SOUTH CAROLINA DEPARTMENT OF COMMERCE

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL 2021 ANNUAL REPORT

Being a global manufacturing leader carries the responsibility of safely and sustainably managing byproducts, leaving behind only a positive community impact. As South Carolina's economic engine is driven largely by manufacturing, scrap materials are an inevitable part of that process. Repurposing scrap materials into profitable, sustainable resources offers a tremendous opportunity for a robust recycling network, ensuring proper material management and creating recycled-content products.

Our state's recycling sector has been one of exceptional growth, currently a $13 billion industry in South Carolina. In 2021, 6 recycling and sustainable packaging companies invested $522 million in capital investments around the state – a 338% increase over the past year.

Commerce's Recycling Market Development program is unique in the nation – we are one of the few state economic development agencies with staff dedicated to the recycling industry's economic growth. With state-led recycling resources and initiatives like the Carolinas Plastics Recycling Council and Your Bottle Means Jobs, the Recycling Market Development Advisory Council works with Commerce to make large-scale recycling and sustainability efforts as easy as possible for every company calling South Carolina home. I'm proud to say that, since launching the SC Recycling Markets Directory in 2020, over 300 recycling companies are now represented in the publicly accessible directory. These transformative companies ensure our businesses have local choices for reducing, recycling or reusing materials originally destined for the landfill.

South Carolina's geographical diversity sets us apart from almost anywhere in the world. From the Appalachian valleys, to sweeping farming acreage, to the hundreds of miles of Atlantic Ocean coastline, there's no denying that South Carolina is one-of-a-kind. To preserve these natural resources, corporate and residential citizens alike are increasingly prioritizing sustainable practices.

With the heightened importance of environmental, social and governance (ESG) criteria worldwide, South Carolina is well-positioned to build on its leading-edge recycling market development work, creating job opportunities, entrepreneurial ventures and manufacturing recycled content products. Looking forward, our team's commitment is steadfast. We will continue to work together with companies to make recycling and sustainable business practices play a vital part of our transformational economy, ensuring South Carolina remains a desirable play to live, work and play for years to come.

Harry Lightsey

RMDAC

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

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

South Carolina
Department of Commerce
Just right for business.

RMDAC

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

Chair

Wes Westbrooks

BMW
SC Department of Commerce

Vice Chair

Kristen Brown

Waste Zero
General Public

Norman Chandler

Republic Services
Solid Waste Industry

Vic Carpenter

Kershaw County
County Government

Elizabeth Morgan

City of Greenville
Municipalities

Angel Lara

Southeast Recycling Resources
Scrap Metal Industry

Brad Dutton

FiberQuest
Plastics Industry

Carol James-Gilchrist

Sonoco Recycling
Paper Industry

Chris Fisher

Fisher Recycling
Glass Industry

Tina Huskey

Mumford Industries
Recycling Industry

RMDAC

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

Dr. Andrew Spicer Ph.D.

Darla Moore School of Business Higher Education

Chad Prescott

Mid-Carolina Steel
Aluminum Industry

Jay Spears

Continental Tire
Tire Industry

Vacant

Petroleum Industry

Glenn Odom

Ex Officio Member

Wellman Plastics
Recycling Industry

Joseph McMillin

Emeritus Member

Atlas Organics
Organics

SC Department of Commerce

Anna DeLage

Recycling Market Development Manger

April Chaffins

Business Services Coordinator

Ashley Jenkins

Recycling Program Coordinator

MARKETS MATTER

RMDAC

RECOMMENDATIONS

1. Revisions to initial report: no revisions necessary to the initial report.

2. Description and analysis of MSW recycling during previous year. **The recycling rate for 2021 is 23.9%.*** RMDAC will continue to work with businesses and industry to grow recycling markets and develop strategies to help increase the recovery and recycling of materials.

3. 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 work towards recovery, recycling and sustainable material management options for the following to include but not limited to carpet, glass, plastic containers, metals, scrap tires, electronics, textiles, construction and demolition materials, universal wastes that can be recycled/repurposed, and organics.

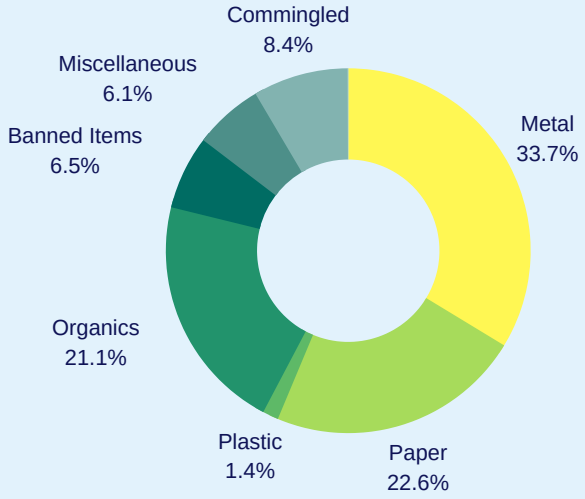
4. Any other recommendations, including tax incentives, to facilitate the development of markets for recovered materials or products in the state. RMDAC should investigate the following mechanisms to spur recycling recovery and industry growth:
   - Add recycling to the types of businesses qualifying for job tax credits.
   - Require recycling infrastructure in the design for multi-family establishments.
   - Share best management practices for business recycling.
   - Assist with businesses reporting of recycling data.
   - Develop partnerships to support and increase market-based solutions to recycling.
   - Encourage Pay as You Throw as a mechanism to increase capture of recyclables.
   - Encourage businesses to adopt a framework for an economy that is restorative and regenerative by design.

