



Mark Sanford
Governor

SOUTH CAROLINA
DEPARTMENT OF COMMERCE

Robert A. Faith
Secretary

January 29, 2004

The Honorable Mark Sanford, Governor
Members of the General Assembly

On behalf of the South Carolina Recycling Market Development Advisory Council, I am pleased to submit its annual report as required by the South Carolina Solid Waste Policy and Management Act of 1991.

During the past year, the Recycling Market Development Advisory Council has continued its work to ensure recovery of paper, plastic and metal used as raw materials by South Carolina manufacturers. The state's recycling business sector continues to be a vital component of South Carolina's economy, consisting of approximately 250 businesses and employing more than 10,000 people. Specific success stories in 2003 include expanded use of scrap tire rubber in road paving and energy projects, wood waste into fuel and mulch, and coal ash into lightweight concrete blocks.

Through its participation in the Business Recycling Assistance Program, a partnership of the South Carolina Department of Commerce, the South Carolina Department of Health and Environmental Control and the University of South Carolina, the Council has helped numerous South Carolina businesses and industry improve their waste management and recycling activities. These efforts have resulted in saving the participating companies thousands of dollars in disposal costs, reducing their environmental impacts and saving precious landfill space. We began looking for ways to promote the beneficial reuse of large volume, non-hazardous industrial by-products and will continue to focus on this growing area in 2004.

This year, the Council continued its efforts to further the discussion of implementing a statewide Electronics Recycling Program. This rapidly growing waste stream, commonly referred to as e-waste, continues to be a major concern, not only in South Carolina but throughout the country. The Council continued to participate in the national electronics recycling dialogue as well as worked with manufacturers, processors, local governments and private citizens to build support for proposed legislation, modeled after our state's existing solid waste fee programs for tires and oil.

On behalf of every member of the Council and our valued staff in the Department of Commerce and Department of Health and Environmental Control, we thank you for the opportunity to serve the State of South Carolina.

Sincerely,


A. Gerald Fishbeck, Chairman
Recycling Market Development Advisory Council

SOUTH CAROLINA
RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL
2003
ANNUAL REPORT

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Table of Contents

Acknowledgements	3
Introduction	4
Executive Summary	5
2004 Goals and Objectives	7
2003 Program Initiatives	8
Established Recyclables Committee	9
Emerging Recyclables Committee	12
Tire Committee	14
Policy Committee	17
Recycling Market Development Staff Activity	19
Requirements of the 1991 Solid Waste Act	22
Markets Update	26
Glass	27
Paper	28
Plastics	29
Ferrous Metal	31
Non-Ferrous Aluminum	33
Used Oil	34
Tires	36
Appendices	38
Appendix A – Members of RMDAC	39
Appendix B – Wood waste recyclers	40
Appendix C – Midlands E-waste collection release	41
Appendix D – Case Study – CAST Minerals Inc.	43
Appendix E – Recovery Technologies Group release	44
Appendix F – Earth Protection Services release	45

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The Recycling Market Development Advisory Council wishes to acknowledge the assistance and support provided by the following organizations:

- South Carolina Department of Commerce, Business Solutions Division
- Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling
- DHEC's Center for Waste Minimization
- South Carolina Manufacturing Extension Partnership
- University of South Carolina
- Clemson University
- EPA Region 4
- Carolina Recycling Association
- Earth Protection Services, Inc.
- Keep the Midlands Beautiful
- Sustainable Universities Initiative
- South Carolina League of Women Voters
- South Carolina Sierra Club
- South Carolina Wildlife Federation
- Palmetto Pride

South Carolina's successful recycling market development program would not be possible without the benefits of these partnerships.

The Council would also like to thank Barbara O'Connell for her service on the council, representing the general public in our state for the past two years. Her leadership and support will be missed.

INTRODUCTION

The Recycling Market Development Advisory Council (RMDAC) consists of fourteen members, representing industry, local governments, higher education, and the general public (See Appendix A, page 39). Established by the Solid Waste Policy and Management Act of 1991 and appointed by the Governor, the Council formulates programs and policies to encourage markets for new and existing recyclable materials.

Managed within the South Carolina Department of Commerce, the Recycling Market Development staff coordinates the activities of the Council while providing technical assistance and economic development assistance to recycling businesses and industry.

Mission Statement

The Council's mission is to assist in the development of markets in South Carolina for recovered materials and products with recycled content with the primary objectives of improved solid waste management, resource conservation, and economic development.

Guiding Principles

- To meet specific Council requirements contained in the Solid Waste Policy and Management Act of 1991.
- To assure existing and potential recycling businesses of a consistent, cost competitive, quality supply of required recyclables.
- To identify existing barriers to and opportunities for increased recovery and use of recovered materials recycled within the State and take appropriate actions to eliminate or maximize these conditions.
- To monitor and understand the implications of institutional, economic, market, and technical developments both in and out of the state that could measurably influence the generation and use of recyclables.
- To assist in the creation of jobs and investment of recycling industries in the state.
- To maximize the recycling rate within the state consistent with all appropriate environmental and economic considerations.
- To establish and maintain close working partnerships with allied state agencies and councils.

For additional information about the Council and its activities, refer to the S. C. Recycling Market Development Advisory Council Web site at www.sccommerce.com and select "Business Solutions" tab.

EXECUTIVE SUMMARY

Since its creation in 1992, the Recycling Market Development Advisory Council has worked to improve the supply of certain recyclable materials where significant demand exists as well as address the market needs for new or emerging recyclable materials. While many materials are readily available for recovery, the key to recycling's success is matching the collected items with businesses that can reuse and/or recycle the materials into new products or services.

Industrial by-products emerge as new area of emphasis

Through its participation in the Business Recycling Assistance Program to provide waste reduction and recycling assistance to new and existing South Carolina companies, the Council has seen a growing interest by companies looking to market their industrial by-products as an alternative to disposal.

Many of the industrial by-products generated in the state include but are not limited to wood waste and pallets, construction and demolition debris, foundry sand, fly and bottom ash resulting from utility power operations, residual from pulp and paper mills, and agricultural wastes. By tracking the generation of these materials as well as the potential reusers or recyclers of these by-products, RMDAC can continue to provide value-added market alternatives to waste disposal.

Promoting sustainable development

More and more business publications, corporate reports and business-oriented Web sites are making references to sustainable development. Also referred to as sustainable enterprise or simply sustainability, this concept focuses on profitable strategies that approach social and environmental challenges as business opportunities and minimize harmful social and environmental impact. Sustainable enterprise measures success in terms of a triple bottom line:

- Financial profitability
- Ecological integrity
- Social responsibility

The state's recycling industry helps facilitate sustainability by offering the products and services that enable companies to meet their financial, environmental and social goals. And there are a number of potential benefits to promoting sustainable enterprise, including increased business opportunities and new jobs, lower waste disposal costs, valuable landfill space saved, and increased conservation of natural resources. As a result, communities are enhanced when profitable companies exhibit socially responsible business practices and lessen their environmental impacts, improving the quality of life for its residents.

Through its ongoing efforts, RMDAC will continue to foster sustainability as it relates to the recycling industry in South Carolina and serve as an advocate for sustainable practices, bringing together sustainability allies and the business community to build greater understanding and support.

Update on electronics

As reported in 2002, scrap electronics continues to be an area of concern not only in South Carolina but throughout the United States. RMDAC continued to participate in the national dialogue to develop markets and a recycling infrastructure for the millions of discarded electronic equipment being generated each year at alarming rates.

The Council also continued efforts to educate policy makers, local governments, solid waste professionals, key interest groups and the general public on the potential problems created by this fast growing waste stream. Not only do the potentially hazardous constituents like mercury, lead, cadmium, and other materials pose a threat to public health and the environment as a result of improper handling and disposal, but the sheer volume of this rapidly growing waste stream is a concern for community planners looking to prolong the lives of their landfills. With many residents opposed to siting new landfills in their communities, the need to divert potentially recyclable materials from disposal just makes sense.

RMDAC will continue to work with the General Assembly to pass legislation to establish a statewide program for the recovery and recycling of electronic scrap in 2004.

Additional Recycling Market Development Efforts

RMDAC supports policy and initiatives that encourage the expansion of recycling markets, particularly within the private sector. The South Carolina Department of Commerce staff that supports RMDAC provides technical and economic development assistance to recycling companies and other industry in the state.

Some of RMDAC's accomplishments or initiatives from the past year are listed here. Detailed information on these and other projects are provided in the Committee Reports section of this report beginning on page 9.

- Working with communities to increase recovery rates for plastic bottles through the promotion of all-plastic bottles collections and marketing. South Carolina processors and manufacturers use this material for existing recycled plastic and fiber markets.
- Partnering with the Department of Health and Environmental Control through the South Carolina Business Recycling Assistance Program to provide cost effective waste reduction and recycling strategies for business, government and other South Carolina organizations.
- Provide continuing support for the South Carolina Waste Exchange, a free web-based program designed to facilitate recycling and reuse of post-industrial and post-consumer materials.
- Supporting a recycling economy in South Carolina of 250 companies with a combined employment of more 10,000 people.

2004 GOALS AND OBJECTIVES

The Recycling Market Development Advisory Council has identified the following goals and objectives for 2004. These objectives will set the primary agenda for the Council and its committees during the year.

- Increase collections of all beverage containers for recycling.
- Identify one new market opportunity for glass collected in South Carolina.
- Promote higher value uses for scrap tires among processors, recyclers, and other industry sectors looking to consume tire by-products.
- Develop a strategy to increase recycling of construction and demolition waste.
- Develop a strategy to promote greater recycling of organics in South Carolina.
- Assist development of markets for post consumer carpet.
- Work with SC industry to expand markets for certain industrial by-products.
- Build support for passage of Electronics Recycling Bill.
- Support the development and expansion of recycling businesses, including looking at possible incentives to increase growth in South Carolina's recycling industry.
- Revisit all recyclable commodities' collection numbers for measuring progress and identify materials for additional work/emphasis.

2003 PROGRAM INITIATIVES

The goals and objectives in last year's annual report are listed below and helped define the Recycling Market Development Advisory Council's work plan for 2003. Four committees comprised of RMDAC members and staff, along with support from DHEC's Office of Solid Waste Reduction and Recycling, addressed each of these objectives. The committees were created to address market development issues for recyclable materials currently being collected, new or emerging recyclables, scrap tires and policy issues.

