A District-Wide Approach To Recycling

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Introduction

Waste generated by students

Schools produce 240 pounds of solid waste per student per school year. In a 180-day school year, then, each student generates 1 to 1.5 pounds per day.

* Based upon statistics compiled by Washington State Department of Ecology, *Best Management Practices for Solid Waste*, Vol. I, 1987.

Each year Californians generate approximately 44 million tons of garbage. As our population grows and the number of landfills become scarce, the need to deal with the ever growing quantities of garbage becomes more critical.

The California Integrated Waste Management Board (CIWMB) is responsible for implementing a comprehensive set of laws designed to address California's solid waste disposal dilemma and lessen the demand upon our natural resources. In doing so, the CIWMB promotes an integrated waste management hierarchy emphasizing the three R's — reduce, reuse, and recycle.

The centerpiece of this effort is a statewide coordinated effort to develop local infrastructures to manage waste. Each city and county is responsible for developing waste management programs which will divert 25 percent of its waste stream from disposal by 1995 and 50 percent by 2000. The result will be a comprehensive and carefully coordinated approach to waste management that recognizes the importance and interrelationship of all current management options, while encouraging the development of new waste management technologies.

By enacting legislation which recognizes and emphasizes that more than state and local government efforts are necessary for success, the Legislature has declared that effective waste management is bigger than any one particular element. Success is dependent upon the support and cooperation of many diverse interests, from industry to private citizens, from environmental groups to school districts, each with a different perspective.

In addressing the role school districts can play, the Legislature enacted the *School-site Source Reduction and Recycling Act*. This legislation enables the CIWMB to have sole responsibility for assisting school districts in developing comprehensive waste management and education programs. School district programs can significantly assist cities and counties in meeting the solid waste diversion goals set for 1995 and the year 2000, as well as educate California's youth on the importance of these activities teaching them waste management skills that will last throughout their lives.

Recycling programs instituted within school districts, coupled with classroom environmental education, have proven successful throughout the state in diverting waste from landfills and educating students to be stewards of natural resources. *A District-wide Approach to Recycling* is a comprehensive guide to establishing school district recycling programs. Although this guide focuses on a district-wide approach, it is equally applicable to one school building. Don't Re-Invent The Wheel

The fundamental purpose of this guide is to serve as a catalyst for generating ideas in waste management. The guide was designed to introduce a practical approach to waste management based on what is feasible without too much intrusion on your time and budget. The material included in this guide is based on successful programs in California school districts.

Understanding that there is no true definitive waste management source book for school districts in California, this guide is designed to give you success stories so you won't have to "reinvent the wheel." Redesign it just a little so that it fits and feels right for your district.

It should be stressed that this is a guide and not a book to read from cover to cover. Each section contains information that may be valuable to selected individuals within a school district. Please feel free to reproduce sections of this book and distribute them to individuals who might put them to use.

This guide is also written for local government recycling coordinators providing you with the necessary tools to assist school districts in your area. We believe a key factor to a district-wide recycling program is involving all of the key players, and the recycling coordinator can act as the facilitator for the coordination effort.

We encourage you to utilize this guide, as well as the many model programs showcased, as you develop integrated waste management programs for your district. The CIWMB welcomes your remarks and success stories so we may continue to serve as a network between schools/school districts, local governments, recyclers, and industry.

Why Bother?

Why should school administrators, staff, and students work to conserve natural resources and manage waste? The simple answer is "money-moolah-bucks." Increased waste hauling costs are eroding the educational budget. Reducing school district waste hauling costs can increase the discretionary dollars available in the school district budget and provide resources that may be programmed into direct support for the classroom.

Improved Public Relations

Although the potential for cost reduction is great, a narrow focus on savings alone may not be enough to place waste management on a school district's agenda. A good waste management program has implications for improved public relations as well because the savings from reduced garbage hauling service provide a quantifiable bottom line. The public is pleased the school board is concerned with reducing administrative costs, increasing productivity, and taking actions to improve school facilities. On a more global level, waste management programs are being hailed as one approach to controlling environmental problems, such as decreasing landfill capacity and overconsumption of natural resources. In addition, energy is conserved through waste prevention and recycling.

A Laboratory For Learning

Many educators teach their students about environmental issues with waste management and natural resource conservation as key focal points. By implementing a waste management program in your district you empower students to practice the principles which they are learning in the classroom. Recycling and waste prevention programs provide students "laboratories" to test their knowledge and skills by actively taking part in managing their resources. As you design your program, keep in mind how students can be involved all the way, as this will generate greater support and commitment.

Bakersfield Recycles and Saves

In the 1992-93 school year, Bakersfield City School District (BCSD) paid $185,000 for garbage collection and landfill gate fees. This year's projection is $283,000. However, the district is banking that recycling efforts will reduce this amount. Recycling not only saves money for the district, but it teaches students about effective waste management practices and that helps them develop life-long habits of respect and conservation of natural resources.

Instead of putting waste in trash cans, students and staff at four schools in BCSD are changing old habits by separating recyclables. Recyclables include, lunch trays, forks, fruit cups, polystyrene trays, paper products, milk cartons and juice boxes.

Each school had at least two, three-yard dumpsters that were emptied five days a week, costing the district $380 a month, including garbage pickup and gate fees. Through recycling the district was able to eliminate one dumpster at each of the four schools saving about $12,000. Eventually the number of garbage pickups will also be reduced. The remainder of the district's schools will be phased into the recycling program by the end of January.

A Role For Everyone

Waste management programs in the school district should be discussed and practiced by everyone, not just the custodian or food services manager. "It's not my job," is just an excuse. The perception that garbage is not "my problem" can be changed when everyone realizes they can make a significant contribution to managing resources. **Waste management depends on people.**

$ Savings $

Jurupa Unified School District saves over $35,000 annually in reduced hauling costs, and generates approximately $1,500 from the sale of recyclables annually. The district recycles paper, cardboard, foam food trays, and steel cans.

Back-To-Basics

Waste management success hinges on a "back-to-basics" approach featuring the other "Three R's": respect, responsibility, and recognition.

- **Respect** means listening to people's problems seriously whether it is a teacher who is too overloaded or a maintenance director whose maintenance budget has been cut.
- **Responsibility** means expecting the most of staff and students, and motivating them to go out and manage waste.
- **Recognition** means giving people credit for reducing waste.

These "three R's" help win staff and student support for the waste management program.

People As A Resource

This guide focuses on PEOPLE. Why? Because new equipment and technology do not save resources, people do. This is really not a new theory. In their runaway best-seller, *In Search of Excellence*, Peters and Waterman maintain that our best run companies treat people as their greatest resource. Examining the most successful school waste management programs, this is particularly evident. This guide shows the interrelationships that do exist between all the people in a school from the Administration, Facility and Services Staff, to the Principal, Teachers, Students, and Community with regard to waste management.

The key elements rely on one major tool to ensure their effectiveness, COMMUNICATION. An administrator can be more effective in managing waste in the district if he or she is keenly aware of the vital role communication can serve in reducing waste and resource consumption. Regular updates on success are an effective incentive for district-wide participation. Effectively communicating waste reduction and recycling information is what motivates people to take action; actions save dollars.

Savings Increase for Comprehensive Programs

Why do we encourage school districts to implement comprehensive waste management programs which include all sites and staff and students? The bottom line is cost savings and revenue generation. As recycling increases, the volume of garbage should decrease. Hence, with a decrease in garbage, the district could reduce the level of garbage service, which could potentially result in a reduced garbage bill. In addition, with an increased volume of recyclable materials being separated by the district, recycling

companies are more likely to provide recycling collection services at a nominal charge, no charge, or even pay the district for recyclables. When limited staff time or resources prevent a comprehensive program from being instituted, hit-and-miss implementation reduces the potential for garbage savings.

Key Elements for A Successful District Recycling Program

Through the careful evaluation of strengths and weaknesses of district programs throughout California, the following "key elements" emerged as crucial to creating successful programs:

- Organize Waste Management Data
- Build Support
- Support "Idea Champions"
- Appoint a Recycling Coordinator
- Develop District and Site Recycling Committees
- Meet with Local Recycling Coordinator
- Set Yearly Goals
- Determine Budget and Resources
- Conduct a Waste Assessment
- Market Your Recyclables
- Collect and Store Your Recyclables
- Provide Training for All Staff and Students
- Integrate Waste Management Education with a Hands-On Program
- Provide Incentives
- Motivate Staff through Recognition
- Make the Program Visible
- Keep Up the Momentum
- Work Out the Bugs
- Don't Give Up

What follows is a description of the key elements for planning and implementing a district-wide waste management and education program whether your district is small, medium, or large, located in a rural, suburban, or urban community. Various combinations of all of the key elements have been observed in successful district waste management programs throughout California. The recommendations are generalized and highlighted with specific examples and should be implemented where applicable to your district.

Richmond School District Saves $30,000

Ken Jay, the Richmond School District operations manager, estimates the district (consisting of 31,287 students) saved $30,000 in garbage hauling fees because of reduced garbage volumes. How did they do it?

The district, located in Contra Costa county, successfully recycles milk cartons, juice boxes, paper, and cardboard. Volunteer teachers coordinate the "Green Teams" at each school. The Green Teams are made up of students who monitor the collection of recyclables during lunch. Students pour out leftover milk and juice into plastic buckets with strainers (to catch straws). The milk cartons and juice boxes are then placed in 30-gallon lined trash containers. When containers are full, a Green Team student ties off the bags and carries them to large 90-gallon toter garbage cans at the back of the cafeteria. Green Team members also collect paper from the classrooms once a week. Richmond Sanitation Service, the district's hauler, empties the toters once a week at no charge to the district. Schools estimate their cafeteria waste has decreased by 75 percent.

Part I - Organizing

Organize Waste Management Data

The first step for districts is to determine the current level of garbage service. For example, your purchasing manager should have a breakdown of the number and size of the garbage dumpsters, and frequency of collection at each site in the district. This information will be used later as you identify the potential for reducing garbage service. It is also helpful to be aware of fluctuations in the volume of garbage generated at specific times in the year; e.g., holidays, end of the semester. This will enable you to predict times when the level of recycling service may need to be increased; e.g., the end of semesters may produce greater amounts of white and mixed paper. Also, by establishing baseline data prior to commencing the recycling program, you can accomplish the following: 1) predict the anticipated decrease in garbage and reduction in cost for garbage service; 2) catch billing errors, which believe it or not can be common when a district recycling program is in its early stages; 3) independently measure the savings of the recycling program; 4) budget for recycling expenditures, if applicable; e.g., recycling bin rentals; and 5) prioritize capital outlay expenditures for recycling; e.g., additional storage structures.

In addition, this data can be utilized to grab the attention of school board members, in particular, if the district will experience a rise in garbage fees. It is critical when presenting data to the school board that the costs associated with garbage collection or recycling have relevance to the situation in your district. Convincing the school board of the importance of implementing a recycling program can be the single most critical use of waste management data. Reporting on the program in terms of "dollars saved" encourages decision makers to support further investments.