2021 SC Recycling Rate:

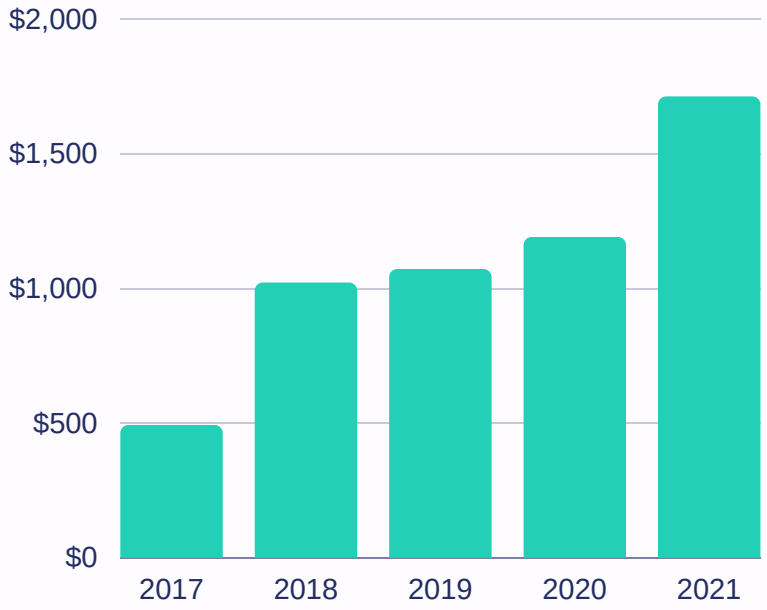
23.9%

FY: July 1, 2020 - June 30, 2021

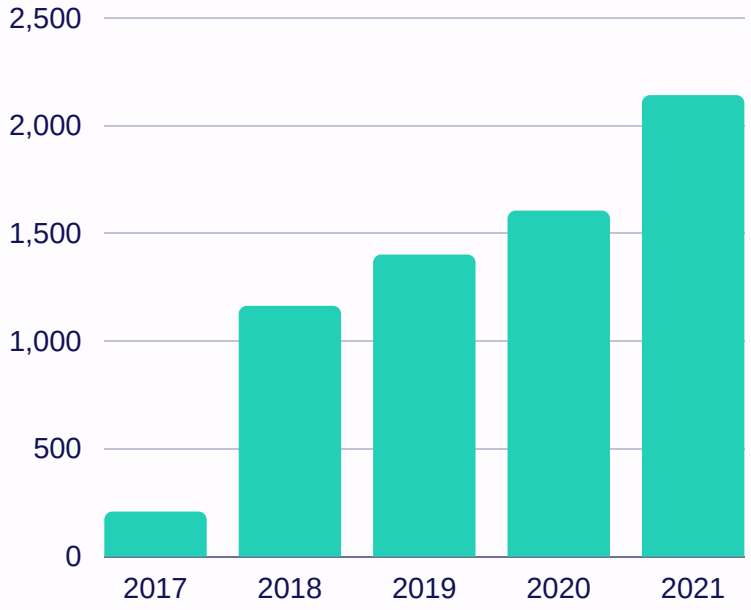
2021: % of SC's MSW Commodities Recycled by Weight



South Carolina Recycling Industry 5 Year Capital Investment (Cumulative) (Millions)



South Carolina Recycling Industry 5 Year Job Creation (Cumulative)



SC Recycling Industry Snapshot 2017 - 2021

$1.71 B

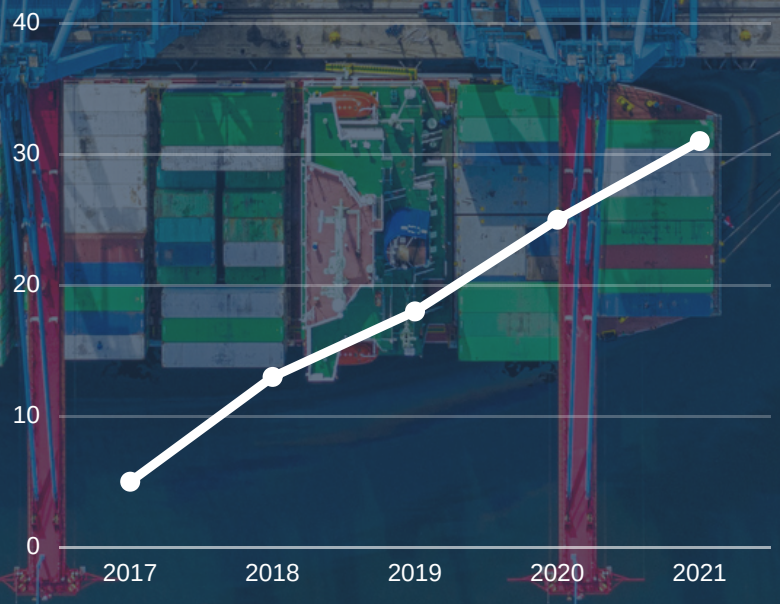
Capital Investment

2,138

Job Creation

31

New/Existing Businesses



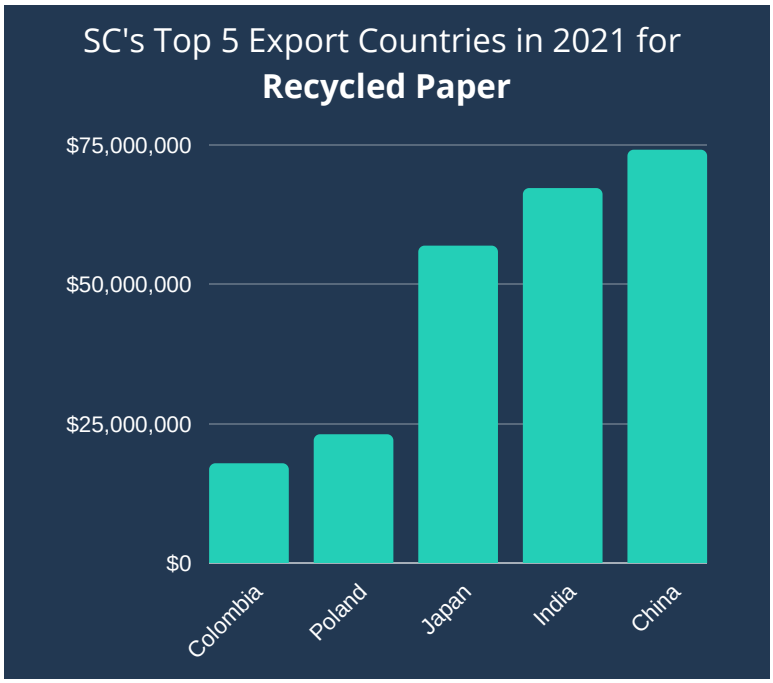
South Carolina Recycling Industry 5 Year Business Investment (Cumulative)