2003 Goals and Objectives

- Continue to support the development and expansion of recycling businesses in South Carolina.
- Continue to educate key organizations and individuals about the potential impact of further raids on the Solid Waste Trust Funds.
- Continue to build legislative support for passage of Electronics Recycling Bill.
- Monitor the progress of the National Electronic Product Stewardship Initiative (NEPSI) and regulatory restrictions for electronic waste.
- Continue to monitor establishment of all-plastic bottle recycling programs in the state.
- Continue to encourage further recycling of construction and demolition (C&D) debris in South Carolina.
- Work with other organizations to develop guidelines to increase recycling participation in rural counties.
- Work with other organizations to increase participation in recycling and waste reduction programs by state agencies and state-supported institutions.
- Continue to monitor the feasibility of glass recycling programs in the state.
- Identify the feasibility of and potential supporters for landfill surcharge fee to fund state recycling and market development programs.
- Continue to provide business and industry with recycling and waste reduction assistance through the Business Recycling Assistance Program.
- Prioritize post-industrial waste and consider as targeted material for further market development work.
- Continue work with the national carpet recycling initiative, Carpet America Recovery Effort (CARE), to develop markets for scrap carpet.
- Continue to monitor tire recycling market supply and demand in South Carolina.
- Promote higher value uses for scrap tires.

The following committee summaries provide details on the progress made toward achieving these objectives and other related initiatives.

ESTABLISHED RECYCLABLES COMMITTEE

Mission

The Established Recyclables Committee is charged with facilitating the recovery of established recycling commodities for reuse by the manufacturing community. This committee encourages the increased collection and use of these materials and looks at ways to overcome barriers to markets.

2003 Summary

In cooperation with the South Carolina Plastics Partnership, continue to monitor the success of all-plastic bottle recycling programs in the state and assist in the establishment of any new collection programs.

Greenville County and the City of Greenville have invested significant time and resources in 2003 to promote collection of all-plastic bottles for recycling in their respective communities. After conducting an extensive waste audit for one county drop-off site and 77 randomly selected households that use curbside collections to determine baseline data, the County kicked off an educational program that included distribution of brochures to the sample participants, placing billboards in the community and providing "billboard style" advertisements in local movie theatres. Four weeks later, measuring the materials collected at the same drop-off center and 77 households, recovery rates for plastic bottles increased by seven percent. In addition, the County reported an increase in other recyclable materials collected.

This information will be shared with other communities throughout the state as they look for ways to increase their recovery rates and meet the state's 35 percent recycling goal.

In addition, staff from DHEC's Office of Solid Waste Reduction and Recycling compiled information collected during site visits for the past year that demonstrate that the following counties are also collecting all plastic bottles: Barnwell, Cherokee, Clarendon, Newberry, Pickens and Sumter. DHEC's Directory of County Recycling Programs also lists Fairfield, Horry, Jasper, Lexington and Orangeburg counties as accepting plastics labeled #1 – 7.

Continue working with SC DHEC to encourage further recycling of construction and demolition debris in South Carolina.

RMDAC staff visited several construction and demolition (C&D) and wood waste recyclers during the course of 2003 to gain a better understanding of the markets available for these materials. Staff developed a new handout for businesses requesting market assistance with these materials and worked through the Business Recycling Assistance Program to identify counties willing to participate in a wood waste recycling pilot project.

Staff met with Calhoun County, the Three Rivers Solid Waste Authority and representatives from the South Carolina Forestry Commission to identify partners for segregating industrial wood waste as well as land-clearing debris and other wood material to be ground for use as boiler fuel or mulch. Three Rivers is currently working toward a biomass project of its own. Officials from Calhoun County believed they did not generate sufficient volume at its C&D landfill to justify the cost of bringing in a mobile grinder, even though there would be monetary savings as well as avoided costs from saving landfill space. Barnwell and Sumter counties have expressed interest and staff will continue to broker dialogues with interested parties to keep more wood waste out of the state's landfills.

Work with other organizations to foster regionalization, Pay As You Throw and other approaches to increase recycling participation in rural counties.

When the City of Spartanburg announced it might drop its curbside recycling program in July, RMDAC sent letters to City leaders asking for an opportunity to provide technical assistance and discuss potential resources before making a final decision. Working with DHEC's Office of Solid Waste Reduction and Recycling, staff made a presentation to the Interim City Manager on the benefits of keeping its curbside program and the merits of adopting a variable rate pricing initiative, also known as Pay As You Throw (PAYT). While the curbside program has been spared, city officials are still evaluating ways to make the program better and recover more materials.

In light of the budgetary woes many communities like Spartanburg are experiencing, members of the Established Recyclables Committee agreed that promoting PAYT to target audiences, namely city and county administrators, city and county councils, and councils of governments, may be successful in reopening the discussion to look at PAYT.

One of the biggest obstacles many communities have is that garbage services are typically viewed by residents as "free" because its costs are frequently included in property taxes or lumped in with other administration fees. If residents realized that a family of five generally pays the same amount as a single person even though the volumes may vary greatly, they would realize a variable rate structure would be more equitable. It would also encourage greater recycling and waste reduction – activities that become incentives to keeping one's garbage disposal fees down.

DHEC is compiling information on City of Chester and Darlington County's successful PAYT programs and developing a fact sheet and Power Point presentation for use in promoting the PAYT concept. DHEC led a presentation on PAYT at the December 2003 meeting of the South Carolina County Association's Administrators and Managers. RMDAC will continue to work with DHEC to identify opportunities to promote PAYT in 2004.

With concerns over limited state funding, develop and implement a Recycling Challenge for state agencies, public schools, colleges and universities to increase recovery of recyclables but also to help target groups save money on solid waste disposal costs.

Using the United States Environmental Protection Agency's (EPA) Resource Conservation Challenge as a model, RMDAC partnered with DHEC, the State Energy Office and the Department of Corrections to develop a South Carolina Resource Conservation Challenge (Challenge) targeting state agencies, public colleges and universities, public school districts and schools, and other publicly-supported institutions. The primary goal of the Challenge was to identify ways to help these taxpayer-supported groups save money on waste disposal and energy costs, foster greater resource conservation and recycling, and promote the purchasing of environmentally-preferable products.

The Challenge began with a free, one-day workshop held in May at the State Museum and sponsored by EPA and the South Carolina Soft Drink Association. Attendees were greeted by Chad Walldorf, assistance chief of staff for Governor Mark Sanford, and were challenged to take the information and resources presented during the workshop back to their respective offices and departments and "make a positive difference for the state's environment as well as its wallet."

There were several presentations provided on resources available within the state to help these public institutions realize the goals of the Challenge. Presentations on EPA's WasteWise Program, the Business Recycling Assistance Program (a collaborative program of RMDAC, DHEC and the University of South Carolina), the State Energy Office's loan and assistance programs, and the Materials Management Office of the Budget and Control Board were

matched with success stories and reporting information for the state's annual reports on waste reduction and energy conservation activities by state agencies. There was also a moderated discussion about the biggest challenges and concerns faced by state government and the development of a task force to communicate regularly with attendees on progress being made, areas for improvement, resources available and recommendations for policy changes or legislative support.

A task force of 18 people representing various state agencies, colleges and universities have met three times since the May workshop to develop a work plan, identify priority areas for attention and develop a Web site to serve as a repository for resources and information available to Challenge participants to assist their efforts to reduce waste, conserve resources and energy, and save money. Three subcommittees were formed to facilitate work on energy conservation, greater understanding on procurement issues related to buying environmentally-preferable products, and developing communication tools to help Challenge participants achieve their goals.

With increased concerns of the fiscal viability of keeping glass in many recycling programs due to limited markets, identify and promote alternative markets for recovered glass in South Carolina as a means of sustaining glass collections by communities.

South Carolina continues to struggle with glass collections, primarily due to the lack of an in-state processor for recovered glass. While several counties and communities continue to collect brown, clear and green glass for recycling, glass collections must be sent to Atlanta, Georgia or Raleigh, North Carolina for processing. The two biggest barriers to glass recycling remain high transportation costs and lack of sufficient volumes in rural communities.

Staff have recently begun discussions with North Carolina's recycling market development officials to determine the feasibility of siting a mini-processing or transfer station in the Pee Dee region where glass recycling has declined in recent years because of barriers listed above. Locating such a facility could serve as more convenient and cost effective alternative for North and South Carolina communities that do not have close proximity to Raleigh or Atlanta. Staff will continue to work with representatives from both recycling processors as well as community leaders in the affected areas to see if such a project could go forward.

The committee has also asked staff and DHEC to look at partnership opportunities with other southern states as well as various recycling-related trade associations to embark on major education/outreach initiative to promote greater recycling of all beverage containers (glass, plastic and aluminum) that are being consumed more frequently away from home. This work will continue as part of the 2004 goals for established recyclables.

EMERGING RECYCLABLES COMMITTEE

Mission

The Emerging Recyclables Committee assists in developing markets for emerging or under-collected materials.

2003 Summary

Continue to monitor progress of the National Electronics Product Stewardship Initiative (NEPSI) and regulatory restrictions for electronic waste.

The National Electronics Product Stewardship Initiative was created to bring stakeholders together to develop solutions for the proper management of electronic products at the end-of-life. Staff has continued to participate in the NEPSI process through regularly scheduled conference calls to discuss the progress of a compromise among all effected parties.

The targeted outcome of the NEPSI process is to produce a Memorandum of Understanding (MOU) among consumer electronic manufacturers, state and local governmental units, processors/recyclers, retailers and non-governmental organizations as an expression of their good faith agreement to develop a national system, with a sustainable financing mechanism to collect and process used consumer electronics. This MOU will set forth the roles and responsibilities of the parties in the development of the NEPSI System. The following items have yet to resolved:

1. Scope of products covered by the agreement
2. Definition of Cost Internalization concept discussed in the agreement
3. Identification of an alternative system or opt out design

A draft MOU is being discussed with the intent of offering a document for signing at the next NEPSI meeting scheduled to take place in February, 2004, in Portland, OR.

Continue to work with the national carpet recycling initiative, Carpet America Recovery Effort (CARE), to develop markets for scrap carpet.

CARE held first national conference on April 24 and 25, with strong support from industry sponsors. The program awarded \$92,000 in market development grants to foster market-based solutions for the recycling and reuse of post-consumer carpet. Continued support from states and the carpet industry will allow this first national product stewardship model to continue into 2004 and beyond. In addition to the support from North and South Carolina, the Carolina Recycling Association signed on to support the CARE Memorandum of Understanding. RMDAC staff participated as a member of the CARE Market Development Committee and will continue to serve in this capacity in 2004.

In South Carolina and most other areas of the country, very little activity is underway to collect post-consumer carpet. Markets are quite limited. Wellman operates a carpet recycling plant in Atlanta that serves the region. The fiber is shipped to the Johnsonville, SC, plant where it is made into pellets. The company has successfully sold nylon 6 and 66 resin into the automotive market, making 'under the hood' products such as fans and fan shrouds. This project has some growth potential provided that Wellman can sell more post-consumer resin into other plastic injection markets. RMDAC staff is working the company to identify potential markets in South Carolina.

Prioritize post-industrial waste and consider as a targeted material for further market development work.

