

SOUTH CAROLINA DEPARTMENT OF COMMERCE

RECYCLING MARKET DEVELOPMENT ADVISORY
COUNCIL 2019 ANNUAL REPORT





"Over the last nine years, Team South Carolina has achieved remarkable economic development success. One sector that has experienced considerable growth in recent years is our sustainable sector – recycling. In 2019, five recycling firms announced more than \$50 million in capital investment and nearly 250 new jobs in South Carolina. With more than 500 recycling-related companies now calling our state home, this \$13 billion sector has become an important pillar of our economy. That's why S.C. Commerce's Recycling Market Development team spent much of the last year advancing key initiatives, such as Don't Waste Food S.C., a food waste reduction campaign in partnership with the SC Department of Health and Environmental Control, and Your Bottle Means Jobs, a plastic bottle recycling initiative. The goal of these efforts is to encourage business and residential participation in recycling – something that will help bolster the economy, while also preserving our environment and natural resources.

Moving forward, as we continue to prioritize a strong, sustainable economy, South Carolina's recycling industry will play an important role. Not only will the growth of this sector bring opportunities to the people of this state, it will also help ensure that South Carolina remains 'Just right' to live, work and play for many years to come."

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL (RMDAC)

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



**Wes Westbrook,
Chair**

BMW
SC Department of
Commerce



Vic Carpenter

Kershaw County
County Government



**Kristen Brown,
Vice Chair**

Waste Zero
General Public



Chuck LaGrange

Greater Greenville
Sanitation Commission
Municipalities



Norman Chandler

Republic Services
Solid Waste Industry



Angel Lara

Southeast Recycling
Resources
Scrap Metal Industry



South Carolina
Department of Commerce

Just right for business.



Brad Dutton

FiberQuest
Plastics Industry



Carol James-Gilchrist

Sonoco Recycling
Paper Industry



Chris Fisher

Fisher Recycling
Glass Industry



Bill Laursen

Universal
Environmental
Services
Petroleum Industry



Tyler Smith

Michelin North
America
Tire Industry



**Dr. Andrew Spicer
Ph.D.**

Darla Moore School
of Business Higher
Education



Tina Huskey

Mumford Industries
Recycling Industry

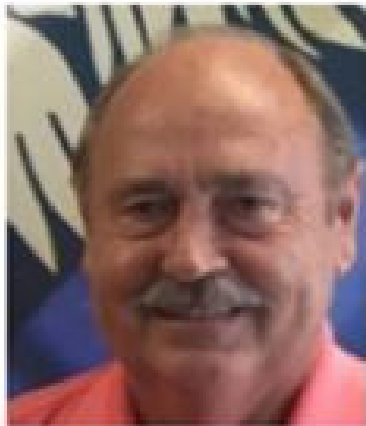


Chad Prescott

Mid-Carolina Steel
Aluminum Industry

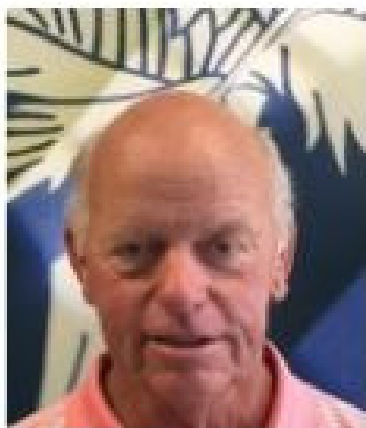
RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL (RMDAC)

Ex Officio Members



Glenn Odom

Wellman Plastics
Recycling Industry



Ronnie Grant

Sonoco
Paper Industry



Anna DeLage

Recycling Market
Development
Manager

Emeritus Member



Joseph McMillin

Atlas Organics
Organics



Chantal Fryer

Recycling Market
Development Director



April Chaffins

Business Services
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 2019 is **28.1%**. 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.

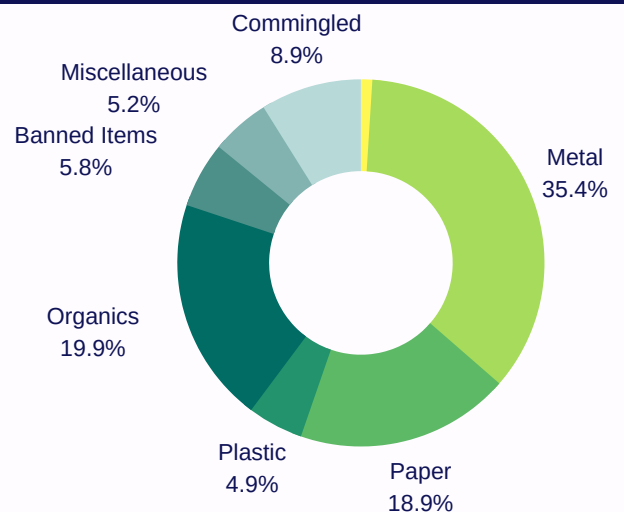
4) Any other recommendations, including tax incentives, to facilitate the development of markets for recovered materials or products in the state.

