



Eco-Clamshell Handbook

How to Implement a “Reusable To-go Program”

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Eco-Clamshell: Founded at Eckerd College

In the fall of 2004 Audrey Copeland conducted an audit for Professor Ormsby's Introduction to Environmental Studies class. From this audit she became aware of the immense amount of Styrofoam (polystyrene waste) going to the landfill every year. There had to be a solution! This turned out to be a reusable system utilizing a durable container that circulates in a closed loop fashion.

In July of 2007 the Environmental Research and Education Foundation awarded Eckerd College a \$32,000 grant to develop and implement the program at locations across the nation. In the fall of 2007 G.E.T. Enterprises, a Houston-based manufacturer, agreed to construct a prototype. In the spring of 2008 the containers went live at Eckerd College. Now the containers are in use at hundreds of universities, retirement centers, and corporate accounts across the nation. Not only does the program provide an eco-friendly solution but it saves money, demonstrating that sustainable solutions can also be good for the bottom line.

Steps to Implement a Reusable To-go Program

Step #1: Meet with key individuals

Examples:

- cafeteria manager
- sustainability coordinator/advocate
- business office/accounting representative
- information technology representative
- student focus group

Step #2: Establish the desired system of accountability

Step #3: Determine necessary amount and purchase containers

Step #4: Implement system and focus on continued growth

Step #5: Evaluate Program

Step #1: Meet With Key Individuals

The first step is to meet with the key individuals at your institution. This includes the cafeteria manager, students, faculty, a sustainability advocate, a representative from the business office, and an individual from the information technology department. You will need the support of all these individuals to set-up a program.

Organize a meeting and come prepared with a preliminary cost-benefit analysis (cost of disposables each year vs. cost of Eco-Clamshells), an outline of the environmental benefits, examples of other institutions using the program, and a proposal for the possible accountability model. You should also consider conducting a student survey to demonstrate the enthusiasm for the program. In the initial survey I conducted, 81% of students stated that they would use the container. This was helpful when I proposed the program to the cafeteria manager.

Step #2: Choose an Accountability System

Below are three accountability systems, although there are many other possibilities. The cafeteria setting will dictate the type of accountability system. Most importantly there must be some form of accountability. Whether students pay up front or for the loss of a container, it is essential that responsibility is built into the program. If not, the containers will be gone in a short period of time (“tragedy of the commons”).

Card for Container System of Accountability

1. Students sign up at the front of the cafeteria. At this time they write down their student ID number and consent to a charge of a certain amount (\$X) to enter the program.
2. This information is sent to the Business Office in an excel spreadsheet so the charge can be applied to the student’s account.
3. Each time the student returns a container they will receive a container token/container. Each time they check out a container, they will turn in their container token/container. An example of a token is a key tag with a picture of an Eco-Clamshell on it.
4. When students return a container, they place this item on the dishwasher conveyor where it can be sanitized and put back out for reuse.
5. If a student loses either the container or the token, they will need to sign up for the program again and pay an additional \$X.
6. The money generated from containers will be placed in an account. This account will be used to purchase replacement containers.

Swipe System of Accountability

1. Students use their ID card to check out containers at the front of the cafeteria.
2. A reminder e-mail notification is sent to the student after a set period of time (24-48 hours).
3. After another 24 to 48 hours, following this reminder e-mail, students are charged for the container (if it's not returned).
4. Students bring the container back to the cafeteria. At this point their student card is swiped again to indicate that the container has been returned.
5. When students return a container, they place this item on the dishwasher conveyor where it can be sanitized and put back out for reuse.
6. The money generated from lost containers will be placed in a restricted account. This account will be used to purchase new containers.

Barcode System of Accountability

1. Students sign up for the program and receive a card with a barcode number. The barcode would be linked to their information in a database (think of CVS or Costco card).
2. A reminder e-mail notification is sent to the student after a set period of time (24-48 hours).
3. After another 24 to 48 hours, following this reminder e-mail, students are charged for the container (if it's not returned).
4. Students bring the container back to the cafeteria. At this point their barcode is scanned again to indicate that the container has been returned.

5. When students return a container, they place this item on the dishwasher conveyor where it can be sanitized and put back out for reuse.
6. The money generated from lost containers will be placed in a restricted account. This account will be used to purchase new containers.