As the year began, wood waste appeared to be the largest component of the industrial waste stream that generated the most calls for assistance. As outlined in the Established Recyclables Committee 2003 summary, information was collected from processors of wood waste in all its forms (pallets, crates, skids, land-clearing debris, and construction and demolition waste) to develop a resource sheet for RMDAC staff and others (B-RAP, DHEC, etc.) to provide referral services for companies looking to divert wood waste from disposal. (See Wood Waste Recycling list as Appendix B, page 40.)

Another project that RMDAC staff facilitated this year was an effort to recover shingles from residential renovations and demolition for use in asphalt paving projects. An Upstate contractor, Ashmore Brothers, hopes to divert shingles from area landfills and use the material in local paving projects. They have successfully completed some small projects, but large-scale utilization of this material is dependent on the acceptance by the SC Department of Transportation (DOT) for state road construction. Clemson University's civil engineering department is working with the DOT on this project.

A number of requests for market development assistance for some other industrial by-products have increased over the year. The most common by-products cited for possible reuse include coal combustion residue (fly and bottom ashes), pulp and paper mill residue, and "spent" foundry sands.

The U.S. Environmental Protection Agency (EPA) also has been facilitating discussions among industry, state regulators, various trade organizations and other interested parties to broker a dialogue and development of a possible strategy or plan to promote greater reuse of high-volume, non-hazardous industrial by-products. An initial forum on this issue was held in late 2002 in Chicago, IL, and a follow-up forum was held in November 2003 in Atlanta, GA. As a result of the interest and attendance of South Carolina-based companies, staff plan to host a local, SC-specific discussion to bring more companies with similar waste streams into the discussion as a means of further identifying viable markets and environmentally acceptable opportunities for beneficial reuse. This work will continue as part of the 2004 work plan.

TIRE COMMITTEE

Mission

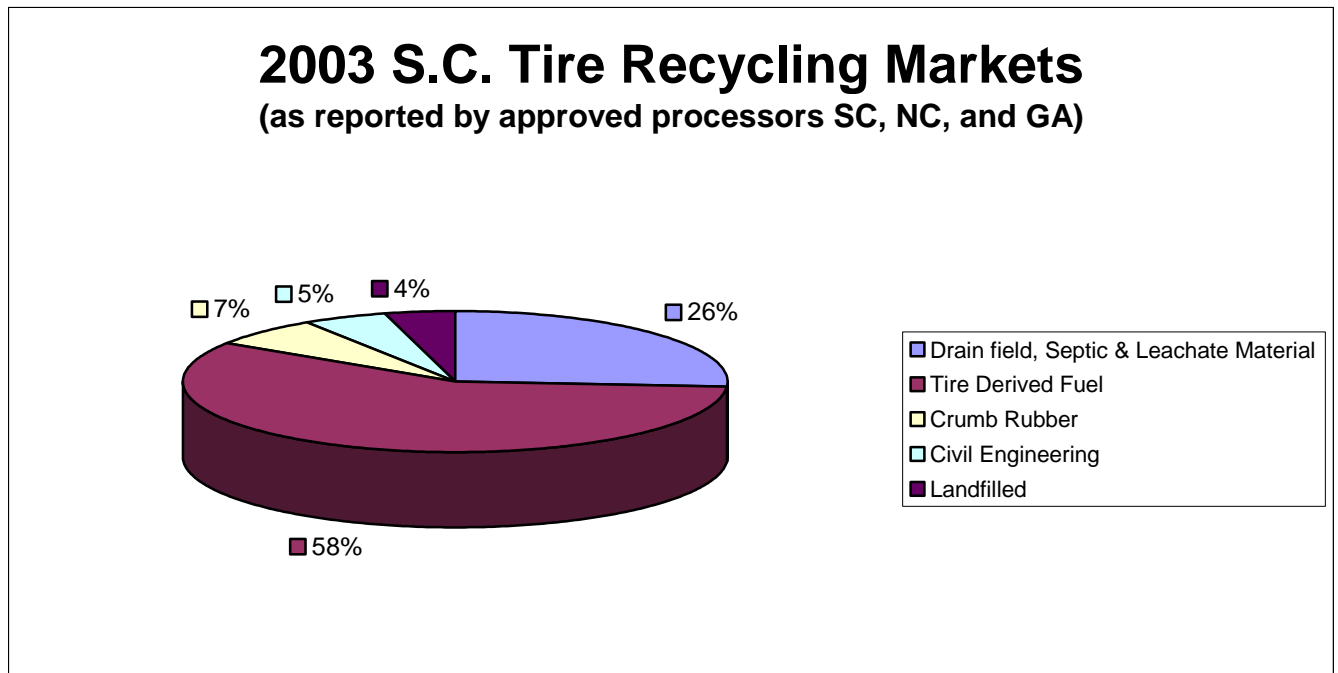
The Tire Committee focuses on strategies to encourage diversified markets for whole and processed scrap tires.

2003 Summary

Monitor tire recycling market supply and demand

The results of our survey of tire recyclers in Figure 1 shows the market distribution for processed tires in South Carolina in 2003.¹

Earlier RMDAC reports identified tire derived fuel as the fastest growing market segment for processed tires. This is proving to be true as shown in the chart below. Nearly 60 percent of all tires collected in South Carolina are being used as fuel by pulp and paper mills or cement kilns. This is a 66 percent growth in this market segment and mirrors the national trend as the prevailing end use for scrap tires.



According to the state-approved tire processors, 70,566 tons of tires were collected from South Carolina last year. Based on the average of 20 pounds per passenger tire, this amount is equal to 7,056,600 passenger tire equivalents (PTEs). As shown in the table on page 15, the percentage of tires processed in state versus out-of-state is nearly even. The Tire Market report on page 36 provides more detail on the markets and total number of tires recycled in 2003.

¹ All but one of the state-approved tire facilities completed the survey. The data in this analysis estimates scrap tire utilization that is based on historical reports for that company.

Tonnage Processed: In-State vs. Out-of-State

SC Companies	Out of state Companies	SC Local Gov't	Total
30,302 tons	37,244 tons	3,020 tons	70,566 tons
42.9%	52.7%	4.3%	

Promote higher value uses for scrap tires

The Asphalt Rubber Technology Service (ARTS) at Clemson University continues to provide technical support and partial funding for paving projects using crumb rubber from tires. Paving projects underway in 2003 include the Cities of Greenville, Rock Hill and Clemson as well as Horry, Richland, Williamsburg and Dillon counties. The SC Department of Transportation is on target to initiate an interstate project in 2004. Funded by the Waste Tire Trust Fund, this program is increasing the confidence, among South Carolina paving contractors, in the use of crumb rubber as a means to extend the longevity of the state's highways and roads. For additional information on ARTS, visit its Web site at www.ces.clemson.edu/arts.

South Carolina tire processors have followed the shift to using tire derived fuel. Sixty-two percent of the tires received by companies in the state are being used as, or made into, fuel. Fuel is a higher value product than the septic aggregate that has historically been the larger market for recycled tires.

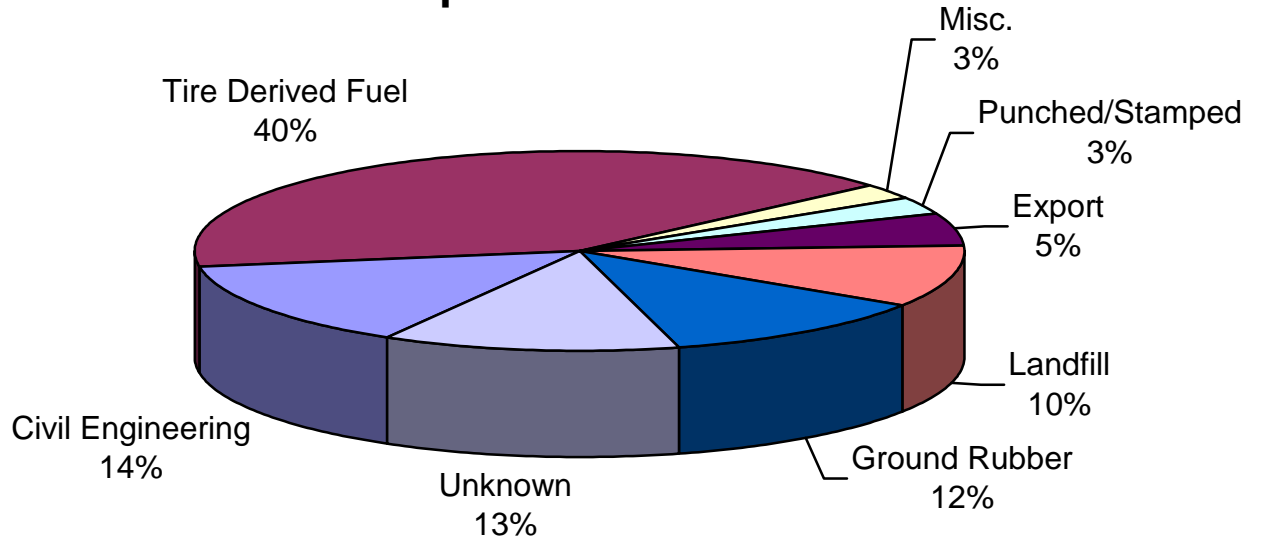
Recovery Technologies Group (RTG) in Berkeley County is producing a crumb rubber product that is used primarily for playgrounds and athletic fields. The product is proven to enhance safety and performance on these surfaces. Although still a small portion of the recycling market, crumb rubber continues to be the highest value product made from scrap tires.

Moving to higher end use markets has several advantages:

- A higher portion of the scrap tire's value is recaptured;
- Markets are stabilized;
- Processors are more profitable; and
- Landfilling of scrap tires is reduced.

The trends in South Carolina reflect similar trends nationally. The most recent data from the Scrap Tire Management Association shows how the markets are divided for scrap tire derived products in the U.S. Overall, 77.6 percent of the scrap tires generated each year go to an end use market.

U.S. Scrap Tire Utilization 2001



POLICY COMMITTEE

Mission

The Policy Committee assists RMDAC and its committees in implementing strategic market development policy and programs, giving consideration to legislative, governmental, and private sector concerns.

2003 Objectives

Continue to educate key organizations and individuals about the potential impact of further raids on the Solid Waste Trust Funds

State budget deficits during the past few years have resulted in the loss of Solid Waste Trust Funds for other programs. These funds are collected from consumers when they purchase tires, motor oil, white goods, and lead-acid batteries. The 1991 Solid Waste Act directed that these funds be used to help local governments establish recycling programs and manage problem wastes. Grants for these programs in fiscal years 2001 and 2002 were cut significantly due to the loss of funds. As a result, funding for important rural community recycling programs and innovative grants for expanding recycling programs were denied.

RMDAC has been concerned that using the trust funds for other programs sends the wrong message to local governments, recycling businesses, and industry when it comes to recycling. Recycling is a proven method of resource and energy conservation, solid waste management, and cost efficiency. Recycling's economic development impact is apparent in South Carolina with more than 10,000 people employed in this sector.

