



Working to Build Zero Waste Communities

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## **Zero Waste : A Realistic Sustainability Program for Schools**

By Kary Schumpert and Cyndra Dietz

Take a look behind most schools and you'll see dumpsters full of plastic bags of classroom paper, discarded cafeteria food, milk cartons and paper towels. Day-to-day operations in a typical school require lots of resources, very little of which gets reused, reclaimed or recycled.

Visit one of the 31 Eco-Cycle Green Star Schools (14,000 students and staff) in Boulder County, Colorado, and the story is different. Hallways and classrooms are still bustling, but outside you find dumpsters not only for garbage, but for compost and recycling. More than likely the trash container is less than half full while the compost and recycling containers are brimming. How is that possible?

### **From Recycling to Zero Waste**

Eco-Cycle, one of the nation's oldest and largest non-profit recycling organizations, has coordinated recycling services and environmental education programs to the two area public school districts (80 schools) since 1987. In 2005, Eco-Cycle launched the Green Stars Schools program in four pilot elementary schools with the goal of moving these schools to Zero Waste. This award-winning project includes four main components:

1. increased recycling of commingled containers, paper and cardboard
2. composting of food waste and non-recyclable paper from all areas of school (kitchens, cafeterias, classrooms, bathrooms and offices)
3. special waste-reduction projects
4. extensive staff training and environmental education for students

With these steps, schools have been able to reduce their waste by as much as two-thirds. Unlike other programs where only cafeteria waste is targeted, the Green Star model is the first in the nation to recycle and compost waste from all areas of the school. Waste reduction projects and extensive training/education also set the program apart.

### **Phases to Success**

The program has three phases. The first phase, including the following, is completed in the semester prior to the school's kick-off:

1. meet with principal and staff to ensure adequate support of the program
2. establish a student group (class of a supportive teacher, student council or eco-club)
3. perform a school waste audit to see what types of waste can be diverted

The second phase involves a high degree of training and education. The entire school community is involved. All-school kick-off assemblies, the setting up of containers for compost and recycling, classroom and staff trainings and lunchroom monitoring are all done in the second semester of each school's involvement.

The third and last phase ensures that the program is ongoing. To keep student enthusiasm high and school staff supportive, education is crucial. Offering a variety of ongoing benefits is key to keeping schools involved. These benefits include:

1. restart assemblies, classroom refreshers and faculty retraining
2. newsletter distribution to share innovative ideas between schools.
3. classroom clean-out events to recycle and reuse excess school supplies at the end of the year
4. waste-free lunch promotions (tips, signs and announcements) to encourage waste-reduction in the lunch room (promoting reusable lunch bags and containers, etc.)
5. assistance in coordinating Zero Waste all-school events, such as pancake breakfasts, school carnivals and dances
6. promotion of the schools' efforts with website links, newspaper ads, signage and banners
7. a five-year anniversary celebration that includes award assemblies, lunchroom monitoring, classroom trainings, and reuse craft projects and prizes for students

The Green Star model has been successful due to the partnership between Eco-Cycle and the two local school districts. However, most school districts don't have an award-winning nonprofit to implement a comprehensive Zero Waste program for them. What then?

Cyndra Dietz, Eco-Cycle's Program Director, recommends implementing any program in phases. "It's always a good idea to take stock of what is happening in your school and district and then move in stages. Start with waste reduction. These are projects that can work for schools and communities of any size. If recycling programs exist locally, but aren't implemented in the schools, explore options to begin recycling. Lastly, look at composting and see what collection services are in your area."

"No matter what project your school is working on, it's important to include education. Focus completely on operations and the project will fail. Effective education and training ensures that materials will have less contamination and the program will be around for the long-term, not just until the initial excitement dies down."

### **Waste Reduction, the Frontline**

Zero Waste cannot happen without recycling and composting. However, waste reduction efforts can be implemented in any school or community, even when recycling and compost facilities are not available.