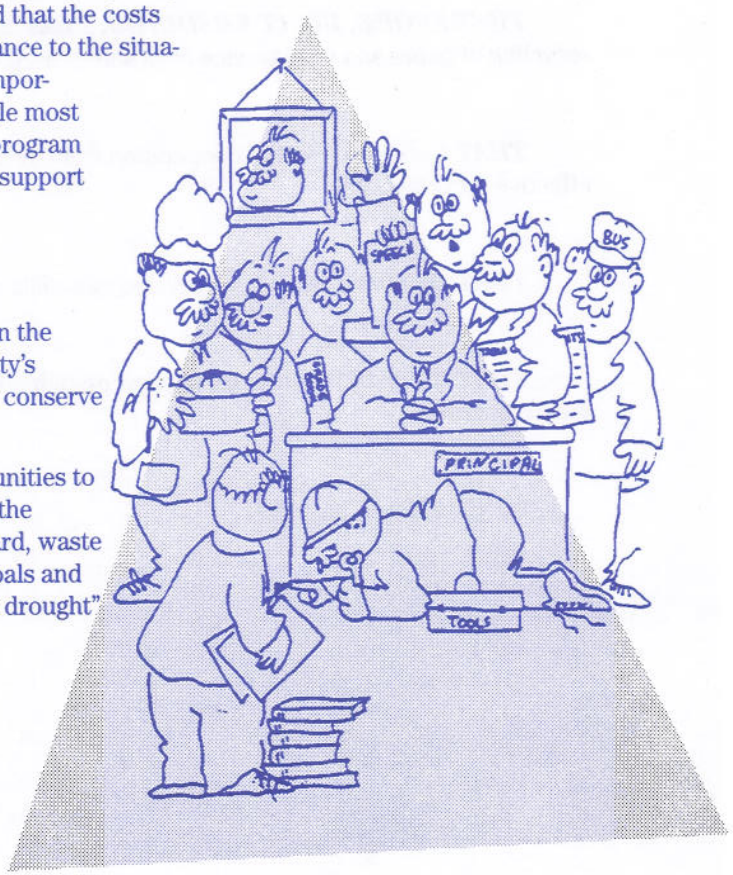
Recycling Program

A school board member initiated Fresno Unified's program by requesting district staff to investigate the feasibility of implementing a district-wide recycling program. The district responded by forming a committee consisting of representatives from maintenance and operations, food services, purchasing, school sites, industry, and the CIWMB. The committee spent eight months developing the program, which included conducting waste audits, developing bids for recycling, and implementing trainings.

Build Support

A strong school board policy is a crucial link between the community and its school system. It reflects the community's desire that the schools actively pursue reasonable ways to conserve resources and in turn to conserve tax dollars.

Although waste management programs offer opportunities to reduce costs, a narrow focus on savings alone can reduce the chance of success. To build support within the school board, waste management must relate to the school board's accepted goals and priorities. Issues as divergent as "accountability" and "the drought" can easily be linked to a waste management program.



Resolution of the Board of Education

Bakersfield City School District

WHEREAS, the district recognizes the need to cost effectively recycle materials it uses, and

WHEREAS, vendor support is necessary to promote efficient recycling and marketing of recycled products, and

WHEREAS, recycling is necessary to reduce the load on landfill capacity, and

WHEREAS, paper and food service disposables are prime candidates for recycling, and

WHEREAS, district staff should serve as a positive role model concerning environmental issues,

THEREFORE, BE IT RESOLVED, THAT the Bakersfield City School District promote and implement recycling of paper and food service disposables used in district programs, and

THAT the district secure cooperation from local and state agencies, public and private, to implement cost effective recycling, and

THAT the district purchase recycled materials whenever practical, and

THAT the district encourage student participation in recycling through appropriate activities and instructional programs.

Adopted March 27, 1990

Without an established district policy, your waste management program will lack the direction, support, budget, and the administrative backing to become an effective program. The resolution should encompass all aspects of the district's operation; e.g., educational programs, budget process, facilities and services management, maintenance, transportation, food services, purchasing, personnel procedures, administrative services, outside users, new construction and comprehensive planning and scheduling. It assumes the intention to **replace** existing practices with waste management practices that prove successful.

An effective resolution should contain the following:

- Statement of concern regarding the long-range natural resource situation.
- Statement of commitment to waste management.
- An implementation plan.
- Reporting requirements.
- Allocation of resources (staff and budget) to get the job done.

Waste management policy can be incorporated by making each site or department responsible for its garbage budget. By including a waste reduction goal as part of the Principal's, Maintenance Director's or Operations Manager's performance objective, a superintendent has taken a major step in ensuring a high level of awareness and eagerness among his or her employees to substitute new programs for old. The support and performance of these players is integral to the project's success because they have control of managing waste at the schools. Once top level support is gained, principals, teachers and staff are more eager to support the waste management program.

Administrators need to be "sold" on what is in it for them and convinced that staff comfort and productivity will not suffer. Teacher discomfort is one of the greatest obstacles to waste management programs; however, it can be overcome through careful planning. Getting it in writing through a resolution and participation contract will help avoid miscommunication and clarify expectations.

Long term continuation of an innovative program, such as waste management, does not just happen. The school board holds the "purse strings" and therefore must be constantly reminded that their approved expenditures and resource allocations for staff training and the district's recycling coordinator will be rewarded with cost avoidance in excess of their investment.

A Team Approach

Pleasant Valley School District, Nevada County, operates two schools in an area with a population of about 10,000. This small district recycles all types of paper and cardboard. The program was initiated by custodians and teachers over three years ago.

There are recycling boxes in each classroom. When the box is full, the teachers write a maintenance request for pickup. Once there are 10 or more boxes, Grass Valley Disposal picks up the paper at no cost. Grass Valley Disposal also conducts a weekly pickup for the district's cardboard.

Two percent of the custodians' time is taken with the recycling program. The district also composts its grass clippings at each site. It is estimated that approximately 25-50 percent of waste is diverted through this program depending on the situation and timing.

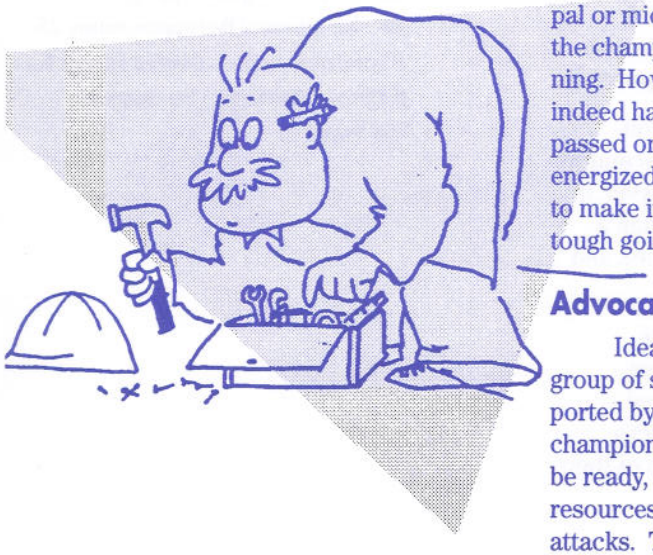
Cultivate M & O Support

All districts with successful waste management programs have active support from the Maintenance and Operations (M & 0) departments. Although commitment from the administration is vital in a waste management program, there has to be support from the people actually performing the work. In fact, how the lack of support undermines success has been realized in several districts. If the M & O staff perceive the program will increase their workload, they may be resistant to supporting your efforts. In the long term, this relationship is even more important as mature waste management programs are often transferred to the M & O department. If successfully implemented, waste management programs replace existing practices and become standard operating procedure.

Support "Idea Champions"

The role of the idea champion is usually to bring the idea for the waste management program to fruition. Unless there is somebody behind an idea and willing to take the risk of speaking up for it, the idea will disappear. National Science Foundation and Rand studies suggest that the idea champion's role is crucial in this process. Daft and Becker in their book, *The Innovative Organization: Innovation Adoption Efforts in School Organizations*, state that a key element for innovative change in schools is the presence of an "Idea Champion." The "Idea Champion" is the person with the vision, desire and skills needed to promote the program and motivate all to participate.

Energized By Commitment

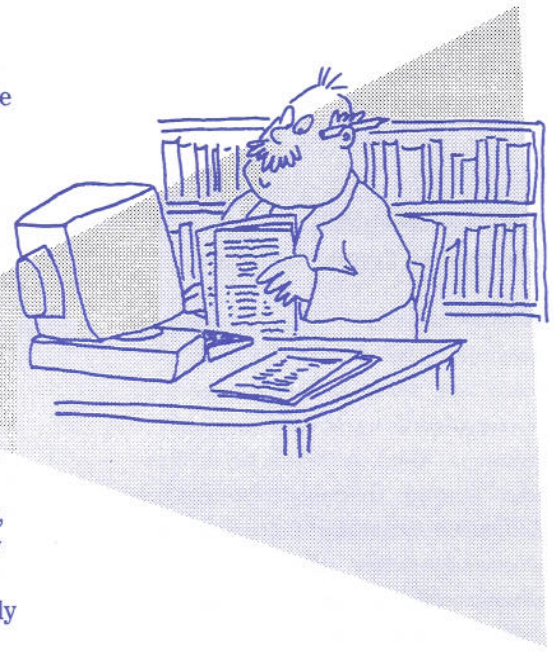


In waste management programs the idea champion is usually a principal or middle level administrator, but may also be a teacher. Most often it is the champion, who assumes the role of recycling coordinator in the beginning. However, if the champion leaves the program it may die. This has indeed happened in many districts, but can be mitigated if the "gauntlet is passed on." This kind of leadership involves communication and conviction, energized by commitment. Persistence, staying with the project long enough to make it work, is also a key trait. To some extent, every project has some tough going in the beginning.

Advocate for the Program

Idea champions cannot do it alone. Selling the idea means developing a group of supporters to implement the program. They also need to be supported by an administrative sponsor who runs interference for the idea champion and assumes responsibility for the program. The sponsor should be ready, willing and able to help in three ways: acquiring the necessary resources, ensuring the necessary budget allocation and fending off political attacks. The role of sponsor involves acting as an advocate for the program in front of the superintendent and school board. Often the sponsor or "executive champion" is a former idea champion who understands what it takes to push an innovative program. He or she may be a Business Manager, Assistant Superintendent, Maintenance & Operations Director, or Food Services Manager. Recycling coordinators and idea champions recruit these

individuals, sell them on the benefits of a waste management program and work hard to keep them regularly informed about the progress of the programs. As with the idea champion, successful district recycling programs are more likely to have an administrative sponsor.



Appoint A Recycling Coordinator

A key person to appoint right away is the recycling coordinator. The coordinator is usually selected by the superintendent to act as a liaison for the program. The coordinator is given the authority to delegate tasks and manage the operational and educational aspects of the program. Recycling coordinators can also be likened to a coach, offering sound advice, motivating improved efforts, and providing support while the school district travels on the path to improved waste management. Some of the most effective are generalists familiar with the many different operational areas of the school. Recycling coordinators are often selected from maintenance and operations, food services, or business services. It is critical to select a coordinator early into the planning phase because without someone in charge, waste management has a tendency to get lost in the shuffle or buried by the crises that daily confront a school.

Rapport with Staff

People may be the district's most important resource in managing waste. Thus, your recycling coordinator must have good rapport with staff members to mobilize that resource. Recycling coordinators must also have the authority and respect required to get things done since it will be necessary to recommend procedural changes across the district.

Personnel assignments will depend largely on a district's size, staffing requirements and internal structure. When initiating a waste management program, the coordinator may need to dedicate up to 50 percent of their time to organizing and implementing the program. However, by delegating tasks to the district recycling committee, the coordinator will be able to accomplish much more than if they are on their own. Once the program is implemented, the coordinator will need to spend minimal time monitoring the program and responding to inquiries from the sites, community, and media. This is the primary reason the school board needs to officially recognize the program through a resolution.

