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Greening at the Grass Roots

SCHOOL RECYCLING

It's become almost a cliché to say that the United States is a "throw-away society." But cliché or not, statistics on the waste generated in America, and the savings to be found in recycling, reducing and reusing waste, should be posted in every school in the nation. The facts about waste are central to the environmental education of students, and the choices tomorrow's leaders will be called upon to make.

Consider these startling statistics:

- People, businesses, schools and other organizations generate, on average, 4.7 pounds of waste *per person* every day.
- Schools and other education facilities often are among the largest waste generators in any city, county or state.
- At least 40 percent of the typical school waste stream is paper (the largest single component of all school waste).
- Every year, nearly 900 million trees are cut down to provide raw materials for U.S. paper and pulp mills.
- Each ton of recycled paper can save 17 trees, 380 gallons of oil, three cubic yards of landfill space, 4,000 kilowatts of electricity and 7,000 gallons of water.
- The energy used to recycle paper is about 70 percent *less* than the energy needed to make paper from virgin wood.
- Glass and plastic beverage containers account for about 15 percent of the school waste stream. Recycling just one glass bottle saves enough energy to power a 100-watt electric light bulb for four hours.

California Greening

AFT member Fran Delaney Barron, a teacher and magnet school coordinator at John H. Niemes Elementary in Artesia, Calif., knows those statistics all too well. She came to Niemes seven years ago, when the school received federal funds to focus curriculum on environmental and science education. Barron believed that a key to the school's mission would involve taking steps to make the school greener "not with solar panels," she says, "but by developing something easier and hands on," rather than waiting for funding. "There is so much an individual teacher and school can do."

Barron visited other schools and noted some of the low-tech practices these campuses were using to change wasteful behavior and to go green. As a first step, she says, "We developed a program of classroom recycling of paper, bottles and cans." She focused on the "four R's" of greening: "Reduce, Reuse, Recycle and Buy Recycled."

One of the first areas of attack was all the paper, packaging and cardboard indigenous to the school environment. "Reducing the amount of paper we use is important, because education is such a paper-intensive enterprise. We also started recycling cardboard lunch trays, and I noticed there was a lot of lunchtime waste." Good, untouched food—much of it in separate packaging—was being thrown way. So she established a "sharing table" in the cafeteria. Any child with a piece of fruit, a bag of cookies or a container of salad who didn't want to eat it, put it on the sharing table for other students to take. Soon, all the students were using the sharing table.

The Four R's: Barron began to focus teachers and students on reusing paper using both sides, and she persuaded the school to switch to buying recycled paper, even at a slightly higher cost. In her classroom, and many others at the school, there are two boxes for paper, one labeled "Reuse" and

one labeled "Recycle," for sheets where both sides have been used. "A second-grade teacher told me her second-graders, 'love to get reused paper,'" Baron says. "They love to see what's on the back of their sheets." Soon, the school had saved 100 reams of paper, making the cost of buying recycled paper negligible.

"My philosophy is that we spend the better part of our lives preparing our students for the future, but what kind of future will that be? We need to be preparing them for the kind of choices they'll need to make to have a healthy future."

FRAN DELANY BARRON
Teacher and Magnet School Coordinator at Niemes Elementary

Niemes Elementary needed many more recycling bins than were normally provided to schools, so Barron asked the district for more. Seeing all the additional bins made the custodial staff nervous at first. "We met with some resistance from janitors, who thought it would mean more work for them. But actually, it meant less, because they realized the students took out all of the recycling."

Plastic water bottles and Styrofoam cups were other types of solid waste that Barron thought students could learn to live without. "In the past 15 years, we've gone crazy with this bottled water. Yet, tap water is often more heavily monitored than bottled water. So we had a fundraiser and sold stainless steel water bottles with the school emblem on them. We can fill those up for free." Everybody wanted them.

At the end of the year, the classrooms collect supplies for reuse. "We collect old folders; they are used in areas where it doesn't make a significant difference if we reuse them." Leftover supplies also can be shared by students and classrooms the following year.

Earth Hero: It's now been seven years since Barron began the greening efforts at Niemes. In April 2011, she was named one of 30 "Earth

Month Heroes" by the Wyland Foundation and Toyota. This program was established to recognize teachers who continue to provide environmental education in the face of budget cuts in the Southern California schools.

Today, Barron is working to expand her reach. Through the AFT, she has spoken with other schools about the ways in which she has made sustainability a reality at Niemes. "I'm working to make this a viable program that can be duplicated at other schools. It will save money on the district level, and it's not going to be difficult or expensive to put into place." Yet, she recognizes that in many schools, there will be resistance to it at first. "We're all operating at a very fast pace all the time. With a program like recycling, when it starts as a bottom-up thing, not everybody will do it unless it's mandatory."