RMDAC should investigate the following mechanisms to spur recycling recovery and industry growth:

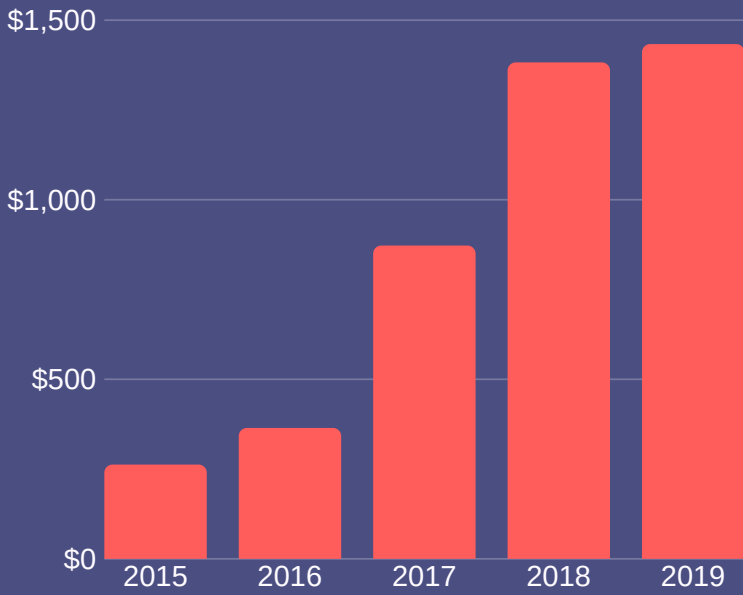
- Add recycling to the types of businesses qualifying for job tax credits.
- Encourage public agencies such as state, local government, school districts, colleges and universities to recycle on site as well as procure recycled content materials.
- Share best management practices for business recycling.
- Assist with businesses reporting of recycling data via web-based platform
- Develop partnerships to support and increase market-based solutions to recycling.
- Incentives for recycled content manufacturing
- Investigate placing commonly purchased recycled products on the prime vendor contract instead of a separate contract for recycled goods
- Examine increased Construction and Demolition recycling opportunities

2019 SC
Recycling
Rate:
28.2%

**2019: % of SC's
MSW
Commodities
Recycled by
Weight**



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



SC Recycling
Industry Snapshot
2015-2019

\$1,431M

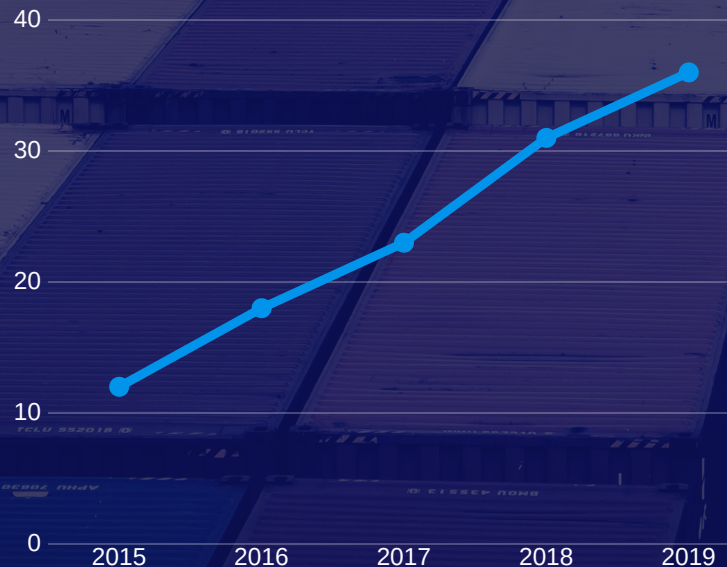
Capital Investment

2,318

Job Creation

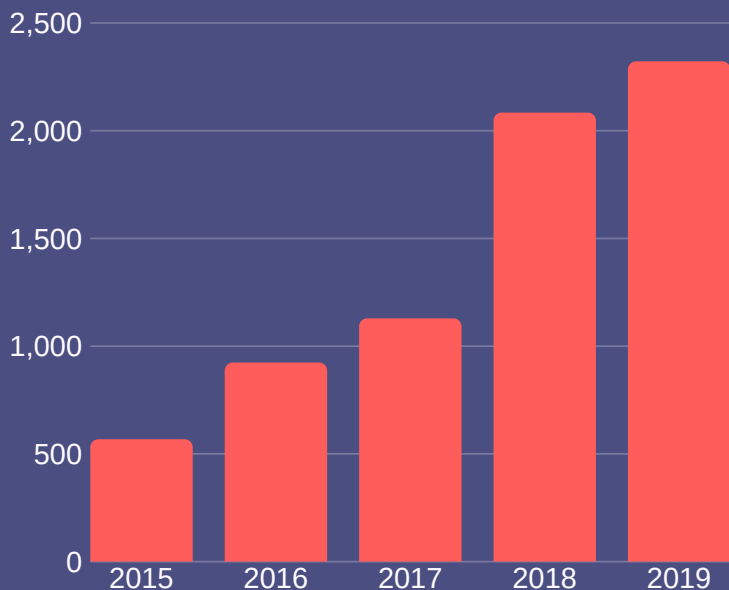
36

New/Existing
Businesses



South Carolina Recycling Industry
5 Year Business Investment (Cumulative)

South Carolina Recycling Industry
5 Year Job Creation (Cumulative)



