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Recycling Market Development Advisory Council

2012 Annual Report

Submitted on March 15, 2013

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South Carolina
Department of Commerce

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RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

2012 ANNUAL REPORT



Submitted to the Governor and General Assembly on March 15, 2013

2012 Recycling Market Development Advisory Council Annual Report

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RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

Recycling Market Development Advisory Council Mission

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 and connect new and existing companies with outlets for recyclable products.

Ronnie Grant, Chair, Recycling Market Development Advisory Council

Sonoco

Represents: Paper Industry

Ed Marr, Vice-Chair, Recycling Market Development Advisory Council

Greater Greenville Sanitation Commission

Represents: Municipalities

Wes Westbrooks

BMW

Represents: SC Department of Commerce

Donna London

Clemson University-Jim Self Center on the Future

Represents: Higher Education

Phil Ammons

Plastics Provider, Inc.

Represents: Plastics Industry

Lauren Cox

Alcoa Mt. Holly

Represents: Aluminum Industry

Kira Roff

Fisher Recycling-Grand Strand

Represents: Glass Industry

Vic Carpenter

Kershaw County

Represents: County Government

Kristen Brown

MY ECO

Represents: General Public

Eddie Hooks

Safety-Kleen

Represents: Petroleum Industry

Norman Chandler

Republic

Represents: Solid Waste Industry

Glenn Odom

Wellman Plastics Recycling

Represents: Recycling Industry

Dan Chuy

Michelin North America

Represents: Tire Industry

2012 PAST COUNCIL MEMBERS

Gerry Fishbeck, Past Chair, Recycling Market Development Advisory Council

United Resource Recovery Corporation

Represented: Recycling Industry

Art Levy

OmniSource Southeast

Represented: Scrap Metal Industry

Larry McCaskill

Alcoa Mt. Holly

Represented: Aluminum Industry

Jim Schaefer

Michelin North America

Represented: Tire Industry

Lin Longshore

Safety-Kleen

Represented: Petroleum Industry

COUNCIL STAFF

Chantal Fryer and Tonya Lott

Recycling Market Development Program

South Carolina Department of Commerce

EXECUTIVE SUMMARY

The Recycling Market Development Advisory Council (RMDAC) is comprised of 14 governor-appointed members representing the recycling industry, government, higher education, solid waste industry and citizen affiliations. The Council is staffed by the South Carolina Department of Commerce (Commerce) and for over 20 years, RMDAC's work with Commerce's Recycling Market Development Program has provided a proven track record of business development and technical assistance to the state's recycling industry in terms of growing new markets for materials.



RMDAC, created by the Solid Waste Policy and Management Act of 1991, is required to submit an annual report 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

A description and analysis of the amounts and types of solid waste materials recovered or recycled in this State during the preceding year;

In fiscal year 2012, the South Carolina Department of Health and Environmental Control (DHEC) reports:

- 1,229,100 tons municipal solid waste (MSW) recycled
- MSW recycling rate of 29.5 percent
- MSW disposal rate of 3.44 pounds per person per day

RMDAC will continue to work with DHEC and other organizations to identify and grow recycling markets, develop strategies to help increase the recovery of materials and encourage business reporting.

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

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

- Glass
- Carpet
- Scrap tires
- Plastics

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

RMDAC will continue to work with organizations, such as the following, to support and advance recycling in South Carolina:

- Commerce
- DHEC
- RecyclonomicsSC
- Solid Waste Association of North America (SWANA)- South Carolina Palmetto Chapter
- South Carolina Recycling and Solid Waste Professionals Association
- Carolina Recycling Association (CRA)
- Southeast Recycling Development Council (SERDC)
- Carpet America Recovery Effort (CARE)

This report also provides information on RMDAC's work plan, economic development data, resources and market information for the glass, paper, plastics, scrap tires, used oil, nonferrous aluminum and ferrous scrap metal industries.

RMDAC

The mission of RMDAC 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

In 2012, RMDAC held six meetings at the following locations:

- January 10, 2012, at Midlands Technical College Northeast, Columbia, South Carolina
- March 13, 2012, at Midlands Technical College Northeast, Columbia, South Carolina
- May 8, 2012, at Sonoco, Hartsville, South Carolina
- July 10, 2012, at SC Department of Commerce, Columbia, South Carolina
- September 11, 2012, at Sonoco Recycling, Columbia, South Carolina
- November 8, 2012, at SC Department of Archives and History, Columbia, South Carolina

The primary objective of these meetings was to draft a work plan to help identify and grow recycling markets. The council developed a work plan that targeted:

- Glass recycling
- Plastics container recycling
- Carpet recycling
- Coastal recycling



RMDAC WORK PLAN

GLASS

According to DHEC, South Carolina recycled 10,647 tons of glass in FY12. This amount was a decrease of 2,154 tons or nearly 17 percent from the 12,801 tons of glass that were recycled in FY11. However, it is estimated that between 5,700 tons and 10,500 of the 81,809 tons reported as commingled collected by the counties was glass. Because this additional amount is of glass is an estimated amount, it is not counted in the official numbers but is offered as anecdotal evidence that as communities expand their single stream collection programs, additional glass is being recovered for recycling. It is expected that the amount of glass collected will rise in FY13 with local governments such as Richland County and Greater Greenville Sanitation Commission (GGSC) adding glass into curbside collection.



Glass Challenges

- Low value compared to other recyclable commodities
- Weight
- Transportation and storage costs
- Contaminate to other commodities
- Abrasive to material recovery facility (MRF) equipment
- Single stream recycling
 - MRFs are utilizing equipment such as glass breakers to separate glass from other material
- The yield loss at the glass processor level of glass collected from single stream recycling may be 30 percent or higher than source separated glass
- Glass collected from drop-off centers (three-mix) may be contaminated with corks, cans, plastic labels and metal caps

Infrastructure

- Local government

- 28 of the 46 counties reported glass collected in FY12
- 46 percent of the total volume came from Greenville and Horry counties
- Municipal programs
 - 67 programs collect glass
 - 56 programs provide curbside collection

Material Recovery Facilities

- Sonoco
 - Three South Carolina material recovery facilities (MRFs) have glass breaking capabilities
 - Single stream material accepted at all locations
 - Columbia MRF is producing 14 tons a day of three mix glass
- Charleston County
 - Operated by Republic Services and has glass breaker in the stream line

Glass Processors

Reflective Recycling is a glass processor located in Pacolet, South Carolina. Its facility has the capacity to process 3,000 tons a month of post-consumer glass. Post-industrial glass processing adds an additional 2,000 tons of material processed monthly at Reflective Recycling. Primary uses for the company's processed glass include:

- Container remanufacturing
- Highway bead
- Sand blasting abrasive

Another glass processor is Strategic Materials. The company has locations in Atlanta, GA and Raleigh, North Carolina.

