

**SOUTH
CAROLINA
DEPARTMENT
OF COMMERCE**

2022
Annual Report

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

MESSAGE FROM THE SECRETARY



SECRETARY HARRY LIGHTSEY, III

With a record-breaking year that saw \$10.27 billion announced investment in our state, it's clear that South Carolina's economy is booming. Much of our success in 2022 stems from our emergence as an electric vehicle powerhouse. Automakers like BMW and Bosch are choosing South Carolina as their home for expanding into the accelerating EV field. Redwood Materials, a battery recycler and producer of anode and cathode battery components for EVs, announced a \$3.5 billion investment – the largest announcement in state history – to establish operations and create 1,500 new jobs in Berkeley County.

It's important that with the precipitous growth we celebrated in South Carolina in 2022, we place an emphasis on ensuring growth is both economically and environmentally sustainable. Recycling is a key driving factor behind both of these goals.

When companies like Redwood Materials recycle scrap materials for future use, it does not just reduce waste in our state. It takes another step toward a circular economy, where repurposed materials are ready for use, and the supply chain is shortened for in-state manufacturers. A circular supply chain attracts more companies to South Carolina and allows for companies that are already established here to thrive.

With over 300 recycling companies in South Carolina, our state is a leader in the space. There is a \$13.6 billion recycling industry in South Carolina. Including Redwood Materials, 10 recycling and sustainable packaging companies announced \$4.2 billion in capital investment in 2022 which will bring 1,852 jobs to our state. The Recycling Market Development Advisory Council (RMDAC), The South Carolina Department of Commerce's Recycling Market Development Team, and Carolina Plastics Recycling Council are dedicated to finding new life for materials beyond the landfill.

This support and attention to the expansion of our state's recycling industry are ways we strive to ensure South Carolina's growth is sustainable. We will continue to support the creation of job opportunities that promise security and ensure the preservation of our natural resources through the more mindful use of industrial byproducts. South Carolina's recycling industry saw great strides in 2022. We look forward to building sustainably on that momentum in 2023 and beyond.



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.



RMDAC

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL



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BMW
State Representative



Vice Chair

Kristen Brown

Waste Zero
General Public Representative



Norman Chandler

Republic Services
Solid Waste Industry



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Georgetown County
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Mid-Carolina Steel
Scrap Metal Industry



Brad Dutton

Dutton Polymer Group
Plastics Industry



Carol James-Gilchrist

Sonoco Recycling
Paper Industry



Chris Fisher

Fisher Recycling
Glass Industry



Tina Green

Mumford Industries
Recycling Industry



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



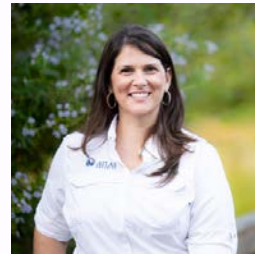
Adam Padgett

Green Energy Biofuel
Petroleum Industry



Glenn Odom

Emeritus Member
Wellman Plastics
Recycling Industry



Leslie Rodgers

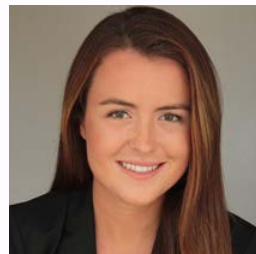
Ex Officio Member
Atlas Organics
Organics

SC Department of Commerce



Anna DeLage

Recycling Market
Development
Manger



Ally Barbier

Recycling Program
Coordinator



Ashley Jenkins

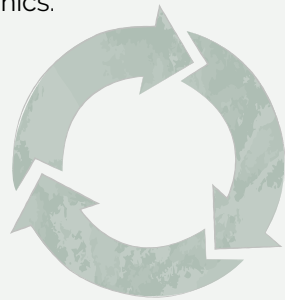
Recycling Program
Coordinator



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 2022 is 22.7%.*** 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.

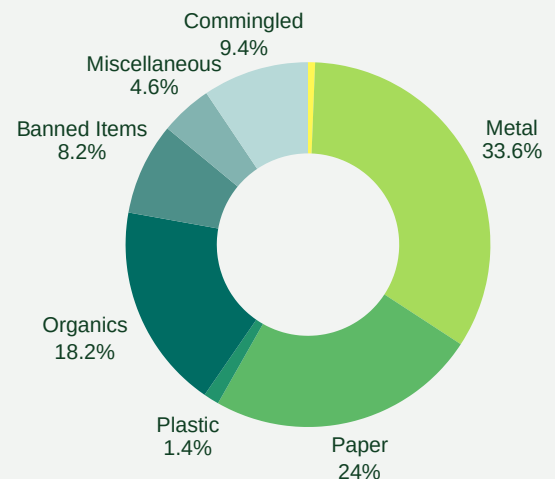


- 4 Any other recommendations, including tax incentives, to facilitate the development of markets for recovered materials or products in the state. RMDAC should investigate the following mechanisms to spur recycling recovery and industry growth:
 - Add recycling to the types of businesses qualifying 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.
 - Encourage the use of scrap tire rubber to be incorporated into asphalt paving mixes for road construction. Develop partnerships to find alternative ways of using waste tires for higher end uses.

