

Recycling Manual For New Jersey Schools

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Recycling Manual for New Jersey Schools

INTRODUCTION

Recycling has been mandatory in New Jersey since 1987. One might be tempted to say, “No one has forced us to recycle yet. Why worry now?” The simple answer is because the reasons for the mandate have not abated. New Jersey still faces the prospect of rapidly rising disposal costs and diminishing landfill space. Thus, state and local governments' resolve to increase recycling rates (the legislature raised the state's recycling goal to 60%) continues to mount. In fact, this manual may have arrived from your local officials along with a notice to begin recycling — Now!

School recycling programs require special-planning and careful implementation if they are to become a lasting part of a student's educational experience. This manual will guide key school personnel step-by-step through the process of setting up a recycling program. It provides all the necessary tools for designing and implementing a viable and comprehensive program in public, private and parochial schools.

HOW TO USE THIS MANUAL

If you are reading this manual right now, chances are you are responsible in some way for your school's recycling program. Whether you will oversee the entire program, or will be responsible for a specific segment of the operation, this manual will guide you through the necessary steps.

The manual is divided into three sections, which represent the three phases of setting up and operating a program.

Phase One: Team Building & Program Design

- Ideas on how to build support, design the program, and roles of key personnel.

Phase Two: Implementation

- A guide for completing associated tasks, educating participants, kicking off the program, and motivating the entire school community.

Phase Three: Maintenance & Enhancement

- Suggestions for maintaining quality controls, reinforcing the recycling message, tracking the program's success, adding new recycling projects, and networking.

Who is the best candidate to lead the development of a school recycling program?

There are many candidates, including the school district business manager, a principal, a teacher or a parent. Even though a successful program requires multifaceted participation, one individual should be designated as the program's "Central Coordinator." It is vital for the coordinator to know the schools well.

The Central Coordinator can review the entire manual, then turn to the relevant sections as each phase of the program's development is reached. Refer to the section entitled "Key Steps to Establishing a Recycling Program" for a quick overview of the phases of program development and management. Hot Tips for planning and implementing your program are found throughout the manual. School representatives responsible for certain aspects of the program's implementation will find "lift-out" sections pertaining to their specific responsibilities.

By working together, the Central Coordinator and other key personnel can guide the school successfully through all phases of program development. As the program takes shape, don't forget to leave room for student involvement. Students are imaginative and creative. Their ideas and energy can fuel the school recycling program from start to finish.

Key Steps to Establishing a Recycling Program

Phase One: Team Building and Program Design

- A. *Enlisting Support: Building Your Team*
 - 1. *Form an implementing committee*
- B. *Waste Audits*
 - 1. *Inventory materials*
 - 2. *Tour facilities*
 - 3. *Obtain input from key personnel*
 - 4. *Investigate recycling markets*
- C. *Recycling Program Design*
 - 1. *Target materials*
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- D. *Incorporating Waste Reduction Into Program Design*
- E. *Roles and Responsibilities of Key Players*

Phase Two: Implementing the Program

- A. *Logistics*
- B. *Education*
- C. *Student involvement*
- D. *Community involvement*
- E. *Kickoff event*

Phase Three: Maintaining and Enhancing the Program

- A. *Program monitoring and quality control.*
- B. *Reinforcement*
- C. *Tracking*
- D. *Programs for future consideration*

PHASE ONE: TEAM BUILDING AND PROGRAM DESIGN

A. ENLISTING SUPPORT: BUILDING YOUR TEAM

Form an Implementing Committee

It is important that all the key players needed to make a recycling program successful are included as members of the implementing committee. While this may vary from school to school, the suggested make up is a buildings and grounds person, a food service person, a teacher and a student.

Hot Tip: Provide “Ownership” Early On

Create opportunities for key players to assume ownership over certain aspects of the program. Especially make sure the custodians’ suggestions are considered. Ultimately, they will be the “custodian” of the recycling program. Their opinions count.

Other key contacts

The Central Coordinator should contact the parent-teacher association. Parent groups can encourage the reinforcement of the recycling message at home, and may even provide links to local businesses willing to support the school recycling effort in some way.

The Central Coordinator should also contact the municipal and/or county recycling coordinator. They can provide excellent resources and support.

Group effort: the key to success

As the Central Coordinator makes contacts and begins laying the groundwork for the school recycling program, it is important to emphasize to everyone that the cooperation of all key personnel is vital to the program's success. Be sure to listen carefully when every group voices its concerns and suggestions. Each group will notice if its ideas are ignored when the recycling program kicks off.

Hot Tip: Special Needs and Opportunities for Large School Districts

Large School districts with dozen or more schools present special challenges and opportunities. Perhaps the key challenge is maintaining organizational consistency while making allowances for the diversity of each individual school. To facilitate the planning, implementation and follow-through of the recycling program, large districts should have a coordinator in each school who reports to the Central Coordinator.

One advantage that large school districts have is that they can use their purchasing clout to garner contracts or to create recycling opportunities less likely to be available to smaller districts.

B. WASTE AUDITS

What is a waste audit?

The first step in designing a recycling program is to familiarize oneself with the different types of waste materials generated at the schools and how they are typically handled. This is customarily known as a “waste audit.” A waste audit includes the following steps:

1. Touring each facility.
2. Surveying visually and through interviews the types and amounts of wastes commonly generated.
3. Discussing routine handling operations with custodians, cafeteria staff and school administrators.
4. Discussing storage and collection options with the custodians and waste hauler.

Appendix C contains a worksheet that can be used when conducting a waste audit.

Step One: Inventory materials

The waste audit begins with an inventory of materials generated at each school. Teachers, office staff, custodians and food service personnel should be consulted concerning the materials they observe in the school’s waste stream. The central purchasing agent for other supplies including school cafeterias also should be consulted.

Make a list of the materials mentioned, grouping them by material type and whether or not they are recyclable. Even if some of the materials might not be recyclable, include them on the list. For instance, the “paper” category might include office paper, computer printouts and cardboard, in addition to paper towels, napkins and outdated textbooks. Ultimately, this master list will be reduced to include only those items that can be economically recycled. It should begin, however, as a comprehensive documentation of the different types of waste materials generated by the schools.

Hot Tip: Think “Waste Reduction” Early On

It is during the waste audit that opportunities for waste reduction can perhaps best be identified. Discuss this objective when interviewing all players. Some Possibilities:

- See if paper towels in bathrooms can be replaced with electric hand dryers.
- Check whether the copier can automatically make double-sided copies.
- Replace disposable cups in the teacher’s lounge with coffee mugs.
- Investigate reusable routing envelopes for internal communications.

Remember, eliminating waste before it is generated is more cost effective than recycling.

Step Two: Tour facilities

After talking with all key personnel concerning the materials they observe in the waste stream, it is important for the Central Coordinator to tour the school building in person. The function of

the tour is twofold. First, it provides the Central Coordinator with an opportunity to observe materials used at the school firsthand. Some recyclables not mentioned during the waste survey may become evident while watching office personnel, teachers and custodians at work. Be thorough: don't hesitate to check trash receptacles for potential recyclables.

Secondly, the school tour allows the Central Coordinator to observe existing collection sites and storage procedures. Be sure to check all locations of the school building to determine 1) where trash currently is collected, and 2) potential sites for recycling containers (make sure they do not violate fire codes). The tour should include offices, classrooms, storage areas, kitchen, cafeteria, teachers' lounge, library, gymnasium, art room, resource rooms; in short, wherever waste is generated.

Hot Tip: One Size Fits Most

When designing a program for a large School District, it may not be necessary for the Central Coordinator to survey wastes at every school. Rather, perform audits at representative schools, such as one elementary school, one middle school and one high school (Don't forget the school administration building). Extrapolate the findings for all the schools.

Step Three: Obtain input from key personnel

Once a good list of materials is developed and a tour of the school is completed, the next step is understanding the details of existing waste/recycling operations. Interview custodians, cafeteria staff and administrators to assess how waste currently is collected from individual rooms, and where it is stored until the hauler collects it.