Develop District And School Recycling Committees

Both district recycling committees and school site recycling teams provide opportunities for self-management as teams pull together to tackle the waste management problem. They work well because problems are observed "from the classroom up, and the boardroom down." Each school recycling team sets its own strategy within the context of overall waste reduction goals of the district. The bottom line for success is tangible: reduced waste disposal.

Research indicates that when people are allowed to manage themselves, they show more initiative in fulfilling both personal and organizational goals. The highest form of self-management is "**intrapreneurship**," improving practices and programs *within* an established organization.

A district recycling program is well-suited to this "team approach" because it is a project that cannot be successfully implemented by only one person. Teams are particularly appropriate for: increasing collaboration; building consensus; and training staff to acquire new skills.

Involvement Develops Commitment

Participation in a recycling committee, whether it is at the school or district level, involves more people than just the district's recycling coordinator. It helps create that "critical mass" that some believe is crucial for success. It may be fairly formal as in Fresno and have representatives from the district level, administration, business office, maintenance and operations, or informal as in Laytonville where the recycling coordinator meets with staff periodically. In either case, all of the appointees should have an active interest in recycling and commit enough time to do the job well.

While the vital role of improving communication is an important one, the district recycling committee also serves to:

- Offer advice on policies and actions.
- Act as a liaison between the schools, top level administration and the school board on waste management goals and policies.
- Communicate results to each school.

The school recycling team's primary responsibilities include:

- Implementing the recycling program at their site.
- Encouraging staff and students to take ownership of the program.
- Communicating with the district committee regarding issues and successes.

Role Changes Over the Years

School recycling teams are particularly effective in getting a program off the ground and focusing attention on recycling. However, the jury is still out on how successful this strategy is for long term waste management programs. Linking the teams with an award or recycling dividend program, where a percentage of the dollar savings are returned to the site, seems to be key in maintaining the teams' commitment over the long term.

A United Approach: Sacramento County Task Force

While Sacramento's K-12 public school students were enjoying their 1992 summer vacation, county, state, and school district personnel and representatives from private industry were gathering to form a county-wide task force on school recycling. The purpose of this task force is to facilitate comprehensive school recycling programs that include: collecting as many school-generated recyclables as possible; instituting a waste prevention program; and establishing recycled product purchasing and procurement policies. The task force is working to initiate programs in several of the county's school districts and drafting common bid language to be used in soliciting recycling and garbage hauling contracts. Members of the task force are also considering forming a joint powers agreement for hauling services to include recycling.

Part II - Reseaching and Developing

Meet With The Local Recycling Coordinator

Early in the planning process, the committee should engage the support and participation of the city and county recycling coordinator. Your recycling coordinator not only is experienced in developing waste management programs but they are familiar with local market resources. They can assist you in locating markets for your recyclables and save you a considerable amount of research time. In addition, the recycling coordinator may have many useful resources available to assist the school district, such as educational materials and publicity channels. The initial commitment you make in fostering a relationship with your recycling coordinator will pay multiple dividends in the long term. In addition, local governments have a vested interest in promoting district recycling, as these programs have the potential of diverting large volumes of materials from the landfill and educating students in the importance of conserving natural resources.

Recycling Program

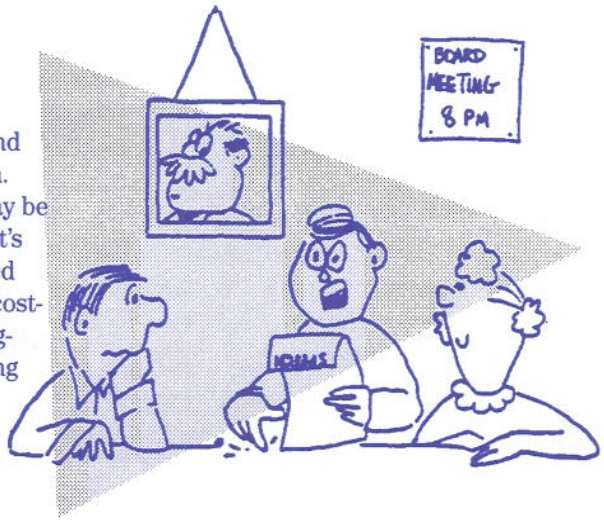
A San Benito County supervisor initiated a paper recycling program for local school districts. She established a partnership between Hollister Disposal (the local garbage company), Leatherback Industries (a local paper processing plant), and the districts in the county. The schools' waste paper is now recycled into box board. The $2,000 generated last year from the sale of recyclables will be spent on a project to benefit all of the schools.

Set Yearly Goals

Planning and yearly goal setting for waste management programs typically are focused on reducing garbage. Waste management plans and goal setting are as important for political reasons as they are for management guidance. A waste management plan with yearly goals becomes a roadmap for activities that will lead to changes in behavior and the expansion of the waste management program. By setting goals, the program calls attention to itself and renews the commitment of those involved in the program. Providing feedback on the recycling program's progress assists in justifying a longterm commitment and allocation of resources for the program.

Clarify Benefits and Services

Use guidelines set forth in the governing school board resolution and the district's waste management data to design a waste management plan. Note: A proposal or waste management plan that identifies strategies may be needed to gain approval of the school board for the program. The district's plan should make it clear what services will be provided, what is expected from schools, and what benefits are expected. Be conservative in your cost-saving estimates, at first, to ensure that the program is successful. A long-range perspective indicates that waste management is more than a passing fad.



Determine Budget And Resources

Generally, when you sell the program to administration the first question asked is **"How much will it cost?"** This is a reasonable question considering the tight fiscal budgets school districts are forced to operate within. With this question in mind, you will need to identify direct and indirect costs for your program, and then justify these costs by showing

paybacks. Recycling expenses can include the following:

1. Recycling charges to collect recyclables.
2. Equipment (bins, balers, etc.) rental, lease, or purchase.
3. Publicity items; e.g., newsletters, flyers, that support the recycling program.
4. Labor costs for collecting, storing, and transporting materials.
5. Fuel and maintenance costs for any school vehicles used to transport materials.

The paybacks for your program may or may not necessarily be reflected by an increase in revenue. For example, the costs for maintaining your recycling program may equal the reduction in garbage hauling costs, thus a net of zero. However, if one of your goals is empowering students to manage resources, then you could identify this as another payback. Typically, the direct costs associated with the district recycling program should have a short pay-back time. The key to recouping costs is seeking to reduce waste hauling costs and/or receiving revenue from the sale of recyclables.

Conduct Your Own Audit

To conduct your own waste audit, you will need the following equipment:

Plastic bags

Safety goggles, protective clothing, thick work gloves

Plastic/canvas tarpaulin

Scale for weighing bags

Chart for recording weights

Note: It is important to realize that other contaminants; e.g., neighborhood trash, might be dumped in the schools' bins; therefore, if you take this approach extreme caution should be taken when sorting the materials.

Conduct A Waste Assessment

The waste assessment (or audit) consists of an on-site review of your district's waste stream and a written report summarizing the findings. The report describes types of materials currently being discarded, estimates of the volume for each material type, and the overall percentage of each material type as it relates to the total waste stream. The report should also identify materials which are currently discarded and could potentially be recycled.

As an analytical tool, the waste assessment provides hard data to aid in decision-making about developing your recycling program. In addition, recyclers often find this information useful in determining the level and costs of service they can provide. For example, if the district's waste stream consists of large amounts of white paper, the recycler may be willing to collect mixed colored paper as well because the revenue for the white paper potentially might outweigh the cost of recycling the mixed paper.

The assessment will also give you a baseline for starting your recycling program, thus enabling you to provide feedback on the impact of the program. As recycling is practiced in the district, everyone will be able to see the success of their efforts!

Different Things to Different People

Prior to conducting the waste assessment you will need to determine the level of detailed data necessary for developing your program. For example, when going out to bid for recycling services, you may need to list the types of recyclable materials to be collected. This information should be specific; e.g., "paper" can be interpreted as white bond, construction, colored bond, groundwood (this has the large spaced lines for practicing penmanship). A recycler may need to charge for a certain material type, but might pay you for another material depending upon market demands.

In addition to identifying the types of materials, the recyclers may also request the volumes of recyclables. This data will assist in determining the size of bins needed; e.g., if large amounts of cardboard are generated the recycler may elect to place a 40 cubic yard dumpster at each site to be picked up every two weeks instead of a three cubic yard dumpster picked up three times a week. **So, how do you gather this data?**

There are a variety of approaches you can take when conducting a waste assessment depending upon your needs and staffing. Using one or a combination of the following five approaches will provide you with a fairly comprehensive picture of your waste stream.

APPROACH #1 - Conduct trash peeks:

Visually inspect the garbage dumpsters and trash cans. It is helpful to identify what types of waste are generated and the relative amounts. At each site, visit the dumpster. Upon observing the collective waste, make note of its contents and estimate the amount of each material. You should be able to get a feel for materials being thrown away by visually inspecting the dumpster. Remember the dumpster peeks are only a snapshot in time, but comparing the information gleaned from the interviews will help provide a more complete picture.

APPROACH #2 - Target common materials

One approach is to target the materials that schools typically generate the most of and collect them at designated places/times during a short period of time, such as two weeks. An example of the kind of material that can be collected in this way is styrofoam trays in a cafeteria. Arrange with cafeteria workers to set aside a special bin for collecting the trays for a week. Make annoucements to the students before and after each lunch period to put garbage in the regular trash and trays in the special bins. Weigh the amount of trays collected after one week.

This can also be done with materials, such as metal cans used by food service workers, or office paper generated by administrators—test samples can be used to determine the quantity generated. Weigh the material collected at the end of this time, or more often as the collection containers fill up. You can extrapolate the amount generated in a year from this data by multiplying the amount generated in one week by the number of weeks in your school year.

APPROACH #3 - Review purchasing records

The information found in district purchasing records can assist you in identifying types and volumes of recyclables. You can determine the amount of each material purchased per month, and assume that roughly the same amount is disposed of monthly. For instance, the food services director could tell you how many milk cartons and polystyrene trays are used daily at each site and the purchasing agent could tell you approximately how much paper is used on a monthly basis. You may have to convert quantity to weight or volume.

Recyclables

These recyclables are common in a district's waste stream: Paper - white, colored, construction, butcher, newsprint. Cardboard, Steel cans, Plastics - PETE (#1), HDPE (#2), Polystyrene (#6), Aluminium - cans, trays, Milk cartons/juice boxes, Food Wastes and Grass Clippings.

Waste Audit/Assembly

An exciting way to find out what's in your school's trash and also get your students involved in exploring a serious environmental concern is to conduct a "School Waste Audit Assembly."

CIWMB staff and Silva Valley Elementary School in El Dorado County recently organized a waste audit assembly as a pilot project. The audit and assembly were designed to be completed in just one day with the sixth grade students taking the leading role in the sorting, weighing and assembly discussion. The sixth graders compiled the results of the audit and developed a report outlining recommendations for improvement. This report will be distributed to Silva Valley School staff, students and parents.

The pilot was a success and met several major objectives ..

- Students, staff and parents learned just what was being thrown away during a day at school;
- Students explored alternative ways to reduce the trash that was being thrown away;
- Students discovered the quantity of trash generated by their school; and
- Students were able to take a hands-on active role in the entire project.

APPROACH #4 - Conduct interviews with key people

Interviews with district staff can provide insight into the types of recyclables which can be found in the waste stream. Custodians, who manage the garbage on a daily basis, are quick to identify materials which compose major portions of the waste stream. They can also identify peak periods (e.g., end of the semester, PTA events) when the volume of certain materials increases.

