

# 2022 Zero Waste Plan: Executive Summary

## Swarthmore College Zero Waste Working Group | June 2022

The 2022 Zero Waste Plan is the culminating effort of many members of the Swarthmore College community, written by the members of the Zero Waste Working Group (ZWWG). It highlights the College's zero waste commitment, which is deeply tied to our pursuit of environmental and social justice. Additionally, it demonstrates the College's commitment to addressing the current climate crisis and the disproportionate impacts waste (and climate change) has on communities of color and low-income neighborhoods. The 2022 Zero Waste Plan (ZWP) sets out to do three things:

1. Review current zero waste operational systems and educational programming on campus and highlight zero waste achievements since 2017.
2. Acknowledge the zero waste framework set up by the [2017 ZWP](#) and provide an updated zero waste definition, guiding principles, and goals for Swarthmore College waste management moving forward.
3. Identify the key zero waste strategies necessary to achieve new zero waste goals by 2035.

### **Objective 1: Review current zero waste operational systems and educational programming on campus, and highlight achievements since 2017**

Planning for zero waste requires both a strong vision and bold actions. From 2014 to the present, the College has focused its waste efforts on building accountability and a strong foundation for zero waste systems on campus. From 2017 to 2022 there have been numerous updates to the campus waste operational systems and educational programming, and many accomplishments. The full list is detailed in the [2022 Zero Waste Plan](#), and includes investments in infrastructure and containers to ensure recycling and composting are accessible at all buildings on campus and can be safely collected by EVS staff; zero waste training for new students, faculty, and staff orientations; transitions to contracts that provide more accountability and transparency; and innovative programs like Worthmore, reusable utensils, and takeaway container pilots, and hosting the annual waste characterization study.

While there is still work to be done to meet our goals, the concerted efforts of the ZWWG have helped the College's diversion rate grow significantly since 2016. Currently, 41% of trash is diverted to recycling and composting, representing a 30% increase in diversion rates between 2016 and 2022.

### **Objective 2: Provide an updated definition of zero waste, and develop guiding principles and goals**

In 2022, as part of the process of developing the ZWP, the ZWWG adopted an official definition of zero waste, and defined goals, guiding principles, and key strategies for the College as it continues to work towards achieving zero waste.

The [Zero Waste International Alliance](#) defines zero waste as: “the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or

human health<sup>1</sup>.” This international, peer-reviewed definition was formally adopted by the ZWWG in 2022. We consider having a standard definition of zero waste a key part of the College’s plan, in order to help align our zero waste goals and guiding principles with the unique perspective of Swarthmore College as a leader in environmental stewardship and social justice.

Additionally, in 2022 the ZWWG adopted the following principles to guide decision-making processes around zero waste strategies and implementation. The guiding principles are to:

1. Consider employee safety and ergonomics in all decisions.
2. Work to maximize the positive environmental impact of efforts, including reduction, reuse, and diversion.
3. Engage the whole campus community to create inclusive strategies with ongoing education.
4. Align efforts with the carbon neutrality commitment.
5. Align efforts with the College’s long-standing commitment to social justice on campus and in the surrounding community.
6. Utilize a data-driven and life cycle analysis approach.

This plan also includes a revision of the campus’ zero waste goals. While the 2017 ZWP identified a goal of reaching an intermediate 80% diversion rate by 2022, our waste characterization study results have shown that the current campus diversion rate has leveled off at 41% over the last several years. The impacts of Covid-19 and the increase in single-use packaging due to takeout dining certainly affect campus waste streams; however, these were not the only reasons the College was unable to reach its intermediate diversion rates. In 2022, the ZWWG determined that additional time is needed to implement the strategies required to increase diversion rates. We also determined that, in addition to a diversion rate target, the College’s zero waste goals should include reduction, education, and engagement targets. The revised goals are shown in the table below.

<b>Updated 2022 Zero Waste Goals</b>			
	<b>2022</b>	<b>2030</b>	<b>2035</b>
<b>1. Embed Zero Waste into Campus Culture</b>			
Measure engagement and education successes			
<b>2. Secondary Per Capital Reduction Goal</b>			
Set Baseline Municipal Disposal Volumes (contingent on data availability, ETA 2023)			
Reduction from Baseline Per Capita MSW Disposal (including Trash, Recycling, Composting Streams)		15%	25%
<b>3. Diversion Goal</b>			
Previous Diversion Goal	80%	90%	
Revised: MSW Diversion Goal (including Trash, Recycling, Composting Streams)		80%	90%

<sup>1</sup> <https://zwia.org/zero-waste-definition/>

The zero-waste commitment has been codified through the adoption of an internationally peer-reviewed definition of zero waste, the development and adoption of guiding principles in relation to zero waste planning and implementation, and updated zero waste goals, including engagement, reduction, and diversion. With these pieces in place, the ZWWG and the campus community can align around the development and implementation of strategies needed to meet measurable goals.

