Food Waste Management

15 Points
School

Updated March 2018

The update made to this action is a longer look back and approval period - 2.5 years

A school may choose to add the recycling of cafeteria and lunchroom food waste to its recycling program. Food waste is rarely designated as a mandatory material for recycling in County Recycling Plans due to a shortage of food waste recycling facilities in the state and region. Therefore, recycling of food waste in a school goes beyond the requirements of County Recycling Plans and can serve as a valuable lesson for students on making compost and improving soil nutrients for plant growth. School food waste recycling programs can either involve the purchase and use of on-site composting units or simply making arrangements for the collection of food waste for off-site management. Working with other public or private sector food waste generators to participate in collection and off-site composting may also be possible and represent the easiest pathway to recycle food. To earn points for this action, a school must have an active comprehensive food-waste recycling program that has been operational within the last 2.5 years OR if a new program for at least four months at the time of the initial certification application submission.

Why is it important?

At the national level, the U.S. Environmental Protection Agency (USEPA or EPA) statistics reflect food waste making up 14.5% of all municipal solid waste. The national recycling rate for food is estimated at an extraordinarily low 1.6%. Since 1993, New Jersey has had a legislative goal of recycling at least 50% of the municipal waste stream. The current statewide rate for recycling of all materials is 40%. The New Jersey Department of Environmental Protection has published data that shows an approximately 20% recycling rate for food statewide. While appreciably higher than the estimated national recycling rate for food, 20% is still the lowest recycling rate of any commodity historically tracked by NJDEP. There is little question that robust food waste recycling must be addressed more effectively if the state is to achieve the 50% recycling rate. Notwithstanding the state goal, recycling food waste is also the right thing to do for sound environmental stewardship and sustainable material management.

Food waste recycling is especially important because it reduces methane (a highly potent greenhouse gas) production from landfills. Also, food waste recycling has the potential to create industries in New Jersey that produce soil amendments and result in energy generation. Additionally, food waste recycling can reduce costs for schools and institutions. Several New England states (Connecticut, Vermont, and Massachusetts) have recently (2011–2013) enacted "commercial food waste bans" to address food waste recycling and ban the disposal of this material from landfills and incinerators. This effort helps provide a supply of material to entice companies to develop food waste recycling facilities to meet the legislatively-created demand. Similar laws are being considered in New Jersey, New York State and New York City. There is little question that food waste recycling represents the next frontier in advancing sustainable materials management in our region.

Who should lead and be involved with this action?

The head of the school science department, a science teacher knowledgeable and passionate about environmental science, or other appropriate staff within the school administration coordinating Sustainable Jersey efforts would all be effective leaders of this action. Where acceptable to the school administration, student groups like science clubs or
environmental clubs could help with its implementation, as well. Student leaders can be critical for getting other students to participate in efforts to sort food waste in cafeterias. Engagement of janitorial staff and school maintenance staff who coordinate buildings and grounds work around the school is also highly recommended. Each municipality and county also has "Recycling Coordinators" who should be consulted for technical assistance. Websites to find both information and key contact people in each of the twenty-one counties in the state can be accessed by clicking here. It is highly recommended that your school food waste recycling leader contact your Municipal Recycling Coordinator before starting your program.

**Timeframe**

It may take up to a year of planning to gather the information needed to evaluate and identify the municipality's food waste recycling strategy. A key component of any successful recycling program is to get municipal officials to "buy in" and understand why the program is important. Performing a "waste audit" to determine how much food waste is generated each day or week within your school is also critical before getting started (please see the Waste Audit Action created for schools as a background resource). In all probability, one year of planning and assessment will be needed before actually launching your school waste recycling program.

**Project costs and resource needs**

Costs to administer the program will vary greatly depending on the primary option chosen. The two core options are to collect food waste in the school and compost and use the compost product on-site, or to simply organize a collection and off-site management program. For on-site management there are lower and higher technology equipment options. Lower-cost backyard compost units can be purchased inexpensively from companies like "Earth Machine Composters". Higher technology systems are also available, such as those manufactured by NATH Sustainable Solutions. Collection and off-site management programs may also have significant cost differences depending upon whether the school is managing only its own food waste or partnering with the broader school district or other large commercial food waste generators as further outlined below.

Without question, the school will need to commit staff time and possibly some financial resources to this effort. The school may opt to hire a consultant to perform an initial waste audit and help structure the program. This may cost between $3,000 and $5,000, and there will be additional fees to establish the program. Collection and on-site program management costs can be reduced by using students (Science Club or Environmental Club, for instance) and existing janitorial and/or school maintenance staff. Grant funding may also be available. Chatham High School received grant funding from Sustainable Jersey to purchase and install a Rocket Composter System.

**What to do, and how to do it ("How to")**

This section provides guidance and recommendations for implementing the action. A school/district does not need to follow this guidance exactly as long as it meets the requirements for earning points for this action.

Throughout the process of completing this action, please keep the following requirements in mind:

1. The school must have a comprehensive food waste recycling program that is active and that has been operational within the last 2.5 years OR if a new program at least four months at the time of the initial application submission deadline.

