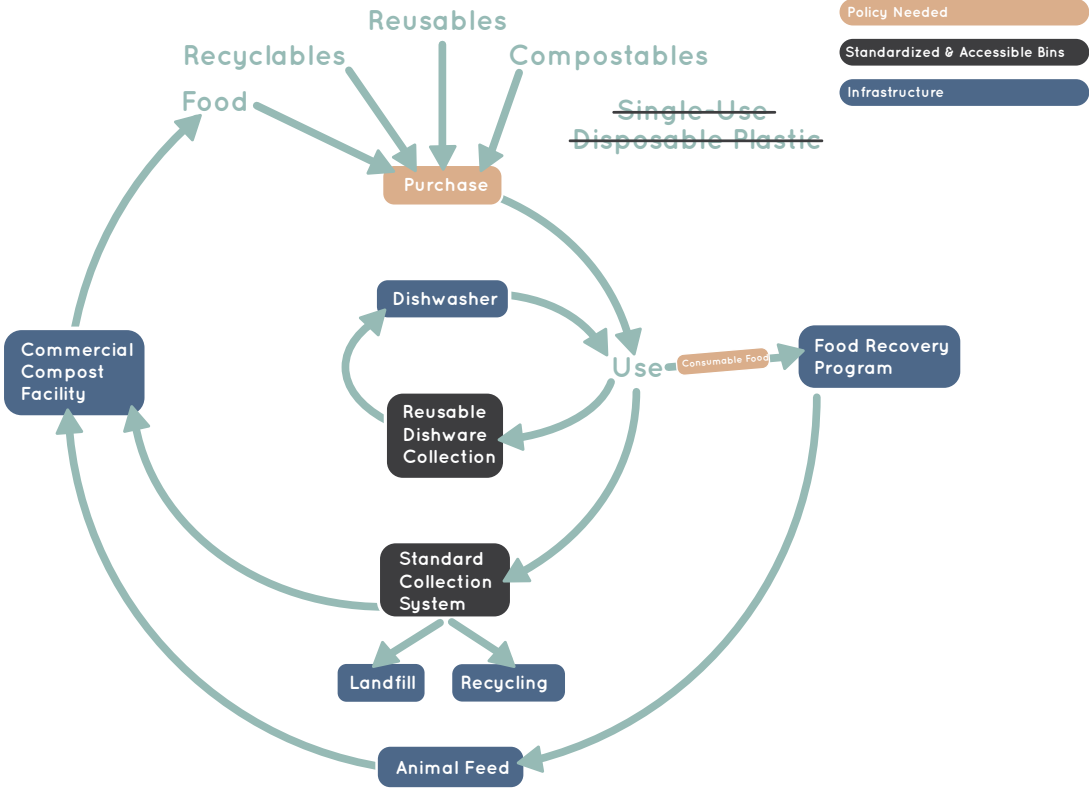
The Zero Waste Atlas project is designed to streamline campus material management systems, as illustrated by the example scenarios for Scope 1: "Hard Goods" and Scope 2: "Soft Goods." Not addressed in this systemic analysis is a proverbial "Scope 3", which would account for all items brought to campus (ie, not purchased by the campus) by individual consumers (faculty, staff, students, visitors, etc). We do not include these items in this assessment because the campus has no control over the purchasing of these items, and the ultimate management and disposal of these items falls under the parameters of Scopes 1 and 2. Therefore, effectively-designed Scope 1 & 2 systems will ultimately be capable of capturing Scope 3 materials. Below is an ideal version of how a Scope 3 material would be captured in this system.

A student living in a residence hall on campus discovers that their lamp is broken. They bring the lamp to the **campus repair center** (a facility assessed in **Scope 1**), where an attempt to repair the lamp is made. If the lamp cannot be repaired - the lamp is placed in a **standardized electronic waste recycling bin** which can be found in most buildings on campus.

PROGRAM SCORING

In addition to the Hard Goods and Soft Goods Material Scopes, and the Additional Programs groupings, all of the questions in the Campus Programs Checklist were also categorized by specific program, as seen in the included Program Scoresheet, such as reusable to-go ware or residential hall initiatives. Program recommendations will be included in the same sections that assess Hard Goods Infrastructure and Soft Goods Infrastructure; note that these programs are generally smaller-scale projects versus campus-wide infrastructure projects. These scores preface the assessment and recommendations in each section and are summarized in the scoresheet included in the following pages. The scores preceded by a "+" at the top of each section indicate "Additional Programs," meaning that they are added as unweighted extra credit to the Hard Goods and Soft Goods scores.

In some sections, findings are presented in the form of tables and can be interpreted as follows:

yes	full points awarded, i.e. 100% adoption across all facilities
partial	half points awarded, i.e. facilities are still in the process of adoption
no	no points awarded, i.e. facilities have not adopted this practice and are not in the process of adopting it
n/a	question is not asked or is not applicable to this facility
+0	no extra points awarded - this is an additional credit question
+number	extra points awarded - this is an additional credit question

WCU ZERO WASTE SCORECARD

West Chester University

Spring 2021

ATLAS Zero Waste™ Certification
A Program of PLAN

Total Score: 43.1%

SYSTEM SCORES   **PROGRAM SCORES**

SCOPE 1

Total Score:
41.3%

ATLAS SCOPE 1

46.1% Infrastructure

9.9% Bin Standardization

BRONZE 60.5% Policy

Additional Credit **+7.25**

56.5% Surplus Property

26.5% Hard-To-Recycle Materials

38.6% Construction & Renovation

42.9% E-Waste

32.1% Hazardous & Universal Waste

SCOPE 2

Total Score:
44.5%

ATLAS SCOPE 2

32.7% Infrastructure

52.2% Bin Standardization

53.1% Policy

Additional Credit **+32.25**

52.3% Purchasing & Policies

25.3% Reusable Dishware

35.2% Food Waste Reduction & Food Recovery

39.5% Compost & Recycling System

ATLAS Zero Waste Certification A Program of PLAN™

PROGRAM SCORESHEET

	Points Earned	Points Possible
Scope 1: Surplus Property & Hard-to-Recycle Materials (HRM)	**414.5**	**1022**

Surplus Property	165.5	293
Surplus Program Policies & Communication	70.5	101
Surplus Program & Managed Materials	39.5	100
Reuse & Repair of Departmental Surplus Items	23	31
Reuse & Sharing of Student Items	32.5	61

Hard to Recycle Materials	78	294
HRM from Specialized Facilities	71	187
HRM Aggregation & Collection Point Accessibility	7	107

Construction & Renovation	22	57
Construction & Renovation Policies	22	57

Electronic Waste	109.5	255
Policy Requiring Staff to Send E-Waste to Surplus/Recycling	30	34
Procurement Policies for Purchase, Takeback & Recycling	12	27
Electronics Repair & Recycling	59	106
E-Waste Collection Infrastructure	8.5	88

Hazardous Materials	39.5	123
Hazardous Waste Collection & Management	39.5	123

	Points Earned	Points Possible
Scope 2: Compost, Food, and Plastics	**587.75**	**1392.5**

Purchasing & Policies	327.5	626
Adherence to Campus Procurement Policies	117.5	215
Policies That Favor Bulk Products Over Single-Use	103	214
Institutionalization of Zero Waste Goals & Plans	21	54
Paper Reduction & Reuse Initiatives	86	143

Compost/Recycling & Bin System	147.75	374
Composting Program	8	47
Compostable Dining Ware & Disposables	6.5	109
Bin Standardization	98.75	167
Recycling	34.5	51

Reusable Dining and To-Go Ware	66	260.5
Accessibility Policy	10	11
Reusable Dining Ware at Sit-Down Eateries	30.5	98.5
Reusable To-Go Ware Program	11	97
Hydration Station Availability	14	24
BYO Program	0.5	13
Collection Locations for To-Go Ware	0	17

Food Waste Reduction & Food Recovery	46.5	132
Food Recovery Program	16.5	50
Food Waste Reduction Initiatives & Education	30	82

Additional Credit	39.5	177.5
Additional Credit - Surplus Sharing Initiatives	4	16
Additional Credit - Hard-to-Recycle Material	0.25	5
Additional Credit - Hard Goods Reuse	3	11
Additional Credit - Reusable Dishware, To-Go Ware, BYO	0.75	56
Additional Credit - Food Recovery & Waste Minimization	0	11
Additional Credit - Compost	0	5.5
Additional Credit - Education	31.5	47
Additional Credit - Soft Goods Policies	0	2
Additional Credit - Liquid Collection	0	24

PLAN's Zero Waste Atlas project has found so far that the average campus score is between 40-50%. As we expand this project to more campuses, we will continue to update national scoring averages and standings for how campuses compare with each other. Larger versions of the Scorecard (previous page) and the Program Scoresheet are linked. A detailed breakdown of the campus' points can be found in the Campus Programs Checklist.

