NACUFS (2026)
Carbon Neutrality

Jose Manuel Martinez

delLorBq

Entry details

Entry Name:	Achieving Carbon Neutrality Through Smart Reuse
Institution Name:	Pomona College
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Essay:

> NACUFS 2026 Sustainability Award Submission
>
> Achieving Carbon Neutrality Through Smart Reuse
>
> By Jose M. Martinez Jimenez, CEC, CCA, FMP
>
> General Manager, Dining Services — Pomona College
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> A Culture of Sustainability, Ready for the Next Step
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> Serving approximately 1,750 students through a self-operated dining program, we have built a nationally recognized culture of environmental responsibility: locally sourced menus, trayless dining, daily food donation, and composting. Our commitment to quality and responsibility is reflected in Pomona's ranking as #9 for Best College Food in California by Niche.
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> Yet for all our progress upstream, in sourcing, preparation, and food waste reduction, we faced a persistent carbon blind spot at the point of consumption: single-use takeout packaging. Our grab-and-go locations were generating thousands of disposable containers, cups, and lids every month, each one carrying an upstream carbon cost from

manufacturing and a downstream cost from disposal. We had experimented with a traditional token-based reusable container program, but it struggled with low engagement. Students returned fewer than 60% of containers. Manual tracking was inconsistent, return points were limited, and checkout lines created friction. Dorm rooms filled with forgotten boxes, and we were forced to repurchase thousands of containers each term, compounding the very carbon impact we were trying to eliminate.

We knew we needed a fundamentally different approach: one that made reuse as easy as single-use, while giving our operations team the data and accountability tools to quantify and scale our carbon impact in real time.

The Innovation: Tap-to-Reuse™ Technology

In July 2024, Pomona College partnered with Reusables.com to deploy their platform, a hardware-enabled software system purpose-built for institutional food service. Configuration and staff training were completed before fall move-in, and the system was live for the start of the 2024–25 academic year.

The platform introduced several innovations that directly addressed the failures of our previous program:

Frictionless checkout: Students tap their Transact-powered student ID card to borrow a reusable plastic container, no app download, no deposit, no signup required.

24/7 Smart Return Bins: IoT-enabled return stations placed strategically across campus accept containers in under three seconds, day or night, providing instant confirmation and automated refunds. In fact, outside of standard campus opening hours 5.86% of total returns are made.[GU1]

Accountability built in: An automatic charge incentivizes timely returns without penalizing students upfront with an initial deposit.

Real-time operator dashboard: Our team monitors inventory levels, return rates, carbon savings, and student engagement analytics in real time, transforming what was once guesswork into a data-driven carbon reduction operation.

Critically, the system integrates with Pomona's existing campus credential infrastructure. There was no new app for students to learn, no tokens to manage, and no deposits creating barriers to adoption. This seamless integration was key to the rapid uptake we experienced.

Measurable Carbon Reduction and Operational Impact

The results have been immediate, sustained, and accelerating. Below are our verified metrics across two timeframes:

Metric

Year 1 (Jul 2024–May 2025)[GU2]

To Date (Mar 2026)

Total Container Reuses

61,281

169,315

Return Rate

98.09%

98.05%

Unique Users

4,217

5,534

Avg. Reuses per User

14.5

30.6

CO_2 Emissions Avoided

11.41 tons

33.03 tons

Waste Avoided

2.85 tons

8.16 tons

Water Saved

13,498 gallons

37,264 gallons

Avg. Container Cycle Count

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14.1

Several of these figures deserve emphasis. Our CO_2 avoidance of 33.03 tons represents verified, measurable carbon reduction directly attributable to replacing single-use packaging with reusable containers—each reuse cycle eliminating the upstream emissions tied to manufacturing, transport, and disposal of a disposable container. Our return rate has held remarkably steady at 98% even as participation has grown 3x, demonstrating that the system's accountability mechanisms scale effectively. Each container in our fleet has been reused an average of 14.1 times, meaning the carbon cost of producing a single reusable container has been offset many times over. The 8.16 tons of disposable packaging diverted from landfill further compounds these carbon gains by eliminating downstream methane and processing emissions.

Financial Responsibility

Before adopting this platform, Pomona was spending thousands annually on replacement containers for our previous program, on top of the ongoing cost of disposable packaging. The Reusables system has generated over $20,000 in annual savings from eliminated container replacement costs alone in year 1, and additional savings from reduced disposable purchasing are ongoing.

The system paid for itself quickly. Because it leverages our existing campus credential system (Transact) and existing dishwashing infrastructure, there were minimal incremental capital costs. The turnkey deployment meant negligible staff training costs and no disruption to service. From a total-cost-of-ownership perspective, the program is cash-flow positive and improves our dining budget flexibility, allowing reinvestment in sustainable sourcing and culinary innovation.