In 2003, Governor Sanford vetoed legislative budget action that would have taken \$926,000 from the Solid Waste Trust Funds. His action, which was certainly appropriate given that consumers pay the fees for recycling and environmental stewardship initiatives, was done during extremely difficult state financial conditions. The Recycling Market Development Advisory Council along with other environmental groups and the citizens of South Carolina, applaud Governor Sanford for protecting this important funding source.

Continue to build legislative support for passage of Electronics Recycling Bill

Senate bill 148 was introduced to the legislature in 2003 with the intent of establishing a comprehensive electronic equipment recycling program in South Carolina. The program depends on funding from an advance recycling fee (ARF) paid on the purchase of new televisions and computer monitors, similar to recycling fees assessed on purchase of tires, motor oil, batteries and white goods. The bill remained in the Senate's Agriculture and Natural Resources Committee for the first year of the current two-year session and will be reintroduced for consideration in 2004.

Previous electronics recycling legislation introduced in 2002 was not passed due to concerns from an electronics manufacturer. RMDAC has met with the company to identify issues of concern. In preparing to offer this program for re-introduction to the General Assembly, RMDAC has continued to provide technical information supporting electronics recycling to members of the General Assembly, Governor's Office as well as other community leaders.

At the suggestion of Hewlett Packard, RMDAC staff coordinated a trip to the Noranda electronics recycling facility in Nashville, TN. Senator Phil Leventis, Representatives Harry Ott and Dwight Loftis along with representatives from RMDAC and DHEC toured the plant to better understand the process for recovering computers and other electronic scrap for reuse and recycling. Hewlett Packard (HP) charges a range of fees for the service but offers a discount on the purchase of new HP products purchased on-line.

In 2003, California became the first state to pass electronics recycling legislation. The program requires that a fee be paid at the point of purchase for new products, similar to the program proposed in the South Carolina bill.

Senate Bill 148 will continue as an active bill in 2004. RMDAC recommends that the current proposal be amended with the following language:

- Remove references to cathode ray tubes (CRT) and replace with electronic visual display screens greater than four inches (4").
- Include a provision to allow the Department of Revenue to use one-percent of the fee for related collection administration and audit expenses.
- Define "Retail" to include Internet sales as well as in-store sales.

The Council will continue to support the passage of this legislation in 2004.

Identify the feasibility of and potential supporters for a landfill surcharge fee to fund state recycling and market development programs

Waste management companies and local governments were not supportive of the concept of a state landfill fee to fund recycling and market development initiatives. Without the support from these two key groups, RMDAC determined that it would not be feasible to successfully enact the necessary legislation.

RECYCLING MARKET DEVELOPMENT STAFF ACTIVITY

In addition to the Council's committee activities, the Recycling Market Development staff continued its work to assist new and existing industry in South Carolina and promote waste reduction and recycling opportunities. Under the recently reorganized Department of Commerce, RMDAC staff are now part of the Business Solutions Division that provides a one-stop shop approach to assist the state's business community.

Direct assistance was provided to 287 industries and governmental entities by the RMDAC staff. Although the Department's Business Visitation Program was discontinued in July of 2003, requests for assistance from Business Solutions and Business Development staff still generate numerous requests for assistance in recycling and waste reduction and RMDAC staff followed up with these requests as part of the South Carolina Business Recycling Assistance Program (see below).

Of the businesses assisted in 2003, 169 were recycling companies that were provided assistance with business development planning, product marketing and accessing financial, regulatory, or other resources. These companies were starting new businesses, establishing an additional facility in South Carolina, or expanding existing in-state operations.

Reorganization within Department of Commerce

With the appointment of Bob Faith as the new Secretary of Commerce, the Department underwent a major reorganization and streamlining that resulted in a consolidation of 15 divisions into four and a reduction in employees by nearly a third. The Existing Business Services division was merged with the International Trade division and the South Carolina Film Office to form the Business Services division.

After a comprehensive strategic planning process, staff chose to rename the division Business Solutions to better reflect the proactive and specialized services provided by this multi-faceted group. Business Solutions is committed to being the catalyst for a more competitive business environment in South Carolina. Staff will accomplish this goal through a variety of activities and programs developed to provide customized solutions for its key audiences, including small, women and minority-owned businesses, existing industry and entrepreneurs and prospects looking to start businesses in South Carolina.

South Carolina Business Recycling Assistance Program

The South Carolina Business Recycling Assistance Program (B-RAP) continued to provide free technical assistance to business and industry throughout the state. B-RAP is a partnership of DHEC's Center for Waste Minimization, the Office of Solid Waste Reduction and Recycling and RMDAC. Its mission is to provide a variety of technical assistance opportunities to businesses, industry, government agencies and others in four specific areas: waste reduction, recycling, buying recycled, and recycling markets/market development.

Assistance provided to both new and existing businesses included:

- Referrals to the S.C. WasteXchange, a free online service sponsored by RMDAC, DHEC and the South Carolina Manufacturing Extension Partnership;
- Identification of potential markets/end-users for recovered materials through the *Index of Waste Minimization Resources* and RMDAC's recycling businesses database;
- On-site visits and assessments to determine prevalence of recyclable materials as well as quality of materials;
- Educational materials, including topic-specific facts sheets, bi-monthly *B-RAP News* electronics newsletter and B-RAP web site (www.scdhec.gov/brap);

- Presentations to various Chambers of Commerce and other civic and environmental organizations promoting the financial benefits for businesses that adopt waste reduction and recycling activities; and
- Development of a new public service campaign that featured a 30-second television spot and promotional poster designed to increase awareness about recycling at work.

Electronics Recycling Collection Event

RMDAC partnered with a number of organizations to host an Electronics Recycling Collection Event as part of the Earth Day Irmo activities on April 26, 2003. Nearly 150 residents dropped off 8.75 tons of scrap electronics, also referred to as e-waste, during the three-hour collection event. Earth Protection Services, Inc., an Arizona-based recycler of electronics and mercury lamps with a Williamston, SC facility, donated their services of collection, transportation and processing for the event to help build awareness and support for electronics recycling. Surveys were distributed and collected to gauge participants' knowledge on the potential hazards of improper disposal of e-waste, willingness to recycle, preferred methods for recycling, and willingness to pay an advanced recycling fee to support a permanent electronics recycling program in their community. Most respondents preferred taking their e-waste to a community recycling center rather than shipping it to manufacturers for recycling. Many also were in favor of paying anywhere from a couple of dollars to \$25 to help establish an electronics recycling infrastructure in South Carolina.

See Appendix C on page 41 for more details.

Recognition for Businesses

In conjunction with the S.C. DHEC's Office of Solid Waste Reduction and Recycling's "Recycle Guys" Awards Program, RMDAC co-sponsored two awards for business and industry that emphasize the importance of recycling and waste reduction by the commercial and industrial sector. In February 2003, Lexington Medical Center and Nucor Steel were recognized as the Best Industry Recycling Programs for their outstanding efforts.

Lexington Medical Center was recognized as the leader in the service sector for its efforts to recycle and reduce waste not only at its main campus, a 300-bed facility, but also 29 affiliated physician practices and seven community medical centers. Through their aggressive waste reduction, reuse and recycling program, the hospital has avoided more than \$9,000 a year in disposal fees. Revenues generated through its recycling program, nearly \$3,000, have benefited its employees' emergency fund.

Nucor Steel was selected for its exemplary efforts within the manufacturing sector to recycle more than 2.8 million tons of scrap metal last year at its two South Carolina facilities. The company has also instituted a significant waste reduction plan that sells its mill scale by-products to a local cement company for use as an aggregate in concrete. This initiative has kept more than 14,000 tons of mill scale from being landfilled. In addition, Nucor developed a program with the local Special Needs and Disabilities Board to manage its recyclable materials, including cardboard, paper and plastics. Clients of the program separate and bale the materials and proceeds from the sale of these items benefit the program's clients.

Projects Announcements

Staff worked with the following companies to establish recycling operations in South Carolina:

- C.A.S.T. Minerals has successfully used a market development grant from RMDAC to test its aggregate product in lightweight concrete. CAST processes and recycles the ash by-product from Santee Cooper's Winyah Generating Station, furnishing up to 40,000 tons per year of lightweight aggregate to make lightweight masonry blocks. Local block manufacturers produced 5 million lightweight units in 2003. See Appendix D for more details.
- Recovery Technology Group (RTG) held its Grand Opening ceremony on May 28, 2003 at its Moncks Corner facility that processes tires into crumb rubber for a variety of applications. The event also highlighted RTG's partnership with Ford Motor Company and its 100th anniversary celebration. See Appendix E for more announcement release.
- Earth Protection Services, Inc., a recycler of fluorescent lamps and electronic equipment, announced opening of an Anderson County facility with a capital investment of \$2 million and plans to create 20 jobs within the next five years. See Appendix F for announcement release.

Other Activities

Staff members actively participate as members of the following organizations or councils:

- Carolina Recycling Association
- CRA Midlands Networking Council
- South Carolina Resource Conservation Challenge Task Force
- America Recycles Day Statewide Steering Committee
- Solid Waste Advisory Council
- Waste Tire Committee
- South Carolina Solid Waste Association of North America
- South Carolina Economic Development Association
- Air & Waste Management Association

REQUIREMENTS OF THE 1991 SOLID WASTE ACT

The Solid Waste Policy and Management Act of 1991 requires that the Recycling Market Development Advisory Council consider the following elements in its annual report.

Any Revisions Which the Council Determines are Necessary to its Initial Report

There are no revisions to be added at this time.

A Description and Analysis of the Amounts and Types of Solid Waste Materials Recovered or Recycled in This State During the Preceding Year

Recycled materials reported in Tables 1 and 2 are compiled by DHEC from its annual county solid waste survey. Figures are reported on a fiscal year basis for a period of July 1 through June 30. Data reflected in this report is from FY 2003.

Table 1 shows the amount of recyclable material collected by local government programs, primarily serving residential households in South Carolina. This category is considered to be post-consumer material.

The post-consumer paper recovery rate grew by nearly 21 percent from FY 2002. This includes all grades of paper collected by local government programs but consists primarily of cardboard and newspaper, accounting for nearly 90 percent of this recovered fiber. As domestic markets remain stable, demand in Asia has become quite strong, resulting in steady prices and high demand within the paper recycling industry.

Metal and glass recovery rates grew at a fractional percent, while the overall plastic total grew by nearly 12 percent. PET plastic (soda bottles), collected and marketed as a separate commodity, grew by only .7 percent when compared to last year. HDPE (milk and detergent bottles) actually declined by 44 percent. Mixed plastic, which can include PET, HDPE, and the other resins 3 through 7, grew significantly. This growth may be indicative of more communities going to "all bottle" collection programs or combining their HDPE and PET bottles at the collection points and marketing these as a mixed bale. Overall prices and markets for all these commodities were stable.

