

NORTH CAROLINA

State Agency Purchases of Recycled Products and Reduction of Solid Waste Disposal

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DPPEA would like to thank the agencies that diligently submit their reports to our office each year. Your hard work and dedication is very appreciated.



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The Division of Pollution Prevention and Environmental Assistance provides free, nonregulatory technical assistance and training on methods to eliminate, reduce or recycle wastes before they become pollutants or require disposal. Contact DPPEA for more information about this document or waste reduction.

DPPEA-FY05-13. 0 copies of this public document were printed in an effort to conserve resources and money. The report can be viewed online at <http://www.p2pays.org/epp/stagencies.asp>. Hard copies are available upon request.

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Introduction

State agencies are directed to use products containing recycled materials by state law, N.C. General Statute 143-58.2(a), and Executive Order. Executive Order 156 was signed in 1999 in support of N.C. Project Green, the state environmental sustainability initiative, and was an updating and strengthening of the original initiative of Executive Order 8, signed in 1993.¹ Purchasing recycled and other environmentally preferable products improves recycling markets, helps reduce environmental impacts from waste, and saves energy and natural resources. Many state agencies and local school districts help achieve these goals through thoughtful purchasing decisions and the use of recycled content products.

North Carolina state government has continued to make progress toward environmental sustainability by offering recycled and environmentally preferable products at affordable prices on state contract. Currently, there are more than 20 categories of products on term contract that offer products with recycled content materials, and several more products available offer some sort of environmentally preferable attribute, including recycled content packaging or energy efficiency. State agencies, and others who can buy from state term contract such as local governments, have a wide degree of choice in the purchase of high quality, cost-effective recycled products on term contract. The list of products can be seen at: www.doa.state.nc.us/PandC/recycled.htm.

This document summarizes the efforts of state agencies to purchase recycled products. It fulfills the reporting mandate of N.C. General Statute 143-58.2(f) for fiscal year 2005. It compiles purchasing reports required from 27 state government department and offices, 16 constituent institutions of the University of North Carolina, 54 community colleges and 87 local public school administrative units. In fiscal year 2004-2005, reports were received from 83 percent of agencies (184 out of 221), five percent less than the previous fiscal year. The majority of nonreporting agencies are local school entities, which this year accounted for 30 of the missing reports. About half of the agencies that did not report did not comply with reporting requirements last year either. This data fluctuates somewhat each year. All reporting was conducted online, saving paper and postage.

The N.C. Division of Pollution Prevention and Environmental Assistance is the agency charged with compiling data from agency reports and publishing this summary. Copies of this and past reports may be obtained on-line at www.p2pays.org/epp or by calling (919) 715-6505 or (800) 763-0136.

Purchases of Recycled Products

Paper and Paper Products. Reported agency purchases of all office paper and paper products (recycled and non-recycled) in fiscal year 2005 totaled \$34,230,877. Last year's paper purchases were reported at \$43,733,680, which reflects a 22 percent decrease in overall paper purchases from last year. This is a considerable decrease, as over the last five years, state paper consumption has maintained a steady rate. This can partially be attributed to the decrease in reporting agencies this year.

Reported recycled content paper purchases totaled \$24,974,084, an \$8.5 million decrease from last year's reported expenditures. Recycled paper constituted 73 percent of total paper purchases reported, a slight decrease from last year. In the last two years, the percentage of recycled content paper purchases has decreased by 11 percent, an obvious decline from the reinstatement of the virgin paper on state term contract, which is available at a lower price. Recycled content paper is a little over two dollars more than virgin paper per box. Although this price difference could easily be neutralized with waste reduction techniques, such as double-sided printing and using one-sided pages for fax machines, it could prove to be a significant obstacle in reaching goals set by Executive Order.

This is the fourth year in which agencies failed to meet the goal set forth by Executive Order 156² "State agencies shall attempt to meet the goal that, as of Fiscal Year 2000-01, 100 percent of the total dollar

¹ Full text of No. 156 is available online at www.p2pays.org/epp/reports.asp.

² G.S. 143-58.3 established a goal that at least 50 percent of all agency expenditures for paper and paper products be comprised of recycled product purchases. Executive Order No. 8 set a goal for agency expenditures of recycled paper and paper products of 65 percent in Fiscal Year 1998. Executive Order No. 156 reestablished the goal at 100 percent by the Year 2001.