SUMMARY RECOMMENDATIONS

1. **Gather a Zero Waste Task Force** or similar working group to review this report, in tandem with the goals set out in WCU's Climate Action Plan.
2. **Develop a Strategic Vision for Zero Waste:** Following that review, we recommend working collaboratively with all stakeholders to discuss and build a strategic vision to address system-wide solutions, and create a comprehensive "Zero Waste Vision" for the University. The established vision may update existing goals and outline ambitious new goals that require advanced long-term strategic planning and establishment of new campus infrastructure and systems, as well as policies and standard operating procedures that may differ from the way materials are currently managed.
3. **Explore the campus's capacity to provide adequate resources to this initiative:** The Zero Waste Vision may require looking into organizational restructuring to relocate and redefine program management and responsibilities, which should be coupled with ample research to make decisions around management and costs. Consistent with other universities, we recommend that WCU employ at least one full-time employee dedicated to advancing waste reduction initiatives. The Task Force should aim to develop a timeline to achieve measurable progress towards the following recommendations:

SCOPE 1

- Expand campus' capacity to track, store, and communicate surplus property inventory to the campus community.
- Expand campus' capacity to more efficiently collect, manage, and reallocate hard-to-recycle materials (HRM).
- Establish a clear requirement that all staff across campus send surplus property and HRM materials to the campus facilities that manage these materials.
- Establish a clear requirement that all faculty and staff must check surplus options before purchasing new items.
- Consider establishing on-campus facilities that offer free repairs of broken items or workshops and skillshares that teach repair techniques.
- Consider establishing an on-campus free or thrift store to increase circularity of student-owned materials.

- Consider increasing opportunities for students and staff to share and reuse surplus items and hard-to-recycle materials across campus by establishing shared resources websites between similar facilities, campus community repair spaces in specialized facilities, free spaces in residence halls, and a system to connect residence hall collections with the campus surplus property system.
- Establish and communicate sustainable procurement policies to guide departments with purchasing electronics and other hard goods.
- Establish and communicate HRM collection bins and signage infrastructure across campus to collect all types of electronics, and other common items like plastic film, universal wastes like batteries and lightbulbs, etc.

SCOPE 2

- Explore options to limit disposable dining ware usage such as by offering reusable dining ware "for here" at locations that serve mostly to-go food but have tables nearby, developing a bring-your-own-container discount that is universally accepted at all facilities, and/or establishing a campus-wide reusable to-go ware program that would service all food-service facilities on campus.
  - Consider ensuring that a reusable to-go ware program has the capacity to expand to athletics, on-campus events, and corporate vendors to reduce single-use disposable plastics and food packaging as much as possible. Establish campus-wide collection points for reusable to-go ware, including in non-dining facilities like residence halls and academic buildings.
- Establish a campus-wide compost collection program and bin standardization system, and work to update all bins and signage across campus, ensuring that material collection systems are clear and universal across campus and that bins are always paired together at collection stations.
- Consider establishing a procurement policy that applies to all food service facilities including corporate vendors that requires the use of reusable to-go containers, the elimination of all single-use disposable plastics, and switching all disposable items to compostable packaging that can be accepted by the campus compost program.
- Establish and better communicate sustainable procurement policies and a set of event guidelines for soft goods material management (e.g. dining ware) to encourage reuse and composting, limit single-use plastic and non-essential packaged items by signing the [Break Free From Plastic Campus Pledge](#), and establishing systems for bulk service and bulk purchasing.

SCOPE 1 - HARD GOODS: SURPLUS & HARD-TO-RECYCLE MATERIALS (HRM)

MAP OUT INTERDEPARTMENTAL MATERIAL FLOW

An important first step to better understand connections, increase communication, and identify gaps in surplus and HRM management on WCU's campus is creating a material flow map. This should outline the movement of materials throughout the stages of purchasing, use, collection and disposal between various departments on campus. This should also outline stakeholders that interact with this process, and the logistics and infrastructure necessary throughout each stage. A simplified example of a relatively perfect system map is provided in the Methodology section - note that stakeholders are not identified in this diagram because the distribution of responsibility varies between campuses.

HARD GOODS: ASSESSMENT & RECOMMENDATIONS
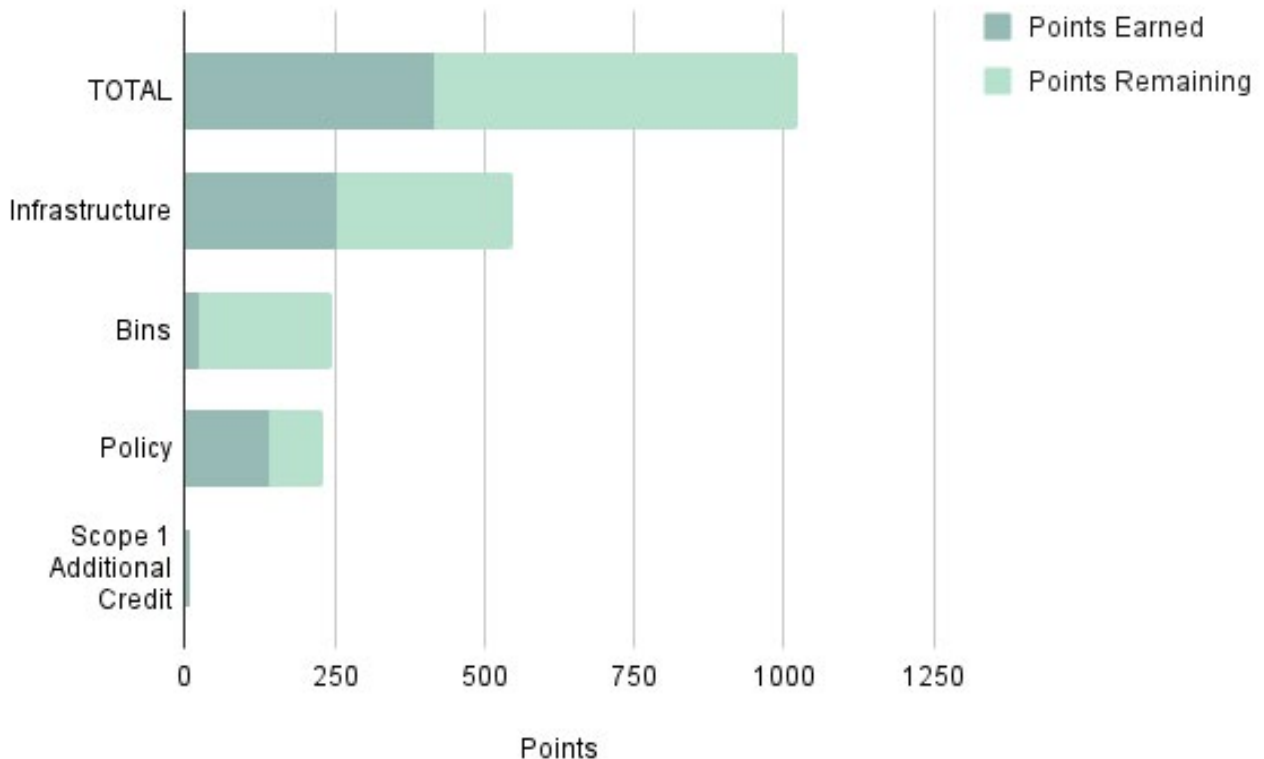
HARD GOODS INFRASTRUCTURE & PROGRAMS

I. Surplus: Expand Capacity (Infrastructure and Staffing) for Campus-Wide Management of Surplus Property and Material Donation

This section measures the campus's capacity in terms of infrastructure, services, and staff to fully capture surplus property from all departments and locations on campus, with the intended purpose of

39.5 / 100	Surplus Program & Managed Materials
23 / 31	Reuse & Repair of Departmental Surplus Items
+ 4	Additional Credit - Surplus

making those items available for reuse on-campus or donation off-campus, as well as non-electronic repair initiatives like textiles and furniture. The following table assesses whether the campus collects and manages the following surplus materials for reuse in any campus-wide capacity.

