



**South Carolina**  
Department of Commerce

Just right for business.

**SOUTH CAROLINA  
RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL**

**2013 Annual Report**



*Photo provided by SC Biz News*

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*Submitted to the Governor and General Assembly on March 14, 2014*

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## EXECUTIVE SUMMARY

The Recycling Market Development Advisory Council (RMDAC) is required by the 1991 South Carolina Solid Waste Policy and Management Act to submit an annual report by March 15<sup>th</sup> to the Governor and General Assembly.

RMDAC's mission is to support the economic growth of South Carolina's recycling industry through building recycling markets, increasing material recovery and promoting the recycling value chain.

This report outlines activities performed by the 14 member, Governor-appointed council and its staff to promote recycling markets and economic development in the state. This report also includes economic data for the recycling industry, RMDAC's work plan and market information.

RMDAC works to improve the supply of recyclable materials where significant demand exists as well as address the market needs for new or emerging recyclable materials. In 2013, RMDAC efforts to promote and build the recycling industry in South Carolina are highlighted by the following areas:

- Recycling's economic impact in South Carolina
- Recycling in South Carolina – highlighting businesses that manufacture products with recycled content
- Carpet recovery
- Glass recycling
- Coastal recycling
- Scrap tires



This report also illustrates the amount of municipal solid waste (MSW) recycled and disposed of in the state for fiscal year (FY) 2013 (July 1, 2012 to June 30, 2013) per the South Carolina Department of Health and Environmental Control (DHEC). In 2000, South Carolina adopted the U.S. Environmental Protection Agency's definition for measuring MSW with some exceptions. The MSW recycling rate increased from 29.5 percent in FY12 to 31.5 percent in FY13. The amount of material disposed in FY13 was 3.5 pounds per person per day (p/p/d) versus 3.4 p/p/d in FY12.

South Carolina continues to feature a robust recycling industry with 521 companies that recycle everything from aluminum to carbon fiber to zinc. Since 2011, South Carolina has added \$899,950,000 in investment and 2,373 jobs in the recycling sector demonstrating that South Carolina is "Just Right for Recycling".

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### 2013 Recycling Industry Investments

- **\$103,950,000** in capital investments
- **765** recycling related jobs created in the state
- **10** recycling related companies

## RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL RECOMMENDATIONS

For more than 20 years, RMDAC has been leading the charge to promote and increase recycling markets in the state. RMDAC was established by the 1991 Solid Waste Policy and Management Act and was fully staffed by May 1992. Managed within the South Carolina Department of Commerce (Commerce), the Recycling Market Development staff coordinates the activities of the Council while providing technical and economic development assistance to recycling businesses and industry.

RMDAC is a governor-appointed council that represents recycling sectors, government, solid waste industry, higher education and the general public. Its mission is to support the economic growth of South Carolina’s recycling industry through building recycling markets, increasing material recovery and promoting the recycling value chain.

RMDAC Member	Represents
Ronnie Grant, Sonoco, RMDAC Chair	Paper Industry
Wes Westbrooks, BMW, RMDAC Vice-Chair	South Carolina Department of Commerce
Brad Dutton, PolyQuest	Plastics Industry
Roger Player, Clean Harbors	Petroleum Industry
Vic Carpenter, Kershaw County	County Government
Kristen Brown, MY ECO	General Public
Glenn Odom, Wellman Plastics Recycling	Recycling Industry
Dan Chuy, Michelin North America	Tire Industry
Lauren Cox, Alcoa Mt. Holly	Aluminum Industry
Blake Stanley, CRC Scrap Metal Recycling	Scrap Metal Industry
Norman Chandler, Republic Services	Solid Waste Industry
Tiffany Jaspers, City of Columbia	Municipalities
Donna London, Clemson University	Higher Education
Vacant	Glass Industry
RMDAC Staff	
Chantal Fryer and Tonya Lott	South Carolina Department of Commerce

RMDAC is required to submit an annual report by March 15<sup>th</sup> to the Governor and General Assembly. Requirements of the report include, but are not limited to:



*Any revisions which the Council determines are necessary to its initial report;*

There are no revisions to be added.





*Any other recommendations, including tax incentives, to facilitate the development of markets for recovered materials or products in the state*

RMDAC will continue to work with businesses and organizations to encourage market development, job creation and capital investments.



RMDAC will work with businesses and organizations to grow recycling markets and develop strategies to help increase the recovery and recycling of materials.



*Recommendations regarding materials which should be added or deleted from source separation, recovery, recycling programs; and to increase the recovery of recyclable materials.*

RMDAC will continue to promote recovery, recycling and sustainable material options including but not limited to carpet, glass, plastic containers, scrap tires and organics.



## RMDAC Meetings

RMDAC is fortunate to have a great working relationship with companies and other organizations in the state. These entities work with RMDAC to help grow and sustain recycling markets. It is through these partnerships that the council is able to host meetings, offer site visits and provide education and outreach opportunities. In 2013, RMDAC held six meetings as featured in the table below.

Date	RMDAC Meeting Location	County
January 8, 2013	Midlands Technical College Northeast	Richland
March 12, 2013	BMW	Spartanburg
May 14, 2013	City of North Charleston	Charleston
July 9, 2013	Wellman Plastics Recycling	Florence
September 17, 2013	South Carolina Department of Commerce	Richland
November 14, 2013	Sonoco-Hartsville	Darlington

The Appendix features a snapshot on page 28 of how each of the locations that RMDAC held its meetings contributes to recycling or the economic well-being of the state.

## RMDAC Members

RMDAC's members are vital to providing direction to the recycling industry. Commerce appreciates the service of the four members who transitioned off RMDAC in 2013 representing their individual areas of expertise:

- Kira Roff – Glass industry
- Phil Ammons – Plastics industry
- Ed Marr – Municipalities
- Eddie Hook – Petroleum industry

In addition, Commerce thanks its new RMDAC members for their service:

- Brad Dutton – Plastics industry
- Tiffany Jaspers – Municipalities
- Blake Stanley – Scrap metal industry
- Lauren Cox – Aluminum industry

## SOUTH CAROLINA IS JUST RIGHT FOR RECYCLING

The South Carolina Department of Commerce is the state's leading economic development agency. Housed at Commerce, RMDAC was created to help develop and recruit end-users of recyclable materials. In the early days of recycling, few end markets existed for paper, plastic, metals and glass collected at the curbside. Over the years, RMDAC has worked with end-users and manufacturers to ensure the curbside collection infrastructure aligns with the end-use feedstock needs for new recycled content products and that robust markets exist.

*Area Development ranked South Carolina 2<sup>nd</sup> in Top States for Doing Business.*

Today, local governments, commercial businesses and recyclers alike have access to a variety of recycling markets in the state. Because recycling relies heavily on logistics systems, South Carolina's integrated transportation infrastructure allows recycling companies to easily move materials. South Carolina's five interstates offer east-west and north-south access and recycling markets are strategically situated in the state with access to interstates, ports and rails.

In addition, many of the state's recyclers export scrap materials to outbound markets such as China, India, Vietnam, Dubai and other destinations worldwide. Per the South Carolina Ports Authority, the ports are a \$45 billion-a-year economic engine for the state. In October 2013, the South Carolina Inland Port opened in Greer, South Carolina. This port extends the Port of Charleston's reach 212 miles inland and helps recyclers located in the Upstate with shorter hauls and savings on shipping.

CSX Transportation and Norfolk Southern are the state's Class I railroads. South Carolina also has eight independent lines to service over 2,300 miles of rail.





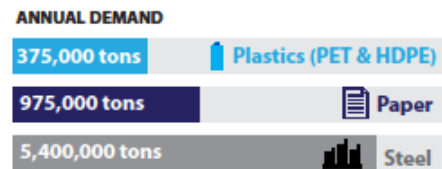
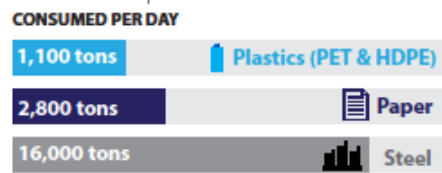
## Recycling In SC

RMDAC works to promote recycling's economic impact for the state and continues to quantify its effect across commodities such as paper, plastic, metals, glass and carpet. Staff has developed economic impact materials and information regarding South Carolina's recycling industry through its Recycling in SC website information. For instance, the info-graphic below is one such resource.

### SOUTH CAROLINA IS JUST RIGHT FOR RECYCLING

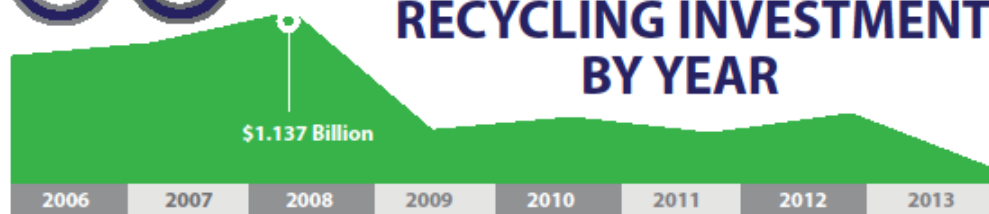
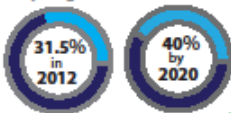
PALMETTO STATE RECYCLING MARKETS SNAPSHOT

**Recycling Fuels Manufacturing**  
With a strong manufacturing presence, South Carolina has a high demand for recycled content feedstock. Manufacturers use recycled content materials for their finished products.



**REDUCE, REUSE, RECYCLE**  
In 2013, 1,371,960 tons of Municipal Solid Waste was recycled. That is the equivalent of 4,962 Boeing 787 planes, loaded with the maximum take-off weight.

In 2013, South Carolina's MSW recycling rate was 31.5%. By 2020, the state's goal is to increase the recycling rate to 40%.