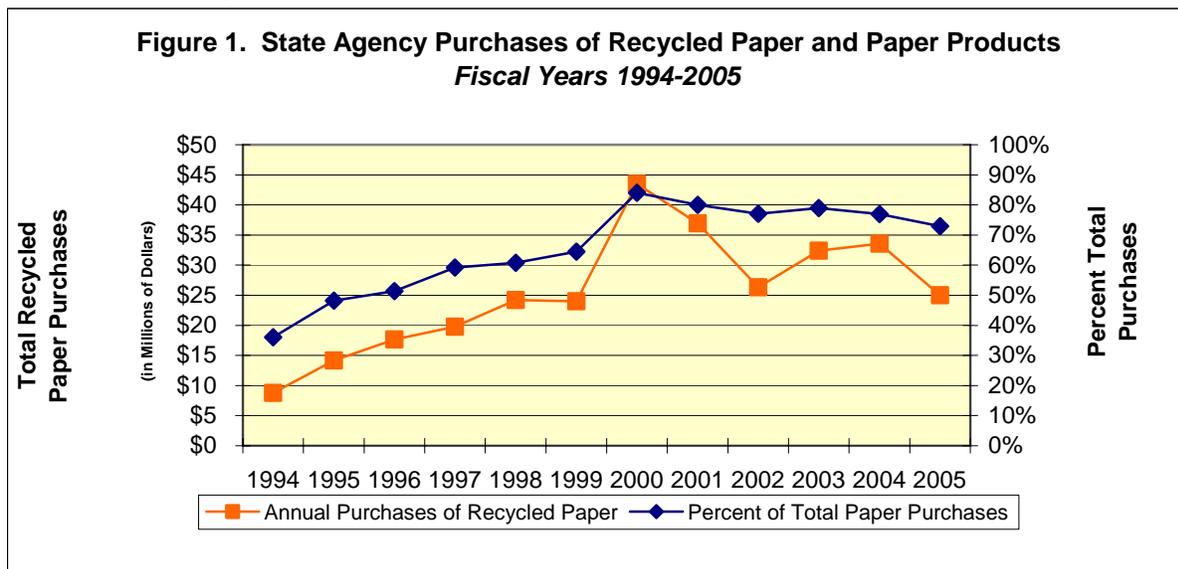
value of expenditures for paper and paper products be toward purchases of paper and paper products with recycled content”.

More positively, a significant impact is realized from the state’s purchases of recycled content paper. For comparison, assume that the \$12 million spent on recycled content office paper and the \$4 million on virgin office paper included exclusively 8 1/2X11 white copy paper, all purchased from the state contract. The recycled office paper we purchased conserved 114,666 trees, saved enough BTUs to provide 877 households with energy, and reduced the CO2 equivalent of 915 cars. Over 41 million gallons of water were also conserved, which is the equivalent of 63 swimming pools. The solid waste avoidance could fill 192 garbage trucks, amounting to over 5 million pounds. If we converted the \$4 million in virgin paper to 30 percent post consumer recycled paper, we could save another 4,738 trees, 3.2 million more BTUs, and 8 more truckloads of garbage. These comparisons help put the impacts of the state’s purchasing decisions in more tangible terms, and exemplify the motives behind our recycled content purchasing efforts³.

Another element of recycled paper usage includes contracted print jobs. Reported spending on outside print orders was \$12.6 million, which is nearly a \$3 million decrease. Along with that printing reduction, 66 percent of the orders were printed on recycled content paper, which is up by 15 percent from last year.

More than half of the miscellaneous paper purchased, including items such as legal pads, file folders, labels and continuous feed forms were purchased containing recycled content materials. In 2005, this category improved by 7 percent, which reflects improvement from encouragement and education, as well as their availability on term contracts. Towel/tissue paper achieved an 84 percent containing recycled content, a slight decrease from last year.

Twenty-five agencies succeeded in reaching the 100 percent goal this fiscal year for all paper purchases, equivalent to 2004. This is a slowly climbing number that hopefully represents an overall effort to reach compliance under the Executive Order. Seventy-one agencies, or 39 percent of all reporting agencies, achieved a purchasing rate of 90 percent or higher for recycled content paper products for their paper needs. About a quarter of reporting agencies purchased all their office paper with recycled content, and more than half bought all recycled content towel and tissue products.