TABLE 1: CAMPUS SURPLUS PROPERTY COLLECTION

Table 1: Campus Surplus Property Collection	
Surplus Property	**Collected by Campus for Reuse**
Furniture	yes
Electronics (laptops, lab and medical, refrigerators, air conditioners, appliances, handheld devices, wires and cables)	partial
Mixed media (CD's, DVD's, etc.)	yes**
Textiles (clothing, uniforms, etc.)	yes**
Reusable building fixtures (i.e lighting, HVAC systems, plumbing fixtures, doors, etc.)	no
Construction & demolition material (brick, stone, tiles, wood, shingles, etc.)	no
Misc. household goods (dishware, decorations, school supplies, sporting equipment, etc.)	yes
Campus vehicles	yes
Books	no
Paint & art supplies	no
Lab equipment*	yes
Medical supplies (e.g. crutches)*	yes
Bikes & bike parts	no

*can be collected for internal reuse by specific campus department

**confirm with the Zero Waste Working Group that there are indeed accessible locations to collect these items from the campus community.

West Chester University does have a surplus property program that handles many items efficiently, but the program is limited in its capacity to serve as an outlet for reusing all of the materials that exist and are discarded on WCU's campus.

WCU does provide free pick up and delivery of reusable items, but as can be seen in Table 1, West Chester University's campus-wide surplus property program only has the capacity to collect and manage 7.5 of the 14 assessed materials for reuse. Reusable building materials are also often sent to surplus, but reusable fixtures like lighting and HVAC systems are not. There is no on-campus repair space for items like furniture, so items that could otherwise be reused with small repairs are often discarded.

This is partially because the program is limited in staffing and space capacity to track and inventory items being reused on campus, and there is no central storefront/facility that serves as a space for staff and students to find reused items. Once items are taken to the surplus warehouse, they are stored in a locked area where staff can shop by appointment only.

During this assessment, 29 of the 34 stakeholders interviewed responded that they and their staff are required to send materials to surplus, and 2 additional stakeholders said that it is not required, but it's something they try to do. Conversely, 18 of the 34 stakeholders interviewed for this assessment responded that they require their staff to check surplus before purchasing something new, and an additional 4 stakeholders said that it is not required, but it's something they try to do.

WCU does not have a campus bike share program, but there are two free bike repair stations on campus open to everyone.

Recommendations

We recommend that WCU consider expanding a few aspects of its surplus property program to encourage more effective use by staff members. Some possibilities include:

- Identifying and establishing additional storage space on campus
- Creating a searchable online inventory of available items - often called a Digital Asset Management Program
- Expanding the breadth of materials the program is able to collect to allow for greater on-campus circularity of items
- Open this program up to students and the broader WCU campus community
- Establish a policy to check surplus property inventory before purchasing new items for a department
- Establish an on-campus repair center, open to staff and students, to keep items in use longer
- Some science labs already have shared equipment/resources websites, but the campus could continue exploring these methods within other departments to increase the reuse of department-specific items and incorporate the use of surplus property items into day-to-day operations.[1]

Additional Credit

Surplus Reuse & Sharing Among Individual Departments: WCU earned additional credit for internal reuse and sharing of materials within a few campus departments, namely the Art Studios and some labs.

[1] The University Surplus Property Association is a small nonprofit association of college campus surplus facility managers and operators that share resources and best practices via a listserv and annual conference. Annual membership is $50 for the first staff member, and $25 per additional staff member at each institution.

TABLE 2: CAMPUS AGGREGATION OF HRM

Table 2: Campus Aggregation of HRM	
Hard-to-Recycle Materials (HRM)	**Collected at a Campus Aggregation Point**
Lab plastics	no
Lab glass	no
Plastic film & bags, bubble wrap, plastic wrap, air packages for recycling	no
Styrofoam & packing peanuts	no
Rigid plastics (e.g. tubes, pots, pesticide containers)	yes
Rubber gloves	no
Scrap metal	no
Wood and/or sawdust	no
Concrete	no
Brick	yes
Drywall	no
Roof shingles	no
Porcelain (e.g. sinks, toilets, tubs, etc.)	no
Textiles	no
Carpet	no
Mattresses	no
Plastic signage	yes
Wood pallets	yes
Cooking oil	yes
HRM for Terracycle	no
Electronic Recycling	
Laptops/computers	yes
Lab & medical electronic equipment	yes
Freon-containing equipment (refrigerators, A/C)	yes
Microwaves	yes
Household appliances (fans, vacuums, anything w/cord or battery)	no
Handheld electronics	partial
Wires and cables	yes
Mixed media (CD's and DVD's)	yes
Batteries	yes
Lightbulbs	yes
Ink & toner cartridges	yes
Mercury-containing equipment (thermometers, fluorescent bulbs, etc.)	yes
Hazardous/Regulated Waste	
Tires	yes
Paints and oil-based supplies	yes
Lab chemicals or radiological waste	yes
Waste oil	yes
Pesticides	yes
Fertilizer	yes
Propane and propane tanks	yes
Custodial chemicals	yes
Sharps	yes

II. HRM: Expand Capacity of Campus Wide Management of Hard-to-Recycle Materials (HRM)

This section measures the campus capacity in terms of infrastructure, services, and staff to fully capture Hard-to-Recycle Materials (HRM) from all departments and locations on

71 / 187	HRM from Specialized Facilities
39.5 / 123	Hazardous Waste Management
59 / 106	Electronics Repair Services
+ 0.25	Additional Credit - HRM

campus with the intended purpose of aggregating those items for economical recycling of them through industrial facilities. HRM's exist in different pockets and departments of campus, and are more efficient and cost-effective to manage at campus-scale via a campus-wide system. The following table assesses whether the campus collects and manages the following hard-to-recycle materials for reuse or recycling in any campus-wide capacity.

Assessment

At the campus-wide level, West Chester University has the capacity to effectively capture and aggregate 25 of the 41 items assessed in this report. However, collection efforts across campus are sparse and are reportedly inconsistent, as detailed below.

- **Plastics, Films, and Styrofoam:** Stakeholders report that there is campus-wide aggregation for recycling of rigid plastics, but not of items like plastic film, styrofoam and lab glasses and plastics. However, throughout campus some facilities report that these items are collected and recycled separately - which means that either they are managing their own recycling contracts with external haulers separate from a centrally managed program run by Facilities, or possibly that these items are perceived to be recyclable and are contaminating the campus's single stream recycling system. For example, campus facilities like the Gordon Natural Area and Graphics and Printing report collection of plastic film for recycling, and all of the labs report collection and recycling of lab plastics and glasses.

- **Construction and Renovation Materials:** Stakeholders reported that decisions to reuse and recycle materials from construction and renovation projects are managed on a case by case basis. Many common items often aggregated on campus don't have a reported aggregation process or location, like metals and woods, but some are reportedly taken to local scrap yards depending on the project.

- **Textiles, Plastic Signage, and Terracycle Programs:** Textiles, carpets, mattresses, and Terracycle materials are not collected at a campus-wide aggregation point, but plastic signage is reportedly collected. None of the stakeholders interviewed for this assessment report collection of these materials.

- **Electronics Recycling and Universal Waste:** WCU has a well-run recycling program for electronics and universal wastes owned by the University. Items are aggregated and binned/palletized. While 31 of 34 stakeholders interviewed for this assessment report that they require their staff to use the campus e-waste collection program, individual facilities gave inconsistent answers over the existence of collection bins and signage for these materials and the proper management of some universal wastes. This program is not easily accessible to students with few public collection bins for universal wastes and no collection bins for electronic waste.

- **Regulated and Hazardous Wastes:** All assessed regulated and hazardous wastes are collected and recycled or disposed of properly.