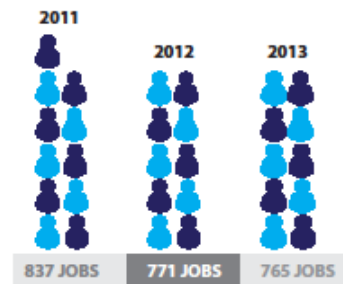
**A Green State of Mind** With a business-friendly environment, it is easy being green in South Carolina. Since 2006, South Carolina has recruited more than **\$4.5 billion** in capital investment in the recycling-related sector.



The above economic data is from the South Carolina Department of Commerce's internal records. The MSW data is from the South Carolina Department of Health and Environmental Control.



**A JOB GENERATOR**  
Since 2011, capital investment in the recycling-related sector has created nearly 2,400 jobs in South Carolina.

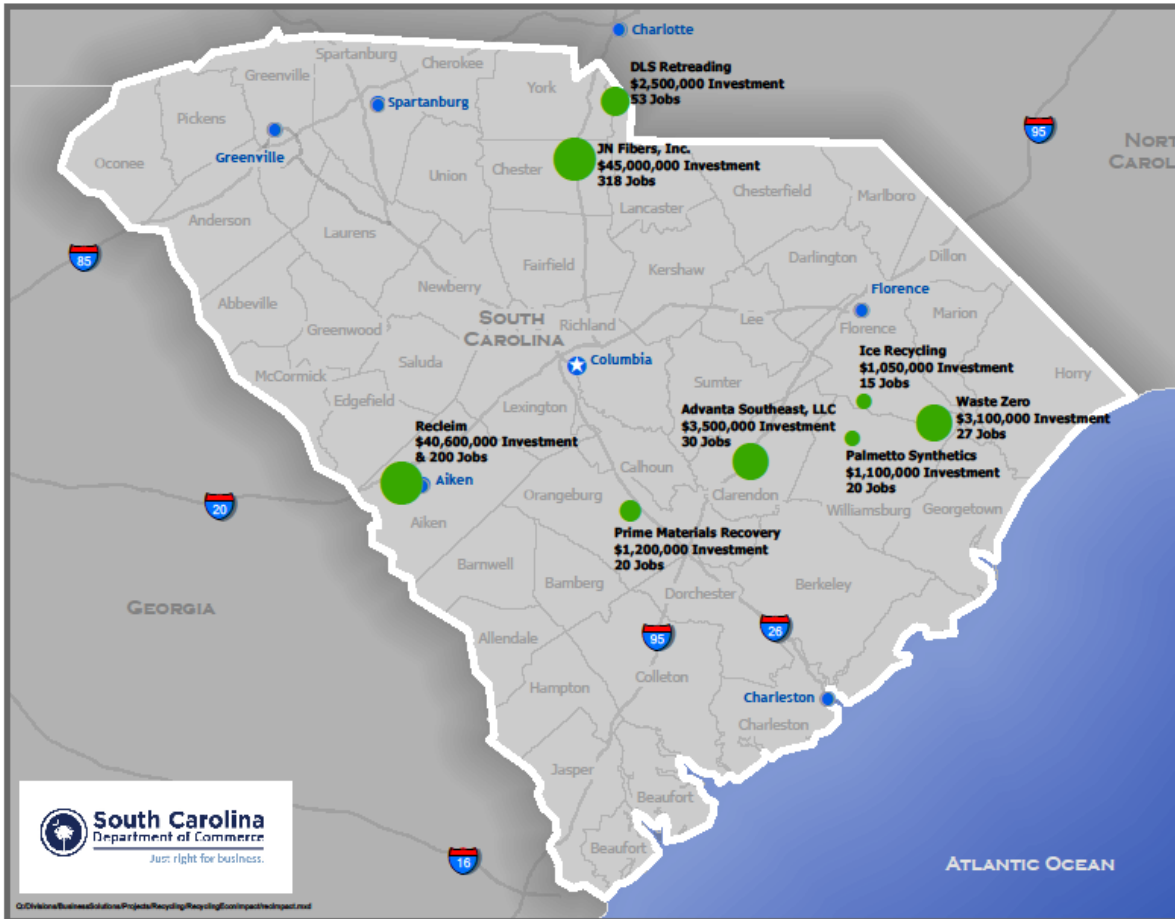


**RECYCLING IN SC**  
South Carolina has 4 times more jobs in recycling per capita than California and Massachusetts.



South Carolina boasts a strong recycling industry. With 521 recycling related companies, the state has proven it is "Just Right for Recycling". In 2013, the industry had \$103,950,000 in capital investments and created 765 jobs. Since 2011, \$899,950,000 in capital investment and 2,373 jobs have been attributed to the recycling industry.

### 2013 Recycling Related Announcements



\*Confidential announcements are not illustrated.

In 2006, an economic impact study determined recycling had a \$6.5 billion impact on South Carolina’s economy. Commerce has partnered with RMDAC, DHEC, New Carolina and the College of Charleston to update the study. Companies will be surveyed to determine their impact in terms of job creation, investments, tax base and market development. The survey commenced in January 2014.

South Carolina’s recycling industry supply chain includes:

- Collectors
- Processors
- End-users
- Remanufacturers
- Reuse establishments
- Recycling equipment manufacturers

Collectors include local government and recycling businesses that provide hauling and collection services for residential, commercial and industrial sectors.

Processors include material recovery facilities (MRFs) that accept mixed and/or source separated recyclables, typically from municipal curbside and drop-off collection programs. These facilities provide sorting, baling and brokering for wholesale distribution. Each recyclable material goes through its own distinct process in the recycling chain. For paper, processors include paper converters that transform large rolls of paper or paperboard into new products such as bags, boxes and envelopes.

Reclaimers take recovered plastic and prepare the material for manufacturers. Scrap metal processors sort, shear, torch and bale ferrous and nonferrous materials so that they are mill ready. Glass beneficiation facilities sort glass by color, remove contaminants and produce crushed glass cullet for end-users.

End-users utilize recovered materials to manufacture new products. South Carolina end-users include:

- Steel mini-mills
- Paper
- Paperboard mills
- Glass processors
- Plastics reclaimers



*Photo provided by SC Biz News*

End-users, such as Sonoco, Nucor, CMC Recycling and JW Aluminum are large scale enterprises that are major employers in the South Carolina.

Reuse establishments include companies that clean, repair, re-manufacture and prepare used products for the retail and wholesale trade.

Brokers and recycling equipment manufacturers also support the recycling industry. Brokers buy and resell recycled materials without processing or adding value to the materials. Recycling equipment manufacturers produce the primary equipment used by recycling businesses.

As more material is recovered from residential, commercial, institutional and industrial sectors, it bolsters the recycling industries long term growth that lends economic stability to the state.

## **Paper Recyclers**

South Carolina has an estimated 84 companies in the value chain for recovery of paper and old corrugated cardboard (OCC) products. Collectors of these materials are primarily commercial recycling haulers and accumulators of material. These recyclers work with businesses to haul and

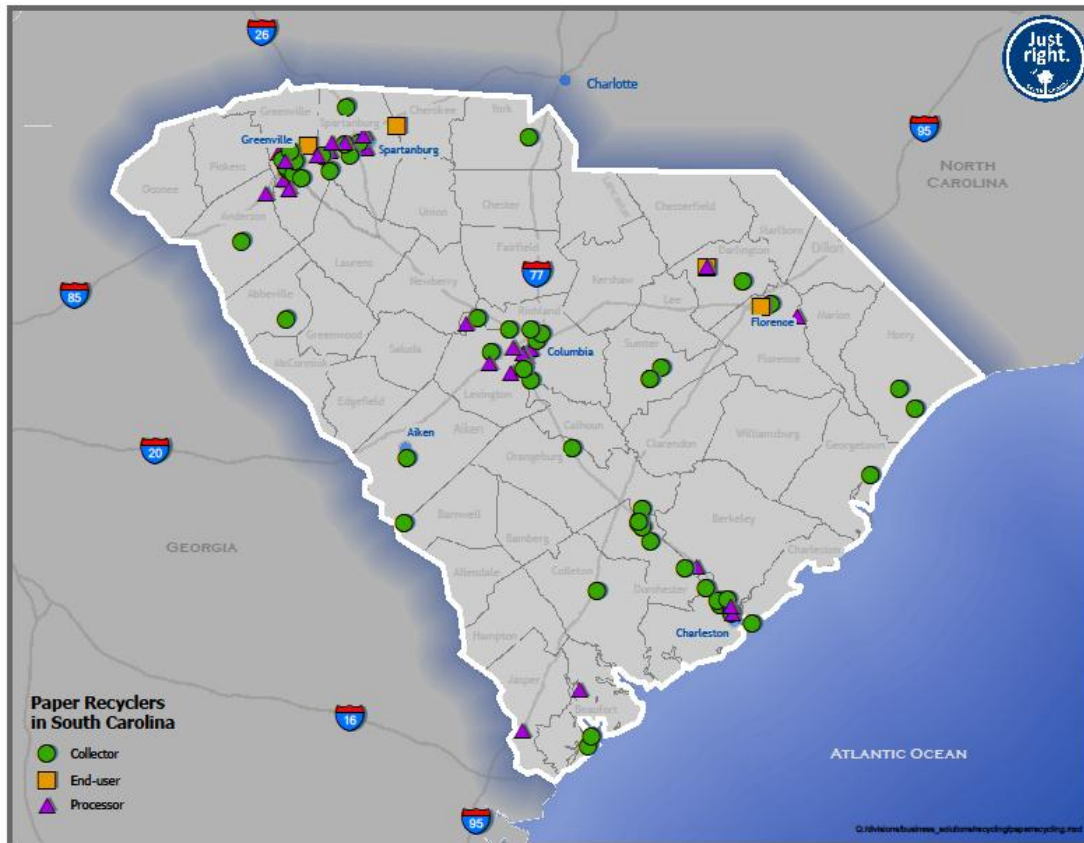
aggregate material in warehouses. Once sorted and baled, paper and OCC go to end-users such as Carastar, Pratt, RockTenn and Sonoco.