Advantages and Disadvantages

Each method of accountability has certain advantages and disadvantages. The easiest program to implement is the exchange model. This doesn't require any programming or computer set-up. The drawback is that students aren't required to return the containers in a certain time frame (inventory). In addition they can't check-out more than one container at a time. The other two models allow for more exact tracking and monitoring but take a little more time to set up. The swipe system requires some programming. The barcode system necessitates the purchase of specific equipment. In both cases students can check out multiple containers, within an acceptable duration for check-out. These advantages and disadvantages should be considered when setting up a program.

Step #3: Purchase Containers

The quantity of containers that should be purchased obviously depends on the number of individuals on the meal plan. Frequency of use should also be considered. The same survey conducted to gauge student interest can also include a question about to-go container use. This will provide an overall estimate. You want to make sure there are enough containers to service the student body, given that some will be in circulation at all times. If the majority of students take food to-go three times daily, this is important information to know.

Cost-Benefit Analysis

Another aspect to consider when purchasing the containers is the cost-benefit analysis. Although the containers require an initial investment, this is balanced by long-term savings. Not only is this program environmentally sustainable, but it's also good for the bottom line.

Here is an example of how this was determined at Eckerd College. On average we spend \$10,000 a year on disposable containers. To purchase a sufficient number of Eco-Clamshells for the entire cafeteria population, we would need to spend \$3,600 ($\$3.6 \times 1,000$). \$3.60 is the cost of one Eco-Clamshell unit and we have 1,000 students on the meal plan. If everyone taking food to-go uses the Eco-Clamshell, there is a net savings of \$6,400 ($\$10,000 - \$3,600$). If only half the campus population uses these containers for 100% of their to-go use, there would be a savings of \$1,400 the first year ($\$10,000 - (\$5,000 + \$3,600)$).

During the second year additional savings would occur due to the self funding nature of the program. Students are paying for the containers. Depending on the model students either purchase the container up front or pay for the loss of the container. If everyone used the containers the second year there would be a net savings of \$10,000. If only half the campus population used these containers, \$5,000 would be saved.

It should be noted that the above analysis doesn't take into account the costs associated with washing the containers and training personnel to manage the program. At Eckerd we found these costs to be of minimal significance. Our dishwasher operates at a high level of efficiency and loads are pushed through the dishwasher on a conveyor belt, regardless of whether they are full. In other words adding some additional dishware doesn't affect the frequency of the cycles. In addition, training personnel proved to be a one-day process. To factor these costs into the analysis, determine the water and energy used for one cycle and divide this by the number of containers that can be placed in the dishwasher. This should be factored into the analysis and could result in hidden costs, depending on the dishwasher system.

Where to Source a Container

The best way to source containers for your cafeteria account is to go through your supplier as you would for any item. Your supplier should be able to source Eco-Clamshell containers for you. If this fails, contact G.E.T. Enterprises and they will connect you with a local source (getinc@get-melamine.com).

If you aren't a cafeteria account, search for "Eco-Clamshell" on the internet and some options will pop up. This is also a good approach if you need a small amount of containers.

Step #4: Program Implementation and Growth

Implementing the program is probably one of the most important steps. The best approach is to involve a variety of student groups. Have members of an environmental club in the cafeteria for the first couple of weeks to explain and market the program. Engage the student government and encourage them to make a commitment to using the containers. Send out an e-mail blast to various campus groups, create signs to display in the cafeteria, and ask the cashier to market the program each time they hand out a disposable container. The more buzz you create around the concept, the more users you will have. Keep in mind that the program also markets itself as students walk around the campus with reusable containers.

Make sure to carefully explain how the accountability system works. Regardless of the system you use it is advisable to create a terms of use sheet that students are handed when they sign up. The more information they have the better.

It's also advisable to send out a press release. This concept is new and innovative and chances are the local media will be interested. Good press is never a bad thing for an institution.

Each year the reusable to-go program should be presented to incoming freshman at registration. If they have the option to sign-up right there chances are they will.

Eventually the program will be a part of the campus culture, to the extent that disposable containers can be phased out entirely.

Step #5: Evaluation

Another important part of the implementation process is program evaluation. This should include a student survey and an evaluation of program success from the viewpoint of multiple stakeholders (cafeteria employees, college staff, faculty etc...). It's especially important to conduct this evaluation following the first six to twelve months of operation.