Recommendations

We recommend that the University explore options for improving hard-to-recycle material collection systems on campus, including:

- Mapping out material flow across campus for items that are not currently collected, identifying where items are already aggregated throughout different facilities, where collection points could be established across campus, and establishing which positions would be responsible for managing these aggregation spaces and collecting these materials.

- Increasing accessibility of HRM and e-waste collection beyond just staff members by establishing year-round collection points in residence halls and other high-traffic areas.

- Align strategic planning for HRM management with the campus surplus property program, such as doubling up efforts on identifying further aggregation and storage space and as a way to serve the surplus property program when items sent for reuse ultimately have to be broken down into material parts and recycled.

III. Programs: Thrift Store & Residential Halls

This section assesses programs that are often student-facing and can function either as part of campus-wide infrastructure assessed above or via separate programs that feed into or share components of larger campus-wide efforts.

32.5 / 61	Reuse & Sharing of Student Items
+ 3	Additional Credit - Hard Goods Reuse

Assessment & Recommendations

Thrift/Free Store

West Chester University does not have a thrift or free store on campus. We recommend establishing a dedicated on-campus space to swap student-owned items that is available to all campus community members. This free or thrift store should have clearly labeled collection bins outside the space should regularly encourage students to swap from the store through social media, the Office of Sustainability publications, and other campus partnerships. As the store continues to establish itself, it could consider working with a repair shop to fix slightly broken items, as well as collecting items from the residence halls' move-out program or free spaces.

Res Hall Reuse & Sharing

Some of WCU's residence halls have informal sharing spaces like a shelf, but the program is not institutionally managed and items are not regularly cleared out and brought to a central location - like a free/thrift store. Residence halls do have rentable microwaves and fridges to encourage multi-year reuse of these items.

In 2019 WCU held a springtime end-of-year move out collection program and collected 3-4 containers of household goods which were sold at an on-campus yard sale. The program was paused in 2020 due to COVID and will remain paused in 2021. The program is expected to be restarted in spring 2022 (evolution of the pandemic permitting).

Additional Credit

Programs: WCU earned additional credits for hosting some on-campus swaps and repair events, and for offering shared items within the campus residence halls like cleaning supplies including brooms and vacuums for students to borrow.

HARD GOODS POLICY

I. Establish Hard Goods Policies

This section assesses the campus-wide procurement policies, communication strategies, and requirements for handling and disposal of all hard goods.

70.5 / 101	**Surplus Program Policies & Communication**
30 / 34	**Policy Requiring Staff to Send E-Waste to Surplus/Recycling**
12 / 27	**Procurement Policies for Purchase, Take-Back & Recycling**
22 / 57	**Construction & Renovation Policies**

Surplus: Assessment & Recommendations

As mentioned previously, 29 of the 34 stakeholders interviewed responded that they and their staff are required to send materials to surplus, and 2 additional stakeholders said that it is not required, but it's something they try to do. Conversely, 18 of the 34 stakeholders interviewed for this assessment responded that they require their staff to check surplus before purchasing something new, and an additional 4 stakeholders said that it is not required, but it's something they try to do.

We recommend the campus consider strengthening communication that:

- Ensures that all staff are required to check surplus property before buying new items
- Ensures that all staff know and understand how the surplus property program works, how to access it, and how to schedule pick-up/drop-off services if applicable
- Includes preferences and incentives for purchasing new products that come with take-back, warranty, or repair programs for items such as furniture, appliances, technical equipment, etc.
- Encourage same-type campus departments to practice centralized purchasing for bulk purchase options of commonly procured materials

Electronics: Assessment & Recommendations

As mentioned previously, 31 of 34 stakeholders interviewed for this assessment responded that they and their staff are required to send broken electronics to the campus's e-waste recycling program. Some electronics procurement policies exist - like those that prioritize repairable products that come with full-service warranties.

To increase best practices around electronics materials management, WCU should establish and communicate policies for electronics purchase, use, and disposal that could include language prioritizing:

- EPEAT Products certified Bronze, Silver, or Gold
- Leased equipment
- Companies with take back programs
- Keeping current electronics in use over purchasing new
- Partnering with an electronic waste recycler certified under the e-Stewards and/or the Responsible Recycling (R2) standard

Construction and Demolition: Assessment & Recommendations

West Chester University has a few policies in place regarding best practices around sustainable materials management for construction and demolition projects. These policies include:

- Requiring that outside construction contractors manage and recycle C&D waste
- All new buildings are required to install hydration stations
- New buildings are required to be LEED certified

Many other efforts are common practice, but not policy, including the use of recyclable nylon carpet squares in new construction, and the proper recycling of specified C&D materials for various projects. While some projects consult with surplus before construction begins, this is not a standard practice. We recommend that the campus establish policies that:

- Prioritizes rehabilitating existing buildings over building new.
- Prioritizes deconstruction over demolition in order to better salvage materials.
- Establishes funds to incorporate deconstructed materials into the design of new facilities (either aesthetically or functionally)
- Requires contractors to use the campus surplus property (for sending salvaged materials and for furnishing new buildings) and electronic waste recycling programs where practical
- Requires contractors and in-house teams to send non-reusable materials from construction and renovation projects to expanded recycling
- Requires all in-house construction and renovation projects to recycle or repurpose C&D materials and building fixtures within reason.
- Encourage designers to check Surplus options before furnishing buildings with all new items.

HARD GOODS BIN & SIGNAGE STANDARDIZATION

This section assesses WCU's capacity to provide clear, standardized, and accessible drop-off locations and collection bins for all surplus and hard-to-recycle materials across campus. Ideally, all students and wstaff on campus would know where they should bring items for discard.

7 / 107 Aggregation Facility & Clear Collection Points

8.5 / 88 E-Waste Collection Points

Assessment & Recommendations

Stakeholders interviewed for this assessment reported very few collection bins for hard-to-recycle materials, electronic waste, and universal waste. WCU earned less than 10% of total possible points in this section, so this is a program area that has significant opportunity for improvement.

We recommend that WCU:

- Establish collection locations and a bin standardization guide for hard-to-recycle materials that provides clear standards for bin styles, shapes, colors, and signage designs.[2]
- Develop a process for designating collection locations, distributing bins, or establishing pick-up processes to collect the materials assessed in this section across campus. This process should include a plan for the logistics of collection and management of any materials that have not already been established, and a strategy to communicate these programs to campus users.

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[2] Photo documentation of standardized hard-to-recycle material collection systems from different campuses can be found here.

SCOPE 2 - SOFT GOODS: FOOD, PLASTIC & COMPOST

MAP OUT INTERDEPARTMENTAL MATERIAL FLOW

Sustainable materials management for Scope 2 materials can be an extremely complex puzzle on campus that involves many different facilities. First and foremost, our goal is material reduction - what are the strategies the campus can take to effectively eliminate disposable materials from campus? This means looking at all possible opportunities to switch to reusable dishware and reusable to-go containers.

For all disposable products that are left on campus, we want to think about what steps we can take to effectively reduce contaminated streams by establishing a system that is standardized across campus, is simple to navigate, and reduces confusion. This means that **all disposable products should be switched to compostable wherever possible, all "recyclable" products should be free of food contamination, and all other single-use disposable products should be eliminated wherever possible.**

In both the reusable and compostable systems, campus-wide procurement policies could be enacted to ensure all events and food service outlets are in compliance, and campus-wide standards for collection bins should be considered in all facilities across campus to ensure the highest rate of successful material management.

An important first step to better understand this intricate system, identify gaps, and decrease the risk of contaminated streams is creating a material flow map for reusables and compostables. This outlines the movement of materials between departments and identifies stakeholders throughout the stages of purchasing, use, collection and logistics, and disposal. A simplified example of a system map for both reusable and compostable material streams can be found in the Methodology section.

CAMPUS DINING FACILITIES & FOOD-SERVICE VENDORS

For the purposes of this report, we divided dining facilities and campus vendors into assessment categories based on management and the style of food service (dine-in vs. to-go).

