



Prepared for Gov. Nikki R. Haley and the General Assembly

State Agencies & Colleges/Universities Recycling & Buying Recycled Annual Report

Fiscal Year

20



12



Prepared by DHEC's Division of Mining and Solid Waste Management
Office of Solid Waste Reduction and Recycling

S.C. Department of Health and Environmental Control
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Foreword

The S.C. Solid Waste Policy and Management Act of 1991 (Act) establishes the framework for the safe and efficient management of solid waste and provides a comprehensive outline for state and local governments to follow. The Act, for example, requires county governments to report recycling activities and develop solid waste management plans. The Act sets statewide recycling and disposal goals.

The Act (S.C. Code of Law, 44-96-140) also requires state agencies and state-supported colleges/universities to:

- establish recycling programs for the collection of selected material including, but not limited to, aluminum, cardboard, glass, lead-acid batteries, paper, plastic, tires and used motor oil;
- evaluate and make necessary modifications to their programs to ensure material is recycled to the maximum extent possible; and
- establish solid waste reduction programs for material used in the course of operations to achieve the maximum feasible reduction.

In addition, the Act requires state agencies and state-supported colleges/universities to submit to the

S.C. Department of Health and Environmental Control (DHEC) by September 15 of each year the following information:

- reports detailing their recycling programs; and
- lists of products purchased that contain recycled material.

The Act requires DHEC to summarize this data and submit a report to the Governor and General Assembly by November 1 of each year. As part of the report, DHEC is required to determine what percentage of state purchases contains recycled material. Since no statewide system is in place to track buying recycled-content products, this percentage cannot be reported. This issue is addressed in this report’s Recommendations section.

DHEC’s Office of Solid Waste Reduction and Recycling is responsible for compiling and reviewing the data submitted by state agencies and state-supported colleges/universities and publishing the “State Agencies & Colleges/Universities Recycling & Buying Recycled Annual Report.”

This report provides information for fiscal year 2012 reflecting activities from July 1, 2011 to June 30, 2012. It was published November 1, 2012.

Contents

Executive Summary	3
Environmental equivalencies provide a different look at recycling’s benefits.	4
Recommendations	5
S.C. Schools Participate in RecycleMania.....	6
DHEC provides training for college/university recycling coordinators.....	7
Recycling by State Agencies	8
SCDC plays key role in recycling collection.	9
Recycling by Colleges/Universities	10
More Waste Reduction Efforts on Campus	11



A S.C. Department of Corrections’ recycling truck stops to collect material from DHEC’s central office building in Columbia.

Executive Summary

This report provides an overview of the recycling and buying recycled activities of state agencies and colleges/universities for fiscal year (FY) 2012 (July 1, 2011 to June 30, 2012) as required by the S.C. Solid Waste Policy and Management Act of 1991.

