

**South Carolina Department of Commerce  
Recycling Market Development Advisory Council  
2011 Annual Report**



**A Green State of Mind**

state of business. world of opportunity.

*Submitted to Governor and General Assembly on March 15, 2012*

## Table of Contents

Recycling Market Development Advisory Council Members	1
Recycling Market Development Advisory Council Overview	3
South Carolina Solid Waste Management and Policy Act	4
Recycling’s Impact on South Carolina	5
Recycling Related Investments	6
Recycling Market Development Advisory Council Work Plan	10
Recycling Market Development Program	23
South Carolina Smart Business Recycling Program	30
South Carolina Recycling Council	31
Recycling Related Legislation and Regulations	33
Business Resources	34
Recycling Markets	37
Ferrous	37
Nonferrous Metals and Aluminum	38
Glass	41
Paper	43

Plastics		44
Scrap Tires		45
Used Oil		47
Appendix		50
Appendix A	Market Survey	51
Appendix B	Recycling Profiles	54
Appendix C	Recycling Symposium Agenda	106
Appendix D	Recycling Directory Form	107
Appendix E	Scrap Tire Survey	108
Appendix F	Waste Tire Processors' Meeting Agenda	110

---

---

## RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

---

---

**Mr. Gerald Fishbeck, Chair**

United Resource Recovery Corporation

Represents: Recycling Industry

**Mr. Norman Chandler**

Republic, Inc.

Represents: Solid Waste Industry

**Mr. Ronnie Grant, Vice Chair**

Sonoco

Represents: Paper Industry

**Mr. Vic Carpenter**

Kershaw County

Represents: County Government

**Mr. Ed Marr**

Greater Greenville Sanitation Commission

Represents: Municipalities

**Mr. Larry McCaskill**

Alcoa Mt. Holly

Represents: Aluminum Industry

**Ms. Kira Roff**

Fisher Recycling-Grand Strand

Represents: Glass Industry

**Mr. Phil Ammons**

Plastics Provider, Inc.

Represents: Plastics Industry

**Ms. Kristen Brown**

My Eco

Represents: General Public

**Mr. Lin Longshore**

Safety-Kleen

Represents: Petroleum Industry

**Mr. Art Levy**

OmniSource Southeast

Represents: Scrap Metal Industry

**Mr. Jim Schaefer**

Michelin

Represents: Tire Industry



---

---

**RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL  
(CONTINUED)**

---

---

**Ms. Donna London**

Clemson University

Jim Self Center on the Future

Represents: Higher Education and Research

**Mr. Michael Baird**

Milliken

Represents: South Carolina Department of Commerce

**STAFF**

**Chantal Fryer**

South Carolina Department of Commerce

**Tonya Lott**

South Carolina Department of Commerce

---

---

# RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL OVERVIEW

---

---

Created by the Solid Waste Management Act of 1991, the Recycling Market Development Advisory Council (RMDAC) is comprised of 14 governor-appointed members representing:

- Recycling industry
- Government
- Higher education
- Solid waste industry
- Citizen affiliations.

RMDAC's mission is to facilitate job growth and capital investment by assisting recycling industry companies operating within the state through programs that:

- Encourage markets for recyclable materials
- Increase the recovery of recyclable materials
- Connect new and existing companies with outlets for recyclable products.

RMDAC and the South Carolina Department of Commerce (Commerce) have a proven track record of providing business development and technical assistance to the state's recycling industry. RMDAC is supported by Commerce's Recycling Market Development staff.

During 2011, RMDAC met six times. Three meetings were held at Commerce and the others were held in conjunction with the South Carolina Recycling Council (SCRC). Those meetings were held in Columbia, South Carolina at Clemson Sandhills, Midlands Technical College Northeast and Hilton Columbia Center. During the RMDAC meetings, council members:

- Outlined and implemented its DHEC contractual work plan
- Reviewed and updated Council bylaws.
  - Changed Article 7 Section 3 by adding the phrase "simple majority of council members".
- Investigated opportunities to work with the SCRC and other partners to increase markets and the recovery of materials.

In December 2011, Michael Baird, Commerce representative, transitioned off the Council. RMDAC is working with the Governor's Office and Commerce to fill the vacancy.

---

---

## SOLID WASTE MANAGEMENT AND POLICY ACT

---

---

RMDAC is required by the South Carolina Solid Waste Policy and Management Act to incorporate elements such as the following in its annual report:

**Revisions which the council determines are necessary to its initial report:**

*There are no revisions to be added*

**A description and analysis of the amounts and types of solid waste materials recovered or recycled in South Carolina during the preceding year:**

Per DHEC in fiscal year (FY) 2011:

- *1,138,545 tons were recycled and 3,065,806 tons were landfilled*
- *The municipal solid waste (MSW) recycling rate was 27.1 percent*
- *The MSW disposal rate was 3.6 pounds per person per day.*

*RMDAC will continue to work with DHEC to encourage business reporting, identify markets and develop strategies to help increase recycling participation.*

**Recommendations regarding materials which should be added or deleted from source separation, recovery and recycling programs:**

*RMDAC will continue to promote recycling and sustainable material options for:*

- *Scrap tires*
- *Glass*
- *Plastics*
- *Carpet*
- *Construction and demolition (C&D)*
- *Organic waste*



**Other recommendations, to facilitate the development of markets for recovered materials or product:**

*RMDAC will continue to work with the SCRC to stay abreast of recycling related legislation to understand how policy may affect recycling businesses and market development opportunities.*

---

## RECYCLING's IMPACT ON SOUTH CAROLINA

---

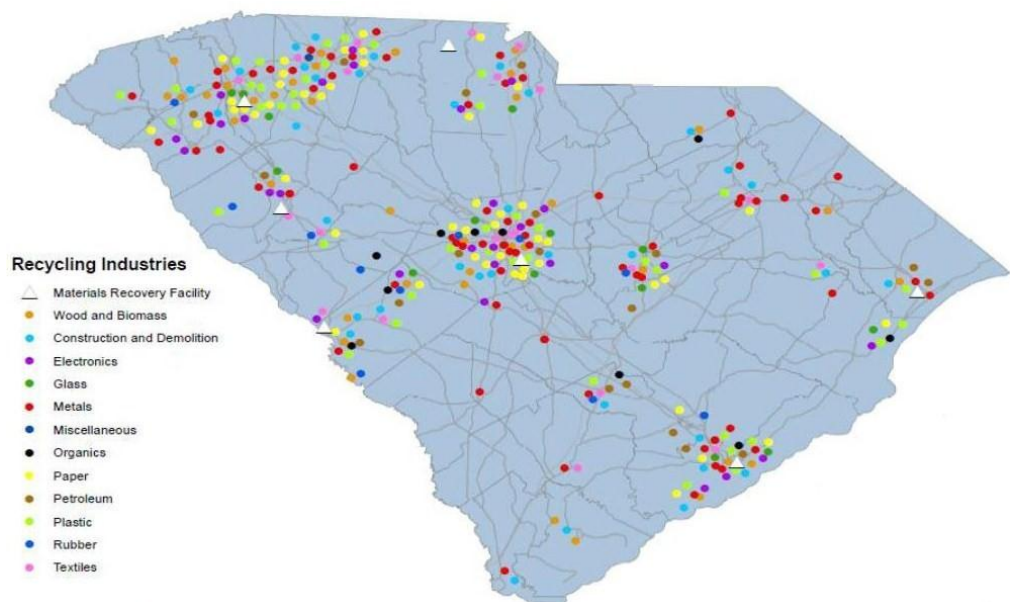
Recycling boasts a strong economy in South Carolina. The 2006 economic impact study by College of Charleston economists Frank Hefner and Calvin Blackwell attributed the state's recycling industry to:

- 37,440 jobs
- \$1.5 billion in personal income
- \$6.5 billion economic impact
- \$69 million state tax revenue
- Over \$11 billion estimated total economic impact for 2011



South Carolina's recycling industry has over 450 recycling related businesses such as haulers, processors, brokers and end-users that connect South Carolina businesses with affordable, quality feedstock which helps grow the recycling and manufacturing sectors. Recycling industry markets include:

- Paper
- Plastics
- Metal
- Glass
- Petroleum
- Textiles
- Electronics
- Wood and biomass
- C&D
- Organics
- Rubber



Recycling creates the opportunity to:

- Create green jobs
- Generate products manufactured from recycled content
- Reduce the amount of material landfilled.



According to DHEC, it is estimated that in South Carolina nearly 348,000 tons of easily recyclable material may have been disposed of in landfills in FY 2011. Using the state's Class 3 average tipping fee of \$36, it is estimated that more than \$12.5 million was spent to dispose of this material and about \$47.4 million in potential revenue from the sale of these recyclables may have been lost, based on the average revenue received per ton by local governments for each of these types of material.

## Energy

Recycling is a sustainable use of resources. The steps in supplying recycled materials to industry (collection, processing and transportation) typically use less energy than the steps in supplying virgin materials (extraction, refining, transportation and processing). For example, using recycled aluminum to manufacture products requires 95 percent less energy than from virgin material. To highlight recycling's economic and environmental benefits, RMDAC's staff works with businesses and industry to promote the use of recycled materials as a best management practice in the manufacturing process.

---

## RECYCLING RELATED INVESTMENTS

---

As the recycling industry continues to grow, new companies are coming to South Carolina and existing industries are expanding their operations. During 2011, South Carolina's recycling industry announced:

### Capital Investments

- \$333 million

### Jobs

- Over 800 created

### Companies

- 15 new or existing companies invested in the state

In addition to recycling, the green industry sector made a significant impact on the state's economy. The green industry sector is comprised of companies that recycle materials, increase the efficiency of energy usage, renewable sources of energy and help reduce the use of fossil fuels, pollution and greenhouse gas emissions. In 2011, South Carolina's green industry's announced:

#### Capital Investments

- \$Over 526 million

#### Jobs

- Over 2,700 created

#### Companies

- Addition of 25 new or existing companies

In 2011, the total green economy jobs in South Carolina, which includes recycling and green industry investments, led to:

#### Capital Investments

- \$859 million

#### Jobs

- Over 3,500 created

#### Companies

- 40 new or existing expansions

## 2011 Recycling and Green Investments



### AQT SOLAR

- Plans to build a facility in Richland County creating 1,000 jobs.
  - Plans to create 1,000 jobs at its LEED Silver Certified facility over the next four years.
- 

### CAROLINA AAC



- Plans to open a facility in Marlboro County to manufacture energy efficient building material.
  - \$16 million investment will create 36 direct jobs and 14 in the future.
- 

### BE GREEN PACKAGING, LLC



- Will locate its manufacturing and distribution center in Jasper County.
  - Plans to invest \$7.3 million and expects to generate 175 new jobs over the next five years.
- 

### CLIMAX GLOBAL ENERGY, INC.



- Will locate a new state-of-the art plastics-to-oil recycling facility in Barnwell County.
  - \$5 million investment is expected to generate 20 new jobs.
- 

### ECAPS CORPORATION



- A start-up “green” building materials aluminum cladding business.
  - Will locate its manufacturing and distribution facility in Marlboro County.
- 

### SOUTHEAST RENEWABLE ENERGY



- Will build a renewable energy facility and 15-megawatt biomass energy plant in Dorchester County and sell green power to Santee Cooper.
  - \$50 million investment is expected to generate 20 new jobs over the next five years
-

## SONOCO

- Investing \$100 million to upgrade its Darlington facility.
- Expected to generate up to 10 new jobs



---

## TIRE INTERNATIONAL

- \$25 million investment in Berkeley County.
- Expected to generate 150 new jobs.



---

## PRETTL ELECTRONICS GREENVILLE INC.

- Manufacturer of inverters for solar panels and wind turbines.
- Will add at least 80 new jobs in Greenville County.
- An investment of upwards of \$1.5 million.



---

## NEM USA

- Global leader in heat recovery steam generators and industrial and utility boilers.
- Expects to generate 40 new jobs over the next two years in Greenville County.



---

## GLOBAL ENERGY FRANCISE

- Plans to establish a new manufacturing facility in Cherokee County.
- Expected to generate over 200 new jobs over the next five years.



---

## CUMMINS TECHNICAL CENTER CHARLESTON

- Designer and tester of diesel engines and parts.
- Plans to expand its Charleston County operations and invest more than \$24 million.
- Expected to generate 31 new jobs.



\*Some announcements are confidential.



---

---

# RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL WORK PLAN

---

---

## Internet Marketing Strategy

The objective of the Search Engine Optimization (SEO) and Search Engine Marketing (SEM) campaign is to drive recycling industry searchers to the online recycling directory.

SC **Recycling** Directory - Find **recycling** services  
[www.recyclinginsc.com/](http://www.recyclinginsc.com/)  
Go green for less green.

Ads - Why these ads?

From September 1, 2010, to August 31, 2011, SEM activities resulted in 19,264 clicks to Commerce's Recycling Markets Directory and 4,312,786 impressions. Each time an ad displays, it is counted as one impression. Text ads were geo-targeted for North Carolina, Virginia and Georgia to drive to South Carolina. The geo-targeting focus then concentrated on South Carolina.

The South Carolina Recycling campaign delivered 4,312,786 impressions and 19,264 clicks from September 1, 2010, through August 31, 2011. From September 1, 2011 to October 15, 2011, the campaign was paused and re-started on October 19, 2011, in anticipation of RMDAC's new contract year and reduced funding level for the campaign.

## SEM definitions:

*Impressions* – The number of times text ads are shown as a result of a specific search term(s). It does not include how many times text ads are clicked.

*Clicks* – The number of times text ads are clicked.

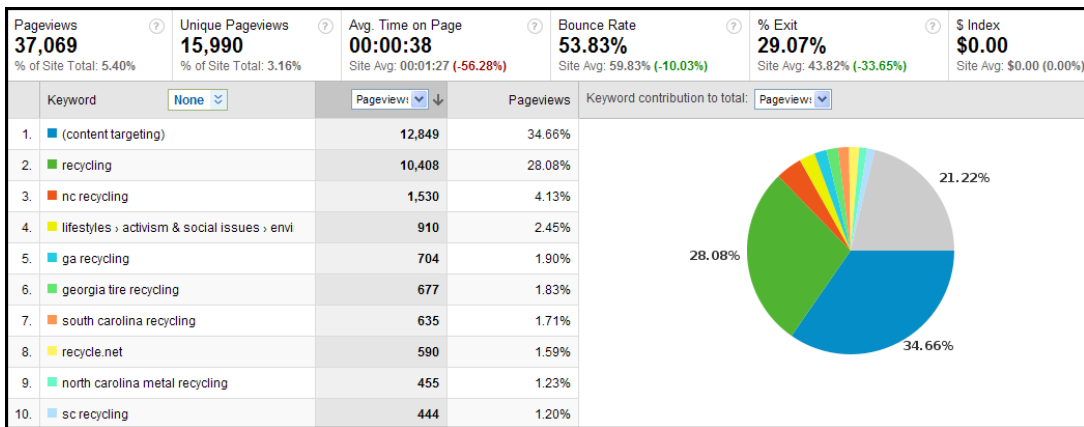
*Click Through Rate (CTR)* – Obtained by dividing the number of users who clicked on an ad on a web page by the number of times the ad was delivered (impressions).

*Cost Per Click (CPC)* – The amount of money an advertiser pays search engines and other internet publishers for a single click on its advertisement that brings one visitor to its website.

<b>Fiscal Year: September 1, 2010 – August 31, 2011</b>					
<b>Campaign</b>	<b>Clicks</b>	<b>Impressions</b>	<b>Average Position</b>	<b>CTR</b>	<b>CPC</b>
SC Recycling	3,453	333,626	2.5	1.03%	\$1.23
SC - Recycling - Contextual	4,974	1,664,563	2.0	0.30%	\$1.14
Recycling North Carolina	4,029	973,076	2.9	0.41%	\$1.34
Recycling Georgia	3,865	578,381	2.9	0.67%	\$1.44
Recycling Virginia	191	29,181	3.1	0.65%	\$1.06
Recycling Tennessee	69	7,643	2.9	0.90%	\$0.80
Recycling Alabama	45	5,023	2.9	0.90%	\$1.14
SC - Recycling - Placement	331	662,058	2.8	0.05%	\$1.60
SC - Recycling - Search	2,307	59,235	1.6	3.89%	\$1.98
<b>TOTAL</b>	19,264	4,312,786			

The Recycling Markets Directory, which all pay per click ads point to, was hosted on two pages during the last fiscal year. From November 1, 2010 through July 20, 2011 the directory was hosted on <http://maps.scommerce.com/resource/recyclingdirectory.aspx?q=Recycle>. This page had a total of 37,069 page views via 156 keywords.

From July 20, 2011, through August 31, 2011, the directory was hosted on <http://scommerce.com/existing-sc-business/recycling-market-development/recycling-markets-directory>. This page had a total of 1,306 page views via 983 keywords. The total page views were 38,375. Views driven by paid search were 19,264 and the percentage of page views driven by paid search was 50.2 percent.



<b>CAMPAIGN SUMMARY</b>	<b>Fiscal Year</b>
Search – Recycling	September 1, 2010 – August 31, 2011
Impressions	4,312,786
Clicks	19,264
Click Thru Rate (CTR)	0.98%
Cost Per Click (CPC)	\$1.30

<b>CAMPAIGN SUMMARY</b>	<b>Fiscal Year</b>
<b>Search – Recycling</b>	<b>September 1, 2010 – Aug. 31, 2011</b>
Impressions	4,312,786
Clicks	19,264
Click Thru Rate (CTR)	0.98%

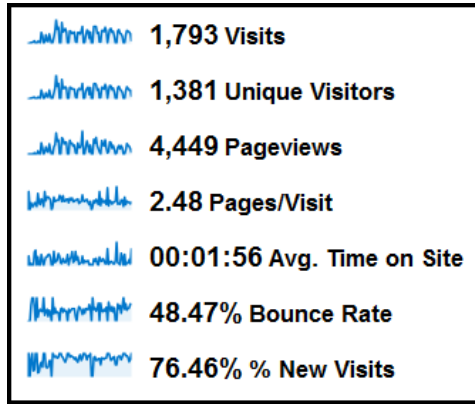
## Recycling Pay Per Click and Analytics

<b>October 1, 2011 – December 31, 2011</b>	
	<b>Recycling</b>
<b>Impressions</b>	20,364
<b>Clicks</b>	1,100
<b>CTR</b>	5.40%
<b>CPC</b>	\$0.93
<b>Spend</b>	\$1,026.06

Below are the top performing keywords based on the CTR.

	<b>Keyword</b>	<b>Ad Group</b>	<b>CTR</b>	<b>Impressions</b>
1	glass recycling business	SC Economy	33.33%	3
2	commercial recycling	Commercial	28.57%	7
3	paper recycling companies	SC Economy	14.29%	7
4	recycle business	SC Economy	14.29%	14
5	tire recycling companies	SC Economy	13.33%	15
6	electronic waste recycling	Waste Management	12.00%	25
7	rubber recycling	Recycling	11.59%	69
8	newspaper recycling	Recycling	11.38%	167
9	tire recycling	Recycling	10.56%	360
10	South Carolina electronics recycling	SC Recycling	10.06%	159

Below are the top 10 keywords based on the number of clicks.



### Top Keywords

	Keyword	Ad Group	Clicks	Impressions
1	Charleston recycling	Recycling	128	1968
2	SC recycling	SC Recycling	122	3365
3	scrap metal recycling	Recycling	87	1511
4	aluminum recycling	Recycling	81	989
5	electronics recycling	Recycling	72	742
6	Greenville recycling	Recycling	65	1160
7	South Carolina recycling	SC Recycling	60	1471
8	Columbia recycling	Recycling	60	820
9	tire recycling	Recycling	38	360
10	paper recycling	Recycling	37	530

## Top Referral Sites

Source	Visits	↓	Pages/Visit	Avg. Time on Site	% New Visits	Bounce Rate
1. <a href="http://sccommerce.com">sccommerce.com</a>	264		3.30	00:03:17	64.02%	34.85%
2. <a href="http://scdhec.gov">scdhec.gov</a>	30		3.37	00:03:51	60.00%	30.00%
3. <a href="http://newcarolina.org">newcarolina.org</a>	24		3.96	00:04:57	62.50%	16.67%
4. <a href="http://slowfoodottawagatineau.org">slowfoodottawagatineau.org</a>	12		1.00	00:00:00	100.00%	100.00%
5. <a href="http://www.slowfoodottawagatineau.org">www.slowfoodottawagatineau.org</a>	5		1.00	00:00:00	100.00%	100.00%
6. <a href="mailto:co112w.col112.mail.live.com">co112w.col112.mail.live.com</a>	3		4.33	00:04:34	66.67%	0.00%
7. <a href="http://md03.emerald.synacor.com">md03.emerald.synacor.com</a>	3		2.00	00:02:36	33.33%	0.00%
8. <a href="http://citizensforsoundconservation.com">citizensforsoundconservation.com</a>	2		1.00	00:00:00	50.00%	100.00%
9. <a href="http://keepthemidlandsbeautiful.org">keepthemidlandsbeautiful.org</a>	2		6.50	00:08:33	100.00%	0.00%
10. <a href="http://sc.myecoville.com">sc.myecoville.com</a>	2		4.50	00:02:00	50.00%	0.00%

## Top Countries

Country/Territory	Visits	↓	Pages/Visit	Avg. Time on Site	% New Visits	Bounce Rate
1. United States	1,745		2.49	00:01:56	76.16%	47.85%
2. Canada	6		1.50	00:00:14	100.00%	50.00%
3. Russia	6		1.00	00:00:00	100.00%	100.00%
4. Colombia	5		4.80	00:02:16	40.00%	0.00%
5. Spain	3		7.33	00:19:10	100.00%	0.00%
6. Indonesia	3		1.00	00:00:00	100.00%	100.00%
7. South Korea	3		4.67	00:05:57	66.67%	33.33%
8. Australia	2		1.00	00:00:00	50.00%	100.00%
9. Brazil	2		1.00	00:00:00	100.00%	100.00%
10. Germany	2		3.00	00:01:10	100.00%	50.00%

## Used Oil

Used oil is a commodity that can be used as fuel in facilities such as cement kilns. It is also a source for re-refined oil. Per the Solid Waste Management Act, motor oil cannot be disposed of via:

- Ground surfaces
- MSW landfills
- Sewers
- Drainage systems
- Septic tanks
- Surface water
- Groundwater.

