

RECYCLING IN SCHOOLS



A Guide for Implementing a School Recycling Program

Why is Recycling Important?

School Recycling reinforces home and community recycling efforts.

When schools recycle and promote proper recycling in classrooms, it teaches children the importance of recycling. Recycling in schools fosters awareness and reinforces recycling done in home and in the local community.

Recycling creates jobs.

The North Carolina Division of Environmental Assistance and Customer Service (NC DEACS) Recycling Business Assistance Center (RBAC) regularly conducts a study of recycling employment in North Carolina. Recycling is a proven creator of “green jobs” and business opportunities in North Carolina. The number of recycling businesses in North Carolina increased from around 250 in 1990 to over 700 in 2017. Collectively, there are between 16,000 and 17,000 private sector jobs in North Carolina alone with an estimated \$664 million in annual payroll.

North Carolina continues to be an attractive location for recycling business development and entrepreneurial activity. Recycling companies here manage a very broad range of materials, in many cases using sophisticated technologies to process the materials into valuable commodities and then manufacture them into new consumer products.

Recycling provides raw materials for industry.

Industry in North Carolina continues to grow. Companies have invested millions of dollars in developing technologies for processing and manufacturing recovered materials. Sixty-two percent of recycling businesses surveyed plan on investing \$21.5 million in equipment, facilities or land in the next few years (NC Recycling Jobs Study, 2015).

Recycling feedstocks are used to produce common items such as 100% recycled newsprint, new carpet and other fibers made from recycled PET plastic soda bottles, and plastic lumber manufactured using clean and dry recycled plastic bags and film from packaging returned to grocery stores.

Recycling saves energy.

Recycling one ton of aluminum cans, for example, saves 14,000 kilowatt hours (Kwh) of energy, 40 barrels of oil, 238 million Btu’s of energy, and 10 cubic yards of landfill space. That’s about 95% of the energy needed to manufacture aluminum from virgin materials (LessIsMore.org).



Similar examples may be found for paper, plastic, glass and steel. Saving energy when you recycle really adds up!

Recycling saves natural resources.

Products made from recycled material keep virgin non-renewable materials from being depleted to produce the materials anew. This causes a ripple effect on the environment: less trees will be cut down for paper, less metal ores will be mined for things like cans, less oil and water will be used in the processing of new materials, and less emissions will be released during transportation of the virgin materials. Recycling is a win-win!

Recycling reduces pollution.

Recycling reduces the use of oil products and water, leaving less pollution in the air, water and soil.

Recycling saves landfill space.

Perhaps one of the most immediate benefits of recycling is that all those recyclables which were headed to the landfill are diverted and made into new products. This saves valuable landfill space extending the life of current landfills and reduces the need to construct more.

Recycling makes a difference.

A school recycling program should be a hands-on, interdisciplinary lesson that educates students about the environment, personal responsibility, community action, and solid waste management. School recycling programs not only impact students and their families but also impact communities and the overall waste diversion in a community.

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♻️ Assemble a Team

Successful planning for your school recycling program must include the custodial staff, students, teachers, parents, school administrators and a local government recycling program representative to ensure the success and sustainability of your program. Local government staff are the subject matter experts and will be able to provide guidance for implementation. Ideally, schools recycling should be a holistic, countywide program rather than piecemealed by individual schools. Implementation of the school systemwide program may be phased in by stages (i.e. all elementary schools first, middle schools second and finally high schools) to assist with implementation management.

Rather than having volunteers manage the program, a position within each school should be tasked with overall management (i.e. front office staff or Assistant Principal). Then, the use of student organizations, such as the National Honor Society, Beta Club, Builders Club, 4-H Club, environmental/ecology clubs or parent organizations may be used to assist with the successful maintenance of school recycling efforts.

Schools with transient populations may have special challenges sustaining a school recycling program. In addition to assigning this task to a staff position, schools should also create a recycling continuity binder or notebook that includes your local contacts, participating staff members, any grants or in-kind donations received along with the organization it was received from, and an overview and general history of your recycling program (events, activities, competitions, etc.). When key people in your recycling program leave, this notebook will provide important information for others to use. The continuity binder helps to ensure the successful continuation of the recycling program.



♻️ Analyze the Trash

Assessing your school's waste stream is vital to ensuring your program is successful. A waste audit will identify the type, quantity, and/or origin of the potential recyclable materials. This information will then assist your team with formulating school recycling goals and procurement of recycling containers and/or other needed materials.