Paper

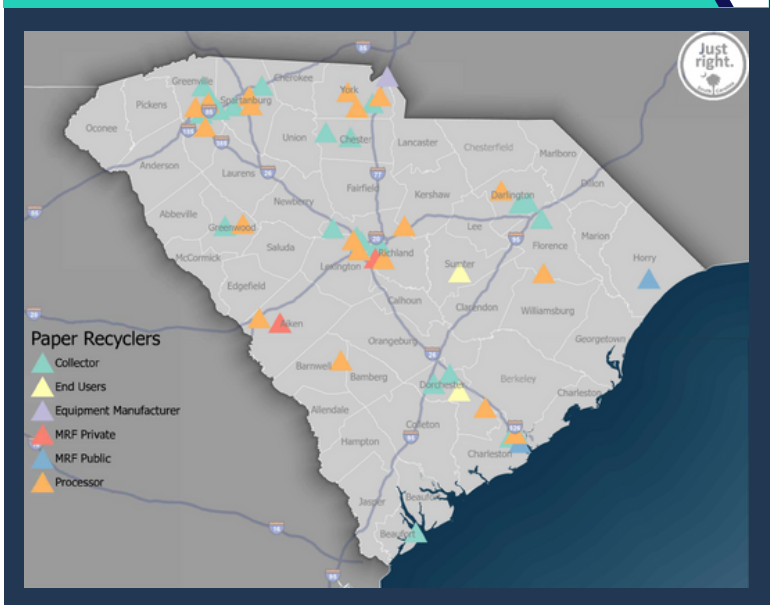
Covid delivered another challenging year with many supply chain disruptions, coupled with high inflation that we've not seen in many years. The notable impacts on the industry include mills running at very high production rates due to being essential, as well as heavily influenced by increased Ecommerce that requires extra boxes sent to the residential sector. Ecommerce also has impacted collections negatively, residential collection programs are available to ~ 2/3 of US homes, making the maximum potential collection rate for OCC of approximately 65%. In-store shopping is down, where there's a 90% plus collection rate. Logistic issues have also hindered collections throughout the year.

The increased domestic demand and issues around collections increased recovered paper pricing to some of the highest levels ever seen in history. Additionally in 2022, there's new mill capacity projects that will increase demand. It's very likely the industry will experience similar supply chain issues throughout year, also new capacity coming online, it's highly likely Recovered Paper pricing will be well above the historical average.

The increased domestic demand and issues around collections increased recovered paper pricing to some of the highest levels ever seen in history.



Paper Recovery Facilities in South Carolina



Plastics

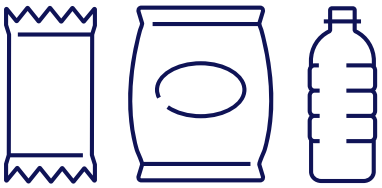
Plastics are polymers that offer many benefits to manufacturers in the automotive, aerospace, medical device, and packaging industries in SC. Plastics are lightweight, water-resistant, durable, strong, economical, and corrosion and chemical resistant.

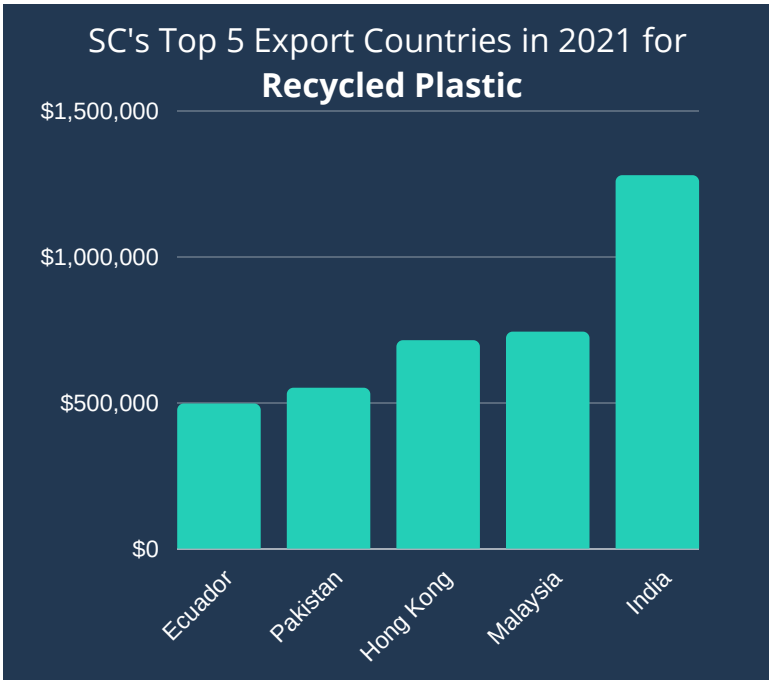
As the plastic markets continue to evolve, the Carolina Plastic Recycling Council (CPRC) hosted a ½ day virtual conference discussing the state of plastics markets and new innovation in the recycling industry. Speakers presented information about facility expansions, new end markets and technologies, and policies for plastics recycling that can strategically propel the recycling industry. They also highlighted the benefits of establishing partnerships, and how brand commitments for circular packaging and recycled content goals are driving the bottle-to-bottle recycling trend. In addition, consumer demand and sustainability goals continue to drive good corporate governance.

According to the National Association for PET Container Resources (NAPCOR) 2020 PET Recycling Report, the recycling rate for PET bottles was 33.9%, up from 27.9% in 2019 percent. In fact, rPET for Food/Beverage and Non-Food/Beverage Bottle categories grew by 32 percent in total, surpassing fiber for the first time as the largest end market user of post-consumer PET bottles.