The Palmetto State has four recycled paper processing mills that consume 952,000 tons annually. These processing mills produce linerboard, tubes, cores and other packaging materials for the consumer products industry.

According to the American Forest & Paper Association, in 2012, the sustainable pulp and paper industry provided 12,963 jobs bringing in \$1.1 billion for South Carolina.

Sonoco built a new \$75 million biomass facility in Hartsville, South Carolina in 2013.

### South Carolina Paper Recyclers



\*\*This map may not be representative of all entities in the paper recycling chain.

### Plastics Recyclers

The Carolinas have strong plastics recycling industries that provide readily available markets for the region. These companies accept a variety of plastics from residential and industrial sources and process them into feedstock for new products – ranging from food and beverage containers to carpet, textiles and automotive parts. As a result of these operations, jobs are created and investments are made in the state.

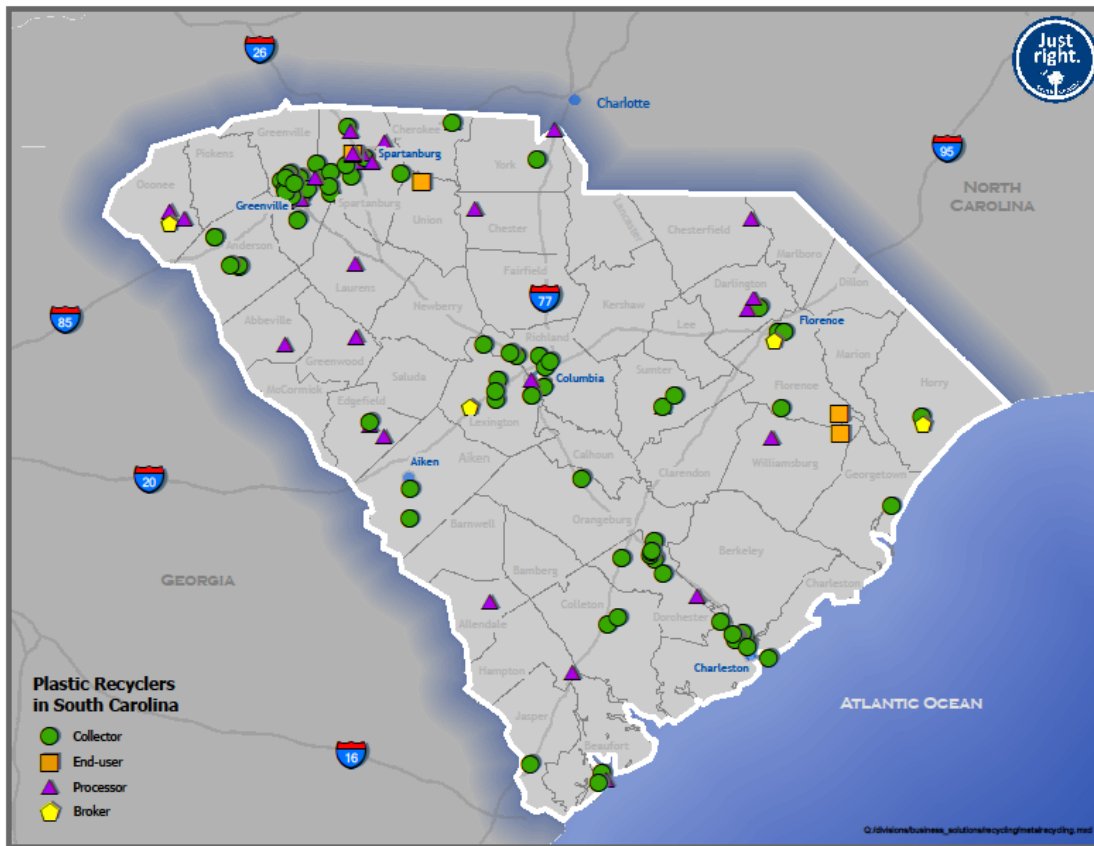
The Carolinas plastics recycling industry investment in 2012 was \$122 million.

A collaborative effort between South Carolina and North Carolina is helping to recover more material and grow markets for plastics containers. This established partnership is the Carolinas Plastics Recycling Council (CPRC) which consists of businesses, governments and other entities interested in recovering plastics containers in the two states. A survey conducted by the CPRC indicated that plastics recycling industries in the Carolinas:

- Employ nearly 1,350 individuals
- Process more than 750 million pounds of plastic containers annually
- Had nearly \$450 million in sales in 2012

South Carolina has approximately 116 companies in the plastics recycling value chain. The state has two plastics reclaiming companies that can take the entire plastic bottle and convert it into a resin for end-use applications such as new bottles, food grade plastics and fiber. In 2013, JN Fibers, a new plastics reclaimer, announced a \$45 million investment for a facility in Chester County.

### South Carolina Plastic Recyclers



\*This map may not be representative of all entities in the plastics recycling chain.

Plastics recyclers estimate that less than 25 percent of the material they process comes from the Carolinas. This estimation indicates that a significant amount of plastic is being imported into the Carolinas for recycling. It also may indicate that some of the material recovered in the Carolinas is exported to recyclers in other states. Recovering and keeping material in South Carolina fuels the state’s manufacturing industry and helps save transportation costs.

South Carolina’s polyethylene terephthalate (PET) plastics reclaimers play a big part in supporting recycled content for the automotive, home furnishing and packaging industries in the recycling value chain. Below are a few examples of the types of materials produced to include but not limited to these plastics reclaimers:

Company	Material Produced
EZ Products	Buys ground-up post-consumer PET bottles and washes it to go into fiber, bottles or strapping products.
Faith Group	Plastics trading and processing company specializing in PET
US Fibers	Converts post-consumer and post-industrial PET to include film, bottle, flake, fiber waste, wide-spec resins to produce a staple fiber used in various industries to include automotive, home furnishing, geotextiles, filtration and various non-woven applications.
Stein Fibers Ltd/Innovative Fibers	Makes polyester fiber for furniture, automotive, filtration and home furnishings (pillows, comforters) industries.
Palmetto Synthetics	Manufactures specialty polyester fiber manufacturer for auto, military, and apparel industries.
Polysols	Produces footing products to the equestrian industry and manufactures other products for the landscaping, filtration and furniture industries.
David C. Poole Co.	Extrudes ground washed PET bottles flake into industrial polyester staple fiber for scrub pads, roofing, filtration and furniture markets.
PolyQuest, Inc.	Converts post-consumer and post-industrial PET into melt filtered resin for bottle, thermoforming, fiber, film and non-woven products.
NURRC	Recycles curbside PET bales to food grade PET resin.
Wellman Plastics Recycling	Converts PET bottles into recycled PET flakes, pellets or fiber that are used in packaging and textile applications.

\*This chart is not intended to be inclusive of all companies in the plastics recycling chain

## Metal Recyclers

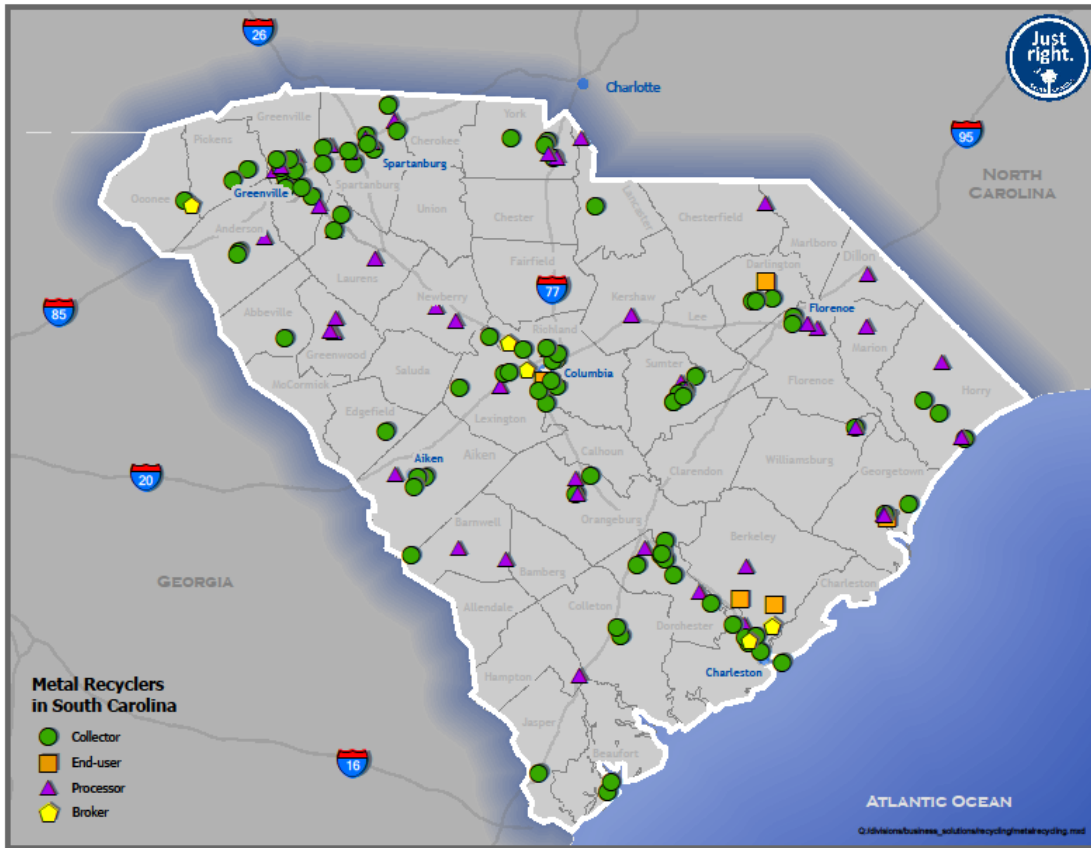
South Carolina has an estimated 171 companies in the metal recycling value chain. These entities range from “Mom and Pop” scrap metal collectors that haul material and sell to scrap metal yards, to scrap metal processing facilities that size reduce, aggregate and prepare metals for end-use and the end-users that take post-consumer or post-industrial recycled metals. The state has 96 scrap yards that employ more than 2,200 people.