³ These numbers are based on the assumptions outlined in the report. The weight of the office paper was estimated using a calculator at www.replanttrees.org, and the environmental impacts were estimated from the Environmental Defense’s paper calculator at www.environmentaldefense.org/papercalculator.

Other Environmental Purchasing Efforts. Some state agencies have excelled beyond buying recycled, and have begun to tackle more sustainable purchasing issues like environmentally preferable purchasing. EPP, or green purchasing, includes a host of attributes that can be considered to decrease the impact of our purchases on the environment.

Several universities have developed green building initiatives for new facilities or have begun greening energy and water elements in older buildings. Green buildings require architects and contracts to consider many things from building placement, water and energy use and more environmentally friendly products. Other initiatives in state government include the vast efforts, on the part of Motor Fleet Management and other agency departments, to green up their vehicular purchases. Alternative fuel and hybrid cars are very popular requests for new vehicles. Motor Fleet also purchases E85 (a mixture of ethanol and gasoline for the alternative fueled cars), compressed natural gas and propane, and uses re-refined motor oil in all fleet vehicles.

Conclusion

The purchase of recycled content products is a well-established practice in state government, supported by statutory and executive order requirements, as well as state term contracts that offer high quality, affordable recycled content choices for state purchasers. Still, progress must be made to bring agencies to full compliance with the 100 percent recycled content paper goal. The accomplishment or near accomplishment of the goal by almost half of the reporting agencies indicates that it is feasible, given top management support and increased overall awareness of requirements and products.

Several key agencies could, with a few significant purchasing decisions, substantially increase the overall performance of state government in recycled paper purchasing. Converting the current \$9.2 million in virgin paper purchases to recycled paper will allow North Carolina state government to contribute substantially to the strength of recycling markets. As a major player in the collection of paper for recycling, state government stands to benefit directly from improved markets. The use of recycled products will also help North Carolina achieve its environmental goals by reducing natural resource, energy and water usage, and preventing air and water pollution. In the case of a product like re-refined motor oil – which meets the exact specifications of virgin oil and is supported for use by engine manufacturers – agency purchases of the product is strongly recommended.

The following recommendations may help to increase recycled content purchasing in the future and help state government meet goals set forth both in Executive Order 156 and General Statutes.

Recommendations

I. Educate agencies about Executive Order 156. Continuing efforts to reach out and network with state agency purchasers will help establish green purchasing efforts as an every day activity. It will also strengthen the ability for DPPEA to collect and manage data related to state agency purchases. Strong and active gubernatorial support can help the state successfully meet executive and legislatively mandated goals.

II. Increase administrative support and educational programs. Disparity among agencies in the degree of support and routine communication received from top management may be the most significant barrier to increased agency participation in recycling and recycled content product procurement. Administrative support is crucial also to the successful implementation of agency sustainability plans under N.C. Project Green that incorporate waste reduction, recycling and environmentally preferable procurement. For those agencies that have not yet prioritized waste reduction and buying recycled, it is recommended that they:

- Implement and adhere to the goals of Executive Order 156, which states that all paper purchased will have a minimum of 30 percent post-consumer content by fiscal year 2000-2001.
 - Issue and enforce internal policies, official memoranda and formal declarations that demonstrate administrative leadership and support for buying recycled and Executive Order 156.
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- Develop and implement ongoing outreach and education programs for employees and visitors, and take advantage of the assistance DPPEA can offer.

III. Increase Procurement of Non-Paper Recycled Content Products. Outright expenditures for non-paper recycled products continue to lag behind those of paper purchases. A vast variety of products are available with recycled content materials, which is apparent from the federal governments purchasing regulations under Executive Order 13101. Their *Comprehensive Procurement Guidelines* features more than 50 items in eight categories, including paper, non-paper office, construction, landscaping, park and recreational, transportation, vehicles and miscellaneous products (visit <http://www.epa.gov/cpg/> for more information). Purchasing a diverse array of recycled content products not only strengthens recycling and job markets in North Carolina, it also helps agencies fulfill their obligation to become more environmentally sustainable. To improve overall buy recycled efforts, state agencies should:

- Expand the quantity and variety of non-paper recycled products purchased through agency convenience contracts and state term contracts.
- Enforce purchasing rules that mandate buying from state term contract above in-house delegations.
- Improve electronic tracking systems for all recycled product purchases.
- Specify or encourage the use of recycled materials and supplies by contracted services, especially in construction, housekeeping and printing.