The more detailed these interviews are, the easier a recycling plan will be to develop. Try to get as much information as possible, including:

- estimates on how much waste is generated in each area of the school
- what is the current schedule for collecting waste at each site (i.e., is classroom trash emptied throughout the day, or only after school hours?)
- Who is responsible for collection and what equipment is used to what equipment and services are provided by the waste hauler

Solicit suggestions during these interviews. Most people will be willing to share ideas on how to make the collection of recyclables as easy as possible.

When designing the program, keep in mind that integrating the collection of recyclables into current handling operations will be easier than creating an entirely new routine. Envision how the recycling program will fit in with the current collection and storage procedures. Working with the custodian to explore solutions jointly is the most effective approach to resolving collection issues. Avoid imposing your proposed schedules on crews. This will only alienate vital participants.

Hot Tip: Contracting for the best service

Recycling involves more planning and forethought than simply collecting everything. Communication between the school and hauler is very important. Thus, simply awarding a contract to the lowest bidder — regardless of the level of service provided — may not necessarily result in the best or most cost-effective solid waste management program. The Business Administrator may be in the best position to advise the Central Coordinator on how the school can assure that it contracts for the most professional resource management system available.

Step Four: Investigate recycling markets

The last step in the waste audit is to find a market for the recyclables collected. There are several options schools should explore. One may be your municipality. Your township's public works department may be able to pick up the recyclables, or your school may be able to take them to your township's recycling drop-off center.

A second option may be to work directly with a local recycling firm. Some may provide the service to collect the school's recyclables, or the school may be able to deliver the materials to the recycling market.

A third option is to contact the school's waste hauler. The hauler may be able to help determine which recyclables the school could feasibly collect. The Central Coordinator should ask the hauling company for a comprehensive list of the recyclables it currently handles. The school can also explore adding materials, not specified by the hauler.

Haulers can also help estimate the quantity and size of storage containers needed for the recycling program. Usually, the hauler will offer a variety of storage and collection options. As a rule, the fewer pick-ups the hauler makes at each building, the less expensive the recycling program will be. With this in mind, try not to underestimate the school's storage needs. It's better to have a large storage dumpster emptied once a week than a small storage dumpster emptied twice a week. The exception would be dumpsters for food wastes that must be emptied daily; here a smaller dumpster (yet one adequately sized to hold all of the waste) should be less costly than a larger, partially filled one.

With the exception of schools that are located in municipalities where waste is collected municipally, most schools contract with private haulers, either directly or as a district. Since most haulers have annual contracts with schools, ideally, decisions about the recycling program should be made prior to the issuing of bids or requests for proposals (RFP's). It may also be possible to negotiate with a waste hauler after a contract has been signed. Check with the Business Administrator on the terms of the contract to see if that is possible.

C. RECYCLING PROGRAM DESIGN

1. Target materials

Decisions regarding which materials are collected will be based on volume estimates, the waste hauler's capabilities, and local recycling mandates. The Sample Chart on the next page describes procedures for some commonly collected materials. However, each school should be prepared to pick and choose from a list to meet its individual needs. In addition, if the school district is interested in a recyclable not included on the chart (i.e., household batteries), the Central Coordinator should contact the municipal or county recycling coordinator for other recycling markets in the area. Refer to Appendix D for the worksheet to design your own program.

SAMPLE CHART

RECYCLABLE MATERIALS: Points of generation and common handling techniques

MATERIAL	POINT OF GENERATION	WHO SOURCE SEPARATES	HOW COLLECTED (& BY WHOM)	WHERE STORED
Office Paper	Administrative Offices	Office Staff	Placed in Marked boxes (Office Staff)	Designated indoor container (cannot get wet)
Mixed Paper	Classrooms Adm. Offices	Students Teachers, Staff	Placed in marked boxes (generators)	Designated indoor container (cannot get wet)
Corrugated Cardboard	Kitchen Supply Room	Custodial staff	Flattened and tied in bundles (Custodians)	Designated outdoor container Or stacked on collection day
Newspapers	Teachers' Lounge, Library	Teachers	Tied in bundles (Custodians)	Designated outdoor container
Containers (glass jars, steel and aluminum cans, plastic containers)	Kitchen, Teachers' Lounge	Kitchen staff Teachers	Rinsed and placed in marked bins (Generators)	Designated outdoor container
Milk Cartons & Drink Boxes	Cafeteria, Classrooms, Teachers' Lounge	Students Teachers	Emptied and placed in marked bins (Students)	Designated outdoor container
Polystyrene Trays	Cafeteria	Students	Tapped clean (students), stacked in bags, (Custodians)	Designated outdoor container
Food Waste*	Cafeteria	Cafeteria staff And students	Placed in containers (Generators)	Designated outdoor container
Leaves/Yard Waste	Grounds	Grounds Crew	Put in compost piles (Ground Crew)	At schools or local compost site
Used Motor Oil	Garage	Mechanics	Drain pans (Mechanics)	Tank in yard

* The recovery of food waste is rare: some pig farmers will accept materials; food waste composting efforts are scarce, but may become more widely available in the future.

Hot Tip: Construction and Demolition Waste Recovery

Roofing shingles, old carpeting, wood wastes and fluorescent light bulbs are not wanted in the standard recycling bin, but that doesn't mean they aren't recyclable. While this manual focuses chiefly on the common wastes typically generated every day by schools, you should be aware that recyclers are finding homes for these special materials. Be sure to consider this opportunity when planning remodeling, school additions or lighting conversions. Contact ANJR, or your municipal or county recycling coordinator for assistance.

2. Specify locations/Identify collection containers

Once the school determines which recyclables to collect, the next step is to chart the flow of materials within the school. For this step, the Central Coordinator and all other key personnel will have to meet to discuss where recyclables will be collected and what type of containers are required at each location. The path of each material to be collected should be diagrammed, from the time it is placed in the recycling bin, to the time it is brought to an outdoor storage container for pick-up by the hauler.

Most containers will be located in classrooms, offices, or the school cafeteria. Some, however, may be needed in the school kitchen, storerooms, foyers and outside. Generally, traffic flow will determine where recycling bins are needed. For example, the best place for a paper collection bin for students is where they generate paper (near their desks or the classroom exit). Often the best place for a recycling station is right next to a trash receptacle.

Some containers can be obtained free of charge. For instance, reuse cardboard boxes that supplies are delivered in for newspaper and mixed paper collections. Recycling labels for containers may be available from county or municipal recycling coordinators. Students can also decorate the boxes so they are easily identified as being part of the recycling program.

Hot Tip: Convert Existing Containers

Remember – when estimating container needs, don't forget that the volume of waste is staying the same; in other words, the same amount of material is being generated – it is simply being separated. For this reason, new containers generally are not needed for locations such as cafeterias; existing ones can be designated for recyclable materials. Just make sure they are properly marked, to avoid confusion. Fitting the containers with lids with limited openings encourages students to place only recyclables in them.

3. Resolve storage and collection issues

Trace the path of each material designated for recycling within the school, and identify who will be responsible for handling the material at each step. For instance, will students be responsible for collecting paper from classrooms and bringing it to a central collection point within the school on specified days? Will the custodian be responsible for materials generated within the cafeteria and offices? Where will materials be stored before pick-up?

A school solves its storage problems...

... and an old school van gets a new life. The Morris Plains Borough School had nowhere to store its recyclables. So, an old school van was transformed into a storage center for recyclables, solving the school's recycling storage problem while it created a new use for the van.

Storage is a major issue when determining the flow of materials. The Central Coordinator and other key personnel should discuss how long each material can stay in the school before being transferred to an outside receptacle. Some materials, such as mixed paper, probably can stay in the school until the hauler collects them. Others, such as aluminum and steel cans, glass and plastic bottles, milk cartons and drink boxes, most likely will have to be moved to outdoor storage units daily.

The school's storage schedule will be shaped by the waste hauler's collection schedule. For example, all paper from classrooms will have to be gathered at a central location before or on the hauler's collection day. The custodian will know the hauler's pick-up days. The collection schedule should be established and communicated on a need-to-know basis.

Hot Tip: Map out your program

On a map of the school, trace the route of the materials through the school and into storage containers. Designate locations on the map where trash containers are presently placed. This should help identify convenient location for recycling bins.

4. Negotiate with recycling hauler

Another point of consideration when designing a school recycling program is the logistics of removing the recyclables from the school grounds. Most likely, this step will be carried out as part of the school's waste hauling service. Regardless of who provides the service, the Central Coordinator and other key personnel should make sure the school's storage and collection needs are met.