Campus Dining Halls	"Unlimited" buffet style service in an enclosed setting	- Lawrence Dining Hall
Restaurants	Enclosed locations with sit-down service	- N/A
Casual Sit-Down Eateries	Locations that have seating but are not fully enclosed locations, with both dine-in and to-go options.	- Starbucks (FHG Library) - ecoGrounds - The Diner - Ram's Head Food Court & Chick-fil-A
Grab & Go	Locations that primarily serve food for take-out. May have some seating but most food is to-go.	- Einstein's Bagels - JuicedUp
Convenience Stores	Primarily pre-packaged food	- PODs & Larry's Market
Athletics	Concessions stands within Athletics Facilities; also includes tailgates and traveling athletes	- Concession Stands (Aramark)
Events	Food served outside of the above locations	- Catering (Aramark)

SOFT GOODS: ASSESSMENT & RECOMMENDATIONS
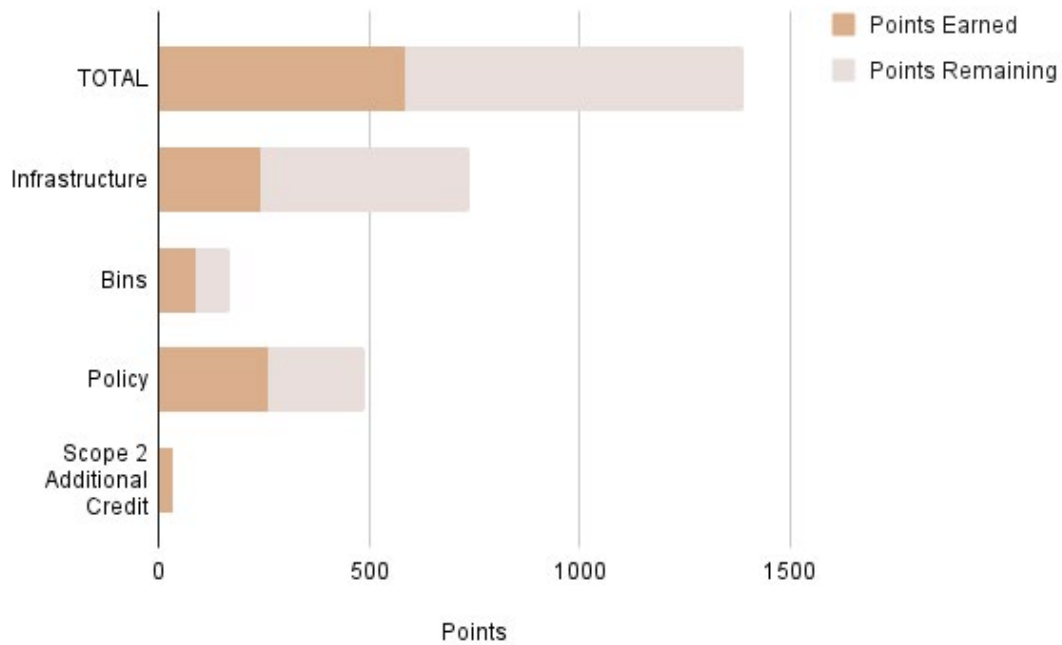
SOFT GOODS INFRASTRUCTURE & PROGRAMS

I. Expand Reusable Dishware, To-Go Ware, and Access to Reusables

This section assesses the campus infrastructure and systems in place to eliminate disposables, namely increasing the availability of reusable dining ware and encouraging reusable container use. In this section, we look at the prevalence of reusable dishware and reusable to-go containers, the availability of campus dishwashers in various facilities, the availability of hydration stations on campus, and the prevalence of discounts for users who bring their own containers. All recommendations made regarding reusable dishware and bulk bin programs may require further consideration in light of the ongoing COVID-19 pandemic.[3]

30.5 / 98.5	**Reusable Dining Ware at Sit-Down Eateries**
11 / 97	**Reusable To-Go Container Program**
14 / 24	**Hydration Stations Availability**
0.5 / 13	**Bring-Your-Own Program**
+ 0.75	**Additional Credit - Reusable Dishware, To-Go Ware, BYO**

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[3] Refer to PLAN's Reusables and Sanitation Toolkit for guidance and best practices regarding reusable to-go ware and bulk bin programs during the COVID-19 pandemic.

TABLE 3: REUSABLE DINING WARE INFRASTRUCTURE

Table 3: Reusable Dining Ware Infrastructure											
	Lawrence Dining Hall	Casual Sit-Down: Starbucks (FHG)	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head Food Court	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels	Larry's Market & PODs	Athletics	Events
Dishwasher	yes	no	no	no	no	no	no	no	no	yes	yes
Reusable Dishes											
Plates	yes	no	no	no	no	no	+0	+0	n/a	n/a	partial
Bowls	yes	n/a	n/a	no	no	n/a	n/a	+0	n/a	n/a	partial
Utensils	yes	no	no	no	no	no	+0	+0	n/a	n/a	partial
Mugs/cups	yes	no	no	no	no	no	+0	+0	n/a	n/a	partial
Straws*	+0	+0	+0	+0	+0	+0	+0	+0	n/a	n/a	n/a
Napkins*	+0	+0	+0	+0	+0	+0	n/a	n/a	n/a	n/a	yes
Reusable To-Go Ware											
Clamshell	yes	no	no	no	no	no	no	no	no	0	0
Soup	no	n/a	n/a	no	no	n/a	n/a	n/a	no	0	0
Utensils	no	no	no	no	no	no	no	no	no	0	0
Mugs/cups	no	no	partial	no	no	no	no	no	no	0	no
Containers for bulk items*	n/a	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Customers Allowed to BYO Containers	no	no	partial	no	no	no	no	no	no	no	no
Bring Your Own Discount											
Containers*	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Mugs/cups*	+0	+0	+0	+0	+0	+0	no	no	+0	+0	+0
Bags*	n/a	+0	+0	+0	+0	+0	no	no	+0.5	no	+0.0
Utensils*	n/a	+0	+0	+0	+0	+0	no	no	+0	+0	+0
Bulk bins*	n/a	+0	+0	+0	+0	+0	no	no	+0.25	+0	+0

*Additional Credit question

Assessment & Recommendations

Reusable Dishes: Reusable dishes are only available in the campus dining halls, and at on-campus events that request reusables as part of their contract with catering. The only facilities that have the industrial dishwashing infrastructure to manage reusable dishes are the dining halls, athletics, and catering.

In general, we recommend WCU consider transitioning to reusable dining ware as much as possible. To do this, we recommend exploring options to:

- Consider installing dishwashing infrastructure in locations where it is lacking, or explore campus-wide logistics for bringing washed dishes from locations that have a dishwasher to locations that don't. This recommendation may apply more directly to the Reusable to-go ware section below and many campuses choose to bypass reusable dishes at non-dining hall locations in favor of a campus-wide reusable to-go ware program that serves multiple facilities.

- Consider establishing reusable dishware programs at locations that have seating and offering "for here" options in addition to "to go" options.
- Consider expanding and publicizing affordable reusable dishware options through on-campus catering and student-run events to eliminate disposable alternatives.

Reusable To-Go Ware: Prior to COVID, WCU had a reusable to-go container program available at the Lawrence Dining Hall. Customers could purchase reusable clamshell containers for a one-time $5 fee at any time. When the customer brought the container back, they were given a clean container and their used container was washed for reuse. This program is expected to return in 2022.

WCU does not offer reusable to-go containers at other dining locations. We recommend that WCU explore establishing a reusable to-go ware program that would serve all dining facilities on campus.

Campuses have a wide variety of implementation strategies for reusable to-go ware initiatives, from barcoding containers to track their use and return, to either fining students for not returning them or identifying other creative methods to incentivize returns. Since many campuses struggle with container retention, it is worth exploring successful methodologies from other campuses for expansion/ implementation.

We recommend that the West Chester University explore options to:

- Establish a reusable to-go ware program that is universally accepted at all dining locations across campus.
- Expand this program beyond the traditional clamshell container, to include reusable containers for soup/salads, beverages, and utensils.[4]

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[4] Case studies of successful to-go ware programs can be found in PLAN's [Program Case Library](#).