IV. Make Purchasing Decisions Based On Full Environmental Impact Versus One-Time Cost. To determine the full environmental impact of a product or service, it is important to look at the full life cycle analysis of a product. By doing so, state agencies can begin to make purchasing decisions that will be of benefit in both the short and long term.

- Begin looking at products in terms of broad environmental impacts including: durability, energy efficiency, performance, recycled content and recyclability, toxicity, biodegradability, location of manufacturer (local availability) and packaging. Utilize government programs, nonprofit organizations and third party certifiers for assistance, including EPA (www.epa.gov/opptintr/epp/index.htm), Green Seal (www.greenseal.org), Energy Star (www.energystar.gov), and American Forest and Paper Associations (www.afandpa.org), for example.
- Develop guidelines and checklists for purchasing and contractual services that take into account environmental impact.

Agencies that Purchased 100 Percent Recycled Paper in FY 05

Alexander County Schools
Appalachian State University
Asheboro City Schools
Central Piedmont Community College
Craven County Schools
Davidson County Schools
Franklin County Schools
Guilford County Schools
Madison County Schools
Nash/Rocky Mount Schools
Pamlico County Schools
Randolph Community College

Roanoke Rapids City Schools
Sampson County Schools
Scotland County Schools
UNC Charlotte
Wake Technical Community College
Wilkes County Schools
Wilson Technical Community College
Winston-Salem State University
Johnston County Schools
Insurance, Dept. of
Fayetteville Tech Community College
Haywood Community College

Agencies that Failed to Report Data for FY 05

State Agency Purchases of Recycled Products and Reduction of Solid Waste Disposal for FY 2004-05

Alleghany County Board of Education	Iredell-Statesville Schools
Avery County School	Kannapolis City Schools
Bladen Community College	Kings Mountain District Schools
Bladen County Schools	Lenoir County Public Schools
Cabarrus County Schools	Lieutenant Governor's Office
Carteret Community College	Mitchell County Schools
Carteret County Schools	Northampton County Schools
Charlotte-Mecklenburg Board of Education	Pasquotank County Schools
Chatham County Schools	Pembroke State University
Cherokee County Schools	Pender County Schools
Clay County Board of Education	Pitt County Schools
Clinton City Schools	Randolph County Schools
Coastal Carolina Community College	Robeson County Public Schools
Columbus County Schools	Shelby City Schools
Dare County Schools	Thomasville City Schools
Edgecombe Community College	Tyrrell County Schools
Graham County Schools	UNC Hospitals
Harnett County Schools	Warren County School
Hoke County Board of Education	

State Agency Source Reduction, Recycling, and Composting Efforts

The Division of Pollution Prevention and Environmental Assistance (DPPEA) collected the recycling report for FY 2005 for the first time since FY 1999. Staff vacancies and other pressing issues prevented DPPEA from conducting this effort as more resources were put behind the recycled purchasing report required by state statute (the recycling report is not required by statute). For FY2005, much time was dedicated to updating the report and report contacts. While only 45 agencies reported data, reinvesting time to contact agencies about their program opened dialogue and will hopefully result in opportunities for DPPEA to provide technical assistance throughout the next year.

Focus was spent primarily on collecting data from universities and community colleges. Of the 45 reporting agencies, 11 were university reports and 29 were from community colleges. In these entities, programs are more defined and records are centralized. Only 5 agency departments reported. Agencies have several challenges that make reporting difficult, including working in leased facilities, sharing buildings with non-state businesses, and gathering data from regional offices.

Another important element of solid waste and recycling data reporting is the status of Raleigh area agencies, which are including in one contract for recycling collection, provided by the Department of Administration and managed by Facilities Management. Data for these collection areas is provided by the collection companies, which this year included three different businesses.