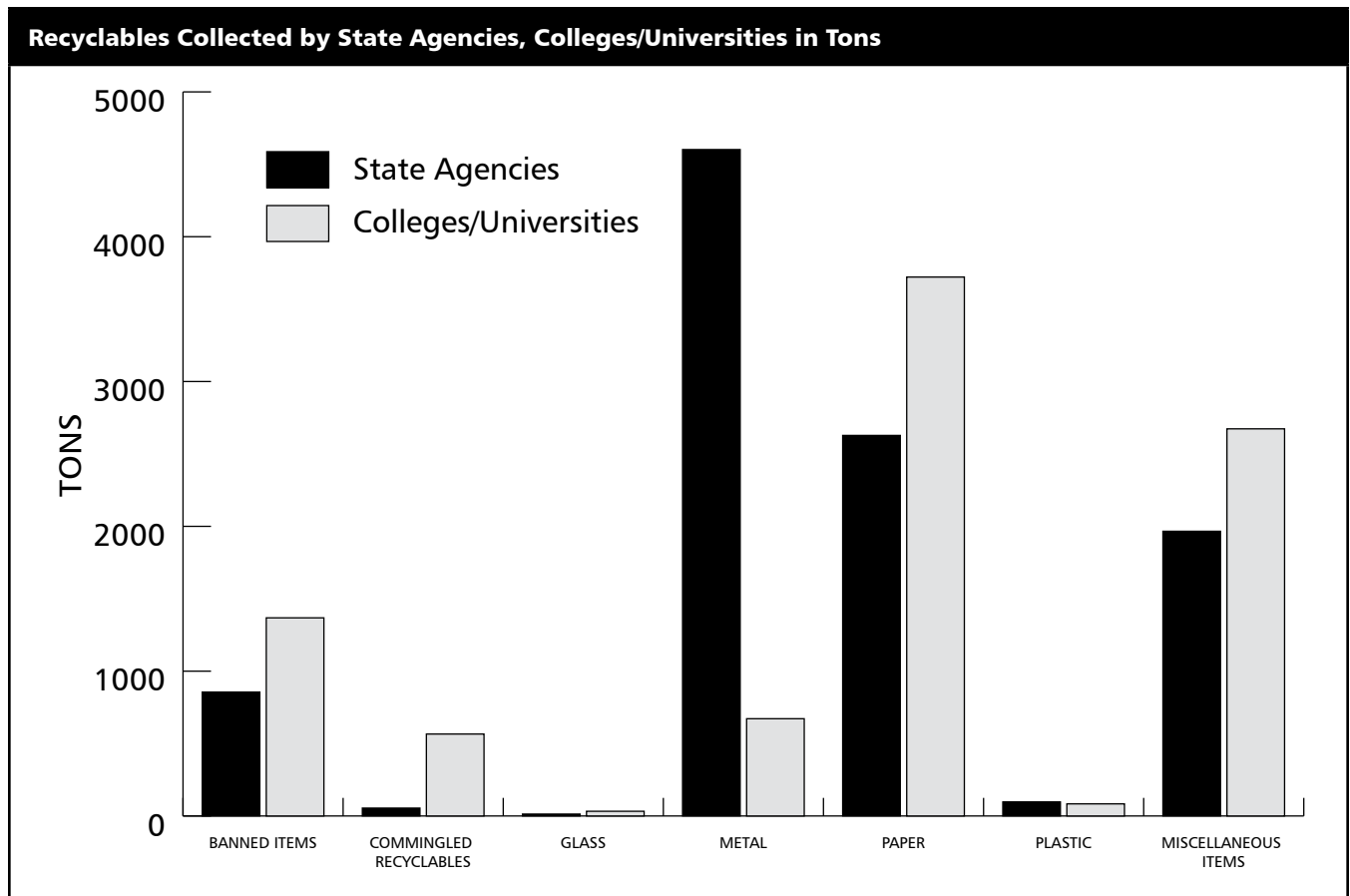
Data regarding the amount of material recycled was received either directly from the state agency or college/university that completed the survey provided by the S.C. Department of Health and Environmental Control (DHEC) or from vendors providing recycling services. Both public and private colleges/universities are included in this report although only state-supported colleges/universities are required to provide information.

In FY12, 19,335 tons of material was recycled by state agencies and colleges/universities – a decrease of about 9 percent from the 21,164 tons recycled in FY11. This data was compiled from the information reported by 74 state agencies and 27 colleges/universities.

Overall, state agencies reported recycling 10,218 tons of material in FY12 – about a 6 percent increase from the 9,635 tons of material recycled the previous FY. Metal (e.g., aluminum, ferrous metals, steel cans) was the most recycled commodity followed by Paper (e.g., cardboard, office paper, newspaper, books).

Colleges/universities reported recycling about 9,117 tons of material – a 21 percent decrease from the 11,529 tons of material recycled the previous FY. Paper was the most recycled commodity followed by Miscellaneous Items (mostly construction and demolition debris).

As mentioned in the Foreword, the percentage of state purchases that contain recycled material cannot be determined because no statewide system to track those purchases exists. The recycled-content products purchased most frequently by state agencies and colleges/universities were office paper and inkjet/toner cartridges.



Environmental equivalencies provide a different look at recycling's benefits.

The recycling and composting programs of state agencies and colleges/universities provide more benefits than those commonly known.

These benefits can be measured by using the U.S. Environmental Protection Agency's Waste Reduction Model (WARM). This tool helps solid waste planners and organizations calculate the benefits of alternative solid waste management decisions and the impact of recycling and composting as compared to landfill disposal.

Using the WARM model and an environmental equivalency calculator, greenhouse gas (GHG) savings can be presented in an easy-to-understand manner.

Examples of the GHG savings – that were achieved through recycling or composting by state agencies and colleges/universities reported for FY12 – include:

- eliminating emissions from 10,611 passenger cars for one year; or
- conserving 6,066,929 gallons of gasoline; or
- conserving 295 railcars of coal; or
- eliminating emissions from the electricity use of 6,748 homes for one year; or
- eliminating emissions from the use of 125,853 barrels of oil.