Hydration Stations: Hydration stations allow students to refill reusable water bottles rather than buying beverages in disposable containers. West Chester University has installed hydration stations in some, but not all facilities assessed for this report, and there are no mobile refill stations for large outdoor events. We recommend exploring establishing hydration stations in all campus facilities and allowing students to bring and refill reusable water bottles within all dining locations.

Bring-Your-Own Container: Customers are allowed to bring their own mug to EcoGrounds, but all other facilities on campus don't allow students to bring their own mugs or food containers. WCU could consider formalizing a BYO program as a campus-wide policy, and expanding it to allow students to bring their own containers to all dining locations, Athletics, and on-campus events.

Bulk Snack Bins: WCU does not offer snacks in bulk at the dining facilities on campus. We recommend WCU explore options for installing bulk snack bins in Grab & Go's, Convenience Stores, Athletics concessions, and at Events, along with expanding reusable to-go container options for bulk products in order to cut down on the number of pre-packaged snacks in non-recyclable, non-compostable packaging. This could be a great project for a student group and a Grab & Go location to pilot, with the intention of later expanding the program to be universal wherever applicable.[5]

Additional Credit

West Chester University earned one additional credit because Larry's Market and PODS offers a discount for bringing your own bag. WCU could consider offering more bring-your-own discounts for customers that bring their own dishware or bags to various dining facilities and retail locations, as well as offering reusable to-go containers at Athletics concessions and campus events. Finally, expanding bulk bin options around campus and accompanying reusable container options for those products would also earn WCU more additional credit points.

[5] Included are examples of successful, student-initiated programs at the University of California, Berkeley - they have run successful bulk snack bin programs in one of their dining-operated convenience stores and at another on-campus cafe.

II. Expand Capacity for Food Recovery and Food Waste Minimization to All Food-Service Facilities on Campus

This section assesses the campus's capacity to recover food, as well as reduce overall food waste via internal audits and external educational efforts.

16.5 / 40 Food Recovery Program

30 / 82 Food Waste Reduction Initiatives & Education

+ 0 Additional Credit - Food Recovery & Waste Minimization

TABLE 4: FOOD RECOVERY & FOOD WASTE REDUCTION PROGRAMS

Table 4: Food Recovery & Food Waste Reduction Programs											
	Lawrence Dining Hall	Casual Sit-Down: Starbucks (FHG)	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head Food Court	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels	Larry's Market & PODs	Athletics	Events
Food Recovery Program	yes	partial	no	no	no	no	no	no	partial	no	no
Food Waste Reduction											
Run audits	yes	no	no	no	no	no	no	no	no	yes	yes
Purchase gleaned	no	no	no	no	no	no	no	no	no	n/a	n/a
Food waste education	no	no	no	no	no	no	no	no	no	no	n/a
Trayless dining	yes	n/a	n/a	yes	yes	yes	n/a	n/a	n/a	n/a	n/a

Assessment & Recommendations

Food Recovery Programs

In the Dining Halls, Starbucks, Larry's Market, and the POD's the Food Recovery Network runs a program to collect packaged foods that weren't purchased and distribute them to local resource pantries like the Chester County Food Bank or the commuter students refrigerator. The Commuter Refrigerator is run by Off Campus & Commuter Services and offers accessible foods to any commuter student with a suggested limit of two items per day.

An informal program that exists on campus is the [Free Food @ West Chester University Facebook Group](), which has operated since January 2018. Offices that have extra food from catered events can post photos and details that allows students to take leftovers before Aramark collects the dishes. Otherwise, there are no formal programs on campus to recover prepared meals or food leftover in non-dining hall locations on campus.

We recommend that WCU explore opportunities to:

- Provide infrastructural support to the Food Recovery Network (paid labor, kitchen space to re-package prepared food, support for transportation of food) to expand their efforts to collect prepared foods and items from all campus eateries to distribute to local partners.

Food Waste Reduction Programs

At WCU the Dining Halls, Athletics, and Aramark Events catering all reported that they regularly run audits on food purchasing to examine food consumption habits and reduce food waste. The other dining facilities reported that they do not do this regularly. All locations have also gone tray-less. None of the facilities assessed on campus use gleaned items in their food production or regularly perform food waste reduction education activities.

We recommend that WCU explore opportunities to:.

- Purchase gleaned foods where possible.[6]
- Expand food waste education programming to regularly educate customers on the problems with food waste and the strategies to reduce it.
- Implement other food waste reduction strategies like running regular audits to examine purchasing and consumption patterns.

[6] The Food Recovery Network has a [Guide to Gleaning](). Bon Appetit Management Company (BAMCO) also has great resources to explore through their [Imperfectly Delicious Produce]() and [online recipes]().

III. Expand Capacity of Compost Program and Eliminate All Single-Use Disposable Plastics

This section assesses the prevalence of compostable products at all food-service vendors on campus, the availability of compost collection and management at those same facilities, and the risk of contamination

8 / 47 Composting Program

6.5 / 109 Compostable Dining Ware & Disposables

+ 0 Additional Credit - Compost

in the compost stream from the distribution of non-compostable disposables. This assessment looks at each location as a holistic system, with the goal of reducing the risk of contamination in compost and recycling streams as much as possible. Full points are given to an assessment category only when it has full (100%) adoption; half points are awarded when a facility is still in the process of transitioning to fully compostable products. The existence of compostable products is only eligible for points when they are collected for composting at a facility that can process compostable products.

TABLE 5: COMPOSTABLE MATERIALS

Table 5: Compostable Materials											
	Lawrence Dining Hall	Casual Sit-Down: Starbucks (FHG)	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head Food Court	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels	Larry's Market & PODs	Athletics	Events
Compostable Ware											
Plates/bowls	no	no	no	no	no	no	no	no	no	no	no
Hot bowls	no	n/a	n/a	no	no	n/a	n/a	n/a	no	no	no
Utensils	no	no	no	no	no	no	no	no	no	no	no
Cups/mugs	no	no	no	no	no	no	no	no	no	no	no
Straws	no	no	no	no	no	no	no	no	no	no	no
Napkins	no	no	no	no	no	no	no	no	no	no	no
To-go ware	no	no	no	no	no	no	no	no	no	no	no
Miscellaneous packaged food Items (e.g. sushi boxes)	no	no	no	no	no	no	no	no	no	no	no
Single-use creamers, condiments, butters, etc.	no	no	no	no	no	no	no	no	no	no	no
Containers for bulk items	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	no	no
Compost Program											
Food waste as feedstock for agriculture*	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0
Back-of-house collection	no	no	no	no	no	no	no	no	no	no	no
Front-of-house collection	no	no	no	no	no	no	no	no	no	no	no

Composting Program

West Chester University does not have a composting program or compost collection system. While Grounds and Campus Gardens do some composting of yard waste, there is no program on campus for food waste or compostable disposable food containers.

In Spring 2022 WCU is opening a new dining hall that is expected to have two commercial food scraps dehydrators that will process both back-of-the-house and front-of-the-house food scraps. The dehydrated material will be transported to an industrial anaerobic digester on a farm in Western Chester County for conversion to methane gas (captured and combusted for electricity generation) and compost. While this is a great first step, WCU may need to further explore solutions for campus-wide compost collection, especially for certified compostable products that may not be easy to process in a dehydrator or an anaerobic digester.

Compostable Dining Ware & Disposables

Because West Chester University does not have a composting program or compost collection system anywhere on campus, they were awarded very few points for this section. While some items distributed on campus may be compostable if they were disposed of at commercial-scale composting facilities, they are not awarded points within this assessment because they are still headed to the landfill.

We recommend that West Chester University explore options to:
• Establish a campus-wide composting program with accessible compost bins and collection across campus (see bins section below). This could be a facility built and operated on campus, or a hauling contract can be established with an off-campus facility.
• Pass campus-wide procurement policies that standardize disposable products by switching to compostables in all locations on campus.

- Alternatively, WCU can consider eliminating all single-use disposables where possible and converting to a reusable to-go ware system to reduce the overall need for expensive compostable dining ware that is often challenging for composting facilities to process.

Additional Credit

Compostables: Additional credit in this section is awarded when specific disposable products, such as gloves, hairnets, and aprons, are compostable or recyclable, or for innovative practices such as using reusable liner bags for waste bins and collecting coffee grounds for on-campus landscaping. WCU was not awarded any additional credit points.