A waste assessment may be conducted by your local government staff or your recycling hauler. As an activity for students using the integrated principles of STEM, students may complete an assessment with guidance of a teacher(s) or local government staff. A simple assessment may be done by sorting and weighing discarded trash of an individual classroom or a sampling of classrooms. Once the trash is sorted and weighed, it can be multiplied by the number of classrooms for an estimate of the amount of trash and recyclable materials being discarded in the school. Adding the waste from the library, computer labs, offices, cafeteria and other parts of your school will lead to a more accurate estimate of the total amount and type of waste. Ideally, this would be completed before implementing a recycling program and at regular intervals after implementation to collect data and compare percentages of recycling and waste. The assessment will be a measurable gauge of program success.

♻️ Determine Responsibilities

First, review the current contracts for custodial services and waste collection. Be sure to understand current arrangements. Most schools have a waste contract with a private firm managed through the school system.

You can't look for something better if you don't know what you've have. Your current hauler will be familiar with your current waste collection contract. Don't enter negotiations without being informed.

To get started, you or the local government representative should ask the school's district building and grounds manager, custodial staff, administration or other school personnel about the waste collection contract.

Questions you or the local government will want to ask include:

- Who is the waste hauler or collector?
- What are the contract dates?
- Where can I get a copy of the contract?
- How much does the waste hauler charge for trash pickup? Is this a flat fee or a container "pull" price? Is there a per ton disposal fee?
- What size containers are used?
- How often are the containers picked up?

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♻️ Determine Responsibilities cont'd.

- How much trash by weight and/or by volume is disposed of per month or per school year?
- Can the waste removal contract be renegotiated during the contract term?
- Does the waste hauler currently provide a recycling service for the school? If so, what is being recycled? If not, can recycling be provided?
- What is the cost for the current hauler to provide recycling services to the school?
- Can the waste disposal service be decreased with the implementation of a recycling service?
- Are other haulers available to provide the services?

Coordinate recycling changes and/or implementation around contract cycles, if possible and renegotiate the contract, if needed.

Local government or local material recovery facility (MRF) guidelines for materials accepted locally will determine what the school should recycle (paper, plastic, aluminum, steel, food waste, etc.) Next, determine how materials will be collected (mixed together, separated by material type, or some combination). Your local government representative or hauler will be able to assist with determining the best option for the school.

Once the team has determined what and how the recycling will be collected, be sure to take inventory of current receptacles on hand.

Organize the recycling collection and storage system:

- The team should shadow the custodian and map the trash collection route or location of the trashcans in classrooms, offices, library, and cafeteria. The custodial staff will also know where trash is being discarded.
- Identify the locations where recycling receptacles are needed.
- Get feedback for the proposed recycling container locations from teachers, administration, students and custodial staff.
- Determine the space needed (inside the classrooms and for outside storage) to implement the recycling program. This will help the team determine how many bins to make and/or purchase and the ideal placement of the recycling containers in your school.
 - What type of collection containers will be needed for the classrooms, halls, storage areas, etc.?
 - Does the school have indoor space to use as a collection and storage center? If not, is there space for a large outdoor container?
 - If an outdoor recycling bin is needed, will there be room for the truck to maneuver and empty the container?
- Share the map of the proposed recycling container locations with students, teachers and school administration for feedback. Twin the bins to make it easy to recycle right! This

means anywhere that there is a trash bin, pair a recycling bin next to it.

Establish an implementation goal and seek approval from the school district.

- How will the recycling program be implemented?
 - Will it be done school-system wide or in phased stages by school type (elementary, middle, high school) or by region in the county?
 - Will the program be implemented by room type: classroom, administrative offices, cafeteria or food prep area?
 - Remember: The food service area and cafeteria will have special needs (steel cans, plastic milk bottles or cartons, cardboard and food waste).
- Will the recyclable materials be picked up by a hauler or local government? NOTE: If the recyclables are not collected through a recycling company from the school directly, parents, teachers and/or high school students may have to transport the recyclables to a local drop-off facility.
- If hauling is not being done by a hauler or local government, will a designated person (school staff member, parent and/or high school student) from the school deliver the recyclable materials to the processor? (This is the least preferred option because one person can leave the school and replacements must be found which is not always an easy task).