Total banned items dropped by 9 percent this past year, with the large portion of this being lead-acid batteries and yard waste. Stricter regulatory requirements on air quality for smelters has led to a decline in processors willing to accept lead-acid batteries, and several counties noted difficulty in finding markets for their collected batteries. Yard waste can be affected by seasonal variations as well storm activity.

Table 2 includes totals reported to counties by business and industry as well as the post-consumer totals shown in Table 1. The most significant increases in recovered materials occurred in the paper, metal and plastic categories. Growing commodity prices for paper, metal and plastic along with increasing export demand for these materials may have impacted these large gains. Some companies may have held on to materials, such as scrap metal, until market prices became more favorable before selling it off.

The gains in recovered materials also may result from increased emphasis in promoting recycling opportunities to businesses and industries located in the state through the Business Recycling Assistance Program (B-RAP). With tight economic times, many businesses consulted were receptive to reducing waste disposal costs through better source reduction, materials reuse and recycling activities. As part of the B-RAP consultation services, companies are encouraged to respond to the county's waste management surveys and increased reporting may be a factor as well.

The bar charts on page 25 reflect five-year recycling trends for the basic commodities of paper, plastic, metal, and glass. The recycling rates for these materials have grown over the years, thanks to the hard work of local governments, grants from the Solid Waste Trust Fund, technical support from RMDAC and DHEC's Office of Recycling, and our citizens' commitment to recycling.

However, as shown in Table 3 on page 24, the amount of municipal solid waste (MSW) continues to grow in the state. The MSW disposal rate rose to 4.2 pounds per capita in 2000 and has remained at this level for the past two years. Opportunities to reduce this per capita rate of disposal and increase overall recycling still exist. But reversing the trend in higher waste disposal will require further commitment of state resources to maintain existing infrastructure, continue public education activities promoting the need for recycling, and support South Carolina's recycling businesses.

Recommendations Regarding Materials Which Should be Added or Deleted From Source Separation, Recovery, and Recycling Programs

Electronic equipment should be collected for recycling where economically feasible. This category includes discarded products such as computers, televisions computer monitors and VCR's (see Emerging Recyclables Committee Report, page 12.) Currently state and federal regulations prohibit industry from disposing large quantities of these materials in municipal solid waste landfills. Regional and local markets exist for certain electronic scrap and collection programs have been initiated on a limited basis by South Carolina counties.

Recommendations Including Tax Incentives, to Facilitate the Development of Markets for Recovered Materials or Products in This State

No recommendations are made for this section.

Table 1

**Post-Consumer Recycled Materials²
(Reported by County/Residential)
Tons**

	2003	2002	Percent Change
Paper	112,718	93,411	20.7%
Metal	47,673	47,578	.2%
Glass	9,279	9,259	.2%
Plastic, total	6,153	5,513	11.6%
#1 PET	1,555	1,544	.7%
#2 HDPE	1,470	2,635	-44.2%
Mixed	3,128	1,064	194%
Banned, total	242,372	266,313	-9%
Lead acid batteries	3,622	5,618	-35.5%
Used oil	53,737	31,611	70%
Waste tires	20,000	22,138	-9.7%
White goods	24,581	27,956	-12%
Yard waste	140,433	178,990	-21.6%

Table 2

**Total Recycled Materials
(Reported by County/Residential, Commercial, Institutional/Non-Profit, Industrial)
Tons**

	2003	2002	Percent Change
Paper	2,153,930	438,804	391%
Metal	1,501,154	333,073	351%
Glass	14,655	9,848	48.8%
Plastic	57,807	25,588	126%
Banned²	421,693	344,920	22%

Table 3

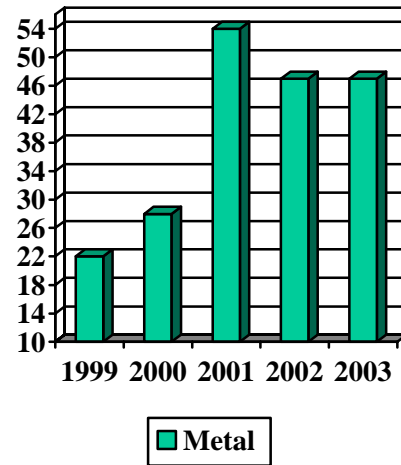
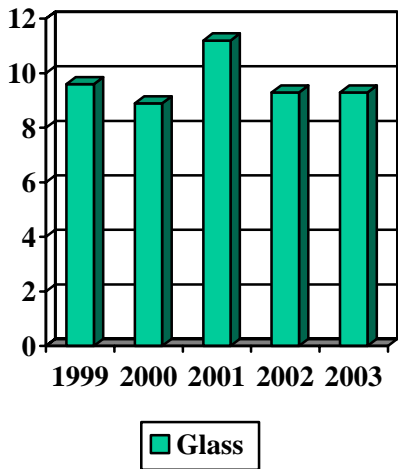
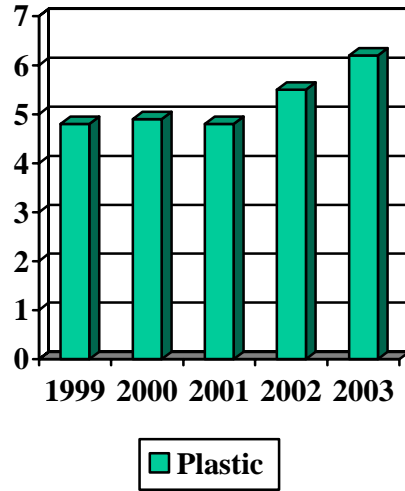
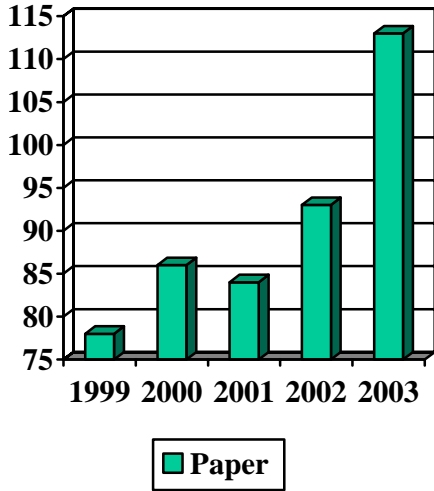
Per Capita Municipal Solid Waste Disposal by Fiscal Year

Year	Pounds Disposed Per Person/Per Day
1998	3.98
1999	3.61
2000	4.20
2001	4.23
2002	4.2

¹ All data reflects FY 02 numbers for Bamberg, Chesterfield and Lee counties.

² Banned items include tires, oil, lead-acid batteries, yard waste and white goods.

South Carolina Post-Consumer Recycling Five Year Trends¹ (Tons)



¹ Quantities are based on data from Table I, reported in 1000 ton units

MARKETS UPDATE

Industry representatives on the Recycling Market Development Advisory Council provide the following market updates. These include the primary commodities typically recovered in most municipal and county recycling programs as follows:

Glass	clear, brown, green
Paper	newspaper, corrugated
Plastics	PET, HDPE – clear and pigmented
Metal	ferrous and non-ferrous metals
Used Oil	oil, filters, bottles
Tires	

Each update will consist of the following four sections, which include comments on the basic market factors of supply, demand and pricing for each recovered material.

2003 Summary

A discussion on major changes in supply, demand and pricing for this material that have occurred during the past year, including both national and state perspectives with explanations of significant differences between the two.

2004 Outlook

Forecasts for the coming year and circumstances impacting supply, demand, and pricing for the material relative to 2003 conditions.

Future Trends

A discussion of long term trends in supply, demand and pricing beyond 2003.

RMDAC Action

Actions that this Council should consider to improve market factors.

GLASS

2003 Summary

Glass collected in South Carolina for recycling is sent to two regional processors; one in Atlanta (Fibres International) and one in Raleigh (Recycle America Alliance-Container Recycling Group). Glass market prices decreased across the board for all three cullet categories: flint, amber, and green.

South Carolina's supply of glass cullet has been stable and of good quality. Fibres International says its South Carolina depot locations have been its most improved supply base, delivering increased volumes over 2003. Markets for all three colors are strong with most bottles being made going into the breweries throughout the southeast. Recycle America Alliance - Container Recycling Group (RAA-CRG) reports that it receives good quality sorted glass from two regional collections sites in South Carolina.

There are six counties that serve as host counties for glass collection, allowing smaller communities that don't generate a large enough volume to combine their glass with these higher volume collections. Currently Darlington, Georgetown, Hampton, Horry, Lexington and York counties provide this hosting service.

2004 Forecast

Demand for 3-color separated glass should remain stable into 2004, but 3-color mixed glass markets are dwindling. The economics for transporting mixed glass cullet from South Carolina has kept Fibres from making the capital investments in the new technologies that are available. However, RAA-CRG has made a significant investment in high technology equipment to process mixed broken glass.

Co-mingled glass and plastic containers are being processed by RAA-CRG, which may result in improved efficiencies and add further stability to glass markets for South Carolina. The economics of sorting glass in a Materials Recovery Facility environment should be weighed against the shipping costs for this commodity.

RMDAC Action

RMDAC should continue to support programs that increase the overall recovery rate of recyclables in South Carolina as well as look at new markets for recovered glass.

PAPER

2003 Summary

The market for Old Corrugated Cardboard (OCC) started the year at \$50 per ton and went up to \$75 per ton in May. In June the price dropped to \$65 per ton and held steady through year-end. Both domestic and export market demand were strong for OCC in 2003, with export demand reaching record levels. With year-ending winter storms in the Midwest and Northeast, look for markets to increase early in 2004. Newsprint pricing followed OCC pricing throughout the year. Newsprint started out at \$45 per ton and ended the year at \$65. The same weather conditions will affect the newsprint market in 2004. The mixed paper market was steady all year as this grade continues to remain stronger than it ever has in the past. High grades were at \$100 per ton all year long.

2004 Forecast

Look for all paper grades to experience early increases in 2004, especially high grades. High grades will see some very high price increases with the opening of a new mill in Alabama by the second quarter. Pricing will level out by year-end and high grades will probably end up at around \$120 per ton, a \$20 per ton increase over 2003 prices.

Future Trends

Strong export demand will keep all bulk grades moving and at steady prices. The paper industry is finally starting to see positive rises in the economy and this will definitely increase running time across the board. Overall look for smiling faces in the world paper industry in 2004.

RMDAC Action

RMDAC will continue to work closely with DHEC and the Carolina Recycling Association to increase collection of all grades and to develop new and improved markets.

PLASTICS

2003 Summary

Based on the most recent numbers as reported by the American Plastics Council (APC), plastics bottle recycling increased by 13 million pounds in 2002. Total plastics recycled reached an all-time high of 1.603 billion pounds. Markets for post-consumer flake and resins are primarily used in fiber, sheeting, strapping, bottle, packaging, pipe, and lumber composite products. Supply of recovered material available for processing continues to be the limiting factor to industry growth and increased recycling rates.

The State of South Carolina reported 6,153 tons of post consumer plastics recycled in 2003 increasing 640 tons from 2002 or an 11.6 percent increase for the year.