From the original school waste audit, an estimated volume of each recyclable should be available. Based on these estimates, the hauler can determine what size collection container would be appropriate for each material. Collection containers usually are provided by the hauler as part of the hauling arrangement. If space outside the school is a problem, consider using multiple “Toters” (which can be stored anywhere) instead of one large dumpster. Another way to save space is to arrange for more frequent pick-ups. Keep in mind, however, that frequent pick-ups by the hauler may result in additional charges to the school.

Whether or not space is a problem, the frequency of collection will be an issue. Again, based on volume estimates from the school's waste audit, a tentative pick-up schedule can be arranged with the hauler. The school should reserve the right to alter the schedule if the original volume estimates need adjusting, or at certain times of the year. For example, when students clean out their lockers before summer breaks, the volume of paper collected will increase dramatically.

If the volume of a certain recyclable is hard to estimate, the school may want to arrange for pick-up on an as-needed basis. With this method, the school simply contacts the hauler whenever the storage container is full.

Since all storage and collection decisions involve the waste hauler, some discussion may have to come before the school issues its hauling bid or RFP. If local purchasing procedures don't prevent it, it might be advantageous to solicit ideas on certain program design aspects (such as container needs) from vendors prior to writing an RFP. Their input may help to clarify certain objectives and raise other possibilities. Maintain flexibility for future programs by insisting on contractual language that allows the school to expand the list of recyclables as opportunities arise.

The bid should outline all recyclables the school wishes to collect, and it should require the hauler to document tonnages collected. If the bid has already been awarded and the school district is re-negotiating to allow for recyclables, all options should be investigated. Ask about different types and sizes of containers, and get prices for different collection schedules before making any decisions. If each school transports its recyclables to a central location for pick-up, the hauling charges decrease dramatically.

Not following through on program design issues can be costly...

... just ask a school in Cape May County that recently paid a \$200 fine for not recycling. Cape May County had a three-year enforcement plan for its recycling laws. The first year, garbage trucks containing recyclables mixed with trash received a warning. The second year, the driver was given a written notice. The third year, the truck owner had to pay a surcharge of \$200 for each contaminated load of garbage, which it passed on to the school.

In this instance, the school had instituted a source separation program in its classrooms and offices. Unfortunately, the school's cleaning service was mixing all the trash and recyclables together at the end of every day. Because the school's contract with the cleaning service had never been adjusted to reflect these new changes in handling, the cleaning crew were not responding properly.

This school learned the hard way. Following through on all aspects of program design is critical - or you could be left holding the bag.

5. Identify educational and promotional needs

When designing the recycling program, be sure to take advantage of educational opportunities for the students. Older students can assist the Central Coordinator or custodian with creating and distributing the school collection schedule. Younger children can make signs to identify recycling containers, or can take a “field trip” to the storage room to identify recyclable materials.

Another major element of designing the program is monitoring the quality of the materials collected; the cleaner the product, the greater the benefit. The recyclables should be considered “products” made by the school, and part of the school’s production process must be quality control. When diagramming the flow of materials, be sure to consider who will monitor materials; don’t forget to include students. Students can check their classroom paper boxes for contamination and can monitor the collection of recyclables in the cafeteria. The more hands-on experience students gain from the recycling program, the more they will learn, and the greater the chances they will comply with program requirements.

When the program is ready for promotion, additional educational opportunities arise. Younger students can make posters announcing the program to the school, and older students can visit elementary schools to talk about recycling and the environment. Students of any age can create a simple recycling newsletter for their parents, and older students can write recycling articles for the school paper or district newsletter.

Recycling can save money for your school, earn students school credit - and get them a job...

... This is what the students at Passaic County Technical & Vocational High School were able to achieve through their recycling efforts. At this school, students can recycle and receive school credit for their efforts. Students follow a custodial curriculum that requires them to participate actively in the school’s recycling program.

In the first year of the program, students collected 39 tons of recyclables; in the second year over 80 tons were recovered; in the third year, over 100 tons were recovered. School officials estimate that between savings in hauling fees, tipping fees, and custodial time, the program is saving the school approximately \$35,000/year.

Local businesses have become interested in the program as well. They appreciate the fact that the students are learning how to manage waste streams effectively. Some of the businesses have even made job offers to pending graduates.

D. INCORPORATING WASTE REDUCTION INTO PROGRAM DESIGN

Waste reduction opportunities should be an integral part of any program design. During all phases of program development and ongoing program management, be on the alert to spot waste reduction opportunities - in other words, opportunities to eliminate waste before it is actually generated. These opportunities can include:

- making sure both sides of a piece of paper are used; in the classrooms and offices
- purchasing materials in bulk
- finding ways to reuse materials generated in the schools (milk cartons as planters for seedlings, cardboard boxes as recycling or storage containers)
- leaving grass clippings on the lawn
- asking vendors to suggest ways to help eliminate or mitigate wastes
- challenging students to prepare “no waste lunches” or create source reduction ideas

The introduction of these practices may impact recycling program design. For example, if the school implements a policy to encourage using both sides of paper, discarded office paper may be re-routed to classroom “Reuse” boxes, and not to the recycling aggregation point.

E. ROLES AND RESPONSIBILITIES OF KEY PLAYERS

Throughout the program design, implementation, and maintenance phases, all key personnel must work together. As a guide for all parties involved, a model for the description of the roles and responsibilities of the key players follows. They can be adapted to fit individual school settings, and are provided separately as lift-out sections. A checklist is also provided so each player can keep track of his/her responsibilities as the program progresses.

CENTRAL COORDINATOR

KEY ROLE:

To assume responsibility for facilitating all aspects of program design and implementation; to be the central contact and point person for the program.

LIST OF RESPONSIBILITIES:

- Organize an implementing committee
- Conduct waste audits
- Design program at schools
- Facilitate implementation of program
- Ensure materials are monitored for quality control
- Track program recovery levels
- Reinforce program through continuing educational and promotional efforts
- Serve as point person for the program
- Explore ways to improve and/or expand programs

CENTRAL COORDINATOR'S MASTER CHECKLIST

- Organize recycling implementing committee.
- With superintendent, meet with principals to discuss program logistics and develop preliminary timeline.
- Ask principals to alert custodians and food service workers about program and upcoming waste audit.
- Perform waste audits.
- Complete program design, including list of recyclables to be collected, container needs, and collection and storage requirements.
- Confirm that school officials and hauler have determined frequency of pickup and type of storage containers for each school.
- Identify educational and promotional needs and set program kickoff date
- Communicate information about program to all principals, school personnel, PTAs and other groups.
- Meet with student environmental clubs and/or other appropriate personnel to discuss potential kickoff events and other educational projects.
- Contact school district newsletter editor to discuss an article on program. (NOTE: A series of articles can trace the program from planning through implementation, related student projects, and long-term results of program.)
- Remind hauler of kickoff date and double-check collection schedule.
- Assure that all collection boxes within the school are in place, signs and posters are mounted, and student/teacher monitors understand their roles.
- Ask that teachers discuss recycling and environmental issues with classes to give students background on why recycling is important.
- Ask teachers to send letters home to parents about new recycling program.
- Contact local media about attending kickoff events. Be sure to include specifics such as times, addresses for all locations, and lists of invited guests.

- Coordinate school assembly or other event to kickoff the new recycling program.
- Create poster for use throughout district.
- Create exhibit for display case.
- Disseminate announcement via school radio/Cable TV and electronic bulletin board.

SUPERINTENDENT

KEY ROLE:

Provide support for the program at the administrative level. Work closely with Central Coordinator to communicate with school principals the importance of their involvement in planning and monitoring the program. Serve as a central link for gathering and disseminating information among the schools and to the community.

LIST OF RESPONSIBILITIES

- Meet with Central Coordinator to introduce program to school principals.
- Speak in support of school recycling program **at** appropriate kick-off events.
- Offer to serve as contact for local media if needed during kick-off events.
- Help motivate staff and students to participate in program.
- Disseminate information as program progresses.

BUSINESS ADMINISTRATOR

KEY ROLE:

Act as Central Coordinator, or work with that person in negotiations with school waste hauler. Help establish budget for collection containers and promotional efforts.