Identifying those sites currently recycling will provide additional data on the types and volumes of recyclables in the waste stream. Based on the premise that these sites are highly committed to recycling, you may select these sites to be models for the district as the district-wide program is implemented.

APPROACH #5 - Sort and Weigh materials

If you need estimates of volumes for recyclables, you may need to separate your garbage into various material types and weigh them. You can root through the school's dumpster every day for a week after all the school's waste has been put in, selecting several random garbage bags, opening them, dumping them on a large tarp, and then sorting the garbage into various categories in plastic bags or brown paper sacks. The sacks can then be weighed. Data from this one-week study can be used to estimate the amount generated in a year. This will also give you a very accurate idea of exactly what materials are generated by the school (Is yard waste included? Is aluminum thrown away?).

The approach you take will depend on the level of detail, time, and staffing available. Keep in mind this data will only provide a snapshot in time, but it will give you useful estimates for designing your program.

Other Resources

In the spirit of not reinventing the wheel, please contact the California Integrated Waste Management Board at (916) 255-2385 for details about conducting a waste audit and results from other school district audits. Many districts have found they can apply the data compiled from other districts in developing their own programs as the composition of school waste streams tend to be similar.

Marketing Your Recyclables

Recycling involves separating reusable materials; collecting them; processing them; making them into new, usable items; and marketing them. Once the materials are back in service, the recycling "loop" is closed. Reuse of the material is critical to the success of recycling. If material is simply collected and stored, the ultimate goal of reducing the waste stream is not reached.

Identifying and securing a market for your recyclables is a critical component to your program. There are a variety of marketing options depending upon the services available in your area. A valuable resource is the city or county recycling coordinator, who can assist you in identifying

Estimating Recycling Potential

Mr. Bell's fourth grade class at Madison School in Sanger, conducted a month long waste audit to identify the volume and type of food waste generated from the cafeteria. The class based their experiment on an article found in INSTRUCTOR MAGAZINE. The project was designed to increase student, staff, and parent awareness of the quantities of food, fluids, and packaging thrown away daily.

The Experiment

During the survey, students evaluated the types and quantities of food discarded each day from hot lunches, cold lunches, and sack lunches (brought from home). Trash was sorted into four categories: uneaten food (bags of chips or uneaten fruit); trash food (partially eaten); liquids (milk and juice); and paper/plastic.

As the students finished their lunch, they deposited the waste in the various receptacles under the supervision of Mr. Bell's students. As the trash accumulated, the trash bags were tied up, weighed (using an upright scale), and the weights were recorded.

The Results

- On average 9.5 gallons of milk were thrown away each week. When chocolate milk was served the amount discarded decreased. The cost of wasted milk per month equalled $447.60.
- By saving the unopened cartons of milk the school could save approximately 10 gallons or $96 per week.
- Students wasted certain hot lunch items: when served chicken breasts, they would tear off a piece and toss the remainder.
- Fruit, such as apples and bananas, and sandwiches, particularly ham/cheese and peanut butter/jelly, were thrown away from the cold and sack lunches.
- Large amounts of paper and plastic bags and polystyrene trays and utensils were discarded.

The Proposal

The students compiled the results and presented the following recommendations to the school board:

- Educating students on how much they waste, what it costs, and where it ends up, should be a priority. Mr. Bell's students felt their peers would respond to this information.
- The Cafeteria Manager could evaluate the audit results and modify the current menu, for example switching from chicken breasts to drumsticks.
- Information should be given to the students reminding them they do not have to take every item served to them.
- The excess food could be given to a local farmer for feeding animals. Other schools are engaged in this type of program.
- A recycling program for the non-food items could be implemented.

The Outcome

The suggestions are being evaluated by the school, and some have already been implemented.

local recycling companies. Investigate marketing options early in the planning process as this information will be key in designing your program; e.g., you may be limited to recycling only a few of the recyclables in your waste stream.

Assess Market Needs

The first step in securing a market is engaging the district recycling committee in identifying the desired level and type of recycling service prior to initiating contacts with local recyclers. Questions the committee might discuss include:

What types of recyclables do you want recycled?

Note: If you do not have much of a material, it is too difficult to collect, or there is no current market available, you may not be able to recycle it at this time.

Can the district consolidate recyclables at one location?

Can the district deliver the recyclables to the recycler?

Does the district want to generate revenue from the recyclables?

Does the district want to recycle enough to reduce garbage and realize cost savings?

Will the district be able to reduce garbage pickups?

Does the district want to implement the program in phases, either adding sites or material types over a period of time?

Finding a Recycler

A good place to begin your search for a collector is your existing garbage hauler. Many waste management companies can provide recycling collection services. Although these services may involve additional costs, they should be offset through the revenue generated by the recyclables and/or the savings incurred by reduced garbage costs.

Note: In most cases it will be up to the district to request fewer garbage pickups or smaller dumpsters. Most districts are able to determine the level of reduced garbage service during the first month and convey this information to the garbage hauler. The district should work closely with custodians to identify opportunities for reducing garbage service.

If your current waste hauler is able to provide recycling services, you may or may not need to enter into a contractual agreement. Typically, if the hauler will be charging for recycling services or returning revenue from the sale of recyclables, then the district will augment the current waste hauling contract.

There are several other ways to find a recycler or buyer for your recyclables, including:

- Check with your local city or county government recycling coordinator. They will have market information for your area. The recycling coordinator can also facilitate connecting your district with existing programs, such as curbside service.

National Trade Associations

ALUMINUM

The Aluminum Association
900 19th Street NW
Washington, DC 20006
Reynolds Aluminum Recycling Company
8100 Signal Court
Sacramento, CA 95824-2328

CONTACT: Dave Shriver (916) 381-6861

Can Manufacturer's Institute
1625 Massachusetts Avenue NW
Washington, DC 20036

CONTACT: Jenny Day (202) 232-4677

GLASS CONTAINERS

Glass Packaging Institute
Western States
3550 Watt Avenue
Sacramento, CA 95821

CONTACT: Roger Freeze (916) 444-0491

MILK CARTON/JUICE BOX

Aseptic Packaging Council
1336 Dale Street
San Diego, CA 92102

CONTACT: Debbi Dodson (619) 238-5525

PAPER & PAPERBOARD

American Forest and Paper Association
260 Madison Avenue
New York, NY 10016 (800) 878-8878

PLASTICS

American Plastics Council
1275 K Street, NW, Ste. 500
Washington, DC 20005 (800) 2-HELP-90

POLYSTYRENE

National Polystyrene Recycling Company
Southern California
720 S. Temescal Street
Corona, CA 91719

CONTACT: Phil Fusco 1-800-696-6965

Northern California
1676 N. California Blvd., Ste. 400
Walnut Creek, CA 94596

CONTACT: George Milne (510) 746-5262

STEEL CANS

Steel Recycling Institute
21 Tamal Vista Blvd., Ste. 210
Corte Madera, CA 94925

CONTACT: Betsey Meyer (415) 924-9077

Recycler Lends A Hand

Atwater Elementary School District's business manager decided to explore the feasibility of a district-wide recycling program. The first step was contacting the local garbage hauler who did not have the ability to provide recycling services. The second step, which was a success, was securing the services of a nearby recycling center. The recycling center was willing to collect the materials if all the district's recyclables could be consolidated at one location. In response, the business manager succeeded in establishing a system for storing the district's recyclables at one location.

- Contact the supplier/distributor of the recyclable material; e.g., plastic food-service items, milk cartons/juice boxes, as they may be able to organize a recycling program for you. Or contact national trade associations who can perhaps direct you to a local purchasing contact.
- Look in the phone book under "Recycling." Many waste management companies, scrap recycling dealers, nonprofit recycling organizations are listed in the yellow pages. These companies may not provide recycling pick-ups; therefore, you will need to deliver your materials to the recycling center. The revenue generated from the sale of the recyclables and/or the savings from reduced garbage volumes may cover your delivery costs.
- Contact local businesses who have recycling programs to ask if your district can piggyback on their efforts. Their recycler may be interested in collecting from your sites. In addition, businesses are often interested in adopting schools and donating containers, or premiums for recycling programs.
- Contact local school districts with recycling programs. You may be able to consolidate your materials.
- Call 1-800-553-2962 for information on recycling centers in your area.

Recycling Program Costs

Be aware that a recycler is going to have various costs associated with collecting, processing, and transporting recyclables. These costs are the primary reason recyclers may charge for their services. However, this does not mean a district cannot come out even or ahead financially when initiating a recycling program. Two key elements which can make your program have "profit" appeal is VOLUME and SOURCE SEPARATION.

The primary reason a district-wide recycling program is recommended is the appeal large volumes of recyclables, centrally located, have to a recycler. Schools, acting as small communities, generate large volumes of recyclables, including white paper, cardboard, milk cartons/juice boxes, steel cans, aluminum, and various plastics. However, when recyclables are collected from all of the district's sites, including schools, the program is more palatable and profitable for a recycler.

The more your program can do to source separate materials into the categories requested by the recycler, the more appealing your program will be. Contaminated materials, such as carbon paper mixed with office paper, may be refused by your recycler. Be sure to obtain a list of the recycler's specifications, then establish quality control practices to ensure that you meet those requirements. Students can be utilized to separate recyclables in the classroom and cafeteria. Ownership of the program will be greater if student involvement is incorporated into your program. Additional quality control practices might include having someone do a random check daily of the contents of each recyclable container, or even storing large quantities of paper or aluminum in a locked bin to prevent contaminants from being dumped in with them.

Tracking Diversion Success

In order to monitor your program's impact, request that your hauler provide a record of the weight and volume of each type of recyclable, if possible, broken down by each site. This data will enable you to track the volume of material which you are diverting from the waste stream and provide you with numbers to assess how much you can reduce your garbage service. You may also find this information useful for reporting back to staff, students, and the school board on the success of the program and the cost savings to the district.

Collecting And Storing Recyclables

The key to creating a successful recycling collection and storage system is to keep it convenient and easy to use. Maintaining flexibility is also important. Use the following checklist to design a workable system:

- Work with your recycler to design and set up the system.
- Involve maintenance staff and building management.
- Design the system around your existing garbage collection operations.
- Consider the space constraints of your premises.
- Consider the special needs of students and employees with disabilities.
- Clearly mark and consistently label recycling containers and areas.
- Design posters with a list or actual samples of what is recyclable.
- Determine size for indoor/outdoor recycling containers.

There are numerous recycling container options for school districts. You may need to customize recycling containers for specific areas; e.g., shops, labs, and eating areas will have different needs from self-contained classrooms. Many schools have students decorate classroom boxes for recycling. Others utilize existing former garbage containers labeled for recycling.

With stretched budgets you may need to investigate alternatives for securing containers. Ideas for acquiring containers which were successful in other districts include:

- Have a high school shop class design containers as a class project. This not only creates a sense of ownership for the program, but allows students to identify creative solutions for your container needs. Students at Nevada Joint Union High School sought donations of garbage cans from local businesses. The students modified the containers' lids so they would stand out to students as recycling containers, as well as making them theft resistant.
- Your local recycling coordinator may have containers available to school districts. San Jose had surplus curbside recycling bins which they offered to the city's schools for use in classrooms and offices. In Southern California, the City of Thousand Oaks Recycling Office provided large recycling bins to every school in the Conejo Valley Unified School District.