End Uses

South Carolina has no bottle to bottle glass recycling. However, once glass is collected, a number of applications for glass exist in the state. Horry County's MRF invested in glass crushing equipment and

creates a crushed glass material suitable for landscape and roadbed applications. Reflective Recycling is a secondary glass processor with the capability to process glass into color-sorted furnace-ready cullet which is what glass manufacturers need to make new glass. They also can make glass beads for reflective highway paint and sandblasting medium. Fisher Recycling and CoMar produce a countertop with recycled glass for installation in homes and businesses. Strategic Materials can make cullet for containers and fiberglass manufacturing.

Glass Recycling Initiative

The glass recycling initiative focuses on increasing the recovery and recycling of glass in South Carolina. RMDAC and staff identified over 40 stakeholders from business, industry and local governments to help advance this effort. Some of the stakeholders include:

- Commerce
- DHEC
- GGSC
- Horry County Solid Waste Authority (HSWA)
- Reflective Recycling
- Strategic Materials
- Sonoco Recycling
- City of Greenville
- Clemson University
- SWANA
- RecyclonomicsSC

Activities of the group include:

- Determining market and infrastructure needs
- Investigating opportunities for pilot projects
- Researching funding sources
- Investigating opportunities for glass processing facility tours

- Providing education and outreach
- Monitoring legislation

Accomplishments of the stakeholder group include:

- Formation of a glass stakeholder group
- Adoption of the name Glass Recycling Group
- Glass Recycling Group logo developed by DHEC
- Tours of glass recycling and processing facilities
 - Reflective Recycling
 - HCSWA
- City of Greenville, GGSC and HCSWA pilot project
- DHEC glass recycling grants
 - HCSWA for the installation of glass beneficiation equipment
 - GGSC for a pervious trailhead parking lot for the Swamp Rabbit Trail
 - Charleston County for the installation of glass beneficiation equipment
- Glass information developed for “Recycled in SC” website
- Coordination of glass recycling session for the 2013 CRA annual conference
- Submittal of grant application to Glass Packaging Institute (GPI)
 - Application was not funded as GPI preferred projects with a closed, looped process



RMDAC and staff will continue to work with the Glass Recycling Group, GPI and others to grow the glass market, investigate pilot projects and provide outreach and education on the glass industry.

Pilot Projects

A pilot project was developed between HCSWA, City of Greenville, Pickens County and GGSC to use crushed glass in a trailhead parking lot. A DHEC grant was obtained to offset transportation costs for hauling processed glass from HCSWA to Greenville and the purchase price of the materials. The project’s intent is to demonstrate the beneficial use of processed glass in construction applications to increase the marketability of glass materials in the Upstate. The project is for the construction of a

pervious trailhead parking lot for the Swamp Rabbit Trail in the City of Greenville. It comprises:

- Processed glass from HCSWA
- HCSWA supplied the processed glass
- City of Greenville and GGSC hauled the glass material
- GGSC is storing the glass on their site
- City of Greenville will provide oversight for the construction process
- Signage will be developed to educate others about the use of recycled glass in concrete applications

Currently, the project is on hold with the City of Greenville due to budget constraints. However, the GGSC has been working with Clemson University to get this material used in a construction application.

DHEC also awarded grants to Charleston and Horry Counties for glass beneficiation equipment. Charleston County will purchase a large capacity glass beneficiation system to reduce the size of glass during processing, minimize contamination, clean the broken glass and separate it into a clean mixed cullet. The grant targets bars and restaurants that are large generators of glass, as well as residents, local governments, businesses, multi-family projects and institutions.

Charleston County MRF's capacity is designed to process up to 80 tons per day of dual stream material. The MRF is converting to single stream in order to process material coming from the county's 41,000 households that converted to single stream. Republic Services, the MRF's operator, markets and sells recovered glass to Strategic Materials. With the beneficiation equipment provided in the grant, the county anticipates glass recovery to increase by an additional 12,000-14,000 tons.

The HCSWA's grant is to install a glass clean-up system at the MRF which consists of a paper blower and cross belt magnet to remove paper, plastic, and metal contaminants. The MRF is capable of processing 30,000 tons of recyclables during one 8-hour shift and has a 3-5 ton glass crusher/pulverizer which processes recycled glass into a 3/8" aggregate and a sand material. HCSWA has been producing crushed glass cullet for use at its facilities' road beds and landscaping.

HCSWA sells crushed glass cullet for \$5.00 per ton. Once HCSWA is able to better market the recycled glass cullet, it can work to increase efforts to recycle and process more glass from Horry County residents, businesses and other counties. HCSWA is working on a pilot glass recycling program that will target restaurants and bars located in the Horseshoe area of North Myrtle Beach, South Carolina.