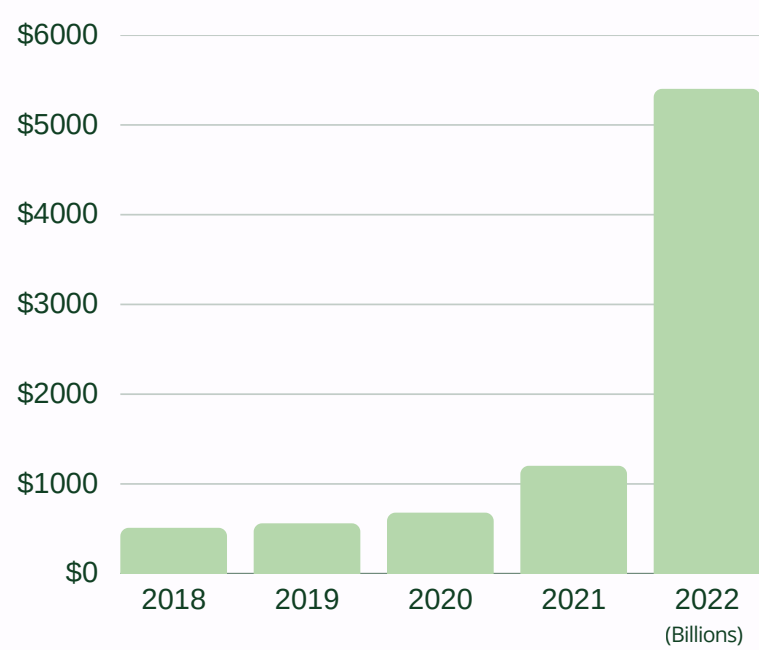
**2022 SC
Recycling
Rate:
22.7%**

FY: July 1, 2021 - June 30, 2022

**2022: % of SC's
MSW
Commodities
Recycled by
Weight**



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



**SC Recycling
Industry Snapshot
2018 - 2022**

\$5.4 B

Capital Investment

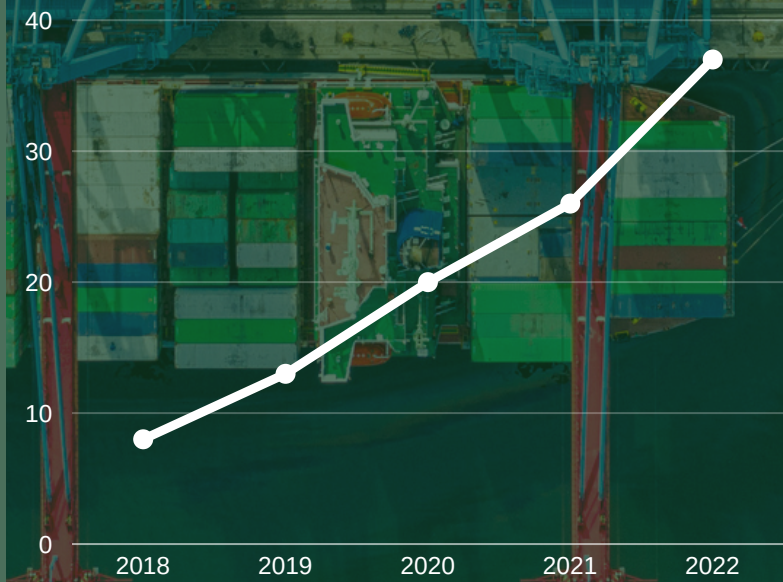
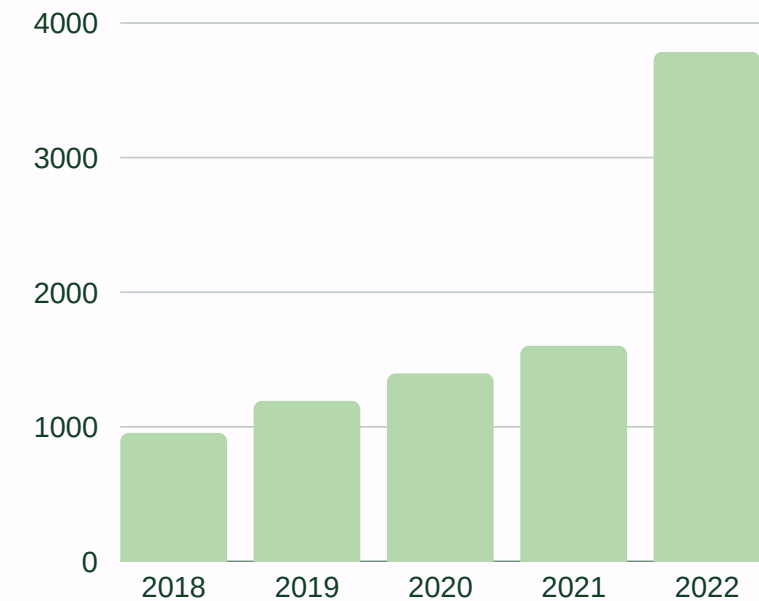
3,785

Job Creation

37

New/Existing
Businesses

**South Carolina Recycling Industry
5 Year Job Creation (Cumulative)**



South Carolina Recycling Industry
5 Year Business Investment (Cumulative)