An Attack From All Sides

San Lorenzo Unified implemented a district-wide waste reduction program in 1992. Waste volume has been decreased by 50 percent, and approximately $30,000 was saved in garbage hauling costs the first year. The program includes the following activities: collecting garbage on an as needed/on-call basis; compacting the two high schools' non-recyclable wastes; baling of cardboard from the central kitchen, warehouse, and district office; transporting cardboard and polystyrene to a central district site for collection; and recycling office paper from the district office.

The Curbside Connection

School districts in Contra Costa County (Antioch, Moraga, Mt. Diablo, Orinda, Richmond, and San Ramon) work with local curbside programs, such as Pleasant Hill Bayshore Disposal, Inc., to collect their recyclable materials. This partnership has been extremely successful because the districts are able to recycle a variety of materials, including milk cartons and juice boxes. In addition, the recycler saves money by incorporating the schools' collection service with neighborhood curbside programs.

- Fundraisers held by school or community clubs, such as Boosters or science clubs, could provide funds for buying containers.

  Approach local businesses, such as students' parents and area establishments, for donations. There may also be companies in your area with recycling programs. These companies may be interested in sponsoring or adopting your district's program. Contact the company's Human Resources or Community Affairs director.

- The County Office of Education may know of businesses interested in contributing to your program.

- Your local recycler, garbage hauler, or recycling industry representative may have resources available. The City of San Francisco's curbside recycler provides large dumpsters to each school which has a recycling program. In addition, the city provides, at no charge, classroom containers to all schools in the city.

Place recycling containers in all classrooms, workstations, mail rooms, photocopy areas, vending machine and lunchroom areas. The containers should be labeled either on the container or on the wall next to the container informing staff and students as to the type of recyclable to be deposited in the container. Using pictures of the recyclables is a good visual aid, especially for younger students.

Questions For Your Recycler

What materials are collected?

What level of material preparation is required (e.g., cans must be crushed; there can be no food waste in the paper)?

Do they have a pick-up service? If so, how often do they pick up, for what quantity of material, and is there a fee for pick-up?

What dollar value is paid for recyclables?

What are the actual dollar outlays (for containers and other program costs) versus the income from recyclables?

Will they assist the district with training workshops?

Do they provide other resources, such as storage containers?

Can they coordinate collection of the recyclables with garbage collection schedules?

What type of commitment can the recycler make to your program?

Moving Recyclables

You will need to establish a feasible collection system for all of the district's sites. There are a variety of methods for collecting materials and moving them to the central storage areas. Whichever method is selected the collection schedule should be coordinated with the custodian. A sampling of the various methods follows. Depending on your needs, you may combine your own method, or create an entirely new approach.

- Assign students from each classroom to be responsible for bringing their class' recyclables to a central area once a week. This approach should not take more than five minutes of the student's time. A custodian with Escondido Elementary touted the program creates much less work for the custodial staff because students are helping.
- Create a "Green Team" with members selected from one class or club, such as the science club. The Green Team could be responsible for office, classroom, and cafeteria recycling. Some schools, such as in Fresno, give their Green Teams special t-shirts, aprons, buttons, arm bands, or hats so they are easily recognizable.
- Have custodians modify their trash collection system to incorporate recycling. They could collect recyclables along with garbage, or designate one day a week for recycling collection, and the other four for garbage. Recycling does not create additional work, it is the same amount, just done a little differently.
- Develop a collection program where everyone on campus takes care of their own recycling. By placing centrally located recycling containers throughout campus, everyone can be responsible for their own materials.

Fire Regulations

In addition to establishing guidelines for the security of a central sorting/storage area and safety procedures for handling recyclables, every district needs to know their local fire regulations. Local regulations may require you to ensure collection, storage, and pick-up plans are approved by the Fire Marshal. Contact your local Fire Marshal, county solid waste office, or the State Fire Marshal for details.

Due to local fire codes requiring fire-proof recycling containers, Fremont Unified High School District began searching for funding opportunities to purchase the containers for the district's recycling program. The answer: the district submitted a grant proposal to a local business requesting funds to purchase the containers. The business, which had instituted an active company recycling program, was extremely receptive to the joint venture. The business provided not only funds to the district, but also linked the school district with their collection program.

An Industry Partnership

Laytonville Unified, assisted by the Aseptic Packaging Council, established a program for recycling their milk cartons. The milk cartons are rinsed by students using leftover dishwater. They are then bagged and stored until a parent volunteer delivers the milk cartons to a drop-off center. The remaining recyclables, cardboard and aluminum, are delivered to a local recycling center. The recycling center pays the school for CA refund value containers.

A Joint Effort

Etna Elementary School District, Siskiyou County, initiated its program based on basic environmental benefits, a "conscious need by everybody to conserve resources." The program saves money, both in avoided garbage hauling and in reduced need for purchases (example: the other side of paper printed on one side is reused by students and staff). The key players are Jerry Silva, a 4th grade teacher; Marla Knight from the US Forest Service (USFS); and Gary Warner from the schools' outdoor sites program.

The program took very little time to set up. "It's easy to do, and takes very little time. It saves money, too." The underlying reason for the program is, "it just makes sense." Currently the district is collecting mixed paper, plastic soda bottles, aluminum and glass. There is a large cyclone fence bin in the parking lot for the community to use. The USFS picks up and transports the paper at no cost. Other materials are driven by parents and volunteers 24 miles to Yreka. Revenue from the aluminum goes into the general fund; no other materials bring in revenue at this time. Food waste is given to farmers for animal feed. Phase II is currently being planned. This will include greater community involvement, to include providing a central location for the community to bring their recyclables.

The city recycling coordinator in Blythe has developed a unique recycling collection program for the Palo Verde School District. Green Team students collect milk cartons/juice boxes, white/computer paper, and cardboard. The local hauling company, Palo Verde Valley Disposal, transfers the materials from the schools to the local prison, Chuckawalla. The prison will consolidate and market the materials. The prison will retain revenue generated from the recyclables.

Rural High Schoolers Recycle

High school students operate the community recycling center at Gold Strike High School in San Andreas (Calaveras County). The center is part of Project BRITE (Bring Recycling into Today's Education). BRITE's students also study about the environment, participate in community recycling collection efforts and give presentations about recycling and the environment at other schools.

Non-Profits

Some school districts are also contracting with nonprofit organizations to collect their recyclables. Paper is collected from schools by MORE Workshop in El Dorado county and Southside Art Center in Sacramento county; both groups employ the developmentally disabled.

Take It Back

Some Southern California school districts have discovered one convenient method of handling their foam food trays: having the distributor backhaul the used trays when new ones are delivered. Two such districts are Bakersfield Elementary (Kern County) and San Jacinto (Riverside County). Both have weekly pick-up of their used foam food trays by Better Made Plastics. Food is tapped off the tray by students who then restack the used trays into the same containers used for delivery (plastic bags inside of cardboard boxes). Better Made then recycles the used food trays into other plastic products. Bakersfield currently has a comprehensive program involving several recyclables; San Jacinto is about to expand its successful foam collection program.

Ceres Goes District-wide

Enthusiastic teachers in the Ceres Unified School District are the leaders in their district's recycling program. In response to requests from teachers and a school board member, the District formed a committee consisting of a teacher from each school, the city recycling coordinator, and the local recycling company. The committee decided to focus on recycling paper and committed each teacher to establish the program at their site. The hauler, Bonzi Ceres Disposal, provides containers and collects recyclables at all the schools at no extra charge.

District Program Hopes to Make Money from Recycling

Escondido Union Elementary School District (EUSD) went out to bid for recycling services. The bid was somewhat unique in that EUSD requested that the recycler return the revenue from the sale of the recyclables. This type of agreement provides an incentive for district staff and students to recycle. EUSD also will work to reduce their existing level of garbage service, in turn realizing cost savings. Recyclable materials collected in the program are white and colored paper, cardboard, milk cartons, juice boxes, steel cans, and polystyrene trays.

A Cooperative Plan

San Juan Unified School District, Sacramento County, investigated various collection options for their cardboard and paper. The answer—the district collects paper with its own truck and stores the materials at their warehouse. A local paper manufacturer picks up the paper from the warehouse. The paper manufacturer does not charge for collection and the district receives revenue generated from the sale of the paper. The cardboard is collected from each site by the district's garbage hauler. The hauler does not charge for collecting the cardboard, but does keep the revenue from the sale of the cardboard.

Donations Make A Difference

Downey Unified solicited a variety of sources for donations for their district-wide recycling program.

- Three-yard bins to store cardboard and other products picked up by warehouse staff were donated by Western Pacific Pulp and Paper Company.
- Plastic waste baskets for all district classrooms and offices for collection of paper products were donated by the local recycling company, CALSAN.
- Plastic trash cans for all sites for collection of paper products from waste baskets were donated by the city of Downey.
- $500 for the purchase of locks for all three-yard dumpsters to prevent contamination by others was donated by Soroptomist International of Downey.

These generous contributions enabled the district to implement a successful recycling program. The program, by recycling polystyrene, paper, cardboard, and green waste, saved the district over $10,000 the first year.

Everyone Joins In

Kneeland, located in Humboldt County, is a one-school district, with 56 students in two classrooms, and a staff of seven. The local garbage franchise (City Garbage of Eureka) stops service _ mile from the school. Until the recent stricter air quality laws were passed, the school burned all of its garbage, with the exception of aluminum cans.

Kneeland applied to Humboldt County Waste Management Department for grant funds, which were used to build a shed to house the recycled materials collected from the school and community. This shed was built by the California Conservation Corps. Twice monthly the school holds a collection event for the community. The local 4-H is responsible for delivering the recyclables to a recycling center. Materials collected include mixed paper, cardboard, plastic bottles, aluminum cans, glass bottles, and newspapers. In addition, City Garbage in Eureka provided six 90-gallon waste wheelers for the recycling program on a loan basis.

The school does not have a cafeteria, and lunch waste is not a problem. Most students that use disposables, such as lunch bags and plastic sandwich bags, take them home for reuse. This is seen as routine; as a rural area with limited services, the population is acutely aware of the waste they create.

Reduce

The garbage truck only stops at San Jacinto Unified's schools twice a week now, thanks to students' and staffs' recycling efforts. The district, located in San Bernardino County, saved $12,000 in reduced garbage hauling costs in the first year.

The district's director of Planning and Development involved Green Team students. Green Team members memorized facts about overflowing landfills and diminishing rain forests and designed t-shirts to be worn at a school-wide assembly. At the assembly Green Team members educated fellow students about the recycling program. The district is also making a video showcasing the students' efforts.

Now that the district is recycling at least two-thirds of the paper it uses, recycling has reduced custodians' workloads. Custodians do not have to collect as much trash because everyone is involved in recycling, thus leaving more time available for sprucing up the classrooms. For example, at Park Hill Elementary the custodian used to fill a "big, giant-sized Hefty" garbage bag for every two classrooms, and now he cleans six classrooms and fills only one bag. Another cost benefit to the district is fewer plastic liners for garbage cans are needed.

Students have seen a positive impact from recycling at their school. Litter has decreased. The litter patrol counts the pieces of garbage they pick up and constructs bar graphs and percentages to show their progress. At one school they collected over 1,200 pieces of trash in a day; however, after the recycling program started they picked up less than 300.

PART III - Implementing

Provide Training For All Staff And Students

Ideally, the program at its beginning stage should be announced to the entire school district through staff meetings, memos, assemblies, or newsletters. Everyone must be involved to give them the opportunity to contribute their thoughts and ideas at the outset. This participation fosters feelings of ownership for the program.