Next door to Artesia, through aggressive recycling of paper, toner cartridges and beverage containers, the Los Angeles Unified School District has reduced its solid waste by 50 percent. But even with results like these, Barron adds, "People still need to be convinced."

For Barron, the impact that greening a school has on student attitudes and behavior is all the proof she needs of its long-term value. "My philosophy is that we spend the better part of our lives preparing our students for the future, but what kind of future will that be? We need to be preparing them for the kind of choices they'll need to make to have a healthy future."

Green Grows in Brooklyn

Though they live more than 3,000 miles apart, Coquille Houshour, a public school teacher in Brooklyn, N.Y., has much in common with Fran Barron. Like her California counterpart, the Brooklyn teacher never expected to start a green revolution when she simply tried to recycle paper in her classroom.

But over the last six years, Houshour, along with fellow teacher Micki Josi, has assisted hundreds of New York teachers and students implement school recycling programs. As a result, thousands of students have learned the need for environmental stewardship. And the city's public school administration has been forced to take seriously a law mandating recycling in public buildings that has been on the books for 20 years.

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> public school teacher in Brooklyn, N.Y.

As a result of their efforts and the support of the AFT, more than 800 teachers and staff have participated in the recycling trainings and programs, and the New York City schools are on their way to cutting costs, reducing their carbon footprint, and saving millions of trees. "In New York City we're investing so much money in *planting* a million trees," says Houshour. "By the time we get those trees planted over 10 years, we could *save* 4 million trees by recycling in the schools."

In fall 2005, when she went to her Brooklyn classroom for the first time, Houshour remembers, "I was pleased to find a recycling bin—until I realized it had only been used for trash. I was amazed to learn there was no recycling in my school at all, not in the classrooms or in the cafeteria."

Houshour had grown up in the logging capital of Oregon, an area that supplies the majority of the timber and paper to the United States. Overcutting is a fact of life in much of the Pacific Northwest. "I know all too well the impact overharvesting can have on the quality of water, air and life."

Houshour met Micki Josi (another Oregon native) through the teaching fellows program in Brooklyn. Josi was also unhappy with the absence of a recycling program, commonplace in Oregon schools, and recognized that one of the problems in Brooklyn was the way budgets for school waste removal were set. "In Oregon," Josi says, "the schools pay for their own solid waste removal—so they save money when they recycle—but not in New York City. There is no per-school savings, and so people didn't have the desire to recycle."

The Green Group Forms: So, with a small band of other green teachers and the help of local nonprofit environmental groups, they began holding monthly meetings on school recycling, meeting at first in coffee shops. Members of the group soon discovered that each teacher had a frustratingly similar story: Their efforts at school recycling had been met with an absence of concern and cooperation on the part of principals, and complete intransigence on the part of city government.

"The city was negligent," Houshour says. It had policies around waste management but was not enforcing the rules. "There was no system for handling school recycling. There supposedly was somebody in the department of education working on this, but nobody knew who it was. And there was no support at all inside the department."

Recycling is sometimes controversial among school custodians because they fear it will mean more work for them, at a time when their budgets are being slashed. So Houshour arrived at an

understanding with the custodians at her school that she and the students would shoulder the hands-on work of the recycling program.

Recycling Begins: The two teachers collected information on how to set up a recycling program (see Resources section) and developed a model for training teachers and students for a student-run recycling program. Student "lead recyclers" were responsible for educating every grade and floor in the building about recycling. Each school's recycling team performed daily pickups and issued awards for a job well done, or citations for rooms that were not adequately recycling.

With the program in full swing, Houshour wrote grant proposals to get additional recycling bins for her school from the Captain Planet Foundation and the New York State Association for Reduction, Reuse & Recycling. Target funded a forest ecology program so students could understand the environment they were trying to save. In 2006, the first year of the program, the student recyclers won the 2006 Golden Apple Super Recyclers Award from the New York City Department of Sanitation. "We thought we'd made a super change to our school environment," Houshour says.

Backlash in the Big Apple: Houshour and her students, however, soon found out they had been overly optimistic. The recycled materials they had so painstakingly collected and separated were being dumped into trash trucks and carted off to landfills—exactly the result they had worked so hard to avoid.