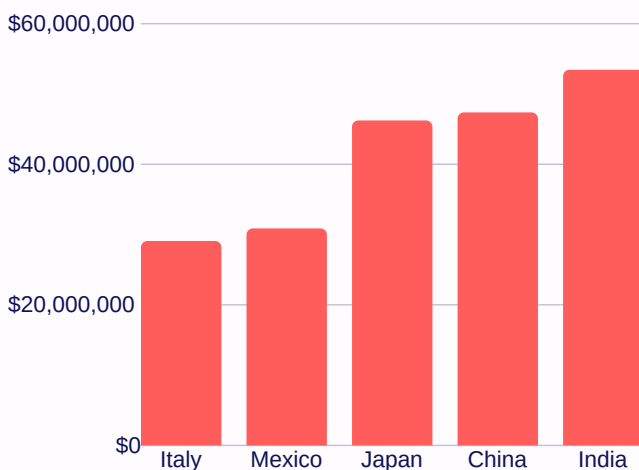
Paper

The paper recovery value chain consists of more than 80 companies who employ approximately 3,000 workers across the state. Businesses use office paper, magazines, and cardboard packaging daily and these materials are recyclable. Also, residents are seeing more Amazon boxes from internet orders. SC's four paper mills use recycled Old Corrugated Cardboard (OCC) to make new linerboard or paperboard and consume 1,261,000 tons of cardboard annually - these mills are Sonoco and WestRock-Florence, Greif (Caraustar) and WestRock-Cowpens (KapStone). Orchids Paper uses recycled pre-consumer paper to make tissue products. OCC makes up the largest portion of paper in the commercial recycling stream and is the 2nd most prevalent grade in municipal recycling programs.

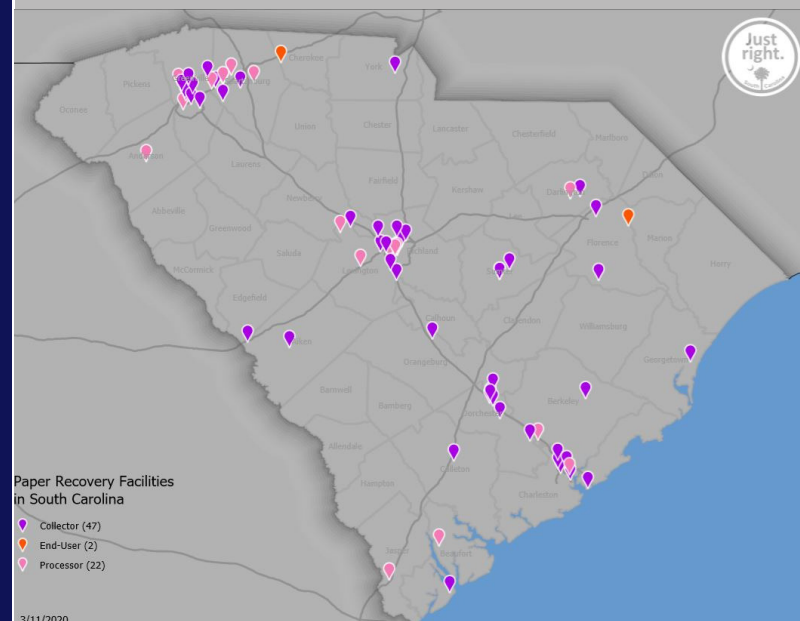
China's National Sword policy served as a disruptor for fiber and plastic export markets. In 2018, "Blue Sky" was announced to reduce contamination for recycled goods entering China. Since this movement, China has steadily reduced import permits from approximately 19 million (M) tons in 2018, to 11M tons in 2019, to an estimated 6M tons in 2020. This 13M ton reduction of imports from China has forced the US and other countries to consume more volume through capacity expansions. The reduction in volume was more rapid than the capacity expansion projects and has consequently put downward price pressure on all grades of paper.

Despite big shifts on a national level in policy regarding trade and tariffs, companies are continuing to invest and expand their operations. South Carolina's mixed paper markets have been hit hard since China banned this grade in 2018. Those paper mills that had the ability to increase mixed paper consumption benefited from lower material costs while others looked toward mixed paper equipment investment opportunities. In time, the capacity will catch up with supply, and the industry will see more favorable prices.