The cafeteria is the site of much school waste. Eco-Cycle works extensively with local school districts to phase out disposable paper and polystyrene plates, cups and trays, and to move district-wide to durable, washable alternatives. One district has moved to bulk milk machines and washable glasses to avoid the waste from paper milk cartons. Other efforts can be implemented on many levels:

1. purchasing practices (school and district ) to buy more recycled, reusable and recyclable products

2. Waste-free lunch promotions for students and staff who bring lunch to school. Encouraging students to eat their food and simple reminders to like “take only one napkin” can make a difference.
3. classroom tips (such as using both sides of paper, and having an area for scrap paper for writing assignments and craft/art projects) give teachers and students ownership.
4. donations (from parents and restaurants) of used cutlery, cups and plates for classroom parties and cafeteria use. Parent volunteers can take the classroom kit home after the party to wash and return the next school day.

### **Getting Started with Recycling**

Beginning a new recycling program, or invigorating an old one, can reduce waste by up to one-third. Here are some recommended first steps:

1. Contact local waste haulers and municipalities to find out what recycling options exist.
2. Monitor current waste levels and, after implementation, reduce trash service (fewer collection days and/or smaller dumpsters). Savings in trash service will help fund the recycling.
3. Establish consistent signage, colors and containers to make recycling recognizable throughout the building.
4. Include ongoing education of teachers, students, custodians and administration.

### **From Crumbs to Compost**

When schools have been recycling for a long time, composting becomes the next logical step in Zero Waste efforts. Composting can account for up to one-third of the reduction in waste.

In order to achieve this level of diversion, compostable materials must be hauled to a large-scale compost facility. On-school-site vermicomposting or backyard-style composting to enhance school gardens is a wonderful way to involve and educate students. These methods will not, however, provide for substantial amounts of waste diverted from the landfill.

Usually, large-scale compost facilities are able to accept more materials, including all food (including meat and dairy) and non-recyclable paper (tissues, napkins, paper towels). An average school of 400-600 students will produce two to three cubic yards of compost each week. Collecting materials from all areas of the school, including kitchen, cafeteria, bathrooms (paper towels) and classrooms will provide the most benefit.

### **Keeping Compost Clean**

Careful attention must be paid to keeping contamination out of the compost bin. Glass, metal and plastic are lethal to the decomposer organisms, and are difficult to screen out. Extensive education is required, not only with lists and posters, but also with the tie-in that worms, insects and microbes will be consuming the compost.

There is also a rising concern with the labeling of “compostable” foodservice ware. As community compost collections gain ground, there is an increasing number of one-time use materials like plates, cups and forks being marketed as compostable. However, many have been mislabeled and are not designed to truly biodegrade in a large-scale compost setting. Some of these materials actually contain oil-based plastic, which will never completely biodegrade.

To avoid these products, the guidelines and database offered by the Biodegradable Products Institute (BPI), a nonprofit independent research-based organization is key. BPI maintains an updated list of products that are certified to be truly compostable. ([www.bpiworld.org](http://www.bpiworld.org))

In addition, milk cartons and other plastic-coated paper products should never be accepted into any type of compost collection. Recent research has shown that these products produce microplastic fragments that contaminate the environment after the compost is applied to the soil, adding to the growing problem of plastic pollution in multiple ecosystems, with detrimental effects on wildlife.

### **Resources**

Contact Cyndra Dietz at Eco-Cycle: [cld@ecocycle.org](mailto:cld@ecocycle.org), 303-444-6634, X122

[www.ecocycle.org/atschool/](http://www.ecocycle.org/atschool/) For information on Eco-Cycle's Green Star Schools program

[www.ecocycle.org/microplasticsincompost](http://www.ecocycle.org/microplasticsincompost) For information on Eco-Cycle's research on microplastics in compost

<http://www.bpiworld.org/BPI-Public/Approved/1.html> For information on the Biodegradable Products Institute list of certified compostable items