

Dig In! How Waste Audits Can Improve Your Recycling Rate

New Jersey School Boards Association Workshop
October 25, 2017



Speakers

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What is Sustainable Jersey for Schools?



Sustainable Jersey for Schools is a certification program with 3 key components, designed specifically for schools in New Jersey

- Identifies **actions** to help schools become more sustainable
- Provides **tools, resources, and guidance** to make progress
- Provides access to **grants and funding** for districts and schools



Municipal

Schools



445 towns, 201 certified



278 Districts, 691 Schools,
194 schools certified

Program Participants



Collaborate!

Use the Participating Communities Map to find the contact for your town's green team

Find your town on the list

Participating Communities

Map view List view 423 Total Participating 177 Currently Certified

Applicant	County	Certification
Andover Twp	Sussex	bronze
Atlantic Highlands Boro	Monmouth	bronze
Bedminster Twp	Somerset	bronze
Berkeley Heights Twp	Union	silver
Bernards Twp	Somerset	silver
Bernardsville Boro	Somerset	bronze
Bethlehem Twp	Hunterdon	bronze
Bordentown City	Burlington	silver
Bordentown Twp	Burlington	bronze
Brick Twp	Ocean	bronze
Bridgewater Twp	Somerset	bronze
Caldwell Boro	Essex	bronze
Cape May City	Cape May	silver
Chatham Boro	Morris	silver
Clinton Town	Hunterdon	bronze
Cranbury Twp	Middlesex	bronze
Denville Twp	Morris	bronze
Eatontown Boro	Monmouth	bronze
Edison Twp	Middlesex	bronze

Click "Applicant Profile" to see the contact information

Participating Communities

Map view List view 423 Total Participating 177 Currently Certified

The image shows a map of the region with various towns marked by colored pins. A pop-up window for West Windsor Twp is displayed, showing its certification level as Silver, certified on October 22, 2013, with 450 total points. It includes links to view the report and profile.

WEST WINDSOR TWP
MERCER COUNTY

Certification Level: Silver
Certified On: October 22, 2013
Total Points: 450
Certification Report: View Report
Applicant Profile: View Profile



Actions: Prosperity, Planet, People

PEOPLE	PROSPERITY	PLANET
DIVERSITY & EQUITY	BOARD LEADERSHIP & PLANNING	CLIMATE MITIGATION & RENEWABLE ENERGY
Accessible Communications	Professional Development for Sustainability ★	School Carbon Footprint ★
Breakfast After The Bell	District Sustainability Policy	Buy Renewable Electricity
Diversity on District Task Forces &	Green Enhancement of District Strategic Plans	Collaborate with Municipality on Government Energy Aggregation Program
FOOD & NUTRITION	School Community Asset Mapping	On-site Renewable Generation System-Geothermal
Healthy Food Choices	School District Foundation	On-site Renewable Generation System-Solar
Promote Locally Grown Foods	Strategic Plan Implementation of Green Initiatives	GREEN CLEANING
School Gardens	ENERGY EFFICIENCY	Green Cleaning Equipment
HEALTHY SCHOOL ENVIRONMENTS	Behavior-Based Energy Conservation Programs	Green Cleaning Policy & Plan
Indoor Air Quality Review ★	Energy Efficiency for School Facilities	Green Cleaning Supplies
Access to Healthy Water in Schools	Energy Tracking & Management	Green Cleaning Training & Education Programs
Anti-Idling Education & Enforcement	INNOVATION PROJECTS	GREEN DESIGN
Asthma Friendly Schools	Innovative Project #1	Green Building Policy ★
Classroom Chemical Purchase Storage & Disposal Policy	Innovative Project #2	Design/Build/Certify New Construction & Major Renovations using Green Standard
Classroom Cleanup Policy & Procedures	INTEGRATED SCIENCE, TECHNOLOGY, ENGINEERING, ARTS & MATH	Green Building Training
Integrated Pest Management Education & Organic Lawn Care	iSTEAM Planning & Implementation	GREEN PURCHASING
Outdoor Air Quality Awareness	iSTEAM Strategic Plan Indicators/iSTEAM Policies	Green Purchasing Policy ★
Radon Testing, Education and Reporting Process for Indoor Air Quality Concerns	iSTEAM Collaborative Units of Study	Energy Efficient Appliances or Equipment
SCHOOL CULTURE & CLIMATE	iSTEAM Professional Development Plan	Recycled Paper Purchase
Inclusive Environment Where All Can Thrive	LEARNING STRUCTURES	SCHOOL GROUNDS
School Culture & Climate Needs Assessment	All Arts Disciplines Offered	Biodiversity Audit & Management Plan
Social Emotional Learning Curriculum	Curriculum Mapping	Biodiversity Project
STUDENT & COMMUNITY OUTREACH	Student Participation in the Arts	Green Infrastructure Assessment & Plan
Green Team ▲	STUDENT LEARNING	Green Infrastructure Installation
Community Education & Outreach	(only one action in this category will be counted toward priority requirements)	WASTE MANAGEMENT & RECYCLING
Civic & Stewardship Volunteer Opportunities	Education for Sustainability Pre-K-3 ★	Waste Audit ★
Enrichment Programs through Green Challenges	Education for Sustainability Grades 4-12 Science ★	Document Recycling Rates
	Education for Sustainability Grades 4-12 Math ★	
	Education for Sustainability	