GHG savings by state agencies and colleges/universities for the last five years include:

- eliminating emissions from 36,958 passenger cars for one year; or
- conserving 21,130,830 gallons of gasoline; or
- conserving 1,026 railcars of coal; or
- eliminating emissions from the electricity use of 23,502 homes for one year; or
- eliminating emissions from the use of 438,342 barrels of oil.

Recycling is a natural fit at South Carolina State Parks.

South Carolina State Parks recycled more than 60 tons of material in fiscal year (FY) 2012 (July 1, 2011 to June 30, 2012) according to the S.C. Department of Parks, Recreation and Tourism (PRT).



This recycling success is in part due to the Recycling at the Parks Partnership.

This public-private partnership – formed in 2010 – helped South Carolina become the first state in the nation to offer recycling at each of its 47 state parks and historic sites. The parks have more than 7 million annual visitors.

The partnership – including PRT, the S.C. Department of Health and Environmental Control, the S.C. Department of Transportation, PalmettoPride and Sonoco Recycling, Inc. – provided containers, signage and other assistance to make recycling work.



Recommendations

South Carolina has made significant progress in its waste reduction and recycling efforts since the passage of the S.C. Solid Waste Policy and Management Act of 1991 (Act). The growth of programs and infrastructure, consistent and seasoned educational initiatives, more business participation and other factors has increased the state's measured recycling rate for the past three years. There is, however, much more that can be done.

State agencies and colleges/universities are in a unique position to make a significant difference in helping South Carolina meet the recycling and disposal goals outlined in the Act. State government and colleges/universities – as a manner of business – should be committed to lead by example and more efficiently use natural resources, reduce waste, save money and help sustain markets for material collected in recycling programs.

The Act requires the S.C. Department of Health and Environmental Control (DHEC) to make recommendations in the S.C. Solid Waste Management Annual Report on ways solid waste management can be improved.



Winthrop University uses customized collection containers for its recycling program.

Clearly, South Carolina should reduce the amount of waste it generates and disposes of, recycle more material, promote the best end use of recovered material and buy more products made from recycled content.

Consideration should be given to the following three recommendations and accompanying strategies to accomplish these goals.

1. Improve waste reduction and recycling programs as well as reporting.

Recycling has many environmental benefits including conserving resources, saving energy, reducing the need to build landfills and helping achieve and support a sustainable lifestyle or business ethic.

Less known is the fact that recycling adds significantly to South Carolina's economy. By turning waste into valuable raw material, recycling creates jobs, economic development and tax revenue as well as generates income for businesses and others from the sale of recyclables.

Waste reduction also limits the consumption of natural resources as well as the need to handle and move solid waste or recyclables.

State agencies and colleges/universities should:

- commit to reducing the amount of waste generated and recycling material to the maximum extent possible;
- set up efficient, practical and cost-effective programs;
- set up or improve "move-in" and "move-out" reuse and recycling events;
- review waste reduction and recycling programs annually for opportunities to improve;
- review all solid waste disposal costs annually to determine if there are ways to increase efficiencies and reduce costs;
- promote programs to staff, administration, students and others as well as integrate program information into student and/or new-hire orientation programs;
- expect faculty, staff and administration, as a matter of work ethic, to implement waste reduction and recycling practices in their daily activities; and
- track what is being recycled and the amount and report to DHEC as required by the Act.

2. Buy recycled.

Recycling – as previously mentioned – has many significant environmental and economic benefits. Recycling, however, will not work unless the products made from material that is recycled are purchased.

Buying recycled-content products – a significant part of what is known as environmentally preferred purchasing – creates demand (markets) for recycled material and therefore sustains recycling programs. There are tools in place to encourage the purchase of recycled-content products by state agencies and colleges/universities.

The Act sets a goal that recycled-content products comprise at least 25 percent of the state's purchases and also allows a 7.5 percent price preference for recycled-content products.

In addition, the South Carolina Environmentally Preferred Purchasing Policy was created in 2009. The policy outlines that state government "is committed to environmentally preferred purchasing in recognition of the need to more efficiently use natural resources, reduce waste, save money, sustain markets for materials collected in recycling programs and protect South Carolina's environment, economy and quality of life for all of its citizens."