District commitment to training requires an adequate allotment of time to attend training sessions, assemblies, etc. Training should provide staff and students with a clear view of how waste affects his/her job, the significant costs of school district waste, an understanding of how waste is generated in the school, and the skills for successfully running a recycling program. It is important for everyone in the district to "buy-in" to the recycling program and have a voice in developing and implementing the program. Providing recycling training enables staff and students to see the commitment the district has made to the recycling program and the teamwork necessary to make the program a success.

Hands-On Training

Training is key to a successful program. It is important to recognize that although a program may appear simple, only a few items being recycled, staff will need details regarding the program. In addition, training can empower staff and students to participate in the program.

Staff

District staff, teachers, food services staff, and custodial staff could receive program information via existing in-service sessions. By taking 15 minutes of the in-service to discuss logistics of the program, the district can train staff at one setting. Note: School board members, PTAs, and others associated with the district should be informed of the program as they also contribute to the waste stream. The details can be distributed through newsletters, memos, informal meetings, or presentations.

Recycling Team

It is useful to establish a "Recycling Team" at each school site so the responsibilities of the program can be shared. The team consists of an administrator, food services manager, custodial supervisor, and two teachers. The Recycling Team is responsible for implementing the waste management programs onsite. The Recycling Team should have a point person who can act as the liaison for the district committee. Schedule a training for your

Escondido Trains Recycling Teams

Before EUSD kicked off their district-wide recycling program a letter was sent to each of the 18 principals explaining the upcoming program and requesting them to designate a recycling team. The recycling teams included at least one administrator, two teachers (on different tracks at year-round schools), a nutrition services manager, and a day custodian. The team was responsible for planning and implementing the project at the school site, and setting up student recycling teams.

EUSD conducted training sessions for recycling teams. The training was conducted by the district's recycling committee with the recycler and CIWMB School staff making presentations. Topics covered were: the history of the district recycling program, the current status of the program, the district's goals for recycling, and the role of the district as a pilot project for the state. A video detailing how other schools recycle, provided by the Aseptic Packaging Council, was also shown to the teams.

Top Notch Training

Fresno Unified School District's recycling program was initiated in April, 1993. A month prior to the start-up of the pilot, Fresno held training workshops for their school recycling teams, which consisted of an administrator, two teachers, food services manager, and plant coordinator from each school site. In addition, a training booklet and video were given to each team to take back to their sites for staff and student trainings.

Recycling Teams to introduce the recycling program and provide an opportunity for the teams to share ideas and concerns. A sample training session follows:

1. Welcome/History of District Waste Management Program (Note: A board member/superintendent could provide opening remarks stressing the district's support of the program)
2. Implementing the District's Recycling Program
3. Benefits of Creating a Successful Program
4. Idea Sharing/Questions and Answers

The training can emphasize the district's commitment to the program, provide the teams with an opportunity to share ideas and concerns, and emphasize to the teams they are not alone in this project. Training sessions do not normally require more than one hour and are conducted typically at the end of the school day.

Students

The recycling program as much as possible should maximize student participation. Forming "Green Teams" has been a successful component in other district programs. The "Green Teams," typically older students, can be responsible for collecting recyclable materials from the classrooms and offices, and educating other students in the school. "Green Teams" can be created from existing clubs or classes, such as a science class, or a representative from each class could be selected. Some "Green Teams" have initiated assemblies and plays to motivate fellow students and faculty.

Integrate Waste Management Education With Hands-On Programs

The school is an important part of the students' world—the place where they spend half of their waking hours for thirteen or more years. It is the place where they learn about the world and their place in it. Integrated waste management (IWM) education coupled with a district-wide recycling program provides students with a laboratory to test various natural resource conservation techniques. Students can measure school waste before and after the development of a recycling program, making the problem and solution much more tangible to them. This makes the issues more real to students when they can actually see that their efforts make a difference.

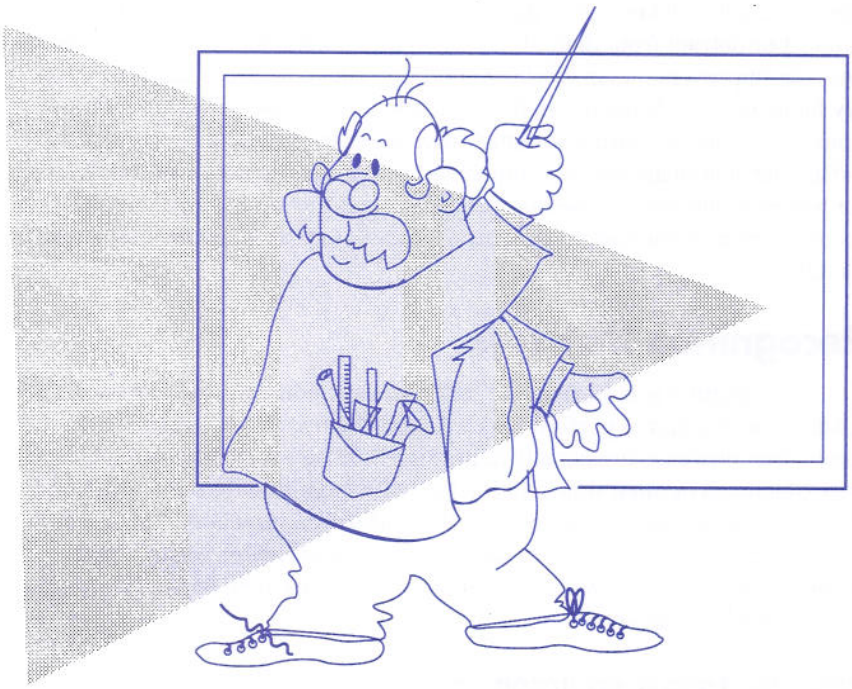
IWM education can put a spark into curriculum since students have a chance to really do something. Too often students say, "I'm never going to use this stuff when I graduate." By engaging students in hands-on activities to manage the recycling program, combined with classroom IWM instruction, students can make an impact on their environment. A comprehensive program prepares students to make educated decisions regarding managing natural resources.

A Hands-on Approach

Riverdale Middle School, Fresno County, involves students inside and outside the classroom. A team of teachers developed a two week unit on vermicomposting—composting with red worms. The unit, based upon an interdisciplinary approach, emphasizes hands-on activities. Inside the classroom, students study the worms' physiology and reproductive cycles. Outside the students, working in teams, are involved in constructing the worm bins, monitoring the worm beds, and measuring the amount of food waste that is diverted. Because everyone is involved with the school's waste management program, there is an overwhelming sense of pride and accomplishment.

Not Just Science

When IWM education is mentioned, there is a tendency to think science. Indeed, IWM concepts are often taught by science teachers. However, IWM can easily be infused into the curriculum because it is relevant, interdisciplinary, and can be taught at all grade levels. A curriculum which includes IWM provides a context for developing basic skills in math, reading comprehension, writing, or public speaking. For example, language arts activities could include students publishing a recycling newsletter providing helpful information to students, staff, and parents. The possibilities are limited to one's imagination. Ideally, linking the district's operational procedures with classroom instruction enables teachers to transfer written lessons into "hands-on" activities. Students learn by doing and in turn the district gains active school recyclers.



RAP SONG ASSEMBLIES

Recycling Rap

We're the rapping recyclers

we can save this land

if we all pitch in

and lend a hand!

So listen up, it's really true

we can tell you what to do

Recycle your clean polystyrene

Remember to recycle your

milk and your juice

Let's not settle for a lame excuse!

Put your paper in the can

and you'll be the earth's #1 fan!

RECYCLE!!!!

Written by the Green Team, Pleasant Hill Elementary

Directed by Nan Alexander, 4th Grade Teacher

Rewards For Recycling

Willow Creek Elementary School District, comprised of one K-8 school with 33 students, began collecting aluminum cans in October of 1992, both to conserve resources and as a fundraiser. The school was approached by the California Conservation Corps (CCC) in the Spring of 1993, and the program was expanded to include newspaper, mixed office paper, and plastic bottles (PET).

Currently, the CCC collects the materials from the school and transports them to a recycling center. The school receives approximately $20 per month from the sale of aluminum cans. No revenue is generated from the other recycled materials.

The CCC was instrumental in setting up the program, including providing metal recycling bins and giving an informational presentation for school staff. The school staff followed this assembly with another hour of information for the students on their specific program.

Burbank Banks On Recycling

A recycling partnership was formed between the City of Burbank, Burbank Unified School District, and the local recycling company, Burbank Recycle. Through the cooperation of these groups the district now recycles paper, cardboard, and aluminum cans. A unique aspect of the program is revenue sharing for all of the schools. Each school, which has a separate account with the recycler, receives payment for the materials they collect.

PART IV - Providing Incentives And Recognition

Provide Incentives

Recycling programs can actually generate revenue, so it is possible to return a portion of the savings through cash awards or "recycling dividends". By "re-investing" a portion of the savings in the people who made it possible, staff are encouraged to support the recycling program. In addition, setting realistic goals will foster greater potential for success, thus creating a stronger motivation to achieve. Encourage everyone to believe they are critical to the program's success and can be part of the "winning circle."

A Mix of Incentives Works Well

Decisions about which incentives will motivate staff must reflect a balance between organizational and individual needs. Reward everyone who contributed to the success of the program in a way that is meaningful to them. Just presenting a plaque that says "Your effort is appreciated" may be enough, though you must judge if it will be an effective motivator.

In these tight budgetary times, the district may choose to redirect savings and revenue to the sites to improve working conditions. The conditions in which teachers, principals, maintenance or custodial staff work, support or detract from their ability to do their jobs effectively. Examples of possible improvements in working conditions include: providing discretionary funds to schools and/or staff for supplies, materials, and other instructional expenditures; hiring administrative aides to handle routine matters; enhancing school appearance and amenities; providing improved work areas for teachers and staff to use during noninstructional time; and generally focusing more resources on support for classroom teaching and preventive maintenance.

Recognition Motivate

Recognition is important for staff whose actions save resources. Awards for exemplary performance of a job, teamwork, or a particularly innovative approach are equally important. Staff are concerned about the extra demands on their time and the lack of recognition for a job well done. Just publicly saying "Thank You" or "Your effort is appreciated," goes a long way toward motivating them to save resources and reduce waste. Also, students are impressed with such rewards as parties, field trips, and patches for backpacks or jackets.

Ideas for Follow-up Recognition

In a prominent place, keep track of the amount of recyclables collected. You can place a thermometer in the cafeteria showing the volume of recyclables which have been diverted from the waste stream.

Institute a monthly traveling award that is presented to the classroom with the best record for recycling for the month. At Laytonville Unified School District, Mendocino County, the best recyclers are recognized at the monthly school assembly and presented a certificate.

Select the "top recyclers" from each classroom or "Green Team" members and provide a field trip for them to a recycling facility. The City of San Francisco organizes field trips so schools can visit the local recycling facilities.

Hold an awards reception to recognize top recyclers. The City of San Francisco holds an awards event each June to express appreciation for teachers' recycling efforts. The recipients receive a plaque from City Hall.

Sustained Attention Reduces Difficulties

Most incentives, particularly those linking monetary awards to performance, require sensitivity to employee distrust of performance appraisal systems. Overly subjective reviews or measurements that lack validity are the greatest obstacles to making monetary awards work. Recycling accounting helps overcome that by basing awards on a quantifiable bottom-line that schools can verify themselves. Another difficulty with recycling dividend programs is that they assume schools can keep generating savings year after year and that all schools have the same potential for savings. For schools with a long history of conservation, each new measure or practice has diminishing returns in reducing waste. Therefore, it is important to identify other types of recognition, such as "Recycler of the Year" awards, which will sustain long-term enthusiasm for the program.