PLASTIC CONTAINERS

Project Purpose

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. About 75 percent of plastic bottles in the U.S. are landfilled annually. In FY12, DHEC reported that South Carolina recycled 18,212 tons of plastic in FY12, which was an increase of 539 tons or about 3 percent from the 17,673 tons of plastic that were recycled in FY11. In addition to the 18,212 tons, it is estimated that between 1,100 tons and 1,700 tons of the 18,212 tons reported as commingled collected by the counties was plastic. In 2012, 39 of the 46 counties reported plastic collected in FY12; however, more material is being reported as commingled, and this often includes plastic. Forty-one percent of the total volume came from Greenville and Spartanburg counties. Of the municipal programs:

- 89 programs collect plastic
- 73 of those provide curbside collection

Project Scope

- Identify stakeholders from the plastic containers industry in North Carolina and South Carolina
- Identify residential and commercial plastics collection capacity
- Identify industry processing capacity
- Identify end-use markets
- Monitor legislation that may affect the recycling and recovery of plastic containers



- Evaluate infrastructure and markets
- Investigate funding sources for potential pilot projects
- Provide education and outreach

The Carolina's Plastics Recycling Council is a joint effort of Commerce, DHEC, NC's Department of Environmental Assistance Office, businesses and industry who are working collectively to recover more plastic container materials in the Carolinas. The Carolinas have a strong plastics recycling industry that provides readily available markets. These companies accept a variety of plastics from residential and industrial sources and process them into feedstock for new products. Product examples include:

- Food and beverage containers
- Carpet
- Textiles
- Automotive parts

As a result of these operations, jobs are provided, investments are made and other economic benefits are realized. Commerce surveyed 15 North Carolina and South Carolina plastics reclamation companies and their economic footprint shows:

- 1,350 employees
- 750 million pounds of plastic processed annually
- Nearly \$450 million in annual sales
- More than \$126 million in initial investments and facility expansions

South Carolina Plastics Companies Surveyed

- David C. Poole Company
- EZ Products
- Faith Groups
- GGT Footing/Polysols
- NURRC

- Palmetto Synthetics
- PolyQuest Inc.
- Stein Fibers Ltd./Innovative
- US Fibers
- Wellman Plastics Recycling

North Carolina Plastics Companies Surveyed

- Clear Path Recycling
- Custom Polymers
- Mohawk Industries
- Envision Plastics
- DAK Americas

Carolina Plastics Group Accomplishments

- Stakeholders adopted name Carolinas Plastics Recycling Council
- DHEC created Carolinas Plastics Recycling Council logo
- Plastics industry companies in South Carolina and North Carolina surveyed
- Plastics industry economic impact in the Carolinas identified through survey
- *Plastic Container Recycling in the Carolinas* fact sheet created

RMDAC will continue to work with the Carolinas Plastics Recycling Group to increase the recovery and recycling of plastics containers in North Carolina and South Carolina.

A copy of the *Plastic Container Recycling in the Carolinas* fact sheet is located in Appendix A on page 41.



CARPET

Project Purpose

Increased carpet recycling has the capacity to lead to increased jobs, energy savings for end-use markets, and increased capital investment by companies that will provide hauling, collection, processing and end-use components for the recycling industry. Carpet fibers include:

- Nylon 6 – value product
- Nylon 6,6 – value product
- Polypropylene – some value
- PET – no demand



Project Scope

This project will focus on increasing the recovery and recycling of carpet in South Carolina. Approximately 30,000 tons of carpet is generated annually in South Carolina. This project will examine mechanisms at the local government level as well as private sector initiatives that may lead to increased carpet recovery, investment and jobs. These mechanisms are:

- Identify carpet recycling stakeholder group
- Identify residential and commercial carpet collection capacities
- Identify carpet processing capacities
- Identify end-use markets
- Monitor legislation that may affect the recycling and recovery of carpet
- Evaluate infrastructure and markets
- Investigate funding sources for potential pilot projects
- Provide education and outreach
- Investigate opportunities to tour carpet recyclers and processing facilities

South Carolina Carpet Recyclers and Processors



Wellman Plastics Recycling is a carpet processor located in Johnsonville, South Carolina. Wellman recycles post-consumer and post-industrial carpets to create engineered resin (Ecolon), a nylon 6,6 compound developed for Ford. This material is 100 percent post-consumer nylon from carpet.



Southeastern Plastics Recovery is a carpet recycler located in North Charleston, South Carolina. The company recycles post-consumer residential carpet and carpet padding. Southeastern Plastics Recovery provides drop-off, on-site and container services for counties in South Carolina's Lowcountry.



Leigh Fibers is located in Wellford, South Carolina, and is a supplier of reprocessed and raw fibers. The company established Leigh Carpet and Plastics Recycling, LLC to divert carpet and plastics from landfills and process it into fibers and pellets.

Carpet Recycling Initiative Accomplishments

- Carpet recycling industry stakeholder meeting held
- Compiled data of South Carolina's carpet industry
- Explored and identified potential pilot projects

RMDAC will work with the carpet recycling stakeholder group and organizations, such as CARE, to increase carpet recycling in South Carolina.

COASTAL RECYCLING

Project Purpose

Increased beverage container recycling has the capacity to lead to increased jobs, energy savings for

end-use markets and increased state capital investment by companies that will provide hauling, collection, processing and end-use components for the recycling industry in South Carolina. According to a 2011 South Carolina Parks Recreation and Tourism report, the leading counties with the highest tourism expenditures were:



- Horry County – over \$3.3 billion in domestic travel expenditures, highest of the 46 counties
- Charleston County ranked second with \$1.8 billion
- Beaufort County ranked third with over 1 billion
- Georgetown County ranked eighth with over \$276 million

Project Scope

- Increased beverage container collection capacity near high traffic areas along the coast
- Investigate recycling container placement and servicing
- Marketing, education and outreach to hotels, bars, restaurants and entertainment venues
- Monitor legislation that may affect the recovery and recycling of beverage containers
- Investigate infrastructure and funding needs

RMDAC is working with DHEC, local governments, businesses and industry to improve access to recycling at high traffic areas near major tourist destinations in coastal South Carolina.

Coastal Recycling Accomplishments

- Meetings held with City of Myrtle Beach, City of North Myrtle Beach, hotels, restaurants, Myrtle Beach Convention Center and South Carolina Hospitality Association to discuss coastal recycling opportunities
- City of Myrtle Beach and City of North Myrtle Beach agreed to six month pilot programs
- Pilot programs to be conducted March 15, 2013 through September 30, 2013
 - City of Myrtle Beach pilot area will be 24th to 31st Avenue
 - City of North Myrtle Beach pilot area will be 2nd North through 4th North Streets
 - \$5,000 grant from Strategic Materials to assist with purchasing 30 recycling containers

- DHEC to assist with signage and education and outreach
- Recyclable materials will be taken to HCSWA
- Cities will track the weight of materials collected during the pilot
- Cities to submit a report to Commerce on the successes, barriers and recommendations for sustaining recycling along South Carolina's coast

RMDAC will continue to work with DHEC, local governments and other organizations to advance and sustain coastal recycling in South Carolina.