This ban helped create feedstock for the used oil recycling market.

Information on re-refined oil was shared with the Palmetto State Clean Fuels Coalition for use in outreach and education material to businesses, government and non-profits. Inquiries were made by the South Carolina Budget and Control Board's Materials Management Office (MMO) to state procurement officials to determine if re-refined oil could be put on state contract. MMO indicated only a small amount of interest existed for re-refined oil which did not warrant a state term contract.

RMDAC's petroleum industry representative, Lin Longshore, kept the Council abreast of proposed Environmental Protection Agency (EPA) rules regarding the definition of solid waste. The EPA proposed to revise certain exclusions from the definition of solid waste for hazardous secondary materials intended for reclamation that would otherwise be regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The purpose of the proposed revisions is to ensure that recycling regulations, as implemented, encourage reclamation in a way that does not result in increased risk to human health and the environment from discarded hazardous secondary material. If promulgated, this rule would have a significant effect on how used oil is managed in the U.S. Off-spec oil would not be allowed to be blended with on-spec used oil as a fuel. It could only be burned in Clean Air Act Section 129 units, which are scarce in the U.S. Many small oil collectors could potentially go out of business which could then present a challenge for off-spec oil collection.

Without MMO's support to place re-refined oil on state contract, it is not likely that recycled oil will be used in state fleets in the near term. However, re-refined oil products are available commercially.

## Markets for Recyclable Commodity Materials and Recycling Industry Guide

Market research was performed to find, establish and promote markets for common recyclable commodities such as plastics, paper, aluminum, steel and glass. End-user research was conducted to identify:

- Commodity producers
- End-users
- Company needs
- Materials accepted
- Plant capacity
- Logistical barriers



Supplier research was also conducted to:

- Identify and compile a list of processors to assist businesses needing feedstock.
- Assess plastics, paper, aluminum, steel and glass industries through use of national and regional data.
- Determine the availability and quantity of commodities available via disposal and recycling data
- Examine hauler and processor infrastructure needs for getting material to end-users
- Identify commodity types and volume capabilities.

The Southeast Recycling Development Council’s (SERDC) economic impact data on South Carolina was reviewed to assess regional impacts. A 2010 SERDC study determined that South Carolina has more than 20 manufacturers that rely on recycled content feedstock. These companies:

- Generate more than \$5.3 billion in yearly sales
- Employ more than 5,300 citizens directly working in the manufacture of recycled content products.

Examples of these manufacturers include:

Company Name	City	State	Type of Recycled Feedstock	Manufactured Product
<b>Nucor Steel Berkeley</b>	Huger	SC	Post-consumer recycled steel	Coils, beams, channels
<b>JW Aluminum</b>	Mt. Holly	SC	Post-consumer recycled aluminum	Aluminum rolled products
<b>Carotell Paperboard</b>	Taylors	SC	Post-consumer recycled paper	Paperboard
<b>Wellman Plastics</b>	Johnsonville	SC	Recycled plastic	PET Plastic fiber



Market surveys were developed for plastics, paper, aluminum, steel and glass. Survey Monkey was utilized to distribute the survey to local governments, processors and end-users. Survey information was included in Commerce’s Recycling Newsbits, Recycling Newsletter and emails to help generate awareness and participation. Over 400 contacts received the request to complete the survey, however only 54 responded.

- 38 local governments
- 8 processors
- 8 end-users

Respondents identified the following barriers:

- Shortage of materials
- Contamination
- Transportation
- Storage
- Participation
- Financing
- Value

Follow-up calls and emails were made to encourage survey participation. Options to increase survey participation were examined. One option was to include companies in a Recycling Industry Guide that would be placed on Commerce’s website. Calls and emails were made to companies to support this effort. Over 30 companies provided information for the guide; however, information regarding tonnages was difficult to procure, as companies are hesitant to share information that may impact its competitiveness.

Examples of the profiles included:

### **Mumford Industries, Greenwood County**

Mumford Industries located in Ninety Six, South Carolina has 15 employees and processes about 15 million pounds of recyclables a year. The facility recovers paper, cardboard, metal, fiber and various types of plastics. Mumford Industries provides recycling options to large and small generators of recyclable materials by developing green management programs to promote landfill avoidance, increase recovery rates and reuse of materials. Visit [www.mumfordindustries.com](http://www.mumfordindustries.com) to learn more about Mumford Industries.



## Leigh Fibers, Spartanburg County



Leigh Fibers located in Wellford, South Carolina employs more than 150 people. The facility spans over one million square feet and has the capacity to process 175,000 tons of material per year, including 50,000 tons of carpeting. In total, Leigh Fibers has diverted over 14 million pounds of waste from landfills over the course of 97 years.

Visit [www.leighfibers.com](http://www.leighfibers.com) to learn more about Leigh Fibers.

## Pascon Recycling, Lexington County

Pascon Recycling located in Lexington, South Carolina was formed in January 2010 to support Leadership in Energy and Environmental Design (LEED) projects for PASCON customers and to help reduce C&D waste in landfills. Pascon Recycling provides residential, commercial and industrial C&D waste recycling services. The company employs seven full-time and 10 to 12 temporary employees. Pascon Recycling provides containers ranging from 10 to 40 cubic yards in size. Visit [www.pasconrolloff.com](http://www.pasconrolloff.com) for more information on Pascon Recycling.

## Barriers for the Markets for Recyclable Commodity Materials and Recycling

Industry Guide projects included:

- Low processors and end-user participation
- Lack of tonnage and capacity data
- End markets data



To help improve future data requests, site visits may be conducted to develop a rapport and assurance regarding confidentiality of information. Copies of the survey and responses are located in Appendix A. The recycling profiles are located in Appendix B.

## Hard to Recycle Commodities/Construction and Demolition Materials Focus

The objective of this initiative was to assist companies needing materials that are considered hard-to-recycle. These materials have a high potential for industrial use or reuse and consist of items such as:

- Carpet
- C&D
- Asphalt shingles
- Plastics (#3 - #7)

C&D is a growing market and demand exists for these materials, however, a good method does not exist for connecting companies needing the material with those that collect, or could collect, these materials. A special focus was placed on C&D recycling to assist this market. Staff met with DHEC to discuss the development of the C&D markets survey. The processor survey was used as a guide to develop the C&D survey. Materials of focus were:

- Asphalt
- Asphalt shingles
- Carpet
- Gypsum
- Pallets
- Brick
- Block
- Styrofoam
- Vinyl



State home builders associations and the South Carolina Sustainability Institute were contacted to help generate a list of C&D recyclers. Over 100 C&D companies were identified. Survey Monkey was used to distribute the survey to companies. C&D recyclers, responded to the economic data request, but did not respond to questions on the amount of materials recycled or end products. Only three recyclers of the 94 survey respondents supplied tonnage data. Similar to the markets survey, companies may be hesitant to supply information that may impact competitiveness. To help improve future data requests, site visits may be conducted to develop a rapport, credibility and assurance regarding confidentiality of information.

## **Webinars**

RMDAC, SCRC and DHEC collaborated to develop outreach and education webinars for businesses, industries and public entities. The webinars focused on:

- Plastics
- C&D recycling
- Logistics maximization.

The plastics webinar was canceled as the Association of Postconsumer Plastic Recyclers (APR) provided the opportunity for South Carolina representatives to present on plastic bottle recovery at its October 12, 2011, conference in Charlotte, North Carolina.

Staff is working with APR, state and local governments, businesses and industry to increase plastic bottle recycling.

Staff developed a plastics industry PowerPoint presentation to assist RMDAC, SCRC and other partners when presenting information on the plastics industry.

The C&D webinar was canceled as webinar services were not available. However, C&D information was shared with businesses, industry and others via Commerce's website, Recycling Newbits and Recycling Newsletter.

Staff gave a presentation on logistics maximization during SERDC's "Rural Recycling in the Southeast" webinar. Over 50 participants received information on recycling logistics and the "Share the Load Program". The presentation was placed on SERDC's website at [www.serdc.org/workshopmaterials](http://www.serdc.org/workshopmaterials).

## **Glass**

RMDAC is working with the Solid Waste Association of North America- South Carolina Palmetto Chapter (SWANA), DHEC, SCRC and local governments on an initiative to increase the recovery of glass in South Carolina. In FY 2011, the state recycled 12,801 tons of glass. The amount is a 17 percent decrease from FY 2010. It is estimated that 82 percent of the glass recovered is from residential programs while slightly less than 14 percent is from the commercial recycling sector.



Thirty-two of South Carolina's 46 counties collect glass. Some of the counties collecting glass include:

- Horry
- Greenville
- Richland
- York
- Beaufort

Greenville, Horry and Richland Counties accounted for 51 percent of the glass recycled in the state.

This glass initiative will examine local government and private sector initiatives that may help increase glass recovery. Increasing glass recycling provides the opportunity for job creation, capital investments and energy savings for end-use markets. The project scope will consider:

- Residential and commercial glass collection capacity
- Processing capacity
- End-use markets
- Infrastructure
- Funding
- Legislation
- Outreach and education.

## **Plastics**

RMDAC is working with DHEC, SCRC, APR and the North Carolina Division of Environmental Assistance and Outreach to increase the recovery of plastics in the Carolinas. In FY 2011, 17,673 tons of plastic were recycled in South Carolina. This amount is a 12 percent increase from FY 2010. Nearly 48 percent of the plastic recovered is from the commercial recycling sector while about 33 percent is from residential collection programs.

Examples of plastic recyclers, processors and end users that South Carolina has access to include:

- Wellman
- DAK Americas
- Mumford Industries
- Mohawk Industries
- Custom Polymers
- Envision Plastics



Plastic represented about 1 percent of the MSW recycled in FY 2011. Increasing the recovery of plastic bottles helps create jobs, capital investments and energy savings for end-use markets.

The plastics initiative will consider:

- Residential and commercial plastics collection capacity
- Processing capacity
- End-use markets

- Legislation such as S461
- Infrastructure
- Funding
- Outreach and education.

---

## **RECYCLING MARKET DEVELOPMENT PROGRAM**

---

The Recycling Market Development Program is located within Commerce's Small Business and Rural Development Division. The Recycling Market Development team:

- Staff's RMDAC and helps carry out work plan objectives
- Promotes market development for recycled materials
- Assists startup recycling businesses and existing ones with expansion efforts
- Helps businesses and industry to reduce waste streams and increase material recycling.

### **Business Assistance**

Staff contacted approximately 600 companies during 2011. The process for contacting companies was as follows:

- Determine the appropriate company contact
  - Plant Manager
  - Vice-President level representative
  - President
  - Human Resources Manager
- Initiate call, provide staff introduction and Commerce key contacts
- Inquire about the company's status, employment, recycling, export and other pertinent business areas.
- Email information on recycling and other business areas
- Provide periodic check-in with the company on a 90 to 180 day basis.

Staff promoted Commerce's Recycling Market Development Program and found that recycling was involved in about 100 of the calls. Staff relayed information on the importance of recycling data and encouraged businesses to report recycling numbers to DHEC. Staff helped connect companies with recycling businesses to assist with audits, waste reduction and recycling. For example, staff helped connect a skylight manufacturer with an

industrial plastics recycler, that now provides recycling and regrind services for plastics generated by the manufacturer.

## Recycling Microsite

Commerce launched a new recycling industry microsite in the fall of 2011.

The site provides information on:

- Recycling markets
- Company announcements
- Workforce
- Conferences
- Workshops
- Case studies and other resources.



The recycling microsite ranks higher in search engines based on targeted keywords and can be accessed at [www.recyclinginsc.com](http://www.recyclinginsc.com). In conjunction with the microsite, staff worked with Commerce’s Marketing Department to create the tagline “A Green State of Mind” to highlight South Carolina’s green economy.

## Recycling Markets Directory

Commerce’s Recycling Markets Directory was revamped to provide illustrations of material processes and to help identify existing markets and resources. The directory provides essential links between businesses, industries and local governments searching for markets for recyclables and the companies that accept the materials for processing and reuse. It provides businesses the opportunity to market and increase awareness of its services and/or products. The directory lists over 200 recycling related businesses and can be accessed at [www.recyclinginsc.com/directory](http://www.recyclinginsc.com/directory).



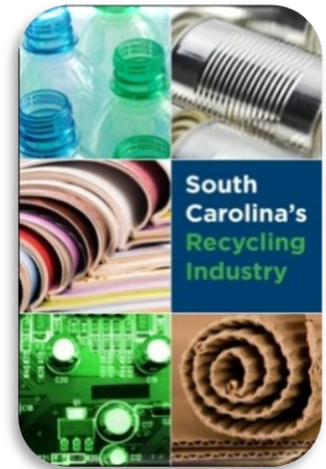
Staff promotes the directory to businesses and industry through the microsite, newsletters, workshops, conferences and site visits. Companies must complete a form to be listed in the directory. A copy of the form is located in Appendix D.



## Recycling Brochure

With the assistance of Commerce's Marketing Department, staff created a South Carolina Recycling Industry brochure. It contains information on:

- RMDAC
- Recycling's economic impact
- Markets
- Infrastructure
- Smart Business Recycling Program
- SCRC
- Recycling resources
- Sustainability facts.



The brochure serves as an outreach and educational tool and helps staff promote South Carolina's recycling industry to existing businesses and prospects. Staff distributed over 1,000 brochures to:

- Businesses and industry
- RMDAC
- SCRC
- DHEC
- County economic developers
- Local and regional economic development organizations
- Commerce's Global Business Development Team
- Recycling related organizations
- Participants of RMD events.

The brochure can be assessed at [www.recyclinginsc.com/sites/default/files/all/recyclingbrochure.pdf](http://www.recyclinginsc.com/sites/default/files/all/recyclingbrochure.pdf).

## Recycling Symposium

Supporting the growth of markets for recovered materials for South Carolina's \$6.5 billion recycling industry, Commerce and RMDAC held a Recycling Symposium on November 8, 2011, at the Hilton Columbia Center in Columbia, South Carolina. The conference brought together 70 recycling businesses and manufacturers to help increase awareness of industry trends and facilitate the industry's continued economic growth. A showcase on Zero Waste to Landfill and Composting featured:



- Boeing and Shaw Industries representatives who spoke on the companies' successes in recycling and waste diversion from landfills.
- A presentation from Waste2Energy Organic Power with information on the development of the company's anaerobic digestion facility which breaks down organic material in an oxygen-free environment to produce biogas
- An update from DHEC on the development of regulations for organics management.



The showcase on the SCRC highlighted the group's activity to grow awareness about the state's recycling industry. Speakers from Sonoco, Tomato Palms, Mumford Industries and Ever-Green Recycling presented information on the cluster's statewide recycling branding campaign, Share the Load and policy initiatives. A key focus for SCRC's future is supporting policy to increase recovery of recyclable resources such as:

- Paper
- Plastics
- Glass
- Other scrap materials.

As part of this effort, the cluster announced the next Recycling Industry Legislative Day would be held February 1, 2012, at the statehouse. Clemson University's – Jim Self Center on the Future updated attendees on the cluster's strategic plan initiatives. A copy of the symposium agenda is located in Appendix C.

Three breakout sessions on composting, plastics and zero waste to landfill were held during the symposium. The facilitators for the breakout sessions were:

### **Composting**

Jana White, DHEC

### **Plastics**

Keefe Harrison, APR

Richard Chesley, DHEC

## **Zero Waste to Landfill**

Eugene Rowell, Shaw Industries, Inc.

Tony Soto, Boeing

During the sessions, participants identified the potential opportunities and barriers for each.

## **Composting and Organics**

Opportunities:

- Economic development driver
- Support for DHEC's compost regulations
- Investigate pilot projects through R&D permits
- Food waste bans
- Identify end-use markets
- South Carolina Department of Transportation (DOT) beautification projects
- Fuel usage

Barriers:

- Lack of collection and infrastructure
- Low tipping fees

## **Plastics**

Opportunities (#1 Plastics):

- Partnerships
- Steady supply of feedstock
- Incentives
- Legislation
  - Bans
  - Mandatory recycling

Barriers (#1 Plastics):

- Education
- Types of separation
- Confusion in types of plastics and the numbers

- Sorting

#### Opportunities (#2 Plastics):

- Partnerships
- Steady supply of feedstock
- Incentives
- Legislation
  - Bans
  - Mandatory recycling

#### Barriers (#2 Plastics):

- Cost
- Transportation
- Confusion
- Landfills
- Education

#### Opportunities (#3 Plastics):

- Partnerships
- Steady supply of feedstock
- Incentives
- Legislation
  - Bans
  - Mandatory recycling

#### Barriers (#3 Plastics):

- Exports to China

### **Zero Waste to Landfill**

#### Opportunities:

- Identify recyclables
- Minimize waste streams
- Cost benefit analysis

- Outreach and education
- Pilot projects

Barriers:

- Mindsets

## Recycling Newsbits and Newsletter



Each week, “Recycling Newsbits” are distributed via email to over 700 recipients. The “Recycling Newsbits” contain information on recycling related announcements, news articles, workshops and other events. A more comprehensive “Recycling Newsletter” is generated each quarter with information on Commerce activities, RMDAC, SCRC, markets, materials exchanges, resources and other pertinent data. The newsbits and newsletter help recipients:

- Stay abreast of advances and changes in the recycling industry
- Explore supplier and vendor connections through company announcements
- Submit company information for entry into the recycling directory.

## Global Business Development

Commerce will continue to facilitate the development of markets for recovered materials and products with recycled content by promoting recycling to new and existing businesses with each official recruiting proposal and closing package. Supplying recycling data to prospects helps market the state and highlight its diverse recycling industry.

South Carolina provides statutory incentives to help offset corporate income tax liability for companies defined as manufacturing, distribution, processing, warehousing, research and development, tourism or technology intensive. Recycling companies in South Carolina may be eligible for statutory incentives provided the business meets investment requirements outlined in state law. Other possible incentives are:

- Job Tax Credits for creating a monthly average of 10 net new jobs (processing or manufacturing)

- Sales tax exemptions for equipment purchases (i.e. balers and shredders)
- readySC worker training valued at \$2,500-\$9,500 per person.

### National and Regional Leadership

The Recycling Market Development staff is active in several recycling related organizations such as:

- SERDC
- CRA
- SWANA
- South Carolina Environmental Excellence Committee
- U.S. Green Building Council-South Carolina Chapter
- Waste Tire Committee
- Solid Waste Advisory Council
- South Carolina Biomass Council
- City of Columbia Climate Protection Action Campaign.

By working with these organizations, staff is able to promote market development and build partnerships to advance initiatives for the state’s recycling industry.




---

## SOUTH CAROLINA SMART BUSINESS RECYCLING PROGRAM

---



*Recycling. It doesn't cost. It pays!*

The South Carolina Smart Business Recycling Program began in January 2007 and is a partnership between Commerce and DHEC. The program offers free, confidential and non-regulatory services including:

- Site visits to assess reuse, waste reduction and recycling opportunities

- Research and contacts for potential markets, service providers and beneficial reuse
- Free, online and confidential reporting system
- Workshops
- A state recognition program.

A Smart Business Guide to Waste Reduction and Recycling was created to assist businesses with waste reduction and recycling efforts. For more information on the Smart Business Recycling Program, visit [www.scdhec.gov/environment/lwm/recycle/smart\\_business/index.htm](http://www.scdhec.gov/environment/lwm/recycle/smart_business/index.htm). To obtain a copy of the guide, visit [www.scdhec.gov/environment/lwm/recycle/smart\\_business/pubs/smart\\_biz\\_guide.pdf](http://www.scdhec.gov/environment/lwm/recycle/smart_business/pubs/smart_biz_guide.pdf).

Business and industry reporting are vital to the state’s recycling rates. Commercial recycling numbers are needed to help achieve the state’s recycling rate. Businesses are not required to report recycling information, so Commerce and DHEC work together through the Smart Business Recycling Program to encourage businesses to report recycling activities through Biz-TRAC.

### **Smart Business Success Story**

Cooper Standard Automotive, Spartanburg, South Carolina increased its recycling rate from 40 percent to more than 78 percent. With the help of the



Smart Business Recycling Program, Cooper Standard Automotive was able to find a vendor for most of its plastic waste that had previously been sent to a landfill. This diversion resulted in a cost savings of \$49,300 per year and prevented 1,356,000 pounds of material from being landfilled. Cooper Standard Automotive also recycles scrap metal, paper, cardboard and pallets.