The policy applies to all state agencies and publicly funded colleges/universities and others defined as governmental bodies per S.C. Code of Law [11-35-310(18)] (www.scstatehouse.gov/code/t11c035.php).

State agencies – along with colleges/universities – by their sheer purchasing power can promote buying recycled-content products and, given that, should:

- buy products that can be recycled and contain recycled material whenever possible;
- improve or implement recycled-content purchasing practices that reduce waste and result in the purchase of fewer products, when practicable and cost effective, without reducing the safety or quality of the products;
- implement the standards outlined in the S.C. Environmentally Preferred Purchasing Policy (www.mmo.sc.gov/policy) and go beyond those standards whenever possible;
- promote and use the "S.C. Guide for Recycled Products" and the "Environmentally Preferred Purchasing Policy Checklist" offered by the S.C. Budget and Control Board Procurement Services (<http://procurement.sc.gov/PS/agency/PS-agency-green-purchasing.phtm>).
- promote, use and encourage the creation of more state-term contracts that offer recycled-content products;
- adhere to the 7.5 percent price preference for recycled-content products outlined in the Act; and
- develop a system to track the purchase of recycled-content products.

S.C. Schools Participate in RecycleMania

Again this year, several S.C. colleges/universities participated in RecycleMania, a nationwide competition and benchmarking tool for college/university recycling programs to promote waste reduction activities on campus.



During a 10-week period, schools report recycling and disposal data which are then ranked in various categories. More information on RecycleMania can be found at www.recyclemaniacs.org.

In FY12, 10 colleges/universities in South Carolina participated:

- The Citadel;
- Clemson University;
- Erskine College;
- Furman University;
- Greenville Technical College;
- Lander University;
- Medical University of South Carolina;
- University of South Carolina (USC);
- USC-Aiken; and
- Winthrop University.

3. Recover more organics.

Organics, which include food scraps, yard trimmings, wood and paper, comprised nearly two-thirds of the nation's municipal solid waste (MSW) in 2010 – according to the latest figures available from the U.S. Environmental Protection Agency (EPA).

Some organics, such as cardboard and office paper, have a high recovery rate through traditional recycling efforts (not composting) and should continue to be managed in this way because of their significant market value. Other organics – particularly food scraps – do not have a high recovery rate.

More than 34 million tons of food scraps were generated nationwide in 2010 – more than any other category except paper according to the EPA. Of that amount, 33 million tons were thrown away – making food scraps the largest component of MSW disposed of in landfills and incinerators.

It is clear that any significant increase to South Carolina's recycling rate or decrease in per capita disposal must include a concentrated effort to recover more organics. In addition, the recovery of this material has economic and environmental

benefits including conserving resources, creating valuable soil amendments, reducing greenhouse gases and creating jobs.

Colleges/universities – in particular – and several state agencies are in a unique position, with thousands of students, hundreds of athletic programs and cafeterias, to recover food scraps. Less than 62 tons of food scraps were reported recovered in FY12.

Consideration should be given to the following recommendations and strategies. State agencies and colleges/universities, when possible, should:

- implement or improve on-site composting programs and operations;
- develop efficient, effective and environmentally sound programs to recover food scraps;
- promote opportunities to divert prepared food to community groups and shelters; and
- work with all stakeholders to provide efficient and environmentally responsible recovery, strengthen programs and improve infrastructure to increase the quality and quantity of recovered organics.

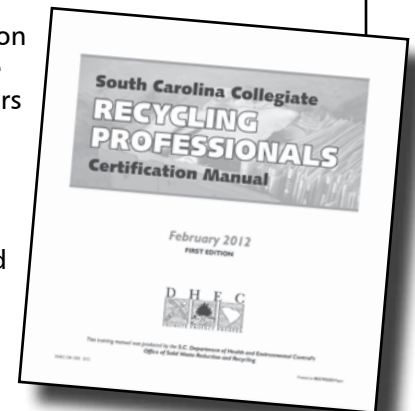
To promote its recycling program, Coastal Carolina University distributes a "Green Guide" to incoming students. This brochure lists the recyclables collected on campus and where to get a recycling bin. It also features helpful tips for conserving electricity, water and gasoline. It also provides contact information for recycling services.



DHEC provides training for college/university recycling coordinators.

In FY12, a certification course for collegiate recycling coordinators was offered by DHEC. Twenty-nine individuals from 25 colleges/universities attended the two-day training.