SOUTH CAROLINA RECYCLING PRODUCTS WEBSITE

Staff compiled information for the development of website information featuring “Recycled in SC” products. This information will be housed on Commerce’s website. The commodities to be featured include:

- Glass
- Plastics
- Scrap Tires

Examples of products made from these types of materials are:

- Glass countertops
- Plastic bottle containers
- Rubber landscape mulch, surfaces and pavers



GREEN ROADWAYS



Clemson's Asphalt Rubber Technology Service (ARTS), DHEC, Commerce, South Carolina Transportation Technology Service and other partners held the first of its kind South Carolina Green Roadways Workshop on May 23, 2012, at the Columbia Metropolitan Convention Center, in Columbia, South Carolina. The workshop featured the application of recycled materials in infrastructure projects. The workshop highlighted real-life practical applications in three tracks:

- Public Works
- Parks and Recreation
- Green Building

Featured speakers included:

- Andy Acho, Former Worldwide Director of Environmental Outreach and Strategy, Ford Motor Company
- Sabrina Bradshaw, Recycled Materials Resource Center, University of New Hampshire
- Doug Carlson, Vice President Asphalt Products, Liberty Tire Recycling
- Rick Doyle, Synthetic Turf Council President

SOLID WASTE RECYCLING

According to DHEC, the state's municipal solid waste (MSW) recycling rate improved for the third straight year from 22.1 percent in fiscal year 2009 (July 1, 2008 to June 30, 2009) to 29.5 percent in FY12. The per capita recycling rate improved slightly to 1.4 pounds per person per day in FY12. This amount is up from 1.39 pounds the previous FY. Each South Carolinian, on average, recycled more than 525 pounds of MSW in



FY12. Overall, South Carolinians recycled 1,229,100 tons of MSW in FY12. This amount is an increase of 56,332 tons (4.8 percent) from the previous FY. In addition, local governments reported earning more than \$13 million from the sale of recyclables in FY12.

For more information on solid waste management and recycling in South Carolina, visit DHEC's Office of Solid Waste Reduction and Recycling at www.scdhec.gov/environment/lwm/recycle.

RECYCLING'S ECONOMIC IMPACT



Recycling not only benefits the environment, it also boosts the economy. Since January 2011, Commerce has recruited more than \$790 million in capital investment and more than 1,500 new jobs in the recycling-related sector. In 2012, Commerce helped facilitate the recycling industry recruitment of:

- 770 jobs
- \$463 million in capital investment
- 19 new or existing companies investing in South Carolina

Investments are up nearly 30 percent from the previous year with jobs remaining fairly constant. Companies like US Fibers in Edgefield, Grace Plastics, Inc., in Greenville, Nucor Corporation in Darlington, Pratt Industries in Spartanburg and LowCountry Biomass LLC in Jasper are just a few examples of companies that announced investments in 2012.

South Carolina is leading the charge and proving that recycling is an economic engine for the state. The recycling industry is comprised of over 450 companies such as haulers, processors, brokers, recycling equipment sales and manufacturers and end-users or manufacturers who take recycled material feedstock and make recycled content products from them.

“By going green, South Carolina companies are saving green and adding green to our state’s bottom line.”

Secretary Robert M. Hitt
South Carolina Department of Commerce

Commerce’s 2012 recycling related announcements continue to illustrate the agency’s success in its business development and recruitment efforts. These announcements include:

LowCountry Biomass LLC expands Jasper County facility

The company announced plans to expand its existing wood pellet manufacturing operations in Jasper County. The \$16 million investment is expected to generate 26 new jobs.

<http://scommerce.com/news/press-releases/lowcountry-biomass-llc-expands-jasper-county-facility>

US Fibers expanding operations in Edgefield County

The company announced plans to expand its current operations in Edgefield County. The \$5.5 million investment is expected to generate 48 new jobs.

<http://scommerce.com/news/press-releases/us-fibers-expanding-operations-edgefield-county>

Pratt Industries expands Spartanburg County facility

The company announced plans to open a new material recovery facility in Spartanburg County, representing a \$3.5 million investment and the creation of 30 jobs.

<http://scommerce.com/news/press-releases/pratt-industries-expands-spartanburg-county-facility>

Encore Container establishing headquarters and manufacturing facility in Greenville County

The company announced it will locate its new corporate headquarters, manufacturing and recycling facility in Greenville County. The \$3.9 million investment is expected to generate 89 new jobs over the next three years.

<http://scommerce.com/news/press-releases/encore-container-establishing-headquarters-and-manufacturing-facility-greenville>

PyroTec Inc. establishing new operation in Charleston County

The company announced plans to establish a new domestic and global corporate headquarters in Charleston County. The \$10 million investment is expected to generate 75 new jobs.

<http://scommerce.com/news/press-releases/pyrotec-inc-establishing-new-operation-charleston-county>

BMW Announces Plant Expansion in Spartanburg County

The company will expand its plant in Spartanburg County. The \$900 million investment is expected to generate 300 new jobs.

<http://scommerce.com/news/press-releases/bmw-announces-plant-expansion-spartanburg-county>

Nucor Corporation expanding in Darlington County

The company announced plans to modernize and enhance its bar mill facility in Darlington County.

<http://scommerce.com/news/press-releases/nucor-corporation-expanding-darlington-county>

Michelin to grow business in Anderson, Lexington Counties

The company announced it will expand its Earthmover tire production in South Carolina with a \$750 million investment expected to generate 500 new jobs.

<http://scommerce.com/news/press-releases/michelin-grow-business-anderson-lexington-counties>

Diversified Plastics expanding facility in Dillon County

The company announced plans to expand its current manufacturing facility in Dillon County. The \$2.5 million investment is expected to generate 15 new jobs.

<http://scommerce.com/news/press-releases/diversified-plastics-expanding-facility-dillon-county>

Grace Plastics locating new operation in Greenville County

The company announced plans to locate a new facility in Greenville County. The \$1.2 million investment is expected to generate 16 new jobs over the next two years.