Paper

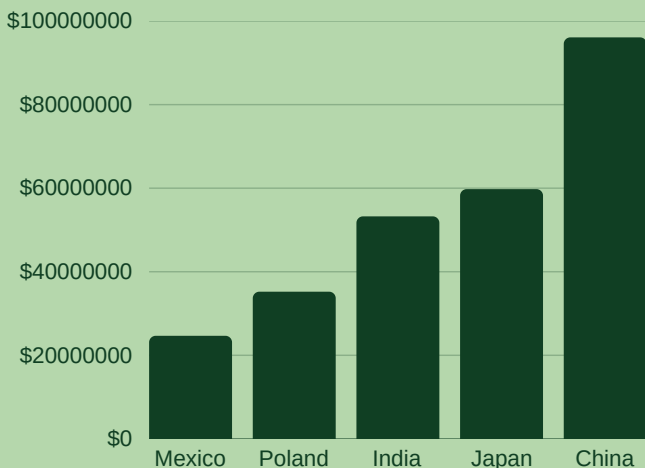
The year ended up being a Tale of Two Stories for paper. The first half was a robust market with good recovered paper demand and ended in one of the most aggressive drops in recovered paper pricing history. The OCC price dropped every month, well over \$100 per ton, in the second half. The market reset from the fake runup driven by the pandemic over the previous two years. There was less box demand due to fewer home deliveries and consumer spending down YOY. As a result, the containerboard industry ran at much lower rates, dropping from 95% of capacity in the first half to approximately 85% of capacity in the second half, also coupled with the need to adjust mill and box plant inventories down from an all-time peak level reached at midyear.

The multiple 2022 new mill projects in the SE and MW were delayed and now starting up slowly in 2023. With significant shrinking domestic mill demand, recycling plant operating cost up due to inflation, and the price of paper spiraling down, the recycling industry had to react quickly. Corrective action included recycling companies diverting as much OCC and MIXED Paper as possible to export markets due to domestic mills pushing back on supply. In many cases, mills stopped taking fiber for weeks on end due to significant downtime situations.

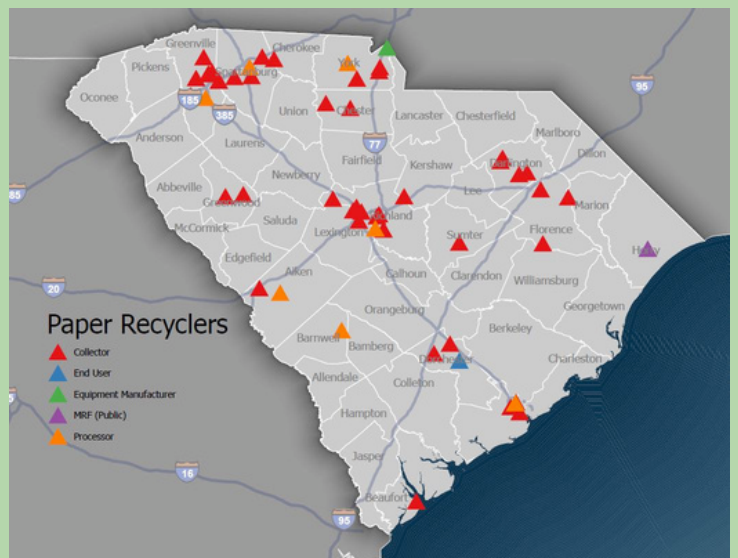


Additionally, the industry had to adjust the recover paper buy price on commercial and industrial sources to offset the low selling price of recovered paper experienced by year end. Going into 2023, the market appears to have settled with supply adjusting to the low demand, but still teetering in a very uncertain market. Only time will tell when the market balances and adjust back to normal levels.