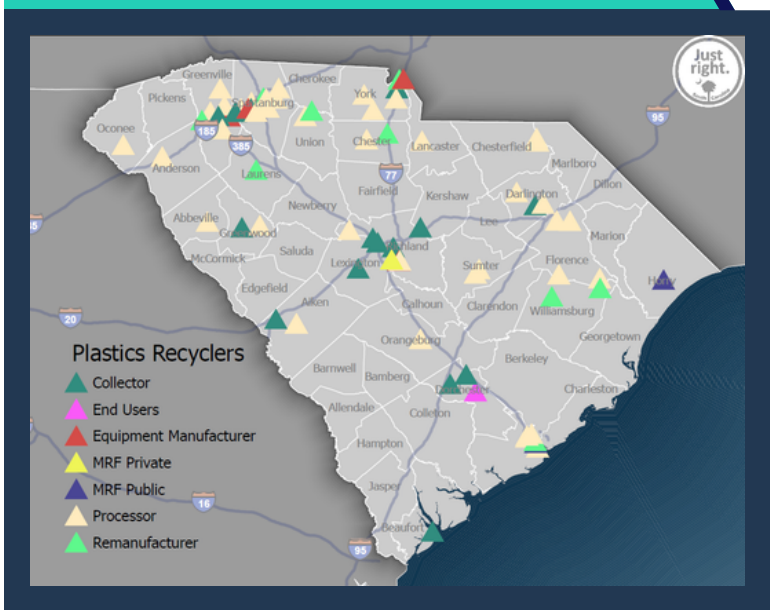
Between natural disasters, Covid-19 precautions, and labor shortages, 2021 saw significant disruptions to the global supply chain and resin market. Plastic resin prices saw a surge, especially for PP and PE. Increased demand for plastic materials paired with labor constraints and supply shortage from plastic production shutdowns created the perfect storm. With virgin supply strained, recycled resins become increasingly sought after.

South Carolina has a robust plastic recycling industry with 89 companies in the value chain that collect and recycle residential, commercial, and industrial plastic scrap material. The SC plastic recycling industry's readily available markets employ more than 1,500 people who are converting bottles and other plastics into new products like carpeting, clothes/textiles, plastic pipe, plastic lumber, and other products.
There are 15 industrial plastics recyclers in the state who recycle more than 200 million pounds of these materials annually. Beyond polymers, textile recyclers handle both woven polyester, nylon, and non-woven materials derived from plastics. Leigh Fibers, Martex Fiber, and Bowers Fibers are three of the nation's largest textile recyclers with locations in South Carolina that serve the automotive and home furnishing industries.





Plastic Recovery Facilities in South Carolina



Tires

South Carolina is the #1 state in the country for manufacturing tires. The citizens of SC generate an estimated 5.08 M waste tires. To address markets for recycled tires, Commerce will continue to collaborate with DHEC's Waste Tire Sustainability Coalition, bringing industry, government, and research stakeholders together to grow end markets for tires and pave the way for innovative technology. As a leader in tire manufacturing, South Carolina is well-positioned to drive the tire recycling industry forward. South Carolina's DHEC certified in-state tire recyclers include Ridge Recyclers, Envirogreen, and SC Tire Processing. Other states have certified tire recyclers who can also take SC tires for recycling. Recycled tires as whole tires are banned by law from any landfill disposal.

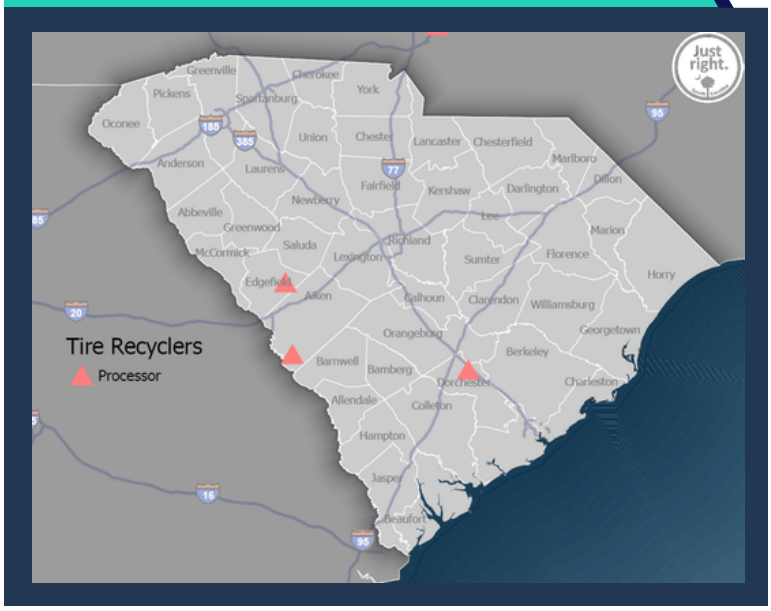
Each year, Commerce generates a survey for DHEC approved tire processors and recyclers. This survey helps determine the number of waste tires processed and landfilled in the state. The survey also shows the types of end-use market applications for waste tires. According to the survey, Tire Derived Fuel (TDF) is the primary commodity produced in South Carolina. Several industrial sites in South Carolina utilize TDF as part of their fuel stream to make energy. Tires can also be ground into landscape mulch, playground surfacing, horse tracks, and crumb rubber for asphalt. Recycled tires can even be used as bullet traps for ballistic courses and public works applications for erosion control, speed bumps, and traffic signs.

5.08M

An estimated 5.08 million waste tires are generated by the citizens of South Carolina.

Market demand for processed waste tires should remain stable. The Council will continue to support existing waste tire markets and work with the US Tire Manufacturers Association to encourage the use of crumb rubber in asphalt rubber paving and other added-value applications for recycling waste tires in South Carolina. Developing recycling market solutions for tires is crucial to the industry's success. Commerce's recycling team is working with public and private sector partners to develop those new markets.

Tire Recovery Facilities in South Carolina



YOUR BOTTLE MEANS JOBS

MASCOT RECYCLING CHALLENGE

Carolina Plastic Recycling Council continues to promote the Your Bottle Means Jobs (YBMJ) campaign. The simple act of recycling plastic bottles creates well-paying jobs in the Carolinas. Your Bottle Means Jobs continued the recycling message through the Mascot Recycling Challenge, created by South Carolina Department of Commerce staff to connect the campaign with the colleges/universities in the Carolinas. The challenge was designed to do the following:
The challenge was designed to do the following:

- Encourage Colleges/Universities to recycle plastic bottles
- Bring awareness to the economic and environmental benefits of recycling your plastic bottles in the Carolinas
- Support green jobs in the Carolinas

Appalachian State University, Clemson University, Coastal Carolina University, Horry-Georgetown Technical College, Medical University of South Carolina, North Carolina State University, and University of North Carolina Wilmington participated in the Mascot Recycling Challenge. The schools participated in a five-week challenge that began on October 1st and ended on Sunday, November 7th. Each school provided one photo or a short video with the Mascot advocating recycling plastic bottles and reported how many plastic bottles were recycled.