South Carolina’s four steel mills employ more than 1,700 people and recycle about 16,000 tons of material per day. These electric arc furnace steel mills produce structural material for the construction and building industry as well as wire that is used by the automotive sector.

South Carolina has four steel mills. North Carolina has two; Georgia and California have only one.



## South Carolina Metal Recyclers



\*This map may not be representative of all entities in the metal recycling chain.

## Glass Recyclers

Glass is a commodity that currently has limited markets due to its low value, transportation and processing costs. South Carolina has some public and private MRFs that have glass breaking technology to handle glass collected via single stream. Although no bottle to bottle glass recycling is available in South Carolina, a number of applications for glass exist. For example, South Carolina has a company with the capability to process glass into color-sorted furnace-ready cullet needed by glass manufacturers to make new glass. This company also has other uses for glass that include producing glass beads for reflective highway paint and abrasives applications such as sandblasting medium. It also has a company that constructs countertops with recycled glass for homes and businesses. In addition, Horry County invested in glass crushing equipment and creates a crushed glass material suitable for landscape and roadbed applications.



## South Carolina Glass Recyclers



\*This map may not be representative of all entities in the glass recycling chain.

## RMDAC WORK PLAN

RMDAC and staff 2013 work plan activities included the initiatives below:

- Carpet recovery
- Plastic containers
- Glass recycling
- Recycling in SC
- Coastal recycling
- Scrap tires

Recycling helps avoid disposal costs and potentially generates revenue from the sale of material.

### Plastic Containers

An estimated 300 million pounds of plastic bottles are landfilled in the Carolinas. This material is potential feedstock for South Carolina companies that can utilize the material to manufacture new products. China's Green Fence created concern in the industry due to new materials requirements such as quality and moisture content which caused some MRFs to find new domestic markets.

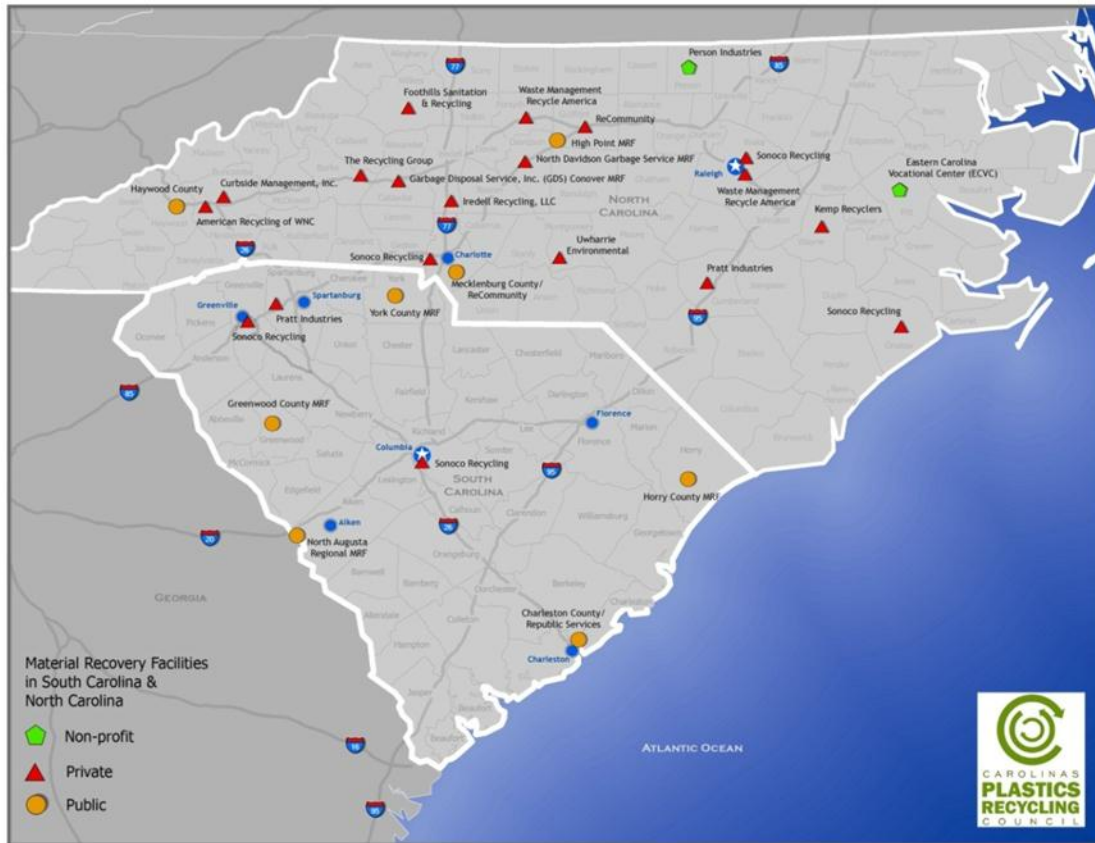


Activities of the CPRC include:

- Education and outreach campaigns for residents and businesses
- Recovering grocery store rigid plastics
- Demonstrating the economic impact in the Carolinas

A copy of the CPRC factsheet is located in the Appendix on pages 29-30.

### Material Recovery Facilities in the Carolinas



### Carpet Recovery

South Carolina is a carpet recycling leader in the southeast. The state has a variety of public and private entities that recover carpet and carpet padding. Increasing carpet recovery can lead to capital investments, jobs and energy savings. According to carpet industry experts, approximately 30,000 tons of carpet is generated annually in South Carolina. The Carpet America Recovery Effort (CARE) estimates that 3,300 jobs are associated with the carpet industry nationally and 122 jobs in South Carolina. In 2012, CARE reported that nationally, 351 million pounds of post-consumer carpet was diverted from landfills and 294 million pounds of post-consumer carpet were recycled.

**Wellman Plastics Recycling** recycles 200 million pounds of PET bottles and 45 million pounds of carpet annually.

Commerce established a partnership with businesses, state and local governments, colleges and universities interested in identifying ways to advance the recovery of carpet and carpet padding in the state. The group established the name South Carolina Carpet Recovery Coalition and held three meetings in 2013. A steering committee was established and monthly conference calls were held.



Efforts of the coalition include examining mechanisms at the local government and private sector levels that may lead to increased carpet recovery, investment and jobs. These mechanisms include identifying stakeholders, collection capacities and end-use markets, evaluating infrastructure and markets and providing education and outreach.

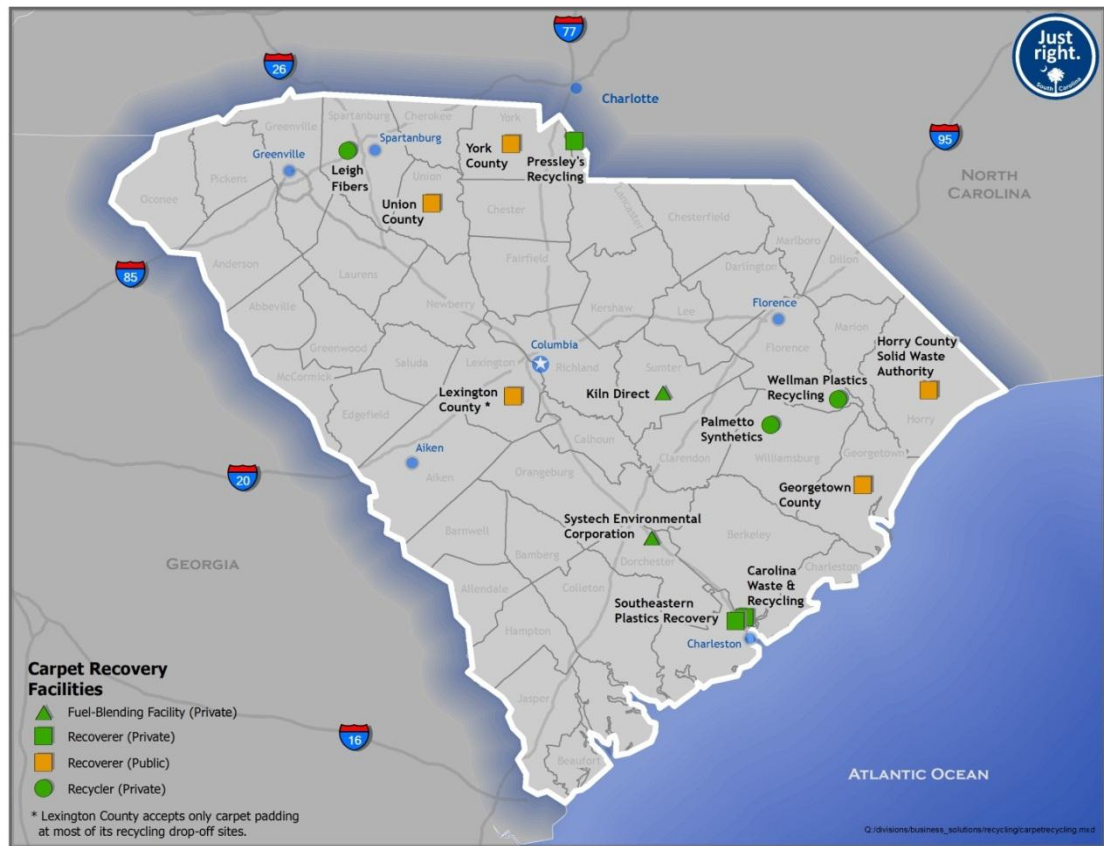
The coalition identified several challenges within the carpet recovery industry:

- PET carpet – no demand
- Extended producer responsibility
- End products
- Processing
- Capacity
- Storage
- Infrastructure
- Logistics
- Education and outreach

South Carolina Carpet Recovery Coalition accomplishments in 2013 included the development of a carpet recovery map, creation of a post-consumer carpet recovery brochure and drafting a recycling survey to evaluate market needs, end-users, investments and jobs. The survey will be conducted in 2014. A copy of the carpet recovery brochure is located in the Appendix on pages 31-32.