- Districts & schools choose from the menu of 100+ actions to accumulate the required points
- Actions created by issue-based Task Forces
- Task Forces comprised of relevant experts, local leaders, state and federal agencies, and stakeholders
- Task Forces meet regularly to add and amend actions



Types of Actions

- District Only
 - District completes these actions and submits them for review
- School Only
 - Individual schools complete these actions and submits them for review
- Either District or School can complete the action
 - Action must be claimed by the agreed upon entity

Learning Environment	
School Grounds	
Student & Community Outreach	
Student and Staff Wellness	
Programs to Promote Physical Activity	Status: Unplanned
10 Points School Only	Unplanned
Staff Wellness Program	Status: Unplanned
10 Points	Unplanned
Policies to Promote Physical Activity	Status: Unplanned
10 Points District Only	Unplanned
School Health Assessment	Status: Unplanned
20 Points School Only	Unplanned
School Wellness Council	Status: Unplanned
10 Points Priority School Only	Unplanned
Student Learning	
Student Safety	



Certification Steps

1. Pass a district resolution; register district, pass school resolution/letter, register school online
2. Form Green Team
3. Implement actions to score 150/350 points
4. Submit documentary evidence for each action
5. Certification awarded after review and verification



Certification Requirements

150

Bronze

- Total of at least 150 points
- Mandatory Green Team
- Implement 2 priority actions
- Actions completed in 6 categories

350

Silver

- Total of at least 350 points
- Mandatory Green Team
- Implement 3 priority actions
- Actions completed in 8 categories



Priority Actions

- ✓ Building Efficiency Measures
- ✓ Community Education & Outreach
- ✓ Energy Audit
- ✓ Green Building Policy
- ✓ Green Purchasing Policy
- ✓ Indoor Air Quality Review
- ✓ Professional Development for Sustainability
- ✓ School Carbon Footprint
- ✓ Student Learning (Priority Category)
- ✓ School Wellness Council
- ✓ **Waste Audit**



2018 Certification Cycle

January 19	First Application Submission Deadline <ul style="list-style-type: none">Schools and districts indicate the actions they have completed/would like to complete by the end of the cycle
Late February	Review Comments Provided
March 30	Second Application Submission Deadline <ul style="list-style-type: none">Both January applicants and new applicants can submit for certification
Early May	Review Comments Provided
June 22	FINAL Application Submission Deadline
Early August	Certification Notifications Issued



We Offer Grants!

Nearly 300 grants awarded to districts & schools since 2015!

- No foam cafeteria zone
- Water bottle filling stations
- School food composting
- Waste disposal
- Sustainable dining
- Water conservation education
- Model green ordinances
- Municipal and community carbon footprints



School Waste Actions

Priority Action: Waste Audit (School only)

- Document Recycling Rates
- EPA Waste Wi\$e
- Food Waste Management
- Materials Reuse
- Recycling Non-Mandated Materials
- Waste or Source Reduction Tracking



Waste Audit Requirements

1

- Performed no more than one year from the January application deadline.