Topics covered included: contracts and marketing; managing organics, banned and miscellaneous material; construction and demolition debris management; and environmentally preferred purchasing.



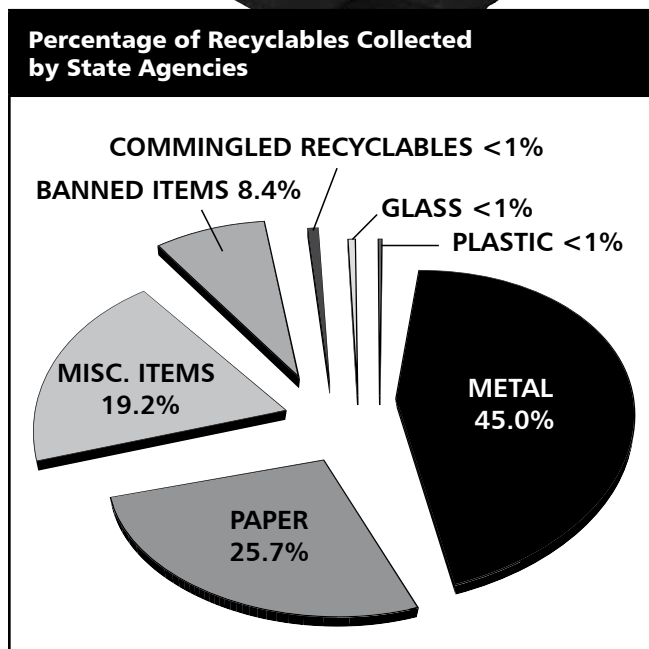
Recycling by State Agencies

Seventy-four state agencies and other governmental bodies recycled 10,218 tons of material in fiscal year (FY) 2012 (July 1, 2011 to June 30, 2012) – about a 6 percent increase from the 9,635 tons recycled in FY11. Of that, the No. 1 commodity recycled was Metal (e.g., aluminum, ferrous metals, steel cans) followed by Paper (e.g., cardboard, office paper, newspaper, books).

When it comes to buying recycled-content products, 49 agencies and governmental bodies reported purchasing recycled-content paper. In addition, 33 reported buying recycled-content toner and/or inkjet cartridges.



State agencies recycled more than 2,600 tons of paper in FY12. Metal was the top commodity recycled, though, with more than 4,600 tons collected.



State Agencies Reporting for FY12

- Administrative Law Court
- Arts Commission
- Attorney General
- Budget and Control Board
- Commission for the Blind
- Commission for Minority Affairs
- Commission on Higher Education
- Commission on Indigent Defense
- Commission on Prosecution Coordination
- Comptroller General
- Criminal Justice Academy
- Department of Agriculture
- Department of Alcohol and Other Drug Abuse Services
- Department of Archives and History
- Department of Commerce
- Department of Consumer Affairs
- Department of Corrections
- Department of Disabilities and Special Needs
- Department of Education
- Department of Employment and Workforce
- Department of Health and Environmental Control
- Department of Health and Human Services
- Department of Insurance
- Department of Juvenile Justice
- Department of Labor, Licensing and Regulation
- Department of Mental Health
- Department of Motor Vehicles
- Department of Natural Resources
- Department of Parks, Recreation and Tourism
- Department of Probation, Parole and Pardon Services
- Department of Revenue
- Department of Social Services
- Department of Transportation
- Education Lottery Commission
- Education Oversight Committee
- Educational Television Network
- Emergency Management Division
- Ethics Commission
- First Steps
- Forestry Commission
- Governor's Mansion
- Governor's School for the Arts and Humanities
- Governor's School for Science and Mathematics
- Higher Education Tuition Grants Commission
- House of Representatives
- Human Affairs Commission
- Jobs-Economic Development Authority
- Judicial Department
- Legislative Audit Council
- Legislative Council
- Legislative Printing, Information and Technology Systems
- Office of the Adjutant General
- Office of the Governor
- Office of the Lt. Governor
- Office of Regulatory Staff
- Office of the State Auditor
- Office of the State Treasurer
- Patriots Point Development Authority
- Public Service Commission
- Santee Cooper
- School for the Deaf and Blind
- Sea Grant Consortium
- Secretary of State
- Senate
- State Accident Fund
- State Board of Technical and Comprehensive Education
- State Housing Finance and Development Authority
- State Law Enforcement Division
- State Library
- State Museum
- State Ports Authority
- Vocational Rehabilitation Department
- Wil Lou Gray Opportunity School
- Workers' Compensation Commission