The videos and photo submissions were viewed by many on social media platforms. University of North Carolina Wilmington won the most likes and shares on social media, and NC State recycled the most plastic bottles. Thanks to the schools participating, the Mascot Recycling Challenge was a touchdown and an overall win for everyone!

Metals

South Carolina has four steel mills: Nucor (2), CMC Steel, and Liberty Steel. Steel is recycled at these locations to create structural steel building products and steel wire rods. JW Aluminum, a flat-rolled aluminum mill, produces siding, automotive body materials, and flexible packaging. South Carolina has more than 100 companies involved in metal recycling that can haul, process, and manufacture recycled metals for the automotive, construction and building, energy, agriculture, aerospace, tools, and packaging sectors.

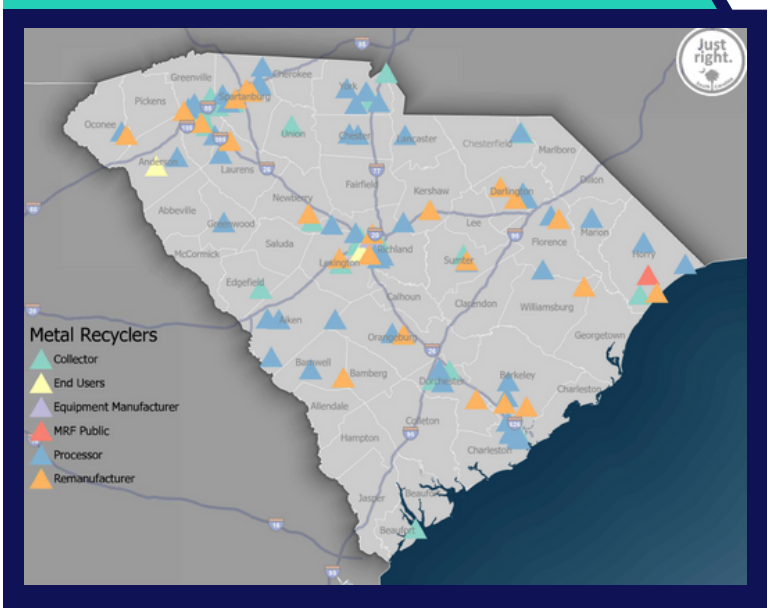
Commercial and industrial firms can reduce waste collection costs by increasing the volume of metals and other recyclables by working with scrap metal recyclers to divert those materials into the recycling stream. Construction, automotive, metal fabrication, packaging, and other industry sectors generate multiple types of easily recycled metals such as aluminum, copper, lead, steel, nickel, zinc, and brass. Businesses can also create revenue by recycling metals with local scrap yards that collect and process these commodity materials.

According to the World Steel Association's annual report, the biggest trends are digitization and automation, infrastructure development and climate change. All will play key roles in steel production moving forward.

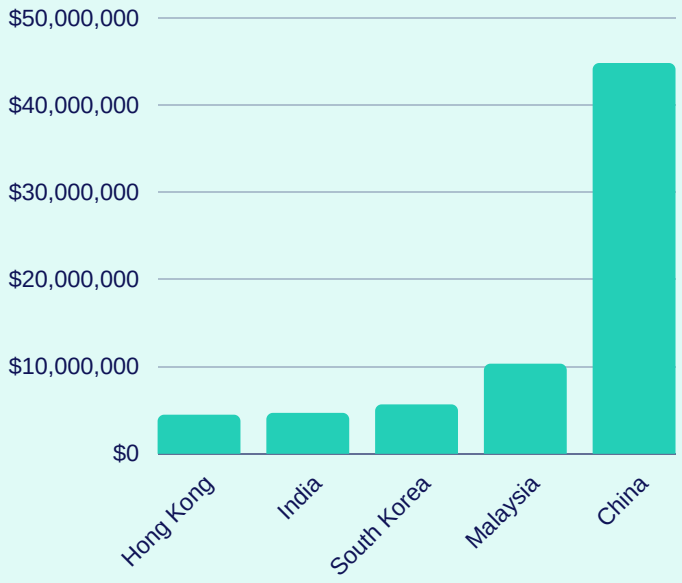
US steel markets finished 2021 strong. In fact, metal commodities as a whole did very well. Copper was up by 26% compared to 2020. Metals are a permanent material that can be recycled over and over again. Capturing these materials to be recycled is paramount to the circular economy.

Locally, in an attempt to reduce catalytic converter theft, the South Carolina General Assembly passed a Catalytic Converter Bill in May 2021, increasing the documentation requirements for secondary metals recyclers that accept detached catalytic converters. It is unlawful for any individual or entity other than a permitted secondary metals recycler to purchase, or to attempt to purchase, a used, detached catalytic converter or any nonferrous part of a catalytic converter in South Carolina.

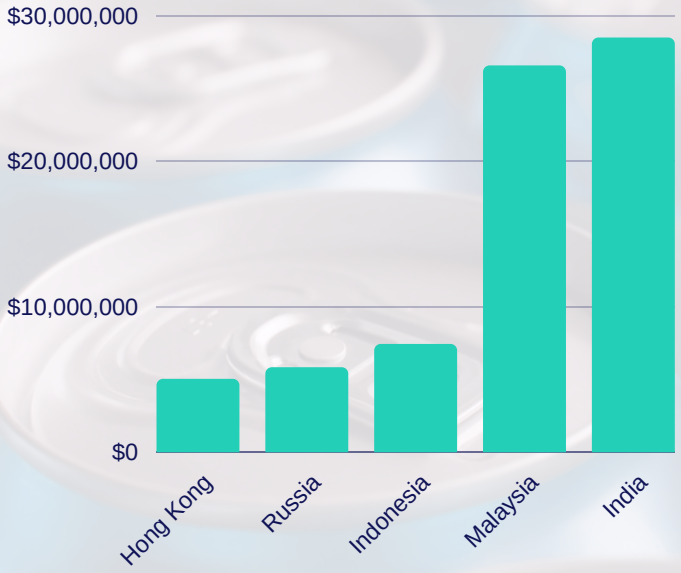
Metal Recovery Facilities in South Carolina