2. The food waste recycling program and its benefits must have been promoted to the students, staff, and families of the school community.

In order to develop a food waste recycling program, it is strongly recommended to first perform a waste audit to determine the amount of food waste generated in your school, along with other highly recyclable materials like paper, aluminum cans, plastic beverage containers, tin and bi-metal cans, corrugated cardboard, and other traditional commodities. The waste audit is a baseline task that should be completed to effectively structure school recycling programs, including the establishment of a food waste recycling program. Another approach may be to perform a broader school district waste audit or regional audit conducted with schools in neighboring towns.

After completing the waste audit, other logistical considerations must be evaluated in formulating your strategic approach. Some questions to ask include:

- Can the school can purchase low-technology or higher-technology equipment to administer an on-site food waste
recycling program? Lower-cost backyard composting units can be purchased inexpensively from companies like Earth Machine Composters. However, these lower-technology options can only be used for organic material like fruits and vegetables. Higher-technology systems (that can handle nearly all food wastes including meats, fish, cheese, proteins, and fats) are also available, such as those manufactured by NATH Sustainable Solutions. Their Rocket Composter has been installed and used at Bergen County Community College, Ramapo College, Montclair State University, and Chatham High School.

- Where could an on-site composting operation within the school or school grounds be located?
- What food sources will be targeted in the program? These may include cuttings from cafeteria food preparation, student lunch waste, faculty lunchroom waste, special event waste, etc.
- How will the food waste be collected, in what type of receptacle, and by whom? Students could be involved, such as the Science Club or Environmental Club, or the task could be left to janitorial staff.
- Can the school-generated compost be used on the school grounds as a soil amendment? If not, where can the material be marketed or otherwise used? Use by other schools in the district, free pickup by community residents, or use by the municipal department of public works are all options.
- If off-site users are needed, how will the material be transported? Free pickup by town residents and use of municipal trucks are some options.

If on-site school composting is not an option, programs can still be instituted that simply link to collection and off-site transport to processing facilities and/or markets. Food waste is already being collected from many commercial sources in New Jersey. As you start your audit, check with your Municipal Recycling Coordinator who may be able to direct you to a local supermarket, food processor, university, hotel, hospital or other institution to see if they are recycling their food waste. These entities could serve as a core group for the development of a wasteshed to help your school with food waste collection services, as well as aid in the identification of commercial food waste recycling facilities to accept your materials for composting and provide information about relative economics needed for you to evaluate the feasibility of instituting a program. Your school can start with the core group recycling food waste within your town and then collectively consider expanding the wasteshed to connect with other schools and businesses to improve the economies of food waste recycling.

If a wasteshed audit approach is selected, a school can participate in a joint composting/recycling route for the collection of the largest and most concentrated sources of food waste within the town's borders. Often a particular establishment that generates relatively large amounts of food waste, like a hotel, hospital, or supermarket, may act as an anchor in the wasteshed.

This approach has been developed and promoted by the Rutgers Solid Waste Resource Renewal Group.

Additional guidance on how to handle and collect food waste can be found at the following links:

Galloway Township: School Composting and School Yard Wildlife Projects...A Natural Partnership, by Barbara Fiedler.
The Association of New Jersey Recyclers

Compostable Organics Out of Landfills by 2012

EPA Food Scraps:

EPA Guide to Commercial Food Composting

Central Vermont Solid Waste District: Zero Waste Central

For a list of recycling markets, visit: NJ Department of Environmental Protection—Recycling Markets.

**What to submit to earn points for this action**

In order to earn points for this action, the following documentation must be submitted as part of the online certification application in order to verify that the action requirements have been met.

1. **Description of Implementation** — In the text box provided on the submission page for this action provide a short narrative (about 300 words or less) of what has been accomplished and the impact it has or will have on the school community. The comprehensive food waste recycling program must be active and must have been operational within the last 2.5 years OR if a new program for at least four months at the time of the initial submission deadline.
2. Upload: Description of the food waste recycling program. This must include sources of food waste—whether it is an on-site recycling/composting project or a collection and off-site recycling program—and the approach your school has taken to collect your food waste. Explain how the food waste is collected, (e.g., types of containers used; curbside collection or at a depot), whether the program involves just the school or other partners, the collection schedule, and the identity of the food waste recycling market.

3. Upload: Documentation that illustrates the promotion of the food waste recycling program to students, staff and families of the school community, e.g. fliers, posters, website posts, articles in local media.

4. Optional: Upload photographs or any other documentation of the operation of the food waste recycling program.

Resubmission Requirements

To resubmit for points under this action, document the food waste management program is still in effect by providing the full submission requirements, including updates to your narrative about changes to the program, and new promotional materials advertising the program to students, faculty and staff from within 2.5 years of the initial submission deadline.

Approved Action Expiration Date

All approved actions will be set to expire 2.5 years from the date the initiative launched OR of the promotional materials and photos submitted.

IMPORTANT NOTES:

There is a limit of six uploaded documents per action and individual files must not exceed 20 MB. Excerpts of relevant information from large documents are recommended.

All action documentation is available for public viewing after an action is approved. Action submissions should not include any information or documents that are not intended for public viewing.