Commodities Recycled in Tons by State Agencies		
COMMODITIES RECYCLED		AMOUNT (tons)
BANNED ITEMS	Appliances	3.49
	Electronics	191.04
	Lead-acid batteries	35.52
	Tires	164.54
	Used motor oil	453.28
	Yard trimmings	8.05
TOTAL BANNED ITEMS		855.92
COMMINGLED RECYCLABLES	May include: aluminum cans; cardboard; paper; and/or plastic	54.59
TOTAL COMMINGLED RECYCLABLES		54.59
GLASS (Containers & Packaging)	Brown	1.03
	Clear	1.34
	Green	0.74
	Other/mixed glass	10.19
TOTAL GLASS		13.30
METAL	Aluminium (cans, foil)	162.39
	Ferrous metals	806.12
	Steel cans	199.45
	Other/mixed metal	3,433.96
TOTAL METAL		4,601.92
PAPER	Books	37.86
	Cardboard	733.87
	Magazines	67.52
	Newspapers and inserts	10.12
	Office paper	1,369.47
	Paperboard	3.40
	Phone books	18.52
	Other/mixed paper	387.91
TOTAL PAPER		2,628.67
PLASTIC	HDPE	5.73
	LDPE	0.02
	PET	2.26
	Vinyl	0.27
	Other/mixed plastic	88.75
TOTAL PLASTIC		97.03
MISCELLANEOUS ITEMS	Antifreeze	21.42
	Carpet	0.50
	* Wood includes furniture, cabinets and pallets.	72.69
	Construction & demolition debris	592.06
	** Other includes athletic shoes, ballasts, car parts and electronic media.	7.47
	Cooking oil	53.73
	Fluorescent bulbs	0.06
	Food scraps	15.61
	Inkjet/toner cartridges	0.37
	Paint (oil or latex)	5.25
	Rechargeable batteries	28.04
	Used oil filters	1,096.71
	Wood*	72.24
	Other**	
TOTAL MISCELLANEOUS ITEMS		1,966.15
TOTAL FOR ALL		10,217.58



SCDC plays key role in recycling collection.

The S.C. Department of Corrections (SCDC) offers recycling collection services for state agencies as well as state-supported colleges/universities throughout South Carolina.

In FY12, SCDC collected a wide range of recyclables – including traditional items as well as athletic shoes, books and textiles – from more than 40 state agencies and state government facilities in the Columbia area.

There is a fee for this service – which also includes assistance with annual reporting requirements. Participating programs may need to provide recycling containers.

Participants will see a significant reduction in the amount of material going to the landfill and as such may be able to reduce disposal costs.



Recycling by Colleges/Universities

Twenty-seven colleges/universities reported recycling more than 9,117 tons of material in fiscal year (FY) 2012 (July 1, 2011 to June 30, 2012) – about a 21 percent decrease from the 11,529 tons recycled in FY11.

One of the reasons for this decrease was a significant drop – more than 2,500 tons – in the amount of construction and demolition (C&D) debris recycled from the previous FY. It is important to note that excluding C&D debris, the total amount of recycling increased about 175 tons from the previous FY.

There also are several additional colleges/universities that have recycling programs, but, for a variety of reasons, can not determine weights and did not report.

Paper was the most recycled commodity followed by Miscellaneous Items (mostly C&D debris).

When it comes to buying recycled-content products, 20 colleges and universities reported purchasing recycled-content copy paper, followed by 17 schools purchasing recycled-content toner/inkjet cartridges.

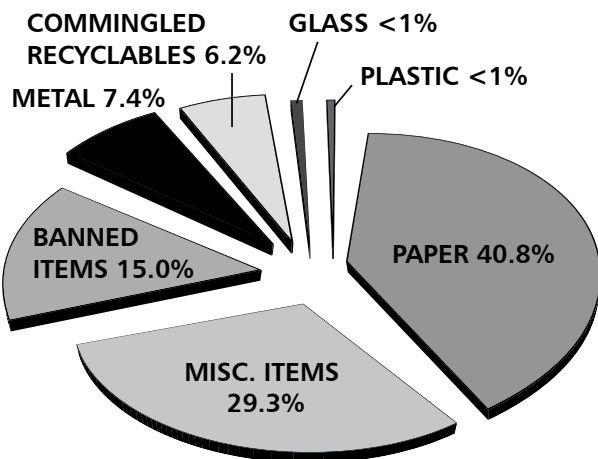
USC's mascot "Cocky" helps promote recycling across campus.