SC's Top 5 Recycled Paper Export Countries in 2019



Paper Recovery Facilities in South Carolina

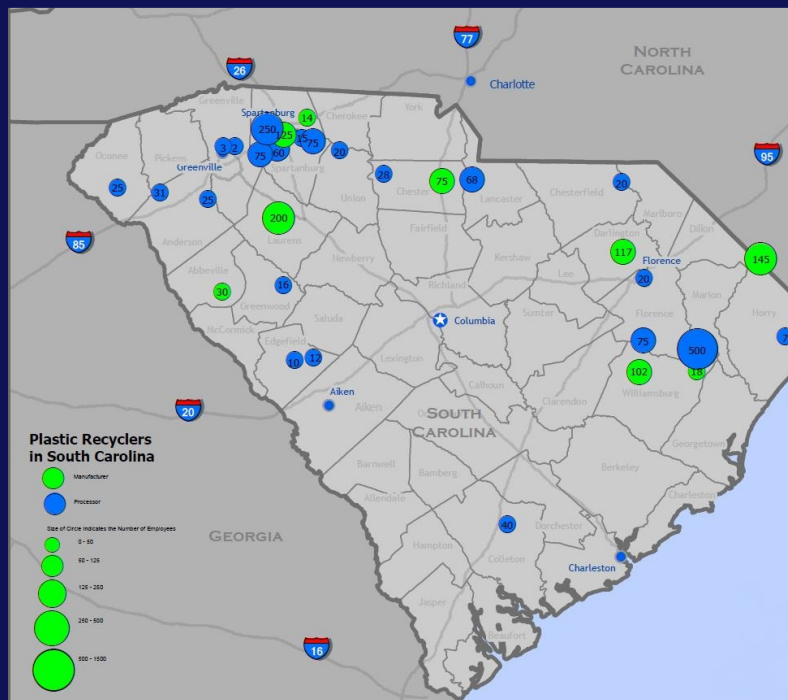
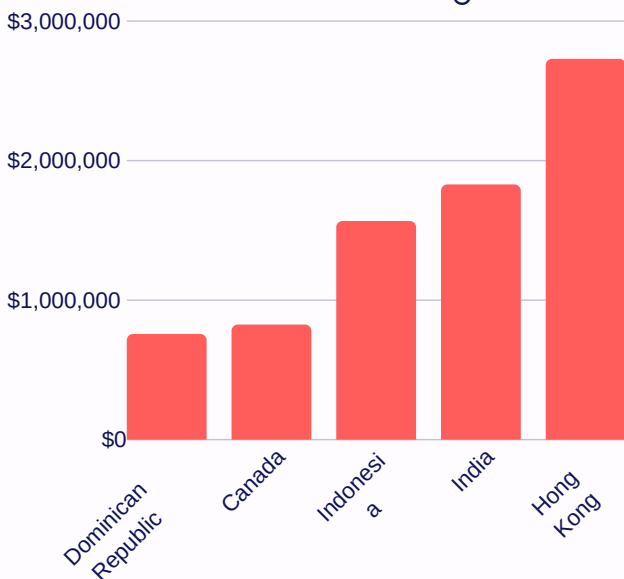


Plastics

Plastics are polymers which offer many benefits to manufacturers in the automotive, aerospace, medical device and packaging industries in SC. Plastics are light weight, water resistant, durable, strong, economical, and corrosion and chemical resistant. Many post-consumer and post-industrial plastics can be recycled. Whether it is economically feasible depends upon the quantity and quality of the plastics. Many manufacturers grind plastics onsite to reuse their own post-industrial scrap in their processes. South Carolina has a robust plastic recycling industry with 100 companies in the value chain who 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 to 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 who serve the automotive and home furnishing industries. SC has strong PET bottle recycling markets as well as industrial plastics recycling processors. In 2019, ACI Plastics announced a \$10 million expansion to its operations in Westminster, SC. The company has partnered with PreZero, a leading recyclables manager to sort mixed rigid plastics which will enable them to recover 80,000,000 pounds of plastics that were historically shipped overseas. South Carolina markets continue to grow and evolve for plastics recycling, the state sees the benefits of plastics recycling in job creation and capital investment as well as reduced landfilling.

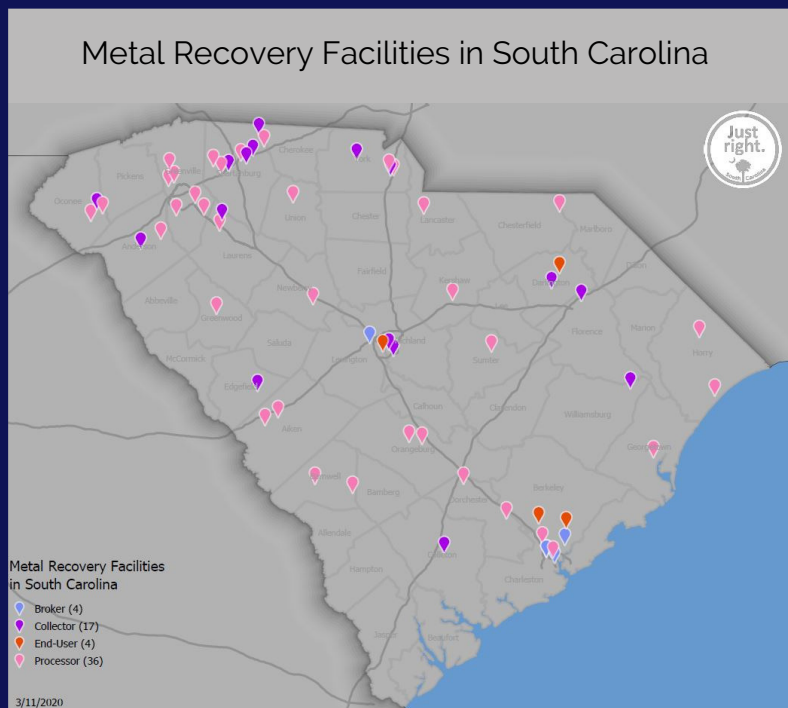
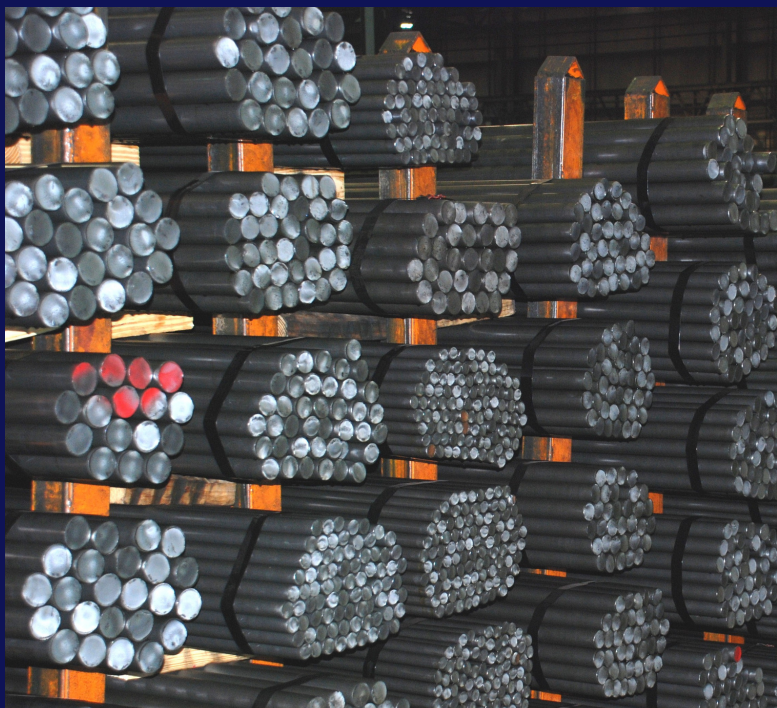
SC's Top 5 Recycled Plastic Export Countries in 2019



