2023

ANNUAL REPORT



RECYCLNG MARKET DEVELOPMENT ADVISORY COUNCIL

SOUTH CAROLINA DEPARTMENT OF COMMERCE

SOUTH CAROLINA DEPT. OF COMMERCE
LAUNCH TO LEGACY

MESSAGE FROM THE SECRETARY



SECRETARY HARRY M. LIGHTSEY III

After achieving the second-highest year of industry recruitment in South Carolina history with $9.22 billion in capital investment and 14,120 announced jobs, our state continues to maintain strong economic activity. Several companies that chose to call South Carolina home in 2023, including Scout Motors and e-Vac Magnetics, are part of the sustainability movement. This commitment helps achieve the South Carolina Department of Commerce's (S.C. Commerce) vision – which is to embrace the future to ensure South Carolina's sustainable advantage. We aim to support all our state's companies in maximizing resources, thus lowering costs and boosting efficiency while reducing their carbon footprint.

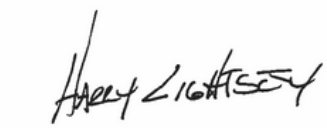
When businesses recycle, they tap into a domestic source of materials, helping create a resilient and durable supply chain, bolstered by South Carolina's more than 300 recycling companies. In 2023, recycling-related companies announced $1,756,200,000 in capital investment, representing 2,178 new jobs. With a $13.6 billion economic impact, the state's recycling industry benefits our communities and the environment.

South Carolina hosts every phase of the battery life cycle. In March 2023, Cirba Solutions announced it is establishing South Carolina operations in Richland County. The approximately 400,000-square-foot, world-class lithium-ion battery recycling and materials campus will support the United States domestic lithium-ion battery supply chain and provide enough premium recycled battery-grade metal salts to power over 500,000 electric vehicle batteries annually.

Our state is also a leader in recycling advanced materials. ZEB Metals, a buyer and trader of non-ferrous scrap, as well as a recycler of metals other than iron and steel, is relocating from Kentucky to Berkeley County. This new operation will process dross and other types of secondary aluminum scrap that would otherwise be destined for a landfill. It will be the first secondary re-melt facility of its kind in the Southeast region of the United States.

Recognizing the importance of finding markets for materials that have traditionally been discarded, in 2023, S.C. Commerce and the South Carolina Department of Health and Environmental Control launched the South Carolina Material Exchange (SCME). The free, online matchmaking tool allows companies to advertise hard-to-recycle materials and connect with recycling companies that can utilize the product. SCME helps businesses, industries and other organizations divert waste from landfills and meet their sustainability goals. By connecting users, the platform provides an additional step in preserving resources to better protect the environment.

Each of us has a role in recycling. As South Carolina's Secretary of Commerce, my goal is to launch and support the recycling efforts of businesses and industries to help South Carolina maintain its legacy of beauty for future generations.





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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Plastics Industry



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Chad Prescott

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Aluminum Industry



Jay Spears

Continental Tire
Tire Industry



Adam Padget

Green Energy Biofuel
Petroleum Industry



Ed Marr

Horry County Solid Waste Authority
County Government



Glenn Odom
Emeritus Member

Wellman Plastics
Recycling Industry

SC Department of Commerce



Anna DeLage

Recycling Market Development Manager



Ally Barbier

Recycling Market Development Coordinator



Ashley Jenkins-June

Recycling Market Development 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 2023 is 20.9%.** 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 and recycling programs, and to increase the recovery of recyclable materials. RMDAC will continue to work toward recovery, recycling and sustainable material management options for the following: including, but not limited to, carpet, glass, plastic containers, metals, scrap tires, electronics, lithium-ion batteries, textiles, construction and demolition materials, universal wastes that can be recycled/repurposed and organics.

4

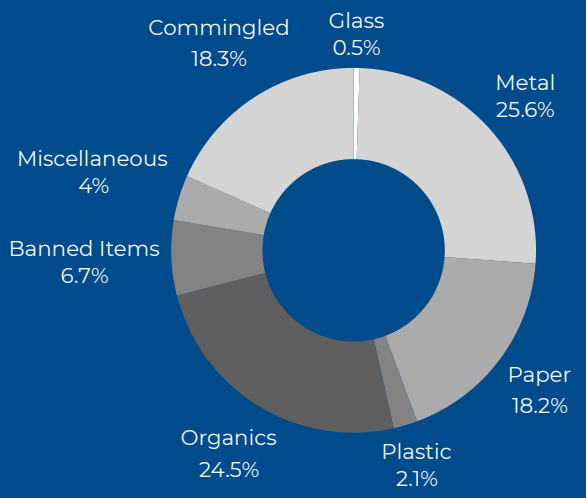
Any other recommendations, including tax incentives, to facilitate the development of markets for recovered materials or products in the state.

- Add recycling to the types of businesses qualifying for job tax credits.
- Encourage recycling infrastructure in the design for multi-family establishments.
- Encourage companies to share best management practices for business 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.
- Secure funding for a recycling market development grant to assist with capital costs for physical infrastructure to increase the capacity or improve efficiency of a recycling operation.
- Support a plan to bolster lithium-ion battery recycling infrastructure to support the state's growing electric vehicle economy.
- Incentivize large to medium-sized companies to report recycling data.

