Toolkit for Colleges & Universities:

Transitioning to Bagless Recycling

Casella Waste Systems, Inc.
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Introduction:

The number one action college campuses can take to improve the sustainability of recycling is to improve the quality of the recyclable material they collect. Every recycling facility across the country grapples with the challenge of non-recyclable materials arriving with inbound loads. These materials diminish recycling quality, impede sorting processes, increase operating costs, and potentially damage processing equipment or put facility employees at risk. ***Many campuses have made great strides in reducing contamination, but most still need to reduce – and ultimately eliminate – the presence of bagged recyclables in the recycling stream.***

This toolkit will help campuses achieve the goal of producing a stream of loose (not bagged) recyclables that can be efficiently and effectively collected, sorted, and shipped to market.

Bags have historically been widely used in recyclables collection by nearly every college campus across the country. No one has a silver bullet solution to enable the shift to loose recycling; everyone is learning together. Fortunately, though, college campuses are centers of innovation with a deep commitment to sustainability. ***This toolkit provides a selection of actions – derived from interviews with Casella's broad base of customers – that campuses can test and improve upon to help eliminate bags*** while mitigating costs, controlling and improving contamination, and supporting both the environmental and economic sustainability of recycling.

Thank you for your commitment to recycling sustainably! We look forward to supporting you as you deploy this toolkit on your campus.

Using This Toolkit

This toolkit begins with a series of general best practices that are highly recommended for all campuses. It goes on to briefly describe a selection of innovative ideas and concepts that you can review, select, adapt, and deploy as you work toward a solution, or combination of solutions, that will best serve your unique campus as you work to eliminate bags from your recycling.

General Best Practices

The following best practices are applicable to all campuses and will support your campus as you work toward eliminating bags from your recycling stream.

Use Casella's Campus Recycling Toolkit to teach all campus groups what is recyclable.

Reduce the number of bins, and standardize the types of bins, throughout your campus. All of the suggestions below will become more feasible with a smaller number of bins to manage.

Establish a regular on-campus audit program to continuously track progress and identify hot spots on campus.

Establish regular meetings with key stakeholder groups (facilities management, dining, residential life, etc.) to review audit data, contamination photos, and charges.

Measure your success: Quantify the baseline amount of bagged recycling in your mix today, target 50% reduction in the first 6 months, and achieve 80% reduction after 12 months

Share program successes and impacts with your campus community

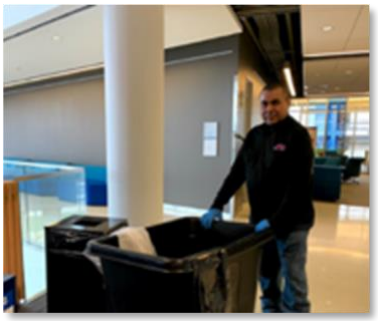
Casella's Role

- Notify customers of the importance of eliminating bags from the recycling
- Create this toolkit and support customers as they deploy it
- Conduct regular audits and provide data to customers
- Establish a clear fee structure that rewards customers who eliminate bags

Strategies and Concepts to Help Eliminate Bags From Recycling

This section can be viewed as a menu of possible ways to address the bag issue. You may want to choose one or more strategies to test and adapt for use on your campus. Where possible, we have listed examples of specific campuses that have tried each idea.

STRATEGY 1: ELIMINATE LINERS FROM RECYCLING BINS



Concept: Completely eliminate plastic liner bags from the campus recycling process. Versions of this might include

1) dumping loose recyclables from recycling bins directly into your recycling dumpster, perhaps aided by the use of a hand cart, or

2) dumping loose recyclables from recycling bins into a wheeled collection cart then dumping that container into your recycling dumpster.

Best for: General use academic buildings. Not ideal for kitchen areas or spaces with high food and beverage consumption.

Notes:

- A cart tipper at your dumpster may help make this system work
- Minimize liquids by siting recycling bins near sinks or liquid collection stations
- Maintain an inventory of extra bins to allow swapping and washing as necessary
- Consider infrastructure and space to accommodate bin washing

Case Studies: We are not aware of any campus that has tested this approach.

STRATEGY 2: PROVIDE REUSABLE TOTE BAGS FOR RECYCLABLES COLLECTION

Concept: Provide reusable tote bag for each student to use in their residence hall room, paired with education about how to recycle. When full, the student will empty the loose recycling from the tote into the appropriate container or dumpster.

Best for: Residence halls and office spaces

Notes: Print the bags with recycling education content for students and faculty to reference.

Case Studies: This solution has been successfully deployed by Southern New Hampshire University (SNHU) and Wentworth Institute of Technology (WIT)

STRATEGY 3: KEEP BINS LINED AND EMPTY BAGS INTO DUMPSTERS

Concept: Continue to use plastic bag liners in recycling bins and use those bags to collect and transport materials around campus. Bring all recyclables to one location and empty the bags into the recycling dumpster.