SC's Top 5 Export Countries in 2022 for Recycled Paper



Paper Recovery Facilities in South Carolina

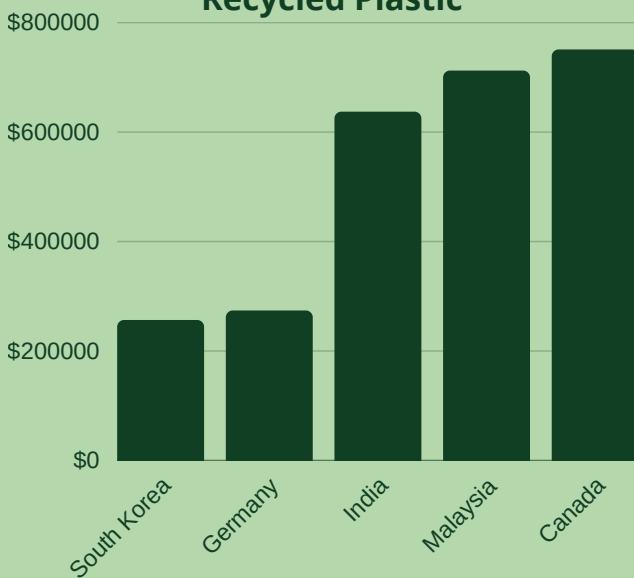


Plastics

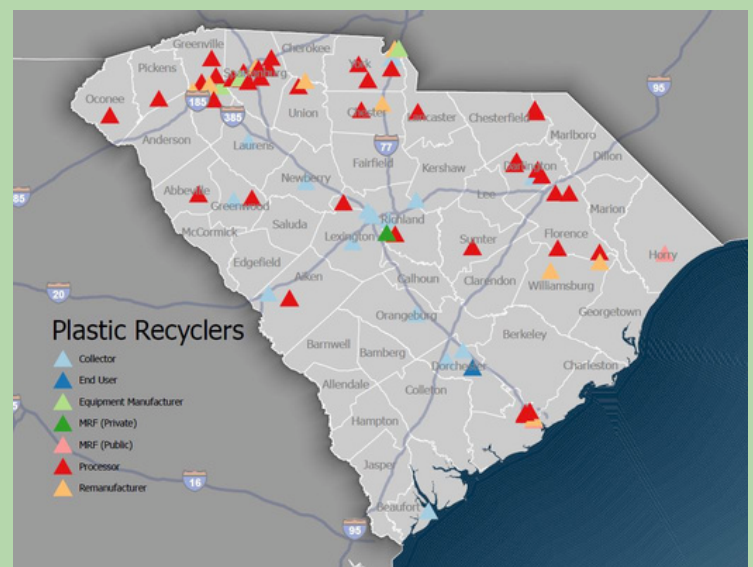
Both PP and rPET started the year off strong and rose steadily through the spring. This was followed by a significant price drop throughout the summer that leveled off in the fall. Both commodities ended the year below where they started. Plastics exports are also down compared to last year. Recycled PET demand typically increases when the price of oil goes up. The first half of 2022, geopolitical tension with Russia, culminating with Russia's full-scale invasion of Ukraine on February 24, contributed to crude oil price increases. Despite these macroeconomic factors, South Carolina has a robust plastic recycling industry with 90 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. 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.



SC's Top 5 Export Countries in 2022 for Recycled Plastic



Plastic Recovery Facilities in South Carolina



RECYCLING

INDUSTRY EVENTS



Recycling Day at the Statehouse

📍 PALMETTO CLUB (COLUMBIA, SC)
📅 FEBRUARY 9, 2022

The South Carolina legislative event is an opportunity for recycling companies to connect with SC law makers. On Wednesday, February 9th, the Carolina Recycling Association hosted 22 SC Representatives and 51 recycling professionals.

House Agriculture, Natural Resources and Environmental Affairs Committee Chairman, David R. Hiott, spoke on the environmental impacts and the importance of recycling in South Carolina. A presentation was given by the Recycling Market Development Advisory Council (RMDAC).

Palmetto Synthetics

📍 KINGSTREE, SC
📅 MAY 24, 2022



Palmetto Synthetics hosted the RMDAC meeting on Tuesday, May 24. Senator Ronnie Sabb, Representative Cezar McKnight, Representative Carl Anderson, and Mr. Barnes (Congressman Clyburn assistant) attended the council meeting.

Located in Kingstree, SC, Palmetto Synthetics is a thermoplastic fiber manufacturer. The company recycles plastic material and makes fiber material. Mr. Henry Poston (President of Palmetto Synthetics) and staff provided an overview of the company. RMDAC and the Representatives toured the facility. Collection is key to generating feedstock for rPET production, and this remains a bottleneck on the supply side for PET recyclers.

North Augusta, SC

📍 PALMETTO TERRACE
📅 OCTOBER 4, 2022

With southern hospitality, North Augusta hosted the Recycling Market Development Advisory Council (RMDAC). Senator Tom Young, Representative Bill Hixon, Representative Bart Blackwell, Representative Melissa Oremus, and Mayor Briton Williams attended the meeting. Local dignitaries included North Augusta City Council, Chamber of Commerce, Economic Development, and Administration Department.

The meeting provided information on the economic impact of recycling in South Carolina. The City of Rock Hill, Georgetown County, and SC DHEC shared information on their recycling program.

The North Augusta Department of Public Services provided a historical overview of the City of North Augusta Material Recovery Facility (MRF). The presentations were followed by a tour.



Tires



South Carolina is the #1 state in the country for manufacturing tires. The citizens of South Carolina generate an estimated 5.08 M each year in 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. The SC Sustainable Tire Coalition met in September, October, November, and December of 2022. Three initiatives resulted from the coalition meetings. Initiative leads have been chosen and will continue the conversation and work on actionable items through working groups. The three initiatives are Market Development led by SC Department of Commerce and SC Department of Transportation, Evaluate South Carolina's Tire Recycling Fee led by SC Association of Counties, Greenville County, and Horry County Solid Waste Authority, and Illegal Tire Dumping Education led by Palmetto Pride.

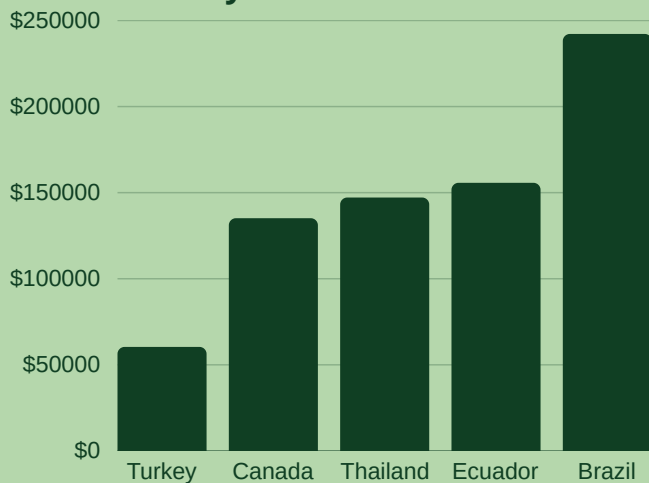
Commerce will continue to support existing waste tire markets and work with the US Tire Manufacturers Association and the South Carolina Department of Transportation to encourage the use of crumb rubber in asphalt rubber paving and other value-added applications for recycling waste tires in South Carolina. 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.

As a leader in tire manufacturing, South Carolina is well-positioned to drive the tire recycling industry forward. South Carolina's DHEC approved waste tire recycling and processing facilities include Ridge Recyclers, Argos Cement, Junk-A-Way Services, New River Tire Recycling, Quality Tire Recycling, US Tire Recycling, 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.