## South Carolina Carpet Recovery Facilities



\*This map may not be representative of all organizations in the carpet recycling chain.

## Glass

Glass remains a somewhat difficult commodity to recycle primarily due to its low market value, weight of the material, distance to market and the abrasive effect on the recycling equipment of processors. In addition, the market value of glass varies by color.

Glass recycling challenges:

- Low value and freight sensitive
- Single stream collection and processing practices lower market value for glass
- Processor yield loss may be 30 percent or higher

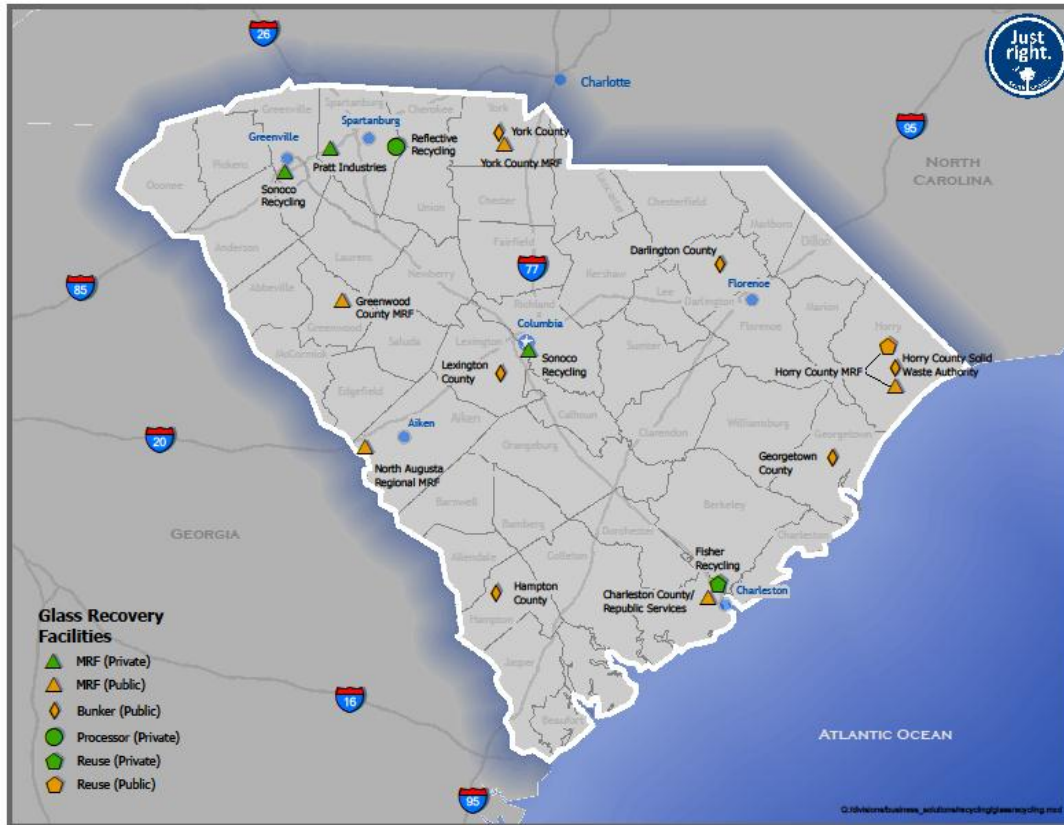
Recycled glass can be used to manufacture countertops and for use in landscape applications.

Staff coordinated a meeting with representatives from the Horry County Solid Waste Authority and Clemson University – Asphalt Rubber Technology Service (ARTS) to discuss glass use in civil engineering applications. ARTS and the Horry County Solid Waste Authority signed a Memorandum of Understanding to investigate the use of crushed glass in concrete and asphalt applications. Horry County agreed to provide 100 tons of recycled glass aggregate and sand as an in-kind contribution to ARTS research on crushed glass.

The pilot project between the Horry County Solid Waste Authority, City of Greenville, Pickens County and Greater Greenville Sanitation Commission to use crushed glass in a trailhead parking

lot was put on hold due to budget constraints with the City of Greenville. However, the Greater Greenville Sanitation Commission was able to use some of the crushed glass at its drop off site as drainage medium and worked with the City of Greenville to use the crushed glass at the Salvation Army parking lot.

### South Carolina Glass Recovery Facilities



\*This map may not be representative of all organizations in the glass recycling chain.

### Recycling in SC

Staff has worked to quantify the economic impact of recycling in South Carolina across multiple commodities. Recycling is more than a way to manage waste; it plays a large role in community and corporate sustainability goals by:

- Utilizing recycled material to manufacture new products
- Sparking economic growth via investments and job creation
- Boosting local green jobs by connecting businesses with networks of recycling infrastructure
- Providing a long term return on investment, including avoided disposal costs as well as potential revenues from the sale of recycled materials

Staff developed a list of companies in South Carolina that utilize recycled material to manufacture new products. These companies will be profiled on Commerce’s recycling microsite. Company profiles are located in the Appendix on pages 33-39. In addition, staff



provided industry economic information for DHEC's FY13 South Carolina Solid Waste Management Annual Report.

### **Coastal Recycling**

RMDAC is working with coastal counties in the state to investigate ways to improve access to recycling at high-traffic areas near major tourist destinations. These counties include Horry, Georgetown, Charleston and Beaufort. Commerce staff worked with the City of Myrtle Beach on a pilot project to increase recycling collection along the beach. The City of Myrtle Beach provided recycling containers at public access points in a seven block area and project results included:

- Project timeframe was April 8, 2013 – October 29, 2013
- 40 containers with 13.65 tons of recyclables collected
- Majority of material collected was free of contamination

The outcome of this successful project is that the City of Myrtle Beach is interested in continuing the beach recycling program and has requested funding to support it.

### **Scrap Tire Partnership**

Commerce staff continued its partnership with DHEC and ARTS on scrap tire recycling initiatives. Monthly conference calls were held to discuss opportunities and resources to help advance scrap tire markets. The group plans to host a scrap tire meeting in spring 2014 entitled "Ground Tire Rubber (GTR) in Asphalt Pavements". A primary objective of the meeting will be information on new South Carolina Department of Transportation (DOT) specifications and will provide a forum to discuss pertinent issues related to blending of GTR with asphalt binder, testing of GTR-blended asphalt binders and asphalt concrete mixtures and their performance. The attendees will include:

- Scrap tire processors
- DOT
- Asphalt contractors
- Asphalt binder producers

### **RecyclonomicsSC**

RecyclonomicsSC is a cluster of New Carolina. RecyclonomicsSC works with RMDAC and other partners to increase the recycling industry's competitiveness in the state. Staff partnered with RecyclonomicsSC to host meetings and tours at recycling-related companies in the state. Staff also assisted RecyclonomicsSC by providing recycling industry economic data for the second edition of the SC Biz News RecyclonomicsSC business publication. The publication can be viewed at <http://issuu.com/scbiz/docs/2013recyclonomics>.



## **Carolina Recycling Association Annual Conference and Trade Show**

Staff helped plan the Carolina Recycling Association (CRA) 24<sup>th</sup> Annual Conference and Trade Show in Myrtle Beach, South Carolina. Staff assisted with the development of recycling sessions for economic impact, single stream and glass recycling.

“*Identifying Recycling as an Economic Driver*” session speakers included:

- Sonoco
- Southeast Recycling Development Council (SERDC)
- North Carolina Recycling Assistance Business Center
- Tennessee Department of Environmental Control
- Tidewater Fibre Company

“*Advances in Single Stream Recycling*” session speakers included:

- Sonoco
- Commerce
- City of Spartanburg
- North Carolina Department of Environment and Natural Resources
- Orange County, North Carolina

The “*Boosting Glass Recovery*” session speakers included:

- Glass Packaging Institute
- Reflective Recycling
- Horry County Solid Waste Authority
- Greater Greenville Sanitation Commission

## **Green is Good for Business Conference**

RMDAC assisted the City of Columbia with its annual “Green is Good for Business Conference.” The conference promotes sustainability and green initiatives for businesses.

Two recycling sessions were held:

- “*Thinking Outside of the Bin: Recycling Nontraditional Materials*”
- *Recycling: Good for the Environment, Great for the Economy*



## **Recycling Related Organizations**

RMDAC’s staff participates in recycling related organizations to help advance RMDAC work plan projects, recycling markets and South Carolina’s recycling industry. These organizations include:

- RecyclonomicsSC
- Solid Waste Association of North America (SWANA) – Palmetto Chapter
- CRA
- South Carolina Environmental Excellence Advisory Committee
- City of Columbia Climate Protection Action Campaign

- Waste Tire Committee
- SERDC
- Solid Waste Advisory Council
- CARE

## **RECYCLING MARKETS**

### **Ferrous Metal**

2013 started slowly because of a mild winter and uncertainties with the fiscal cliff scares affecting order books at steel mills. Order books began to look healthier after the fiscal cliff issue was resolved.

- Prices remained relatively stable for most of the year
- Auto demand was the main driver behind this price stability domestically
- The East coast's largest steel scrap trading partner, Turkey, did not make any significant large scrap buys in quite some time
- Export demand from Turkey for steel scrap was relatively quiet for much of 2013 on the East coast which could be attributed to a stronger dollar and weaker order books for rebar (which is what Turkey produces)

January 2014 saw a \$20.00 per gross ton (GT) increase for obsolete grades of scrap (heavy melt/shreddables etc.) and little change in regards to prime grades (industrial busheling and bundles) in the Southeast marketplace.