IV. Other Programs & Initiatives

This section mainly covers paper-reduction and diversion-based programs and practices.

34.5 / 51	Recycling & Reuse of Recyclables
86 / 143	Paper Reduction & Reuse Initiatives
31.5 / 47	Additional Credit - Education

Paper Reduction

WCU has the capacity to turn off paper receipts at all locations except for Einstein Bagels, but hasn't systematically done so at Starbucks, EcoGrounds, and Larry's Market and PODS. The theaters, and most major events on campus have moved to paperless programming and ticketing, and most printers on campus can print double-sided and are set up with a print-release function. The libraries do take efforts to procure digital electronic readings and licenses. Some but not all paperwork processes on campus allow for e-signatures, and professors are not required to post course packets online. Some athletics facilities provide reusable towels, but not all, and many let students bring their own to minimize paper towel usage for things like wiping down gym equipment.

WCU could further explore programs and policies that reduce paper, such as:

- Encouraging the reduction of paper receipts as a standard practice, whether by turning off paper receipts at each location for customers who do not want them, or transitioning completely to electronic receipts.

- Further limiting paper programming for marketing purposes, orientation, events, and performances.
- Requiring that all printers have print-release systems and are set to print double sided.
- Requiring all professors to post course packets and other class materials online and only providing printed versions upon request.
- Establishing campus-wide systems for redistribution of reusable cardboard boxes and shipping materials.

TABLE 6: PAPER RECEIPT ELIMINATION

Table 6: Paper Receipt Elimination											
	Lawrence Dining Hall	Casual Sit-Down: Starbucks (FHG)	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head Food Court	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels	Larry's Market & PODs	Athletics	Events
Transitioned from paper receipts to electronic	yes	no	no	yes	yes	no	yes	no	no	yes	yes
Can turn off paper receipts	yes	yes	partial	yes	yes	yes	yes	no	yes	yes	yes

Campus Recycling & Reuse of Recyclables

The campus's hauler accepts all typical recyclables in single-stream recycling. Cardboard boxes are seldom reused in the various dining facilities and Athletics, but are recycled by all facilities. Single-serve beverages come in a mix of recyclable and plant-based (but not necessarily compostable) containers in all locations. Campus procurement is encouraged to standardize the purchase of single-serve beverages to clearly recyclable or clearly compostable containers to minimize confusion and contamination of waste streams.

Additional Credit

WCU received a number of additional credits in this section. Points were awarded for staff who regularly communicate with custodial services in their buildings, and for the engagement of students around waste reduction through speakers, residence hall competitions, the Sustainability Peer Education program, etc. Additional points could have been achieved by establishing a more formalized program for "bin goalies" or "trash talkers" at Athletics events and other outdoor events - where individuals are placed near waste collection stations to help people sort their waste appropriately.[7]

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[7] Carleton College incentivizes students to work as "trash talkers" by reimbursing their student organization or sports team for their time.

CAMPUS-WIDE SOFT GOODS POLICIES AND ZERO WASTE EVENTS/POLICIES

I. Establish Soft Goods Policies

In this section we assess the existence of a variety of procurement policies related to soft goods management including the types of products purchased, requirements or standard operating procedures for staff to use those policies, and the existence of zero waste guidelines.

117.5 / 215	Adherence to Campus Procurement Policies
103 / 214	Policies that Favor Bulk Products Over Single-Use
+ 0	Additional Credit - Scope 2: Soft Goods Policies

TABLE 7: PROCUREMENT POLICIES

Table 7: Procurement Policies											
	Lawrence Dining Hall	Casual Sit-Down: Starbucks (FHG)	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head Food Court	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels	Larry's Market & PODs	Athletics	Events
Procurement Policies											
Vendor required to comply with campus procurement policies	yes	no	yes	yes	yes	yes	yes	yes	yes	no	no
Reusable gloves/aprons/hairnets	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	n/a
Recyclable/compostable gloves/aprons/hairnets*	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	n/a
Eliminated plastic bags	n/a	yes	yes	yes	no	no	yes	yes	yes	yes	n/a
Eliminated sales of bottled water	n/a	no	no	no	no	no	no	no	no	no	no
Bulk Procurement											
Eliminated unnecessarily wrapped single-serve items	yes	no	no	yes	yes	yes	yes	partial	no	yes	yes
Snacks and sides in bulk	n/a	no	no	no	no	no	no	no	no	no	no
Beverages in bulk dispensers	yes	partial	yes	yes	yes	yes	yes	yes	yes	no	no
Eliminated K-Cups and plastic-wrapped tea bags	yes	no	yes	no	no	no	no	no	yes	yes	yes
Bulk dispense creamers, condiments, butters, jellies	no	no	no	yes	yes	yes	yes	partial	no	yes	yes

West Chester University does have an [Environmentally Preferable Purchasing Program](#) that provides guidance on campus-wide sustainable purchasing. The program contains helpful suggestions like "Increasing the use of recycled content products where possible" and encouraging the purchase of items that are "durable, long lasting, reusable and/or refillable". Dining also has a sustainable procurement policy through Aramark, but not all vendors are required to comply with these policies. As can be seen by other impact areas of this report, these purchasing programs are suggestive rather than required and are not implemented as a requirement campus-wide.

General Sustainable Procurement Policies

16 of the 34 stakeholders interviewed for this assessment were aware of the existence of environmentally preferable purchasing and require their staff to follow guidelines like these.

We recommend that the University strengthen its existing procurement guidelines into a policy or policies that apply to all campus departments, contracted franchises, and vendors that state preferences for:

- Reusable, repairable, and refillable products over single-use products
- Packaging made from compostable materials or post-consumer recycled content
- Products and dining ware made from compostable materials or post-consumer recycled content
- Paper made from post-consumer recycled, agricultural residue, or FSC or SFI-certified content
- A restriction on disposable swag, in favor of products that are durable, reusable etc. (while suggestions are communicated for certain events, no formal guideline or policy exists)[8]
- A restriction/guideline on plastic shopping bags and plastic water bottles
- Companies that have take-back programs

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[8] We define "swag" as a free giveaway that is distributed at events or by organizations to their members. Check out [PLAN Swag Hiearchy](#) for more information.

Policies that Prefer Bulk Purchase over Single-Use Products

- 17 of the 34 stakeholders interviewed for this assessment purchase products in bulk as a standard practice, although many indicated that they do so only when it saves money. To reduce disposable packaging and the life cycle impacts of shipping multiple orders, WCU should explore enacting policies that require all staff to purchase in bulk where practical and implement more centralized purchasing practices between similar facilities to consolidate shipments. WCU could also explore purchasing policies that apply to all food-service facilities, contracted franchises, and vendors that:

- Favor bulk items over unnecessarily wrapped single-serve items (napkins, oyster crackers, individually wrapped fresh baked goods, mints, toothpicks, etc.)

- Favor snacks and side dishes in bulk rather than individually packaged

- Favor beverages in bulk dispensers rather than individually packaged (soda, juice, milk, coffee, K-cups, etc.)

- Favor bulk dispensers for all sauces, condiments, creamers, sugars, salt, pepper, butter, peanut butter, and jellies rather than individually wrapped products[9]

Additional Credit

WCU earned no additional credits in this section. Additional credits in this section are awarded for special policies for specific materials on campus.

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[9] For a more comprehensive list of single-use products that we suggest phasing out, refer to PLAN's Break Free From Plastic campus pledge.

II. Zero Waste Events Guides, Plans, and Policies

This section assesses a wide variety of initiatives around education and standardized communication of goals, training of students and staff,

21 / 54	Institutionalizing Zero Waste Goals & Plans

infrastructure for events, etc. WCU earned points in this section for providing regular training on waste practices to custodial staff, for active student organizations working on waste reduction and education projects, and for the work that the Sustainability Office does on these issues. A Green Office Certification Program was also launched in Spring 2021.

To expand on these, we recommend that WCU explore
- Establishing more educational and curriculum opportunities for zero waste education to enter the classroom.
- Establishing a Green Office Certification program
- Establishing a formalized zero waste education program for students during their first-year orientations
- Expanding opportunities for students to get involved by providing stipend positions to lead many of the projects outlined in this report
- Establish a student green fee and a student committee to allow students to decide where to invest in new sustainability projects on campus.