LIST OF RESPONSIBILITIES

- Review data compiled from waste audits to obtain overall volume estimates for each recyclable material.
- Include request for recycling service in next hauling bid (remember to be specific), or re-negotiate contract with current hauler to include recyclables.
- If outdoor storage containers will be provided by the hauler, work with school facility managers and custodians to be sure each school receives the proper size. Also make sure all containers arrive in time for the program kickoff.
- Review staff job descriptions to assure that recycling requirements are incorporated.
- Be available for feedback from schools once recycling program begins. Adjustments in storage containers or frequency of pick-ups may be necessary at some locations.
- Establish central data collection system to record tonnages diverted.
- Report annual tonnages recycled to local recycling officials, or be sure that the recycling hauler does and sends the school district copies of tonnage reports.

BUSINESS ADMINISTRATOR'S CHECKLIST

- With the assistance of the Central Coordinator, compile waste audit information and determine the overall school district recycling needs.
- Include list of desired recyclables and volume estimates in the next hauling bid, or discuss needs with current hauler.
- Monitor the delivery of any outdoor storage equipment provided by the hauler.
- Purchase any recycling containers needed.
- Check with schools once program begins to be sure new recycling service meets the needs of each school.

BOARD OF EDUCATION PRESIDENT

KEY ROLE:

Stay up-to-date on school district's recycling plans, and provide any assistance possible.

LIST OF RESPONSIBILITIES

- Update school board members of program status.
- Assist school in obtaining corporate sponsors for the recycling program; offer to write or call local business contacts to spread the word about the school district's recycling efforts.
- Speak at kickoff events

PRINCIPAL

KEY ROLE:

Generate enthusiasm and support for the new recycling program within the school. Act as the Central Coordinator, or work closely with that person to communicate the school's recycling needs and to disseminate information.

LIST OF RESPONSIBILITIES

- With the Central Coordinator select a start-up date for the new recycling program.
- Cooperate in a waste audit to assess the school's recycling needs.
- Organize a school recycling team of students, teachers, custodians and food service workers to facilitate the logistics of setting up the program.
- Keep the school's program visible: arrange for a school-wide assembly on the kickoff day; set recycling goals for students and offer incentives (such as free ice cream) if the goals are met; make recycling a recurrent school theme (through assembly programs, reminders about the program on morning announcements, and local field trips to recycling centers or landfills).

**BUILDINGS AND GROUNDS
SUPERVISOR/HEAD CUSTODIAN**

KEY ROLE:

Assist with implementing and maintaining the new recycling program, and serve as school contact for discussions with the waste hauler.

LIST OF RESPONSIBILITIES:

- Cooperate with the Central Coordinator, principal and other school personnel to conduct a school waste audit.
- Help determine size and quantity of recycling containers needed in classrooms and cafeterias.
- Work out a schedule for the school's internal flow of recyclables based on the waste hauler's collection schedule. If students will be assisting in collection of materials from classrooms, note students of collection routine. For example, if the hauler collects mixed paper on Thursday, be sure that all classrooms deliver their paper to the central collection point ahead of time. Work with students to create and post collection assignments.
- Familiarize yourself with hauler's expectations and standards for recyclables.
- Place recyclables into proper storage containers.
- Provide the final quality control check for the school's recyclable products. If recyclables are particularly contaminated, notify the Central Coordinator.
- Monitor program logistics such as the size of outdoor storage units and frequency of pick-ups by the waste hauler.

**BUILDINGS AND GROUNDS
SUPERVISOR/HEAD CUSTODIAN'S CHECKLIST**

- Assist with the school's waste audit.
- Work with other key personnel to determine the size and quantity of recycling containers needed throughout the school.
- Obtain a recycling pick-up schedule from the district's hauler.
- With the Central Coordinator create and distribute a school collection schedule for all recyclables.
- Provide ongoing quality control for all recyclables by monitoring collection bins.
- Ensure recyclables are prepared properly (e.g., newspapers bundled and tied, etc.)
- Report any problems with the size of storage containers or frequency of pick-ups by the hauler to the business administrator or Central Coordinator.

CAFETERIA STAFF SUPERVISOR

KEY ROLE:

Facilitate the collection of recyclables from the kitchen and lunchroom.

LIST OF RESPONSIBILITIES:

- Provide information on recyclables found in the kitchen and cafeteria for the school's waste audit.
- Help determine the placement and number of recycling stations necessary in the kitchen and cafeteria. For example, if garbage cans are available at each end of the cafeteria, recycling stations should be placed nearby.
- Educate kitchen workers about the program's requirements; enlist their cooperation.
- If kitchen workers-act as cafeteria monitors, make sure they understand contamination issues and monitor students' placement of recyclables in bins.

CAFETERIA STAFF SUPERVISOR'S CHECKLIST

- Provide a list of recyclables and volume estimates to the school's waste audit coordinator.
- Assist with the layout of recycling stations in the cafeteria.
- Instruct staff on how to participate in the program in the kitchen and how to monitor students in the cafeteria (if applicable).

TEACHERS

KEY ROLE:

Educate students about the environment. In addition, foster enthusiasm for the program by giving students positive feedback about their recycling efforts.

LIST OF RESPONSIBILITIES:

- If the school does not have an environmental club, form one. Give the club members a special title (such as the “Green Team”) and invite students to actively plan and support the recycling program.
- Organize the environmental club into a team of student monitors. The club can check paper collected in the classrooms and monitor recycling in the cafeterias. If necessary, the club can organize a rotating schedule of classrooms to assist with program monitoring.
- Use available recycling projects and curricula to educate students about the environment. Be sure to emphasize that a daily recycling effort by students can add up to a significant savings in landfill space in just one school year.
- In elementary schools, involve students in promoting the recycling program by making posters for the classroom, hallways or cafeteria. Challenge other classes to a paper collection contest.
- Keep parents informed about the school’s program via school newsletters, cafeteria menu or letters sent home with students.
- If teachers have cafeteria duty, monitor students and bins to prevent potential contamination.
- Use recycling as a fun, educational opportunity (e.g., in math, record weight of the collected materials).

TEACHERS’ CHECKLIST

- Form a student environmental club or support the efforts of an existing club by encouraging students to join.
- Get your students involved in the monitoring of the recycling program.
- Have your students make posters, visit younger students to discuss recycling, or promote the new program in other ways.
- Educate students about the environment (especially during week of program start-up).
- Send letter home to parents describing the new recycling program.
- Monitor students’ participation and quality of recyclables in the classroom and cafeteria.

STUDENTS

KEY ROLE:

Get involved in the recycling program as much as possible by source separating materials, monitoring materials for contaminants, promoting the program, and spreading the word about your school's environmental effort.

LIST OF RESPONSIBILITIES:

- Become part of the school's recycling team by forming or joining a school environmental club, or working with administrators to implement the program at your school.
- Set up a student monitoring schedule to be sure classroom and cafeteria recycling bins **are** not being contaminated with garbage.
- Volunteer to talk about the recycling program on the school morning announcements.
- Keep other students enthusiastic about recycling through a school poster contest, classroom challenges, or articles in the school newspaper.

STUDENTS' CHECKLIST

- Join the school environmental club. If the school doesn't have a club, form one.
- Assist in collection of materials from classroom, where appropriate.
- Set up a student monitoring schedule for all recyclables collected in class rooms and cafeterias.
- Promote the new recycling program:
 - Design a school recycling mascot.
 - Create a recycling information and display board.
 - Challenge other classrooms to collection and quality control contests.
 - Hold a school poster contest.
 - Write articles about the importance of recycling for the school newspaper or district newsletter.
- Tell your parents about the recycling program.

PHASE TWO: IMPLEMENTING THE PROGRAM

A. LOGISTICS

Equipment

The first step in the implementation phase is acquiring all necessary equipment for the collection of recyclables. By referring to the lift-out sections, the Central Coordinator can remind other key personnel of their specific responsibilities in this regard.

Refer to your completed Appendix D “Program Design Worksheet” to determine what equipment will be necessary (look under the “how collected” and “where stored” columns). The Central Coordinator should review this list and make specific recommendations. In some cases, school officials will have suggestions on the best way to obtain containers. For instance, cardboard boxes can be used for collection of paper in classrooms and offices. Local recycling coordinators may also suggest sources for containers.