<http://scommerce.com/news/press-releases/grace-plastics-locating-new-operation-greenville-county>

eCycling International SC establishing new facility in Allendale County

The company announced it is locating its new facility in Allendale County. The more than \$23 million investment is expected to generate 18 new jobs.

<http://scommerce.com/news/press-releases/ecycling-international-sc-establishing-new-facility-allendale-county>

Con-Pearl North America establishing first North American facility in Greenville County

The company announced plans to establish its first North American production facility in Greenville County. The \$14.25 million investment is expected to generate 51 new jobs over the next five years.

<http://scommerce.com/news/press-releases/con-pearl-north-america-establishing-first-north-american-facility-greenville-co>

Henry Molded Products Inc. expanding in Anderson County

The company announced that it will expand its South Carolina operations in Anderson County. The more than \$5 million investment is expected to generate 18 new jobs over the next five years.

<http://scommerce.com/news/press-releases/henry-molded-products-inc-expanding-anderson-county>

McGill Environmental Systems building new composting plant in Berkeley County

The company plans to open its seventh organics recycling facility by the end of 2013, locating it in Berkeley County. The company expects to hire up to 25 people to staff the facility.

<http://scommerce.com/news/press-releases/mcgill-environmental-systems-building-new-composting-plant-berkeley-county>

Domtar Corporation makes additional investment at Marlboro County facility

The company announced plans to re-purpose its Bennettsville facility in Marlboro County and invest \$30 million in the plant over the next year.

<http://scommerce.com/news/press-releases/domtar-corporation-makes-additional-investment-marlboro-county-facility>

Softex Paper Inc. locating second S.C. facility in York County

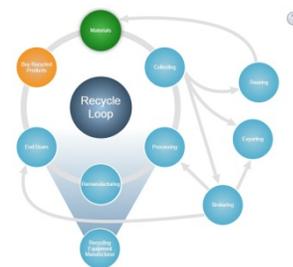
The company announced it will locate a new production facility in York County. The \$2 million investment is expected to generate 36 new jobs.

<http://scommerce.com/news/press-releases/softex-paper-inc-locating-second-sc-facility-york-county>

A summary table of these announcements is located in Appendix B on page 42.

RECYCLING DIRECTORY

Commerce's Recycling Markets Directory provides illustrations of material processes and company contacts for existing recycling markets and recovery resources. The directory provides essential links between businesses, industries and local governments searching for markets for recyclables and companies that accept the materials for processing and reuse. It offers businesses the opportunity to market and increase awareness of its services and/or products. The directory lists over 200 recycling related businesses. The directory can be accessed at www.recyclinginsc.com/directory. A copy of the form to be completed for entry into the directory is located in Appendix C on page 43.



RMDAC staff is working with Commerce's information and technology department to determine the feasibility of companies posting to the recycling directory electronically via Commerce's website.

RECYCLING NEWSLETTER

The Recycling Newsletter is distributed via email to approximately 700 recipients. The newsletter contains information on RMDAC, recycling related announcements, markets, material exchanges, resources, news articles, meetings and other events. The newsletter is a tool to help businesses, industries, governmental entities and others:

- Get to know RMDAC and staff
- Learn about Commerce's resources and company announcements
- Acquire information on recycling's economic impact in the state
- Gather information on South Carolina recycling markets

The Recycling Newsletter is also linked to Commerce's department newsletter which reaches over 4,000 recipients. Linking the Recycling Newsletter with Commerce's primary newsletter reaches a broader audience which increases the opportunity to grow the state's recycling industry.

SOUTH CAROLINA SMART BUSINESS RECYCLING PROGRAM



The South Carolina Smart Business Recycling Program is a partnership between Commerce and DHEC. The program offers free, confidential and non-regulatory services that include:

- 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 and a state recognition program

The program offers a “Smart Business Guide to Waste Reduction and Recycling” for businesses and industry. Businesses and industry are encouraged to submit their recycling activities via Re-Trac Connect. This information is used to help the state achieve its 35 percent recycling rate.

Companies can access information on the South Carolina Smart Business Recycling Program at www.scdhec.gov/environment/lwm/recycle/smart_business/index.htm or 1-800-768-7348.

RECYCLONOMICSSC



RecyclonomicsSC is a cluster of New Carolina - South Carolina’s Council on Competitiveness. RecyclonomicsSC works with RMDAC and other partners to increase the recycling industry’s competitiveness in the state. Its mission is to expand and strengthen South Carolina’s recycling industry by establishing policy, building networks, promoting market development and leveraging existing infrastructure. RecyclonomicsSC’s vision is for South Carolina to be a national leader in the recycling industry in terms of creating jobs and investment and providing access to sustainable markets for recyclable materials.

RecyclonomicsSC board members are:

- Tina Huskey, Chair, Mumford Industries
- Ronnie Grant, Vice-Chair, Sonoco
- Elizabeth Garrison, Second Vice-Chair, Ever-Green Recycling
- Kristen Brown, Treasurer, My ECO

- Nancy Ogburn, Secretary, Tomato Palms
- Steve Zagorski, US Fibers
- Donna London, Clemson University-Jim Self Center on the Future
- Gerry Fishbeck, United Resource Recovery
- Parris Hicks, Leigh Fibers

RecyclonomicsSC Magazine



RMDAC staff assisted SC Biz News with the RecyclonomicsSC magazine. The 48-page publication promotes recycling as a smart solution for material management and sustainable economics. It highlights recycling as an economic driver in the state and showcases collectors, processors, end-users and others working to advance SC's recycling industry. RecyclonomicsSC was made available through a partnership between RMDAC, RecyclonomicsSC, New Carolina, sponsors and advertisers.

The publication itself is environmentally friendly as it utilizes soy based ink and was printed on sustainable paper. The magazine can be accessed at <http://issuu.com/scbiz/docs/recyclonomicsc>.

Recycling Legislative Day

RecyclonomicsSC partnered with New Carolina to host the sixth annual Recycling Industry Legislative Day. The event was held on February 1, 2012, at the South Carolina Statehouse. Over 300 participants attended to show their support for recycling and to showcase that recycling is an economic engine for the state. A media event was held to announce the recycling industry's economic impact in the state. During the event, the recycling industry announced the creation of over 800 jobs and \$333 million in capital investments.