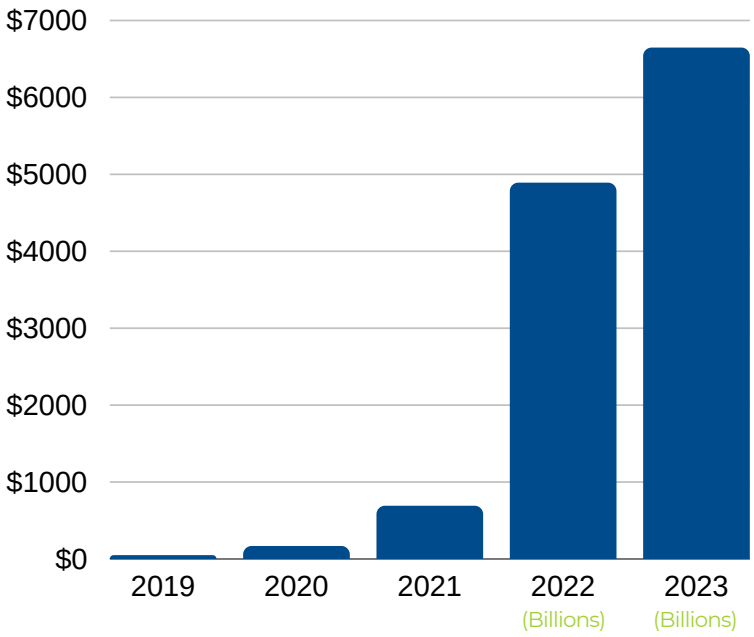
2023 SC Recycling Rate: 20.9%

FY: July 1, 2022 - June 30, 2023

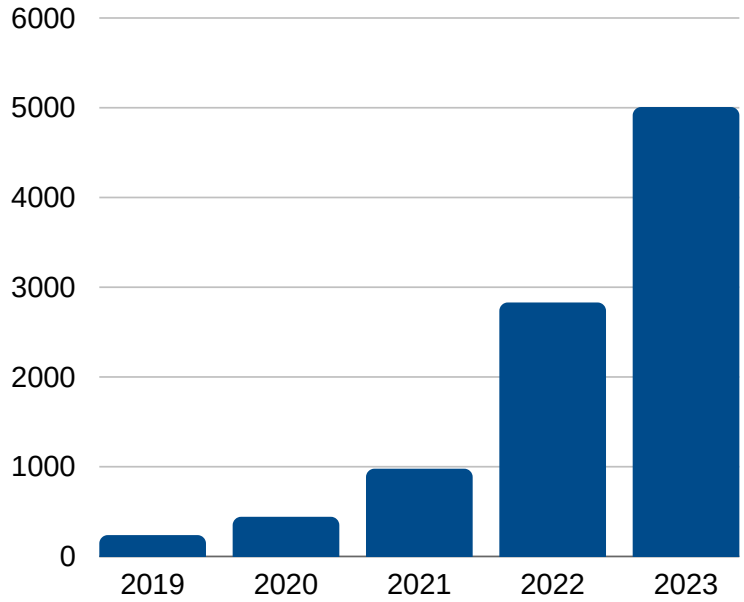
2023: % of SC's MSW Commodities Recycled by Weight



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



South Carolina Recycling Industry
5 Year Job Creation (Cumulative)



SC Recycling Industry Snapshot 2019 - 2023

$6.6 Billion

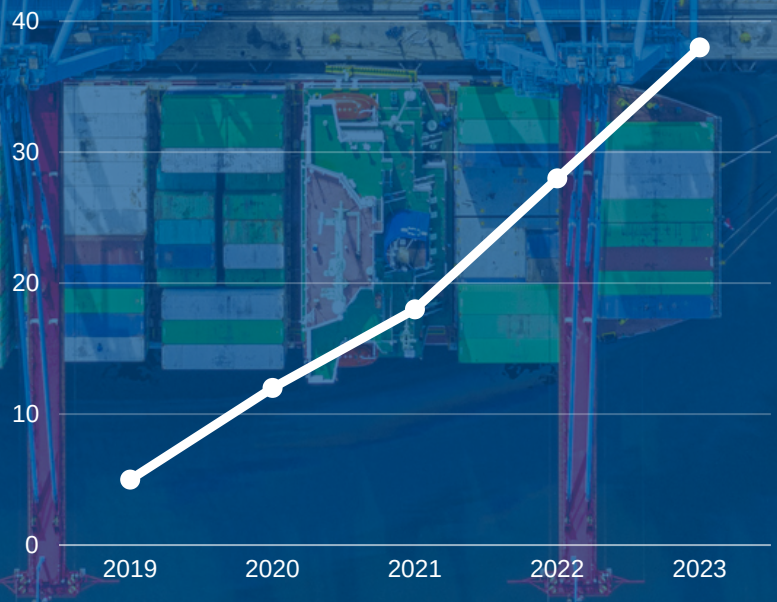
Capital Investment

5,008

Jobs Created

38

New/Existing Businesses



South Carolina Recycling Industry
5 Year Business Investment (Cumulative)

Paper

The recovered paper market rarely experiences a dull moment. This year's market was lowest at the beginning of 2023, then finished with the price up more than 200%. This upward movement throughout the past year was a recovery from the most significant crash in history: a post-pandemic reset where the price dropped $120 per ton over a four-month period in the second half of 2022. The 2023 price recovery was driven by steady domestic demand, significant new capacity in the SE and decent export demand, coupled with much lower-than-normal industry collections. The industry collected just over 45 million tons of recovered paper in 2023, which was the lowest collections year in a decade and much less than the 53-million-ton peak in 2018. It's also important to note that several new mills started up 2023 with consumption capacity over two million tons, likely more than ever in one year over the history of the industry.