---

## **SOUTH CAROLINA RECYCLING COUNCIL**

---

The SCRC works along RMDAC and other partners to increase the recycling industry’s competitiveness in the state. The Council is supported by RMDAC through staffing, meeting coordination and project planning with help from New Carolina. SCRC’s mission is to expand and strengthen South Carolina’s recycling economy by:

- Recommending policy
- Building networks
- Developing markets

- Increasing supply of recyclable materials.



The SCRC has been instrumental in developing South Carolina’s Recycling Specialty License Plate, Recycling Industry Strategic Plan and the Share the Load Program.

Since 2007, the SCRC has sponsored an annual Recycling Industry Legislative Day at the South Carolina Statehouse. On March 9, 2011, the SCRC held its fourth Recycling Industry Legislative Day. Advocates had the opportunity to meet with members of the General Assembly to discuss the positive economic and environmental benefits of recycling. The recycling industry was recognized by the General Assembly through House Resolutions H. 4437 and S. 1125.

Sponsors of the event included:



Commerce staff supported the SCRC in its efforts to increase business opportunities and recycling supply chains to ensure continued job creation and capital investment. Staff provided information for the recycling industry strategic plan and content for the New Carolina Recycling Cluster web page. Visit <http://newcarolina.org/clusters/recycling.aspx> for more information on the recycling cluster and strategic plan.

### Share the Load



Share the Load is a pilot program located at the South Carolina Technology and Aviation Center (SCTAC) in Greenville, South Carolina. SCTAC has 83 companies located on 2,600 acres. Share the Load relies on a recycling “milk-run” concept in that a tractor trailer truck will be routed through the center each month to collect low volume recyclable materials in order to create a full truckload. By sharing space on the trailer, companies are able to share the cost of freight. A monthly set cost is established for participants based on the number of participants in the program.

Share the Load solves the logistics burden and provides companies a smart, convenient recycling solution. Over 30 companies participated in the orientation luncheon held on April 26, 2011, at SCTAC. Corporate partners for the program are:



These companies are leading the participation in the program and are encouraging others to become involved with the initiative. Companies interested in participating receive an on-site waste evaluation which helps improve recycling initiatives and decrease landfill disposal. During 2011, staff assisted the SCRC with 16 site visits.

---

## RECYCLING RELATED LEGISLATION AND REGULATIONS

---

### E-scrap Law



On July 1, 2011, it became unlawful for residents to knowingly place or discard computers, printers, televisions or computer monitors in any waste stream that is to be disposed of in a solid waste landfill. Provisions require computer and television manufacturers to establish recovery programs to ensure the end-of-life management for equipment is retired in a manner that promotes resource conservation. The law encourages manufacturers to offer convenient collection and recycling service to consumers at no charge. DHEC regulations for the e-scrap law have not been promulgated at this time. Visit [www.scdhec.gov/environment/lwm/recycle/e-cycle/index.htm](http://www.scdhec.gov/environment/lwm/recycle/e-cycle/index.htm) for more information on residential electronic recycling.

### Scrap Metal Law

On August 17, 2011, scrap metal legislation became effective requiring secondary metal recyclers to obtain a permit from the county sheriff's office to purchase nonferrous metals. Secondary metal recyclers are also required to obtain a permit to transport and sell scrap metal items. This new law is intended to deter scrap metal thefts. For more information, visit [http://www.scstatehouse.gov/sess119\\_2011-2012/bills/3660.htm](http://www.scstatehouse.gov/sess119_2011-2012/bills/3660.htm).





## Alcoholic Beverage Container Recycling Bill



S.461, an alcoholic beverage container (ABC) recycling bill, calls for establishments that have a permit for on-site consumption of alcohol to implement a recycling program for plastic, corrugated cardboard, aluminum and glass. Businesses would need to develop recycling plans guided by DHEC. Permit applications or renewals would be given a 10 percent discount for eight years if a recycling plan that includes recycling of glass containers is enacted. The ABC recycling bill passed a third reading in the South Carolina Senate and moved to the South Carolina House of Representatives for the 2012 legislative session. To view the bill, visit [http://www.scstatehouse.gov/query.php?search=DOC&searchtext=recycling&category=LEGISLATION&session=119&conid=6873355&result\\_pos=&keyval=1190461&numrows=10](http://www.scstatehouse.gov/query.php?search=DOC&searchtext=recycling&category=LEGISLATION&session=119&conid=6873355&result_pos=&keyval=1190461&numrows=10).

## Compost Regulations

In May 2011, DHEC issued a Notice of Drafting to amend R.61-107.4 SWM: Yard Trash and Land-Clearing Debris; and Compost. The proposed amendment of R.61-107.4, Solid Waste Management: Yard Trash and Land-clearing Debris; and Compost, will clarify the applicability of the regulation, and update rules for design, operation, monitoring, reporting and closure of wood grinding and composting facilities. This amendment will address standards to compost a variety of organic materials, such as food scraps.



---

## BUSINESS RESOURCES

---

The Recycling Market Development Program utilizes various recycling related resources to assist businesses, industry and the public. Those resources include, but are not limited to, directories, exchanges and recycling organizations.

### RECYCLING DIRECTORIES

**Recycling Markets Directory** – provides essential links between businesses, industries and local governments searching for markets for recyclables. Visit [www.recyclinginsc.com/directory](http://www.recyclinginsc.com/directory).

**Sustainability Index** – provides users of company by-products, waste minimization equipment, waste minimization programs and substitutes for hazardous materials. Visit [www.scdhec.gov/environment/admin/CES/cesindex.htm](http://www.scdhec.gov/environment/admin/CES/cesindex.htm).

**South Carolina Materials Exchange** –Facilitates the exchange of reusable materials by businesses, non-profit institutions and government agencies. Visit [www.scdhec.gov/environment/lwm/databases/scme](http://www.scdhec.gov/environment/lwm/databases/scme).

**South Carolina Green Building Directory** – provides information on products and services that support green building practices in the state. Visit [www.scgreenbuildingdirectory.org](http://www.scgreenbuildingdirectory.org).



**Plastics Market Directory** – connects scrap plastic suppliers and buyers. Visit [www.plasticsmarkets.org](http://www.plasticsmarkets.org).

**Earth 911** – provides information on recycling centers, recycling, pollution prevention and environmental protection. Visit <http://earth911.com>.

## GOVERNMENT RESOURCES

**South Carolina Department of Commerce** - promotes economic development to businesses and industry. Visit [www.sccommerce.com](http://www.sccommerce.com).



**Recycling Market Development Advisory Council** – tracks the success and growth of the state’s recycling industry and makes recommendations to the Governor and General Assembly. Visit [www.recyclinginsc.com/about/recycling-events](http://www.recyclinginsc.com/about/recycling-events).

**Recycling Market Development Program** - provides business development assistance to recycling start-ups and existing recycling companies operating in South Carolina, as well as surrounding states. Visit [www.recyclinginsc.com](http://www.recyclinginsc.com).

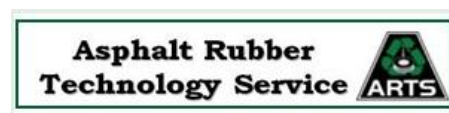
**DHEC Center for Environmental Sustainability** - helps companies improve their environmental performance by finding users for byproducts, equipment and services that minimizes waste and substitutes for hazardous materials. Visit [www.scdhec.gov/environment/admin/ces/index.htm](http://www.scdhec.gov/environment/admin/ces/index.htm).

**DHEC Office of Solid Waste Reduction and Recycling** – provides non-regulatory technical assistance and education programs to local governments, schools and the public regarding solid waste and recycling. It also offers grants to local governments, schools, colleges and universities. Visit [www.scdhec.gov/environment.htm](http://www.scdhec.gov/environment.htm).

**DHEC Small Business and Environmental Assistance Program** – provides free non-regulatory environmental permitting, compliance, education, outreach and advocacy assistance to businesses. Visit [www.scdhec.gov/environment/baq/sbeap/index.htm](http://www.scdhec.gov/environment/baq/sbeap/index.htm).

**South Carolina Smart Business Recycling Program** – provides free, confidential, non-regulatory technical assistance on recycling, waste reduction, beneficial reuse and other ways for businesses to conserve resources and improve their bottom line. Visit [www.scdhec.gov/environment/lwm/recycle/smart\\_business/index.htm](http://www.scdhec.gov/environment/lwm/recycle/smart_business/index.htm).

**Asphalt Rubber Technology Services** – designs, tests and promotes the use of recycled scrap tires in rubberized asphalt and other civil infrastructure applications. Visit [www.clemson.edu/ces/arts](http://www.clemson.edu/ces/arts).



**EPA** – provides information on solid waste, recycling, regulations, educational training and grant opportunities. Visit [www.epa.gov](http://www.epa.gov).

**South Carolina Energy Office** – provides technical assistance, audits, workshops, education materials, project grants, loans and rebates to help businesses, public entities and the public save energy, money and resources. Visit [www.energy.sc.gov](http://www.energy.sc.gov).

**South Carolina Sustainability Institute** – helps businesses and individuals transform buildings into sustainable structures. Visit [www.sustainabilityinstitutesc.org](http://www.sustainabilityinstitutesc.org).

## **RECYCLING ORGANIZATIONS AND RESOURCES**

**South Carolina Solid Waste Management Annual Report** - provides an overview of the state's solid waste management activities. Visit [www.scdhec.gov/environment/lwm/recycle/annual\\_report.htm](http://www.scdhec.gov/environment/lwm/recycle/annual_report.htm).

**Carolina Recycling Association** – provides information on recycling markets and recycling centers. The CRA provides recycling workshops, conferences and webinars. Visit [www.cra-recycle.org](http://www.cra-recycle.org).

**Solid Waste Association of North America-South Carolina Chapter** - provides resources, professional development and certification opportunities. Visit <http://scswana.org>.

**South Carolina Biomass Council** – provides information on the environmental and economic benefits of biomass energy. Visit [www.scbiomass.org](http://www.scbiomass.org).

**South Carolina E-cycle** – provides information on electronic recycling in the state. Visit [www.scdhec.gov/environment/lwm/recycle/e-cycle/index.htm](http://www.scdhec.gov/environment/lwm/recycle/e-cycle/index.htm).

**South Carolina Recycling Council** – works to expand and strengthen the state’s recycling industry through policy and market development. Visit <http://newcarolina.org/clusters.aspx>.

**Southeast Recycling Development Council** – promotes sustainable recycling in the Southeast. Visit [www.serdc.org](http://www.serdc.org).

**U.S. Green Building Council-South Carolina Chapter** – provides training and information on sustainable building design and construction and offers information on Leadership Energy and Environmental Design certification. Visit [www.usgbcsc.org](http://www.usgbcsc.org).

---

## RECYCLING MARKETS

---

### FERROUS METALS

#### Summary

In 2011, the scrap market range was about \$30 per gross ton (GT) swing. The January market came in strong and quickly fell \$30 per GT in February. It remained constant through spring and summer and got more volatile in the fall. Overall, the balance of scrap versus demand was steady with consumers maintaining the status quo in order to keep scrap moving. Steady flow was important to consumers as many trimmed inventories, especially toward the end of the year for final bookkeeping.



Order books at the steel mills remained good with increased automobile business, in spite of the low demand in the construction sector. Overall, the mills maintained a 75-80 percent operating rate.

The big factor has been the lack of good export orders which can be attributed to the strong dollar compared to the euro and the abundance of lower priced scrap in Europe. European scrap enjoyed discounted freight rates and displaced some of the demands of U.S. scrap into domestic and international consumers. The stronger dollar also made the import of pig iron easier and less expensive, which in turn replaced some of the need of prime scrap.

### **2012 Outlook and Future Trends**

The outlook for 2012 is on track to follow the same course as 2011. Some prices slipped after the initial January buy which was not as strong as expected and which may lead to a further decline in February. Consumer order books are strong and price increases have stuck, but without export, the scrap market will continue to show instability.

### **RMDAC Action**

RMDAC will continue to promote and encourage recycling activities that will increase the recovery of scrap metal. With ArcelorMittal (Georgetown Steel) continuing to increase production and Commercial Metals and Nucor Steel remaining consistent, the steel recycling environment should continue to be strong in South Carolina.

## **NONFERROUS METALS AND ALUMINUM**

### **Summary**

Primary aluminum prices on the London Metal Exchange (LME) began 2011 where they left off in 2010, moving higher on expectations that the global economy had shaken off the effects of the 2008-2009 recession. Prices peaked at \$2,797 per metric ton in May 2011 and then began a protracted decline through the end of the year. The low was \$1,962 in December and the market closed 2011 at \$2,020.



The singular event that likely turned market sentiment was the emergence of the sovereign debt crisis in Greece and Southern Europe. This event tended to cast a pall over the entire Euro Zone, prompting the euro to lose

nearly 13 percent against the U.S. dollar. This crisis is never a good thing when it comes to prices in U.S. dollar denominated commodities. Contributing fundamental influences were the high inflation rates which struck the rapidly growing economies of China, India, Brazil and Asia which slowed economic growth.



Aluminum cash prices on the LME for calendar year 2011 averaged \$2,395 compared to \$2,173 in 2010. The market enjoyed a good first half of the year which allowed it to somewhat “weather” the weakness of the second half.

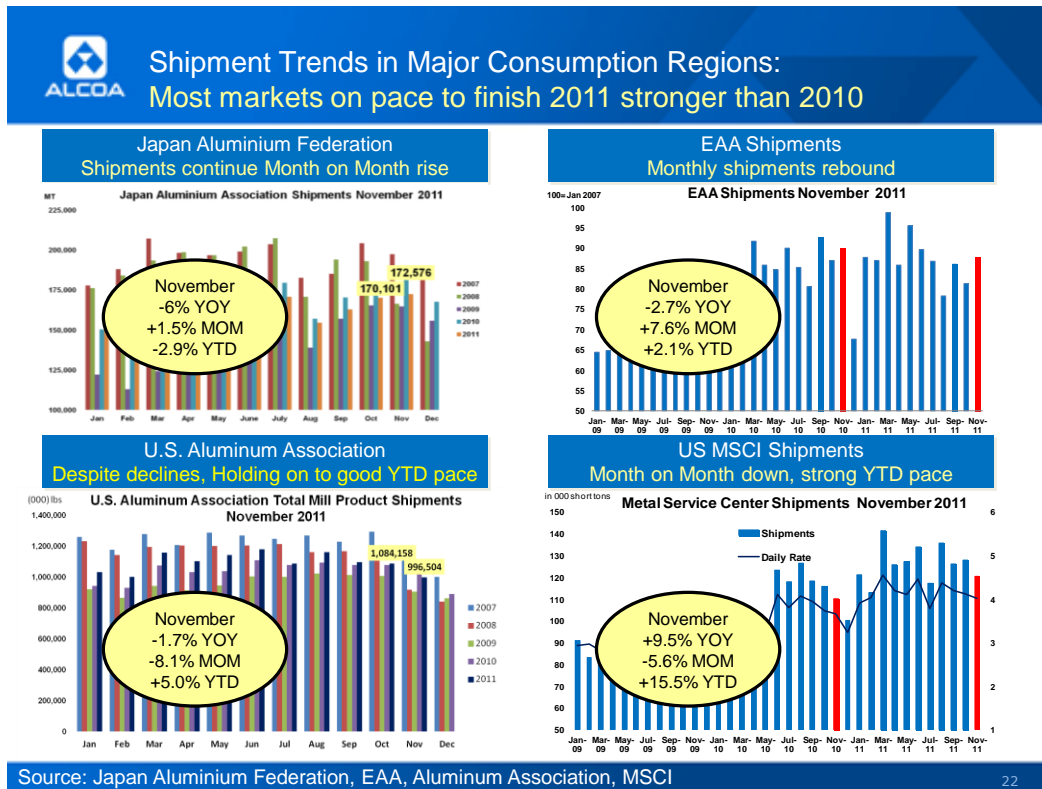
### Supply Highlights

According to the International Aluminum Institute, Western world producer output in 2011 should finish around 26 million metric tons compared to 24.2 million tons in 2010. Most of the incremental supply is the result of new, “greenfield” capacity being inaugurated in the Middle East. The decline in prices at year’s end has already prompted some producers to begin curtailing production, with a prominent bankruptcy in Holland highlighting the fact that about 4 million tons of Western World production is unprofitable at year end prices.

In China, 2011 production will finish around 17.8 million tons after peaking in September 2011 at an annualized run rate of over 19 million tons. The decline in prices during the second half of 2011 took a heavy toll on Chinese producers. It is estimated that about 33 percent of all Chinese producers are now losing cash at current prices which lead to production curtailments approaching 1 million tons.

## Demand Highlights

Shipments in most major markets will finish 2011 higher year on year than 2010. The prominent exception will be Japan, where the market is still shaking off the devastating effects of the March 2011 earthquake. Growth in China leads all markets again with a year on year rise of over 20 percent. Western markets were steady in contrast with the first half, only to be weaker in the second half, as the effects of the European debt crisis had a pronounced effect there. U.S. shipments held up well, thanks to strong demand from transportation.



According to Alcoa estimates, demand for primary aluminum globally will finish at 10 percent year on year above 2010.

## 2012 Outlook and Future Trends

LME and Midwest primary ingot prices began 2012 in a mild recovery, with spot prices back to \$2,200 as of January 18, 2012.

Macroeconomic indicators such as industrial production and Purchasing Managers' Index (PMI) indexes in virtually all regions are better. Inflation seems to be "in check" as wholesale prices are rising at a much slower rate.



Independent forecasts from Harbor Intelligence, surveying a host of estimates suggests 2012 prices on the LME will average \$2,427, \$2,730 in 2013 and \$2,762 in 2014. These numbers are all higher than last years' estimates.

Midwest ingot premiums to LME are trading around 7.5 cents per pound over the LME cash quote and are expected to remain a range of 6.50 cents per pound to 8.50 cents per pound for 2012.

Demand for scrap materials is expected to remain strong, bolstered by ever increasing appetites from fabricators to use more recycled materials. One prominent rolling mill has established an ambitious goal of using 80 percent scrap materials by 2020.

### **RMDAC Action**

RMDAC will continue to promote and encourage recycling activities that will increase the recovery of nonferrous and aluminum metal.

## **GLASS**

### **Summary**



Glass comprised 1 percent of the MSW recycled in FY 2011. The contributing factors to a low recovery rate across South Carolina are rising transportation costs, public and private business collection abilities and methods, recycling center efficiency and safety. It is estimated that about 82 percent of the glass recovered is from residential programs while slightly less than 14 percent is from the commercial recycling sector. The overall national market prices ranged from \$10 to \$20 per ton for clear flint and \$5 per ton for mixed (amber/brown, green, blue) glass.

Reflective Recycling, in Pacolet, began accepting and processing glass from several haulers and material recovery facilities (MRF) within South Carolina. Municipal MRFs, such as the Horry County Solid Waste Authority, purchased, installed and began grinding glass on site. All other glass is transported out of state to Strategic Material's facilities in Georgia and North Carolina for processing.

### **2012 Outlook and Future Trends**

Despite glass' statewide low recovery rate, its collection, reuse and recycling is still anticipated to grow in 2012. First, Reflective Recycling's ability to accept and process glass from and in South Carolina, along with a joint



effort between private and municipal haulers and MRFs will help increase glass tonnage recovered and processed. Second, MRF technology is improving to include the installation of glass clean-up technology such as glass breakers and optical sorting equipment. Third, in anticipation of S.461's passage by the South Carolina Legislature, many establishments have begun recycling programs specifically for glass.

Many municipalities and private businesses in South Carolina's recycling industry have come together and recognized the need to strategically plan for increased glass collection and processing services across the state. This planning will continue in 2012.

Nationally and internationally, there remains a consistent and strong overall demand for clean cullet, and national processing plants need more recycled glass material. The world demand for glass continues to increase as well, but the industry challenge is to keep it domestic. Glass kept domestically will increase its market value and demand, thus enticing new and additional efforts for collection.

The demand for recycling programs, and for glass to make new bottles and containers, continues to increase nationally and globally. This fact along with millions of annual tourists patronizing restaurants and bars that serve beverages in glass across the state, positions South Carolina in a strategic economic development opportunity to increase recycling of this commodity as well as create revenue. Glass is 100 percent recyclable and can be recycled endlessly without any loss in purity or quality making this natural material a valuable commodity on a longer term basis.

However, single-stream recycle collection is quickly becoming the standard allowing for increased overall recovery of all main MSW recyclables including glass. Although this method increases material recovered exponentially, it has an adverse effect on glass prices due to contamination.

### **RMDAC Action**

RMDAC should continue to support programs that increase the overall recovery rate of recyclables in South Carolina and encourage communities to look at alternative markets for recovered glass.

The SCRC should continue to support public and private programs, joint industry meetings and legislation that increase the overall recovery rate of recyclables across the state. Even though glass is a challenge to safely, efficiently and financially collect and recycle, the benefits for the state to grow this market outweigh the obstacles. An increase of glass collection and processing will bring economic development from job creation to tourism to the state, as well as a reduction in raw materials and energy consumption.

## **PAPER**

### **Summary**

#### **Old Corrugated Containers**

It was another outstanding year for Old Corrugated Containers (OCC) markets as prices started 2011 at \$150 per ton and dropped to \$140 for February through May. Prices rose back to \$150 in June and an upward trend started in July as prices increased to \$170 per ton then to \$175 in August.