Student Engagement and Campus Culture

Perhaps the most compelling measure of this program's success is its adoption. With 5,534 registered users out of approximately 1,750 currently enrolled students, the system has been embraced not only by current students but also by faculty, staff, and visitors across the Claremont Colleges consortium. The average user has reused a container 14.1 times, and the average holding time of just 3.5 days confirms that students are returning containers promptly and consistently.

This engagement has been achieved almost entirely through the design of the system itself, rather than through punitive policies or heavy marketing. The one-tap checkout using existing student IDs removed the primary adoption barrier. The 24/7 Smart Return Bins, placed at dining halls, residence halls, and high-traffic campus locations, made returns convenient and immediate. As one student put it, the system is simple and easy to use, and the ability to return containers after hours to bins across campus was a standout feature.

The program has also become a visible symbol of Pomona's sustainability values. The Smart Return Bins themselves serve as daily, physical reminders of the reuse culture we are building. For incoming students, the Tap-to-Reuse system is one of the first sustainability touchpoints they encounter during orientation, establishing norms around responsible consumption from day one.

Replicability and Scalability

A central objective of this submission is to demonstrate that our success is replicable. The Reusables platform is designed for institutional food service at any scale. Key factors that make it transferable:

Low implementation burden: Setup takes under 30 minutes. The system requires no complex menu training, no custom app development, and no changes to existing point-of-sale workflows.

Credential-agnostic integration: The platform works with all leading campus credential providers, including Transact, CBORD, and Atrium, as well as credit and debit cards, meaning virtually any institution can deploy it.

Leverages existing infrastructure: Containers are washed using existing commercial dishwashers, eliminating the need for third-party cleaning logistics or additional transportation emissions.

Proven across institution types: The same platform is in use at large public research universities (UCLA and University of Guelph), mid-size institutions (RIT, MacEwan, University of Victoria), and small liberal arts colleges like Pomona.

For any dining director evaluating reuse programs, the data from Pomona's experience offers a clear proof point: technology-enabled reuse at this level of performance is achievable within a single academic year, with minimal operational disruption and strong financial returns.

Looking Ahead

Building on this momentum, Pomona has expanded Tap-to-Reuse to additional retail cafés and is piloting digital wallet payments to further streamline the checkout experience. Our sustainability office has set a target of 95% campus-wide participation for the 2025–26 academic year. We are also exploring opportunities to share aggregated consumption data with environmental analysis and economics courses, turning our dining operations into a living laboratory for sustainability research and experiential learning.

At Pomona College, we have proven that meaningful carbon reduction in dining is not a matter of willpower or policy mandates, it is a matter of designing systems that make the sustainable choice the easiest choice. With 33+ tons of CO_2 avoided, 169,000+ reuses, a 98% return rate, and real tangible savings, our reusable container program is delivering measurable, scalable, and financially responsible carbon impact.

Submission Details

Entry Name: Achieving Carbon Neutrality Through Smart Reuse: How Pomona College Avoided 33+ Tons of CO_2 Emissions Across 169,000+ Reuses and a 98% Return Rate

Institution: Pomona College

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Category: Carbon Neutrality / Carbon Reduction

[GU1]We could give a stat how many returns happen outside the dining hours. Let me ask

[GU2]Dylan, I adjusted the numbers in the table so you might have to redo the calcs below

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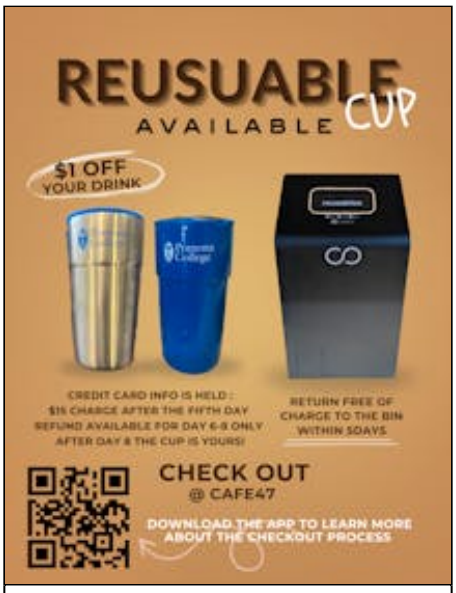
Log in to nacufs.awardsplatform.com to see complete entry attachments.

100k Reuses E... 120 KiB



Reusable Cup.... 1.5 MiB

Attachment name
Case study, we are at 10...

https://nam10.safelinks...

Attachment name

https://reusables.com/r...