This is emblematic of an emerging dynamic: the shift to recycling mills versus pulp consuming mills. It appears the vast majority of mills shutting down are pulp consuming mills, while the new mills starting up are 100% recycled. This will put more pressure on recovered paper demand and will likely drive pricing above historical averages. There are many moving pieces throughout the industry. As stated, there is never a dull moment in the recovered paper markets. It will be interesting to see what the future brings.

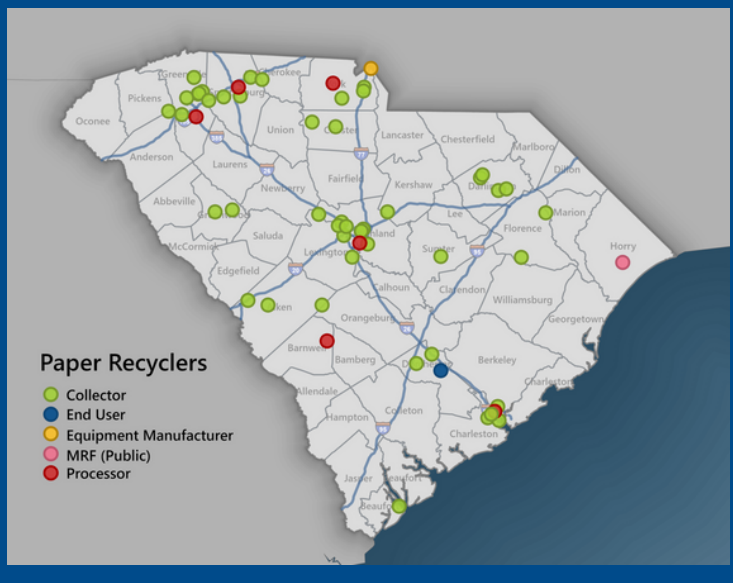


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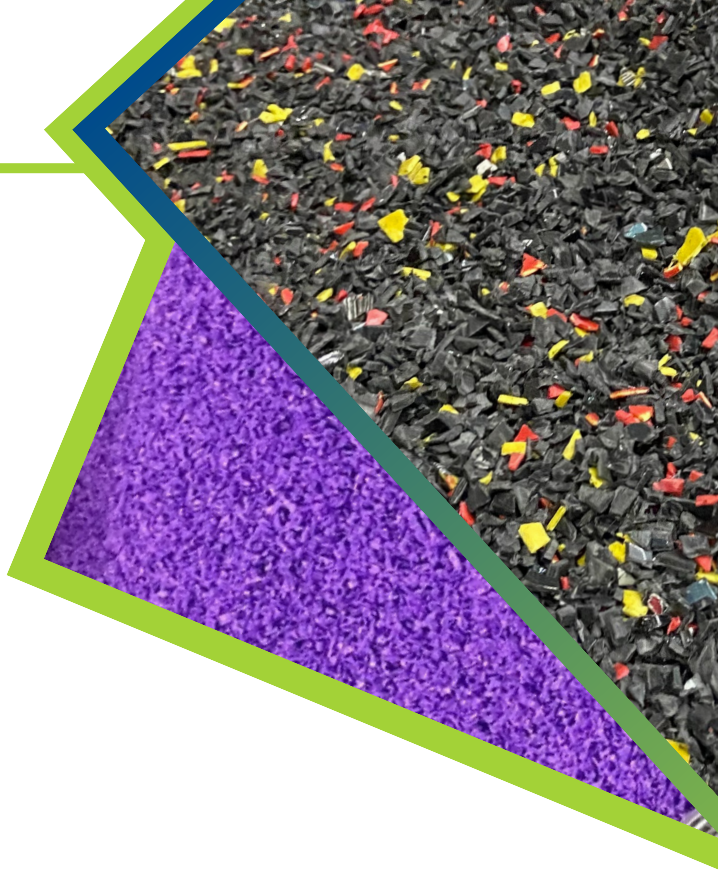
45 million tons

The industry collected just over forty-five million tons of recovered paper in 2023.