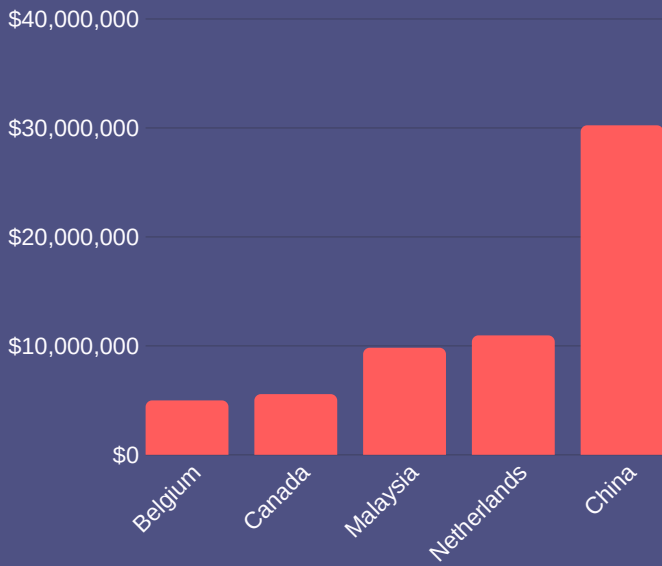
Metals

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 many 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 metal yards who collect and process these commodity materials. South Carolina has more than 170 companies involved in metal recycling who can haul, process, and manufacture recycled metals for the automotive, construction and building, energy, agriculture, aerospace, tools, and packaging sectors. SC has a vibrant metal recycling industry with a trade association, the SC Recyclers Association, that advocates on behalf of its members.

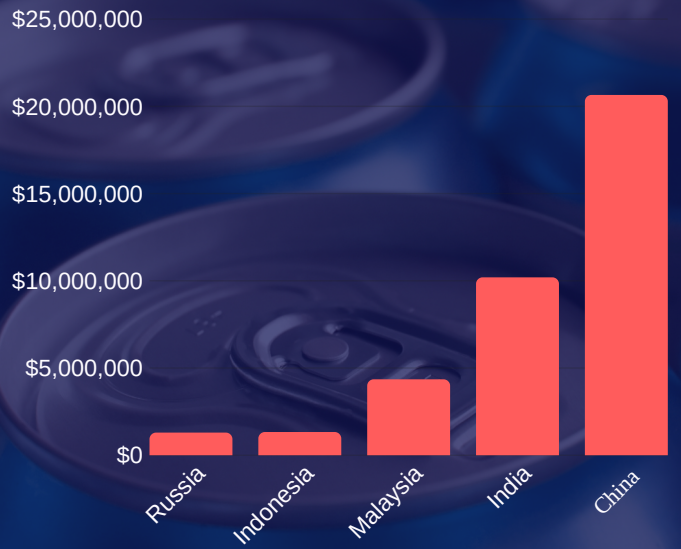
South Carolina has four steel mills - (2) Nucor, CMC Steel, and Liberty Steel . Steel is recycled at these locations to create structural steel building products and steel wire rod. JW Aluminum, a flat rolled aluminum mill produces siding, automotive body materials, and flexible packaging. In 2019, there was an oversupply of aluminum scrap in the North American market as there was a decline in domestic can sheet production. There was little overall change with copper aluminum, zinc and lead finishing 2019 at similar to year-start levels. 2019 had the steel industry in an oversupply scenario due to tariffs and other concerns. In 2019, China led the world in global steel demand. This is expected to slow down in 2020. According to data from the World Steel Association, U.S. steel production increased by 5.2% to 7.5 million metric tons in December. Overall US growth is predicted to be marginal at .08% in 2020.