2

- Provide narrative of what was accomplished and the impact on the school community

3

- Provide waste audit form completed on the day of the audit.

4

- Provide a copy of the findings and recommendations document submitted to the principal.

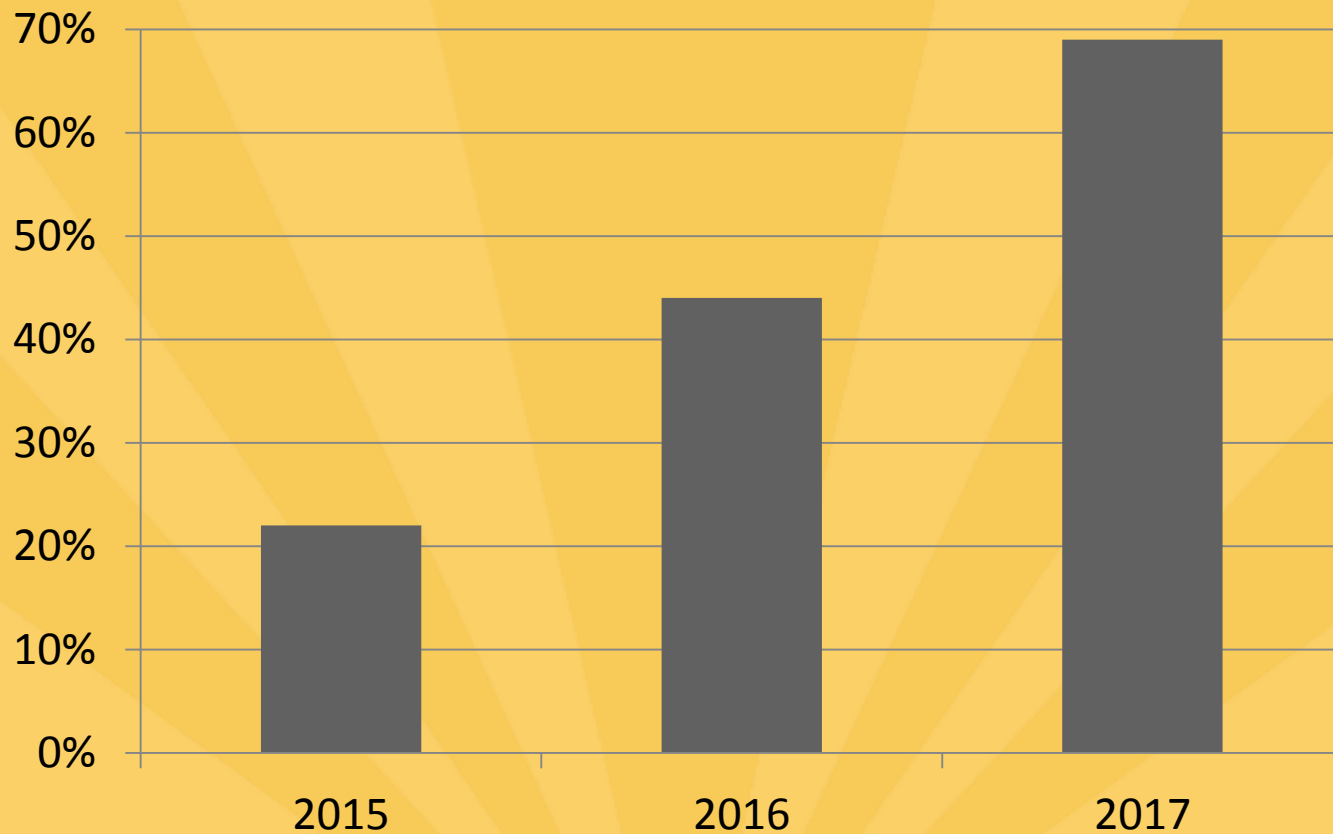
5

- Optional: Photos from the audit and/or promotional materials used within the school to educate share the goals of the waste audit and source reduction/recycling program.