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
- SWANA
- South Carolina Recycling and Solid Waste Professionals Association
- CRA
- South Carolina Environmental Excellence Advisory Committee
- South Carolina Biomass Council
- City of Columbia Climate Protection Action Campaign (CPAC)
- Waste Tire Committee
- U.S. Green Building Council
- SERDC
- Container Recycling Institute
- Solid Waste Advisory Council
- CARE

GREEN IS GOOD FOR BUSINESS CONFERENCE



RMDAC staff worked with the City of Columbia’s CPAC to develop a program for the annual “Green is Good for Business Conference.” This conference aims to promote sustainability and green initiatives for businesses and industries. The conference was held in Columbia, South Carolina, on September 18,

2012, at the Columbia Metropolitan Convention Center. Josef Kersher, President of BMW Manufacturing Company, was the keynote speaker for the conference. Over 300 participants representing business, industry and government attended the event. The conference featured two recycling tracks:

- From Plastic Bottle to Automotive Fabric-Why We Recycle
- Recycling's Many Shades of Green

Approximately 30 participants attended each recycling session. These sessions focused on items such as recycling industry jobs, sustainable materials management and supply chain.

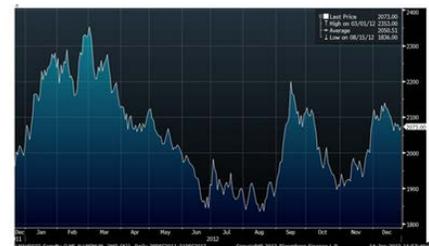
RECYCLING MARKETS

ALUMINUM NONFERROUS



In 2012, primary aluminum prices on the London Metal Exchange (LME) grew and peaked in early March at \$2,353 per metric ton. However, continued concerns over the European debt crisis and early year pessimism about China's economy led to a prolonged sell off which bottomed at \$1,836 in August.

The market began to regain confidence towards year end as positive macro-economic data began to come from China. The U.S. showed persistent signs of recovery and other emerging market economies showed signs of recovery in their industrial production data. The last trade for the year was at \$2,073 per metric ton as the market became very cautious while the U.S. "fiscal cliff" brinkmanship played out.



Supply Highlights

Global primary production (i.e. China) will finish 2012 at levels generally below market consensus estimates. According to most recent data available for November 2012, Chinese production will finish around 20 million tons, up from 2011's final output of 17.7 million tons, but less than widely expected levels of 21-23 million tons. Presently, over 8 million tons of operating capacity in China is operating at a loss and continues to run only due to short term power subsidies being provided at the provincial level to sustain employment.

According to the International Aluminum Institute, Western world producer output in 2012 should finish around 24.8 million metric tons compared to 26 million tons in 2011. The decline in Western production is led by a 13 percent year on year decline in Western Europe, where bankruptcies at smelters in the Netherlands and Germany curbed production. Australia had nearly an 11 percent drop, where Hydro elected to permanently close its Kurri Kurri smelter of 177,000 tons capacity due to continual losses. North American production was down over two percent as Rio Tinto Alcan suffered through an extended strike at its Alma, Quebec smelter which settled only mid-year-costing it over 200,000 tons of production.

Western producers are operating about two million tons of unprofitable capacity, concentrated in Western Russia, Central and Western Europe. Only the record high physical premiums for metal are keeping these facilities going to minimize losses.

Demand Highlights

Consumption of primary aluminum in 2012 will again be strong, with total demand estimated at 46 million metric tons. This reflects a 5.5 percent year on year growth rate relative to 2011.

Shipments in China, as benchmarked by semi-fabricated shipments, were exceptionally strong, up nearly 12 percent year on year, when allowing for scrap consumption and some double counting of production. U.S. shipments were up 4 percent and Brazil 1.7 percent. Japanese shipments should finish about on par with 2011 performance. The weakness in the World is concentrated in Europe, where shipments are

expected to be down 3.6 percent to 8 percent depending upon markets.

With the end use markets, the clear “stars” were global aerospace and North American automotive. North American heavy truck and trailer consumption were also very strong through the first three quarters of the year, but has faltered at year end. Packaging demand outside the U.S. was strong in emerging markets and flat in North America and Europe.

Outlook

LME and Midwest primary ingot prices begin 2013 very tentatively despite the U.S. “fiscal cliff” being narrowly averted. The market is looking ahead to the debate over the debt ceiling and spending cuts in the U.S., where equally contentious negotiation is expected.

Macroeconomic indicators such as industrial production and PMI indexes in virtually all regions are better. Inflation seems to be “in check” as wholesale prices are rising at a much slower rate, central banks in Brazil and India are cutting rates to stimulate their economies again.

Chinese demand is expected to lead another strong global demand picture, with Alcoa forecasting 6 percent demand growth to about 49.5 million metric tons. Chinese consumption is expected to rise 11 percent, while North American demand will match 2012’s 4 percent year on year growth rates.

Independent forecasts from Harbor Intelligence, surveying a host of estimates, suggests 2013 prices on the LME will average \$2,270 , \$2,584 in 2014 and \$2,733 in 2015. The prices for 2013 and 2014 are about \$250 LESS than 2011 ending expectations for these years, with 2015 about the same.

Midwest ingot premiums to LME are trading around 11 cents per pound over the LME cash quote and are expected to remain very strong thanks to limited free market supplies in the hands of producers, who ended 2012 with their lowest all time inventories when measured in days of implied consumption.

Demand for scrap materials is expected to remain strong, bolstered by ever increasing appetites from

fabricators to use more recycled content.

RMDAC Action

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

FERROUS METAL



In 2012, the scrap market range was bound at about a \$50.00/ gross ton (GT) swing, the final big change came in November. December was down with a slow-down at the end of the year that was more than just a holiday interruption. Most of the consumers were concerned about the fiscal cliff problem and were not sure that

Congress would get a deal done to prevent it.

Order books at the steel mills ended the year on an anemic note. The mills ran at a low 70 percent rate and inventories were more than the mills wanted to keep on hand. They were using it as much as anticipated.

The big factor was the lack of good export orders and a relatively mild winter that made the flow into the dealer yards heavier than normal. There were no winter transportation problems. Plus, with a robust auto industry, the stamping plants ran strong and produced more prime grade material than usual which created an uncharacteristic closing of the premiums.