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Adopters

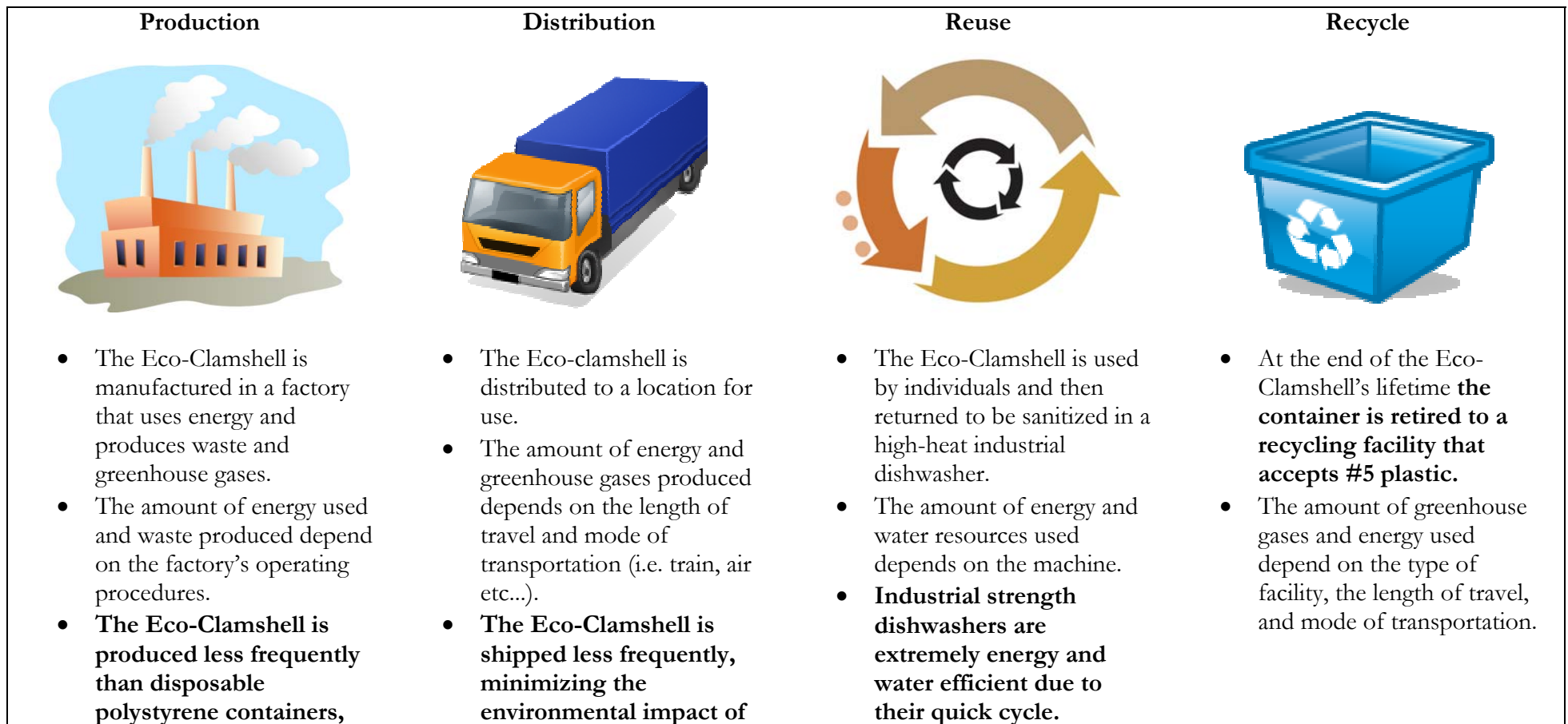
To date 116 colleges have adopted the program or are in the implementation process.

Below is a list of campuses that have officially adopted the program.

Washington College	Bethel University
Baylor University	Humboldt State University
University of Wisconsin	Florida International University
University of Mississippi	Eckerd College
University of Florida	Dobbs School
Emory College	Santa Clara University
University of Richmond	Mills College
University of Tulsa	Knox College
University of Tennessee	MIT
UNC-Ashville, Charlotte, Top of Lenoir	Macalester College
Syracuse College	Meredith College
Stetson University	Sayre School
University of New Mexico	Notre Dame
Southern New Hampshire University	Peace College
Knox College	Morrison at Westminster Garden
Slippery Rock University	Mt Juliet Middle School
Maryland Institute of Art	Meredith College



Eco-Clamshell Lifecycle Chart



cutting down on the
production process.

distribution.