Paper Recovery Facilities in South Carolina



Plastics

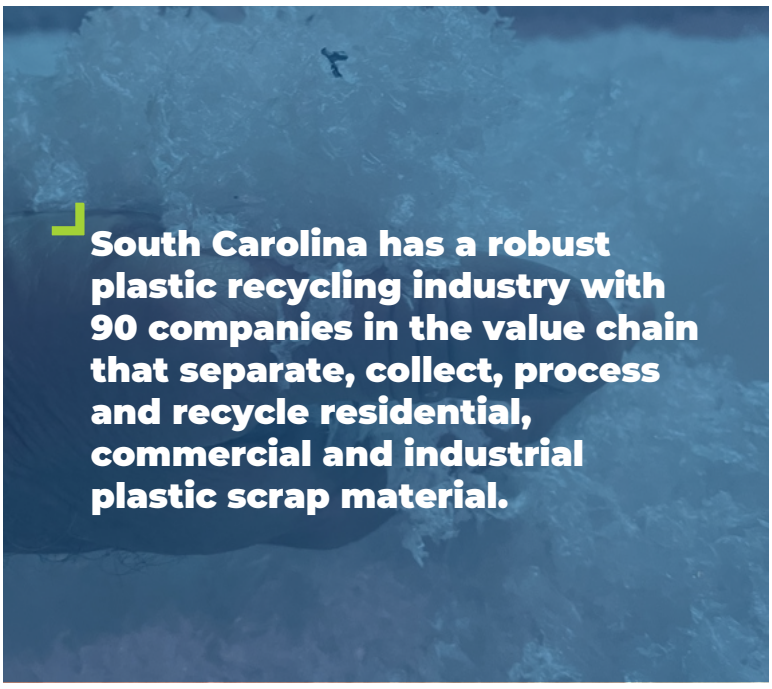


The U.S. Census Bureau reported recovered plastic exports out of the U.S. dropped slightly in 2023, bringing a record low for the fourth consecutive year. Recycled polyethylene terephthalate (rPET) started the year off in a good position. The market price grew and peaked March – May, then started to decline in the third quarter of the year before a slow rebound, ending the year below January 2023 levels. Colored HPDE finished the year at $200/bale. January levels increased through May, declining in August due to a sharp decline in feedstock cost, the result of a sudden decrease in demand. Recycled polypropylene (PP) started the year off at $100/bale, picked up then saw a steady increase through May, then declined through July. Recycled PP pricing was flat August – December, ending the year at the same level as it started.

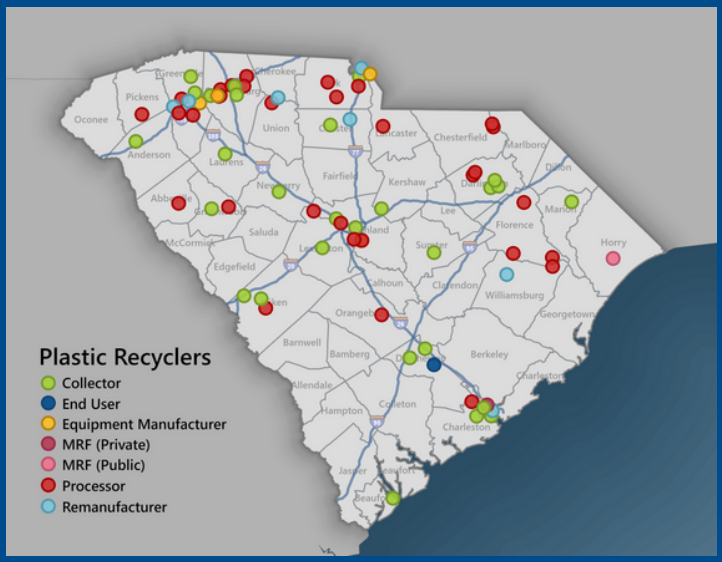
South Carolina has a robust plastic recycling industry with 90 companies in the value chain that separate, collect, process and recycle residential, commercial and industrial plastic scrap material. The SC plastic recycling industry's readily available markets employ more than 1,500 people who are converting 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.

Bowers Fibers, Leigh Fibers and Martex Fiber are three of the nation's largest textile recyclers with locations in South Carolina that serve the automotive and home furnishing industries.

Fiber Industries announced the establishment of Darlington Green in July, South Carolina's Sustainability Hub for the Textiles and Packaging Industry anchored by Darling Fibers. Fiber Industries rebranded as Darling Fibers and is reimagining its 765-acre campus as a sustainability hub for textiles and packaging innovation. The company plans to expand emerging recycling technologies on the campus.



Plastic Recovery Facilities in South Carolina



RECYCLING

INDUSTRY EVENTS



Recycling Day at the Statehouse

PALMETTO CLUB (COLUMBIA, SC)
FEBRUARY 21, 2023

The South Carolina legislative event is an opportunity for recycling companies to connect with SC lawmakers. On Tuesday, February 21, 2023, the Carolina Recycling Association and S.C. Department of Commerce Recycling Market Development team hosted 64 SC representatives and 75 recycling professionals.

House Agriculture, Natural Resources and Environmental Affairs Committee Chairman, William M. “Bill” Hixon, spoke on the environmental impacts and the importance of recycling in South Carolina.

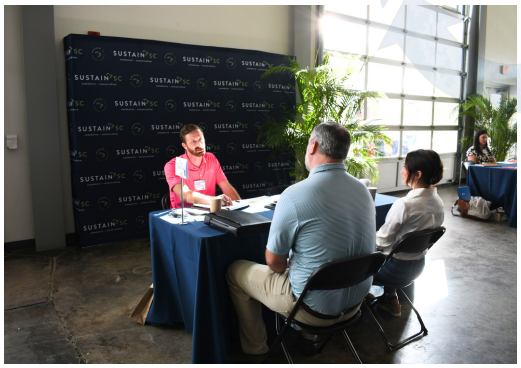


York County Material Recovery Facility

YORK, SC
SEPTEMBER 27, 2023

York County Material Recovery Facility (MRF) hosted the Recycling Market Development Advisory Council (RMDAC) on Wednesday, September 27, 2023. Senator Michael Johnson, Representative Randy Ligon and Representative David O’Neal attended the council meeting.

York County MRF sorts recyclables to be baled and shipped to other processors as part of the overall recycling stream. RMDAC and the representatives toured the facility. Collection is key to generating feedstock for production.