A significant development in the southeast ferrous marketplace is the start-up of Nucor's direct reduced iron (DRI) plant in Louisiana. DRI is a process which uses natural gas to reduce iron ore to a solid state by burning off carbon or oxygen. After ore has been reduced, it can be used as a substitute for scrap in the steelmaking process. However, this process uses prodigious amounts of natural gas and is only economically viable when natural gas is both cheap and abundant.

In short, 2014 scrap demand has started out strong domestically due to a cold winter and strong order books at mills. However, scrap could be in large supply due to Nucor's DRI plan and the lack of export demand from Turkey in the immediate future.

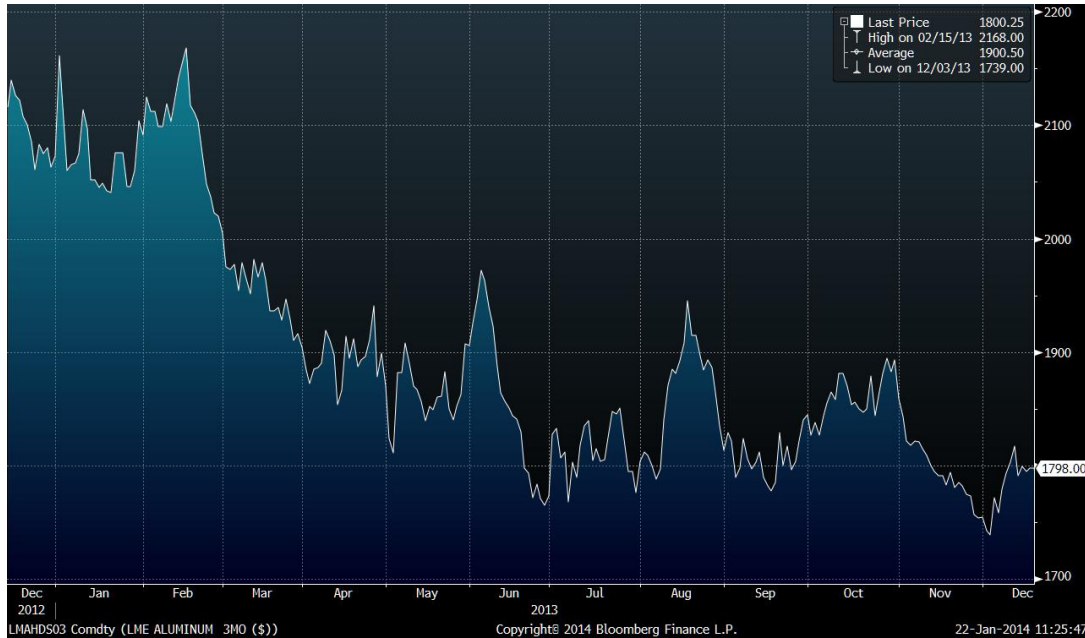
RMDAC should continue to help support the metal recycling industry in South Carolina through market development, education and outreach and illustrating the economic impact the industry has on the state.

### **Nonferrous Metal and Aluminum**

Primary aluminum prices on the London Metal Exchange (LME) began 2013 at \$2,073 per metric ton (expressed on a 3 month contract basis). Prices declined throughout most of 2013 to close at \$1,798 per ton on December 31, 2013. Aluminum demand in 2013 continued to be very robust, growing 7 percent over 2012, to over 49 million tons globally. However, market



sentiment continued to assign more emphasis to the supply side of the market, where global stocks in excess of 10 million tons continued to weigh on efforts to rally prices. LME prices are beginning 2014 very cautiously with prices in the \$1,750-\$1,800 range on three months.



According to the International Aluminum Institute, Western world producer output in 2013 should finish around 24.5 million metric tons or about 3.3 percent lower than 2012. Significant production curtailments have taken place in Russia, North America and Latin America in response to the weak LME prices and poor profitability of the segment.

With the end-use markets, the clear “stars” were global aerospace and North American automotive. The recently unveiled Ford F-150 aluminum truck signals a paradigm shift in demand for aluminum in the auto market, which will drive strong drive for the next 3-5 years. Aluminum is taking share from steel and composites as automotive OEM’s seek to meet much higher CAFÉ standards.

## Glass

The national market prices ranged from \$10 to \$20 per ton for clear flint and \$5 per ton for mixed (amber/brown, green, blue) glass. The charge for this mix is dependent upon the quality of the material.

Pricing should remain constant for 2013. Processing plants need more recycled glass and clean cullet continues to be in demand nationally and internationally. The collection, reuse and recycling of glass is anticipated to grow. The indicators for this increase include:

- The installation of glass technology such as glass breakers and optical sorting equipment
- More local governments accepting glass at curbside
- Local government programs and businesses seeking alternative markets for recovered glass

Glass cullet demand has increased with fiberglass manufacturers because of high energy costs but also because of declining flat glass availability. The challenges with this market are tighter quality specifications for the cullet. High fuel costs are affecting supply because of the higher cost of transporting unprocessed glass to processors. As the recycling industry continues to move towards single stream collection, the amount of material recovered may adversely affect glass prices due to contamination, trucking, fuel cost and labor to separate material.

RMDAC should continue to support and promote the recovery of glass in South Carolina and encourage communities to look at alternative markets for recovered glass.

## **Paper**

OCC pricing for 2013 remained behind 2012 numbers. The big reason was due to China's weak economy. OCC started out in January 2013 at \$110 per ton. The high for the year was \$130 and the low was \$105. Lack of export demand played a huge part in the pricing not going higher throughout the year. Look for 2014 to see market prices to go \$130 or better. Other paper grades are as follows:

- There will not be a lot of change in Newsprint as domestic demand is not increasing. Newsprint continues to decline in volume and quality, due to commingled curbside programs. The high for the year was \$80 per ton and the low was \$60 per ton. January 2014 was \$60 per ton. Export markets should help Newsprint pricing this year.
- Mixed paper grows as domestic consumption and export demand should increase in 2014. Mixed paper began 2013 at \$70 per ton. The high for the year was \$70 per ton and the low was \$55 per ton.
- Sorted Office Paper (SOP) usually brings \$20-\$25 more per ton than OCC; however, 2013 was unusual as SOP only brought in \$10 more per ton. With the start-up of the new tissue mill in Virginia, pricing for SOP will remain strong in 2014. China's economy needs a strong upswing to help demand and for prices to increase in 2014. SOP began the year at \$145 per ton. The high was \$145 per ton, and the low was \$125 per ton.

RMDAC should continue to support DHEC with education and ideas to increase collection of all grades of paper and assist in the collection of data numbers to increase the recycling goal of South Carolina.

## **Plastics**

According to recently published 2012 recycling rates from the National Association for PET Container Resources (NAPCOR), 1,717.9 million pounds of PET bottles were recycled out of 5,586 million pounds sold for a recycling rate of 30.8 percent. The recycling rate grew two percent over 2011. PET bottles collected increased by 114 million pounds over 2011.

According to the NAPCOR 2011 recycling rates, 973.9 million of high density polyethylene (HDPE) bottles were recycled out of 3,261 million pounds sold for a recycling rate of 29.9 percent. The recycling rate held steady while the pounds recycled fell by 10.2 million pounds. Exports of both PET and HDPE recycled bottle bales decreased substantially with sales to Asia

down. Reversing the experience of 2010, the export of recycled polypropylene bottles rose in 2011 to 21 percent of that collected and more material was recovered domestically as well. An increased amount of polypropylene bottle material was isolated as propylene as opposed to being mixed with other resins.

Reclamation Investment continued to grow in 2012 with an estimated \$75 million invested. The U.S. has capacity to process more post-consumer PET packaging than is collected. For the year 2012, both PET and HDPE saw increased demand from domestic processors within the U.S. with further capacity coming on stream. At the same time, due to tighter regulation of the plastics industry from China and banking credit restrictions, exports saw further decreases with less demand on U.S. sources of bottles.

The use of recycled polyethylene terephthalate (RPET) in fiber is growing and fueling more domestic fiber manufacturing capacity. The growth is mainly in staple fiber and bulk continuous filament (BCF). U.S. reclaimers increased their purchases by 219 million pounds from 2011, increasing more than 23 percent of all U.S. bottles collected. U.S. reclaimers had to supplement domestic purchases by importing 114 million pounds of post-consumer bottles. 547 million pounds of post-consumer bottles collected in the U.S. were purchased by export markets in 2012. With further growth for RPET packaging applications, and increases in new demand from expansions within the U.S., domestic demand is expected to be stronger for 2014.

RMDAC should continue to work closely with DHEC to increase collections and develop new markets. All areas should be reviewed to increase collections and keep PET bottles in the U.S. for reclaimers.

## **Scrap Tires**

DHEC's list of approved scrap tire processors include in-state and out-of-state companies. South Carolina has six scrap tire processors and recyclers located in the state. Each year, Commerce surveys the list of approved processors and recyclers. Commerce surveyed the companies in 2013 regarding calendar year 2012 scrap tire data.

Information from the survey was compiled in aggregate form and was used to help understand the management of scrap tires in South Carolina. The data is also used to assist DHEC with its Solid Waste Management Annual Report and with the Rubber Manufacturers Association's state survey. A copy of the survey is located in the Appendix on pages 40-41.

Tire-derived fuel, civil engineering and ground rubber applications were the main markets for scrap tires. The survey also illustrated that scrap tires in South Carolina were processed for:

- Landfill construction
- Alternative daily cover
- Playground and sports surface
- Crumb rubber

The primary markets for scrap tires will continue to be TDF, civil engineered applications and ground rubber applications.

RMDAC should continue to work with DHEC, ARTS, businesses and other entities on initiatives to promote markets and applications for scrap tires.