Some equipment, such as outdoor dumpsters for commingled containers, will be provided by the hauling company. The business administrator and custodial supervisor will have to work closely with the hauler to ensure this equipment is the right size, and that it arrives in time for the program kickoff.

Collection

For each recyclable targeted for collection, equipment (indoor and outdoor containers) must be acquired and a collection schedule must be prepared. Refer to the map you developed during the recycling program design phase to ensure that all your collection needs are being met; see Hot Tip, page 15.

For instance, during the program design phase, students may have been assigned the responsibility of delivering the paper collected in their classrooms to a central location within the school. If this is the case, make sure their responsibilities are clear and that a regular schedule is posted. Post collection schedules wherever the responsible parties convene, or on or near the bins themselves.

B. EDUCATION

An educational campaign is comprised of two components; initial training and ongoing promotion. Training instructs participants on the hows and whys of the program; why recycling is important and how they participate. The second component is promotion. Once participants understand why to recycle, they need to be shown where to do it and how recyclables must be prepared. Signs, posters, etc., keep the program alive by serving as constant reminders to participants.

Hot Tip: Recommended training and Promotional Tools

- Posters designating locations of recycling containers
- Signs on recycling containers describing what is acceptable and what is unacceptable
- A one-page fact sheet stating the environmental benefits of the program for distribution to teachers, food service staff and custodians (see Appendix A)
- Environmental facts sheet (see Appendix B)
- Environmental curricula and classroom exercises
- Loudspeaker announcement (see Appendix F)
- Cafeteria announcement (see Appendix G)

Training

When educating students about the new recycling program, it is helpful to give them some background on recycling and the environment. Students are curious, and they will respond better to new procedures in classrooms and cafeterias if they understand why recycling is important.

Before the school kicks off the program, teachers should introduce recycling curricula and classroom exercises to their students. Local municipal and county recycling coordinators are great sources for environmental projects and activities. Recycling curricula also are available from a variety of sources, some of which are free. In addition, some recycling companies offer free materials, such as posters, stickers, etc..

Once students have a background in environmental issues, they will need to know how their particular school recycling program works. Announcements over the public address system, reinforced by the teachers in the classroom and cafeteria, are good methods for explaining the program. See appendices F and G for sample announcements.

Promotion

Once the program is introduced, the most effective method for maintaining it is keeping eye-catching signs attached to or posted next to all receptacles. Proper signs not only identify the containers, they promote participation and continually remind students about the recycling program.

Promotion can take other forms as well. Students can make posters to advertise the program throughout the school, write articles for the school paper, create recycling display boards for the hallways, organize a school recycling fair, or visit younger students to explain the new recycling procedures.

Be sure that signs on or above containers include information about what is acceptable in that container and what is not. For instance, in the classroom and office paper containers, spell out what types of paper are acceptable in the bin. The recycling market can supply you with a list of acceptable and unacceptable items.

If specific preparation of materials are required, be sure to post them. For instance, when recovering beverage containers (aluminum, plastic, glass or polycoated {i.e., milk cartons and drink boxes}) from cafeterias, be sure to post instructions notifying participants that the containers must be completely emptied before they are placed in the bin for recycling.

Hot Tip: The recyclables collected by the school are products; NOT TRASH

C. STUDENT INVOLVEMENT

If the school does not have an environmental club, the Central Coordinator or an interested teacher should form one. Initially, the club can promote poster or poetry contests with recycling themes, and can help organize the kickoff event. If the students are interested, the club also can get involved in recycling efforts in the community. In some cases, this environmental club may operate as a special Recycling Committee within student government.

Students who are too young to manage a school-wide club can create their own classroom recycling club with the help of their teacher. Special green stickers or awards can be given to students who help monitor the collection bins, or complete environmental projects or assignments. Even elementary classrooms can participate in projects such as planting trees or flowers on school grounds. Let the classroom recycling club suggest its own environmental ideas or activities.

The more recognition the environmental club gets, the longer the students' enthusiasm will last. Be sure to give the Club a name (such as the Green Team), and to create a charter stating what the club hopes to accomplish. Also, be sure to share the club's successes with the school district newsletter and local media.

Hot Tip: Potential Student Activities

- Poster contests
- Essay contests
- Trash Sculpture contests
- Produce a recycling video
- Developmental kickoff assembly or even
- Formation of environmental clubs, “green teams” or recycling clubs
- Worm bins for food waste
- Recycling fairs
- School, classroom or grade recycling competitions
- Tree-planting events in the community
- Field trips to local recycling centers and/or landfills
- Fundraisers selling recycled products

D. COMMUNITY INVOLVEMENT

Students will benefit if the community supports their recycling efforts. An excellent link between students and the community is the school's parent-teacher organization. The Central Coordinator should be sure parent groups are kept up to date on the recycling program. These organizations may be able to obtain supplies for the program, offer awards for contests, and contact local businesses about supporting the school's recycling program.

Local businesses and schools can form lasting partnerships that benefit everyone involved. Either through the PTA or letters from the Central Coordinator or Board of Education President, local businesses can be contacted about becoming corporate sponsors of the school recycling program. Sponsorship can involve anything from T-shirts donated by a local sportswear store, to a field trip offered by a local recycling center. The businesses benefit from the opportunity to interact with students and from the positive public relations generated throughout the community.

Students as program designers, implementers, and trainers

In the Atlantic City school district, a group of high school seniors organized a district-wide program to recover polystyrene trays and cups from the cafeterias. As a result of their efforts, eight schools have been recycling the material for three years, and the school district has been able to reduce the number of garbage pick-ups it requires. Before deciding to recycle the polystyrene trays, the students analyzed other options, including switching to washable dishes and trays or converting to paper. Their analysis led them to believe that polystyrene recycling was their best option.

At that point, the students met with the Superintendent and the County Recycling Coordinator. At the meeting, they were able to work out an arrangement with the Atlantic County Utilities Authority to collect and bale the recovered polystyrene. Then, at each participating school, the students talked to food service workers and custodians about their role in the new program and helped train other students on how to participate in the program.

E. KICKOFF EVENT

The school's kickoff event introduces the new recycling procedures and sets the tone for the recycling program. The event should be both informative and fun. If students are expected to participate in the recycling program, they should participate in the kickoff event as well. In fact, the best events often are those run by students.

The Central Coordinator or another representative from the recycling team can introduce the kickoff event and briefly review the new recycling procedures, but students should be involved as much as possible. Elementary students can be invited on stage with winning poster contest entries, or each classroom can present a brief recycling skit. In middle schools, a recycling rap contest can be held on stage, or the environmental club can make a presentation. Even high school students can get involved. The student council can sponsor the kickoff event and invite other groups, such as the

drama club, choir, and literary club to make recycling presentations. The event can end with a recycling rally led by the school cheerleaders.

Kickoff events are not limited to an assembly program. Students can fill the kickoff day with environmental activities, including school beautification projects, and classroom experiments or activities. Students can begin the recycling program with collection challenges to other classrooms or grade levels. For instance the fifth-graders can challenge the sixth-graders to see who can collect more paper in their classroom recycling bins. Students also might choose kickoff day to initiate community projects, such as adopting an animal, or picking up litter in a nearby park, on the school grounds, or in their neighborhood.

PHASE THREE: MAINTAINING AND ENHANCING THE PROGRAM

A. PROGRAM MONITORING AND QUALITY CONTROL

Unless the recyclables generated by a school are in a marketable condition, the program will die in the school's collection bins. The Central Coordinator must work with all other key personnel to keep the program running smoothly. The recyclables collected must be seen as products generated by the school, not just another form of trash. Be sure to emphasize this point with students and staff.

The key to quality control is establishing a regular routine for monitoring all recyclables. In some cases, students can be assigned the responsibility of monitoring certain collection bins. The monitors can volunteer each week, be selected from the environmental club, or be appointed by each classroom teacher.

Regardless of how they are selected, these students should know how to spot contaminants in the recyclables under their care. In the case of paper collection, for instance, monitors should know which papers belong in the recycling bins and which are considered contaminants. Monitors should screen the recycling bins before collection day and remove all contaminants.