Outlook

The market in January was not the robust rebound we typically establish to give us a good start for the year. Rather, it was lackluster struggling to maintain December levels. There seems to be more material available than the mills want to purchase. The mills will buy until they see their order books improving and that probably will not happen until the economy shows some consistency.

RMDAC Action

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.

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.

Glass recycled in South Carolina is sent to Reflective Recycling in Pacolet or transported out of state to Strategic Materials facilities located in North Carolina and Georgia. Reflective Recycling receives material from Lexington, Union, York, Pickens and Newberry Counties. This facility also receives material from North Carolina.

Outlook

Pricing should remain constant for 2013. Processing plants need more recycled glass, and clean cullet continues to be in demand nationally and internationally. Glass is 100 percent recyclable and can be recycled endlessly without any loss in purity or quality. Glass kept domestically will increase its market value and demand.

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.

RMDAC Action

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



Old Corrugated Containers (OCC) started the year out at \$110 per ton and held through February. March saw an upswing of \$25 per ton raising the market price to \$135 per ton. April held at \$135 per ton, but May brought a drop to \$125 per ton. June stayed the same, as July brought a reduction of \$15 per ton dropping the price to \$110 per ton. August brought another drop of \$20 per ton, putting the market price at \$90 per ton. This marks the first time in two years that the market had been below \$100 per ton. September brought another \$15 per ton downward trend putting the market price at \$75 per ton, thus making everyone very uneasy about the domestic trend. October it increased by \$5 per ton back up to \$80 per ton. November increased \$15 per ton putting pricing up to \$95 per ton. December increased another \$15 per ton closing the year out at \$110 per ton on the domestic side.

Newsprint started the year with a price of \$70 per ton, but increased \$15 per ton in February and another \$10 per ton in March, putting the price at \$95 per ton. April held and May brought about a \$5 per ton decrease putting the price at \$90 per ton. The price held in June decreasing \$10 per ton in July to \$80

per ton. August brought another \$15 per ton decrease dropping to \$65 per ton. September brought another \$10 per ton decrease and another \$10 drop in October, putting the market at \$55 per ton.

November brought a \$5 per ton increase and December increased \$10 more per ton. The year ended at \$75 per ton.

Mixed paper started the year at \$75 per ton. February saw a \$15 per ton increase raising the market to \$90 per ton. March brought another \$5 per ton increase, and the price held at \$95 per ton in April. May started a downward trend as pricing dropped to \$90 per ton. Pricing held in June, but dropped \$10 per ton in July. Prices dropped another \$10 per ton in August. In September, it dropped another \$15 per ton to \$55 per ton. The price held in October and increased \$10 per ton in November to \$65 per ton. In December, it increased to \$75 per ton to close out the year.

Sorted office paper (SOP) began the year at \$130 per ton. February brought \$10 more per ton, as March increased \$25 per ton increasing the price to \$165 per ton. April started the decline in pricing at a \$10 per ton. In May, the market increased \$10 per ton to \$165 per ton in June. July saw a \$20 per ton increase, raising the price to \$185 per ton. The price held in August and started a decline of \$20 per ton in September. The market dropped another \$20 per ton in October. November and December held at \$145 per ton to close the year.

OCC was not a bad year as the market did not drop under \$100 per ton until August, this being the first time that they were under \$100 for over two years. China and India export demand kept export about \$20 per ton and higher over domestic demand. Look for this trend to decrease in pricing for 2013. Newsprint will continue to have problems as a lot of it ends up in mixed paper and the true #8 is not as in big demand as the past. Export did provide a very good margin over and above domestic pricing.

Mixed grade continues to be in demand as more mills are learning to use it as a substitute for OCC.

Export demands continue to grow for mixed paper in demand as well as pricing.

The demand for SOP is still very strong in the domestic market; export does not provide enough profit margin to take it from the domestic market place. Demand for this grade will increase as another tissue mill comes online in the U.S. in 2013.

PLASTICS



According to recently published 2011 recycling rates from the National Association for PET Container Resources (NAPCOR), 1,604 million pounds of polyethylene terephthalate (PET) bottles were recycled out of 5,478 million pounds sold for a recycling rate of 29.3 percent. The recycling rate rose 0.2 percent from 2010 recovery levels. PET bottles collected increased by 47 million pounds.

According to the recently published NAPCOR 2011 recycling rates, 973.9 million of high density polyethylene (HDPE) bottles were recycled 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 opposed to being mixed with other resins.

Outlook

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.

Going into 2013, initial demand from Asia remains soft, but is expected to resume stronger activity as the year progresses. With further growth for recycled PET packaging applications and increases in new

demand from expansions within the U.S., domestic demand is also expected to be stronger. Continued growth of new applications like thermoformed sheeting from the packaging industry indicates demand for recycled products should increase further during the year as well.

RMDAC Action

RMDAC will continue to work closely with DHEC and others to increase collections and develop new markets.

SCRAP TIRES



Commerce surveyed 12 scrap tire processors and recyclers for calendar year 2011 data. Information from the survey is used to help analyze how scrap tires are managed in South Carolina. It is also used to assist DHEC with responses to the Rubber Manufacturers Association's annual state survey. A copy of the survey is located in Appendix D on page 44.

All 12 processors and recyclers responded to the survey. According to the data compiled in aggregate form, scrap tires in South Carolina were processed for alternative daily cover, landfill construction, crumb rubber, playground and sports surfaces.

Outlook

The primary markets for scrap tires will continue to be TDF, civil engineered applications and ground rubber applications. South Carolina will continue to address tire stockpiles in the state.

RMDAC Action

RMDAC will continue to work with DHEC and ARTS on initiatives to promote markets and applications for scrap tires.

USED MOTOR 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 965,623 gallons of used motor oil in (calendar year) 2011. Overall, more than 18 million gallons have been collected from DIYers since used motor oil recycling efforts began in South Carolina in 1990. Figures for 2012 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 that they 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, the Office continues to offer the "Green Driver Project" that targets students in high school driver education classes. The project stresses the environmental impact of driving and includes information on recycling used 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 3,040 classroom presentations to 140,440 students. “DHEC 1: Behind the Oil Change,” a video chronicling the life of a driving teenager and the consequences of his decision to improperly dispose of his 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, the Office set up a partnership with PalmettoPride to add a litter component, including litter laws and enforcement to the “Project” in 2002.