This price held until October when prices decreased to \$160 per ton. November prices fell \$50 per ton taking the price to \$110 per ton. Prices held in December.

#### **Newsprint**

January pricing for news started at \$125 per ton and jumped to \$140 per ton. This pricing held through August. In September, pricing increased to \$150 per ton and held through October. Pricing fell \$50 per ton in November and tumbled to \$70 per ton for the year's end.

#### **Mixed Paper**

Pricing for mixed paper was \$125 per ton from January through June. Pricing increased to \$135 per ton in July and held through August. In September, prices jumped to \$150 per ton, but fell to \$140 per ton in October. Prices dropped another \$40 per ton in November putting pricing at \$100 per ton. In December, pricing decreased another \$40 per ton closing the year at \$60 per ton.

#### **Sorted Office Paper**

Sorted Office Paper (SOP) started the year at \$200 per ton. In February, SOP pricing increased to \$220 which held through March. April prices increased to \$40 per ton putting pricing at \$260 per ton. May pricing increased to \$280 per ton and held through June. Pricing increased \$10 per ton in July and August putting the price at \$300 per ton. In September, pricing dropped \$30 per ton and then \$20 per ton in October. Pricing fell \$100 per ton in November to close the year at \$130 per ton.

## **2012 Outlook and Future Trends**

2011 was a very good year for OCC as markets stayed above \$100 per ton for only the second time in history. Look for OCC to stay above \$100 per ton as China and India have a strong interest in this material. This trend should continue for the year. Domestic orders have slowed some but should pick up as the year progresses.

Newsprint will struggle as the main consumer filed Chapter 11, which is hurting pricing.

Mixed paper takes away from the news market and is being used as a substitute for OCC in a lot of mills. Mixed did not exist a few years ago. This grade will be very interesting to watch in 2012.

SOP dropped \$100 per ton drop in 2011. It will hold steady and should increase by the summer months.

Look for 2012 to be another good year for the recycling markets and packers.

## **RMDAC Action**

RMDAC will continue to work with DHEC, SCRC, CRA, SERDC and other recycling groups in the state to increase recycling, markets and awareness.

## **PLASTICS**

### **Summary**

According to recently published 2010 recycling rates from the National Association for PET Container Resource (NAPCOR), 1,557 million pounds of polyethylene terephthalate (PET) bottles were recycled out of 5,350 million pounds sold for a recycling rate of 29.1 percent. The recycling rate rose 1.1 percent from 2009 recovery levels. For the seventh straight year, post consumer PET bottle recycling has increased.

While many PET water bottles became even lighter, growth was seen in all sectors of the PET bottle market. Recycled PET bales also rose through the first two quarters, adjusted downward, and recovered most of the loss by year's end during 2010 according to NAPCOR's report. Exports of both PET and high-density polyethylene (HDPE) recycled bottle bales decreased substantially. The processing of recycled PET, sourced domestically or imported, rose by 65 million pounds in 2010 versus 2009 per NAPCOR's data.



PET collection and demand for resale remained strong during 2011 for the year as a whole with a seasonal decrease at year's end. This demand was primarily driven by continued expansion of purchases by domestic producers, as well as, strong export demand by China during the first three quarters. China made a significant reduction during the fourth quarter due to government credit tightening.

### **2012 Outlook and Future Trends**

Going into 2012, demand remains soft, but is expected to resume strong demand with further growth for reprocessed PET packaging applications. Continued growth of new applications like thermoformed sheeting from the packaging industry indicates further demand for recycled products during the year.

### **RMDAC Action**

RMDAC will continue to work closely with DHEC, APR, SERDC and the CRA to increase collections and develop new markets.

## **SCRAP TIRES**

### **Summary**

Each year, Commerce surveys scrap tire processors and recyclers. The survey was developed in coordination with DHEC. Information from the survey is used to help analyze how scrap tires are managed in the state via processing, landfilling and end-users. The scrap tire survey is also used to assist DHEC with responses to the Rubber Manufacturers Association's annual survey to the states. A copy of the survey is located in Appendix E.



Nine of the 12 operating processors/recyclers responded to the scrap tire survey. Data from the surveys was compiled in aggregate form. According to the survey, scrap tires in South Carolina were processed for alternative daily cover, landfill construction, crumb rubber, playground and sports surfaces.

Since 1990, U.S. scrap tires piles have declined significantly. However, due to the past downturn in the economy, South Carolina has reported an uptick in the number of stockpiles. Per DHEC, after the agency's enforcement process was complete, some counties requested additional funds to assist with the clean-up of tire stockpiles.

Monthly conference calls are held between Commerce, DHEC and ARTS to develop initiatives to help grow the market for scrap tires. One of the initiatives developed was a meeting with the Waste Tire Processors. The meeting was held on May 4, 2011, at DHEC in Columbia, South Carolina. Commerce, DHEC, ARTS and the South Carolina Department of Revenue presented at the meeting. Ten processors attended the meeting and were provided information on scrap tire market issues, compliance, reporting and crumb rubber research.

The purpose of the meeting was to help the processors understand the intent of the scrap tire survey, how to complete it and how the data is used. Processors had the opportunity to participate in a roundtable discussion to relay questions, issues or concerns such as:

- Assistance finding new markets
  - Concrete road barriers with crumb rubber
- Research and development
  - Make information and findings more readily available
- Marketing for rubberized asphalt
  - Economic benefits and cost benefit analysis
- Identifying potential partners/stakeholders
  - RMA
  - CRA
  - South Carolina Manufacturers Alliance
- Meet on a regular basis
- Make available a list of workshops and conferences relevant to scrap tire processors
- Distribute the ARTS newsletter.



A copy of the meeting agenda is located in Appendix F.

## **2012 Outlook and Future Trends**

The scrap tire workgroup is also exploring opportunities such as:

- Green Roadways
- Crumb rubber and asphalt
- Rail trails
- Manufacturing
- Partnerships with local governments public works

## **RMDAC Action**

RMDAC will continue to work with DHEC and ARTS on initiatives to promote scrap tire market development. The Council will also seek opportunities to collaborate with industry, colleges, universities, local governments and other entities to increase awareness about the use of scrap tires in applications such as:

- Paving
- Manufacturing
- Civil engineering projects.

## **USED OIL**

### **Summary**

The statewide used motor oil recycling program targeting do-it-yourselfers (DIYers; those who change their own oil) continues to flourish. Through a combination of educational programs, technical assistance and grant funding for local governments, South Carolina has developed one of the nation's most comprehensive used motor oil recycling programs for DIYers.



According to figures compiled by the DHEC, DIYers recycled 984,437 gallons of used motor oil in calendar year 2010. Overall, more than 17 million gallons have been collected from DIYers since used motor oil recycling efforts began in South Carolina in 1990. Figures for 2011 were not available when this document was prepared.

The recycling of used motor oil filters reflects a significant environmental protection program considering that each filter may contain from four ounces to one quart of oil if not properly drained. Most counties collect used motor oil filters from DIYers for recycling. Many of these counties collect and market used motor oil filters with large appliances and/or other metals. With this being the case, not all used motor oil filters that are being recycled are being counted directly. As a result, numbers are not available to measure used oil filter recycling efforts.

The recycling of motor oil bottles also offers an important environmental protection program considering bottles can contain up to an ounce of oil each if not thoroughly drained. Most counties collect and market motor oil bottles with other pigmented HDPE plastic. As a result, numbers are not available to directly measure motor oil bottle recycling efforts.

Introduced in January 2000, DHEC 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 motor 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 2,901 classroom presentations to 131,187 students. “DHEC 1: Behind the Oil Change”, a video chronicling the life of a driving teenager and the consequences of the decision to improperly dispose of used motor oil, 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. The video also won an Emmy Award from the National Academy of Television Arts and Sciences. In addition, DHEC set up a partnership with Palmetto Pride to add a litter component, including litter laws and enforcement, to the “Project” in 2002.

## **2012 Forecast**

The amount of used motor oil, bottles and filters collected for recycling should continue to grow in 2012. DHEC priorities regarding the used motor oil recycling program are described below.

- To continue to collect motor oil bottles. Most counties are using oil drain racks to drain the bottles and make them easier to process. Once drained, the motor oil bottles can be mixed with other HDPE plastics which make it easier to market the motor oil bottles. DHEC will continue to encourage all counties to use the oil drain racks.
- To continue to expand the farmer oil collection program by adding collection tanks where needed. There are currently 66 farmer oil collection sites in 43 counties. Each of the tanks holds at least 600 gallons of used motor oil and is fitted with a pump and hose to make it easier for farmers to recycle up to 55 gallons of used motor oil at one time.
- To continue to expand the oil/gasoline mixture collection program by adding collection tanks where needed. There are currently 94 oil/gasoline mixture collection sites in 42 counties. Another county will be setting up a tank in FY 2012 (July 1, 2011 – June 30, 2012). The oil/gasoline mixture tanks typically hold 500 gallons and are designed to accept motor oil, gasoline and oil/gasoline mixtures from lawn equipment and recreational vehicles.
- To secure and maintain markets or other uses for used motor oil, bottles and filters.

**Future Trends**

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

**RMDAC Action**

RMDAC should continue its work promoting, supporting and securing markets for the state’s used motor oil recycling program.



# APPENDIX

---

---

## APPENDIX A: MARKET SURVEYS

---

---

### Local Government Survey Questions:

How are your recyclable materials collected and transported?

Please verify the company who purchases your recyclable materials for the following commodities:

Paper:	Company
--------	---------

Mixed Office Paper	
--------------------	--

Newspaper (ONP)	
-----------------	--

Old Corrugated Cardboard (OCC)	
--------------------------------	--

Plastic:

PET (#1)	
----------	--

HDPE (#2)	
-----------	--

PVC (#3)	
----------	--

LDPE (#4)	
-----------	--

PP (polypropylene #5)	
-----------------------	--

PS (polystyrene #6)	
---------------------	--

Mixed Plastic (#7)	
--------------------	--

Shrink wrap	
-------------	--

Rigids	
--------	--

Metal:

<input type="checkbox"/> Aluminum Cans	
--	--

Scrap Metal	
-------------	--

<input type="checkbox"/> Scrap Metal	
--------------------------------------	--

Glass:

<input type="checkbox"/> Clear	
--------------------------------	--

<input type="checkbox"/> Brown	
--------------------------------	--

<input type="checkbox"/> Green	
--------------------------------	--

<input type="checkbox"/> Mixed Glass	
--------------------------------------	--

What are the barriers you face in collection?

In your opinion, what role does the end-user (manufacturer) have in the collection of materials, infrastructure and outreach?

## End-User Questions:

What is the annual tonnage of the recycled commodity?

What is the percent of post-industrial content?

What is the percent of post-consumer content?

What are the final products (ex: auto parts)?

What are the barriers you face in processing?

In your opinion, what role does the end-user (manufacturer) have in the collection of materials, infrastructure and outreach?

If you are an end-user, please list and describe products you manufacture that contain recycled materials.

Please provide any comments you feel would be of value in compiling this assessment:

Regarding the barriers that end-users face, contamination ranked the highest, followed by markets and shortage of materials. Others were storage, value, participation and financing.

<b>Barriers</b>	<b>Number of Responses</b>
Contamination	6
Markets	4
Shortage of materials	3
Transportation	2
Storage	2
Value	2
Participation	2
Financing	1

Regarding the role of the end-user in collecting materials, infrastructure was most frequently cited, followed by transportation and then financing.

<b>Role of End User</b>	<b>Number of Responses</b>
Infrastructure	3
Transportation	2
Financing	1

### **Processors Survey Questions**

Source of Material

Percent of Material from South Carolina Sources

Est. 2010 Tonnage Processed

Est. Annual Capacity (tons/yr.)

Output Products (i.e. bales, resin, kraft paper)

Processor and/or end user who receives your processed material

What are the barriers you face in processing?

Transportation	Storage	Contamination
Markets	Value	Participation
Financing	Shortage of material	Other (please specify)

Respondents' responses to barriers:

<b>Barriers</b>	<b>Number of Responses</b>
Shortage of Materials	3
Contamination	3
Transportation	2
Storage	2
Participation	2
Financing	1
Value	1

## APPENDIX B: RECYCLING PROFILES



**Diversified  
Recycling, Inc.**

**DIVERSIFIED  
RECYCLING, INC.**

P.O. Box 11030  
Rock Hill, SC 29731  
York County

**Contact:**

**Don Burnette, Sr.**

Phone: (877) 682-0234

Email:  
[service@diversifiedrecycling.net](mailto:service@diversifiedrecycling.net)

Web:  
[www.diversifiedrecycling.net](http://www.diversifiedrecycling.net)

**Additional Location:**

132 Gardners Terrace Rd.  
West Columbia, SC 29172

**B**egun by Don Burnette in Greensboro, N.C., in 2001, Diversified Recycling moved to Rock Hill, S.C., in 2002. A recycler of used oil, anti-freeze, used filters, solvents,

tires, lead acid batteries, absorbents, fluorescent lamps and bulbs, computers and other chemicals, Diversified serves a number of clients and companies, including automotive repair shops, dealerships and businesses with fleets of cars and trucks. Originally a one-man operation, Diversified now employs six South Carolinians, staffing 10 trucks and serving approximately 500 private customers throughout the Southeast, in addition to its contract with the state of South Carolina. Through its operations, Diversified recycles approximately 3,628 tons of material annually.

The company is celebrating its sixth year of serving as the vendor of used oil and filter collection and disposal for the state of South Carolina. Diversified is proud to serve the military by cleaning out oil tanks and jet fuel at South Carolina's military bases, demonstrating its trusted and proven reputation. Burnette and his sons run the business providing quality customer service and fair pricing, all in compliance with DHEC regulations. Although Diversified customers are primarily industrial or commercial, the company also provides limited services to locals with waste oil and performs residential oil tank cleanings.

Company founder Don Burnette noticed that oil filters were a growing problem for his clients due to the messy process of draining them and collecting the residual oil. In response, Burnette developed a crusher that drains residual oil from filters and converts the filters into tight briquettes that can be used by the steel industry. Steel companies like Nucor in Darlington with electric arc furnaces can recover the steel from the filter, diverting thousands of oil filters from state landfills.

Diversified is a licensed hazardous waste transporter, handling plant decommissioning as well as emergency spill response and clean up. It also offers clients comprehensive environmental packages,



Truck in Diversified's fleet



One of Diversified's 10 trucks

including employee training, quarterly and/or yearly reporting and recycling, to make Diversified a one-stop shop for clients' environmental needs.

In 2006, RMDAC awarded Diversified Recycling as "Recycler of the Year."

**Giving Back**

- Sponsors a hole for South Pointe High School Stallion Booster Club Charity Golf Tournament.
- Sponsors Union County's annual Earth Day, collecting waste oil, antifreeze and oil filters from local residents.



Diversified collection truck



Diversified Recycling is located in York and Lexington Counties.



**DIVERSIFIED  
RECYCLING, INC.**

P.O. Box 11030  
Rock Hill, SC 29731  
York County

**Contact:**

**Don Burnette, Sr.**

Phone: (877) 682-0234

Email:  
[service@diversifiedrecycling.net](mailto:service@diversifiedrecycling.net)

Web:  
[www.diversifiedrecycling.net](http://www.diversifiedrecycling.net)

**Additional Location:**

132 Gardners Terrace Rd.  
West Columbia, SC 29172



**LEIGH FIBERS**

1101 Syphrit Rd.  
Wallford, SC 29385  
Spartanburg County

Contact: Parris Hicks-  
Chernoz

Phone: (864) 949-5641

E-mail:  
marketing@leighfibers.com

Web:  
www.leighfibers.com

**B**eginning in Boston, Mass., in 1922 as an affiliate of the British cotton waste company, John Leigh Ltd., Leigh Fibers is now in its fourth generation of family ownership. Leigh operates four locations in the United States and Canada, and provides product export and import through its global network



Leigh Fibers' employees

of more than 25 countries, including Chile, Argentina, China, Italy and Spain. Having relocated to South Carolina in the 1960s, Leigh Fibers employs more than 150 people at its Spartanburg location. Spanning over 1 million square feet, the Spartanburg facility is ISO 9001:2008 certified and boasts the largest textile waste and by-product re-processor in North America. Leigh's South Carolina plant has the capacity to process 175,000 tons of material per year, including 50,000 tons of carpeting. In total, Leigh Fibers has diverted over 14 million pounds of waste from landfills over the course of 97 years. Although the company mainly focuses on fibers, the addition of Leigh Carpet and Plastics Recycling LLC as a business unit in 2010 indicates the company's progressive attitude toward material recovery and recycling. Leigh has not only the equipment and experience to separate the face fibers from carpet backing, but can also turn the face fiber into densified products to suit customers' specifications.

Leigh provides its clients a host of services to meet their recycling needs, including: toll work, materials for reuse, trading, product destruction, closed loop manufacturing, textile salvage, waste stream management and research and development. The company recovers carpeting, denim, cotton, plastics, polyester nonwovens and aramids. Leigh serves customers in the automotive, caskets, construction, paper and currency, disaster relief and oil spill containment, erosion control, filtration, furniture, home furnishings, mattresses, pet products, nonwovens and traditional textiles industries.



Shoddy

The company produces a number of products for resale from processed materials, including reprocessed natural fibers, synthetic and artificial fibers, textile by-products, reprocessed technical fibers, shoddy, recycled carpet and plastics. In addition, Leigh promotes two specific brands of materials: QuietLeigh and SafeLeigh.



Baled fibers at Leigh

QuietLeigh is shoddy used by automobile manufacturers to reduce noise and SafeLeigh shoddy offers three levels of protection via fire-retardant aramids.

In May, Leigh Fibers announced an alliance with Trans-Americas Textile Recycling to offer Green Loop, a comprehensive fiber and textile recycling service designed to offer manufacturers of apparel,

footwear and household textiles a more effective end-of-life program for their products.

Leigh Fibers also assists BMW with materials recovery. Leigh accepts soiled rags from BMW, shredding them to make insulation padding for vehicular interiors. This plan saves BMW nearly \$60,000 annually.

**Giving Back**

- Partners with local colleges and high schools systems to provide internships and job shadowing opportunities.
- Partners with area university textile programs.
- Sponsored local events such as food drives, and donated nearly 500 toys to the 2010 Spartanburg Christmas toy drive.
- Member of the South Carolina Recycling Council and participated in the recycling CEO Roundtable, which provided input for the Recycling Industry Strategic Plan that came out in August 2010.



Leigh Fibers is located in Spartanburg County.



**LEIGH FIBERS**

1101 Syphrit Rd.  
Wellford, SC 29385  
Spartanburg County

Contact: Parris Hicks-  
Chernez

Phone: (864) 949-5641

E-mail:  
marketing@leighfibers.com

Web:  
www.leighfibers.com





#### MUMFORD INDUSTRIES

4730 Ninety Six Highway,  
Ninety Six SC 29666  
Greenwood County

Contact: Tina Huskey  
Recycling and Waste  
Specialist

SCRC Value Chain  
Committee Chair

Phone: (843) 978-3385

E-mail:  
tina@mumfordindustries.com

Web:  
www.mumfordindustries.com

Located in historic Ninety Six, S.C., Mumford Industries has been serving the Upstate region since 1995. Founder George Mumford entered the business during the age of recycling in the rubber industry. Mumford's partner, Jeff Rhine, has experience in preparing plastics for the recycling process. Mumford Industries focuses on providing recycling options to both large and small generators of recyclable materials by developing green management programs to promote landfill avoidance, increased recovery rates and re-use of materials. Mumford Industries offers comprehensive, eco-friendly recycling programs designed to meet a company's sustainability needs. The company maintains 15 employees.



Resin



Industrial plastic waste

Mumford Industries processes about 15 million pounds of recyclables a year, handling over 20 tons of product per day. The materials it recovers include: plastic (PET, HDPE, PVC, LDPE, PP, PS, ABS, PC, and nylon), cardboard/paper, metal and fiber. Mumford provides mixed truckload services—combining multiple recyclable materials onto a single tractor trailer load, ensuring landfill avoidance for these materials. Employees separate recyclables upon arrival to Mumford's 285,000-square-foot facility. This practice allows Mumford to provide "One Call, One Contact, One Company" service to comprehensively address companies' recycling needs.

The plastics recycling process at the Ninety Six facility includes: grinding and returning ground materials to customers for use in production processes, baling for more effective transportation and grinding or shredding on-site for reuse. Materials processed for reuse are sold to end users.

Currently, Mumford Industries receives materials from companies in the following industries: automotive, custom injection and blow molding, extrusion, food packaging, home interior distribution, wipes and public utilities, as well as window and skylight manufacturers.



Baled cardboard

Mumford Industries processes recyclable materials from industrial and manufacturing facilities to include any of the following or any combination of the following:

- Plastic buckets, pails, bottles,
- Film (butt rolls, master rolls),
- Packaging (strapping, shrink wrap, liner bags, plastic caps, cardboard, and office paper),
- Dunnage (plastic pallets), and
- Off spec plastic materials, over-runs, obsolesces, plastic parts or products, sprus and runners, purges or patties, and 'dirty' resins or regrinds.