Even recyclables collected by custodians should be monitored by them. Whoever empties the recycling bins must be trained to know when the recyclables are acceptable and when they should be rejected as trash. If the custodian notices contaminants in a recycling bin, she/he must either clean out the contaminants, throw the contaminated recyclables in the garbage, or leave the recyclables behind with a notice stating why the bin is unacceptable. The custodian also should notify the Central Coordinator about the problem.

A "Recyclables Not Acceptable" card can be created by the school. This card should be left behind whenever recyclables in a classroom, office or teachers' lounge are unacceptable. A sample notice is provided in Appendix J. Don't underestimate the power of positive feedback. Also, develop a thank you card to recognize good habits. A sample notice can again be found in Appendix J.

When contamination occurs in materials generated in the cafeterias, kitchen workers should be notified to be more careful, and students should have the recycling message reinforced through loudspeaker announcements and onsite monitors.

The Central Coordinator should consider visiting each school periodically, not only to answer questions and to provide progress reports, but also to spot-check for contaminants. Even the most carefully planned and implemented program can fall apart if quality control is not maintained.

B. REINFORCEMENT

Reinforcement - that is, maintaining a high level of commitment and excellence for the program - is critical, and the key to achieving it can be summed up as “excitement.” If the students remain excited about the program, they will continue to handle their recyclables properly.

Competitions often are the best method for motivating students and adults alike. School-wide poster, poetry, recycling rap songs or earth-friendly invention competitions can renew lost enthusiasm. Even tracking the amount of recyclables collected by each classroom can become a competition. The classrooms with the highest volume or best quality material could earn points toward prizes or field trips awarded at the end of the year. Publicize the results.

Rewards don't have to be expensive. Naming winners or outstanding volunteers on the school public address system is a simple way to recognize students. Other methods include certificates of achievement, photos in the school newspaper, a Hall of Fame where pictures and names are prominently displayed, or the chance to be principal for a day. Local businesses acting as corporate sponsors of the program may be willing to provide additional prizes.

Another form of reinforcement for everyone involved in the program is local media attention. Publicity for the program not only rewards the school's recycling efforts; it spreads goodwill between the school and community. The Central Coordinator or other key personnel should be sure to invite newspapers, radio stations, and local television news crews to any kickoff events held at the schools. The Central Coordinator, superintendent, school board president, waste hauler, students, or anyone else involved with the program should card be made available for media interviews at all events. The local media also may be interested in ongoing events such as recycling contest winners and school environmental fairs.

All key personnel will be devoting a great deal of time and energy to implementing and maintaining the new recycling program. Don't forget to recognize each one. Superintendents and principals can circulate memos noting outstanding efforts, and anyone can offer encouragement or thanks at staff meetings. Try to be aware of special contributions to the recycling program, and be sure the people behind these contributions receive the recognition they deserve.

C. TRACKING

All good recycling programs are dynamic and flexible operations. Regardless of the amount of careful planning beforehand, the program will need a little fine-tuning once it gets underway. To facilitate communication about the recycling program, the Central Coordinator and all other key personnel should plan periodic meetings. At these meetings, successes and problems can be shared, and everyone can brainstorm for solutions. When appropriate, student groups can attend these meetings to offer their input and to learn more about what happens behind the scenes of the recycling program.

Part of tracking the new recycling program is maintaining reliable records on the program. These records should include tonnage estimates of all the recyclables collected as well as financial benefits of the program, when available. Good records will not only help the school district plan for following years, they are essential so the school community will know what it has achieved and will seek to surpass its previous record.

In addition, this data will help the recycling team discuss its program with the local media, potential business sponsors, the school board, or other groups. Enlist the help of your waste hauler, if possible. Request regular reports of the amounts of materials picked up for recycling, as well as the amount of trash. If the waste hauler does not keep such records, estimates will have to be made.

D. PROGRAMS FOR FUTURE CONSIDERATION

Once the recycling program is fine-tuned, and a monitoring schedule is implemented, staff and students will discover that recycling has become part of the school's regular routine. At this point, the Central Coordinator and other key personnel may want to explore other environmental projects.

Recycling Outdoors

Locate recycling receptacles for empty beverage containers next to trash containers on the school grounds and ball fields/athletic fields. Make sure the recycling receptacles are well marked with regard to exactly which recyclables should be deposited in them; e.g. aluminum cans, glass bottles, steel cans, etc. The trash containers also must be well marked.

Be aware that outdoor containers are harder to monitor and are more likely to become contaminated, so be sure to educate the school population about these containers before implementation. You may want to have student volunteers monitoring the containers after school for a few weeks. Also notify the custodial staff about the contamination potential and the possible need to sort through the contents to remove the contaminants.

Outside Organizations' Usage of School Facilities

Inform outside organizations which use the school facilities about their recycling responsibilities. These groups need to know the required recycling procedures to avoid contaminating your recycling containers and to make your program complete. See Appendix K for a sample letter to send these groups.

Composting

One excellent project for schools is composting. Be aware, however, that an extensive organic recovery or composting effort may first require state approval. Be sure to contact your municipal or county recycling coordinator before pursuing this project.

Students often have scraps of food left over from their lunches, and most kitchens produce some leafy food waste. If the school has an area away from main buildings that can be designated a composting site, the project is easy to implement. Simply ask students to put

non-meat food waste in a special container (a large bucket or old garbage can) at lunchtime. Add scraps from the teachers' lounge and kitchen, mix in leaves, and grass clippings, and a composting program is underway. Limit the program to periodic collections to keep the pile manageable.

The student environmental club can help maintain the compost area by turning the pile periodically throughout the year. To keep students interested in the project, hold a "Green-Up" day once a year. On this day, students can use the compost to plant flowerbeds or young trees. Litter patrols and outdoor, earth-friendly art projects also can be included in the day's events. To help publicize the event, invite the media and local government representatives to join in the activities.

Other options for food waste include constructing worm bins, or contacting local pig farmers to see if they are interested in picking up the school's food waste.

Finding creative solutions for food waste...

. . . That is what the student environmental club at the Mount Olive Middle School is doing. First, they built a greenhouse next to their school. At the greenhouse, they use 30% of the school's milk cartons for propagation purposes. And, they compost material to add to their potting soil.

But that's not all. The students also acquired a pig that they care for near the school grounds. The pig eats the food wastes from the cafeteria, helping to reduce the volume of the cafeteria waste by 50%.

The hard work of the student environmental club hasn't gone unnoticed. The student organization has won national school contests, local citizenship awards and has been featured in local newspaper articles.

"Closing the Loop"

Another good environmental project involves buying recycled products. The school or school district must make the decision to purchase recycled goods whenever possible. Most people think of paper as an example of a recycled product, and while there are numerous examples of recycled paper products - e.g., stationery, towels, tissues - there are a growing number of other recycled products available on the market. A short list includes plastic lumber and parking lot speed bumps, scissors and similar school supplies (with component parts made from recycled plastic), motor oil, playground equipment, laser toner cartridges, asphalt and pothole patching material, mulches and insulation.

Many communities and state organizations have organized procurement programs that the school may be able to join. Check with the county or municipal recycling coordinator to determine if any of these programs exist in the school's area. Also, contact ANJR for a copy of their "Guide to Recycled Materials" which contains a complete listing of vendors who sell products made from recycled materials.

E. ANJR- NEW JERSEYS RECYCLING NETWORK

One of the best ways to add excitement to an existing program, or to expand a program to include new materials, is to garner new ideas from other recycling professionals. Once you've implemented a program, your experiences will also be valuable to others. ANJR helps by facilitating a network among recycling professionals. Moreover, ANJR has many resources available to help you implement your program. Please be sure to fill out and return Appendix L, the Networking Bounce Back Card, to ANJR.