Graphic Reports Provide Feedback

Monthly or quarterly reports of recycling efforts are the cornerstone of making the program visible to both school staff and the superintendent and acknowledging the importance of information in changing behavior. This feedback allows schools to track their progress and provides the opportunity for seasonal prompts, such as end of the semester cleanups. Reports that rank schools tend to be a great motivator. The essence of effective communication comes in knowing your target audience; the purpose of the message or question; what and how much they need to know; and the most effective time, format and approach to reach them.

Everyone's Involved

In El Dorado County, Sierra Elementary's custodians actively involve the students and staff. The "Golden Apple Core Award" is bestowed on the outstanding waste reduction participants for the month. This award has become an embellished honor, as everyone tries to make a contribution to the success of the program. In addition, the custodians reward exemplary efforts by distributing "pieces of ate" (Jolly Rancher candy).

Students organized an "Earth Savers" club. The club is responsible for monitoring cafeteria recycling, collecting recyclables, motivating students and staff, and identifying innovative solutions to deal with Sierra's waste. For example, while "Earth Savers" were monitoring cafeteria recycling, they noticed unused, unopened food, e.g. fruit, chips, were being thrown away. The solution: intercept the food before it hit the trash can. Some food is washed and distributed the next day during lunch to those who do not bring lunch or are just extra hungry. The majority of the food is donated to a local food kitchen.

Food which cannot be reused is given to the worms. The custodians built a large compost bin, made from used wood, and inoculated the compost pile with red worms, which love food waste. The worms were purchased from aluminum can recycling funds. The bin is located behind a storage room. Students and staff are responsible for monitoring the compost and ensuring the worms do not go hungry.

PART V - Promoting

Make The Program Visible

Don't keep anyone in the dark! The program needs to be visible to both the general public and members of the school community. Mobilization strategies that involve and inform the public in the early stages of the recycling program can give the district the political backing it will need later on in dealing with personnel and funding allocations. The school board and broader community that are not appraised of waste management activities and cost avoidance cannot adequately rate the importance of the program compared with other pressing priorities. A "special project," as recycling is often perceived, is easy to eliminate without support.

With community support, the recycling program stands a good chance of being continued, but its effectiveness is likely to be limited unless it is supported by staff and students because waste management depends on people. Staff and students' support, cooperation, and action all begin with effective communication. Staff and students need to be informed which actions save resources and prevent waste, and they need to be motivated to take those actions, and receive feedback on the effectiveness of their actions.

Ideas for Kick-Off Events

Hold a poster contest. Each class can produce a poster that shows what can/cannot be put in the recycling boxes. Award prizes for the most accurate posters.

Invite the local news media to a kick-off event at one of the school sites. Interviewing students and filming them while recycling will demonstrate the "hands-on" aspect of your program.

Distribute an information kit to all teachers explaining what items will be recycled, how the recycling collection system works and a description of how they can educate their students about the program.

Send a newsletter to parents, local businesses, and community leaders informing them of your recycling efforts. You may also use the newsletter to detail requests for assistance, such as recycling containers.

Hold a school-wide assembly and have volunteers conduct a waste assessment on the stage in front of the whole school. Show recycling videos, and serve popcorn in reusable or recycled containers.

Hold a Recycle Rodeo or Fair with booths reflecting different aspects of waste reduction and recycling, including recycled art objects, etc.

Play "Recycle Jeopardy" or a similar game show that introduces the what, how and why of recycling to the whole school.

Produce a play or video about recycling and present it to the parents and students.

Getting The Word Out

The kick-off event, held the first week Fresno Unified's pilot recycling program commenced, incorporated several activities, including:

A local television station broadcasted their noon weather report from a "Green Team's" classroom.

"Cycler" the robot, loaned from Waste Management, Inc.'s Youth Education Program, visited the cafeteria while students recycled.

Key decision-makers, such as the school boardmember responsible for the program's inception, were available for interviews.

The kick-off received tremendous coverage from the local media. The district's staff and students were thrilled to have their efforts showcased, and parents were excited to see their children in the news.

Recycling Relates To Every Job

Everyone needs to understand how recycling relates to their goals and objectives. For example, why should a school board fund a waste management program at the expense of classroom materials? Why should faculty be concerned with reducing garbage?

Sharing information early in the process may avoid resentment that funds did not go for more materials. Planned communication can explain how reducing garbage, which may require a change in workload for staff, in the long run will reduce garbage hauling costs which may help teachers gain the supplies they seek.

Share Success to Build Support

Effective communication is planned and orchestrated. The responsibility for reaching the public lies primarily with the superintendent's office or a community relations office, but it is the recycling coordinator's responsibility to keep those offices informed of proposed activities and reductions in garbage hauling costs. Most political problems stem from insufficient "public relations," especially during budget review. The opportunity to share achievements often turns a school district's recycling program into a positive public relations opportunity that demonstrates the efforts the district is taking to make the best use of public monies. When shared appropriately, recycling accomplishments may bring more public support.

Graphic displays comparing garbage costs on a month-to-month basis or previous years' use work to increase staff, student, and visitor awareness of the results of the school's conservation efforts and challenge people to reduce even more waste. Poster contests and recycling competitions motivate students and staff to think about reducing waste.

To unify the program and heighten visibility, create a recycling logo, slogan, or mascot. Use the theme in all recycling publicity. Place the logo on recycling containers and correspondence. You may consider sponsoring a contest to acquire a suitable logo, or ask the art teachers if students could design posters and decorate storage containers in art classes.

Publicize the recycling program via the local news media. Send press releases or contact newspapers, cable television and radio stations to arrange coverage of the recycling program. The media will be particularly interested in unique or unusual events, such as the kick-off of the program or the winner of the design-a-logo contest. Other key data to get out to the public is how much the district is reducing solid waste disposal costs by recycling and the involvement of students in conserving resources.

Oakland Is On The Move

Cycler, a robot made of recycled materials, participated in Oakland Unified School District's (OUSD) school recycling program kick-off. Cycler explained to students and staff how important the new district recycling program is and how vital their role is to the program. The initial program covers mixed waste paper and cardboard recycling and will eventually expand to collect other materials. The recycling program entails collecting materials from 82 schools in the district and the administrative buildings.

PART VI - Expanding

Keep Up The Momentum

You do not have to stop here. Reevaluate your goals periodically to identify areas lacking or missing from your integrated waste management program. Initiate new activities which promote your district's conservation ethic.

Buy Recycled

Recycling is not complete until we close the loop—by purchasing recycled products. Buying recycled products stimulates markets for recycled items which in turn strengthens the whole recycling loop. The more the demand for recycled products, the more businesses will manufacture recycled products, and the more demand there will be for recyclable materials.

As demand has been increasing over the past couple of years, recycled products have become more prevalent in the market place. If you have tried in the past to purchase recycled products and found them to be cost prohibitive or poor quality, TRY AGAIN. Many companies have been improving their recycled products lines to compete with virgin materials. In addition, the demand is bringing the price down.

What can you do?

Purchasing is a key component to implementing a comprehensive waste management program for your district. The following tips will assist you in developing a successful waste prevention and recycled product procurement program for your district.

1. Generate commitment

- Seek support from the school board and superintendent. A policy statement or resolution stating the district's goals formalizes the administration's commitment to "closing the loop." See Bakersfield Union School District's resolution on page 2.
- Invite your school's Business Services Department to participate on your recycling committee.
- People are your greatest asset. Seek ideas from staff and students. This will not only generate some good ideas for you, but will create buy-in and ownership for your program.

2. Become educated about recycled products and waste prevention

- Contact your local recycling coordinator for information on recycled products, waste prevention efforts and cooperative purchasing programs.
- Obtain information on recycled product availability and performance from the following:

Closing The Loop

The Los Angeles Unified School District (LAUSD) is the nation's first school district to buy polystyrene food trays with recycled content! The food trays used by LAUSD contain 25 percent recycled polystyrene. The recycled content comes from used food service products recycled from restaurants and school cafeterias. At LAUSD, food trays and sporkettes are collected and transported to the National Polystyrene Recycling Company's (NPRC) processing plant in Corona, California. Processing includes washing, drying, and melting. Molten polystyrene is then extruded into pellets which NPRC sells to plastic manufacturers as raw material for new products. The district's decision to recycle and buy recycled-content food trays is an important step toward improving recycling markets for polystyrene. With improving markets comes more opportunity for recycling and reducing solid waste going to landfills.

- Vendors and manufacturers.
- Recycled products guide:

  Buy Cycle: Guides to the Who, What, Where, When, & How of Buying Recycled

  Lists comprehensive "how to buy recycled" guides—National, California, and Other States. Includes recycled construction, office supplies, plastics, retail, and a host of other guides, newsletters, and organizations.

  Contact: Integrated Solid Waste Management Office
  200 N. Main Street, Room 580 CHE, Los Angeles, CA 90012
  (213) 237-1444

- Educate staff and students, through in-services, newsletters, or student recycling teams, on buying recycled products and waste prevention goals. For example, at one school district staff were requesting "astrobrite" paper, which is florescent. However, astrobrite paper was not accepted by the recycler, because it could not be recycled. The solution— inform staff the district would not be purchasing this type of paper due to its inability to be recycled. Not only would this solve a recycling problem, it also would save the district money, as astrobrite was five times as expensive as white paper.

3. Examine specifications

- Review existing purchasing policies to be certain they do not exclude the use of recycled materials and/or products designed to be reused or recycled. Buying recycled products typically does not mean sacrificing quality or performance. However, some existing standards may be overly specific, preventing purchasers from buying perfectly acceptable recycled products. In addition, some procurement standards directly prohibit the purchase of recycled products, based on a misconception that they are always of lower quality.
- Identify products which are currently used which could be purchased containing recycled material, such as paper, playground surfacing, plastic bags.
- Write product specifications that are consistent with recycling operations; e.g., don't buy colored bond if you are recycling white office paper only (and white paper can be used for the same job you used to print on colored bond).
- Set goals to purchase products which contain recycled materials which you are recycling; e.g., paper.
- Align recycling program goals and purchasing choices; e.g., buy products with recycled content and attempt to reduce the total amount purchased wherever possible.
- Set incremental goals to increase the amount of recycled content in products purchased, such as paper and plastic picnic tables. This might mean that 1/2 of the total paper the district buys this year has recycled content, and 3/4 of the total paper the school buys next year will have recycled content, and so on.

Buying Power

Humboldt's County Office of Education, Humboldt County, and the county's school districts formed a partnership to buy recycled-content paper. The Office of Education was the lead for the purchase. The other agencies purchase their supply of paper from the Office of Education. This partnership has been successful because as individuals they would not have been able to acquire a reasonable price for the paper.

- Establish purchasing coops for recycled products. Join in a partnership with other school districts, County Office of Education, local government (contact the recycling coordinator), and local businesses.
- Develop exchange agreements with vendors; e.g., the company you purchase the district's toweling from will agree to pick up all your recyclable paper.
- Make buying choices that are "designed for recycling"; e.g., buying recyclable laser printer cartridges instead of disposable ones.
- Purchase a diversity of products with recycled content; e.g., examine the source and contents of all materials to be purchased—many products, not just paper, are now available from recycled materials. It is a matter of identifying which manufacturers provide them and then purchasing from them.
- Request vendors to reduce packaging wherever possible. Your district is paying the price for the vendor's excessive packaging. Many companies are responding to customer complaints of overpackaging, so make your voice heard. You may choose to send a joint request from your purchasing consortium, or engage students in your district to initiate a letter writing campaign.