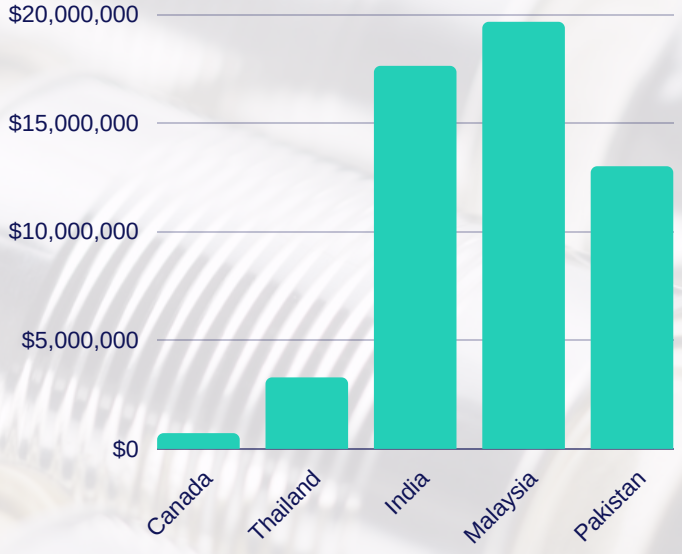
SC's Top 5 Export Countries in 2021 for
Recycled Copper



SC's Top 5 Export Countries in 2021 for
Recycled Aluminum



SC's Top 5 Export Countries in 2021 for
Recycled Ferrous Metals



SC's Top Export Countries in 2021 for
Recycled Nickel

Food

Food remains the No.1 item Americans throw away. In fiscal year 2021 (July 1, 2020 to June 30, 2021), South Carolinians generated 1,062,271.74 tons of food waste according to the 2021 Solid Waste Management Annual Report. Over the course of 2021, the Don't Waste Food SC (DWFSC) collaborative outreach campaign continued to bring together Ambassadors to reduce wasted food and feed hungry people across the state. DWFSC has steadily grown since its kick-off in 2016 and pivoted during the COVID-19 pandemic to focus on virtual content, the majority of which was disseminated via social media.

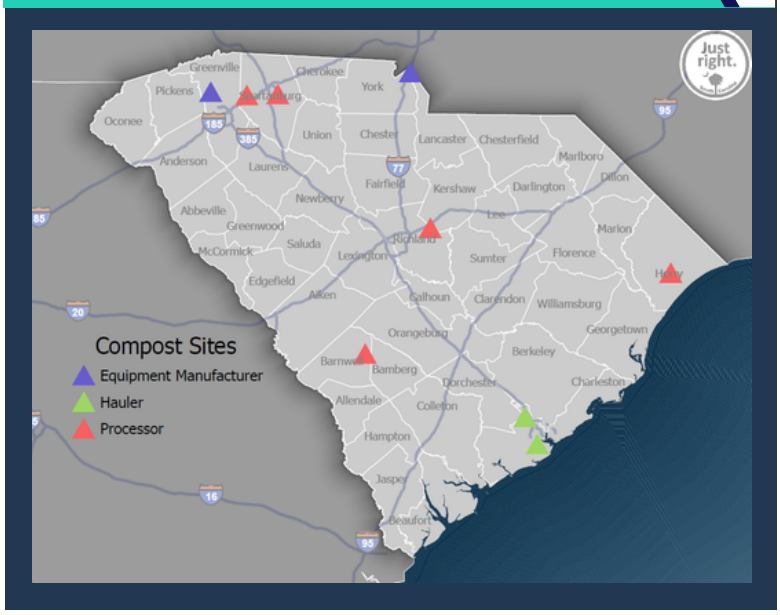
DWFSC operates under definitions and metrics established by the U.S. Environmental Protection Agency (EPA). In 2021, EPA revised its definition of food waste prevention so that recycling methods like anaerobic digestion and composting are now considered food waste recovery rather than prevention/reduction.

While DWFSC was founded on the three pillars of prevention, donation and composting, the campaign shifted to focus on prevention and donation.

The S.C. Department of Health and Environmental Control (DHEC) developed a separate and extensive composting program that assists residents, communities, and other entities with composting initiatives.

Commerce has been supporting the growth of four industrial scale food composting facilities across the state in Greenville, Columbia, Conway, Elgin, and Charleston. CompostNow hauls food waste for home, office, and restaurant service in Charleston. SMART Recycling hauls organics in Horry and Charleston counties and the Midlands. Atlas Organics services 16 counties and expanding operations nationwide. ReSoil (located in Elgin, SC) is a Class 3 facility, permitted to take food waste, raw meats, and hemp. ReSoil has purchased a depackaging unit that will allow the company to separate organic content from its packaging in processing organic food waste. They accept organics from businesses in South Carolina. Since 2014, the compost industry has seen increased numbers of jobs and investments each year.