ANJR is a non-profit, non-partisan organization whose mission is to serve as the voice of recycling in New Jersey through education, advocacy, and the promotion of professional standards. ANJR sponsors and offers a wide variety of educational programs and resources to its members including periodic round tables, quarterly newsletters, video lending library, recycling market directory, annual recycling symposium, and computerized resource directory. For more information about ANJR and how to become a part of its recycling network, call or write:

Association of New Jersey Recyclers
120 Funderne Avenue
Bridgewater, NJ 08807
Phone: (908) 722-7575
Fax: (908) 722-8344

APPENDIX A

WHY WE SHOULD RECYCLE

- **RECYCLING SAVES**

 - Natural Resources**

 - Landfill Space**

 - Energy**

 - Produces Less Pollution**

- **ECONOMICS**

AVOIDED DISPOSAL COSTS - every ton recycled is one less ton disposed at a transfer station, landfill or waste-to-energy **plant**

RECYCLING STIMULATES JOB GROWTH

New markets boost New Jersey's economy

- **IT'S GOOD FOR OUR COMMUNITY, OUR FUTURE**

STUDENTS LEARN THE RECYCLING HABIT, which will carry over into their homes and on into adulthood

APPENDIX B

ENVIRONMENTAL FACTS

Americans throw away:

- enough bottles and jars every two weeks to fill the 1,350-foot twin towers of the New York World Trade Center
- enough aluminum in three months for the United States to rebuild its entire commercial airfleet
- each year, the equivalent of a 12-foot high wall of office and writing paper that stretches from the New Jersey shore to California
- 2.5 million plastic bottles - every hour
- 31.6 million tons of yard waste (grass, brush, leaves) each year
- 2 billion disposable batteries, 350 million disposable lighters 1 ½ billion ballpoint pens, and 2 billion plastic razors each year
- 18 billion disposable diapers each year; laid end-to-end they could reach to the moon and back 7 times
- enough cars every 20 minutes to form a stack as high as the Empire State Building
- enough garbage to fill the New Orleans Superdome every 12 hours
- 43,000 tons of food every day; this is equal to the weight of 50,000 compact cars

More Facts:

TREES: It takes 17 trees and 16,320 kilowatt hours (kwh) to make 1 ton of paper compared to 5,919 kwh to make 1 ton of recycled paper- that's an energy savings of 64%.

ENERGY: Every can made from recycled aluminum uses 95% less energy than making a can from the raw material bauxite; that's enough energy to run a TV set for 3 hours.

AIR POLLUTION: 74% less air pollution is produced from the manufacture of recycled paper compared to paper made from raw wood pulp.

WATER POLLUTION AND CONSUMPTION: 35% less water pollution is produced when making recycled paper, and 58% less water is used when making paper from recycled paper instead of virgin pulp.

Americans improperly dispose approximately 220 million gallons of used motor oil every year; that's 20 times the amount of crude oil the Exxon Valdez tanker spilled in Alaska. One gallon of motor oil improperly disposed has the potential of contaminating 1 million gallons of drinking water; that's a year's supply of water for 50 people.

GARBAGE: Disposal of trash is the nation's third largest domestic expenditure. Americans spend \$6 BILLION annually to collect and dispose of their garbage. Nearly \$1 of every \$11 Americans spend at the grocery store goes for packaging - most of which is thrown away. Each one of us throws out an average of 4 pounds of garbage a day; that's about 1 1/2 tons of garbage a year.

Statistical information taken from:

- U.S. Environmental Protection Agency's recycling curriculum "Let's Reduce and Reuse."
- National Wildlife Federation's, "Earth Day Every Day" Poster.
- "50 Simple Things You Can Do to Save the Earth," published by The Earth Works Group.

APPENDIX C

WASTE AUDIT WORKSHEET

General Information:

Date _____

Name of School _____

Number of Students _____

Grade levels _____

Name of Principal _____

Name of Head Custodian _____

Number of Custodians _____

Name of Food Service Director _____

Is there a student environmental club? Yes _____ No _____

If yes, name of teacher advisor _____

Map of the school Yes _____ No _____

Steps One and Two: Inventory Materials/Tour Facilities

List the types of materials typically generated at the school and their common points of generation within the school. When possible, note their generation estimates (some of this information can be supplied by officials responsible for purchasing materials):

Type of Material	Point of Generation	Est. Volume
------------------	---------------------	-------------

Paper

white ledger

- computer paper
- white paper
- copy paper
- lined paper
- letterhead

mixed

- carbonless paper
- colored paper
- file folders
- fax paper
- envelopes

construction paper

newspaper

magazines

corrugated cardboard

waxed cardboard

paper towels/napkins

books (hard cover)

books (soft cover)

boxboard (stationery and cereal boxes)

cups/plates, etc.

polycoated beverage cartons

(milk cartons/drink boxes)

other

Type of Material	Point of Generation	Est. Volume
------------------	---------------------	-------------

Glass Bottles and jars

Clear

Green

Brown

Metal

Steel food & beverage cans

Aluminum cans

Plastic*

(#1) PETE
(soda and beverage bottles)

(#2) HDPE rigid
(milk and water jugs)

HDPE film
(bags)

(#3) PVC

(#4) LDPE - rigid

LDPE - film

(#5) PP

(#6) PS (polystyrene food
trays, cups, silverware &
coffee cups)

(#7) Other

*** Numbers refer to industry codes that generally appear on bottom of containers and some bags. Your local recycling vendor can help determine which types of plastics are acceptable.**

Type of Material

Point of Generation

Est. Volume

Organics

Food Wastes

Leaves/Yard Wastes
(e.g., brush and grass; the latter can easily be recycled by leaving it on the lawn)

Textiles

Wood

Motor Oil

Other

Recommendations:

List of materials to be targeted for recycling: _____

List of collection areas within school and the corresponding (indoor) container needs:

Location

Material

Container Type

Step Three: Existing Waste/Recycling Operations

Is there any existing recycling activity? Yes _____ No _____

Describe: _____

Describe current collection routine for waste from throughout school.

How is waste handled from the kitchen and cafeteria?

Current Hauling Arrangements

-number/type(s)/size of containers _____

-number of pickups/frequency _____

Existing storage capacity _____

What are the custodian's thoughts on how to best integrate the collection of recyclables into existing handling routines?

Step Four: Existing Arrangements with Hauler

Name of School's Waste Hauler _____

How much weight/volume is currently generated by the school? _____

What types of recyclable materials can the waste hauler handle?

What would be the waste hauler's recommendation regarding the collection of recyclable materials from the schools (e.g., container needs, pick-up schedule, etc.)?

What would be the impact of the recycling program on existing operations (e.g., could the number of pick-ups be reduced; could the size of the container designated for trash be reduced)?

What types of containers can be supplied by the waste hauler? What are their associated costs?

If the existing hauler is not interested in handling these materials, what are some of the alternatives (e.g., other haulers, recyclers, municipal drop-off, etc.)?

APPENDIX D

Program Design Worksheet

School _____

School Year _____

MATERIAL	POINT OF GENERATION	WHO SOURCE SEPARATES	HOW COLLECTED (& BY WHOM)	WHERE STORED	SCHEDULED PICKUP

APPENDIX E

PROGRAM COSTS/BENEFITS

Understanding the costs and benefits associated with the program will be central to the program's long-term stability. The importance of putting together an economically viable program cannot be overstated. A program that is not on sound economic footing may be eliminated at a future date. And, while school programs, for the most part, are economical, there can be costs associated with storage and collection of separated materials, depending on local markets for materials and waste haulers.

The economic benefits of a recycling program are most often realized through cost avoidance; these savings can be realized if the recycling program results in:

- less garbage requiring disposal, resulting in fewer pick-ups by the waste hauler;
- less garbage, requiring a smaller dumpster for trash, resulting in reduced collection and container rental costs.

In most instances, a school should not expect to be paid for its materials. One exception to this rule may be those schools that generate large volumes of aluminum cans. Because of the high market value of aluminum, a school may receive some remuneration for aluminum cans, even if that remuneration is in the form of offsetting other program costs.

However, in most instances, schools will not be generating materials of particularly high market value, nor will they be generating them in sufficient quantities to warrant remuneration. Typically, most schools will be separating for marketing to their recycling haulers such materials as newspaper, mixed paper, corrugated cardboard and commingled containers - materials of relatively low value.

Moreover, keep in mind that even though the amount of garbage the school will be generating will decrease, the recyclable materials still require collection and handling by a hauler. Generally, the costs associated with a recycling program for a hauler include:

- provision of storage containers to the schools
- pickup of materials from the schools
- handling of the recyclable materials after pickup (delivery to a recycling processing facility)

These activities result in genuine costs to a hauler, and schools should not expect them to be offered for free. Rather, the key is for the school to offset the costs associated with handling the recyclables by the corresponding reduction in garbage requiring disposal. This is why successful negotiations with haulers are critical. If a hauler is not cooperative or is not interested in handling the recyclables, it is within the school's jurisdiction to negotiate with another hauler upon expiration of the existing contract, and/or to contract out the recyclables separately from the trash.