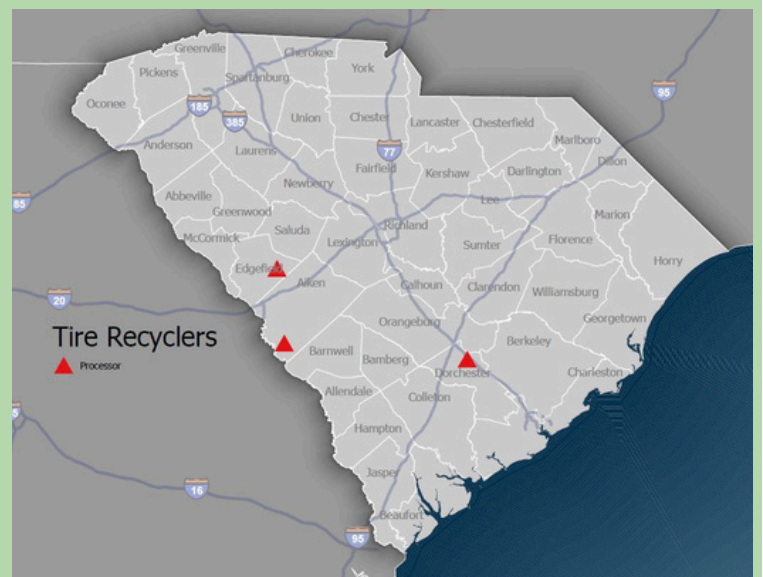
Each year, Commerce generates a survey for DHEC approved tire processors and recyclers. This survey helps determine the number of waste tires processed and landfilled in the state. The survey also shows the types of end-use market applications for waste tires. According to the survey, Tire Derived Fuel (TDF) from processed chips is the primary end market for recycled tires 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.

SC's Top 5 Export Countries in 2022 for Recycled Rubber



Tire Recovery Facilities in South Carolina



SOUTH CAROLINA

RECYCLING INDUSTRY

ECONOMIC IMPACT

South Carolina's recycling industry continues to generate new investment and job creation, in industry sectors from aerospace, automotive, agribusiness, logistics and others contributing to this demand.



\$13.6B

Total Annual Recycling Industry Economic Impact



311

Number of Industries

52

Average Number of Employees Per Company



Total Employment Impact

42,737

Direct, Indirect, and Induced Jobs



16,188

Direct Jobs



\$45,919

Average Annual Wage

REDWOOD MATERIALS

\$3.5 Billion Investment



The company's \$3.5 billion investment will create 1,500 new jobs. This marks the largest economic development announcement in the history of South Carolina. Redwood material will recycle EV batteries to create a circular supply chain for electric vehicles.

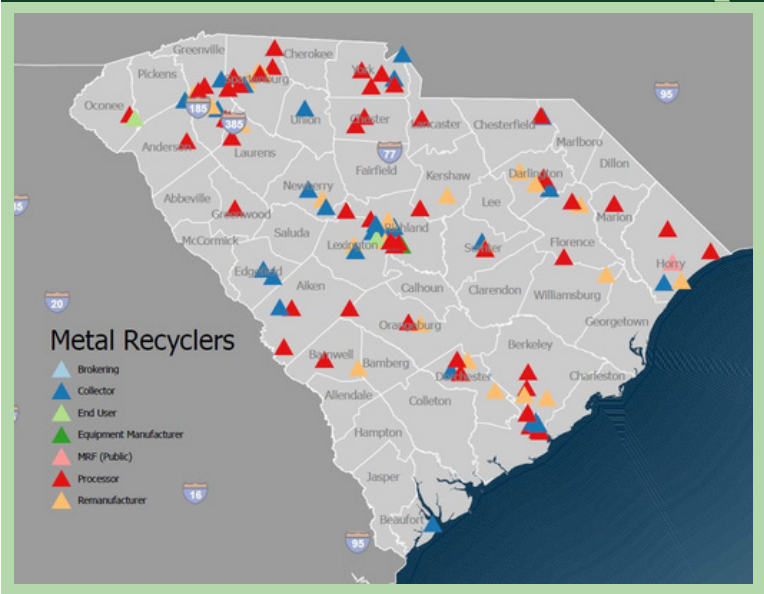
Metals

Recycled metal has an endless lifespan and can repeatedly be recycled. Steel is not made in this country without the recycling industry. The infrastructure that we rely on every day, ie. roads, bridges and buildings, are built on recycled 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 packaging products. South Carolina has over one hundred 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.