Sustainability B2B Matchmaker Event

COLUMBIA, SC
OCTOBER 25, 2023

Recycling Market Development and Supplier Outreach teams co-hosted the first Sustainability B2B Supplier Matchmaking event on Wednesday, October 25, 2023.

The matchmaking event was linked with the Sustain SC Sustainability Symposium. The teams facilitated 60 one-on-one conversations between suppliers and major OEMs, representing various manufacturing sectors statewide.





Tires



In 2023, S.C. Commerce and DHEC hosted a series of meetings for the SC Scrap Tire Sustainability Coalition to discuss market-based solutions and policy drivers for waste tires. The coalition is a group of stakeholders dedicated to sharing knowledge, coordinating resources and working together to help South Carolina improve the safe and efficient end-of-life management of scrap tires. S.C. Commerce will continue to engage the coalition in collaboration with DHEC.

Each year, S.C. 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, the majority of the end-use market for waste tires in 2022 was tire derived fuel (TDF) and ground crumb rubber for manufactured products.

South Carolina's DHEC-approved waste tire recycling and processing facilities include Argos Cement, Junk-A-Way Services, New River Tire Recycling, Quality Tire Recycling, Ridge Recyclers, SC Tire Processing and US Tire Recycling. Recycled tires as whole tires are banned by law from any landfill disposal.

There are limited markets for recycled tires, as supply outpaces demand for end markets.

There is opportunity to grow areas like paving applications, construction/civil engineering uses, tire-derived fuel markets, crumb rubber in manufacturing, and emerging technologies (e.g., tire pyrolysis).

Continued analysis is needed to identify additional markets for South Carolina. RMDAC will continue to support existing waste tire markets and work with partners like the US Tire Manufacturers Association and the South Carolina Department of Transportation to investigate end-market applications for recycled waste tires in South Carolina.



Tire Recovery Facilities in South Carolina



Glass

The market prices for glass remained consistent in the southeast throughout 2023. Bricolage Dynamics, Fisher Recycling, Glass Eco Surfaces and The Upcycling Company are the only glass recyclers in the state accepting residential material. Bricolage Dynamics is expanding its glass recycling program through partnerships with local businesses to collect glass from dining services.

Regionally, the closest glass processor to South Carolina is Strategic Materials Inc, the largest glass recycler in North America, with locations in Laurinburg, North Carolina and College Park, Georgia. Many glass collectors in South Carolina send material to Strategic Materials. Strategic Materials acquired Ripple Glass in 2022 and filed for Chapter 11 bankruptcy on Dec. 4, 2023 to restructure its debt.

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. There are also some local governments that offer recycling drop-off centers or curbside collection as available in their area for residential glass recycling.



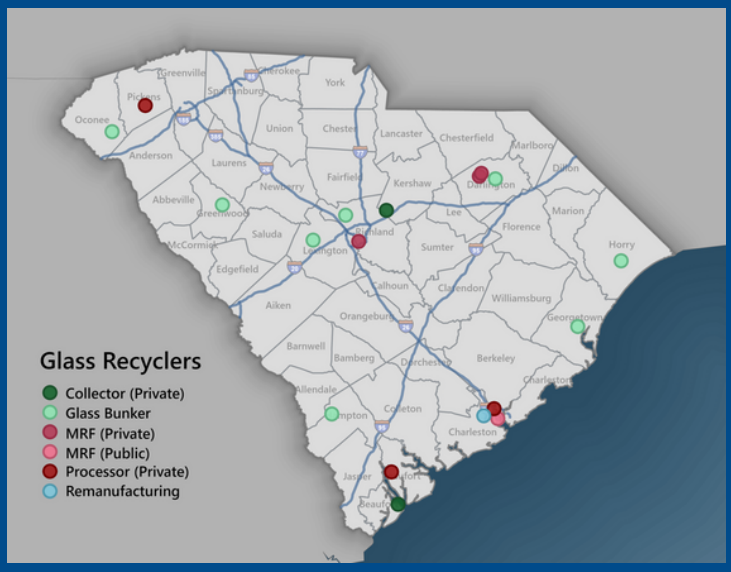
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In 2023, South Carolina exported Recycled Glass to the following countries:

- **France**
- **Bahrain**

Glass Recovery Facilities in South Carolina



SOUTH CAROLINA

Recycling Infrastructure

4 steel mills

1 aluminum roller

1 carbon fiber recycler

recycled content paper mills 4

4 tire recyclers

4 textile recyclers

15 industrial plastics processors

4 compost facilities

glass 2 recyclers

zinc 1 recycler

2 lithium-ion recyclers

10 PET plastic reclaimers

South Carolina's recycling industry continues to grow. Recyclables are collected, processed, and sold to manufacturers to make new recycled-content products.