PET Summary

The amount of post-consumer PET bottles recycled during 2002 decreased by 37 million pounds to 797 million pounds. The decrease in pounds was a result of continuing difficulty in capturing single serves containers consumed away from the home. The overall recycling rate for PET bottles decreased slightly to 19.8 percent in 2002 versus 22.1 percent during calendar year 2001.

All plastics bottle programs increased by 15 percent to 1600 programs participating in the U.S. according to APC. PET exported to Asia continued to increase rapidly, up 17.5 percent to 275 million pounds out of the total 797 million pounds collected. U.S. reclaimers purchased 522 million pounds. The U.S. reclaimers continue to have excess capacity idle due to the lack of supply and aggressive Asian export pricing exceeding the U.S. reclaimers ability to pay and run profitably. Indications are the export market will grow from 300 to 350 million pounds of total PET collected in 2003, thus further pressuring U.S. reclaimers markets.

In the state of South Carolina, PET recycling increased 0.7 percent or 11 tons from 1,544 tons in 2002 to 1,555 in 2003.

2004 PET Outlook

The PET market, previously soft drink bottles continue to see a shift in market growth to water, juice, tea, and other type beverages. The continued growth of new colors and barriers in beverage bottles will place further difficulties on recyclers to maintain quality standards. This issue is becoming more critical to RPET bottle and carpet applications in particular.

The continued growth of single serve containers and smaller bottles is causing further complications by sorting errors and yield losses. The Asian export market will continue to grow straining the long-term viability of the U.S. reclaimers to compete successfully.

HDPE Summary

According to the APC, 800 million pounds of post consumer HDPE plastic bottles were recycled during 2002 increasing by 50 million pounds over 2001 levels. The recycling rate increased from 23.2 percent in 2001 to 24.2 percent in 2002. The largest increase in HDPE pounds since 1994 and the largest increase in the HDPE rate since 1995. The increase was primarily in pigmented bottles. Natural bottles represented 414 million pounds versus pigmented bottles representing 386 million pounds recycled. Domestic processors continue to dominate the market. The export

market represented 105 million pounds of the total pounds recycled. Continuing strong demand for pigmented HDPE bottle PCR for the production of new HDPE bottles (up 5 percent), film/sheet (up 4 percent) and plastic lumber (up 2 percent) consumed the majority of the increased amount of pigmented HDPE bottles that were recycled (50 million pounds) according to the APC.

In the state of South Carolina, HDPE recycling decreased 44.2 percent from 2,635 tons in 2002 to 1,470 tons 2003. The reported pounds however appear to have shifted in reporting as mixed plastics which increased 194 percent from 1,064 tons in 2002 to 3,128 tons in 2003.

2004 HDPE Outlook

Demand remains strong going into 2004 from domestic producers. Mounting concerns exist however on quality issues. Pigmented PET is increasingly showing up in HDPE recycled collection as a contaminant. Overall demand continues to far outstrip supply thus pressuring price and the long-term sustainability of processors.

Future Trends

In PET, growth and demand is expected for recycled content into bottles as well as strapping. The export market is expected to continue its growth as well putting further pressure on the U.S. fiber and sheeting reclaimers for supply. Further pressure on quality and yield will also come with increasing products with new colors, barriers, and small containers in the collection stream.

In HDPE, demand will continue to far outstrip supply as growth is expected in bottle and plastic lumber applications. New applications are also surfacing for automotive products such as bed liners and mud flaps. Pigmented PET in colors as a contaminant still is a major issue to quality production going into 2004.

RMDAC Action

1. Continue to support and encourage the Plastic Partnership and DHEC Recycle Guys campaign.
2. Work to increase collection of all beverage containers for recycling, with emphasis on creating a multi-media outreach/education program to foster increased participation throughout the state.
3. Identify a rural community to develop a pilot project to serve as a model for other communities to increase participation and recovery rates for established recyclables.
4. Continue to support the development and expansion of recycling businesses in South Carolina.
5. Monitor the establishment of "All Plastics Bottle" programs in South Carolina
6. No new materials should be added at this time.

FERROUS METAL

2003 Summary

This was one of the best years on record for ferrous scrap metal. By year-end many grades reached historic levels and some surpassed the magical \$200 per gross ton mark.

The year started slowly but by summer the world economy, especially Asia, was strong enough to pull large amounts of scrap metal from U.S. ports. Scrap metal for domestic mills was not readily available, causing prices to move upward. Then, with inventories of scrap metal already depleted by steady demand from the Far East, the U.S. economy began to improve, creating a greater need for steel products in the U.S. but insufficient material available to supply the domestic market.

In addition, scrap substitutes like pig iron that normally can be used as an alternative for making steel were simply not available. Most of this material is imported from foreign markets but the vessels that carry it to the U.S. were busy carrying other products to China, among other nations.

Ferrous prices continued to increase late in the year as production of scrap remained dependant on an insufficient supply chain. Steel mills competed over the same material and its movement shifted to new markets but the total amount available changed very little.

Higher scrap prices took a toll on the steel industry itself. Georgetown Steel in Georgetown, SC, filed for Chapter 11 bankruptcy for the second time and completely shut down its facility in 2003. The mill cited higher costs for raw materials among the reasons for its demise. Other mills, like Nucor Steel, found ways to pass higher scrap costs onto their consumers by implementing a scrap surcharge on their finished goods. Consumers will eventually feel these costs in 2004.

2004 Forecast

The new year will begin with ferrous scrap prices at record levels and poised to move even higher. Integrated steel makers that traditionally rely on iron ore to make their steel product have started using more scrap metal in their mix, thus increasing the demand for ferrous metal. And during the colder months, the supply of scrap will become more limited as its flow is curtailed along normal shipping channels.

It will take some time until the supply crunch eases and it appears that the U.S. economy as well as Asia's will be strong in 2004. Nevertheless, we should see a price correction sometime during the year. Scrap is well over valued compared to historical averages and prices should eventually adjust. When this happens expect prices to fall swiftly back to normal.

Future Trends

There will be some more closures by less efficient steel mills unable to remain profitable with higher raw material costs. The trend towards further consolidation in the industry will also continue in 2004. With the continued growth of electric arc furnace (EAF) mills that only use scrap metal or scrap substitutes for production, the future of ferrous metal looks promising. Scrap metal will increasingly become a global commodity as world markets become larger consumers.

RMDAC Action

RMDAC will continue to promote and encourage recycling activities that will increase the recovery of scrap metal. There is available capacity to handle both industrial and consumer scrap in the state at various scrap metal processors and there are also several end markets in South Carolina, including three steel mills and numerous foundries.

NON-FERROUS ALUMINUM

2003 Summary

Prices for recycled aluminum followed primary prices throughout the year. U.S. primary production remained nearly stable from 2002 levels. Domestic aluminum smelters faced continued market pressures to decrease production, mainly due to high power and raw material costs.

Alcan, the world's second biggest aluminum producer by revenues, bought Pechiney in a four-billion-euro (\$4.9 billion) deal. The merged company will have annual turnover of 25 billion euros and employ 80,000 people, rivaling U.S.-based Alcoa, the current world leader.

The aluminum can recycling rate has dropped for the fifth straight year to 53.4 percent, sinking to its lowest point since 1980, according to the Container Recycling Institute. But the aluminum can remains the most recycled beverage container in the United States and the world by units, by pounds and by percentage recycled. Unfortunately, today nearly half of all recyclable aluminum - worth an estimated \$800 million - ends up in landfills.

2004 Forecast

As with other commodities, domestic aluminum markets trend with typical economic indicators. The extended outlook looks promising for aluminum, as several new aluminum smelters are in the design stages worldwide.

The global aluminum supply-demand situation is likely to be balanced, or possibly see a slight deficit in 2004. Chinese aluminum production and demand will further fuel the industry. Global aluminum demand rose seven percent in 2003, with Chinese demand soaring 23 percent. Production in 2003 largely kept pace with demand, rising 6.5 percent. A global aluminum surplus of 400,000 metric tons of metal in 2004 is expected.

There is a renewed push to suspend the European Union's (EU) 6 percent import duty on primary aluminum, making way for increased exports from North America due to this being the first time in history the internal EU market is in deficit. This may likely affect market prices going forward into 2004.

Future Trends

The energy value (95 percent) that can be reclaimed through recycling continues to make aluminum one of the most attractive and profitable materials for recycling. Long term there will be global pressure on the price of aluminum which will likely drive prices down three to five percent in real dollars for the next five to 10 years. As with any commodity, trading is now a global business. Any unexpected changes in production requirements domestically, the worldwide value of the dollar, or significant shifts in the export market, will affect pricing.

RMDAC Action

With an established recycling infrastructure in place (both private and municipal), the Council should continue to educate and encourage local governments, private citizens, and industry to recover more aluminum and other non-ferrous metals.

USED OIL

2003 Summary

A record amount of used oil was recycled last year by do-it-yourself oil changers (DIYers) in South Carolina according to figures compiled by the S.C. Department of Health and Environmental Control's Office of Solid Waste Reduction and Recycling (Office).

DIYers recycled 1,160,865 gallons of used oil in 2002, the 12th consecutive year a record amount was collected and the fourth straight year more than 1 million gallons were collected. Overall, more than 9 million gallons have been collected from DIYers since used oil recycling efforts began in South Carolina in 1990. Figures for 2003 were not available when this document was prepared.

In fiscal year (FY) 2002 (July 1, 2001 – June 30, 2002), DIYers also recycled 210 tons of used oil filters - a decrease from the previous year when 245 tons of used oil filters were recycled. Still, the recycling of used oil filters reflects a significant environmental protection program that is often ignored or under appreciated considering that each filter may contain from four ounces to one quart of oil if not properly drained. While there was a decline in the tonnage of filters recycled, it does not mean that used oil filter recycling has decreased. One reason for the tonnage decrease is that some counties now market used oil filters with their appliances and/or other metals. With this being the case, not all used oil filters that are being recycled are being counted directly. Some may be included in the numbers for appliances and/or metals. In addition, Lexington County, a host county for oil filter recycling, was unable to market oil filters in FY 2002 due to vendor issues. As a result, Lexington County reported no oil filters being recycled in 2002 despite recycling more than 45 tons in 2001.

Additionally, DIYers recycled 92 tons of used oil bottles in FY 2002. This is a decrease of about eight tons from last year. One possible reason for this decrease is that some counties are collecting and marketing used oil bottles with other pigmented HDPE plastic. As a result, a portion of the used oil bottles that are being recycled are being counted in the HDPE plastic rather than the used oil bottle numbers. The total tons of HDPE plastic recycled nearly doubled from 1,412 tons in FY 2001 to 2,635 in FY 2002 – an increase of 1,223 tons.

Used oil recycling figures provided by Santee Cooper in its Give Oil For Energy Recovery (GOFER) program continue to increase and probably will exceed the amount from 2002. Through November 2003, 870,381 gallons of used oil were collected compared to 857,720 gallons of used oil through November 2002.