Plastic bags and wrap to be recycled

In addition, Tina Huskey, Mumford's Recycling and Waste Specialist, was instrumental in setting up Share the Load, a program designed by the South Carolina Recycling Council in conjunction with the South Carolina Department of Commerce Recycling Market Develop program. Share the Load is being piloted at the SC Technology and Aviation Center's footprint and helps companies reduce waste, recycle and reduce costs by providing a routed pick-up of small quantity recyclable materials. Tina is a S.C. Certified Professional Recycler.

**Giving Back:**

- Sponsored South Carolina's Recycling Industry Legislative Day in 2011.
- Sponsors the Center for Corporate and Professional Development's Sustainability Business Education Programs at Furman University.



Mumford is located in Greenwood County.



**MUMFORD INDUSTRIES**

4730 Ninety Six Highway,  
Ninety Six SC 29666  
Greenwood County

Contact: Tina Huskey

SCRC Value Chain  
Committee Chair

Phone: (843) 978-3385

E-mail:  
tina@mumfordindustries.com

Web:  
www.mumfordindustries.com

**NINE LIVES MATTRESS  
RECYCLING**

837 N. Pamplico Hwy  
Pamplico, SC 29583  
Florence County

Contact: Ralph Bogan

Phone: (843) 916-9753

E-mail:  
ralphbogan@gmail.com

Web:  
www.ninelivesmattressrecycling.com/

**A**s mattresses have a compaction rate 400 percent less than regular garbage, they pose a large problem to landfills. Ralph Bogan began Nine Lives Mattress Recycling (NLMR) in 2006 to respond to this need, using his own funds in a dedicated effort to divert post-consumer mattress waste from traditional disposal through landfills. Just one year later, NLMR recycled over 126 tons of mattresses and box springs, resulting in 33 tons of metal, 17 tons of cotton, 20 tons of wood, 15 tons of foam, 20 tons of poly-pad and 21 tons of waste. NLMR recycles up to 90 percent of each mattress recovered.



Truck of mattresses ready to be recycled



Foam from disassembled mattresses

It recycled 12,126 units in 2009, saving over 103,000 cubic yards of landfill space, and 16,000 units in 2010 (over 136,000 cubic yards). NLMR works closely with landfills, counties, colleges and the United States military. Bogan conducted a study that confirmed the actions of NLMR saved the Horry County Landfill over \$120,000 by providing its recycling services. The company also works closely with surrounding bedding centers and hotels.

Customers who drop off their mattresses at NLMR are only charged a \$4.00 tipping fee per unit, with discounted rates available for shipments of 1000 units or more. NLMR also offers a pick-up service for an additional transportation fee. Afterward, NLMR's employees manually deconstruct the mattresses and box springs to separate materials for recycling and resale to end users. The bed is sliced apart, separating the foam, cotton, wood and steel. The steel is recycled at the local scrap yard, while the foam and cotton are baled on-site. The materials are shredded before re-entering the product loop, reforming foam into carpet padding and reusing



Box springs to be sold as scrap metal

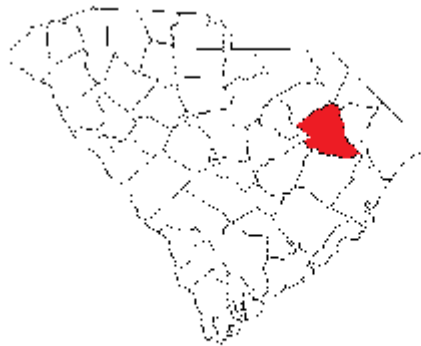


cotton and shoddy pad. NLMR can guarantee bedding manufacturers complete disposal of each unit and the recycling of the constituent parts, ensuring mattresses recycled through NLMR will not be rebuilt from recycled components in order to prevent non-sanitized materials from reentering the market.



Baled cotton prepared to become manufacturing feedstock

NLMR participates in the Smart Business Recycling Program, and was recognized in 2010 for “outstanding performance and dedication to reducing waste and promoting recycling.”



NLMR is located in Florence County.

### **NINE LIVES MATTRESS RECYCLING**

837 N. Pamlico Hwy  
Pamplico, SC 29583  
Florence County

**Contact: Ralph Bogan**

Phone: (843) 916-9753

E-mail:  
ralphbogan@gmail.com

Web:  
[www.ninelivesmattressrecycling.com/](http://www.ninelivesmattressrecycling.com/)

**Contact:**

Phone: (803) 359-9334

E-mail:  
rolloff@pasconrolloff.com

Web:  
www.pasconrolloff.com/

**P**&S Construction, founded in 1972, began as a Lexington-based paving and grading contractor and evolved into being a specialist water and sewer maintenance/repair contractor. PASCON LLC was created in 1996 to supply roll-off containers for P&S Construction jobs. PASCON Recycling, Inc. formed in January 2010 to support Leadership in Energy and Environmental Design (LEED) projects for PASCON customers and to help reduce construction and demolition (C&D) waste in landfills.



Recycling staging pad

Currently employing seven full-time and 10 to 12 “temporary” employees, PASCON Recycling promises and delivers a high standard of customer service to its clients by providing residential, commercial and industrial C&D waste recycling services. In



Baled plastic bottles

addition, the company handles small to large projects ranging in scope from special events to commercial construction projects to homeowners’ spring cleaning needs. PASCON provides containers ranging from 10 to 40 cubic yards in size. It also features employees highly experienced with the disposal of “special waste” for industrial and other projects.

PASCON maintains a fleet of over 30 trucks and 600 containers dedicated solely to more than 1,300 customers and is unhindered by pre-arranged garbage routes. PASCON recently added a front loader to its fleet, allowing the company to provide landfill services for MSW and unrecyclable waste.

Once recyclable materials arrive at the PASCON Recycling facility, they are weighed on PASCON’s certified scales while employees document the delivery of the C&D materials. PASCON has the ability to accept single stream (mixed recyclable material) loads that include a variety of commodities, such as metal, cardboard and plastic.



Sorting station



Wood grinder

The construction and demolition recycling process at PASCON is as follows. A trommel screens out dirt and small materials before the recyclables are transported via conveyor belt to the sorting station. When the materials reach the main belt, they are separated by type and are aggregated in bins underneath the sorting station for recycling. Sorted materials, such as cardboard, are baled and

transported to specialized local recycling markets.

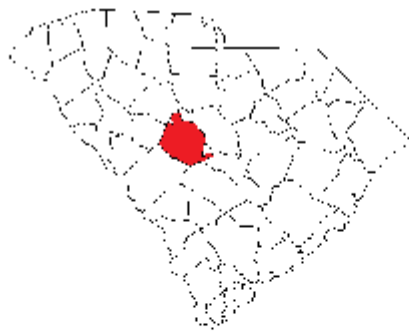
Lumber, wood products and wooden pallets are moved to the grinding area and processed for recycling or reuse.

Concrete is crushed, producing a variety of end products such as crush and run gravel, 1.5- to 2-inch ballast and 3-inch-plus ballast, which is resold to landfills and other industries. PASCON also has scrap metal markets to recycle the metal recovered from the concrete and the overall C&D recycling process. Materials that are contaminated and have limited markets, such as small shreds of paper and plastic, are transported to appropriate landfills.



Crush and Run gravel produced by PAS-

The company processed 27,000 tons of material in 2010, which resulted in an 83 percent recycling rate.



PASCON is located in Lexington County.

**PASCON**  
Recycling

**PASCON  
RECYCLING, INC.**

2111 Two Notch Rd.,  
Lexington, SC 29072

**Contact:**

Phone: (803) 359-9334

E-mail:  
rolloff@pasconrolloff.com

Web:  
www.pasconrolloff.com/





**SOUTHEASTERN  
PLASTICS RECOVERY**

4230 Scott St.  
Charleston, SC 29405  
Charleston County

Contact: John Votaw

Phone: (843) 849-1034

Phone (warehouse):  
(843) 308-5800

E-mail:  
serecov@bellsouth.net

Web:  
www.seplasticsrecovery.com

John Votaw, president of Southeastern Plastics Recovery (SPR), began his business with a focus on carpet pad recycling in the mid-1980s, but realized after his first dumpster dive that there was much more to carpet disposal than simply carpet padding. SPR's early carpet recycling efforts began with Allied Signal in the mid-1990s

with recycling recoverable components of carpet. However, these efforts met with limited success due to technology and recovery constraints because of a lack of a nationwide infrastructure for recycling. Only 20 percent of the carpeting material was recoverable, leading to about 80 percent of it being sent back to the landfill. The DSM Chemical Plant, a partner with Allied in the depolymerization of plastic carpet fibers located in Augusta, Ga., and SPR's primary consumer, closed in 2000, paving the way for Southeastern Plastics Recovery to become involved with the Carpet America Recovery Effort (CARE). CARE is a joint effort between the carpeting industry and government with the goal of increasing the amount of recycling and reuse of post-consumer carpet and reducing the amount of waste carpet going to landfills. Votaw's experience in carpet recycling enabled him to provide input to CARE on finding more value-added uses for materials in post-consumer recycling of carpeting, as 40 percent of total carpeting waste (5.5 billion pounds) ends up in landfills every year. Today, all face fibers of carpeting have a way to be recycled, with the exception of polyester carpet fiber, which is more difficult to recycle and currently is being used a fuel source.

SPR was the first company in South Carolina to offer carpet recycling, and has a staff of eight full-time employees. The company provides containers for the collection of carpet and carpet pads.



Carpet Recycling container



Baled carpet padding

Votaw collects recyclable carpet materials from local governments, commercial projects as well as retailers. SPR provides on-site pick-up, saving companies up to 40 percent on their waste hauling bills. It also offers a one-time courtesy drop of a container to homeowners, who may bring their own materials to the Scott Street location in

Charleston, S.C., to be disposed of at no charge. SPR also has a marketing campaign to inform carpet installation businesses and subcontractors of their obligation to properly dispose of used carpeting rather than leaving it curbside for municipal garbage pick-up. Southeastern Plastics Recovery offers drop-off container services to these subcontractors and charges less than landfill costs for responsible disposal of the materials.



Recovered carpet fiber

Over the course of its 25 years of operation, SPR has recycled more than 50,000 tons of carpeting materials. The company bales, palletizes and prepares carpeting for shearing by other companies. Approximately 75 percent of the material processed by SPR is either baled or palletized. SPR does not practice shearing on-site as shearing the carpet does not address recycling the backing, which composes 60 to 70 percent of the carpet's weight. SPR has recently invested in a more environmentally friendly technology which takes fiber separation to the next level.

SPR markets its materials to carpet manufacturers and other processors to close the recycling loop, supplying to textile recycling company Leigh Fibers as well as Wellman Plastics Recycling, Shaw Industries and other plastic compounders. However, not all carpet fiber types and components can be viably recycled into new products. Also, if the carpet is dirty or wet, or there is residual carpet waste from recycling efforts that can't be recycled, SPR directs those materials to the Carpet As Alternative Fuel (CAAF) outlet as a type of fuel for use in cement kilns rather than sending those materials to the landfill.

Votaw served on the Charleston County Green Ribbon committee, which sought to identify means of creating recycling policy following the elimination of a waste-to-energy facility in S.C. SPR was also named the 2007 Best Emerging Market Recycling Business in South Carolina by the Recycling Market Development Advisory Council for its work in collecting and recycling post-consumer carpets.



SPR services 25 counties in lower South Carolina.



**SOUTHEASTERN  
PLASTICS RECOVERY**

4230 Scott St.  
Charleston, SC 29405  
Charleston County

Contact: John Votaw

Phone: (843) 849-1034

Phone (warehouse):  
(843) 308-5800

E-mail:  
serecov@bellsouth.net

Web:  
[www.seplasticsrecovery.com](http://www.seplasticsrecovery.com)





### SIMS RECYCLING SOLUTIONS

5244 Festival Trail  
Salley, SC 29137  
Aiken County

#### Contact

Phone: (800) 933-0319

E-mail:  
[info.columbia@simsmm.com](mailto:info.columbia@simsmm.com)

Web:  
<http://us.simsrecycling.com/>

#### Additional Location

1009 Bedford Ave.  
North, SC 29110  
(Eastern Logistics Hub)



Originally founded as Global Investment Recovery in 1992 by David Ritter, this South Carolina e-waste disposal company merged with Sims Recycling Solutions (SRS) in 2009. SRS is the world's largest electronics recycling company, operating in five continents with 13



Salley, SC facility

North American locations, three of them located in South Carolina. Sims Recycling Solutions was established in 2002 as the electronics recycling division of Sims Metal Management, the world's largest metals recycler, which was founded in 1917. Globally, SRS processes 400,000 tons of material per year. Sims maintains a 100 percent domestic recycling, 0 percent landfill policy, emphasizing its commitment to responsibly managing the disposal of Waste Electrical and Electronic Equipment (WEEE). High-capacity shredders and advanced separation equipment assist in rendering old technology into new materials while preserving companies' data security and brand protection by ensuring unsatisfactory materials do not re-enter the market. Sims' Salley, S.C., location employs 70 people, and all work completed in South Carolina is performed by S.C. employees. The Salley site, housed in a 65,000-square-foot facility, practices end of life recycling, secure destruction and collection, specializing in "demanufacturing," hard drive erasure, hard drive shredding and remarketing. SRS's Salley location is ISO 14001:2004, R2 and OHSAS 18001:2007 certified, reflecting the company's commitment to workplace safety. Sims operates facilities in three South Carolina locations, totaling 140,000 square feet.

SRS accepts computers and peripherals, data center equipment, household appliances (excepting refrigeration equipment), office and telecommunications equipment, test equipment and laboratory and medical equipment for recycling. Sims services a diverse range of customers, including original equipment manufacturers, defense contractors, medical institutions, local and national governments, law enforcement, insurance companies, financial institutions, legal firms and education establishments. Its customer base includes all types of businesses, ranging



SRS Shredder in Salley, SC

from small commercial and manufacturing firms to multinational corporations. The Salley branch features the only electronics shredder in the state of South Carolina and is capable of processing 15,000 tons of material per year. Upon receipt of WEEE, Sims de-pollutes the material, carefully removing hazardous substances

from the goods. Once the pollution is removed, the electronic waste is relocated to Sims' automated recycling plant. Redundant equipment is shredded to liberate the materials from each other, with the smaller pieces transported over a range of technologies designed to segregate the steel, aluminum, copper, circuit boards, plastics, glass, etc. The recovered materials are shipped to smelters to be used in place of primary raw materials, such as iron ore or bauxite. Product disassembly and destruction is in complete compliance with laws governing data security specific to the customer's industry and needs. No electronics leave a Sims Recycling Solutions facility unless all hard drives have been shredded or wiped to NIST SP 800-88 Government Standards.

### Giving Back

- Sponsored the Hootie at Bulls Bay Intercollegiate Golf Tournament in 2010 and 2011. Sponsorship proceeds from the tournament go to the Hootie and the Blow Fish Foundation, benefitting primary education for school children in S.C.
- Sponsored Salley, S.C.'s annual Chitlin' Strut in 2010.

Global Investment Recovery (now SRS) was recognized by RMDAC in 2006 as the Best Medium Sized Recycling Company in SC. For the third year in a row, Sims Metal Management (SRS' parent company) was named as one of the top 100 most sustainable corporations in the world at the 2011 World Economic Forum in Davos, Switzerland.



Sims is located in Aiken County.



### SIMS RECYCLING SOLUTIONS

5244 Festival Trail  
Salley, SC 29137  
Aiken County

#### Contact

Phone: (800) 933-0319

E-mail:  
[info.columbia@simsmm.com](mailto:info.columbia@simsmm.com)

Web:  
<http://us.simsrecycling.com/>

#### Additional Location

1009 Bedford Ave.  
North, SC 29110  
(Eastern Logistics Hub)



**JOHNSON'S GARBAGE SERVICE INC.**

**Charles "Bruce" Johnson, President**

**Andrea "Rochelle" Johnson, Vice President and Administrative Operations Manager**

Contact information:

Phone: (803) 754-5537  
(office)

(800) 939-5537

Fax: (803) 754-8886

E-mail:  
johnsonsgarbage@aol.com

Web:  
www.johnsonsgarbage.com

**J**ohnson's Garbage Service Inc. is owned by Charles "Bruce" Johnson and Andrea "Rochelle" Johnson. Charles and Andrea, third-generation owners of the company and serve as managing partners of the company, have a long family history of being in the waste hauling services industry. Wardell Wilson Sr., the maternal grandfather of siblings Charles and Andrea, started Wilson Garbage Service Inc.



Johnson's Garbage collection truck

in 1948. In 1970, Dorothy Wilson Johnson, daughter of Wardell Wilson Sr., and her husband Carroll Johnson, the second-generation owners, acquired the business and changed the name to Johnson's Garbage Service Inc.

During its 62 year history, Johnson's Garbage Service Inc. has serviced residential communities in the city of Columbia, Lexington County and Richland County. Johnson's currently provides solid waste services to 8,000 residents in Richland County.

As the business continues to grow and thrive, Bruce and Rochelle have pursued opportunities through competitive bidding, enabling Johnson's to enhance its solid waste and recycling services to residential and commercial establishments in the Greater Columbia area. With this structure, Johnson's increased its recycling program, offering the first roll-cart pick-up service in January 1984. This process included the collection of recycled plastics, paper (newspapers, catalogs, magazines, cereal boxes and corrugated cardboard), glass, aluminum beverage and metal cans and miscellaneous items for its residential customers.

In 2003, Johnson's Garbage Service Inc. developed and implemented a pilot recycling program for the Trenholm, Rockbridge and Satchelford areas of Richland County. The pilot program was successful, and from 2003 to present, the program



Andrea "Rochelle" and Charles "Bruce" Johnson

has utilized two bins (grey and red) to collect recyclable items. The grey bin is set out for magazines that are less than an inch thick, catalogs, newspapers (along with inserts) and junk mail. The red bin is for metal cans, #1 and #2 plastic bottles and jars (no plastic bags or wrap), corrugated cardboard, chipboard and cereal boxes.

Collecting these materials separately creates a clean stream of recyclable materials that are taken to Sonoco's MRF in Columbia for processing. During 2010, JGS collected 215-tons of commingled recyclable materials from residential recycling programs across Richland and Lexington counties. From January-March 2011, JGS collected 50 tons, and 20 tons in April 2011.



Johnson's Garbage featured in *The State* newspaper — 2003

Company operations are carefully monitored to ensure compliance with applicable state and local regulations. The company has developed and maintains internal quality control mechanisms to ensure delivery of effective and efficient service.

**Recognition**

- Featured in The Columbia Business Journal on September 2, 2002, as the Johnson siblings gave up their careers and took the reins of the family business.
- Received award from Delta Sigma Theta Sorority, Inc. for providing service.

**Giving Back**

- Each year, adopts families for Thanksgiving and Christmas.
- Assisted with storm damage clean up in the North 21 Terrace Community.
- Participates in the following events:
  - The Annual Richland County America Recycles Day
  - The Fun Day for Richland County
  - The Festival of Trees Benefit for the Palmetto Children's Hospital
  - The yearly Recycling Business Forum,
  - S.C. Recycling Council and RMDAC meetings.

**Contributions:** Breast cancer research efforts, Brookland Baptist Church for the Harvest Hope Food Bank and to the Senior Citizens' Health Care and Fun Day for Richland County.



Johnson's Garbage Service is located in Richland County.



**JOHNSON'S GARBAGE SERVICE INC.**

Charles "Bruce" Johnson, President

Andrea "Rochelle" Johnson, Vice President and Administrative Operations Manager

Contact information:

Phone: (803) 754-5537 (office)

(800) 939-5537

Fax: (803) 754-8886

E-mail: johnsonsgarbage@aol.com

Web: www.johnsonsgarbage.com





**FISHER RECYCLING—  
GRAND STRAND**

104 Calvert Court  
Pawleys Island, SC 29585  
Georgetown and Horry  
Counties

Contact: Kira Roff

RMDAC Glass Industry  
Representative

Member of SC Recycling  
Council

Phone: (843) 543-9811

E-mail:  
kira@fisherrecycling.com

Web:  
www.fisherrecycling.com/  
grand\_strand/

In 2009, Kira and Steve Roff became Fisher Recycling LLC's first franchisees, serving Horry and Georgetown counties. Fisher Recycling-Grand Strand recovers office paper, plastic, glass, aluminum, tin, electronic equipment, cardboard, newspaper, magazines, oyster shells, furniture and mattresses for commercial and residential customers. It also provides waste audits, recycling containers and educational training. With the beginning of the e-scrap ban on July 1, Fisher Recycling will coordinate pick-up services for used electronics for delivery to e-scrap recyclers.



Kira and Steve Roff

During its first eight months of operation in 2010, Fisher Recycling-Grand Strand recycled over 162 tons of glass, plastic, newspaper and aluminum and is well on its way to recycling over 200 tons in 2011. The Roffs focus primarily on pick-up services and educating local businesses through waste audits and recycling plans, taking the majority of collected materials off-site to process. For example, recovered cardboard and aluminum are sold to Sonoco Recycling, while plastics are sold to Southeastern Plastics Recovery. A novel business in the Grand Strand area, Fisher Recycling is small enough to be flexible to accommodate clients' and new businesses' needs.

Fisher Recycling designed the Dunes Realty Recycling Program for vacation rental homes that require service more frequently during the tourist season, working with owners and rental companies to provide recycling that complements the rental schedule. Fisher Recycling also works with the Horry County Solid Waste Authority and Sonoco Recycling to ensure the amount of material it recovers is reported to the South Carolina Department of Health and Environmental Control (DHEC). DHEC uses this information to help accurately measure the state's recycling rate and meet the 35 percent recycling rate goal.