4. Establish a preference program

- Start with your usual solicitation text and formats. Reference the recovered materials content requirement in the specifications or put the recovered materials content requirement in the solicitation.
- Require certification of minimum recovered materials content.
- To maximize availability, do not use "all or none" requirements. Allow vendors to offer one or more of the items covered by a solicitation.
- Modify purchasing policies to promote procurement of products which: 1) are designed to last long (e.g., have long warranties and available repair services), 2) can be reused or recycled, 3) are made from recycled materials, and 4) have minimal packaging, if any.

This can be accomplished by:

- Providing a policy statement to purchasing agents.
- Allowing a price preference for durable, reusable, repairable and recycled products. A price preference is a way to recognize that many kinds of virgin materials receive tax breaks and other incentives which drive down the prices of their products. Consider using cost savings from waste reduction activities to pay for more expensive, but less wasteful products.
- An alternative to price preferences is to use "set-asides," that is, requiring that a certain portion of the purchasing requirement for a given commodity be satisfied with products meeting waste reduction standards. Also, many durable products compare more favorably if a longer pay-back period is considered.

5. ***Promote!***

- At a minimum, inform your existing vendors, in advance, that solicitations will include a recovered materials requirement. In addition, state in bid packets that the district is committed to the environment and encourage suppliers to participate in waste prevention and recycling.
- Inform the school board, superintendent, staff, students, and the community of your successes. This will garner additional support for your efforts.

6. ***Monitor and assess the program's success***

- Identify barriers you encounter, and assess strategies to overcome these roadblocks. Manufacturers are clearly making attempts to produce "green" products, and will continue to do so as long as there is a demand.

Managing Organic Materials

A district's waste stream is composed not only of the typical recyclables, such as paper, but there are also large amounts of food and yard waste. Throwing organic materials away is throwing valuable resources away. Composting teaches students about the way nature manages waste. You can develop a simple or complex program depending upon your needs and goals. Equipment can range from a "pinto" to a "cadillac" depending on your resources. The most important thing is that composting is an effective method for recycling materials, which keeps them from the landfill, and in turn, saves you money by reducing the volume of garbage you are paying to haul away.

If you are thinking of designing a composting program for your district, refer to the order form at the end of this guide. The California Integrated Waste Management Board has composting how-to guides, classroom activities and curriculum to get you started.

Laytonville Goes The Extra Mile

Through education, recycling, and vermicomposting, Laytonville Unified School District has been able to reduce school garbage by 60-80 percent. The program is a concerted effort of school administrators, teachers, staff, students, and parents.

Putting worms to work has made vermicomposting (composting with worms) the key to Laytonville's success. Students from the district's elementary and middle schools separate their lunch waste into non-protein "worm food" (e.g. no meat or dairy products), paper bags, aluminum cans, glass, milk cartons, cardboard, and garbage.

Both the worm food and paper bags (after being shredded) are taken to the worm bins located in the school's garden. Under adult supervision, students monitor the bins and record the worms' activities. Students also built four 32-square foot worm bins last spring out of redwood and plywood.

Students are encouraged to participate in the program. As part of the students' classroom instruction, the Life Lab instructor has developed lesson plans centered around the vermicomposting project. Multiple classrooms are involved in collecting recyclables and preparing them for recycling. For example, one class is responsible for collecting and breaking down cardboard boxes, while another collects and crushes aluminum cans. In addition, each month students are recognized for their waste prevention and recycling efforts at a school assembly.

PART VII -Troubleshooting

Working Out The Bugs

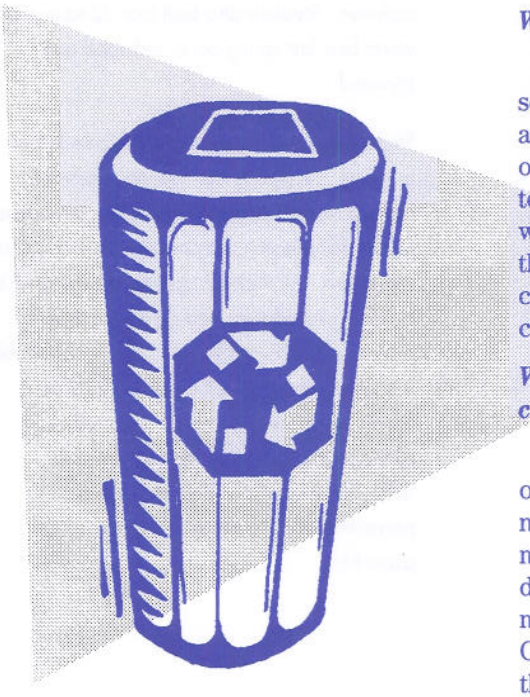
The following are commonly asked questions and solutions which may assist you with your program.

What if participation is low at the beginning of a new school year?

An on-going training program should be incorporated into your recycling plan. Incorporate your training into scheduled staff in-services prior to the beginning of the new school year (year-round schools may need more frequent reminders). In addition, send reminders to each of the sites requesting recycling teams to re-educate students about the recycling program.

What if we can't find a collector to pick up our recyclables and pay us for them?

Recycling costs—transporting, processing, and remanufacturing. You may not receive revenue from your recyclables directly, but should see cost savings from reduced garbage hauling costs. Although you may not make a profit from your program, you may accomplish other goals, such as educating students.



What if some teachers don't support our recycling effort?

By all means, don't try to cram recycling down people's throats. If you sense unwillingness or resistance to getting involved, don't panic. Be patient and keep recycling. If you enjoy and believe in what you are doing, then others will eventually notice and find reason to jump in with you. Some teachers will resist because they assume that recycling will increase their workloads. You may also find it helpful to invite motivated teachers to give their testimonials at staff in-services. By demonstrating how simple recycling can be and how important it is to our future, most teachers will ultimately be convinced of the worthiness of your pursuit.

What if contaminants continually show up in our recycling containers?

If students and staff are carelessly throwing lunch leftovers, gum, and other garbage in with your recyclables, you need to re-evaluate your communications strategy. Marking the containers with CLEAR SIGNS, stepping up monitoring efforts, and increasing publicity for your program will all help decrease the level of contaminants in the bins. Also, as recycling becomes more a part of the daily routine, the quantity of contaminants should decline. Conduct spot checks and send a message to all of the sites informing them of the problem.

What if ants or other pests start hanging out with our cans and/or bottles in our recycling containers?

Be sure to instruct your participants to empty all cans and bottles before placing them in the recycling containers. Also, place your recyclables in tightly closed plastic bags at the end of each day and recycle your materials frequently. If these techniques do not remedy the pest problem, ask

everyone to rinse cans and bottles before putting them in the recycling bin.

What if our collector/recycler misses pick-ups on a regular basis?

Be sure that someone from the Recycling Team is around at pick-up time, so a missed pick-up is noticed immediately. Don't hesitate to call the collector/recycler several times if this practice continues. You also may wish to consider another collector or another means of transporting your materials.

What if the custodian is concerned about being assigned more work?

To alleviate the custodian's concerns regarding additional work, stress that the school is not generating EXTRA garbage. It is just separating the garbage into new piles. Also, remind them they will be receiving a lot of help from the Green Team and staff.

What if students and staff are lacking motivation?

If participants seem to be losing interest in your program, identify the potential reasons. Ask yourself if you have made it easy enough for your staff and students to recycle, and if so, have you communicated the recycling message widely and strongly enough? You may want to send a survey around to the various sites to seek input on increasing participation. You may find the program is not involving students and therefore they do not feel ownership for the program, or the program is not convenient for participants which inhibits involvement. Also, periodically spice up interest through contests, promotions, or updates of the success of the program.

What if the principal does not want to participate in the recycling program?

The key to securing support for the program is involving key players in the planning process. By seeking input from the individual sites, issues/concerns can be addressed and resolved early on. Typically, site administrators are concerned about the potential increased workload on staff; however, this issue can be addressed by implementing a program which maximizes student involvement.

Don't Give Up

You can always find a solution, if you keep trying. The best source for solutions are all of the key players involved. By discussing issues as they arise you will be able to identify solutions which meet the needs of your program.

Crawl, Walk, Run

By planning carefully and setting realistic goals, you will not overwhelm yourself or the committee. Some school districts begin with only one or a few recyclable materials, while others select many recyclables but start with only a few pilot sites. The key is to start simple, and expand the program as you get a handle for managing the project.

Congratulations!

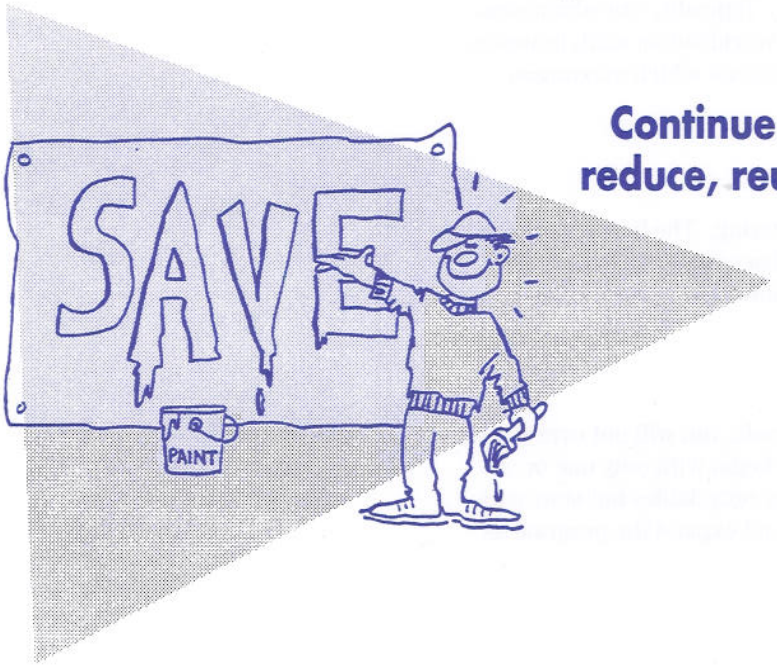
The best advice to starting a recycling program in your district is JUST DO IT! After organizing, researching, and planning, jump in and start recycling. You will learn by doing. Always be on the lookout to find ways to improve or expand your program. As you receive ongoing feedback, be prepared to modify your program to meet the needs of the staff and students. By developing a flexible program, you will have a dynamic integrated waste management system in place which will meet your goals into the future.

How Can We Help You?

School Section staff at the California Integrated Waste Management Board (CIWMB) have compiled many resource materials and networking contacts which can be useful to you in designing your program. If you need assistance, please contact us at (916) 255-2385, or write us at 8800 Cal Center Drive, Sacramento, California, 95826. We are here to serve you!

Did you learn anything that you would like to share with others? The CIWMB would like to facilitate information exchange between school districts. That way someone else can build off your experience and you can do the same from others' ideas. So give us a call, and we may highlight your program in our quarterly newsletter. Also, be sure to keep your local county or city recycling coordinator informed of the success of your recycling program, so your progress is counted toward your county's achievement of the state recycling goal.

We encourage you to get started on developing a district-wide recycling program. By doing so your district, students, community, and our environment will reap the benefits. Now comes time to celebrate your success, but don't stop.



Continue to seek new ways to reduce, reuse, and recycle waste!