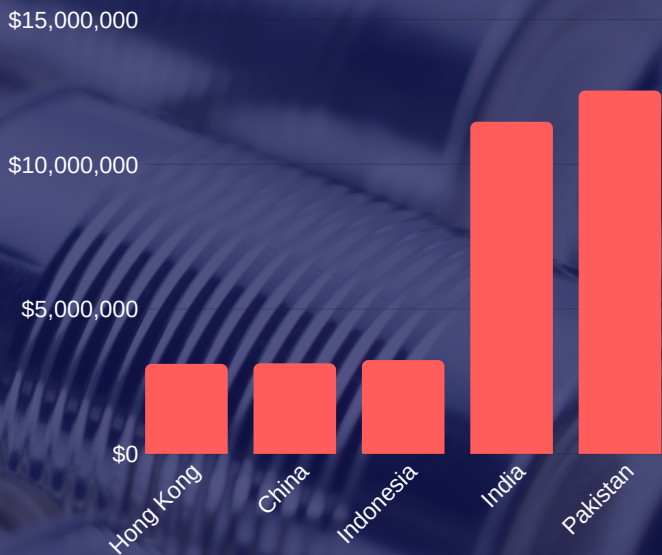
SC's Top 5 Export Countries in 2018 for Recycled Copper



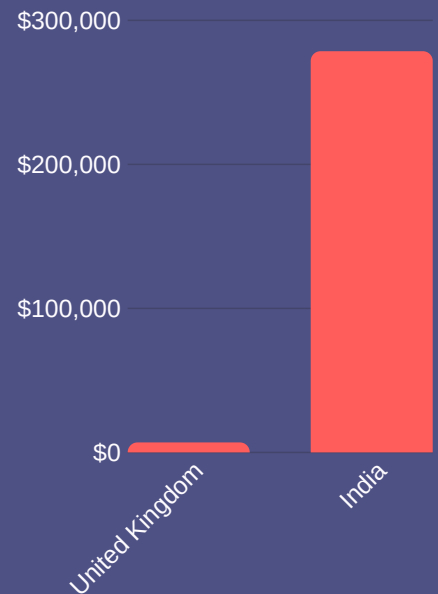
SC's Top 5 Export Countries in 2018 for Recycled Aluminum



SC's Top 5 Export Countries in 2018 for Recycled Ferrous Metals



SC's Top Export Countries in 2018 for Recycled Nickel

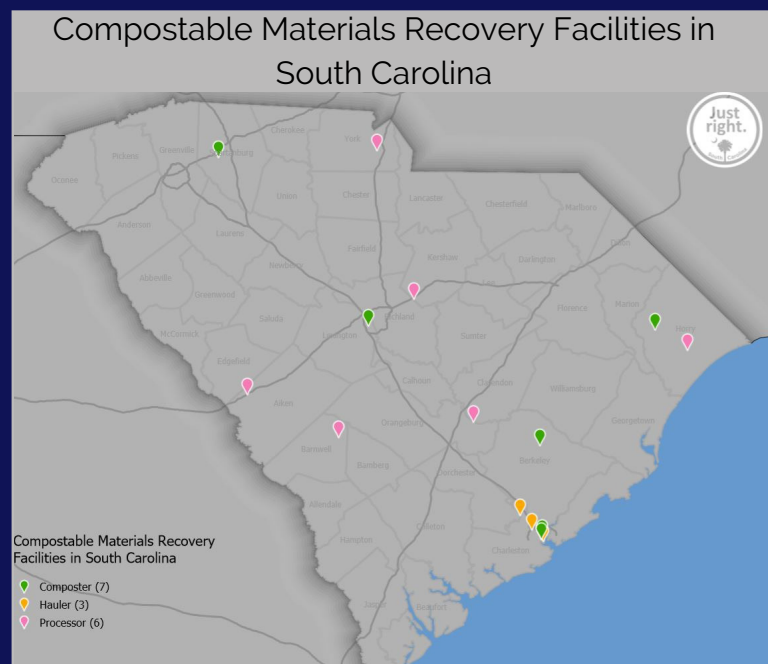


Food

Food is the No.1 item Americans throw away. Each year up to 40 percent of the food supply in the US is never consumed – an annual loss of \$218 billion. Don't Waste Food SC (DWFSC) is a collaborative outreach campaign between Commerce and the Department of Health and Environmental Control (DHEC) that brings together ambassadors from the public and private sectors dedicated to sharing knowledge, coordinating resources and working together to reduce food waste in South Carolina. Campaign goals are to 1) increase the awareness of the economic, environmental and social impacts of wasted food, 2) inspire individuals, communities, restaurants, schools and others to take action to reduce food waste through prevention, donation and composting and 3) cut food waste in half in South Carolina by 2030.

The three pillars of the DWFSC campaign are prevent, donate and compost. If at all possible, prevent the food waste from happening since wasted food wastes resources. Any labor, energy, water, land or other resources used to produce, package and transport food from the farm to our plates are lost. Donation is critical because more than 41 million Americans are food insecure. The Bill Emerson Good Samaritan Act protects organizations from civil and criminal liability should the product donated in good faith.

Commerce has been supporting the growth of four industrial scale food composting facilities across the state in Greenville, Columbia, Conway and Charleston. CompostNow hauls food waste for home, office and restaurant service in Charleston, SC . SMART Recycling hauls organics in Horry and Charleston counties and the Midlands market. Atlas Organics services 16 SC counties. Since 2014, the compost industry has seen increased numbers of jobs and investments each year.