April 2011 "Spring Tide Clean Up"

Fisher Recycling-Grand Strand is growing. It has two full-time and several part-time employees and services more than 45 customers, including neighborhoods of seven to 49 households. Fisher Recycling is dedicated to educating the Grand Strand region on the importance and benefits of sustainable recycling practices. Kira's phone has become host to the de facto business recycling hotline in the Grand Strand area.



Recycling at Murrells Inlet 2010 Annual Oyster Roast

### Giving Back to the Community

- Pilot school-wide recycling programs and educational presentations at Waccamaw Elementary and Intermediate Schools in Pawleys Island.
- Recycled at the 2010 and 2011 Murrells Inlet Spring Tide Clean-up, opening every garbage bag collected to pull out glass, plastic bottles/containers, and aluminum by hand.
- Recycled at the 2010 and 2011 Murrells Inlet - Race for the Inlet.
- Donated recycling services and

collection for Surfrider Foundation (Grand Strand chapter) annual "Chilympics" fundraising event.

- Sponsored Waccamaw Intermediate School's "Gators Go Green" event, featuring more than 28 students and teachers modeling fashions made from 100 percent recycled material, such as garbage bags, newspapers and water and soda bottles.
- Donated the use of its 64-gallon rolling carts for St. Michael's Catholic School phone book recycling drive.
- Serves as the Glass Representative to the Recycling Market Development Advisory Council and has been instrumental in the SC Recycling Council Policy Committee on support for S 461, the ABC Recycling Bill introduced by Senator Cleary.



"Gators Go Green" fashion entry



### FISHER RECYCLING— GRAND STRAND

104 Calvert Court  
Pawleys Island, SC 29585  
Georgetown and Horry  
Counties

Contact: Kira Roff

RMDAC Glass Industry  
Representative

Member of SC Recycling  
Council

Phone: (843) 543-9811

E-mail:  
kira@fisherrecycling.com

Web:  
www.fisherrecycling.com/  
grand\_strand/



Fisher Recycling operates in Georgetown and Horry Counties



SONOCO

1 North Second Street  
Hartsville, SC 29550  
Darlington County

Contact: Daniella Fassett

RMDAC Paper Representative

SC Recycling Council Anchor  
Company

Phone: (843) 383-7000

Daniella.Fassett@Sonoco.com

Web:  
[www.Sonoco.com](http://www.Sonoco.com)

From its headquarters in Hartsville, South Carolina, and more than 300 operations in 34 countries, Sonoco produces packaging for a variety of industries and many of the world's most recognized brands, serving customers in 85 nations.



Sonoco's operations consist of its consumer packaging businesses – Global Rigid Paper and Closures, Global Flexibles and Global Plastics; its Global Services division, which provides high-impact retail displays and packaging supply chain management; its Industrial Converted Products businesses, which manufacture tubes and cores, engineered protective packaging solutions and reels for the wire and cable industry; and the Primary Materials groups, which produces uncoated recycled paperboard globally for Sonoco's fiber-based packaging divisions and external converters, and is one of the world's largest recyclers.

As the only packaging company with the products, services and expertise to provide customers with total packaging solutions, Sonoco is setting the standard for innovative, consumer-preferred products and seamless, single-source service in the packaging industry. Paper and cardboard packaging are made of over 90 percent post consumer materials. Metal (aluminum/steel) packaging is made of over 25 percent post consumer materials. Plastic packaging is made of over 10 percent post consumer materials.



Paper and Adhesives





**3R OF CHARLESTON,  
INC.**

P.O. Box 1443  
Goose Creek, SC 29445  
Charleston County

Contact:  
**Walt Rhodes**

Phone:  
(843) 824-0711

Email:  
Rhodes.Walt@yahoo.com

Web:  
<http://3rofcharleston.com>

Locally owned and run since its foundation in 1990, 3R of Charleston works as a full service environmental company. Located in Charleston County, the company supplies environmental, industrial and transportation services to the Low Country and other regions in the Southeast. With ten employees trained in environmental, industrial and transportation fields, 3R of Charleston recovers recycled scrap metal, lead acid batteries, plastics and aluminum cans. The company processes 1,000 pounds of steel and 200 pounds of plastic per week as well as batteries.



3R of Charleston, Inc. Container

3R of Charleston, Inc. provides emergency spill response, site remediation of hazardous and non-hazardous waste, tank, pit and reactor cleaning and hazardous and non-hazardous waste transportation and disposal. 3R of Charleston, Inc. handles commercial and industrial solid, liquid, and sludge waste streams. It also provides vacuum truck, tanker monitoring, well vacuum and vacuum truck, oily water disposal and recycling services. rentals for roll-off containers, vacuum boxes, compactors and frac tank are available.. The company's recycling services operate with 10, 20, 30 and 40 yard roll-off cans and handle all metals, plastics lead acid batteries, florescent bulbs, used oils and fuels. The company's main client base is Charleston but can provide their services to other Southeast manufacturers with similar rates.



Tank Cleaning

3R provides 24/7 emergency waste clean-up for hazardous or non-hazardous materials to the Charleston area. The company handles transportation and non transportation related spills and has experience cleaning large releases of oil up to 90,000 gallons.



Recycling Truck





**A SHRED AHEAD**

1201 Main Street  
Columbia, SC 29201  
Richland County

Contact:  
John Chapman

Phone:  
(803) 929-0666

Email:  
sales@ashredahead.com

Web:  
www.ashredahead.com

Corporate Address:  
5409 Lumley Road  
Suite 106  
Durham, NC 27703

Located in Columbia and Greenville, South Carolina, A Shred Ahead provides on-site mobile document and product destruction. Since 2003, the company has opened operations in Alabama, Florida, Georgia, Kentucky, North Carolina, Tennessee and Virginia and maintains 45 employees. In 2010, A Shred Ahead processed over 12 million pounds of paper for a statewide client base. Customers include small businesses, national and government accounts.



A Shred Ahead's Mobile Shredding System

Each customer receives complimentary rolling bins or office consoles and every four



weeks A Shred Ahead empties the bins and shred the material on site. From there, the paper is recycled instead of landfilled. For larger businesses or corporations, a member of staff conducts an onsite inspection to determine how many bins are required and the non-paper destruction needs, then the paper is shredded on a regular basis. Keeping clients' documents confidential is extremely important to A Shred Ahead as is their environmental responsibility.

The company has a policy of confidentiality All of the company's rolling bins are 100 percent recyclable.

Paper is not the only material that can be destroyed on-site. A Shred Ahead can also destroy CD-ROMs, CD-Rs, DVDs, computer back-ups, microfiche, X-Rays, video, cassette and casino tapes, product samples and prototypes.

Over the last year, customers from A Shred Ahead recycled 12 million pounds of paper, saved 22,050 cubic yards of landfill, 107,100 trees and 25,830,000 kilowatt hour of energy.



100% recyclable rolling bins



**A&D ENVIRONMENTAL**

Greenville:  
211 South Main Street  
Mauldin, SC 29662  
Greenville County

Lexington:  
1741 Calks Ferry Road  
Lexington, SC 29073  
Lexington County

Contact:  
Dan Martin

Phone:  
(803) 309-4657

Email:  
martin@adenviro.com

Web:  
<http://adenviro.com>

**A**&D Environmental has been providing clients turn-key environmental solutions for twenty years. With two offices in South Carolina (Lexington and Mauldin), the company strives for excellence in industrial services, waste management, remediation, emergency response and transportation services. A&D Environmental has 200 employees with additional locations in Georgia and North Carolina. Its corporate office is located in Archdale, North Carolina. Their main markets in the Southeast and include manufacturing companies, utilities, consulting firms and government and real estate agencies.



A&D Environmental provides industrial services



Transportation Services include hazardous and non-hazardous waste transport

The company offers services including specialized chemical cleaning, facility decontamination, pumping services, process equipment cleaning, combustible dust removal and video line inspections. A&D's main focuses are on risk avoidance, reducing total cost, breadth of services, customer service and on-time delivery. Another aspect of their services is waste management. These services include waste solidification and disposal, laboratory chemical packaging and removal, mercury clean-up and bio-hazard clean-up.



Environmental services

Recycling of oils is another way A&D Environmental keeps its business in "green" affairs. Through keeping above-ground storage tanks, the facility helps accommodate in excess of 230,000 gallons of oil. Their storage capability allows for the bulk handling and blending of liquids to be processed in excess of 50,000 gallons daily. Once the oils are processed through the system, they are utilized for fuel blending or as a fuel product for boilers. Their remediation sector provides services such as aggressive fluid vapor recovery, lagoon and landfill cleaning and closure, demolition and shoring, and soil and groundwater remediation.



AMERICAN RECYCLING  
OF SOUTH CAROLINA,  
LLC

1240 White Horse Road  
Greenville, SC 29605

Contact:  
Ron Moore

Phone:  
(864) 277-7722

Email:  
rmoore@amrecycling.com

Web:  
<http://amrecycling.com>

**A**merican Recycling of South Carolina, LLC located in Greenville, South Carolina has

been a collector, processor and marketer of recovered paper for eight years. American Recycling specializes in office recycling, printer waste, cardboard and commercial grades of plastic. They receive, sort and bale residential materials in both single stream and

dual stream programs. The company also provides product destruction and inventory clean-outs with a capacity of 50,000 tons annually.

American Recycling has domestic and international markets. Recycleble materials are made into new products like new boxes and cores from old corrugated cardboard and mixed paper. Office paper, books and printers waste go into making tissue. Plastic products include recycled content carpet, toys, new detergent bottles and aluminum cans.

American Recycling offers storage containers, pick-up services and waste audits. The company can develop the pick-up of cardboard, office paper and stretch film and are buyers of cardboard. To increase efficiency, the company installed a screen to allow for sorting of single stream materials at the plant and in 2010, added a second baler to provide additional baling capacity. American Recycling's mission is to maintain the highest level of integrity and reliability and to help preserve the environment with their business processes.



American Recycling of SC



American Recycling of South Carolina is located in Greenville County





**ANDERSON  
WOODWASTE AND  
RECYCLING**

684 Monitor Drive  
P.O. Box 13576  
Anderson, SC 29624

Contact:  
Ray Logan

Phone:  
(864)-260-0017

Email:  
raylogan@advancedmachin-  
fab.com

**A**nderson Woodwaste and Recycling has been in Anderson, South Carolina since 1994 and has three employees. Ray Logan, owner of Anderson Woodwaste and Recycling, began his career in the pallet industry after working in the machine business for over 20 years. He noticed manufacturing plants needed a place to dispose of unwanted pallets so he began the venture that is now Anderson Woodwaste and Recycling.



Recovered Pallets



Remanufactured Pallets

The company recycles and builds new pallets, buys and sells Gaylord cardboard boxes. They also incinerate those materials that cannot be reused or re-made into usable new pallets. Their primary market includes Upstate South Carolina businesses and manufacturing companies. Anderson Woodwaste and Recycling picks up pallets from manufacturing plants, builds shipping crates and repairs damaged pallets. It then sells them to manufacturing companies.



Anderson Woodwaste and Recycling is located in  
Anderson County



**ARD'S CONTAINER SERVICE**

1224 Laurel Street  
Columbia, SC 29201

Contact:  
Stephen Ard

Phone:  
(803) 933-9336

Email:  
sard@ardscontainer.com

Web:  
www.ardscontainer.com

**A**rd's Container Service is a family owned business located in Columbia, South Carolina. The waste removal, recycling and compacting company has been in operation for 50 years. ThArd's Container Service provides industrial and commercial waste removal, special event clean-up and recycling of cardboard, aluminum, paper, plastics and metals. In 2010, Ard's Container Service recovered 80 tons of material.



Roll-off Containers

Their service areas include Richland, Lexington, Saluda, Newberry, Fairfield, Kershaw, Lee, Darlington, Florence, Sumter, Calhoun and Orangeburg Counties. The company's markets are construction, residential, demolition, restaurants, offices, commercial and industrial properties. In 2010, the company celebrated its 50th anniversary in the solid waste and recycling industry. Ard's Container Service offers a full line of services and is fully licensed and insured.



Roll-off Containers



Ard's Container Service is located in Richland County



**BOWERS FIBERS**

3577 Chester Highway  
Lancaster, SC 29270

Phone:  
(800) 285 7556

E-mail:  
general@bowersfibers.com

Web:  
www.bowersfibers.com

**B**owers Fibers, a privately owned family business founded in 1946, is a leading manufacturer of processed fiber by-products. The company processes mill waste, nonwoven by-products and trades various 100 percent cotton grades. In addition, it buys and sell yarn seconds and plastic scrap. Bower Fibers' corporate headquarters is located in Charlotte, North Carolina and has a manufacturing and processing plant in Lancaster, South Carolina.



Grey Goods—woven fabrics



Cotton Yarn

Bowers Fibers recovers material from textile mills, raw cotton, cotton gins and fiber producers. The company also purchases finished or unfinished textile goods (rolled or baled), yarn seconds or obsoletes and plastic scrap. Bower Fibers markets and products include carpet underlay, filters, absorption pads, mattress pads (such as felts and/or battings, insulator pads, pillow, batting and garneting, needle punching and thermal bonding goods.



Bower Fibers is located in Lancaster County.

**CAMDEN STEEL AND METAL CO.**

Harry Kline

Contact information:

Phone: (803) 432-6595

Address: 101 King St  
Camden, SC 29020-4751

E-mail:  
hakline@bellsouth.net

**C**amden Steel and Metal Co. has been operating since 1946 in Camden, SC. The company processes metal (aluminum, steel, ferrous, non-ferrous), aluminum

cans, stainless, scrap metal and recycling, radiators, iron and steel, copper, containers for industry, brass and aluminum.

The company bales, cuts and ships these recyclable materials to a variety of markets such as steel mills and smelters.

Camden Steel and Metal has a capacity of approximately 6,000 tons annually.



Stainless steel is one of the many materials the company processes



Camden Steel and Metal Co. is located in Camden, SC.



# CAROLINA TEXTILES

## CAROLINA TEXTILES

Brad

Contact information:

Phone: ((843) 538-8644, ext. 111)

Address:  
68 Anderson Road  
Walterboro, SC 29488-8231

E-mail:  
ctrrags@lowcountry.com

Web:  
<http://www.ctrrags.com/>

**C**arolina Textiles is located in Walterboro, SC in Colleton County. Open since 1995, the company buys used clothing and textiles and recycles it. The company currently employs 40 people. Suppliers are Salvation Army locations and Goodwill stores throughout the Southeast. They have a zero to landfill policy and have diverted over 10 million pounds of post-consumer product.



Carolina Textiles obtains textiles from Goodwill and Salvation Army



The company is located in Walterboro.

Carolina Textiles distributes about 70% of post consumer products and 10-15% pre-consumer. The company's final products are industrial wiping rags. Carolina Textiles' markets include industrial-based users, janitorial supplies and manufacturers. The company's primary industry that sales are focused on is industrial wiping rags.



Carolina Textiles is located in Colleton County





**CHARLESTON STEEL & METAL CO.**

2700 Spruill Avenue  
North Charleston, SC 29405

Contact:  
**Barry Wolff**

Phone:  
(843) 722-7278

Email:  
bwolff@charlestonsteelandmetal.com

Web:  
www.charlestonsteelandmetal.com

**C**harleston Steel and Metal Co. has been in operation since 1893. With their family-like business structure, the company employs around 120 people and has a capacity to recover 250,000 tons of material annually. Charleston Steel and Metal Co. purchases raw material such as copper, aluminum cans, brass, white goods, insulated copper wire, automobiles, unprepared and prepared steel and aluminum. The company then can process guillotine shears, inbound scrap with portable shears, cutting torches and high speed balers. From there, Charleston Steel and Metal sells usable steel such as used structural steel, beams, pipes, angles, plates and shapes.



Automobiles before processing



The company also offers various services to their customers like roll-off containers 25-50 yards in size, load lugger containers, dump trailers, sided trailers and flats, as well as a mobile crushing crew.

Charleston Steel and Metal's markets include domestic and foreign mills and foundries in China, India, Taiwan, South America and Europe. Charleston Steel and Metal Co.'s service area

is 250 miles surrounding Charleston.



Charleston Steel and Metal Co. is located in Charleston County



**CINTAS**

380 Carolina Drive  
Roebuck, SC 29376  
Spartanburg County

Contact:  
Barry Peters

Phone:  
864-577-9645

Website:

**T**he Cintas Corporation provides a number of services to their clients. One of these services is document management. This service provides document shredding, imaging and storage programs to ensure data privacy and security, regulatory compliance, control and access to information. In South Carolina, the document management sector of the company has been in existence since 2006 in Spartanburg County. The company also has offices in Summerville, Columbia and Myrtle Beach. In South Carolina, Cintas employs 42 people and recovers 100 percent of all material processed. The company is AAA National Association for Information Destruction Certified. Cintas document shredding service helps businesses reduce costs and increase protection of confidential business records.



On-site shredding is available



Document recovery at storage facility

Cintas document shredding services include secure and compliant document destruction solution through a document shredding program. The company provides proof of service tracking and certificate of destruction for a legal audit trail (chain of custody) and national shredding coverage. The company also provides document storage. The storage facilities are equipped with 24-hour security cameras, alarm systems and complete fire protection systems. Cintas is also a HIPAA Business Associate and all of the services are handled by bonded and insured personnel dedicated specifically to

medical files. The company accepts hard copies, electronic media, business, financial or medical records.

Cintas document storage programs provide hard copy storage, medical records storage, media storage (climate-controlled vaulting), fast document/information retrieval (in two hours or less), 24/7 operations, scan-on-demand, document imaging (paper to cd-rom or other digital filing methods), secure destruction of confidential material at the end of its useful life.





**Commercial Metals  
Company**

**COMMERCIAL METALS  
COMPANY**

5308 Liberty Chapel Road  
Florence, SC 29506  
Florence County

Contact:  
**Michael Greenwood**

Phone:  
(843) 665-5865

Email:  
michael.greenwood@cmc.com

Web:  
www.cmc.com

**C**ommercial Metal Company's (CMC) beginning was in scrap metal processing. Today, CMC is one of the largest processors of nonferrous scrap metals and one of the largest regional processors of ferrous scrap metals in the U.S.



The company facility in Florence, SC

CMC recycles materials resulting from the manufacture, use and disposal of products made of aluminum, copper, brass, stainless steel, nickel



Nonferrous and ferrous materials processing

and other alloys. With almost 50 U.S. based recycling facilities, CMC is one of the world's major processors and marketers of nonferrous scrap metals, and through its global network of sales and trading offices, the company provide these products to mills, smelters and refineries all over the world. One of these facilities is located in Florence County. CMC recovers and produces scrap metal for re-melt or further processing with 100 percent post consumer

or post industrial recycled content. CMC's markets include steel mills and metal refineries.



CMC is located in Florence County.



**CRANDALL  
CORPORATION**

100 Rich Lex Drive  
Lexington, SC 29072  
Lexington County

Contact:  
Van Skipper

Phone:  
(803) 791-4800

Email:  
lvskipper@crandallusa.com

Website:  
www.crandallusa.com

**C**randall Corporation was founded in 1979 by Jack Faulk and has remained under the same ownership for the life of the company. Crandall Corporation has provided environmental health and safety compliance management, waste management and recycling



Materials collected include used oils and coolants.

services for 32 years. Crandall employs approximately 40 people in positions such as administrative, professional and technical, operations and truck drivers. The company collects waste materials for reuse, recycling or disposal. Waste materials collected and recycled include used oils, coolants, spent absorbents, used tires, lead wheel weights, used batteries, spent fluorescents high intensity discharge



Crandall environmental services

lamps, off specification fuels, and industrial waste streams.

Crandall provides industrial and field services for aboveground and underground storage tank removal, lab packing, chemical management and Phase I and II environmental site assessments. The company provides services throughout the Southeastern United States. Crandall provides compliance, consultation, waste management and recycling services for industries such as the automotive service, public utilities, steel mills, paper coatings, colleges, salvage yards, wire production, valve manufacturing and

sewer management.



Crandall Corporation is located in Lexington County.



**EVER-GREEN  
RECYCLING**

3101 Augusta Road  
Greenville, SC 29605  
Greenville County

Contact:  
Elizabeth Garrison

SCRC Policy Committee  
Chair

Phone:  
(864) 230-9800

Email:  
Elizabeth@ever-  
greenrecycling.com

Website:  
www.ever-  
greenrecycling.com

**E**ver-Green Recycling (EGR) is an “Ecopreneurial” business. Its mission is to do good things for the environment while also increasing the recycling infrastructure and industry which ultimately creates jobs in South Carolina. EGR’s owner, Elizabeth Garrison, feels passionate about letting nothing go to waste. EGR has been operating for four years, has four employees and serves the Anderson, Greenville and Spartanburg areas. EGR works with companies of all sizes to develop, implement, and service recycling programs.



EGR recycles in Greenville's Falls Park



EGR educates children about recycling

EGR provides services to hotels, restaurants, offices, distribution facilities and warehouses. EGR recovers aluminum, plastic, glass, paper, cardboard, electronics and biomedical and universal waste. The company also accepts hard drives and provides companies with a certificate of destruction. EGR provides recycling training to its clients and their employees. It also provides recycling education to school children.