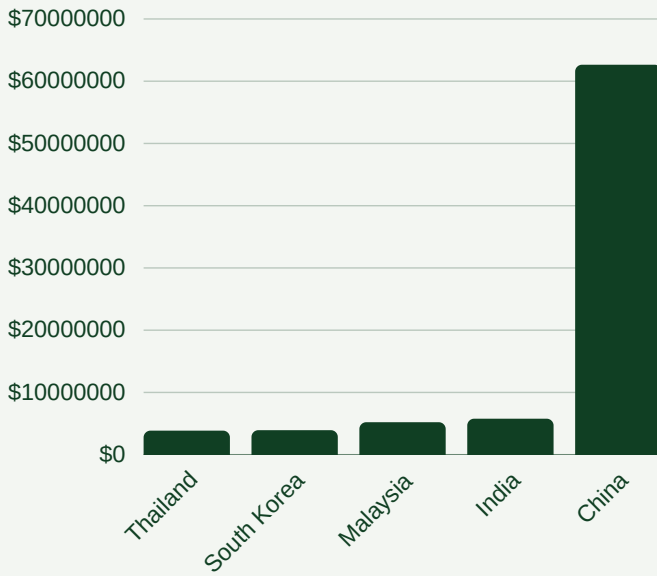
Commercial and industrial firms reduce waste collection costs by increasing the volume of metals and other recyclables by working with scrap metal recyclers to divert those materials into the recycling stream. Construction, automotive, metal fabrication, packaging, and other industry sectors generate multiple types of easily recycled metals such as aluminum, copper, lead, steel, nickel, zinc, and brass. Businesses can also generate revenue by recycling metals with local scrap yards that collect and process these materials. In 2022, Nucor Corporation announced an operations expansion in Berkeley County. The \$425 million investment will bring 50 new jobs to South Carolina. The expansion will include a galvanizing line that will allow Nucor to increase the manufacturing of corrosion-resistant products.



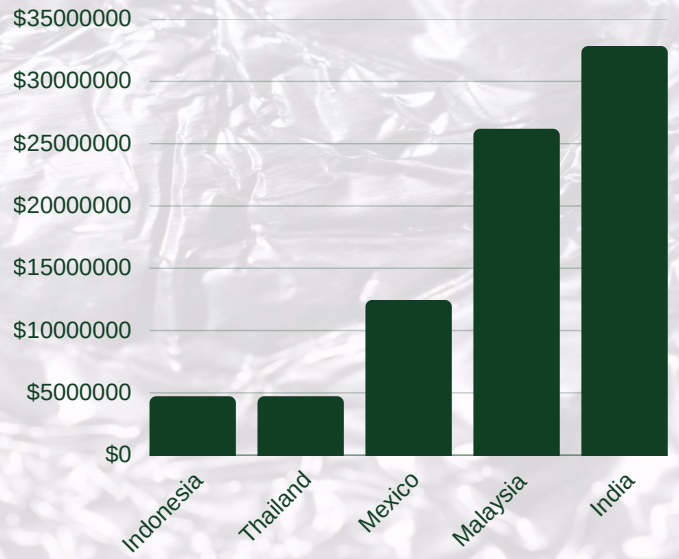
Metal Recovery Facilities in South Carolina



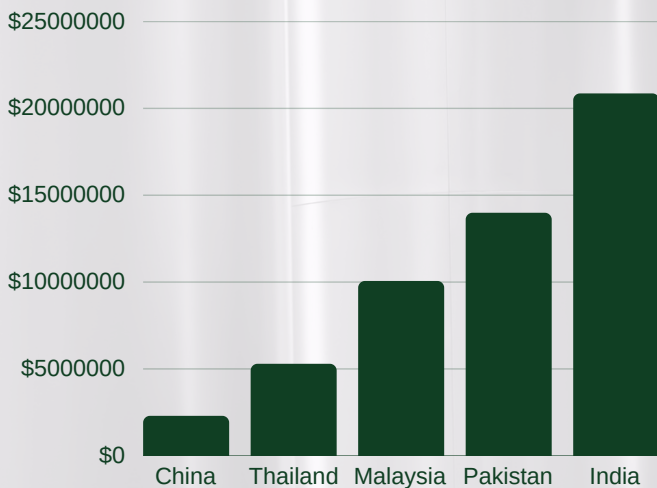
SC's Top 5 Export Countries in 2022 for **Recycled Copper**



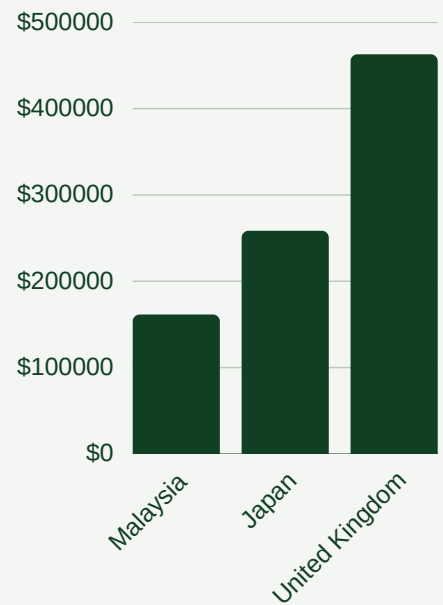
SC's Top 5 Export Countries in 2022 for **Recycled Aluminum**



SC's Top 5 Export Countries in 2022 for **Recycled Ferrous Metals**



SC's Top Export Countries in 2022 for **Recycled Nickel**



CAMPAIGN CORNER



**SC RECYCLING
MARKETS
DIRECTORY**

Connecting Materials to Markets

www.recyclinginsc.com/directory

The South Carolina Recycling Market Development team launched a free online tool called the SC Recycling Markets Directory.

Connects more than 300 SC recycling companies



Allows businesses to find recyclers in their area



Helps companies meet sustainability goals

SC MATERIAL EXCHANGE

This free online service is designed to help businesses, industries, and other organizations.