2013 Forecast

The amount of used motor oil, bottles and filters collected for recycling should continue to grow in 2013. 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. Once drained, the motor oil bottles can be mixed with other HDPE plastic. This makes it easier to market the motor oil bottles. The Office 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 98 oil/gasoline mixture collection sites in 42 counties. Another county will be setting up a tank in fiscal year (FY) 2013 (July 1, 2012 – June 30, 2013). 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

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

RMDAC Action

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



APPENDIX A

CAROLINA PLASTICS GROUP FACT SHEET

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 annual 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.

APPENDIX B

2012 RECYCLING RELATED ANNOUNCEMENTS

Company	Investment	Jobs	County
BMW	\$900	300	Spartanburg
Con-Pearl North America	\$14.25M	51	Greenville
Diversified Plastics	\$2.5M	15	Dillon
Domtar Corporation	\$30M		Marlboro
eCycling International SC	\$23M	18	Allendale
Grace Plastics	\$1.2M	16	Greenville
Henry Molded Products Inc.	\$5M	18	Greenville
LowCountry Biomass, LLC	\$16M	26	Jasper
McGill Environmental Systems		25	Berkeley
Michelin	\$750M	500	Anderson, Lexington
Nucor Corporation			Darlington
Pratt Industries	\$3.5M	30	Spartanburg
PyroTec Inc.	\$10M	75	Charleston
Softex Paper Inc.	\$2M	36	York
US Fibers	\$5.5M	48	Edgefield

APPENDIX C

RECYCLING MARKETS DIRECTORY

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	County			
Mailing Address for this Facility							
Mailing City		State	Zip	County			
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"/> Newspaper				
<input type="checkbox"/> Roofing Materials							
Plastic:		Organics:		Metal:		Glass:	
<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"/> Clear	<input type="checkbox"/> Lead 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"/> Brown	<input type="checkbox"/> Mirror Glass	
<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"/> Green	<input type="checkbox"/> Lab Glass	
<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"/> Mixed Glass	<input type="checkbox"/> Other (write in)	
<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"/> Plate and Window 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"/> 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			<input type="checkbox"/> Yard Waste	<input type="checkbox"/> Mulch	<input type="checkbox"/> Other (write in)		
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"/> Fluorescent Tubes and Ballasts	
<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"/> Cartridges	
<input type="checkbox"/> Rayon	<input type="checkbox"/> Material – Wovens	<input type="checkbox"/> Rubber Inner Tubes	<input type="checkbox"/> Televisions – Flat Screens	<input type="checkbox"/> Reels		<input type="checkbox"/> Other (write in)	
<input type="checkbox"/> Polyester – Textile	<input type="checkbox"/> Material – Nonwovens	<input type="checkbox"/> SBR Rubber	<input type="checkbox"/> Televisions – CRT				
<input type="checkbox"/> Cotton	<input type="checkbox"/> Other (write in)	<input type="checkbox"/> Automotive Tires	<input type="checkbox"/> Monitors – Flat Screens				
<input type="checkbox"/> Wool							
Other (please list):							
Please list and describe products you manufacture that contain recycled paper (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 or fax to (803) 737-3818.

APPENDIX D

2011 SCRAP TIRE SURVEY

1. Contact Information

COMPANY NAME	
PERSON COMPLETING SURVEY	EMAIL ADDRESS
PHONE NUMBER	FAX NUMBER

2. Tons Processed (Note: Questions 2-6 apply to On-road Tires, NOT OTR tires; see #7 below)

TIRE SIZE	APPROXIMATE TOTAL TONS PROCESSED	APPROXIMATE % GENERATED IN SC	APPROXIMATE % PRECONSUMER TIRES (GENERATED BY TIRE MANUFACTURER)
Passenger Tires	tons	%	%
Commercial/Truck	tons	%	%

3. LANDFILL Approximately how many tons of whole or processed tires were landfilled in 2011?

4. EXPORT	
Approximately how many tons of WHOLE tires did your company export out of the U.S. in 2011?	Tons Exported Whole for Reuse or Retreading (Used Tires) Tons Exported Whole for Processing/Recycling/Manufacturing Tons Exported Whole for TDF Tons Exported Whole for Disposal Other Exports (Whole) Are whole tires shipped baled, loose or both?
Approximately how many tons of tire SHREDS did your company export out of the U.S. in 2011?	Shreds Exported for TDF Shreds Exported for Processing/Recycling/Manufacturing Shreds Exported for Disposal Other Exports (Shreds)
To what countries were tires exported?	

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

A. Tire Derived Fuel	
Tire Derived Fuel (Whole Tires)	tons; passenger, truck or mix?
Tire Derived Fuel: Processed Material	tons; passenger, truck or mix?
B. Civil Engineering Uses	
Alternate Daily Cover	tons; passenger, truck or mix?
Landfill/Construction	tons; passenger, truck or mix?
Other Engineered Use	tons; passenger, truck or mix?
C. Chipped/Ground/Crumb Rubber	
Chipped/Ground/Crumb Rubber tons passenger tons truck Mesh size(s)	% Landscape Mulch
	% Loose Playground
	% Sports Surfacing
	% Fine Crumb Loose
	% Other Crumb Uses
D. Manufactured Products	
Molded	tons; passenger, truck or mix?
Extruded	tons; passenger, truck or mix?
Pressed	tons; passenger, truck or mix?
Stamped	tons; passenger, truck or mix?
Other Applications- Please Describe	tons; passenger, truck or mix?

6. SOUTH CAROLINA PRODUCT	PERCENT
Approximately what percent of your products (TDF, crumb rubber, etc.) are sold in South Carolina ?	

7. OTR, OFF-ROAD, FARM, MINING AND LOGGING	TONS
Approximately how many tons of South Carolina off-road, farm, mining or logging equipment tires were managed in 2011?	Tons Disposed Tons Processed or Reused
What are your primary markets for OTR tires:	

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



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