25,435 direct jobs

*Job numbers from 262 recycling companies

more than 300 number of industries

SOURCE: Recycling Markets Directory

Metals



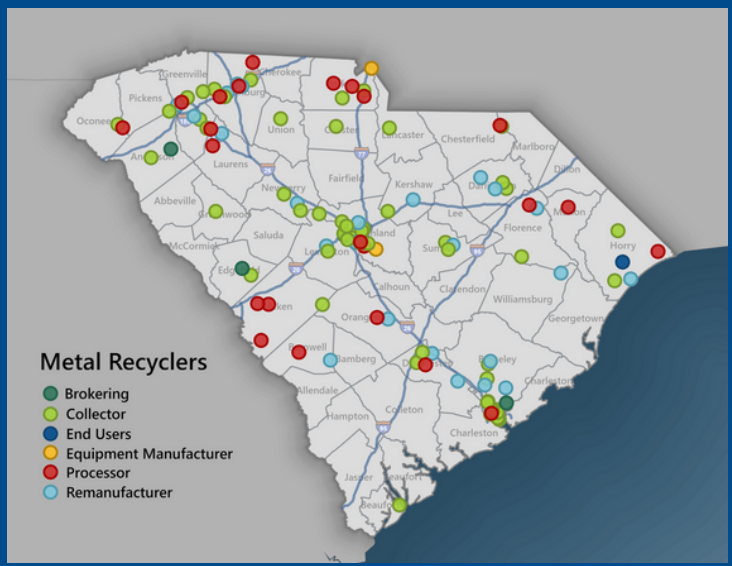
Metal market prices increased at the start of 2023 and remained consistent throughout the year with a slight decrease in December. In early 2023, S.C. Commerce's Recycling Market Development Advisory Council met with the Lieutenant Governor at Commercial Metals Company in West Columbia, SC. The Council and Lieutenant Governor discussed the metal recycling industry and unveiled the 2022 Economic Impact Study. The state is home to four steel mills and over 100 steel and metal recycling operations that continue to prove that "best recycling practices" are good for the environment and the economy of South Carolina. The state is also home to one recycled content aluminum roller and one zinc recycler that recycles dust generated by electric arc furnace (EAF) steel mills.

Metal is one of the most recycled materials on earth and can be recycled endlessly. The metal recycling industry is relied on heavily by South Carolina manufacturers and is used for automotive, aerospace, construction, agriculture, energy and packaging applications.

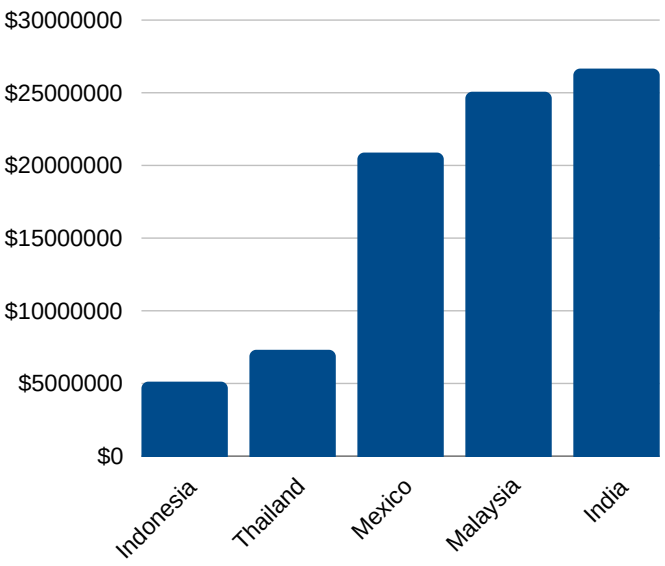
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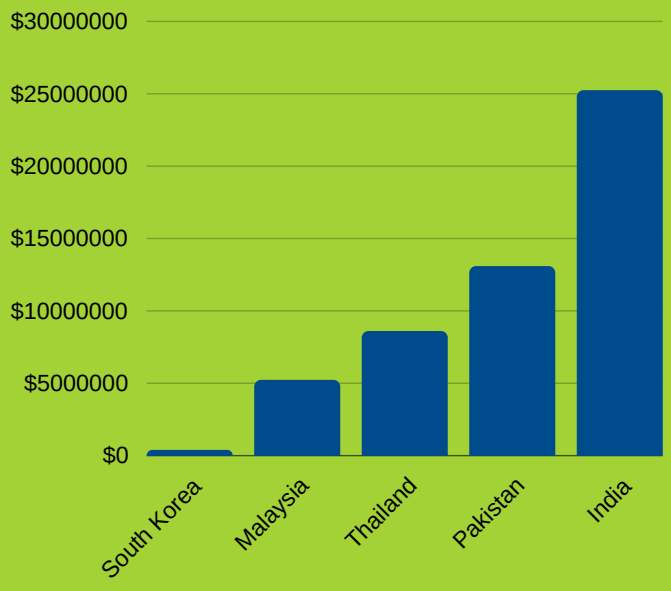
Metal Recovery Facilities in South Carolina