Best for: Kitchens and cafeterias where risk of food and liquid contamination is high and unlined bins are likely to get dirty quickly.

Notes: Leave bags untied to reduce risk of injury from ripping bags open. Manually emptying bags provides an opportunity to regularly audit and identify contaminants in your recycling stream. This approach adds on-campus labor time.

Case Studies: This approach has been deployed by Gordon College in Wenham, MA.

STRATEGY 4: KEEP BINS LINED AND ESTABLISH AN ON-CAMPUS RECYCLING OPERATION

Concept: Continue to use plastic bag liners in recycling bins and use those bags to collect and transport materials around campus. Bring all recyclables to an on-campus recycling operation where bags can be removed along with some level of on-site processing and sorting.

Best for: Job training programs, student run programs, or grant funded programs.

Notes: Leave bags untied to reduce risk of injury from ripping bags open.

Case Studies: This strategy has been deployed at Wentworth Institute of Technology (WIT) and Clark University.

STRATEGY 5: REUSABLE LINERS – CANVAS, PLASTIC, NYLON

Concept: Replace your non-recyclable plastic liners with reusable canvas or plastic liners. When full, these paper liners can be emptied into a collection cart or directly into recycling dumpsters. Clean liners can be returned directly to the bin. Sticky or soiled liners can be washed and reused.

Best for: Buildings with low likelihood of free liquids in recycling bins. Not ideal for cafeterias or spaces with high outside visitor traffic.

Notes: To ensure life-cycle sustainability, the campus should track the average # of uses per bag prior to wear-out and disposal.

Case Studies: We are not yet aware of any campus that has tested this approach.

STRATEGY 6: RECYCLABLE PAPER LINERS

Concept: Replace your non-recyclable plastic liners with recyclable paper liners. When full, these paper liners can be placed in your recycling dumpster and recycled at the MRF.

Best for: Buildings with low likelihood of free liquids in recycling bins. Not ideal for cafeterias or spaces with high outside visitor traffic.

Notes: The specific liner product must be approved as acceptable by Casella's MRF operators.

Case Studies: We are not yet aware of any campus that has tested this strategy.

Additional Case Studies

WENTWORTH INSTITUTE OF TECHNOLOGY

ON-SITE RECYCLING SORTING CENTER – PARTNERSHIP WITH STRIVE

Wentworth works with the STRIVE program to complete their recycling. The mission of the STRIVE program is to support the Boston Public Schools by providing job training services to students with unique physical and leaning needs as they transition from high school to adulthood. The STRIVE students collect the recyclable material on campus and bring it to a central location to be minimally process. The material is separated and processed. Material of higher value is baled and picked up by Casella.

REUSABLE BAGS IN RESIDENCE HALLS

Wentworth has been providing reusable, washable totes for student use to collect and dispose of loose recycling in the res halls for years. The program supports students who want to recycle by providing them with a bag for their room and education about what is allowed in the recycling, how to prepare the recyclables (loose, not bagged) and where to bring the material.

Southern New Hampshire University

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BENTLEY UNIVERSITY

REUSABLE BAGS IN RESIDENCE HALLS

At Bentley we piloted a communication strategy to reduce contamination from students in dormitory recycling containers. Having launched electronic communication to all students and still having issues with the recycling we decided to try a word of mouth communication. We set up a table from 11:30 to 2:00 right outside the dining hall. Over the course of 2.5 hours we talked to approximately 200 students and communicated not putting black trash bags and other contaminates in the recycling bins. With approximately half of the students we talked to, we were able to communicate with them the importance of telling their friends and roommates as well. The following week the number of contaminated bins on campus was cut in half. This could be a useful tactic to help change behavior of student on campus.

GORDON COLLEGE

DEDICATED RECYCLING EMPLOYEE MODEL

At Gordon College, they have a very strong loose recyclables program. With their program they have a designated member of the facilities staff that collects recyclables from each of the building around campus. These recyclables are collected in plastic bags and transported to the recycling compactor on site. Once at the compactor the plastic bags are opened and emptied into the compactor. What helps make this program so successful is the engagement of the employee collecting recyclables. They are well educated recyclers and work diligently to remove contaminates as they collect recyclables. As a result, Gordon College has a contamination rate below 5%!

DARTMOUTH

ALTERNATIVES TO PLASTIC LINER BAGS

Dartmouth College uses paper bag liners in their kitchen and prep areas to collect recyclables. They are also exploring the use of alternative bag liners at select locations on campus. As more information about the pilot becomes available, we will provide updates.

Perkins

EMPTYING BAGGED RECYCLING MODEL

At Perkins School for the Blind, they operate a program very similar to Gordon College. Their facilities team collects recyclables around campus using clear plastic bags. These bags are then opened and emptied into the compactor.