- » Finding markets for traditionally discarded material
- » Advertising listings for both wanted and available material
- » Creating posts and listing items by type, quantity, availability, and geographic location

Food



In FY22, food continued to be the No. 1 item thrown away in the US, and Don't Waste Food SC (DWFSC), South Carolina's collaborative food waste prevention campaign, continued to grow. After restructuring to create a separate composting initiative in 2021, DWFSC began 2022 with a focus on educating households. Campaign coordinators embraced the tools social media offered during the COVID-19 pandemic, growing this audience to more than 1,500 followers across Instagram and Facebook. DWFSC's pages share simple tips for smart planning, shopping, and cooking as well as ways to use extras, empowering individuals and households (the No. 1 generators of wasted food) to do their part.

On a large scale, South Carolina celebrated some significant firsts this year. The state's first Food Waste Prevention Week was held on April 4-10, 2022. SC kicked off the week with a Governor's Proclamation then joined Florida, Tennessee, Oregon, and North Carolina for webinars about food waste prevention efforts around each state. April 6 was the first DWFSC Ambassador Day at Segra Park in Columbia, where stakeholders broke bread and discussed the issues facing each of them in their efforts to avoid wasted food and feed hungry people as well as possible solutions. The week also included a food preservation class in partnership with Clemson Extension's Food Systems and Safety team, video releases in coordination with the University of South Carolina and Harvest Hope Food Bank, and food preservation recipe cards developed by Columbia-based Sakhar Jams.

Commerce continues to support the growth of industrial scale food composting facilities across the state in Greenville, Columbia, Conway, Elgin, and Charleston. Atlas Organics has operations from coast to coast and sells compost nationwide. Generate Capital acquired Atlas Organics in January 2022. They are a San Francisco-based company. The acquisition included eight composting facilities. Since that time, the company continued to expand into the western US, in Texas, Washington, Oregon, and California. Partnerships continue to expand with Lexington County, SC coming on line in 2023. The SC site will be permitted to take food and yard waste. Located in Elgin, Resoil accepts organics from businesses and residential. Being a Class 3 facility, they take food waste, raw meats, and hemp. Recently acquiring a depackager has allowed the company to diversify operations. CompostNow services homes, businesses, and municipalities in the Charleston area. SMART Recycling hauls organics in Horry and Charleston counties and the Midlands.

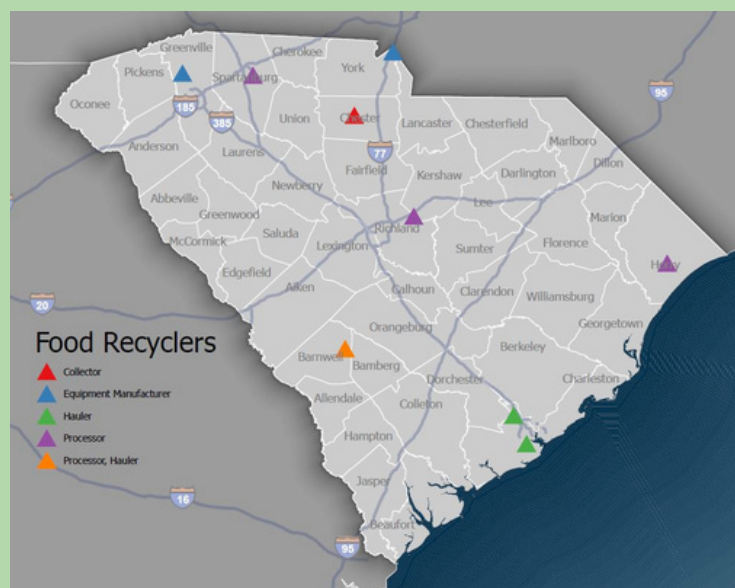
The composting industries are making an impact and keeping food waste out of landfills in South Carolina. Each year business operations expand, jobs are created, and investments increase.

#1

Food remains the No.1 item
Americans throw away.

DWFSC

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, and improves air quality.

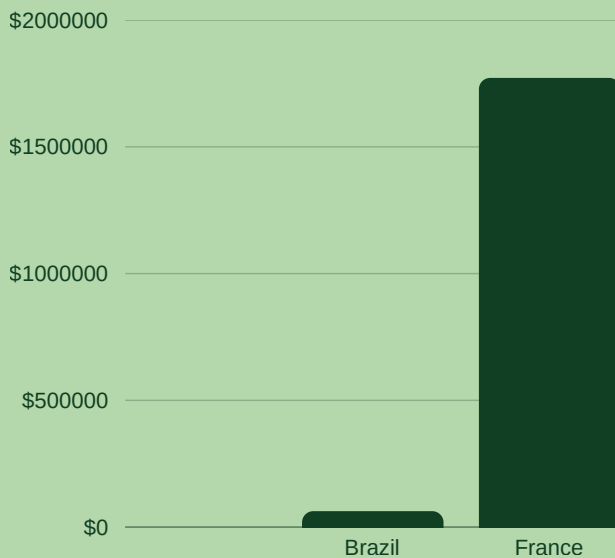
The growing concerns of sustainable development have promoted the need to recycle glass in South Carolina. GLASS WRX SC, The Upcycling Company, Fisher Recycling, and Glass Eco Surfaces are the only glass processors in the state. The Upcycling Company in Charleston recently bought a roll off container for glass only service to expand service across South Carolina.

The other glass processor near South Carolina is Strategic Materials Inc in Laurinburg, 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.