EGR is a member of the South Carolina Recycling Council (SCRC) and a partner with the Share the Load, a pilot project for Upstate companies within the Greenville South Carolina Technology and Aviation Center that provides the opportunity for companies to share freight, combine recycling loads, reduce costs, handling and minimize the amount of material landfilled. In 2009, EGR was recognized by the South Carolina Department of Commerce as the Best Small Recycling Business.



Ever-Green Recycling is located in Greenville County.



**G**eoHay located in Inman, South Carolina manufactures erosion control products from 100 percent recycled carpet. The company has been in operation for eight years and has ten employees. Geo Hay's markets include construction, municipalities, environmental firms, underground water management, landscaping, gardening and agriculture. Its service areas include Richland, Lexington, Saluda, Newberry, Fairfield, Kershaw, Lee, Darlington, Florence, Sumter, Calhoun and Orangeburg Counties.



GeoHay product

**GEOHAY**

2353 Highway 292  
Inman, SC 29349  
Spartanburg County  
Contact:  
Kellyn Hargett

Phone:  
864-472-7000

Email:  
kellyn@geohay.com

Website:  
www.geohay.com

GeoHay products come with precut stake holes for easy installation and are non-biodegradable. GeoHay products are produced in standard sizes, but can also be

ordered to fit the specific customer needs. GeoHay's erosion control product allows water to flow through the product as well as filter out the sediment, fine particles, and hydrocarbons from runoff and storm-water.



GeoHay bales

GeoHay is located in Inman, SC in Spartanburg County and maintains ten employees. The company has been operating for eight years.



GeoHay is located in Spartanburg County..





Green Roof Outfitters

GREEN ROOF OUTFITTERS

1463 Avenue H  
North Charleston, SC 29405  
Charleston County

Contact:  
Michael Whitfield

Phone:  
(843) 364-7653

Email:  
michael@greenroofoutfitters.com

Web:  
www.greenroofoutfitters.com

**G**reen Roof Outfitters is located in North Charleston, South Carolina, and has been in operation since 2008. The company has two full-time employees, and manufactures green roof modules from 100 percent post consumer high density polyethylene (HDPE).



Bloom Residence

Green roof benefits include Leadership in Energy and Environmental Design (LEED) credits, storm water runoff reduction, energy conservation, mitigates "heat island effect" and urban green space. On average, the company manufactures 10,000 modules annually. In addition to SC, Green Outfitters has commercial and residential customers in northern and western states.



Green Roof Outfitters Module

The modules are four square feet and weigh 3.8 pounds. They have been shown to reduce heating and cooling costs by up to 50 percent for the floor directly below the roof. The reduced heat permeating through the roof membrane reduces the amount of energy needed for the HVAC system to heat or cool the building, saving a significant amount of money over the lifetime of the green roof. Green roofs not only reduce heat gain in the summer, but reduce heat loss in winter.

The modular system arrives already planted and ready for installation. The modular system is an all-inclusive package, that has a built in drainage layer, lightweight growing media, established plants and an easy to transport container.

The modules are four square feet and weigh 3.8 pounds. They have been shown to reduce heating and cooling costs by up to 50 percent for the floor directly below the roof. The reduced heat permeating through the roof membrane reduces the amount of energy needed for the HVAC system to heat or cool the building, saving a significant amount of money over the lifetime of the green roof. Green roofs not only reduce heat gain in the summer, but reduce heat loss in winter.



Ashley Hall, Charleston, South Carolina





INTERSTATE  
BATTERIES

Contact: Mark Torres

Phone: 886-277-9466

Email: [ibofusc@bellsouth.net](mailto:ibofusc@bellsouth.net)

Address:  
431 West Butler Rd  
Mauldin, South Carolina  
29662

Website:  
[www.interstatebatteries.com](http://www.interstatebatteries.com)

Located in Mauldin, SC, Interstate Batteries picks up and disposes of all types of lead acid and sealed batteries. They are EPA approved and can provide indemnification upon request. The company recycles over 2 million batteries per year. Interstate Batteries serves Pickens, Greenville, Spartanburg and Cherokee counties. Interstate batteries picks up batteries from automotive repair shops, auto parts stores, fleets, marine, motorcycle, lawn and garden, car dealerships, commercial accounts and other types of industries. With six employees and over five years experience in the Upstate, Interstate Batteries is committed to recycling in their community.



Interstate's office in Mauldin.

Interstate Batteries is part of a nationwide company that takes pride in being the #1 battery recycler in the U.S. with more than 850 million pounds of batteries recycled last year alone. Interstate handle used batteries, and asks companies to join them in their commitment to improve the environment by recycling batteries. Interstate manages battery recycling for both governmental entities and the private sector with adherence to environmental and transportation regulatory standards.



Interstate Batteries is located in Greenville County .



**IRON MOUNTAIN**

Contact: Pattie Beerman

Phone: 803-960-7828

Email:  
Pattie.beerman@ironmountain.com

Address: 100 Archive Ct.  
West Columbia, SC 29169

Website:  
www.ironmountain.com

Iron Mountain is document management company in West Columbia. With approximately 100 employees, Iron Mountain has been in operation for twenty years. The company also has offices in Lexington, Greenville, Spartanburg, Florence and Charleston. Services include scanning solutions that transition paper to electronic records, high-capacity, high-availability repository for storing electronic copies of business documents, advanced record management software to manage records, customized solutions for health information management, helping to establish a defensible process of capturing, coding and organization production through logical unitization and loading digital information into eDiscovery platforms for review analysis and production.

For shredding needs, Iron Mountain provides both offsite shredding and onsite shredding. Onsite shredding through mobile shredding units which offers the opportunity for independent oversight and verification by additional witnesses. Another option is special projects destruction which is designed for one-time or periodic destruction of sensitive materials that require secure shredding. Iron Mountain also offers secure media destruction of non-paper based media. Iron Mountain's service area includes 39 states, including the entire state of South Carolina.



Iron Mountain provides on and off-site shredding.



Iron Mountain is located in Richland County.

**JORDAN SCRAP METAL**

Contact: Jimmy Jordan

Phone: 843-423-1932

Email:  
jordanscrapmetal@att.net

Address: 123 Metal Road  
Marion, SC 29571

Jordan Scrap Metal is located in Marion, SC. The company works to recover scrap metals such as copper, aluminum and brass. Jordan Scrap Metals picks up material from scrap yards or roll-off containers from manufacturing facilities. Jordan Scrap Metal recycles both post consumer or post industrial materials. Once they receive materials, they sort, process and market the material to the metal industry and other markets. They have recycled over 10 million pounds of metals during the company's history.

Jordan Scrap Metal serves the Pee Dee and Grand Strand region from Myrtle Beach, SC to Georgetown, Horry County, Dillon, Florence and Hemingway as well as towns on the NC line such as Fairmont, NC. Jordan Scrap Metals usually markets its copper and aluminum products to larger yards; however, steel is sent to Nucor's mini-mill in Darlington, SC. The company has been in operation since 1948 and maintains eleven employees.



Jordan Scrap Metal recycles post consumer and post industrial metals.



Iron Mountain is located in Marion County.



LCR CONSTRUCTION

Contact: Christina Rentz

Phone: (843) 522-3955

Email: lcrconst@hargray.com

Address:  
39 Burton Hill Road  
Burton, SC 29906

Website:  
www.lcrconstruction.net

**L**CR Construction has been based in Beaufort and Jasper Counties for 17 years. The company recovers material, clears land for residential or commercial properties and processes unusable wood residue left from loggers. All wood waste is recovered and turned into mulch, biomass fuels and garden soils. After removing trees and other debris, the company disposes the material at their grinding facility to recycle into mulch. The land clearing process comes full circle—starting with the land clearing debris to the grinding facility to the end product. LCR mulch can be used for landscaping for yards or a product used for boiler fuel.



LCR offers land clearing services to its customers



LCR's mulching area

LCR Construction also processes wood material from businesses construction to LEED green building standards. LCR's capacity is 56,364.80 tons annually. The company also provides demolition services which remove structures and disposes of unrecoverable contents to landfills. The company also works to keep their debris from filling local landfills. LCR Construction is equipped to grind land clearing debris into reusable products that are environmentally friendly.



LCR also provides a mulch service.

The company's service area is the Lowcountry of South Carolina and the company's markets are landscapers and biomass facilities. LCR Construction was recognized the SC smart business recycling program. The company maintains 7 employees with two owners.



LCR Construction is located in Jasper and Beaufort Counties





**MAILYOURSHARPS**

**Contact:**

**Address:**

411 Western Lane, Irmo, SC  
29063

**Website:**

[www.mailyoursharps.com](http://www.mailyoursharps.com)

**M**ailYourSharps is located in Richland County, recovers material including medical instruments, plastic devices and silver photographic film. MailYourSharps is a business unit of Plastic Recovery Service, LLC. Plastic Recovery Service began offering recycling technologies in 2002, primarily focusing on recycling materials from the photographic industry. In 2007, MailYourSharps was launched. MailYourSharps has since grown to be recognized as a leader in



Small lead apron recycling system

the medical waste disposal and recycling industries.



MailYourSharps is located in Irmo, SC.

MailYourSharps also processes lead aprons and sharp wastes, small volumes of mercury up to one pound, alkaline batteries and non-wet batteries. After recovering and processing the material, the photographic film goes to a film recycler that takes the silver off. Any polyester scrap goes to the polyester recycling market. By transitioning away from the silver film industry due to its shrinking market, the growing sharps recycling business takes in and processes materials from all over the country. New products return back

into the marketplace from the recycled plastics and other materials. MailYourSharps maintains one employee and the owner and has been operating for nine years.



MailYourSharps is located in Richland County.



Contact:  
Fred Seidenberg,

Phone:  
803-786-9888, ext. 24

Email: [ibofusc@bellsouth.net](mailto:ibofusc@bellsouth.net)

Address:  
7425 Fairfield Road  
PO Box 3764  
Columbia, SC 29230

Website:  
[fred@mid-carolinasteel.com](http://fred@mid-carolinasteel.com)

**M**id-Carolina Steel has been operation since 1983 and works to process both ferrous and nonferrous scrap metal in the Southeast. As one of the largest nonferrous processors, the company supplies refineries and smelters throughout the country with quality products of aluminum, stainless and copper. Mid-Carolina also exports nonferrous products to China and Taiwan.

Mid-Carolina Steel has its own maintenance shop and staff, ensuring independent service when repairs are necessary. By being the largest locally owned scrap metal processor, the company is big enough to serve but small enough to care about their cus-



Mid-Carolina processes ferrous and nonferrous metals



The company exports their nonferrous metals to China and Taiwan.

tomers, and are flexible enough to make that important decision in a timely manner. The recovery process includes baling, shearing, torching and brokering scrap metals. Other services offered are container and roll-off service, surplus steel, a new steel service center and ornamental iron for decoration. The company also buys aluminum cans, all grades of aluminum, stainless steel, copper, brass, radiators, scrap iron and alloys.

With 53 employees, Mid-Carolina was voted best medium recycling company by RMDAC in 2005.



Mid-Carolina Steel is located in Richland County.



**PALLET SOLUTIONS  
INC**

2620 Fews Bridge Rd.  
Greer, SC

**Contact:**

Michael Cantrell

Phone: (864) 350-9308

Email:  
michaelacantrell@gmail.com

Web:  
www.palletsolutionsinc.com

**P**allet Solutions was started in 1997 with pallet recycling and customer service in mind and has remained a small family business by design. Pallet Solutions customer list is kept limited to promote great customer service and deliver on time satisfaction.



Pallets



Mulch from shredded pallets

Pallet Solutions offers a wide array of recycling options such as recycling of wood packaging products as well as recycling metals, plastics, rubber, and cardboard. Pallets can be shredded into mulch or reused and made into other products. The company provides a single vendor approach for to help companies achieve zero landfill status.

An on site analysis of the facility, infrastructure, and wood waste type is done to customize a recycling program for the customer.

Pallet Solutions offers staging a trailer at the company facility, live loading flat beds, and/or roll off containers for containment of the pallets. The wood waste is transported to the Pallet Solutions facility for processing. The processing stage consists of separating materials by type to ensure all products are recycled. The separated materials are then converted into certified post-consumer environmentally sound products. Recycling amounts are tracked and reported to companies through a monthly environmental report.



Custom built wood products

In addition to Pallet Solutions recycling services, the company offers custom built wood products. These products consist of pallets (new and recycled), boxes, crates, or other wood products. Pallet Solutions offers the custom built products individually or together for a complete pallet control system.





## POLYSOLS

Contact:  
Cynthia Brewster-  
Keating, National  
Account Manager

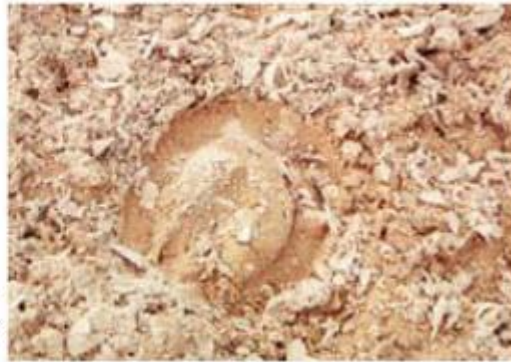
Phone: 864-804-0011

Email: [ggt@polysols.com](mailto:ggt@polysols.com)

Address:  
Mount Pleasant Rd  
Spartanburg, SC

Website:  
[www.ggt-footing.com](http://www.ggt-footing.com)

Located in Spartanburg, SC, PolySols recovers post-industrial polyester fabric and fiber to create arena footing for horses. World renowned in Germany, PolySols is a sister company to Polywert, one of the original developers of equestrian footing products



GGT equestrian product

made from recycled polysters. The company recovers 2,500 tons per year. The company's footing is made with rewinded polyester floor protection and soil erosion fabric, noise insulation and organic dust suppressant. All of the materials are 100% post-consumer.



Recovered material for PolySols products

One of their products is GGT-Footing Geo, which is their basic mixture for riding arenas. GGT-Footing Geo is the geotextile material used for a wide range of arena footing. PolySols also produces a footing made with fibers. This is called GGT-Footing Fiber and is the same fiber that is used to make the textile fabric for GGT-Footing Geo. The fibers are 1-2 inches

long and work like a root system through the sand. Another product by PolySols is GGT-Footing Elastic Fiber. These are small cut and elastic fibers that are about 1/2 inch long. This special fiber optimizes shear resistance and makes the footing flexible and springy. It is mainly used for horse race tracks, gallops and jumping arenas in combination with GGT-Footing Geo. GGT-Footing Elastic fiber act like a root system, binds sand particles and other additives together resulting in a very high footing stability. GGT-Footing Dressage is product that combines both GGT-footing Geo and GGT-Footing fiber. GGT-footing Dressage is mixed especially for dressage arenas. Another specialty footing is GGT-Footing Jumping which is a custom mix of GGT-footing Geo with GGT-Footing fiber. GGT-Footing Jumping is mixed especially for jumping arenas.



**R.E.D.D.Y. RECYCLE**

155 Conifer Road  
Cordesville, SC 29434  
Berkeley County

**Contact:**

**Kristi Mitchum**

Phone: (843) 607-2116

Email:  
kristi@reddyrecycle.com

Web:  
www.reddyrecycle.com

**R**.E.D.D.Y. Recycle is a Lowcountry company committed to sustainability. Its customer base includes businesses that are environmentally conscious and looking for ways to reduce their carbon footprint. R.E.D.D.Y. Recycle provides various types of recycling containers and bins. The company recycles plastic, aluminum, glass, tin, office paper, newspaper, magazines, paperboard, and cardboard. R.E.D.D.Y. Recycle services the Charleston tri-county area.



Owner Kristi Mitchum

Many companies believe that recycling is not cost effective and not worth their efforts. R.E.D.D.Y. Recycle's experience and knowledge within the waste disposal industry has proven different. Minimizing dumpster size through recycling benefits the environment and helps a company's bottom line. R.E.D.D.Y. Recycle's trained staff will assess waste disposal habits and develop a waste reduction and recycling plan that is suitable to the flow of a company's operations.

R.E.D.D.Y. Recycle, LLC is a Certified Woman Owned Business. Owner Kristi Mitchum is passionate about recycling and assisting local area companies improve their waste management practices. The company has been in business for over two years and currently employs 5 people.



R.E.D.D.Y. Recycle is located in Berkeley County.



RESOURCE  
MANAGEMENT, INC.

P.O. Box 457  
Chapin, SC 29036

Contact:  
Chad Dicus

Phone: (800) 207-7278

Email:  
cdicus@askrmi.com

Web:  
www.askrmi.com

**R**esource Management, Inc., is located in Chapin, SC. Founded in 1989, RMI is a full service industrial waste management company offering direct delivery to over 35 Treatment, Storage and Disposal Facilities nationwide. The company provides service throughout South Carolina, Western North Carolina and Eastern Georgia. Over the course of the company's 20 year history, RMI has ensured the safe processing of over 900 million pounds of industrial waste.



RMI's environmental services



RMI's hauling services

RMI provides the coordination of a variety of services for industry such as recycling, waste to energy, incineration, treatment disposal, industrial service, employee training, safety supplies or waste containers. RMI also coordinates recycling plastics such as production waste resins and post consumer plastics, paper, obsolete chemicals, metals scrap, such as spent or metal bearing waste as well as

wood waste and pallet recycling for their customers. Their primary end markets are industrial operations and materials processors.



RMI is located in Lexington County.





**SHRED360**

7001 St. Andrews Road  
Columbia, SC 29212  
Richland County

**Contact:**  
**Scott Caughman**

Phone: (803) 233-1823

Email:  
scott@shred360.com

Web:  
www.shred360.com

**Additional Location:**

431 Western Lane,  
Irmo, SC 29063

**S**hred360 is a Columbia-owned and operated information management company. It provides material destruction and information management services for business and industry. Shred360 currently serves customers in NC, GA, and SC and concentrates on information sensitive industries such as the financial services and medical fields.



The Shred360 Team

Through document management services, the company is able to recycle over 1,200 tons of paper per year. In addition, they recycle an average of 12 tons of cardboard and 10 tons of X-ray film annually. The company is a AAA certified member of the National Association for Information Destruction (NAID) company. Senior Checked certified for on site and off-site shredding. A Certificate of Destruction is provided after each service.



Mobile document destruction



To be recycled...

Shred 360 provides secure on-site document destruction which clients can witness on a closed-circuit TV monitor. Shred 360 operates mobile shredding units and can securely transport sensitive materials to its facility for destruction. Mobile shredding units destroy materials at 4000-5000/lbs per hour. The company provides certified data destruction of various materials, including paper, computer hard drives and more. The company was recently chosen as the supplier of choice by the South Carolina Bar.



Shred360 is located in Richland County



**SOUTHEASTERN  
PAPERBOARD**

100 S. Harris Road,  
Piedmont, SC  
29673

**Contact:**

Phone: (800) 229-7372

Email:

[pw@  
southeasternpaperboard.com](mailto:pw@southeasternpaperboard.com)

Web:

[southeasternpaperboard.com](http://southeasternpaperboard.com)

**Additional Location:**

132 Gardners Terrace Rd.  
West Columbia, SC 29172

**S**outheastern Paperboard, located in Piedmont, SC, has been serving the paper industry for over 30 years. The company creates stock materials for the paper industry through the use of new and recycled materials.



A truck in the Southeastern fleet

The company purchases products such as re-jected roll stock, paper cores, corrugated and office paper and creates products such as paperboard and mill-stock. Waste that is produced during the production of these materials is then recycled and then reused in other products.



On the shop floor

The company maintains its own fleet of trucks and has customers both domestically and internationally. Paper Logistics provides transportation services to Southeastern Paperboard and hauls general commodities on return trips. Southeastern Paperboard currently has 100 employees. In spite of the recent downturn in the economy, the company has managed to prosper and is looking to continue growing its recycling operations.



Southeastern Paperboard is located in Greenville County





**TOMATO PALMS**

**TOMATO PALMS**

124 Signal Lane  
Irmo, SC 29063  
Richland County

Contact:  
Nancy Ogburn

Phone:  
(803) 781-6363

Email:  
nogburn@tomatopalms.com

Web:  
www.tomatopalms.com

Tomato Palms is a commercial recycling business located in Columbia and was founded by Nancy Ogburn in 2008. The company serves companies of all sizes and provides recycling bins as a part of its recycling services to businesses, churches, hospitals, and retirement homes in the Midlands region.



Nancy Ogburn, Owner

Tomato Palms handles all aspects of the recycling process including sorting of materials such as paper, glass bottles, plastics, metals, and aluminum cans. Materials are weighed and hauled to a materials recovery facility. Tomato Palms provides a monthly report to its customers and ensures the weighed recyclables are accounted for through the South Carolina Smart Business Recycling Program's Biz-Trac system. A quarterly report is sent to customers detailing the impact their recycling efforts impact on the environment.



Tomato Palms Recycling Truck

Nancy Ogburn began her training in the recycling industry with assistance from the South Carolina Department of Commerce's Recycling Marketing Development Department program. She joined the South Carolina Recycling Council in 2009 and is chair of its Joint Marketing Committee. Ms. Ogburn also works with the SCRC to develop, promote and advance recycling related policy.

Tomato Palms was recognized by the South Carolina Department as the 2010 Best Small Recycling Business and was featured on the cover of *Greater Columbia's Business Monthly*. Tomato Palms gives back to the community by donating a portion of the proceeds of aluminum cans sales to a local homeless shelter.