## **Used Oil**

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 DHEC's Office of Solid Waste Reduction and Recycling (Office), DIYers recycled 705,141 gallons of used motor oil in (calendar year) 2012. For fiscal year (FY) 2013 (July 1, 2012 – June 30, 2013), DIYers recycled more than 828,838 gallons which equates to about 2,900 tons. Overall, more than 19 million gallons have been collected from DIYers since used motor oil recycling efforts began in South Carolina in 1990.

Used motor oil, used oil filter and oil bottle recycling programs should continue to see growth. The priorities of the Office regarding the used motor oil recycling program are:

- To continue to collect and recycle motor oil bottles. Most counties are using oil bottle drain racks to drain the bottles and make them easier to recycle.
- To continue to expand the farmer oil collection program by adding collection tanks where needed. There are currently 67 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 105 oil/gasoline mixture collection sites in 43 counties. 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.

DHEC will continue to provide grant funding to local governments to set up, maintain and improve used motor oil recycling programs. DHEC also will continue to promote used motor oil recycling using a variety of educational materials and the "Green Driver Project."

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



## 2013 RMDAC Meeting Locations

### Midlands Technical College Northeast

- Located in Richland County
- Enterprise Campus and the Center of Excellence for Technology
- Campus presents an opportunity for enhancing economic vitality by recruiting and retaining regional business expansions through public-private partnerships



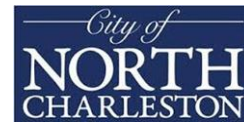
### BMW Manufacturing

- Located in Spartanburg County
- Over 7,000 employees
- Manufactures the BMW X3, X5 and X6 vehicles
- Invested over \$6 billion in its South Carolina operations
- Recycles about 94 percent of all waste generated (office and plant floor)
- Zero waste-to-landfill for all non-regulated waste



### City of North Charleston

- Located in Charleston County
- South Carolina's third largest municipality
- Industries: aerospace, automotive, renewable energy
- Expanding a single stream recycling system



### Wellman Plastics Recycling

- Located in Florence County
- Two million square feet production facility
- Over 400 employees
- One of the Southeast's largest carpet recycling facilities
- Manufactures products for the automotive, electronics, consumer products, lawn and garden industries



### South Carolina Department of Commerce

- Located in Richland County
- Promotes economic development and recycling market development
- Houses RMDAC
- 765 recycling sector jobs created in 2013 with \$103 million in investments in 2013
- Recruited 15,457 jobs and \$5.4 billion in capital investments to the state in 2013



### Sonoco

- Headquarters located in Darlington County
- Multi-billion dollar global provider of packaging
- Five material recovery facilities (MRF) in South Carolina
- 2,000 employees
- Manufactures recycled liner board and uncoated box board



# Plastic Container Recycling in the Carolinas

## Economic Impact Significant ...

While many businesses in the Carolinas are involved in plastic container recycling, information gathered from 15 representative companies show the economic impact of the industry. These companies:

- employ nearly 1,350 individuals;
- process more than 750 million pounds of plastic containers annually;
- had sales of nearly \$450 million in the past year; and
- have spent more than \$126 million in initial investments and facility expansions.

The companies are: Clear Path Recycling; Custom Polymers; DAK Americas; David C. Poole Company; Envision Plastics; EZ Products; Faith Groups; GGT Footing/Polysols; Mohawk Industries; NURRC; Palmetto Synthetics; PolyQuest Inc.; Stein Fibers Ltd./Innovative; USFibers; and Wellman Plastics Recycling.



CAROLINAS  
**PLASTICS  
RECYCLING**  
COUNCIL

*The Carolinas Plastics Recycling Council is a partnership of recycling companies and other stakeholders dedicated to increased recovery.*

Plastics – particularly plastic containers – are an essential part of our daily lives.

Products made from plastic are everywhere and include beverage and food containers, detergent and shampoo bottles, computers and cell phones, furniture and toys as well as television and car parts. Given such widespread use, it may not be surprising that plastic comprised more than 12 percent (about 31 million tons) of the nation's municipal solid waste in 2010 according to the U.S. Environmental Protection Agency (EPA). Of that amount, about 8 percent (2.6 million tons) was recycled.

More specifically, more than 5.3 million plastic containers were generated in 2010 according to the EPA. Of that amount, about 25 percent (about 1.3 million tons) was recycled.

It's clear that many more plastic containers can be recycled. And there are companies in both North Carolina and South Carolina that need the material.

## Increased recycling pays dividends.

Recycling plastic containers has many benefits including reducing oil consumption, saving energy and decreasing the need to build landfills or incinerators. While the environmental benefits of recycling are well known, what is less known are the significant economic benefits.

By turning waste into valuable raw materials, recycling creates jobs, builds more competitive manufacturing industries and adds significantly to the region's economy. Recycling also helps avoid disposal costs and potentially generate revenue from the sale of material.

*Continued on back*



## Did you know?

The Carolinas have robust plastics recycling markets that need more material.

## By the Numbers ...

- North Carolina recycled 36,046 tons of plastic in 2011 – about a 27 percent recovery rate. Of that, 22,160 tons were PET and 12,002 tons were HDPE.
- South Carolina recycled 17,673 tons of plastic in fiscal year (FY) 2011 (July 1, 2010 to June 30, 2011). On average, each South Carolinian recycled 7.6 pounds of plastic.



## Good News in the Carolinas ...

The Carolinas are fortunate to have a strong plastics recycling industry that provides readily available markets for the region. These companies accept a wide variety of plastics from both residential and industrial sources and process them into feedstock for new products – ranging from food and beverage containers to carpet, textiles and automotive parts. As a result of these operations, jobs are provided, investments are made and other economic benefits (e.g., taxes are paid, related industries are supported) are realized.

## There's much more to be done.

The companies that recycle plastics in the Carolinas are not operating at maximum capacity. They are capable of processing more material – which may result in increased job creation and additional investment. If each of these companies operated at maximum capacity, the economic benefits could be significant with increased local jobs, tax revenues and sustainable enterprises.

Plastics recyclers in the Carolinas estimate that about 25 percent of the material that they currently process comes from the two states. That means that a lot of plastic is being imported into the Carolinas for recycling. It also may indicate that some of the material recovered in the Carolinas is exported to recyclers in other states. Recovering and keeping that material at home saves on transportation costs as well as generates tertiary economic activity.

## What can local decision makers do?

There are many steps that local decision makers can take to support plastic recycling in the Carolinas. Here are a few suggestions.

- Understand that plastic container recycling has economic and environmental benefits in the Carolinas.
- Direct recovered plastic containers to recyclers in the Carolinas to support the local economy.
- Fund and support local recycling programs with appropriate resources.
- Make sure that local recycling programs include as many types of plastic containers as possible.
- Lead by example. Set up plastic container recycling programs in government buildings.

### Did you know?

Plastic bottle caps can be recycled. Generally, caps are made of HDPE and PP – both of which have high market demand.



## Lost Potential ...

About 300 million plastic containers are disposed of in the Carolinas every year. These bottles represent lost feedstock to local plastics recyclers and lost revenue to local governments and others from the sale of this material.

In North Carolina, it is estimated that about 95,377 tons of plastic containers were disposed of at a total lost value of more than \$40 million.

It is estimated that in South Carolina nearly 33,000 tons of plastic containers were disposed of in FY11. As a result, more than \$12 million in potential revenue from the sale of this material was lost.



South Carolina  
Department of Commerce



The Carolinas Plastics Recycling Council is a partnership of the N.C. Department of Environment and Natural Resources and the S.C. Department of Health and Environmental Control's Office of Solid Waste Reduction and Recycling, the S.C. Department of Commerce's Recycling Market Development Program as well as representatives from the plastics recycling industry.

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## About the Coalition ...

The S.C. Carpet Recovery Coalition (CRC) encourages post-consumer carpet recycling by cities, counties and businesses in the state.

South Carolina is a leader for carpet recycling in the Southeast – with several hundred million pounds of carpet recycling capacity.

Nationally, the carpet recycling industry employs 3,300 workers who turn carpet into new products.

We can do more. Encouraging the recovery of carpet in your community will save landfill space and provide economic benefit through the production of value-added goods for the automotive and construction industries.

Visit [www.scdhec.gov/carpet](http://www.scdhec.gov/carpet) for more information.



## Why recycle carpet?

Carpet is bulky and will stay in landfills forever. Recycling carpet saves natural resources, conserves landfill space, reduces the dependency on fossil fuels and can save money through reduced disposal costs. Recycling allows a product at the end of its useful life to become a new resource.

Carpet can be made into fiber to produce: new carpet; carpet padding; erosion-control products; and construction material.

Carpet fiber also can be converted into plastic pellets and used in many products including furniture and automotive components – like cam covers manufactured for Ford and other auto engines.



Cam Cover



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



[www.scdhec.gov](http://www.scdhec.gov)

S.C. Department of Health and Environmental Control  
Printed on RECYCLED-CONTENT Paper  
DHEC OR-1075 8/13

SOUTH CAROLINA



Our goal is to maximize the economic and environmental benefits of carpet recycling in South Carolina.

Want to learn more?

[www.scdhec.gov/carpet](http://www.scdhec.gov/carpet)

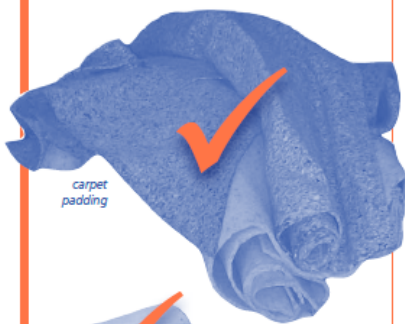
1-800-768-7348

## Carpet Recycling Guidelines ...

S.C. carpet recycling companies accept post-consumer and post-industrial carpet. If starting a collection program at a retail business or local government, please contact a coalition partner for recovery guidelines. For a list of coalition partners, visit [www.scdhec.gov/carpet](http://www.scdhec.gov/carpet).