But the green teams did not give up. They got mad. Houshour was often on the phone to the mayor's office during that period. Teachers in green committees began a letter-writing and lobbying campaign that piqued the interest of then City Councilman Bill de Blasio, who represented then 39th District of Brooklyn. At night, more teachers were

trained on how to start a grass-roots recycling program on a school-by-school basis. Houshour and Josi asked for help from the AFT affiliate in New York City—the United Federation of Teachers—and headed up a green committee inside the union. They also started their own nonprofit group, Educating Tomorrow, aimed at spreading the word about the need for greener practices in the New York City schools. Soon, their meetings had grown to 800 teachers districtwide.

There was a lot of support for recycling from teachers, parents, students, and some politicians, but after two years, it was still an uphill battle inside the city's departments of education and sanitation. In June 2008, Councilman de Blasio who has since been elected the city's public advocate, held hearings before the city council on the absence of recycling in the school system—despite city law mandating school recycling. Coquille Houshour testified on the costs to schools and the lost opportunity to educate future New Yorkers about the importance of environmental stewardship. Students rallied in support of recycling at City Hall the day of the hearings. Teachers lobbied the government even harder. Slowly, the city's resistance to school recycling began to weaken.

Resistance Cracks: First, the department of education hired a new director of school facilities who had a background in energy conservation. It also hired a sustainability director. "This is something we had been calling for," Houshour says. The department insisted that every school appoint a volunteer sustainability coordinator, a position each school was already supposed to have filled; few, however had done so.

But perhaps most significant in terms of making school recycling work, the department of education organized regular trainings for custodians in school recycling, and made it clear that recycling was indeed a legal requirement that school main-

tenance staffs would now have to meet. "Those trainings have really changed the conversation," says Houshour. "Now, custodians feel more pressure to be sure their schools are recycling."

Houshour never dreamed their efforts would become a five-year, grass-roots movement that would force major changes not only in the schools but also in the city's waste disposal infrastructure. But their efforts paid off. "I feel we have created a large community of green schoolers, so there's more support for and more understanding of what's successful. That is changing the educational landscape. The district is starting to do things we think need to be done to create the infrastructure for districtwide recycling. There is so much more to do, and many of us feel overwhelmed doing this job in addition to our teaching jobs."

Don't Leave It to Engineers: But Houshour can't give up right now. (Josi has since returned to Oregon, and still advocates for green practices.) As an environmental educator, Houshour feels she has no other choice but to keep pushing for the changes she believes in, and she's energized by a crop of new teachers who eagerly are taking steps to green their schools.

"If it's something you believe in, you should be speaking out about it," she says. "Teachers have to be involved; you can't just bring in engineers."

There are about 1.1 million students in the New York City public schools. "If they go on to live an environmentally conscious life," Houshour adds, "the savings are not just in the time they are in the school system. Each child influences the family. While it's one more thing we teachers have to take on, at the same time, if we want change to happen, then we need to call for that change. What's most important at ever level possible is making sure teachers are involved in greening our schools."

If you are ready to start a "Four R's" program at your school

"A lot of people think recycling and waste reduction is going to be a lot more difficult than it is," says California's Fran Barron. "It's really not that hard." Here are the basic steps:

- **Organize your green team.** Your green team should include teachers, students, staff (particularly custodial staff) and parents. You may want to seek assistance from local environmental groups in your area to get started. Choose a team coordinator who can oversee all the working parts of the program, and is a talented organizer, good at harnessing the help and enthusiasm of the entire school community.
- **Conduct a waste audit.** The green team can enlist other students, teachers and staff to survey classrooms, school grounds, the staff lounge, kitchens and the cafeteria—any area of the school where waste is generated. Your team will break down the waste into types (paper, aluminum, plastic, etc.) so you can map out a program to appropriately recycle each type of waste.
- **Promote reusing and reducing waste.** Before you kick off the recycling program, champion ways to *reduce* the volume of waste at its source by *reusing* materials: Copy paper can be printed on both sides, or use the blank side as scrap paper; files can be reused in most offices; wood from shipping pallets can become the raw materials for woodworking classes.
- **Develop an implementation plan.** Figure out what you will collect, where it all will go to be collected and who will do the collecting. And set a realistic goal for your recycling program. Are you trying to reduce waste by 10 percent in the first year? By 20 percent in the second? Cut it in half?

Definitely include the custodial staff in the plan; these members of your school community are key to your success. Also include people from outside the school, such as sanitation or education officials from your city or county government, or environmental organizations focused on waste. They all can help you. Your goals should be realistic, otherwise the school may lose motivation—and you want to announce *success*—not failure!