Tomato Palms is located in Richland County.



**UPSTATE MATERIAL  
MANAGEMENT, INC.**

Duncan, SC

**Contact:**

**Gerald Smith**

Phone: (864) 764-4783  
Fax (864) 576-3235

Email:  
g-smith@live.com

**U**pstate Material Management, Inc., located in Duncan, SC, was established in 2008. Its purpose is to serve manufacturing and other customers to reduce the amount of material going to the landfill and assist with recycling of a variety of product types and forms. Upstate Material Management serves both the United States and Asian mar-



kets and frequently can offer pre-payment for items. The company purchases items including: fibers, films, parts, bottles, carpet, purge, mixed and/or contaminated polymers, etc. Types are generically termed "plastics" and include, but are not limited to: PET, PPT, PPS, PLA, ABS, PBT, PTCA, PTFE, PVC, PP,

Upstate Material Management services include freight logistics, spotting trailers, and on-time pick-ups.



Upstate Material Management is located in Spartanburg County.

**USA WASTE AND RECYCLING**

1972 Harry Bird HWY  
Darlington, SC  
29532

**Contact:**

**Greg Wilson**

Phone: (843) 395-9999

Email:  
gregwilson0@gmail.com

Web:  
www.usawasteandrecycling.com

**U**SA Waste and Recycling is a full service waste and recycling facility located in the Florence metropolitan area. The company was established in 1985 and works with industries to eliminate waste streams through recycling efforts. USA Waste and Recycling is a one-stop waste and recycling company that handles a wide variety of materials such as aluminum, scrap metal, home appliances, cars, paper, metals, and plastics. The materials can be separated onsite and are then bound or baled and shipped to end users.

The company accepts from both residential and industrial customers. USA Waste and Recycling provides pick-up services. They have customers both domestically and abroad and are actively working to meet South Carolina's new e-scrap law standards. USA Waste and Recycling offers a senior citizens incentive every Wednesday.



USA W&R is located in Darlington County.



**WELLMAN  
ENGINEERING RESINS**

P.O. Box 188  
520 Kingsburg HWY  
Johnsonville, SC 29555  
Florence County

**Contact:**

**Glenn Odom**

Phone: (843) 386-8004

Email:  
Glenn.odom@  
wellmanplastics.com

Web:  
www.wellmanplastics.com

**Additional Location:**

3290 Big Beaver Road,  
Suite 320  
Troy, MI, 48084  
(248)-816-3360

**F**rom its humble beginnings in 1954 as wool combing plant Wellman plastics has grown to become one of the most successful plastic resin companies in the world. The company focuses on creating cost effective solutions for its customers and providing high quality products in a competitive environment. Wellman is situated on a 625 acre campus in Florence County and has over 2 million square feet of production space.



Wellman Automotive Plastics

Wellman creates thermoplastic resins that are often used in the automotive industry. However, the company has a diverse product portfolio serving interests from manufacturing to the pharmaceutical industry. Their pharmaceutical lanolin, produced in Johnsonville, S.C. is the only lanolin still produced in the United States.

In 1964, Wellman began production of nylon and polyester staple fibers and by 1968 the Engineering Resins division began manufacturing nylon from recycled raw materials. Today, the product portfolio has expanded and includes items such as EcoLon®; a 100% post consumer recycled polypropylene product.

Wellman Plastics Recycling recovers post consumer and post industrial carpet and through a proprietary process, turns the materials into engineering resin. Their carpet recycling facility is able to sort, shred, grind, and separate nylon fibers into base material for the automotive, lawn and garden, consumer products, and electronics industries.

Wellman can also take post consumer PET plastics and pelletize the material or convert it into fiber. The company has the ability to recycle 200 million pounds of PET bottles per year alone. They have the capacity for an additional 45 million pounds of carpet and recycling.



Wellman Warehouse

The company has had many recent successes including being chosen by Ford Motor Company to supply materials for cylinder head covers in its automobiles. The use of the Ecolon product by Ford will save 4.1 million pounds of carpet from going to landfill. Additionally, the use of Econlon will save 430,000 gallons of oil.





**WHETSELL ENERGY**

1231 Quattlebaum Road,  
Batesburg-Leesville, SC  
29070

**Contact:**

**David R. Whetsell**

Phone: (803) 957-8964

Email:  
info@whetsellenergy.com

Web:  
www.whetsellenergy.com

**Mailing Address:**

P.O. Box 84102  
Lexington, SC  
29073

**D**avid R. Whetsell, CEO of Whetsell Energy has over 25 years of experience in working import/export and alternative energy fields. From 1985 through 2005, he was CEO of Renewal of Columbia, which recycled CFC's from discarded equipment. Since 2005, he has taken the helm of Whetsell Energy as it works to develop renewable energy resources.



Currently, Whetsell Energy recovers metals, CFC laden equipment including air conditioners and refrigeration units, most types of plastics, and most grades of paper. The company is recycling over 8,000 gallons of vegetable oil per month. The collected vegetable oil is then sold internationally to be converted into biodiesel.

Whetsell Energy is also investigating several promising biofuel technologies including Chinese tallow trees. The tallow trees, which grow well in southern climates, are of interest due to their ability to thrive in wet climates. The trees also have few natural predators, are tolerant of salt, and can survive through multiple bouts of freezing.



Chinese Tallow Trees

Currently, Whetsell Energy is harvesting tallow tree seeds in the wild and using them to make both biodiesel and high protein feed for poultry and livestock. The company is currently looking for investment to plant millions of acres of tallow trees across the south.

The company is also working with different state power companies to test a new torrefied wood product. The company is in the process of establishing a 4 ton-per hour torrefication plant to create test materials for local power companies. If successful the project could secure long term contracts to supply torrefied wood to local and regional power companies.



Whetsell Energy is located in Saluda County



---

---

## APPENDIX C: RECYCLING SYMPOSIUM AGENDA

---

---

state of business.world of opportunity.



---

### RECYCLING SYMPOSIUM AGENDA

- 9:00 a.m.           **Welcome**  
Maceo Nance, South Carolina Department of Commerce
- 9:10 a.m.           **Recycling Update**  
Gerry Fishbeck, RMDAC Chair, United Resource Recovery Corporation
- 9:20 a.m.           **Recycling Initiatives**  
Chantal Fryer, South Carolina Department of Commerce
- 9:30 a.m.           **Zero Waste to Landfill Showcase**  
Anthony Soto, Boeing  
Eugene Rowell, Shaw Industries
- 10:00 a.m.          **Future of Composting**  
Jana White, South Carolina Department of Health and Environmental Control  
Daniel Rickenmann, Waste 2 Energy Organic Power
- 10:30 a.m.          Break
- 10:45 a.m.          **Breakout Sessions**  
Composting, Plastics and Zero Waste to Landfill
- 11:15 a.m.          **Breakout Results**
- 11:30 a.m.          **Greening the Supply Chain**  
Ronnie Grant, Sonoco
- Noon                 **Lunch**
- 1:00 p.m.           **South Carolina Recycling Council Showcase**  
Ronnie Grant, Sonoco  
Elizabeth Garrison, Ever-Green Recycling  
Tina Huskey, Mumford Industries  
Donna London, Jim Self Center on the Future, Clemson University  
Nancy Ogburn, Tomato Palms
- 2:00 p.m.           **Closing Remarks**  
Gerry Fishbeck, RMDAC Chair, United Resource Recovery Corporation



A Green State of Mind

# APPENDIX D: RECYCLING DIRECTORY FORM



## RECYCLING BUSINESS DIRECTORY FORM

Name of Company				Contact Title	
Prefix	Contact First Name	Last Name		Suffix	
Contact Phone#	Contact Fax #	Contact Email		Company Phone #	
Company Toll Free #	Company Fax #	Company Email		Company Website	
Physical Address of this Facility					
Physical City		State SC	Zip	Country	
Mailing Address for this Facility					
Mailing City		State	Zip	Country	
Please check the category (ies) that best defines the company's role as a recycling business:					
<input type="checkbox"/> Hauler	<input type="checkbox"/> Processor	<input type="checkbox"/> End User	<input type="checkbox"/> Broker	<input type="checkbox"/> Recycling Equipment	<input type="checkbox"/> Public Drop Off Site
<input type="checkbox"/> Collector	<input type="checkbox"/> Reuse	<input type="checkbox"/> Exporter	<input type="checkbox"/> Remanufacturer	<input type="checkbox"/> Donation Site	<input type="checkbox"/> Materials Exchange
Please indicate type of waste you handle:					
<input type="checkbox"/> Post Consumer		<input type="checkbox"/> Post Industrial		<input type="checkbox"/> Both	
Please check the materials below that the business transports, processes or uses as a raw material.					
Construction & Demolition:			Paper:		
<input type="checkbox"/> Concrete & Brick	<input type="checkbox"/> Asphalt Pavement	<input type="checkbox"/> Boiler Flashing	<input type="checkbox"/> Paperboard	<input type="checkbox"/> Card Stock	<input type="checkbox"/> Paper - Office Mix
<input type="checkbox"/> Bricks	<input type="checkbox"/> Vinyl Siding-PVC	<input type="checkbox"/> Carpet	<input type="checkbox"/> Colored/Blended	<input type="checkbox"/> Paper - Kraft	<input type="checkbox"/> Corrugated Cardboard - Waxed
<input type="checkbox"/> Minerals	<input type="checkbox"/> Salvaged Building Materials	<input type="checkbox"/> Carpet Padding	<input type="checkbox"/> Greenbar	<input type="checkbox"/> Paper Tubes	<input type="checkbox"/> Corrugated Cardboard
<input type="checkbox"/> Scrap Lumber	<input type="checkbox"/> Aggregate	<input type="checkbox"/> Fly or Bottom Ash	<input type="checkbox"/> Fiber Drums	<input type="checkbox"/> Books - Soft Cover	<input type="checkbox"/> Aluminum Laminated Paper
<input type="checkbox"/> Railroad Tires	<input type="checkbox"/> Fiberglass	<input type="checkbox"/> Deconstruction Services	<input type="checkbox"/> Magazines	<input type="checkbox"/> Books - Hard Cover	<input type="checkbox"/> Other (write in)
<input type="checkbox"/> Ceiling Tiles	<input type="checkbox"/> Drywall - Gypsum	<input type="checkbox"/> Other (write in)	<input type="checkbox"/> Newspapers		
<input type="checkbox"/> Roofing Materials					
Plastic:		Organics:		Metal:	
<input type="checkbox"/> ABS	<input type="checkbox"/> PS	<input type="checkbox"/> Restaurant Food Waste	<input type="checkbox"/> Ferrous	<input type="checkbox"/> Batteries - Household	<input type="checkbox"/> Glass:
<input type="checkbox"/> Foam	<input type="checkbox"/> PVC	<input type="checkbox"/> Bakery Waste	<input type="checkbox"/> Non - Ferrous	<input type="checkbox"/> Batteries - Lead Acid	<input type="checkbox"/> Clear
<input type="checkbox"/> Nylon	<input type="checkbox"/> Teflon	<input type="checkbox"/> Beverage Waste	<input type="checkbox"/> Appliances	<input type="checkbox"/> Cans - Aerosol	<input type="checkbox"/> Brown
<input type="checkbox"/> HDPE	<input type="checkbox"/> Agriculture	<input type="checkbox"/> Brewery Waste	<input type="checkbox"/> Automobiles	<input type="checkbox"/> Foundry Sand	<input type="checkbox"/> Green
<input type="checkbox"/> LDPE	<input type="checkbox"/> Buckets - HDPE	<input type="checkbox"/> Cooking Oil	<input type="checkbox"/> Steel Slag	<input type="checkbox"/> Propane Cylinders	<input type="checkbox"/> Mixed Glass
<input type="checkbox"/> PETE	<input type="checkbox"/> Mixed Plastic	<input type="checkbox"/> Restaurant Grease	<input type="checkbox"/> Steel Drums	<input type="checkbox"/> Other (write in)	<input type="checkbox"/> Plate and Window Glass
<input type="checkbox"/> PE	<input type="checkbox"/> Other (write in)	<input type="checkbox"/> Other (write in)			
<input type="checkbox"/> PP					
Oil and Petroleum:			Biomass/Wood:		
<input type="checkbox"/> Diesel	<input type="checkbox"/> Used Motor Oil	<input type="checkbox"/> Other Used Oil	<input type="checkbox"/> Manure	<input type="checkbox"/> Mobile Wood Recycler	<input type="checkbox"/> Land clearing debris
<input type="checkbox"/> Transmission Fluid	<input type="checkbox"/> Mineral Oil	<input type="checkbox"/> Oil Filters	<input type="checkbox"/> Biosolids	<input type="checkbox"/> Boiler Fuel	<input type="checkbox"/> Manufacturing Scrap
<input type="checkbox"/> Hydraulic Fluid	<input type="checkbox"/> Combustible Petroleum	<input type="checkbox"/> Other (write in)	<input type="checkbox"/> Pallets	<input type="checkbox"/> Sawdust and Bark	<input type="checkbox"/> Industrial Sludge
<input type="checkbox"/> Light Grease					
Textiles:		Rubber:		Electronics/Computers:	
<input type="checkbox"/> Textile Clippings	<input type="checkbox"/> Textile Cones-Plastics	<input type="checkbox"/> EPDM Rubber	<input type="checkbox"/> Electronic Equipment and Scrap	<input type="checkbox"/> Monitors - CRT's	
<input type="checkbox"/> Nylon	<input type="checkbox"/> Carbon Fiber	<input type="checkbox"/> Foam Rubber	<input type="checkbox"/> Telecommunications Scrap	<input type="checkbox"/> Fluorescent Tubes and Ballasts	
<input type="checkbox"/> Rayon	<input type="checkbox"/> Material - Wovens	<input type="checkbox"/> Rubber Inner Tubes	<input type="checkbox"/> Televisions - Flat Screens	<input type="checkbox"/> Cartridges	
<input type="checkbox"/> Polyester - Textile	<input type="checkbox"/> Material - Nonwovens	<input type="checkbox"/> SBR Rubber	<input type="checkbox"/> Televisions - CRT	<input type="checkbox"/> Reels	
<input type="checkbox"/> Cotton	<input type="checkbox"/> Other (write in)	<input type="checkbox"/> Automotive Tires	<input type="checkbox"/> Monitors - Flat Screens	<input type="checkbox"/> Other (write in)	
<input type="checkbox"/> Wool					
Other (please list):					
Please list and describe products you manufacture that contain recycled materials (use additional paper if necessary):					

Prepared by (please print name and): \_\_\_\_\_  
 Please return to: South Carolina Department of Commerce, Attention: Tonya Lott, 1201 Main Street, Suite 1600, Columbia, S.C. 29201,  
[TLott@SCcommerce.com](mailto:TLott@SCcommerce.com) or fax to (803) 737-3818.



## APPENDIX E: SCRAP TIRE SURVEY



### 2010 SCRAP TIRE SURVEY

This confidential survey will be used in aggregate form to help measure the state’s recycling rate as well as assess the need and expansion of South Carolina recycling markets. Please assist us with this effort and return the completed fillable survey by **Monday, September 12, 2011**. Thank you for helping to advance South Carolina’s recycling industry.

<b>COMPANY NAME</b>	
<b>PERSON COMPLETING SURVEY</b>	<b>EMAIL ADDRESS</b>
<b>PHONE NUMBER</b>	<b>FAX NUMBER</b>

Approximately how many **TONS** of total tires did your company process in 2010? (**Exclude** non-DOT off-road, farm, mining and logging tires) \_\_\_\_\_

Approximately what **PERCENT** of tires handled was generated in South Carolina? \_\_\_\_\_

Please provide the approximate number of **SOUTH CAROLINA TIRES** processed in 2010.

TYPE	TONS
<b>Post Consumer</b> (retail, municipal and individuals)	
<b>Post Industrial</b> (manufacturing and industrial scrap tires)	

Approximately how much **SOUTH CAROLINA** tire material was used in the following end-use market applications?

TYPE OF USE	TONS OR PERCENT			
<b>Tire-Derived Fuel</b>	Whole Tires		Processed Material	
<b>Civil Engineering</b>	Alternate Daily Cover	Landfill/Construction	Non-Landfill Use	
<b>Ground/Crumb Rubber</b>	Crumb Rubber	Crumb Rubber Use		Mesh size(s)
<b>Outdoor Applications</b>	Landscape	Playground	Sports Surface	Other
<b>Manufactured Products</b>	Molded	Extruded	Pressed	Stamped
<b>Other Applications</b>	Please Describe			

Continued on next page

<b>SOUTH CAROLINA PRODUCT</b>	<b>PERCENT</b>
Approximately what percent of your product (TDF, crumb rubber, etc.) is sold in South Carolina?	

<b>LANDFILL</b>	<b>TONS</b>
Approximately how many tons of whole or processed South Carolina tires were landfilled in 2010?	

<b>EXPORT</b>	<b>TONS</b>
Approximately how many tons of South Carolina tires did your company export out of the U.S. in 2010?	

<b>OFF-ROAD, FARM, MINING AND LOGGING</b>	<b>TONS</b>
Approximately how many tons of South Carolina off-road, farm, mining or logging equipment tires were processed in 2010?	

<b>MARKETS</b>	<b>YES</b>	<b>MARKETS</b>	<b>NO</b>
Does your company have markets for steel and fabric waste? If yes, what are they?	<input type="checkbox"/>		<input type="checkbox"/>

Please email or fax the completed survey to Tonya Lott at [TLott@SCcommerce.com](mailto:TLott@SCcommerce.com) or (803) 737-3818 by **Monday, September 12, 2011.**

Surveys may also be mailed to: Tonya Lott, South Carolina Department of Commerce, 1201 Main Street, Suite 1600, Columbia, South Carolina 29201.

If you have questions regarding the survey, please contact Tonya Lott at [TLott@SCcommerce.com](mailto:TLott@SCcommerce.com) or (803) 737-0449.

For more information about the South Carolina Department of Commerce and the Recycling Market Development Program, visit [www.SCcommerce.com](http://www.SCcommerce.com).

To view a copy of the South Carolina Department of Health and Environmental Control Solid Waste Management Annual Report for Fiscal Year 2010, visit [www.scdhec.gov/environment/lwm/recycle/pubs/swm\\_FY10\\_all.pdf](http://www.scdhec.gov/environment/lwm/recycle/pubs/swm_FY10_all.pdf).



---

---

## APPENDIX F: WASTE TIRE PROCESSORS' MEETING

---

---



# Waste Tire Processors' Meeting

May 4, 2011

Conference Room 2102

8911 Farrow Road, Columbia, SC 29203

1 p.m. to 4 p.m.

### AGENDA

Welcome and Introductions ..... Jana White,  
S.C. Department of Health and Environmental Control (DHEC)

### REPORTING AND COMPLIANCE UPDATE

Annual Processor Survey..... Chantal Fryer, S.C. Department of Commerce (Commerce)  
and Elizabeth Rosinski, DHEC

Revenue Update ..... Ricky Taylor, S.C. Department of Revenue (DOR)

Compliance Update..... Marty Lindler, DHEC

### SCRAP TIRE MARKET ISSUES

Roundtable Discussion..... Dr. Nadim Aziz,  
Asphalt Rubber Technology Service (ARTS), Clemson University

Solid Waste Rules and TDF Markets ..... Joan Litton, DHEC

Commerce Update..... Chantal Fryer

ARTS Crumb Rubber and Scrap Tire Research Update..... Dr. Nadim Aziz and David Wingard, ARTS

### QUESTIONS AND ANSWERS

Summary and Action Items ..... Dr. Nadim Aziz

### Speakers

- **Nadim Aziz**, [aziz@clemson.edu](mailto:aziz@clemson.edu)  
Civil Engineering Chair and ARTS Director
- **Chantal Fryer**, [cfryer@sccommerce.com](mailto:cfryer@sccommerce.com)  
Recycling Market Development Advisory  
Council, Commerce
- **Ricky Taylor**, [taylor@sctax.org](mailto:taylor@sctax.org)  
Audit Administrator, DOR
- **Marty Lindler**, [lindlema@dhec.sc.gov](mailto:lindlema@dhec.sc.gov)  
Solid and Hazardous Waste Compliance, DHEC

- **Joan Litton**, [littonjf@dhec.sc.gov](mailto:littonjf@dhec.sc.gov)  
Solid Waste Permitting, DHEC
- **Elizabeth Rosinski**, [rosinsev@dhec.sc.gov](mailto:rosinsev@dhec.sc.gov)  
Office of Solid Waste Reduction and Recycling,  
DHEC
- **Jana White**, [whitejm@dhec.sc.gov](mailto:whitejm@dhec.sc.gov)  
Solid Waste Planning, DHEC
- **David Wingard**, [wingar2@clemson.edu](mailto:wingar2@clemson.edu)  
Program Administrator, ARTS





## **CONTACT US**

### **South Carolina Department of Commerce**

1201 Main Street

Suite 1600

Columbia, South Carolina 29201

(803) 737-0400

### **Email**

[info@sccommerce.com](mailto:info@sccommerce.com)

### **Website**

[RecyclinginSC.com](http://RecyclinginSC.com)

### **Twitter**

[follow@SCcommerce](https://twitter.com/follow@SCcommerce)



**A Green State of Mind**

---