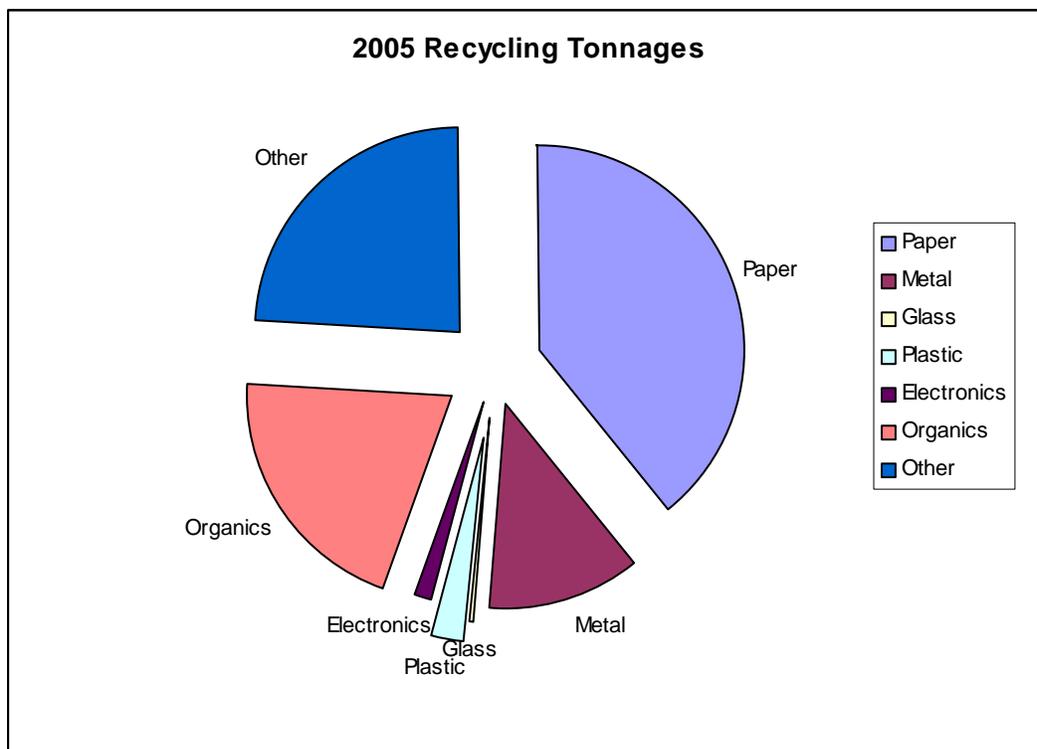
Administrative Support and Source Reduction. A far greater proportion of agencies reported that they receive administrative support for waste reduction than for buying recycled. Seventy-three percent of the reporting agencies said they have support from the top down on instituting recycling programs. More than half of the agencies also reported having a lead coordinator for waste reduction and recycling, but only forty percent reported having a dedicated position, office, or program for these efforts. About a third of the agencies showed they have educational and promotional programs, which is lower than anticipated. Hopefully DPPEA will be able to utilize newly developed outreach and education programs to drive an increase in this area over the next few years.

More than eighty percent of the agencies reported practicing waste reduction techniques, although less than a third of them conducted solid waste assessments to gauge this data. Most agencies utilize a variety of waste reduction techniques for paper usage, including eliminating reports and forms or making them electronic, communicating through email and bulletin boards, as well as double sided printing on copier paper or making less copies overall.

Overall Agency Performance. In fiscal year 2005, state agencies collectively diverted 15,560 tons of paper, metals, glass, plastic, electronics, organics, and other items from disposal in landfills and incinerators. This amount represents only a fraction of the 71,344 tons reported in 1999, which is the most recent data available. This shortfall can be attributed to two main factors. Primarily, only a third of agencies completed recycling reports this year compared to 1999. Secondly, this tonnage does not include the downtown Raleigh collection. Data from the Raleigh area contract was very difficult to gather this year but it is estimated to be a considerable portion of recycling and waste tonnages. Utilizing data supplied by the Department of Administration, Orange Recycling Services, and Republic Waste, Raleigh area agencies recycled 1655 tons of materials, which would bring the total to a mere 17,215 tons. This data may not include all four of the Raleigh area quadrants, as one section was collected under a different contract that was not reported, and some agencies supplement collection with their own contract.

Unfortunately, a breakout of the Raleigh area recycling categories by material and tonnage is not available this year. Given the data reported, the projected recycling rate of these agencies would be 78 percent, a gross overestimate. More than twice as many state employees work outside the Raleigh area as in the capital, many in county office buildings or leased spaces, state parks, prisons, historic sites, hospitals, educational institutions, research stations, and highway construction and maintenance facilities. For fiscal year 2005, department offices and facilities outside Raleigh did not report tonnage data for recycling or solid waste collection. These agencies were requested to report, but were not encouraged as strongly as the university and community college departments.