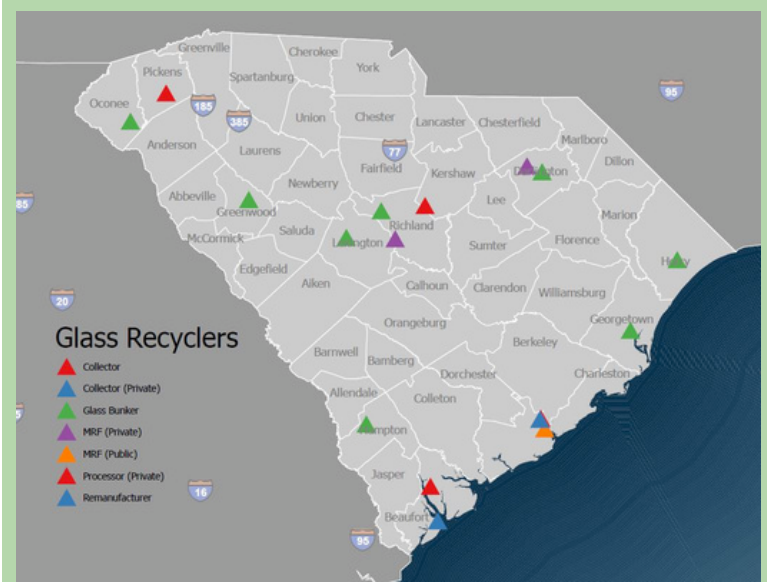
Some local governments offer recycling drop-off centers or curbside collection as available in their area for residential glass recycling.



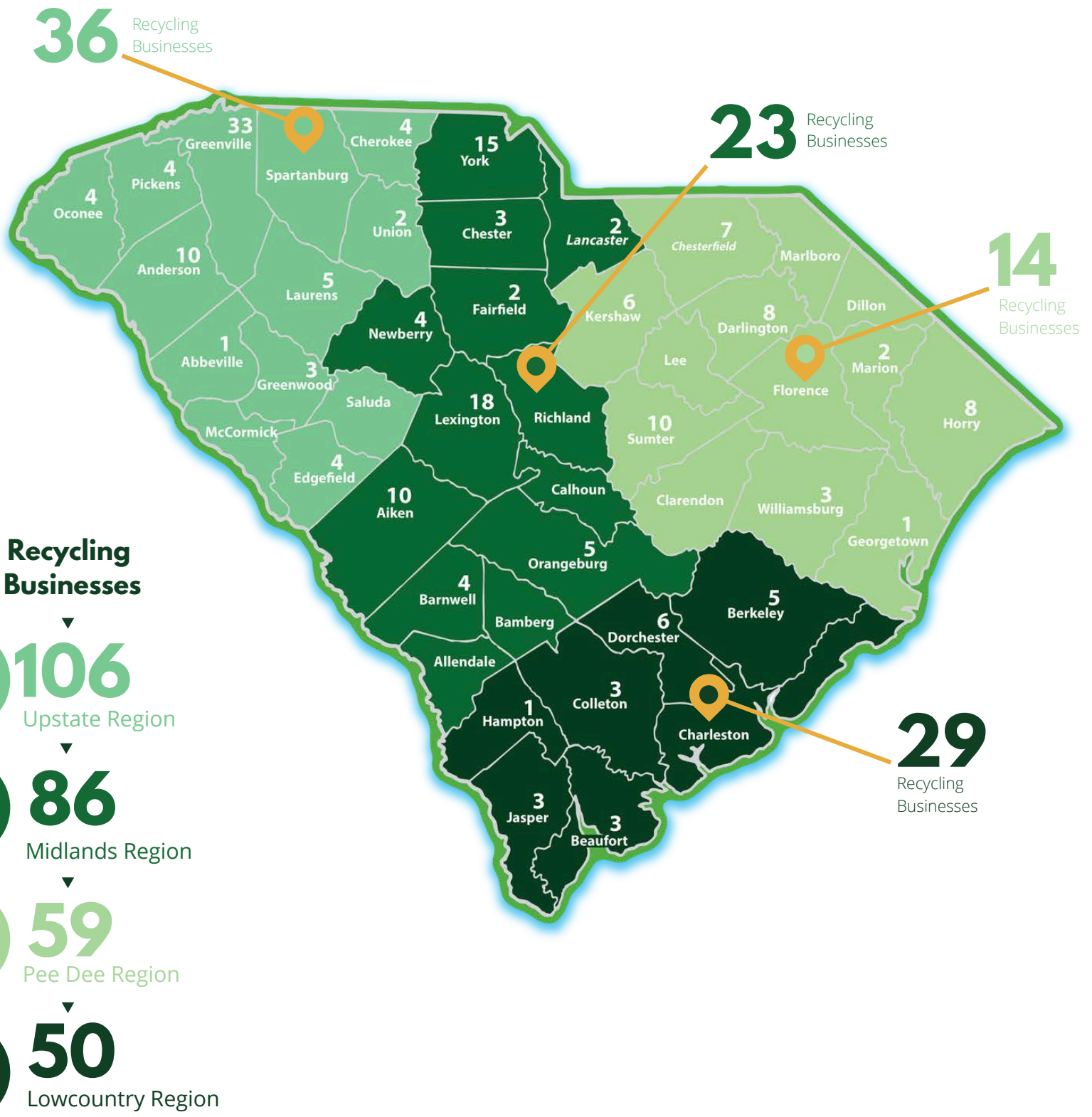
SC's Exports Countries in 2022 for Recycled Glass



Glass Recovery Facilities in South Carolina




Recyclers by Region & County



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

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

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
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(803) 737-0400
www.SCcommerce.com
www.RecyclinginSC.com



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>





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, 2023.