Waste Action Success Rates

Waste Audit Approval Rate



Sustainable Jersey for Schools Supporters

Underwriters



Grants Program Underwriters



Founding Sponsors



Bronze Sponsor



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SUSTAINABLE JERSEY FOR SCHOOLS – WASTE AUDIT



Ewe, why me???

NJSBA

Gary Conover

ACUA Solid Waste Director/
Atlantic County Recycling Coordinator

- ▶ A through waste audit is the first step in setting up a comprehensive Waste Reduction/Recycling program in your school.



WHY IS THIS IMPORTANT?

- ▶ **Get everyone involved!** “Leadership” School Principal/Vice Principal, “A Champion” Environmental Science Teacher or Green Team Leader, “Students” students should be a driving force, “The Custodial Staff” NO success without their acceptance and participation, & “The County or Municipal Recycling Coordinator”



WHO SHOULD BE INVOLVED?

- ▶ A tarp – big vinyl to cover a large area
- ▶ A scale & gloves
- ▶ Extra trash bags
- ▶ A trash can or container to place the sorted materials into to be weighed
- ▶ Parental Permission slip for each student
- ▶ Clipboards & pencils to record findings
- ▶ A camera to document the process



WHAT WILL YOU NEED?

- ▶ Waste Audits should be done outside if at all possible, if not inside the gym/auditorium on a tarp if need be.
- ▶ A True Waste Audits can get messy
- ▶ Doing them outside before it gets too hot or too cold.
- ▶ Use an area where you can place a tarp on the ground and hose it down afterwards.



WHEN & WHERE?

- ▶ Sustainable Jersey for Schools recommends a Waste Audits should be done 1 every 5 years.
- ▶ Routine visual inspections should be done more frequently.
- ▶ If you find a schools recycling efforts are falling off do another waste audit.
- ▶ Frequently the loss of a champion, a change in school leadership or custodial staff may lead to the need to reinvigorate your recycling program.



HOW OFTEN?

- ▶ What items are listed as mandatory recyclables within your municipality/county?
- ▶ What items are listed as recommended recyclables within your municipality/county?
- ▶ Are there any opportunities to recycle more and throw away less?
- ▶ Does your school have the ability to do food waste composting?



WHAT TO KNOW BEFORE YOU BEGIN?

- ▶ What are the types, sizes and capacities of the existing trash & recycling containers?
- ▶ What is the current frequency of trash and recycling collection at your school? And who provides this services?
- ▶ Knowing the answers to these questions before you begin will assist you with data collection and recycling rate calculations.



WHAT TO KNOW BEFORE YOU
BEGIN? CONTINUED



DR. JOY MILLER ELEMENTARY SCHOOL



CARTONS, RECYCLABLE PLASTIC
& ORGANICS (YUM, APPLES)



STUDENTS HARD AT WORK!



EGG HARBOR TOWNSHIP HIGH SCHOOL



LUNCH – POLYSTYRENE TRAYS



FERNWOOD MIDDLE SCHOOL



EAGLE ACADEMY



ALDER AVE MIDDLE SCHOOL



MEASURE THE DUMPSTER
CAPACITY IF NEEDED

ACUA School Waste Audit Worksheet

Name _____

Date _____



Supplies:

- Empty plastic trash bags
- Bagged trash sample (not the nurse's trash!)
- Large empty trash container
- Gloves
- Scale
- Tarp

What does your trash sample represent? (Which room is your trash from and from how many class periods or days?)

Step 1. Weigh your trash can. Be sure to subtract this weight from each waste total.

Trash Can Weight

Step 2. Weigh your initial amount of trash.

Total lbs. of trash

Step 3. Divide your trash into compost, recycling, trash, and polystyrene, and then weigh each pile!

Compost

Recycling

Trash

Polystyrene (trays)

Step 4. Think about your results!

- How many pounds of trash can actually be recycled?
- Why is it important to recycle?
- Where does your trash go after you throw it away?
- Can you calculate waste generated per student?



DATA IS KING!