University and community college recycling was therefore heavily represented in the 15,560 tons reported above. This is a little more than half the tonnage last reported for this group in 1999. The respondents reported recycling 6,105 tons of paper, 1,882 tons of metals, 23 tons of glass, 407 tons of plastic, 3,188 tons of organics, and 3,775 tons of other materials. Many universities and community colleges commented that they now commingle their containers, and the glass and plastic categories may therefore represent estimated numbers or a lump sum of mixed containers.



This year, data was collected on electronics recycling for the first time. Universities and community colleges reported collecting 226 tons of electronics. Agencies and local governments are becoming keenly aware of the need to recycle electronics materials, especially considering the concerns about their contribution of hazardous substances in to landfills and the opportunities to capture valuable resources in electronic products. In FY 2005, the Division of Purchasing and Contracts recognized the desire for a statewide electronics recycling contract, which is available at www.doa.state.nc.us/PandC/926a.htm. Other markets are also available for electronics, and can be further researched by visiting www.p2pays.org/DMRM/start.aspx.

State Agency Solid Waste Disposal and Costs

Based upon available data from Raleigh-area haulers and reported weights from state facilities, institutions, and offices statewide, approximately 55,476 tons of solid waste were landfilled or incinerated in FY 2005, costing about \$7.1 million in collection and disposal fees for an overall average cost of just under \$128 per ton. This is just a fraction of the 134,599 tons reported in 1999 costing \$11.75 million, which attests to the imprecision of the reporting process. Based on FY 2005 data, the agency recycling rate for all wastes managed during the year was about 24 percent. This is an 11 percent decrease from the 1999 report.

Conclusion

While in many ways the revitalization of the recycling report has shown a great percentage of agencies continuing their waste reduction and recycling efforts that were established several years ago, there has not been significant overall improvement. Some agencies, including even community colleges and some universities, are struggling to recycle basic material like cardboard and aluminum cans. Sometimes this is a market issue. More often, it is collection and education issue or is due to lack of funding, which stems from a lack of administrative support.

More encouraging are examples of agencies that have pulled forward as stars in waste reduction and recycling efforts. Many of the universities, including University of North Carolina Greensboro, North Carolina State University, and University of North Carolina Chapel Hill provide a reuse programs including large-scale collection and redistribution of clothing, furniture, household supplies, and sometimes even electronic products. A few universities have conducted sustainability audits over the last year or two, which include energy and water tracking mechanisms as well as waste audits of the campus.

DPPEA has developed a new outreach and education program that is available to all universities and community colleges to help promote and educate about their programs and about the importance of recycling. In FY 2005, many schools took advantage of the RE3 campaign, utilizing posters and commercials on campus. At annual outreach events, including venues from job festivals to Earth Day celebrations, campus coordinators handout promotional materials to encourage students to visit the website to learn more about recycling in North Carolina. To learn more about the RE3 campaign, visit www.re3.org.

Some of the variability in waste reduction and recycling performance may result from the inability of many agencies to accurately track tonnages. The problem affects departments and offices more acutely since they often share leased, county, or municipal buildings with other agencies and businesses. For these reasons, data reported by state agencies likely underestimate the true quantities and costs of waste being disposed. Incomplete tracking and estimation may also contribute to fluctuations in reported recycling over time.

The unreliability of the data prevents the assertion that the rise in recycling tonnage has led to a corresponding decrease in the amount of solid waste being disposed of in the state's landfills and incinerators since Fiscal Year 1996. Only with improved awareness of agency solid waste streams and more accurate data collection will an assessment of this type be possible. Data compiled for this report indicate that state agencies are recycling less than a third of their solid waste. Whether agencies have simultaneously achieved waste reduction through their efforts still remains unknown.

Recommendations

Upon review and consideration of the data contained in this report, DPPEA submits the following recommendations to improve the solid waste reduction and buy recycled efforts of North Carolina state agencies.

I. Assess the Impact of Source Reduction and Recycling on Waste Disposal and Costs. Tracking the amounts of solid waste disposed annually by state agencies is the only way to determine whether efforts to reduce waste, including recycling programs, are impacting the waste stream. This information, along with data on the costs for collection and disposal of solid waste, can be used to evaluate the cost efficacy of agencies' waste management strategies as well as the costs avoided through waste reduction and recycling. To maximize data recovery and assessment, it is recommended that agencies:

- Conduct waste assessments at their constituent facilities, offices, and institutions.
- Require full accounting for all costs associated with solid waste collection and disposal services.