Moving recyclable materials within the school:

- How will the recyclable materials be moved from the classrooms to the collection and storage areas?
- How will the collection and storage bins be moved outside for pickup?
- How will the custodian be involved?
- Who will be responsible for moving the recyclables to the storage area from the library, cafeteria, teacher work area, office and other common areas of the school?
- Ideas for moving recyclables include:
 - Assign a student from each classroom to empty daily
 - Alternate classrooms responsibility, create a schedule
 - Use a student organization or recycling club.
 - Enlist custodial staff.
- Indicate who will be responsible for emptying the containers and designate a recycling contact at each school. This information should be included in the continuity binder.
- How will the recycling be collected from the storage area?
- Ensure you know who is responsible for collection of recycling from school facility.
- Carts, roll-offs, front loaded dumpsters, or a combination of multiple types of containers (example: cardboard dumpster and carts) may be used.
- Who's responsible?
 - Local government collection or contract with a private hauler.

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♻️ Bin Selection

Recycling bins MUST look different from trash bins. How? Use of different colors and different shapes for lids and/or openings is the best way to call attention to the container. If you are using garbage can style bins, use restrictive lids to avoid contamination.

- Containers should have visible signs on and around containers.
- Keep signage simple: use images and key words.
 - “Recycling” and “Bottles and Cans.”
 - Avoid words like “plastic and aluminum,” use “bottles and cans” instead.
- Well-placed, well-labeled, attractive recycling bins are your best form of advertisement!

Once the number of and type of containers needed is determined:

- Select types of containers based on placement .
- Develop a budget for your program.
- Costs may include:
 - Recycling containers/bins. Be sure to budget for a few extras.
 - Signage.
 - Miscellaneous materials.
 - Staff and teacher training (example: posters, bulletin board decorations, books, lesson/activity material, etc.).

♻️ Educate and Promote

Teacher, staff and student education is vital to schools recycling program success! Identify a champion or coordinator for each individual school as an assigned task (vs. using volunteers). This ensures continuity of recycling with a position rather than a with a person. Be sure to utilize the continuity binder! THIS IS WHERE YOUR SCHOOL RECYCLING COORDINATOR COMES IN!

Have the school district or each school create a recycling logo, slogan or theme to promote recycling. As an alternative, the school system could have a student contest to name the program and to come up with a slogan and logo. To create awareness, present the recycling program launch at a school rally or in individual classrooms. Be sure to include:

- A list of what is recycled
- Locations of where recycling is collected
- How the program works
- Benefits of recycling

Repeat kickoff annually at the beginning of each school year!

♻️ Start Recycling!

Your well-designed and supported recycling program is off to a GREAT start! Tracking the weights of recyclables by school is important to determine success. Ask for this information from the local government or private hauler collecting the recycling. Keep the participants motivated with regular updates of what and how much is being recycled!

Also, provide a survey to teachers, students, school staff, and parents for ideas about improving your program. Example survey items include container appearance, use, and location; adequate education/promotion; contamination issues; and collection frequency.

♻️ Evaluate the Program

- Review the recycling program with all parties at least annually.
- Remind the school administrators to evaluate the waste hauling and/or recycling contracts.
- A good recycling program may decrease the cost of trash removal.
- **IMPORTANT:** The recycling team should determine how to handle holiday and summer vacation recycling.
- **INVENTORY CONTROL:** Have a plan to keep containers from disappearing over the summer. Containers should be inventoried at the end of the year.
- **Expand:** Once the recycling program is operating effectively, the team may investigate additional ways to reduce, reuse, and/or recycle!

Assess current school recycling efforts and look for opportunities to expand in your county or municipality:

♻️ Looking Forward

- Evaluate overall assets
- Prioritize projects
- Set district-wide standards for containers
- Ensure automatic inclusion of recycling in new construction (Twin the Bins!)
- Focus on material quality - make sure to only accept recyclable materials in the recycling bin.

Each year, the N.C. Division of Environmental Assistance and Customer Service offers grants to local governments within the state for projects, including school recycling programs. From 2011 to 2017, \$305,305 in state grant funding for school recycling projects was awarded. NC DEACS also provides technical assistance to counties, communities and businesses with recycling questions and needs. If you have questions, contact your local government recycling office. To find a list of contacts by county and municipality, go to:

<http://p2pays.org/localgov/ncwaste.html>