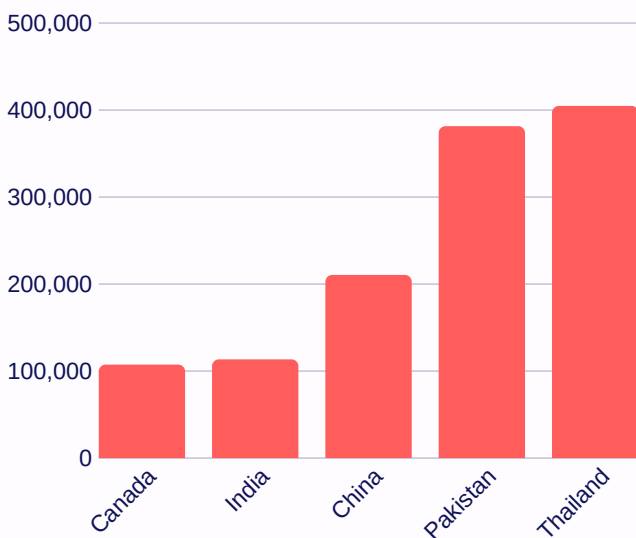
Tires

South Carolina's growing tire manufacturing industry generates off-spec production tires for recycling in addition to scrap tires generated by retailers, fleets and residents. An estimated 5.1M waste tires are generated by the citizens of SC. To address markets for recycled tires, Commerce is collaborating with DHEC's Waste Tire Sustainability Coalition to bring industry, government and research stakeholders together to grow end markets for tires and pave the way for innovation in technology. As a leader in tire manufacturing, South Carolina is well positioned to drive the tire recycling industry forward. The 8th Scrap Tire Recycling Conference was held in December 2019 in Greenville, SC where attendees discussed scrap tire markets and the circular economy. Commerce Secretary Bobby Hitt addressed the crowd with over 200 attendees present which was the largest number of attendees the conference has had to date.

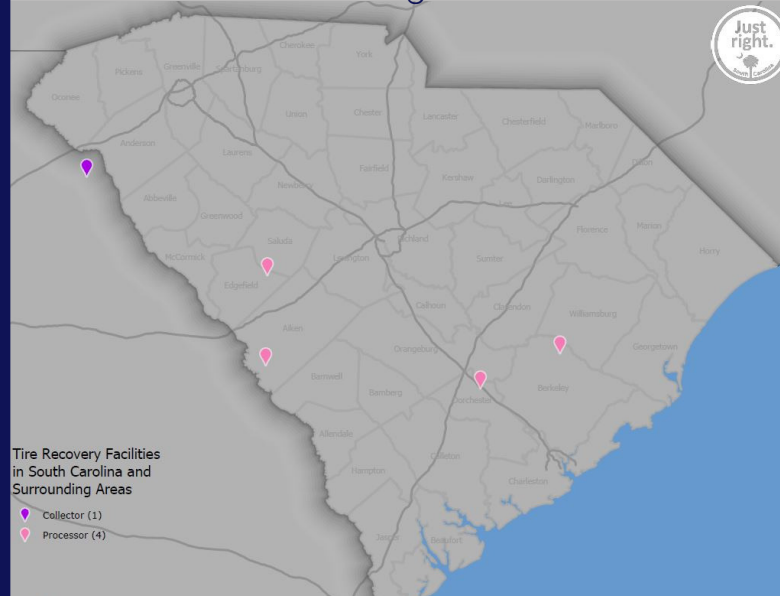
South Carolina's DHEC certified in-state tire recyclers include Ridge Recyclers, Envirogreen, and SC Tire Processing. Other states outside of SC have certified tire recyclers who can also take SC tires for recycling. Tire-derived fuel, civil engineering and ground rubber applications were the main markets for scrap tires. Tire-Derived Fuel (TDF) is the major commodity produced in the state from recycled tires. 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.

The primary markets for scrap tires in 2020 will continue to be TDF, civil engineering applications and ground rubber applications. Commerce's Recycling team is working with DHEC, trade associations, and public and private sector partners to develop new markets.

SC's Top 5 Recycled Rubber Export Countries in 2019



Tire Recovery Facilities in South Carolina and Surrounding Areas



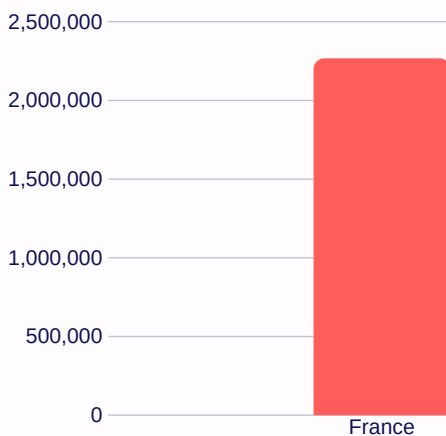
Glass

Glass is a commodity with limited end-use markets in the state. Challenges to glass recycling are primarily due to its low market value, the weight of the material, the distance to market and its abrasive effect on processors recycling equipment. Until 2019, the closest glass processor to South Carolina was Strategic Materials in Wilson, NC and College Park, GA. In October 2019 Beaufort County announced that North Charleston-based company Glass WRX SC plans to create 63 jobs over the next five years and is investing \$15.1 million in its facility. Glass WRX SC produces recycled glass products and advanced materials including air and water filtration systems. The facility will be powered by solar power, furthering Glass WRX commitment to clean energy. Glass WRX demand is 150,000 tons of truckload quantity glass containers.