Food Recovery Facilities in South Carolina



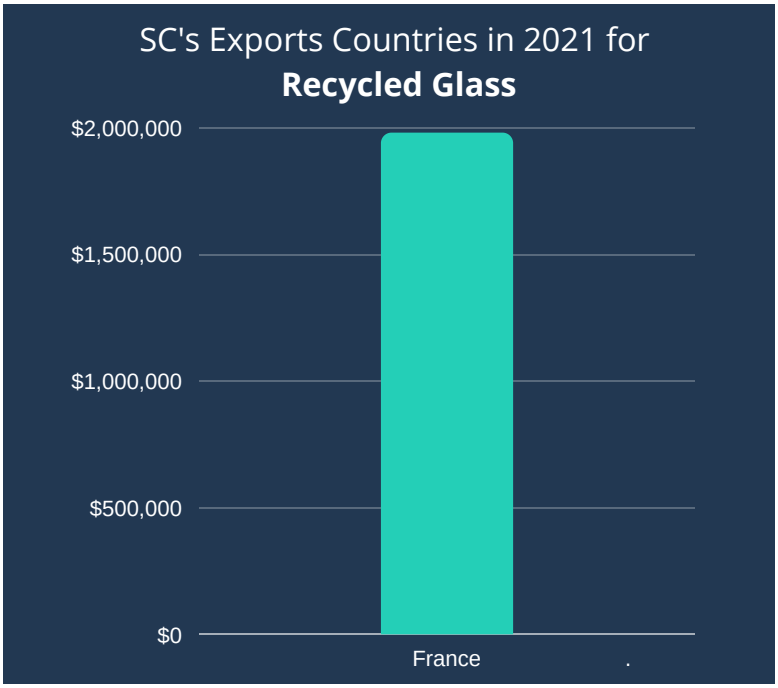
Glass

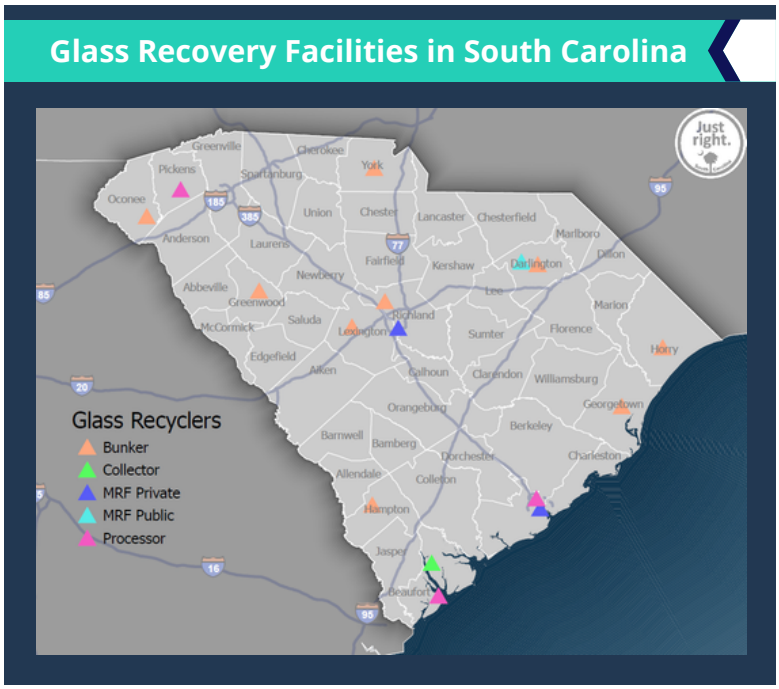
Recycled glass has an endless lifespan and can repeatedly be recycled. Recycled glass is made from broken pieces of waste glass. The glass is sorted, cleaned, crushed, and mixed with raw materials, such as sand and soda ash. The glass is melted to form new products including bottles, jars, and insulation items. When glass is recycled, it supports lowering emission, reducing raw material consumptions, saves energy, improves, and improves air quality.

The demand for glass material continues to increase, which allows opportunities for expansion and growth. The growing concerns of sustainable development have promoted the need to recycle glass in South Carolina. GLASS WRX SC, located in Beaufort, SC, is the only glass processor in the state.

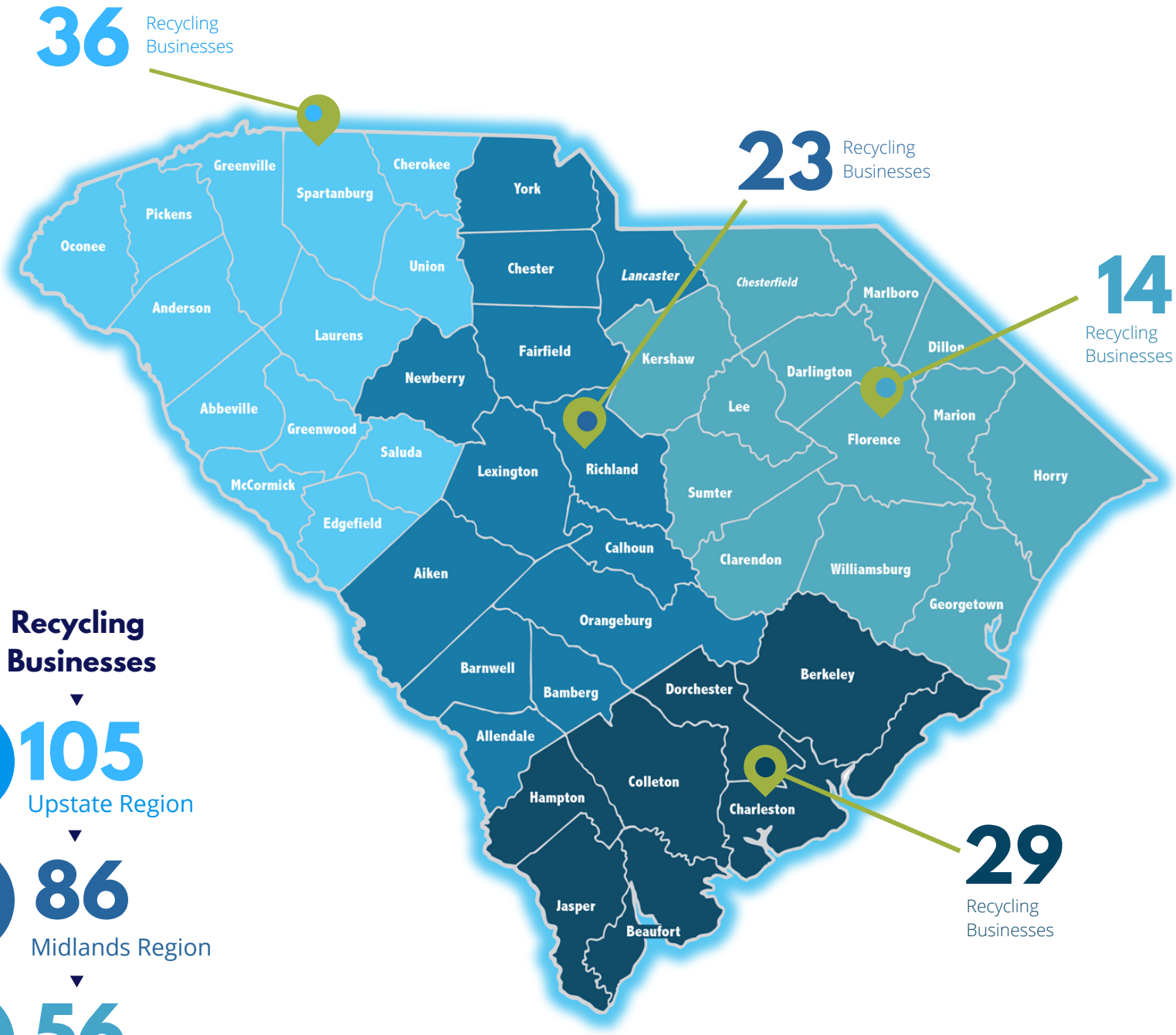
The other glass processor near South Carolina is Strategic Materials Inc in Wilson, NC and College Park, GA. South Carolina has several public and private material recovery facilities (MRFs) that process glass. The MRFs accepting glass are Sonoco Recycling in Columbia, Horry County Solid Waste Authority, North Augusta, and Greenwood County.