Introduced in January 2000, the Office continues to offer the "Green Driver Project" that targets students in high school driver education classes. The project stresses the environmental impact of driving and includes information on recycling used oil, filters and bottles, energy conservation, ground-level ozone prevention and other environmental tips. The Project serves as a lifelong lesson in environmentally responsible driving. Since the Project began, staff made 503 classroom presentations to 21,500 students. "DHEC 1: Behind the Oil Change," a video chronicling the life of a driving teenager and the consequences of his decision, debuted in Summer 2002. The video has been extremely well accepted and received an In-Show Award that honors excellence in advertising and public relations. In addition, the Office set up a partnership with Palmetto Pride to add a litter component, including litter laws and enforcement, beginning in 2002 to the "Project."

Due to the unique problems of recycling used oil filters, the Office continues to work with vendors – scrap metal yards and steel mills – that accept filters. Ongoing negotiations with vendors to ensure continuing markets are an integral aspect of the used oil program.

2004 Forecast

The amount of used oil, bottles and filters collected for recycling should continue to grow in 2004. The priorities of the Office regarding its used oil recycling program are:

- To continue to collect clean oil bottles. Most counties are using oil drain racks to drain the bottles and make them easier to process. Once drained the oil bottles can be mixed with other HDPE plastics. This makes it easier to market the used oil bottles. We will continue to encourage all counties to use the oil drain racks.
- To add farmer oil collection tanks, one per county, where needed. Farmer oil tanks are now at 21 oil collection sites in 18 counties (Barnwell, Cherokee, Chesterfield, Clarendon, Dillon, Dorchester, Fairfield, Georgetown, Greenville, Greenwood, Hampton, Horry, Lee, Newberry, Oconee, Pickens, Sumter and Williamsburg). Eight more counties will be setting up tanks in FY 2004. Each of the tanks holds at least 550 gallons of used oil and is fitted with a pump and hose to make it easier for farmers to recycle up to 55 gallons of used oil at one time.
- To continue to expand the oil/gasoline mixture collection program by adding collection tanks where needed. There are currently 18 oil/gasoline mixture sites in 16 counties (Anderson, Berkeley, Charleston, Cherokee, Dorchester, Fairfield, Georgetown, Greenville, Hampton, Kershaw, Lexington, Newberry, Oconee, Sumter, Williamsburg and York). Fourteen more counties will be setting up tanks in FY 2004.
- To secure and maintain markets or other uses for used oil, bottles and filters.

Future Trends

The Office will continue to provide grant funding to local governments to set up, maintain and improve used oil recycling programs. The Office also will continue its statewide awareness campaign on used oil recycling including the national award winning “Recycle Guys” public service announcements and the “Green Driver Project.”

RMDAC Action

The Recycling Market Development Advisory Council should continue its work promoting, supporting and securing markets for the state’s used oil recycling program.

TIRES

2003 Summary

Steady progress has occurred over the past five years in moving toward higher end value products derived from scrap tires. Previously the greatest use of scrap tires in South Carolina was tire shreds used as drain fields for septic tank systems. The average price for tires shreds is \$17 per ton. More recently the market has shifted to tire chips used as supplementary fuel, especially in cement kilns. The average price for tire derived fuel is \$30 per ton. Crumb rubber production is also increasing in the state with the opening of the Recovery Technologies Group (RTG) facility in Berkeley County last May.

Based on a telephone survey of scrap tire facilities and processors, 7 million South Carolina scrap tires were recycled into a variety of products in 2003. The table below provides a 5-year comparison of the number of tires processed and end-market utilization.

SC Tire Markets Five-Year Trend Analysis

	1998	1999	2000/01	2002	2003
Tires processed (millions)	3.34	3.99	8.0	6.9	7.0
Septic drain field	80%	88%	52%	42%	26%
Tire derived fuel	13%	10%	34%	35%	58%
Crumb rubber	1%	2%	4%	14%	7%
Civil Engineering	0	0	9%	1%	5%
Landfilled	6%	0	0	8%	4%

The tire derived fuel (TDF) market has consistently grown since 1998 but the increase in market share over the previous year has grown by 66%. These figures support the national trend toward greater usage of TDF to reduce fuel costs, especially in cement kilns and pulp and paper mills. Because TDF commands a higher price than tire chips for drainage applications, the increased market for TDF is favorable to scrap tire processors, benefiting their financial viability.

This significant growth in TDF demand has reduced the availability of processed tires as drainage media. This market has dropped from 42 percent in 2002 to 26 percent this past year. Crumb rubber production appears to have also been negatively affected, losing 7 percentage points from last year.

2004 Forecast

Markets for products derived from scrap tires are expected to remain strong in 2004. The demand for TDF alone could outpace the supply, with the continued use of this material by pulp and paper mills and cement kilns. Road construction projects facilitated by the Clemson Asphalt Recovery Technology Service (ARTS) Center, along with the growing sports turf and playground market will create stable, but small demand for processed crumb rubber.

Future Trends

Market demand for processed scrap tires should remain stable in the near future. The market for tire chips as drainage media may continue to give way to higher price materials such as TDF and crumb rubber. Crumb rubber production and demand should continue to grow in South Carolina.

RMDAC Action

The Council will continue to encourage the use of crumb rubber in asphalt rubber paving and other added value applications for recycling scrap tires in South Carolina.

APPENDICES

APPENDIX A

South Carolina Recycling Market Development Advisory Council

APPOINTEES

A. Gerald Fishbeck
United Resource Recovery

Clarence H. Hermann
Michelin Tire Corporation

Vic Carpenter
Anderson County

Kay Clamp
SC Petroleum Council

Scott Courtney
ALCOA

Phil Ammons
Wellman, Inc.

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Allied Waste Systems

Vacant

Vacant

STAFF

Ted Campbell
Senior Manager

Karen Owens
Manager

REPRESENTING

Recycling Industry
Chairman, RMDAC

Tire Industry
Vice-Chairman, RMDAC

County Government

Petroleum Industry

Aluminum Industry

Plastics Industry

Municipalities

South Carolina Department Of Commerce

Paper Industry

Higher Education Research

Scrap Metal Industry

Solid Waste Collection and Disposal Industry

Glass Industry

General Public

APPENDIX B

County	Company Name	Phone	Address	Materials Accepted
Aiken	Gloverville Pallet Service	803-593-2825	112 Pine Street, Gloverville, SC 29828	Pallets
Anderson	Marshane Corporation	864-296-3417	1007 Hayes Road, Anderson, SC 29624	Pallets
Anderson	The Pallet Patch	864-352-6194	8319 Hwy 81 South, Starr, SC 29684	
Anderson	Trash Away, Inc.	864-845-8355	PO Box 51051, Piedmont, SC 29673	Pallets, Land-clearing debris
Anderson	Taylor Pallets & Recycling	864-296-5001	3571 Abbeville Hwy Anderson, SC 29642	Pallets
Anderson	Ace Environmental Inc	864-947-8100	508 Cherokee Rd, Pelzer, SC 29669-9183	Pallets, C&D, LCD
Anderson	Anderson Woodwaste & Recycling	864-226-2629	685 Monitor Dr. Anderson, SC 29624	Wood pallets and crates, land-clearing debris
Beaufort	LCR Construction	843-522-3955	190 Cherokee Farms Road, Beaufort, SC 29906	Land-clearing debris
Beaufort	Barnwell Resources	843-525-6137	490 Brickyard Point Road S Beaufort, SC 29907	Yard debris, Land-clearing debris
Berkeley	Bob Hammond Construction	843-761-1655	PO Box 1857 Moncks Corner, SC 29461	Land-clearing debris, pallets
Cherokee	Cherokee Pallets	864-489-8452	497 East Junior High Road, Gaffney, SC 29340	Pallets
Chester	Bailey's Pallet Company	803-374-0671	1421 Collie Lane Chester, SC 29706	Pallets
Chesterfield	P&L Bark	843-672-5553	Rt 4 Box 281-A Pageland, SC 29728	Pallets, stumps, yard debris, construction waste
Dorchester	Jenner Trucking	843-875-5553	136 Whipperwill Drive, Summerville, SC 29483	Land-clearing debris, yard trash
Dorchester	B&B Pallets	843-270-7145	1700 W 5th N Street Summerville, SC 29483	Pallets
Fairfield	Kaiser Enterprises	803-600-3796	894 Cork Road, Ridgeway, SC 29130	Land-clearing debris (LCD)
Florence	Greenpak Inc.	843-629-8062	1728 Marlowe Avenue, Florence, SC 29506	Pallets
Florence	Carter Transfer	843-394-3114	346 Church Street	
Florence	Estes Trucking	1-800-728-1845	1332 Ebenezer Road, Darlington, SC 29532	Pallets
Greenville	Pallet Solutions	864-895-2145	4581 N Hwy 14 Greer, SC 29651	Pallets, wood crates, industrial wood waste
Greenville	Hensons Inc.	828-859-5836	Simpsonville, SC	Land-clearing debris
Greenwood	Southern Wood Industries	864-229-4210	111 Merriman Avenue, Greenwood, SC 29646	Pallets
Hampton	Hampton County Landfill	803-625-0197	Luray Road Luray, SC 29932	Yard debris, LCD, pallets
Jasper	Bunton Construction	843-987-3105	Rt. 1 Ridgeland, SC 29936	Land clearing debris
Lancaster	O'Neal & Son	803-285-4389	1248 Hammonds Carnes Road, Lancaster, SC 29720	Landclearing debris
Laurens	IFCO Systems	864-876-2508	2174 Quarry Road	Pallets
Lexington	Carolina Materials Corporation	803-808-3344	150 Carl Drive, Lexington, SC 29073	asphalt
Lexington	Hansen Pallet Company	803-894-3082	1334 Elbert Taylor Road Pelion, SC 29123	Pallets
Lexington	S&T Grading & Excavation	803-951-3744	5040 Sunset Boulevard, Lexington, SC 29072	LCD, construction debris
Mecklenburg, NC	Custom Pallet & Crating	704-921-1100	5104 N. Graham St, Charlotte, NC 28269	Pallets, crates, wood containers
Newberry	Quality Woodworks	803-276-1127	913 Cline Street Newberry, SC 29108	Pallets
Richland	Carolina Materials Corporation	803-808-3344	PO Box 8023 Columbia, SC 29202	C&D debris
Spartanburg	S&W Pallet Company	864-474-2694	188 Chapman Road, Pacolet, SC 29372	Pallets
Spartanburg	Custom Forest Products, Inc	800-845-1996	145 Coastline Road, Spartanburg, SC 29301	Pallets, crates, OSB
Spartanburg	Hughes Pallets	864-585-8875	2141 Oakhurst Circle, Spartanburg, SC 29302	
Spartanburg	Carolina Custom Pallets	864-433-0445	405 Pine Hills Road Woodruff, SC 29388	Pallets
Spartanburg	Countryside Wood Grinding	864-494-1411	139 Reedy Street, Roebuck, SC 29376	Pallets and industrial wood waste
Sumter	Low Country Pallets	803-506-4040	60 Contractors Ct. Sumter, SC 29150	Pallets
York	Bennett Wood Products	803-547-4359	3171 Pikeview Rd, Fort Mill, SC 29715	Pallets

APPENDIX C

**FOR IMMEDIATE RELEASE:
May 6, 2003**

**Contact: Mary Pat Baldauf
Keep the Midlands Beautiful
(803) 733-2526**

**Karen Owens
Recycling Market Development Advisory Council
(803) 737-0239**

Midlands Electronics Recycling Event draws nearly 9 tons of computers

Irmo, SC – A recent Electronics Recycling Collection held as part of the Earth Day Irmo festivities last month generated 8.75 tons of outdated electronic equipment. And the recurring theme among the nearly 150 participants was the desire to have this service available again.