### ACCEPTED

- ✓ dry carpet and padding
- ✓ rolled residential carpet



### NOT ACCEPTED

- ✗ commercial carpet
- ✗ rubber backing
- ✗ carpet tile
- ✗ tack strips
- ✗ nails or other sharp objects
- ✗ rocks, trash or other debris
- ✗ wet carpet and padding

nails of other sharp objects



## Things to Consider ....

When setting up a carpet recycling program, consider these steps.

- Train staff on the proper methods of carpet recovery.
- Make sure that the carpet is free of debris, dry and rolled.
- Place the collection trailer in a convenient location.
- Work with the S.C. carpet recycling industry on how to manage carpet.

## Carpet Recycling in Your Area ....

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# recycle in SC

Save money. Save resources.  
Earn revenue.

it's just good business.



## Commercial Metals Company

2308 2 Notch Road  
Lexington, SC 29072  
Lexington County

Contact: [Ben Kumangai](#)

Phone: (803) 936-3793

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

## Commercial Metals Company

### Quick Facts:

- 13 facilities in SC
- 757 employees
- Products made with 98% recycled steel
- Processes 4 million tons of scrap metal annually



Boeing Project in Charleston, SC made with CMC steel



Hubbell Lighting in Greenville, SC made with CMC steel

### CMC Products:

- Rebar
- Angles
- Channels
- Flats
- Rounds
- Squares
- T-Posts



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Earn revenue.

it's just good business.



## Fisher Recycling

2750 Avenue B North  
North Charleston, SC 29405  
Charleston County

Contact: [Elizabeth Fisher](mailto:Elizabeth.Fisher@fisherrecycling.com)

Phone: (843) 554-6099

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

## Fisher Recycling

### Quick Facts:

- Located in Charleston, SC
- 10 employees
- Recycled a total of 27.2 million pounds of aluminum, glass, plastic, tin, office paper, newspaper, magazines and cardboard since start-up
- Customized business recycling programs



Glass Counter Top



Landscape Cullet featured in Charleston  
Home + Design

### Fisher Recycling Products:

- Glass Countertops
- Landscape Cullet





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## Wellman Plastics Recycling

520 Kingsburg HWY  
Johnsonville, SC 29555  
Florence County

Contact: [Glenn Odom](#)

Phone: (843) 386-8004

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

## Wellman Plastics Recycling, LLC

### Quick Facts:

- 2 million square feet production facility
- 200 million pounds of PET bottles and 100 million pounds of carpet recycled per year
- 475 employees in Johnsonville, SC
- One of the SE's leading carpet recycling facilities



Ford Engine Cam Cover made from Wellman Recycled Resin

### Did you know...

- Ford F150s and Mustangs contain Wellman's recycled plastic
- Hunter Sprinklers use resin made from Wellman's recycled carpet



Ford Engine Manifold Cover made from Wellman Recycled Resin

Wellman Plastics Recycling manufactures custom products out of recycled thermoplastic resin for the following markets:

- Automotive
- Lawn and garden
- Consumer products
- Electronics industries



# recycle in SC

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Earn revenue.

it's just good business.



Just  
right.

South  
Carolina

## Sonoco

1 North Second Street  
Hartsville, SC 29550  
Darlington County

Contact: [Catherine Shaw](#)

Phone: (843) 383-7560

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

## Sonoco

### Quick Facts:

- Five facilities in SC (Columbia, Hartsville, Greenville, Anderson, and Spartanburg)
- 2,000 employees in SC
- Capacity of 1,200 tons a day

### Columbia and Greenville MRFs accept:

- Corrugated boxes
- Paper
- Metals
- Plastics
- Bottle-form glass



Uncoated Boxboard



Sonotubes®

### Sonoco produces:

- Recycled liner board
- Uncoated box board





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it's just good business.



## Polysols Inc.

915 Mt Pleasant Road  
Spartanburg, SC 29307  
Spartanburg County

Contact: [Rex Gosnell](#)

Phone: (864) 579-4484

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

## Polysols Inc.

### Quick Facts:

- Located in Spartanburg
- Recovers 2,500 tons of post-industrial fabric and fiber per year
- Employs 13 people
- All materials used are 100% post-consumer



GGT-Footing™



GGTW.K. "Weed Killer"

### Polysols Produces:

- GGT-Footing™ - equestrian footing
- GGTK.I.S. - separation layer for equestrian arenas
- GGTW.K. - weed control fabric
- GGTC.C.P. - floor protection
- GGTL.R. - flooring underlayment



# recycle in SC

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Earn revenue.

it's just good business.



## Palmetto Synthetics

633 Commerce Drive  
Kingstree, SC 29556  
Kingstree County

Contact: [Bob Usher](#)

Phone: (843) 382-6813

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

## Palmetto Synthetics

### Quick Facts:

- Headquartered in Kingstree, SC
- Employs 250 people
- Annual capacity of 25,000 tons



Green T-Shirt



Nonwoven Automobile Carpet

### Palmetto Synthetics Produces:

- Nonwoven automobile carpets
- NatureSpun® apparel
- Ingeo™ plastic products





# recycle in SC

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Earn revenue.

it's just good business.



Horry County Solid Waste  
Authority

1886 Highway 90  
Conway, SC 29526  
Horry County

Contact: [Esther Murphy](#)

Phone: (843) 347-1651

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

## Horry County Solid Waste Authority

### Quick Facts:

- MRF is 40,000 square feet
- 24 employees
- Processes 30,000 tons of recyclables annually
- In FY2012, 12,801 tons of glass were recycled in SC (DHEC)
- 51% of which came from Greenville, Horry and Richland counties



Glass Crushing Equipment



Crushed Glass Pile

### HCSWA Produces:

- 3/8" glass cullet
- 1/8" sand cullet



 recycling 

**2012 SCRAP TIRE SURVEY**

**1. Contact Information**

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

**2a. How many tons do you manage? (Questions 2-6 apply to On-road Tires, NOT Off-the-Road (OTR) tires)**

TIRE SIZE	APPROXIMATE TOTAL	APPROXIMATE PERCENTAGE GENERATED IN SC
Passenger	.....	.....
Commercial/Truck	.....	.....

TIRE SIZE	APPROXIMATE PERCENTAGE PRECONSUMER TIRES (GENERATED BY TIRE MANUFACTURER)
Passenger	.....
Commercial/Truck	.....

**2b. How many tons do you send to someone else to further process?**

TIRE SIZE	APPROXIMATE TONS
Passenger	.....
Commercial/Truck	.....

**2c. How many tons are shipped overseas?**

TIRE SIZE	APPROXIMATE TONS
Passenger	.....
Commercial/Truck	.....

**2d. How many tons do you resell as used tires?**

TIRE SIZE	APPROXIMATE TONS
Passenger	.....
Commercial/Truck	.....

**3. LANDFILL: Approximately how many tons of whole or processed tires were landfilled in 2012?** .....

.....Page Break.....

<b>4. EXPORT</b>	<b>APPROXIMATE TONS</b>
Approximately how many tons of <b>WHOLE</b> tires did your company export out of the U.S. in 2012?	<input type="text"/> Tons Exported Whole for Reuse or Retreading (Used Tires) <input type="text"/> Tons Exported Whole for Processing/Recycling/Manufacturing <input type="text"/> Tons Exported Whole for TDF <input type="text"/> Tons Exported Whole for Disposal <input type="text"/> Other Exports (Whole) Are whole tires shipped baled, loose or both? <input type="text"/>
Approximately how many tons of tire <b>SHREDS</b> did your company export out of the U.S. in 2012?	<input type="text"/> Shreds Exported for TDF <input type="text"/> Shreds Exported for Processing/Recycling/Manufacturing <input type="text"/> Shreds Exported for Disposal <input type="text"/> Other Exports (Shreds)
To what countries were tires exported?	<input type="text"/>

**5. MARKETS. Approximately how much material was used or produced for the following end-use applications?**

<b>A. Tire-Derived Fuels</b>	
Tire-Derived Fuel (Whole Tires) <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Tire-Derived Fuel: Processed Material <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
<b>B. Civil Engineering Uses</b>	
Alternate Daily Cover <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Landfill/Construction <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Other Engineered Use <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
<b>C. Chipped/Ground/Crumb Rubbers</b>	<b>APPROXIMATE PERCENTAGE</b>
<input type="text"/> Tons Passenger	Landscape Mulch <input type="text"/>
<input type="text"/> Tons Truck	Sports Surfacing <input type="text"/>
Mesh size(s)	Loose Playground <input type="text"/>
	Fine Crumb Loose <input type="text"/>
	Other Crumb Uses <input type="text"/>
<b>D. Manufactured Products</b>	
Molded <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Extruded <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Pressed <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Stamped <input type="text"/> tons; passenger, truck or mix?	<input type="text"/>
Other Applications - Please Describe <input type="text"/>	<input type="text"/> tons; passenger, truck or mix?

<b>6. SOUTH CAROLINA PRODUCT</b>	<b>APPROXIMATE PERCENTAGE</b>
What percent of your products are sold in South Carolina?	<input type="text"/>

<b>7. OTR, FARM, MINING AND LOGGING</b>	<b>APPROXIMATE TONS</b>
How many tons of South Carolina off-road, farm, mining or logging equipment tires were managed in 2012?	<input type="text"/> Disposed <input type="text"/> Processed or Reused
What are your primary markets for OTR tires?	<input type="text"/>

<b>8. OTHER MARKETS</b>	<b>No</b>	<b>Yes</b>	<b>Markets</b>
Does your company have markets for steel and fabric waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Please email or fax the completed survey to: Tonya Lott at [TLott@SCcommerce.com](mailto:TLott@SCcommerce.com) or (803) 737-0538 by **Friday, August 2, 2013.**