While education is extremely important in contributing to culture change, infrastructure change ultimately provides the greatest impetus for behavior change, so any educational campaigns must be coupled with the implementation of systems and programs to support long-lasting change.[10]

[10] See PLAN's blog post on why Infrastructure Change Must Precede Behavior Change, which shares takeaways from other behavioral psychology experts.

Zero Waste Plans & Guides

Besides the goals outlined in the [2013 Climate Action Plan](#), WCU does not have a zero waste roadmap or a guide for zero waste events on campus such as at athletic venues. In general, we recommend that West Chester University work to establish a campus-wide **zero waste strategic vision**. To accomplish this, we recommend continuing the zero waste committee and fully establishing a **zero waste task force** made up of many of the stakeholders interviewed in this report who would be tasked with analyzing this report and WCU's strategic goals, identifying gaps, and developing idealized versions of the system flow charts detailed in the Methodology section. The projects identified in the system flow charts may require establishing new campus infrastructure and systems, as well as policies and standard operating procedures that may differ from the way materials are currently managed at West Chester University.

For this process to be successful, it is important to **work collaboratively with all stakeholders** to build a vision for how these new initiatives will be communicated and managed in the future, which may also require looking into organizational restructuring to relocate and redefine program management and responsibilities. After completing the visioning process, we recommend going through the process of "[backcasting](#)" to identify what resources would be required to achieve these goals, and what decisions around management and costs need to be made in order for these initiatives to be operationalized.

This backcasting would lay the groundwork for a strategic plan. From there, we recommend WCU develop timelines and goals and identify the campus capacity for investing in the various initiatives detailed in the plan. As these initiatives advance, we recommend WCU consider establishing specific guidelines for campus departments on how to host zero waste events, practice sustainable procurement, and institutionalize other elements of the campus-wide strategic plan in their daily operations.

Additionally, we recommend the University develop a campus-wide guide for zero waste events that could include procedures for transporting recycling and compost bins to and from the event, ensuring there is proper bin signage at events, and creating a volunteer waste monitoring program to educate users on how to use the standardized bin and signage set-up at outdoor and sporting events. We recommend that event procurement follow existing and recommended sustainable purchasing policies and event waste collection follow campus bin standardization guidelines, such as by aligning mobile/temporary outdoor standardized collection stations with indoor collection stations (i.e. color, signage, order of arrangement) to limit confusion.

III. Accessibility Policy

We assess plastic straw accessibility in the policy section because it is imperative that straws are still available for those who need straws

10 / 11   Accessibility Policy

for accessibility reasons. Plastic straws are available at all campus eateries except for Larry's Market and PODS. We recommend WCU add language on the importance of continuing to stock plastic straws for accessibility reasons to their sustainable purchasing policies.[11]

TABLE 8: ACCESSIBILITY OF PLASTIC STRAWS

	Lawrence Dining Hall	Casual Sit-Down: Starbucks (FHG)	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head Food Court	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels	Larry's Market & PODs	Athletics	Events
Plastic straws still accessible	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes

[11] Sample language can be found in PLAN's Break Free From Plastic Campus Pledge.

SOFT GOODS BIN & SIGNAGE STANDARDIZATION

I. Standardize Collection Systems, 3-Bin Systems, Eliminate Unpaired Bins, and Establish Liquid Collection

In this section we assess the existence of standardized collection stations (including compost collection) in all areas of campus, as well as ensuring that no standalone or "unpaired"

98.75 / 167	Bin Standardization
0 / 17	Collection Locations for To-Go Ware
+ 0	Additional Credit - Liquid Collection

bins exist on campus. We also recommend exploring the benefits of establishing additional collection bins for liquids and to-go ware.

Assessment & Recommendations

Bin Standardization

As previously mentioned, infrastructure change is a prerequisite to achieving systemic behavior changes - to see universal adoption of sustainable material management behaviors, infrastructure has to be clear, consistent, and uniformly accessible in all locations. Standardized collection stations greatly increase diversion rates, decrease contamination rates, and are the first foundational step to setting up education and communication initiatives that have high likelihoods of success. Clearly communicated standards for bins and signage will ensure uniformity across campus and decrease confusion and resulting contamination of waste streams.

We recommend creating a formal resource for campus-wide standardization for all types of bins and signage. These standards could be developed and clearly communicated by Facilities and the Office of Sustainability in a style guide that outlines what type and color of bin should be used across campus for each waste stream, as well as specific signage that outlines what can be disposed of in each stream.

This guide could also specify where bins are located, the types of bins that are used in different facilities and for on-campus events and Athletics, and guidelines like eliminating "standalone" or "unpaired" bins around campus and ensuring that landfill, recycling, compost, and liquids (where applicable) streams are always found side-by-side, in the same order.[12]

Expanding Compost

As mentioned in a previous section, we recommend establishing a compost collection program with a vision for expanding collection to all areas of campus. While the program may be piloted in a location like the dining halls, we recommend discussions around launching the program include an understanding of the logistics and infrastructure needed for its long-term expansion. Campus-wide compost expansion should occur in tandem with a campus-wide purchasing decision to go full-scale compostable for disposable dining ware in order to eliminate disposable plastic contamination and eliminate confusion around which material belongs in each bin.. While adding a composting stream to most buildings could take advantage of existing custodial workflows, labor and infrastructure may need to be reviewed if the University decides to expand collection. As compost collection expands across campus, large compost bins could be placed next to small landfill bins in bathrooms and other areas with high volumes of paper towel waste, marked with highly specific signage.

Additional Credit

Liquids Collection: To make compost collection more efficient and disposal less expensive, liquids could be collected separately from the rest of the organics stream to reduce the weight of the compost. As can be seen in the University of Southern Maine's case study shared as a footnote, separating liquid collection is a more efficient and cost effective method of material management because it reduces the weight of the compost, reduces the cost of managing spills and clean-up, and reduces the labor costs in the aforementioned efforts.[13]

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[12] This example from the University of Michigan designates the difference between certain styles of bins, where they should be placed, and who pays for them.
[13] See page 18 in University of Southern Maine's Waste Minimization & Recycling Overview.

Expand To-Go Ware Program Collection Locations

West Chester University does not have a campus-wide reusable to-go ware program besides the containers that exist in the Lawrence Dining Hall. As mentioned above in the reusable to-go ware section, we recommend that West Chester University establish the program with a lens for campus-wide expansion to all food service locations, and a vision for establishing multiple collection points to reclaim used containers across campus.[14]

TABLE 9: REUSABLE TO-GO WARE COLLECTION

	Lawrence Dining Hall	Casual Sit-Down: Starbucks	Casual Sit-Down: ecoGrounds	Casual Sit-Down: The Diner	Casual Sit-Down: Ram's Head	Casual Sit-Down: Chick-fil-A	Grab & Go: JuicedUp	Grab & Go: Einstein Bagels
To-go ware collection	yes	no	no	no	no	no	no	no

	Larry's Market & PODs	Athletics	Events	University Owned Residence	Contracted Residence Halls (USH)	Library	Admin Offices & Classrooms
To-go ware collection	no	no	no	no	no	no	no

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[14] Check out our Reusable Dishware on Campus During COVID-19 article on reusable to-go ware container programs during COVID.

CONCLUSION

The recommendations outlined above are just the beginning in a multi-stage zero waste planning process. We have provided recommendations based on best practices from campuses across the country, but the next step in zero waste planning is to identify the feasibility of these recommendations at the University and to strategize with PLAN's Atlas team to vision and develop a Zero Waste Task Force and subsequent Zero Waste Roadmap specific to West Chester University. We encourage the campus to develop a goal that incorporates quantitative measurements like aversion, reduction, and diversion, as well as qualitative goals to develop campus-wide service models for sustainable materials management and program areas such as engagement and education. For West Chester University to achieve zero waste, there will need to be financial support behind campus-wide infrastructure changes and administrative support for campus-level policies. The University should also utilize this report as a wayfinding tool to benchmark and track progress on remaining opportunities for waste reduction.

ACKNOWLEDGMENTS