Earth Protection Services Inc., located in Williamston, SC, provided a truck and staff to haul the collected computers, monitors and peripherals, televisions, VCRs, stereo equipment and other outdated electronics for recycling. The items will be transported to a sister-plant in Arizona for de-manufacturing and the recyclable components sold off.

“There was an overwhelming expression of support for recycling old computers and other electronic devices,” said Ted Campbell, manager of the S.C. Recycling Market Development Advisory Council, which helped co-sponsor the event. “Not only did we get a significant amount of electronics, we also got an interesting snapshot about residents knowledge on recycling.”

According to the S.C. Recycling Market Development Advisory Council, the growing volume of discarded electronics has made many states look at options for recycling this material. There are also concerns about the safety of landfilling these items that contain potentially toxic materials such as lead and mercury. For more than five years, the Council has actively promoted the establishment of an Electronics Recycling Program in South Carolina.

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Similar to existing recycling programs for tires, motor oil, lead-acid batteries and white goods, there would be a \$5 an Advanced Recycling Fee on the purchase of new Cathode Ray Tube (CRTs) monitors and televisions. The monies would be placed in a special trust fund that would support grants to local governments to develop a recycling infrastructure for all discarded electronics. There would also be money available for public education programs on electronics recycling as well as loans to recycling businesses advancing new technologies for safer products or recycling options.

Many of the participant were aware of the existing recycling fees and supported paying anywhere from a couple of dollars to \$25 to properly recycle e-waste. When asked if they looked to electronics manufacturers as the source for recycling, none of the Midlands participant chose that option. Recently Dell and Hewlett-Packard have touted their recycling programs as better alternatives to local collection programs.

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Electronics Collection Event Break Down

Sponsored by Earth Protection Services, Inc.; Carolina Recycling Association's Midlands Networking Council; SC Recycling Market Development Advisory Council; SC Department of Health & Environmental Control and Keep the Midlands Beautiful

Collected 17,500 pounds, 647 equipment units
Served estimated 150 participants

Averages

27 pounds/unit
117 pounds/participant

<u>Distribution by number of units</u>	<u>#'s</u>	<u>%</u>	
CRT's and TV's ³	176	27.2	
Computers and Peripherals (keyboard, mice)	120	18.5	19.2
Printers, scanners	71	11	
Telephones ⁴		13	2
VCR's		26	4
Stereo equipment	27	4.1	
Office equip- fax and copiers		15	2.3
Miscellaneous	75	11.6	

³ Includes estimated 6 large console TV's weighing considerably more than average television

⁴ Does not include cell phones, which were collected separately

APPENDIX D

Case Study

C.A.S.T. Minerals, Inc. *Use of Ash in Lightweight Concrete*

C.A.S.T. Minerals (CAST) operates a mineral processing facility at the Santee Cooper Generating Station near Georgetown, SC. CAST processes and recycles the ash by-product from this coal-fired electricity generating utility, furnishing up to 40,000 tons per year of lightweight aggregate to make lightweight masonry blocks.

CAST successfully used a market development grant from the South Carolina Department of Commerce's Recycling Market Development Advisory Council (RMDAC), which the Council received as part of grant from the United States Environmental Protection Agency, to test its aggregate product in lightweight concrete. This type of concrete is used for multiple storied buildings where weight limitations are desired for structural reasons, for bridge decking where lighter spans are desired for structural reasons, and for pumping concrete over horizontal and vertical distances where the lightweight nature of the concrete aids in placing the material properly. Lightweight concrete mixes are often a combination of virgin shale or slate produced from mining operations in North Carolina combined with local sands and cement produced in South Carolina.

Market analysis shows that durability issues and high material cost have limited the option to use lightweight concrete in many cases. CAST previously evaluated the use of granite stone mined in South Carolina with their lightweight sand material as an alternative combination. The granite is very durable and the total weight objectives can be met with this aggregate that is one-third lighter than sand. The limited testing done to date resulted in concrete that met the strength objectives or weight objectives but not both simultaneously.

The structural test objectives for the mix design in this project were set for a weight of less than 115 pounds per cubic foot and a strength of 3000 pounds per square inch (psi). The mixtures successfully met these parameters. Expanded markets for the ash will allow CAST to recover ponded ash as well as recycle the new ash material generated at the power plant. Ultimately the pond should be restored to its natural state and the landfilling of ash eliminated. CAST hopes to expand this effort to Santee Cooper's Cross Generating Station in Cross, South Carolina.

CAST also tested lightweight block fill in lieu of filling blocks with normal weight concrete. As a result of the grant, the company tested this concept and has successfully sold material into this market. Standard concrete, at 135 pounds per cubic foot, is replaced with mixtures of CAST lightweight aggregate and sand or stone to provide a fill that is 15 percent lighter than conventional aggregate. The filled blocks increase the fire rating, R Value, and reduce sound transmission. The lighter wall system reduces the tendency of the wall system to buckle in wind and earthquake events. Wall foundation cost is also reduced.

According to Tommy Edens, Santee Cooper's administrator for Combustion Products Utilization, the partnership with CAST and RMDAC has helped the utility reach a 72 percent recycling rate in 2003 at the Winyah plant. "Not only have we been able to reduce the need for additional storage at the plant, but our continued partnership with CAST should maximize recycling of bottom ash into 2004 and our expansion to the Cross facility will help us meet increased demand for this material," Edens added. "We are pleased our efforts to work with CAST and the Department of Commerce have resulted in a 'Green Building' product made from a Santee Cooper waste product that is helping save our state's natural materials."

APPENDIX E

FOR IMMEDIATE RELEASE

Contact: Clare Morris, SC Commerce (803) 737-0402
Jim Anderson, RTG (519) 241-1144,ext 212

Date: 05/28/2003

Recovery Technologies Group Celebrates Grand Opening and 100th Anniversary of Ford Motor Company

Moncks Corner, SC - State and local leaders participated in the grand opening of Recovery Technologies Group (RTG) on Wednesday, May 28 at RTG's facility located at 1620 Cypress Gardens Road in Moncks Corner. The event also celebrated the 100th anniversary of Ford Motor Company, a major RTG client.

RTG is the largest tire recycler in North America, processing in excess of 40 million of the 300 million tires generated annually on the continent. In 2003, RTG's crumb rubber production will exceed 200 million pounds.

The company has 16 locations throughout North America, with three in Canada and 13 in the United States. RTG collects tires in all 50 states and in three Canadian provinces. Using a proprietary cryogenic recycling technology, RTG provides crumb rubber to numerous manufacturers for a variety of applications.

Some markets for crumb rubber include rubberized asphalt, artificial turf, children's playgrounds, turf improvement for athletic fields, rubber mat manufacturing, recycled plastic and rubber blending applications, landscape mulch, carpet underlay, and animal mats and mattresses.

Started in Canada in 1989, RTG employs more than 600 people and subcontracts with hundreds of individuals and companies for collection services. In addition to helping several states with cleaning up tire stockpiles, the company has long-term contracts with many of the major national scrap tire generators.

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APPENDIX F

FOR IMMEDIATE RELEASE

Contact: Helen Munnerlyn, South Carolina Dept. Commerce / (803) 737-0481
Earth Protection Services, Inc. (864) 847-7700

Date: 02/19/2003

Company Opens Electronic Products Recycling Operation In Anderson County

Earth Protection Services, Inc. to serve region

COLUMBIA, SC - Earth Protection Services, Inc. (EPSI), a premier recycler of lighting and electronic equipment, has opened a regional recycling operation in Williamston, SC. The Phoenix, AZ based company is located in two facilities on US Highway 29 North with direct access to I-85. With a capital investment of \$2 million, the company currently plans to create 20 new jobs within five years. Wages for truckers are on average \$14.50 an hour and production workers about \$9.00 per hour. As part of South Carolina's statutory business incentive program, Earth Protection Services may take advantage of Job Tax credits. The move to Anderson County will assist EPSI in serving their customers located in the Atlantic and southeastern states. The company also has facilities in PA, CA, OR and TX.

EPSI processes harmful and hazardous materials found in lighting fixtures, fluorescent and HID lamps, ballasts, and other industrial waste streams. The company specializes in electronic waste, computer monitors, televisions, circuit boards, batteries, capacitors, and personal computers. Their processes return recycled materials to reusable commodities, ensuring regulatory compliance and guaranteeing customer satisfaction. Additional company information may be found at www.earthpro.com the company website.

Many high-technology products contain hazardous materials, such as mercury and PCBs, which require proper management according to state and federal regulations. EPSI's services save its customers money while also helping them avoid potential health hazards and reducing their potential liability.

"Recycling for profit is something that S.C. Commerce has looked for many years to assist the business community and our environment," added Secretary of Commerce Bob Faith. "Putting those high-tech products to good use when they've become waste is critical for our state's limited resources and will add to our good stewardship of South Carolina."

John Chilcott, President of Earth Protection Services, Inc., stated that working with the Department of Commerce, Department of Health and Environmental Quality and the Anderson County Departments was a model that other states and counties should adopt. "Every agency kept all promises made and reacted with a high degree of professionalism. It has been a pleasure to work with all of the agencies."

"Today's announcement that Earth Protection Services will locate its new facility along US 29 in the Williamston area is great news during these times of economic uncertainty. This company will provide much needed jobs and investment for our county. It will also serve to protect the environment through recycling and save county funds by reducing the amount of industrial waste that goes into our landfill," said Bill Dees, chairman of Anderson County Council.

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Anderson County welcomes EPSI and is fortunate to have such an environmentally friendly company locating within our borders," said Anderson County Administrator Joey Preston. "EPSI will provide good jobs and capital investment and will also serve the important recycling needs of our businesses and industries throughout the county."

"I'm excited that EPSI will make Anderson County the home for its new recycling facility. EPSI will provide a good combination of employment opportunities and environmental stewardship that fits the recruitment model of the Anderson County," said John Lummus, Anderson County Office of Economic Development.

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