In order to achieve the revised zero waste goals, the Zero Waste Working Group recommends prioritizing the implementation of existing initiatives over the next one to three years. The initiatives include

1. Updating zero waste goals, metrics, and definitions
2. Encouraging educational and behavioral changes by
  - a. Increasing campus-wide education around the multifaceted reasons to engage in zero waste
  - b. Tying in broader topics of environmental justice, human health, and climate change to zero waste educational programming on our campus
  - c. Promoting more educational campaigns targeted towards reusables, such as the reusable takeaway container program and reusable utensil set giveaways
  - d. Continuing rescue programs like Worthmore Free Store and the campus move-in/move-out process
3. Making process change and infrastructure investments, such as:
  - a. Implementing campus-wide data tracking system across all three waste streams and with additional conditions including financial, carbon, and social impact
  - b. Continuing the transition to campus-wide reusable dining takeaway containers
  - c. Systemizing internal waste movement and collection systems, and creating an efficient sorting system
  - d. Consolidating or eliminating visits from waste-haulers to campus
  - e. Restructuring all solid waste agreements and contracts to incentivize zero waste
  - f. Assessing staffing capacity and resource needs to provide operational and educational zero waste and support.

**Objective 3: Identify the key zero waste strategies necessary to achieve zero waste by 2035.**

Listed below are the short-term, mid-term, and long-term prioritized strategies identified by the ZWWG. In addition to listing the strategies, the diversion impact and estimated greenhouse gas (GHG) impact are also included, to show how linked implementing the strategies are to the College's reaching its zero waste goals. In essence, by moving forward with these specific strategies we will be able to achieve our zero goal within our proposed timeline.

Specific Strategies	Short Term	Mid Term	Long Term	Estimated Diversion Impact	Estimated GHG Impact (MTCO <sub>2e</sub> )
<b>BASELINE (current)</b>				40.7%	-456.2
Education to increase participation		X	X	8.27%	-120.5
Education to reduce and reuse	X	X	X	3.95%	-173.7
Education to increase diversion to recycling and composting	X	X	X	9.6%	-175.4
Implement increased data tracking and reporting	X			NA	NA
Invest in reusable infrastructure and systems		X	X	7.2%	-204.8
Diversion infrastructure and systems		X	X	3.03%	-35.48
Assess staffing capacity and resource needs throughout the implementation of the ZWP	X			4.8%	-87.70
Institutionalize Zero Waste through definitions/goals	X			NA	NA
Implement Policies to Promote Reduction and Diversion		X		13.20%	-623.5
Actively participate in regional conversions and work around zero waste and env. justice			X	NA	NA
<b>TOTAL DIVERSION</b>	<b>50%</b>	<b>77%</b>	<b>90.8%</b>		
<b>ANNUAL GHG REDUCTION (Measured in Metric Ton CO<sub>2</sub> equivalents- MTCO<sub>2E</sub>)</b>	<b>-660.3</b>	<b>-1,580.5</b>	<b>-1,877.3</b>		

Success in achieving the zero waste goals set for 2030 and 2035 is dependent on the investment and engagement in the work listed above. While the short-term goals are clear, this is a living document, and work will be done to ensure continued engagement to address new opportunities and challenges that may arise throughout implementation.

Through this document, the ZWWG has laid out the goals for zero waste on Swarthmore's campus moving forward. It also provides an overview of the current zero waste systems on campus (both indoor and outdoor), highlighting updated data from the most recent waste characterization studies, and outlining the zero waste educational program and policies implemented across campus. Finally, it provides a prioritized list of opportunities to improve zero waste systems moving forward.

The ZWWG will provide periodic updates around zero waste work on campus, and benchmarks to engage the entire campus community. We recommend that an updated ZWP is written every five years and shared with the campus community, both for feedback and to establish the necessary buy-in required to implement the suggested zero waste strategies. While the ZWWG plays an essential role in the management and oversight of programs, it will take investment from the entire campus community to reach these ambitious but important goals.