Colleges/ Universities Reporting for FY12

- Bob Jones University
- Central Carolina Technical College
- Charleston Southern University
- The Citadel
- Clemson University
- Coastal Carolina University
- College of Charleston
- Florence-Darlington Technical College
- Francis Marion University
- Furman University
- Greenville Technical College
- Horry-Georgetown Technical College
- Lander University
- Medical University of South Carolina
- Midlands Technical College
- Northeastern Technical College
- Orangeburg-Calhoun Technical College
- Piedmont Technical College
- Technical College of the Lowcountry
- Trident Technical College
- University of South Carolina (USC)
- USC – Lancaster
- USC – Sumter
- USC – Upstate
- Williamsburg Technical College
- Winthrop University
- York Technical College

Percentage of Recyclables Collected by Colleges/Universities



Commodities Recycled in Tons by Colleges and Universities		
COMMODITIES RECYCLED		AMOUNT (tons)
BANNED ITEMS	Appliances	13.26
	Electronics	259.64
	Lead-acid batteries	12.68
	Tires	13.27
	Used motor oil	26.57
	Yard trimmings	1,042.82
TOTAL BANNED ITEMS		1,368.24
COMMINGLED RECYCLABLES	May include: aluminum cans; cardboard; glass; paper; and/or plastic	565.87
TOTAL COMMINGLED RECYCLABLES		565.87
GLASS (Containers & Packaging)	Brown	0.10
	Clear	4.25
	Green	0.10
	Other/mixed glass	28.04
TOTAL GLASS		32.49
METAL	Aluminium (cans, foil)	46.48
	Ferrous metals	193.69
	Steel cans	55.72
	Other/mixed metal	375.80
TOTAL METAL		671.69
PAPER	Books	92.79
	Cardboard	1,194.14
	Magazines	7.95
	Newspapers and inserts	6.30
	Office paper	989.46
	Paperboard	0.65
	Phone books	3.11
	Other/mixed paper	1,426.93
TOTAL PAPER		3,721.33
PLASTIC	HDPE	1.22
	LDPE	2.50
	PET	12.03
	Vinyl	0.10
	Other/mixed plastic	67.79
TOTAL PLASTIC		83.64
MISCELLANEOUS ITEMS	Antifreeze	1.13
	Carpets	3.56
	Clothing/textiles	0.10
	Construction & demolition debris	2,206.43
	Cooking oil	89.29
	Fluorescent bulbs	25.95
	Food scraps	61.50
	Inkjet/toner cartridges	12.70
	Paint (oil or latex)	5.42
	Rechargeable batteries	3.39
	Used oil filters	1.26
	Wood*	252.07
	Other**	10.46
TOTAL MISCELLANEOUS ITEMS		2,673.26
TOTAL FOR ALL		9,116.52

More Waste Reduction Efforts on Campus ...

Many college/university campuses have begun programs to encourage the reuse of unwanted material, especially at the end of the semester when students are moving out of campus housing.

These programs give students an opportunity to donate various items including:

- clothing;
- food;
- furniture;
- appliances;
- books;
- hangers; and
- electronics.

In some cases, the items are held over until the start of the next semester when students can use the items again. For example, bicycles that are collected may be repaired and used by incoming students.

For the first time, the amount of material reused by college/university programs such as this was measured. In FY12, **2,043 tons** were reported as being reused.



About this report ...

"The State Agencies/Colleges & Universities Recycling & Buy Recycled Annual Report" is submitted by DHEC in compliance with S.C. Code of Law [44-96-140(C)].

Additionally, Act 119 of 2005 mandates that agencies provide all reports to the General Assembly in an electronic format.

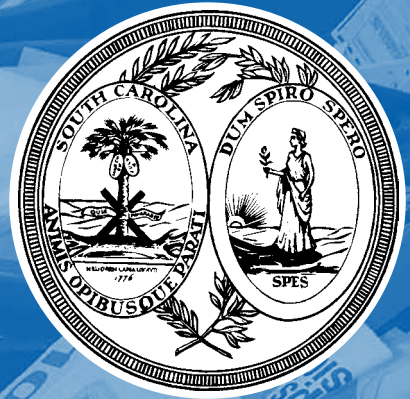


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20



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DHEC OR-1042 10/12