How to make your recycling program a success

- **Make it easy.** Recycling programs fail because the process for recycling is more difficult or time-consuming than just putting all waste into landfills. In addition to re-educating people, a school recycling program has to make it easy for people to recycle. Recycling bins have to be close to the waste, clearly marked and emptied often.
- **Make it creative.** The whole school has to be committed, enthusiastic and involved if your recycling program is to succeed. Promote the program. Be creative. Use signs, stickers, slogans and fliers to promote the three R's: Reuse, Reduce, Recycle! Make it cool to recycle.
- **Make all educators play a role.** Your school administration, facilities' managers, custodians, budget analysts all play key roles in making that fourth R—buying recycled materials—a reality. Recycled materials are widely available, often greener and healthier than traditional materials because they usually contain fewer toxic chemicals. The cost is the same or only slightly higher than traditional materials. By working with the people in charge of purchasing, custodial care, budgets and other key school decision-makers you can make your school greener.
- **Make the community central.** Many people and organizations in your community would love to help and support a school recycling program. Environmental groups are eager to come in and work with children—today's students will be tomorrow's environmentalists. Local companies may share knowledge and facilities. Some will provide grants, materials, bins and other materials you need to make your recycling program successful. Visit these groups, talk with them, include them; help them to help you.
- **Make everybody greener.** Your promotion in the community will raise awareness of recycling and of your school program. Take your green team to meet with city and county educators, elected officials, local businesses and major companies that can assist you. Everybody wants to be "going green" nowadays—you, your school and your students should benefit from your dedication and hard work.

Resources to Help You and Your School

Educating Tomorrow

This nonprofit organization was started by Coquille Houshour and Micki Josi to advocate for greener classrooms and recycling in New York City public schools. There is a great deal of local information and ideas for creating greener classrooms. Available free online at: http://www.educatingtomorrow.org.

"Reuse + Recycling = Waste Reduction: A Guide for Schools and Groups"

U.S. Environmental Protection Agency, 2003.

This is a 32-page handbook on setting up school recycling, and other waste reduction strategies for schools. It includes case studies of schools as well as group recycling and reuse programs and success stories. It has an excellent resource section for more information. Available free online at http://www.epa.gov/osw/education/pdfs/school.pdf.

"A Manual for Implementing School Recycling Programs"

MassRecycle (the statewide recycling coalition in Massachusetts), updated last in 2002.

This manual is a detailed guide to school recycling that offers step-by-step instructions for starting, building and maintaining school recycling programs. It provides specific guidance on the following recyclables: paper (including white, colored, mixed, and newspaper and magazines), corrugated cardboard, mixed containers, aseptic packaging (drink boxes), polystyrene and food waste. It also contains a number of implementation and program management suggestions as well as several case studies. Available for free online at http://www.mass.gov/dep/recycle/reduce/recprog.doc.

"Texas School Recycling Guide"

Published by the Texas Commission on Environmental Quality, this is an up-to-date, step-by-step guide to setting up a school recycling program. The guide highlights practical suggestions, factoids on waste and the benefits of recycling; it includes lists for program

maintenance, waste prevention strategies and school "buy-recycled" activities. Available free online at http://www.tceq.texas.gov/publications/gi/gi-030.html/at_download/file.

"School Recycling Guide: Setting up Solid Waste Recycling Programs in Schools"

Keep America Beautiful Inc., 2002.

A concise step-by-step manual for establishing, publicizing and maintaining school recycling programs. The book is written for a broad audience of school administrators, facility managers, custodians, teachers, and students. It covers the mechanics of recycling—waste assessment; choosing recyclables for collection; and establishing collection procedures for paper, plastics, aluminum, steel, glass, electronics, and food and yard waste. Cost: $9.50. The guide can be ordered at https://secure2.convio.net/kab/site/Ecommerce?VIEW_PRODUCT=true&product_id=1062&store_id=1101&JServSessionIdr004=r544ov4ce2.app209b.

CalRecycle: School Waste Reduction

This is the website of the California Department of Resources Recycling and Recovery (CalRecycle) division. It contains a vast amount of information on recycling, recovery, reuse, waste reduction and many other green practices for schools. Much of it is aimed at school districts (as opposed to individual schools, teachers or classrooms), but there is still much valuable information here: Available free online at http://www.calrecycle.ca.gov/ReduceWaste/Schools.

Kids Recycle!

GrassRoots Recycling Network.

This website contains downloadable manuals and guides, links to various states programs as well as special sections for kids and for teachers on recycling, waste reduction and composting. Available free online at http://www.kidsrecycle.org/recycling.php - guides.

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