

Bennington College Reusable Container Program Proposal

Submitted by: Jordan Amchin, Anna Green, Juliet Brewster
Environmental Studies Colloquium Spring 2011
Valerie Imbruce

Project Idea

We have identified through discussions with Bill Scully and from our own research that there is a way for us to ease off of our use of bottled water on campus. Our work has shown that the gradual decrease in use of Dasani water can begin with alternatives and eventually, after the contract with Coca-Cola has ended, Bennington can move towards the complete elimination of bottled water altogether.

The proposal is a transition to arrive at that point. By creating the option of having Nalgene bottles as a substitute in Grab N' Go and in the Student Center, our hope is that we will continually decrease our consumption of bottled water. Dining Services is also considering the use of reusable hard plastic clamshell containers to replace the plastic and cardboard containers currently used in the Grab N' Go and Student Center. The water bottles could be bought from the same company as a part of the same initiative to reduce waste and wasteful spending at Bennington College.

Goals

- Reduction of the use of Dasani water on campus through the alternative Nalgene (or other off-brand, BPA-free) hard plastic water bottles.
- The gradual elimination of Dasani water until the termination of the contract with Coca-Cola in 2017
- To do away with the waste created by the 6,000 unnecessary single-use bottles thrown in the garbage or recycled each year
- To promote and foster the habit among Bennington College students and staff of using water resources on campus other than pre-packaged water (i.e. tap water)

Project Design

The Bennington College Reusable Container Program (BCRCP), will be a way for students to take water from the Grab n' Go and the Student Center by picking up and dropping off reusable Nalgene, or other BPA-free plastic bottles in place of single-use Dasani bottles. Participants in the program, including students, staff, and faculty will pay a one-time fee of \$7.00 for the purchase of a Nalgene bottle, noted on their ID card. Students will eventually have a choice of (several types of) juice in addition to water to choose from when picking up their meals. In order to pick up a clean, filled bottle students will need to drop off a used bottle; that will be washed, dried, and re-filled by the Dining Hall staff to be put back into circulation. The drop off/pick up system will be

designed so that the Dining Hall staff can keep track of how many bottles are in both theirs and students' possessions, to avoid losing bottles.

Implementation

The BCRCP system will be implemented in several steps. Dining Services will purchase an initial order of 1,000 Nalgene bottles carrying the Bennington logo. Bill Scully will need to invest in several other purchases including several new dish racks to accommodate for the drying of the bottles and a water filter. In order to keep up with the washing and drying of these bottles, Bill suggests the creation of a new FWS position, he estimates that washing/drying will take up roughly one hour per day, five days a week. Lastly, an ID notification system must be set up to keep track of whether a participant has purchased a Nalgene bottle. The option to also keep track of whether they currently have one checked out or not is still being considered.

While this program picks up momentum, the goal is to initially lower the volume of bottled water Bennington currently purchases from Coca-Cola and ultimately, to stop buying bottled water altogether once our contract with Coca-Cola ends in six years.

The following is a list of American and Canadian colleges and universities that have successfully banned bottled water from their campuses, including from all vending machines:

- Bishop University
- University of Winnipeg
- Brandon University
- Queen's University
- Ryerson University
- University of Ottawa
- Memorial University of Newfoundland
- Trent University
- Fleming College
- Washington University (Missouri)
- Unveristy of Portland
- Gonzaga University
- Belmont University
- Brandeis University
- Seattle University
- DePauw University

Some of the responses we received from an informal poll of students suggested that Bennington students would still like to see the option of Dasani water on campus, so unless that sentiment changes in the next six years, we would recommend continuing to purchase packaged water for sale in vending machines, and for campus-wide functions.

Project Budget

One goal essential to the design of this project is that it be financially self-sustaining. In the first transitional year of implementation, we hope to break even between the cost of initial investment and the savings that the switch away from bottled water guarantees. Last year, 349 cases of Dasani water, or at 24 to a case, 8,376 bottles were sold out of the Grab N' Go and the Student Center combined. Based on an informal survey of the student body, participation rate was predicted to be between 70% and 74%. If the Bennington College Reusable Container Program (BCRCP) were to be implemented in the 2011 Fall Term, the college could expect to see a decrease of just over 6,000 bottles of water (99 cases) purchased, for an estimated savings of \$1,650 in the first year.

To put the long-term financial benefits of this program in perspective, this fact from www.banthebottle.net: *The recommended eight glasses of water a day, at U.S. tap rates equals about \$0.49 per year; that same amount of bottled water is about \$1,400.*

First year costs:

- The initial purchase of reusable bottles will be an order of 1,000 bottles (two each for the predicted 500 participants), priced at under \$3/piece. Factoring in shipping costs, we will estimate the initial order to be \$3,000.
- A water filtration system will need to be purchased, at an approximated cost of \$500-\$1,000
- Additional dishwasher racks for storage and washing will be purchased for \$120
 - Total start-up cost: \$3,620 to \$4,120

On-going costs:

- A Federal Work Study position of 1 hour/day 5 days/week for a student worker to re-fill the bottles: \$4.08/day for 28 weeks = \$571.20
- Maintenance costs on the filtration system ~\$150/year
- Replacement bottles for those lost or damaged in circulation – the cost here is difficult to predict, as the pricing of the bottles changes when not bought in bulk and we cannot yet give an accurate estimate of the percentage of bottles lost each year, but the number should be safely under \$800 per year.
 - Total per year costs: \$1,121 to \$1,421

Profits:

- Each participant in the program will pay a \$7 one-time buy-in fee for their shared bottle, with the estimated 500 initial participants, this comes to \$3,500 for an initial profit of \$500 after the wholesale cost of the bottles.
- The college can expect on-going profits as more of its community members decide to take part in the program, and with the entry of each new class. Dining Services may also choose to impose a fine on any participant responsible for the loss of a bottle, so as to recover funds when re-ordering each year.

As more of the campus community becomes involved in the shared reusable container program, the savings on purchased bottled water will increase, and the program will continue to pay for itself. The system will cost less than \$1,500 per year, which is less than two thirds the amount currently spent on bottled water for daily dining services (not including campus functions such as convocation, commencement, or reunions).

Larger Impact

The most visible environmental impact of the BCRCP is the immediate reduction of waste and energy implicated in the purchasing of single-use water bottles. P.H. Gleick and H.S. Cooley, authors of the paper “Energy implications of bottled water” estimate that the production and transportation of bottled water is up to 2,000 times more energy intensive than the use of filtered tap water. This diagram illustrates the stages of energy consumption in the water bottling retail process:

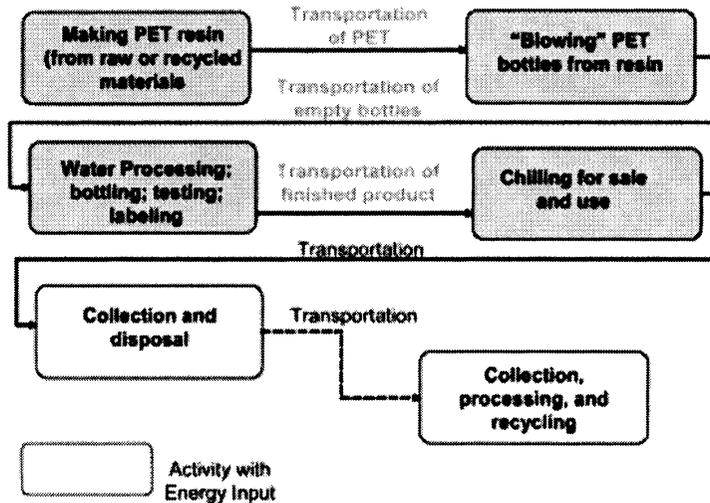


Figure 1. Flow diagram showing examples of where energy is required during bottled water manufacturing, use, and disposal. There is energy associated with each major life-cycle stage and additional energy required with each transportation action. We evaluate the energy required in the first four stages, including transportation (colored orange) between them. Energy for waste collection, disposal, and recycle was not computed here, but is likely to be a small fraction of the first several stages.

Gleick and Cooley, 2008

While we cannot realistically discount the environmental impact of transportation from the Dasani bottling plant to Bennington College because we will continue to receive weekly deliveries from the Coca-Cola distribution plant for as long as our contract with them is active, we can, when totaling up our campus’s carbon footprint, note with pride that our drinking water has an environmental impact 2,000 times smaller than it had been previously.

The issue of bottled water in this country is not only one of environmental and financial weight, but of ethical concern as well. In an area where clean drinking water is always readily available, why do we insist on spending one thousand times more per

gallon on the packaged product? Should not water be a natural human right rather than a marketed commodity? With the money we save from choosing to drink the water that flows out of our own faucets, how much water could we buy for those for whom water is a scarce and precious resource? It is important that we, as an institution of higher learning, recognize our position of privilege in the world and work to ensure that it is not wasted.

One of the longer-term and immeasurable impacts of this project is the formulation of the habit of drinking from reusable containers among the Bennington College community. At other universities that have banned single-use bottles from their campuses, such as Brandeis and Seattle University, the institutions have installed bottle-filling spouts on their drinking fountains so as to make the reusable bottle the more convenient and obvious choice for the community members. The hope is that those community members will go on to always try to choose tap water over bottled water, even after they have left the college.

Sources Cited

"Bottled Water Reduction | Recycling & Waste | Campus Sustainability." *Brandeis University*. Campus Sustainability Initiative. Web.

<<http://www.brandeis.edu/campussustainability/recycling/bottledwater.html>>.

Gleick, P.H., and H.S. Cooley. "Energy Implications of Bottled Water." *Environmental Research Letters* 4 (2009): 1-6. Print.

"Map of Campaigns | Ban the Bottle." *Ban the Bottle | A Blog Devoted to Banning Plastic Water Bottles & Staying Hydrated*. Ban the Bottle. Web.

<<http://www.banthebottle.net/map-of-campaigns/>>.

"Seattle University - Sustainability - Water." *Seattle University*. Sustainability. Web.

<<http://www.seattleu.edu/sustainability/water/>>.