SC's Top 5 Export Countries in 2023 for
Recycled Aluminum

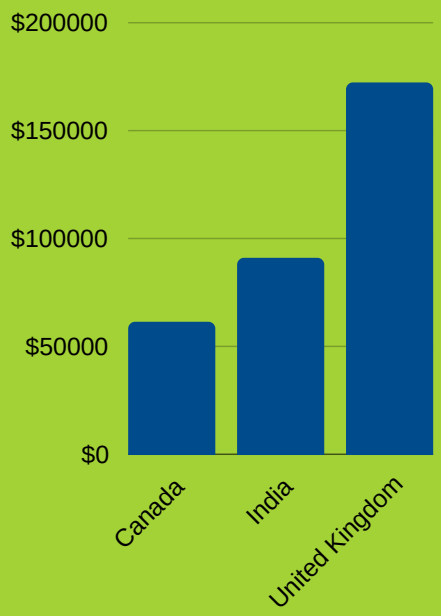


SC's Top 5 Export Countries in 2023 for
Recycled Ferrous Metals



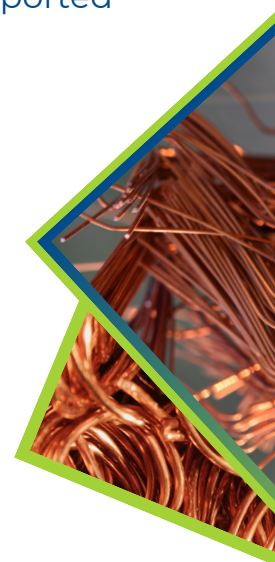


SC's Top 5 Export Countries in 2023 for
Recycled Nickel

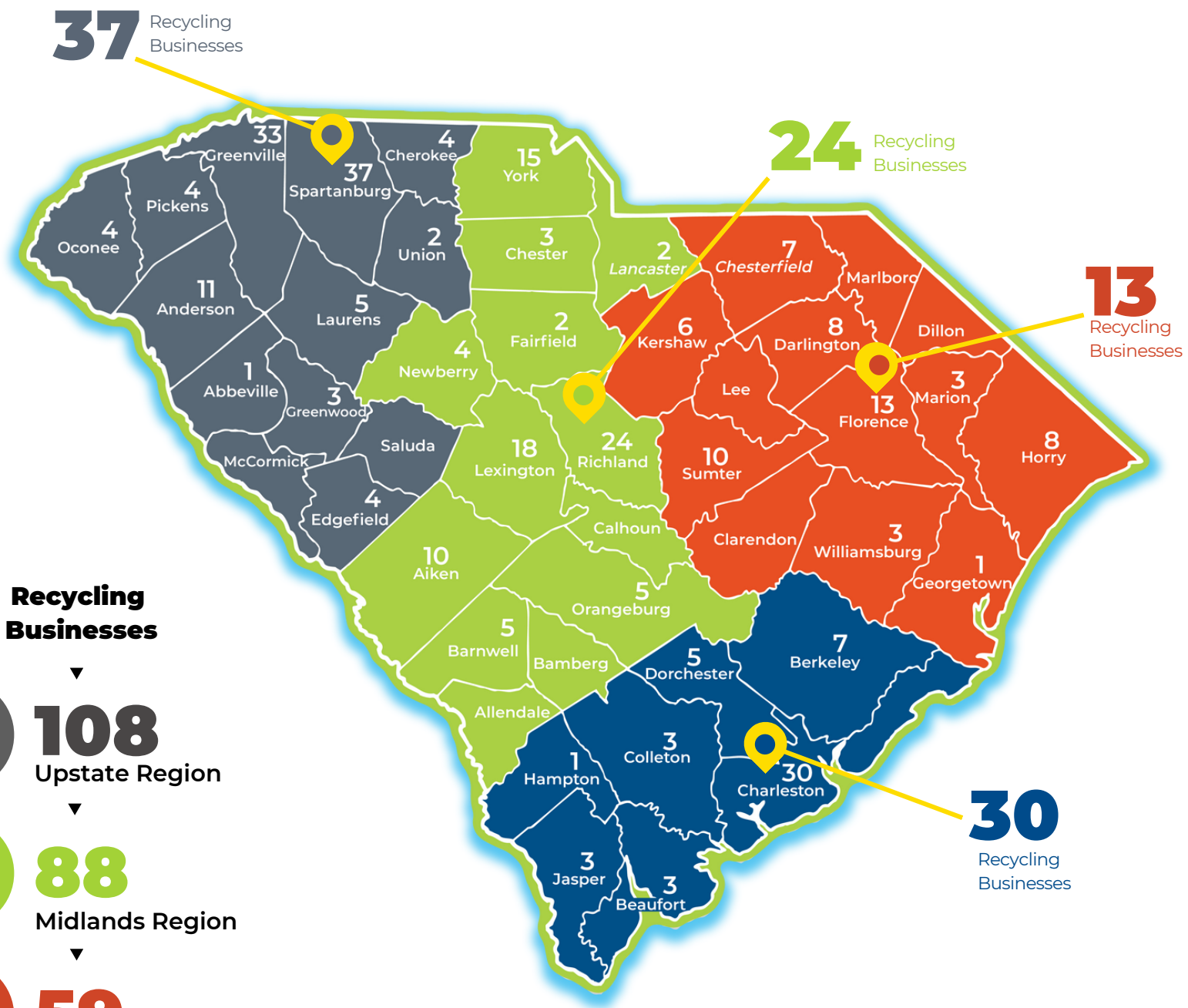


In 2023, South Carolina exported **Recycled Copper** to the following countries:

- Thailand
- India
- Malaysia
- South Korea
- Belgium



Recyclers by Region & County



Recycling Businesses

108
Upstate Region

88
Midlands Region

59
Pee Dee Region

52
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
11	Anderson County
0	Bamberg County
5	Barnwell County
3	Beaufort County
7	Berkeley County
0	Calhoun County
30	Charleston County
4	Cherokee County
3	Chester County
7	Chesterfield County
0	Clarendon County
3	Colleton County
8	Darlington County
0	Dillon County
5	Dorchester County
4	Edgefield County
2	Fairfield County
14	Florence County
13	Georgetown County
33	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
3	Marion County
0	Marlboro County
0	McCormick County
4	Newberry County
4	Oconee County
5	Orangeburg County
4	Pickens County
24	Richland County
0	Saluda County
37	Spartanburg County
10	Sumter County
2	Union County
3	Williamsburg County
15	York County

Organics

The SC Department of Commerce continues to support the growth of industrial scale food composting facilities across the state.