Spotlight: What New Jersey schools are doing

Alder Avenue Middle School

At Alder Avenue, the students were the driving force behind the food waste recycling program. The program started out using small garden tumblers, but after an audit was performed on lunches in the cafeteria, the students wanted to design a larger system to hold all of the organic waste produced. The students designed a method to use pallets which can be easily pulled back to allow the decomposing material to be rotated from left to right. It has also been a great way to teach students about different composting recipes so that additional food waste materials can be added to the mix. The students culminated their work in a presentation to the school board.

Bergenfield High School, Bergenfield Public School District

Managing food waste is one of the goals for Bergenfield High School. Food waste could entail uneaten food, lost/spoiled food, or the discarded remainder/by-product of a meal. In order to minimize waste and promote more sustainable modes of food distribution within a school, BHS is promoting Food Waste Management on several fronts. To view how Bergenfield High School met the requirements for this action click here.

Chairville Elementary School

In an effort to reduce the amount of organic material collection from the school’s waste stream, the building principal launched a pilot program during the 2014-2015 school year. The school partnered with Organic Diversion, which provides training, materials, and removal services to support this program. The material is taken to a facility where it is processed into clean, ready to use commercial and residential grade compost. Within just two months the school eliminated over 1,200 pounds of organic material from its waste stream. In the 2015-2016 year the hope is that the program will aid in lowering the operating expenses of the school. Given the success of the program, it is highly likely to be implemented in other schools in the district.

Organic Diversion Contract
Letter to Parents

Chatham High School
Back in 2009, the Chatham Township Environmental Commission introduced its food composting program, known locally as "Save it To Spade it," and invited the School District of The Chathams to join in the program. By April 2010, the township was running free composting workshops for residents, teachers, and other members of the community, and also offered low cost, "backyard" composters. Today, residents, schools, Scouts, local Master Gardeners and other organizations have the "backyard" composters in use. To enable the public schools to compost school-food waste, the Chatham Township Environmental Commission purchased a Rocket® Composter for the School District of The Chathams. The township’s Commission applied for a Sustainable JerseyTM Grant and was awarded $25,000 for its unique food-composting program. The grant money paid for the Rocket® Composter, composting programs for Chatham Township residents, and for educational materials for the schools and township residents. The program was launched in April of 2011 and the Rocket Composter unit has been operational since that time. More information regarding the launch of the Rocket Composter system in Chatham Township can be found at the following websites.

Article about Chatham Schools’ Composting efforts
Information from Chatham Township Environmental Commission about food waste composting

Egg Harbor Township High School

The school received a mini grant to implement a food waste composting program, which allowed the school to purchase a variety of composting equipment. The project is currently a pilot in a small area of the school. Students collect the material that is saved from the kitchen, teacher faculty rooms, and several science classrooms, weigh it, and then add the right combination of carbon to nitrogen to make a cohesive compost. Over time, collection of material will be rolled out to the entire school as awareness grows.

Daily activity log
Composters
Signage

Lake Riviera Middle School, Brick Township School District

Lake Riviera Middle School will be purchasing a backyard composter for our school, though a grant from Sustainable Schools and the NJEA. It is located outside our cafeteria near the dumpsters for easy access. Science Club and National Junior Honor Society students volunteer their time to take fruit and vegetable waste from the cafeteria periodically from designated containers. This is done on salad Wednesdays, as a lot of waste is created in preparation for and at the end of the day. There are special containers and signs on Wednesdays for students to compost their uneaten salad and fruit waste. To view Lake Riviera Middle School’s approved submission click here.

Wayne Valley High School

In cooperation with the District’s Facility Department, the school has introduced a waste dehydrator/compost unit and developed student learning curriculum in the classroom related to it. The dehydrator reduces organic food waste by 90%. Food waste is collected from the kitchen, and the students load and set the material into the dehydrator. Students are then able to use the material generated for a variety of educational purposes.

Dehydrator

Resources

ANJR Educational Video: Organic Diversion https://www.youtube.com/watch?v=ECUm0WDepjc&list=PL4H1HQBF-SVcU2i_jodWC5y1eLN5VK3hM&index=10

ANJR Educational Video: School Food Recycling https://www.youtube.com/watch?v=Q_SOkuLUgT&list=PL4H1HQBF-SVcU2i_jodWC5y1eLN5VK3hM&index=12


Association of New Jersey Recyclers
www.anjr.com

California Integrated Waste Management Board


http://www.ciwmb.ca.gov/WPW/

Ecocycle
http://www.ecocycle.org/

Massachusetts Department of Environmental Protection: Various Links to Food Waste Disposal Ban and Food Waste Recycling

NJ Department of Environmental Protection – Recycling Office
http://www.nj.gov/dep/dshw/recycling/

Northeast Recycling Council
www.nerc.org

Princeton Department of Public Works: Organics Recycling Program

Solid Waste Resource Renewal Group at Rutgers NJAES

United States Environmental Protection Agency (EPA)
http://www.epa.gov/epawaste/index.htm

Vermont Department of Environmental Conservation: Act 148 – Universal Recycling Law
http://www.anr.state.vt.us/dec/wastediv/solid/act148.htm