RECYCLING RATE = TOTAL
RECYCLING
TONNAGE/RECYCLING
TONNAGE + TRASH
TONNAGE

Use what is known, size of container,
frequency of collection, if recycling
material is delivered to a MRF directly
(roll-off container) even better use
that

DO A WALK- THROUGH RECYCLING INSPECTION

Walk-through of the whole school, list each area, point out strengths and weaknesses





DO RANDOM INSPECTIONS OF
THE TRASH DUMPSTER



ANY QUESTIONS?

Gary Conover

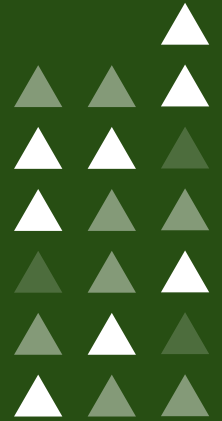
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Cherry Hill High School East – Our Waste Audit Experience

Cherry Hill, NJ





Basic Statistics About the School

- Opened in 1967.
- Cherry Hill High School East (also known as Cherry Hill East or CHE) is a four-year comprehensive public high school serving students in grades 9-12 in Cherry Hill, in Camden County, New Jersey, operating as part of the Cherry Hill Public School District (19 schools total).
- As of the 2014-15 school year, the school had an enrollment of 2,159 students and 132 classroom teachers for a student–teacher ratio of approximately 16:1. There were 209 students (9.7% of enrollment) eligible for free lunch and 76 (3.5% of students) eligible for reduced-cost lunch.



Basics of our Waste Audit, 2015

- On May 6, 2015, the students from the Cherry Hill East Environmental Club/Green Team/Environmental Studies classes partnered with Sustainable Cherry Hill and Cherry Hill Township to complete a waste audit of the two cafeterias.
- The decision to focus on the eating areas was made in consultation with Mr. Dominick Itzi, Safety/Recycling and Solid Waste Coordinator, Cherry Hill Township. The students met with Mr. Itzi, East Administration and even Central Office administration as well as the custodial staff to discuss the waste/recycling situation at the school several times prior to the actual audit.

Procedure of our Waste Audit

- Mr. Itzi cited recent solid waste and recycling data and told the group that the recycling rate for the school had historically been at approximately 60%.
- He recommended that the group focus the waste audit on the eating areas, as his assumption was that the bulk of the remaining 40% would be organics. The students chose a date for the audit, organized up to 30 volunteers to monitor the waste stations (three bins each - trash, recycling and organics) and provided training.

Procedure of our Waste Audit

- On the day of the audit, Mr. Itzi and Ms. Lori Braunstein (from Sustainable Cherry Hill) worked with the students to do behavioral observations and to educate students about waste and recycling. Mr. Itzi then weighed each bag of the trash/recycling/organics after the two lunch periods from the twelve stations.
- Each station was manned by a pair of trained students who instructed their peers as to where to throw their waste.



Dominic Itzi and
some students –
planning meeting

Students with East
Administrators,
Central
Administrators and
custodial staff –
planning meeting





Results of our Waste Audit

- Results of the audit revealed that organics was only a small amount of waste (4%), trash (49%) and recycling (47%). Since there was likely a significant margin of error because many students threw their items in the wrong bin before the “waste monitors” could instruct them or remove the items, it was recommended that a more detailed waste audit be completed in the next year.

Results of our Waste Audit

- The waste bags were collected and weighed “behind the scenes” on the loading dock at the rear of the school (this is also where the dumpsters are located).
- Mr. Itzi used an informal data collection method at the loading dock that included columns for each category and he recorded the weight for each bag and then transferred that information into a spreadsheet (below) when he returned to the DPW office.

SOLID WASTE AUDIT - CHERRY HILL EAST 5/6/15			
Solid Waste (lb)	Single Stream (lb)	Food Waste / Organics (lb)	Rate of Recycling
108.5	100	10.5	47.96%
		(4% of S.W. Stream)	

Recommendations from our Waste Audit

- Recommendations from the audit included:
 - having members of the Environmental Club serve as regular “Waste Monitors” to help their peers/teachers/administrators better understand recycling
 - raising money for a second bottle filling station to reduce the use of disposable bottles and
 - continuing to explore elimination of styrafoam trays.
- Overall, this student-led effort was a positive and productive learning experience that yielded important information.