Atlas Organics has expanded through a public-private partnership with Lexington County, South Carolina. The facility is located at the Edmund Landfill in Columbia. This site is permitted as a SC DHEC Type I composting facility at this time and is a 7,500 TPY compost facility accepting yard waste.

Resoil is located in Elgin, SC. They accept organics from businesses and residential users. As a SC DHEC Type 3 facility, they take food waste, raw meats and hemp. Charleston County and Horry County operate publicly owned SC DHEC Type 2 composting facilities. 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.

Don't Waste Food SC (DWFSC), South Carolina's collaborative food waste prevention campaign, continued to tailor its focus to equip individuals and organizations with the tools they need to reduce food waste.

The passing of the National Food Donation Improvement Act in January 2023 brought definition to food donation liability protection and boosted the confidence of donors. DWFSC communicated these changes to stakeholders, focusing on organizations' ability to donate to individuals and non-profits, and encouraging restaurants and businesses to find pathways to distribute extra food.

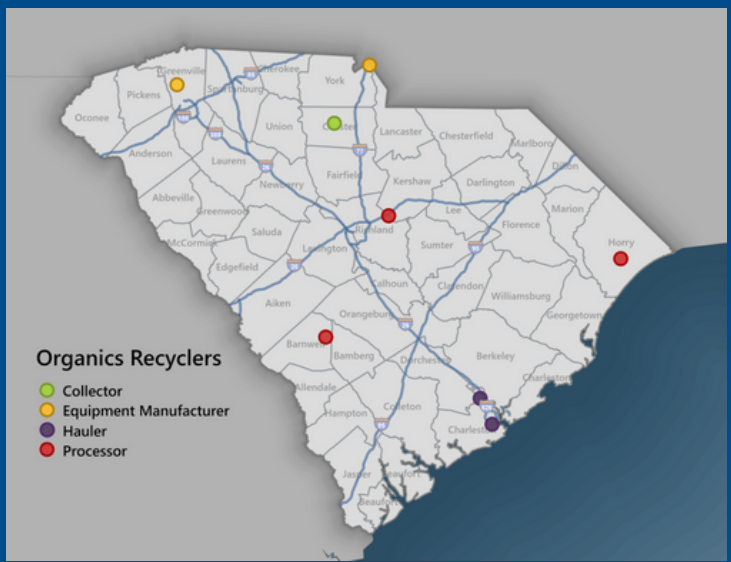
The S.C. Department of Health and Environmental Control (DHEC) was awarded the Environmental Protection Agency's (EPA) Solid Waste Infrastructure for Recycling grant (SWIFR). In addition, DHEC and the S.C. Office of Resilience received an EPA Climate Pollution Reduction Grant (CPRG). The funding will expand food waste and organics recovery by advancing the growth of composting infrastructure and supporting an outreach/education media campaign centered on simple food waste prevention tips. The grant will also provide train-the-trainer resources, arming individuals with information about food waste prevention methods that can be taught in their own communities.

The train-the-trainer program was DWFSC's main focus in FY23. Campaign coordinators gave presentations in libraries and senior centers across the state, distributed information and gathered feedback from individuals at local festivals, and even hosted multiple college "weigh the waste" events to help illustrate the amount of wasted food that goes unnoticed every day.

DHEC staff expanded collaboration on regional, national and international events and efforts, including: Stop Food Waste Day; Food Waste Action Week; Food Waste Prevention Week; the U.S. Department of Agriculture's Food Loss & Waste Innovation Fair; the EPA's development of a national food waste prevention campaign; the White House Conference on Hunger, Nutrition, and Health; EPA's Food: Too Good to Waste peer network; and the creation of other states' food waste prevention campaigns.



Organics Recovery Facilities in South Carolina



CAMPAIGN CORNER

SC RECYCLING MARKETS DIRECTORY

Connecting Materials to Markets

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

www.RecyclingInSC.com/directory

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

SC MATERIAL EXCHANGE

- 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.

www.SCMaterialExchange.org

Active Recycling Legislation

Some key pieces of legislation that have been discussed in the past year.

SOURCE: SCStateHouse.gov

Recycling Facility Tax Credit (House Bill 4087)

A bill to amend the South Carolina code of laws by amending section 12-6-3460, relating to the recycling facility tax credit definitions, so as to lower the minimum level of investment for a qualified recycling facility and to modernize and include “batteries, solar panels, and turbines” to the definition of post-consumer waste material.

Waste Tire Legislation (Senate Bill 763)

A bill to amend the South Carolina code of laws by amending section 44-96-170, relating to waste tires, so as to remove the cap on tipping fees that a county may charge for recycling and disposal of certain waste tires and to encourage stakeholder collaboration on market development opportunities regarding end-of-life tire recycling in South Carolina.



RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL

RMDAC will continue to work toward recovery, recycling and sustainable material management options for the following: including, but not limited to, carpet, glass, plastic containers, metals, scrap tires, electronics, lithium-ion batteries, textiles, construction and demolition materials, universal wastes that can be recycled/repurposed and organics.

State agency responsible for economic development in SC. The Recycling Market Development team 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 DEPT. OF COMMERCE
LAUNCH TO LEGACY

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.

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