Besides Glass WRX SC, commercial glass recyclers are available in limited areas in the state. Some local governments offer recycling drop-off centers or curbside collection as available in their area for residential glass recycling.





Recyclers by Region & County



Recycling Businesses

105
Upstate Region

86
Midlands Region

56
Pee Dee Region

51
Lowcountry Region

Recycling Businesses: A type of business that earns an income from the collection of variety of materials for recycle.

Recycling Businesses by County

1	Abbeville County
10	Aiken County
0	Allendale County
9	Anderson County
0	Bamberg County
4	Barnwell County
3	Beaufort County
6	Berkeley County
0	Calhoun County
29	Charleston County
4	Cherokee County
3	Chester County
7	Chesterfield County
0	Clarendon County
3	Colleton County
6	Darlington County
0	Dillon County
6	Dorchester County
4	Edgefield County
2	Fairfield County
13	Florence County
0	Georgetown County
34	Greenville County
3	Greenwood County
1	Hampton County
8	Horry County
3	Jasper County
6	Kershaw County
2	Lancaster County
5	Laurens County
0	Lee County
18	Lexington County
2	Marion County
0	Marlboro County
0	McCormick County
4	Newberry County
4	Oconee County
5	Orangeburg County
3	Pickens County
23	Richland County
0	Saluda County
36	Spartanburg County
10	Sumter County
2	Union County
3	Williamsburg County
15	York County

CAMPAIGN CORNER

RECYCLING MARKETS DIRECTORY

The South Carolina Recycling Market Development team launched a free online tool called the SC Recycling Markets Directory. The South Carolina Recycling Markets Directory helps manufacturers keep valuable materials in motion by reducing waste and helping businesses meet sustainability goals. The platform showcases more than 300 South Carolina recycling companies, and it allows manufacturers to easily find recyclers in the area.

SC RECYCLING MARKETS DIRECTORY

Connecting Materials to Markets

www.recyclinginsc.com/directory

$13 Billion

THE ECONOMIC IMPACT OF RECYCLING NOW EXCEEDS $13 BILLION.

Recycling is a green growth industry in South Carolina, home to recycling companies including collectors, processors, recycled product manufacturers and equipment makers.

MORE THAN

300

RECYCLING BUSINESSES

MAKE RECYCLING YOUR BUSINESS

INDUSTRY SPOTLIGHT

WHEEL PROS + PRATT RECYCLING

Wheel Pros is a lead designer, marketer, and distributor of branded aftermarket wheels.

+

Pratt Recycling seeks to help companies meet their environmental goals.

SUCCESS STORY

Wheel Pros, located in York, S.C., has made a clear commitment to promote sustainability while protecting the environment. That commitment became clear as they sought out recycling and eco-friendly solutions for waste and hazardous chemicals. As they continued the pathway to Zero Waste, Wheel Pros noticed a large amount of cardboard going into the landfill. They contacted the South Carolina Department of Commerce, Recycling Market Development. The Recycling team helped them find solutions and connected Wheel Pros to recycling companies. Wheel Pros staff connected with Pratt Recycling, and the rest was history. Now the cardboard has a second life.

Since the connection, Wheel Pros has been diverting approximately 30 - 40 tons a month of cardboard from the landfill. To bale their cardboard, they are renting a 60 ½ vertical downstroke baler. Wheel Pros have seen a reduction in landfill usage by 67% YTD.

The SC Department of Commerce Recycling Team looks forward to finding ways to add value to our business community by converting waste streams into supply streams.

RONNIE

MR. RONNIE LYNN GRANT

RMDAC BOARD MEMBER

1999 - 2015

Ronnie was on the the Recycling Market Development Advisory Council (RMDAC) board for 16 years, and then served as an emeritus member. Ronnie had more than 50 years at Sonoco and Ekman, he was known as a legend in the recycling industry. As he would say, “I talk trash and I buy trash.”

IN LOVING MEMORY

1948 - 2022

RMDAC encourages businesses to adopt a framework for an economy that is restorative and regenerative by design.

South Carolina
Department of Commerce
Just right for business.

State agency responsible for economic development in SC. Recycling Market Development builds recycling markets, increases material recovery and promotes the recycling value chain.

1201 Main Street Suite 1600
Columbia, South Carolina 29201
(803) 737-0400
www.SCcommerce.com
www.RecyclinginSC.com

South Carolina
Department of Commerce
Just right for business.

State agency that protects human health and the environment. The Office of Solid Waste Reduction and Recycling provides support to local governments and is non-regulatory in nature.

2600 Bull Street
Columbia, SC 29201
1-800-768-7348
www.scdhec.gov
http://recyclemoresc.org

dhec
Healthy People. Healthy Communities.

The South Carolina Department of Commerce Recycling Market Development Advisory Council 2018 Annual Report is submitted by the S.C. Department of Commerce in compliance with SECTION 13-1-380 of the SC Code of Laws. This report was published by Recycling Market Development staff at the S.C. Department of Commerce on March 15, 2020.