Typically, the costs incurred in a recycling program for the school district include:

- storage containers (both indoor and outdoor - it is likely that existing containers and/or cardboard boxes can be utilized for indoor containers; the waste hauler will generally supply outdoor containers)
- collection of recyclables
- educational and promotional materials (signs, posters, etc. - these may be donated by recycling companies, made by students, or may be available from municipal or county recycling coordinators.)

Below are formulas to use when determining associated costs and benefits of the recycling program.

1. Savings in Avoided Disposal Fees

Find out what the tipping fee per ton of trash is at your school's disposal facility. Estimate how many tons of trash the recycling program is going to eliminate; then calculate how much in tipping fees the program will save.

Formula:

Tipping Fee Estimate of tons to be recycled annually =
Savings to School in Avoided Disposal Fees

2. Savings in Collection Fees (where applicable)

If the program results in a reduction of the number of pickups by the waste hauler (e.g., three day a week pickup of trash to twice a week pickup of trash), calculate what that savings is to the school. In most instances, you will be dependent on the waste hauler for this information, and it may not be forthcoming unless specifically required in the RFP or contract, or unless your hauling contract is based on a charge per pickup. If that is the case, you can use this formula:

Formula:

(Charge per Pickup x Current # of Pickups per Week for Trash) - (Charge per Pickup x Anticipated # of Pickups for Trash after Recycling Starts) = Savings in Collection Fees

3. Overall Costs/Benefits to School

Calculate the overall costs/benefits to the school by subtracting the costs of operating the program from the savings in collection and disposal fees.

Formula:

(Savings in Collection Costs for Trash + Savings in Avoided Disposal Tipping Fees) - Recycling Service Costs = Overall Cost/Benefit to School

APPENDIX F

SAMPLE LOUDSPEAKER ANNOUNCEMENT

Students, faculty, and staff; today we will be starting (or expanding our) a comprehensive recycling program. Please look for the new recycling containers located (list locations of containers).

We will no longer be throwing everything away.

In the classrooms, you will be recycling (list all classroom recyclables).

In the cafeteria, you will be recycling (list all cafeteria recyclables).

Recycling is important to all of us.

Each one of us can make a difference. Every time we recycle just one piece of paper or one aluminum can, we are helping to conserve the earth's natural resources.

So please, do your part. If you have any questions or suggestions, ask your teacher (or a member of the student environmental club.)

Thank you for your help, and have a green day!

APPENDIX G

SAMPLE CAFETERIA ANNOUNCEMENT

ATTENTION STUDENTS:

Today we will be starting a new recycling program in the cafeteria. Please note the recycling containers next to all the garbage cans.

The following materials will no longer be thrown away: (list recyclables). Instead they will be separated so they can be recycled.

(Name of student volunteer) will be demonstrating what to do when you are finished with your lunch.

(Have student demonstrate correct procedure for each recyclable while speaker explains what to do with such things as leftover soda or food on polystyrene trays.)

If you have any questions, please ask (name of adult cafeteria contact) for help. Everyone is responsible for making the recycling program work.

We can all make a difference!

Thanks for helping, and keep thinking “green”.

APPENDIX H

SAMPLE LETTER TO PARENTS

TO: All parents

FROM: _____ School Recycling Committee

DATE: _____

RE: Kickoff of new school recycling program

Beginning (kickoff date), your child will be participating in (name of school's) new recycling program. Our school will be recycling a variety of materials, and we are pleased to announce our comprehensive program.

We are especially excited about this hands-on learning experience for our students. Recycling every day at school will reinforce the recycling habit which they have already acquired at home, and hopefully, it will become permanent behavior for them. Recycling also should help us to reduce our solid waste and, subsequently, keep the district's garbage costs from rising as quickly as they might otherwise.

Several materials will be collected and recycled. These include: _____, _____, _____, _____, and _____.

In addition to special classroom activities, we have scheduled a school-wide kickoff assembly on (date). You are welcome to attend this special environmental assembly.

We hope you share our "green" commitment, and we welcome your ideas and comments. If you have any questions, please don't hesitate to contact me.

APPENDIX I

SAMPLE PRESS RELEASE

FOR IMMEDIATE RELEASE:
(date of kick-off)

Contact:
(Central Coordinator's name)
(Coordinator's phone number)

(SCHOOL NAME)
KICKS OFF NEW SCHOOL RECYCLING PROGRAM

(CITY NAME) - The (name) school district took a crucial step today in its efforts to make our earth a “greener” place to live. The school district announced a new comprehensive recycling program that will include a variety of recyclable materials.

The program covers materials found in offices, classrooms and cafeterias including the following: (list all recyclables to be collected).

“Through the program, students and staff will be removing all of these materials from the waste stream,” explained (school district administrator). “At the same time, the students will be learning valuable lessons about protecting the environment as they get hands-on recycling experience right in their classrooms and cafeterias.”

A team of key personnel, including principals, teachers, custodians, food service staff and students, organized and implemented the new program. Student volunteers will be responsible for monitoring and program quality control.

“We think it’s important to start now in order to conserve resources,” said (student name), of the (school name) environmental club. “If we don't act now, we won't have a very healthy environment by the time we're adults. It's up to today's kids to make a difference.”

ALL recyclables will be collected at the schools by (hauler name) and delivered to (recycling center) for processing. From there, the recyclables will be sold to various markets where they will be made into new products.

Some area businesses have offered to become corporate sponsors of the new program, providing students with (supplies provided) to help with their recycling efforts. These generous businesses include (list all corporate sponsors).

APPENDIX I

“THANK YOU” NOTICE

THANKS FOR MAKING THE RECYCLING
PROGRAM A SUCCESS!!

YOUR RECYCLABLES ARE CLEAN AND WELL SORTED.
YOU'VE MADE OUR JOB EASIER,
AND TIU RECYCLING
PROGRAM POSSIBLE.

THE CUSTODIAL STAFF

“RECYCLABLES NOT ACCEPTABLE” NOTICE

**SORRY, BUT WE COULD NOT ACCEPT YOUR
GARBAGE/RECYCLABLES FOR THE FOLLOING REASON(S):**

___ THE PAPER WAS CONTAMINATED; PLEASE DO NOT
DISPOSE OF COFFEE GROUNDS, NAPKNS, FOOD, ETC. IN
RECYCLING BIN.

___ THE PAPER WAS NOT PROPERLY SORTED; REFER TO
SORTING GUIDE FOR FURTHER INSTRUCTIONS.

___ THE BEVERAGE /FOOD CONTAINERS WERE NOT
EMPTTED; PLEASE EMITY AND RINSE PRIOR TO DISPOSAL.

___ THERE WERE RECYCLABLES MIXED IN WITH YOUR
GARBAGE.

APPENDIX K

SAMPLE LETTER TO OUTSIDE ORGANIZATIONS USING SCHOOL FACILITIES

TO:

FROM: (Name of School) Recycling Committee

DATE:

RE: Your Responsibilities Regarding (Name of School) Recycling Program

(Name of School) keeps the following material separate from the regular trash for recycling purposes: (List the recyclables).

Please cooperate by depositing recyclables in the designated recycling receptacles which are located both inside the school buildings and outside on the school grounds. The school is attempting to reinforce the recycling routine which most citizens are already following in their homes, and at the same time is trying to control the costs of trash disposal.

Thank you for insuring your organization's compliance with the school's recycling requirements. If you have any questions please call (Central Coordinator's name and phone number).

APPENDIX L

NETWORKING BOUNCE BACK CARD

School district (or private/parochial school) name: _____

How many schools are included in the program?

Elementary _____ Middle School _____ High School _____

How many students are included? _____

Name of Recycling Hauler: _____

Please list the recyclables that are included in the program:

Central Coordinator (Name and Title): _____

Address:

Phone:

Comments:

Please return this form to:

Association of New Jersey Recyclers

120 FINDERNE AVENUE

BRIDGEWATER, NJ 08807

(908) 722-7575