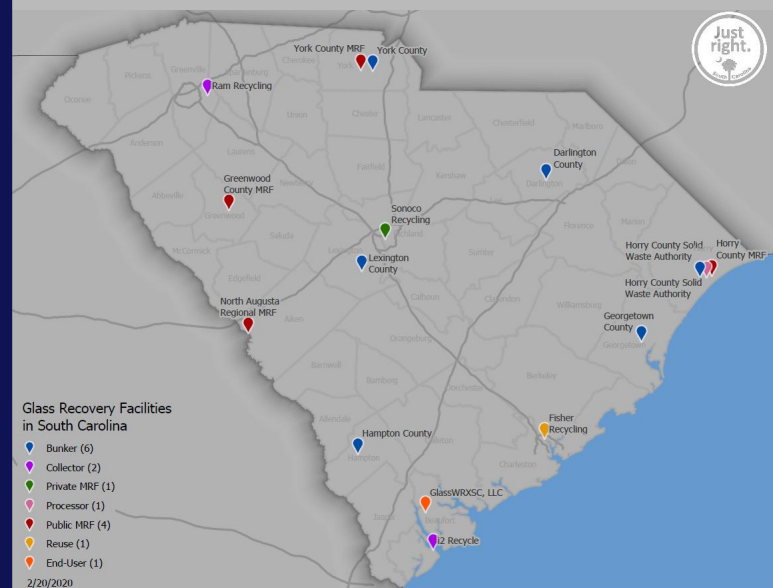
South Carolina has several public and private material recovery facilities (MRFs) who process glass. The MRFs accepting glass are Sonoco Recycling in Columbia, Horry County Solid Waste Authority, North Augusta, and Greenwood County. Single stream collection and processing practices still lower the market value for glass since all glass colors (clear, amber, and green) are commingled and have a good bit of contamination such as caps and paper. The largest volume of glass bottles are generated by restaurants, bars, caterers and other hospitality related entities.

Besides Glass WRX, commercial glass recyclers are only 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. RAM Recycling LLC has been working with corporate partners in Greenville such as Michelin, BMW and Furman University, to ramp up commercial glass collection in the Upstate. More collection will be needed to fuel the GlassWRX plant in Beaufort.

SC's Exports Countries in 2019 for Recycled Glass



Glass Recovery Facilities in South Carolina



YOUR BOTTLE MEANS JOBS

The Carolinas (NC/SC) plastics recycling industry is growing, and about 3,500 people are directly employed in this industry which is great news for the economy. Over 70% of all plastic bottles are thrown away, so recycling more of these plastic bottles is critical. Companies right here in the Carolinas CAN'T find enough recycled plastic to run their plants efficiently. That is why Commerce Recycling staff has been teaming up with many partners to get more plastic bottles in the recycling bin. Staff continues to manage the Carolinas Plastics Recycling Council (CPRC) which is where the Your Bottle Means Jobs (YBMJ) campaign began in 2014.

Staff promoted the YBMJ campaign across the country. In June, YBMJ was featured at the Recycle Colorado conference in front of 200 attendees and to 60 members of New Mexico's Recycling Coalition who participated in its market development workshop. In October 2019, staff presented on YBMJ and market development to 70 attendees at the State of Texas Alliance for Recycling summit. YBMJ was featured in the Las Cruces Sun News as a story about how to grow the recycling industry in New Mexico.

Staff revamped the toolkit for recycling professionals and provided training to help spread the word about bottle recycling;s impact on the economy. Staff exhibited at the Carolina Recycling Association conference in March, presented at the First Steps conference on YBMJ in August with 250 kits for teachers and directors and provided tabling expertise at the SC State Fair during the October 2019 duration.



RECYCLING INDUSTRY EVENTS

Recycling Market Development staff hosted two unique event opportunities in 2019 that brought both recyclers and manufacturers/businesses into the same space to discuss market development opportunities across the state. As international markets continue to fluctuate, offering opportunities for manufacturers and recyclers to connect directly is a vital component in staying connected in this changing economy.

The Recycling Industry Forum was held on May 23, 2019 at the Seagra Park Baseball Stadium. Over 100 members of the business community in attendance had the opportunity to hear from speakers from the US Environmental Protection Agency and SC Department of Commerce's Secretary Bobby Hitt, while also hearing updates on recycling markets and participating in discussion during a commodity round table. The highlight of the event was the Hard-to-Recycle Materials session where businesses were encouraged to bring materials they are struggling to find recycling avenues for. This allowed others in attendance to provide possible solutions or ideas.

Due to the strong success and continuous positive feedback from the Hard-to-Recycle session, the staff hosted an additional event solely around that concept- the Regional Recycling Matchmaker. The event was held at Milliken & Company in Spartanburg, SC on October 24, 2019. The event sold out with over 90 recyclers and manufacturers in attendance. The attendees were enthusiastic about providing solutions and ideas for challenging materials. Several recycling connections were made on the spot, and attendees learned about business resources offered through the SC Department of Commerce. In addition, Milliken provided a tour of its Product Gallery. As interest continues to grow, staff will provide additional recycling networking and B2B opportunities.



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

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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.

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<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, 2019.