



SOUTH CAROLINA DEPARTMENT OF COMMERCE

RECYCLING MARKET DEVELOPMENT ADVISORY
COUNCIL 2018 ANNUAL REPORT





Over the last eight years, Team South Carolina has achieved remarkable economic development success. And, in 2018, we built on that momentum, putting together another strong year in industry recruitment. One sector that enjoyed considerable growth last year was our sustainable sector – recycling.

From January to December, eight recycling firms announced more than \$500 million in capital investment and nearly 1,000 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, 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.



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South Carolina
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Just right for business.



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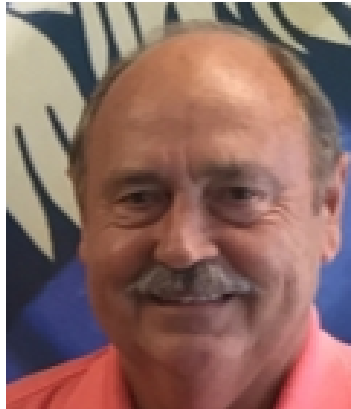


Chad Prescott

Mid-Carolina Steel
Aluminum Industry

RECYCLING MARKET DEVELOPMENT ADVISORY COUNCIL (RMDAC)

Ex Officio Members



Glenn Odom

Wellman Plastics
Recycling Industry



Ronnie Grant

Sonoco
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Emeritus Member



Joseph McMillin

Atlas Organics
Organics

South Carolina Department of Commerce Staff



Chantal Fryer

Recycling Market
Development Director



Anna DeLage

Recycling Market
Development Manager

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 2018 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.

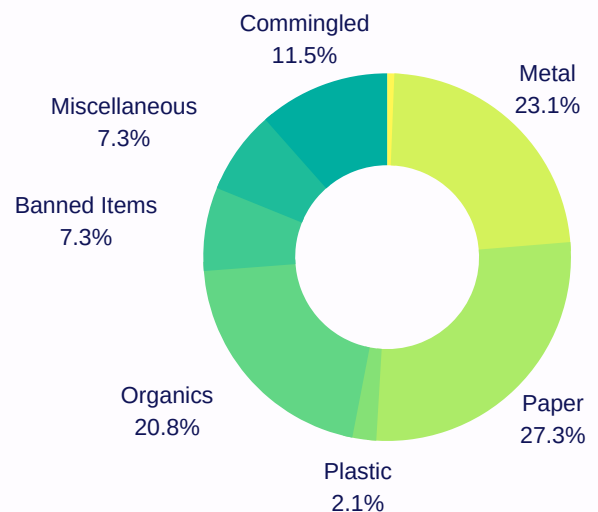
3) Recommendations regarding materials which should be added or deleted from source separation, recovery, recycling programs; and to increase the recovery of recyclable materials. RMDAC will continue to work towards recovery, recycling and sustainable material management options for the following to 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:

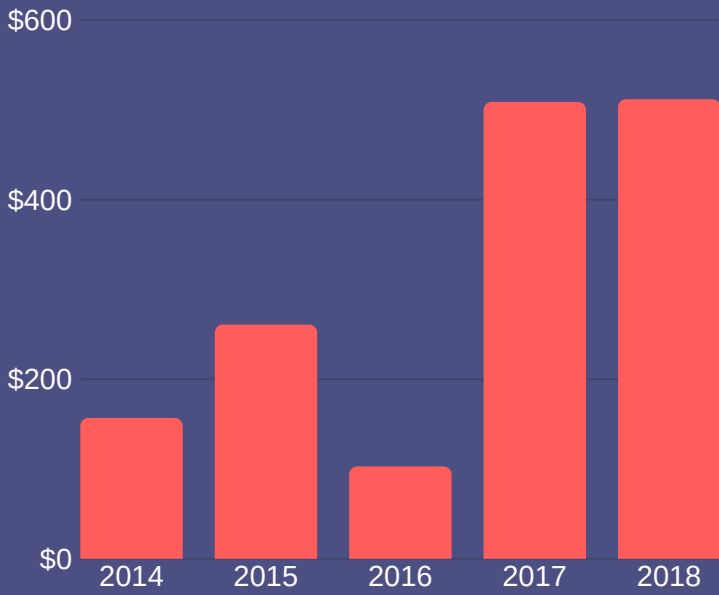
- Add recycling to the types of businesses qualifying for job tax credits
- Require recycling infrastructure in the design for multi-family establishments.
- Share best management practices for business recycling.
- Assist with businesses reporting of recycling data.
- Develop partnerships to support and increase market-based solutions to recycling.
- Encourage Pay as You Throw as a mechanism to increase capture of recyclables.

2018 SC
Recycling
Rate:
28.1%

**2018: % of SC's
MSW
Commodities
Recycled by
Weight**



South Carolina Recycling Industry
5 Year Capital Investment
(Millions)



SC Recycling Industry Snapshot
2013-2018

\$1,641M

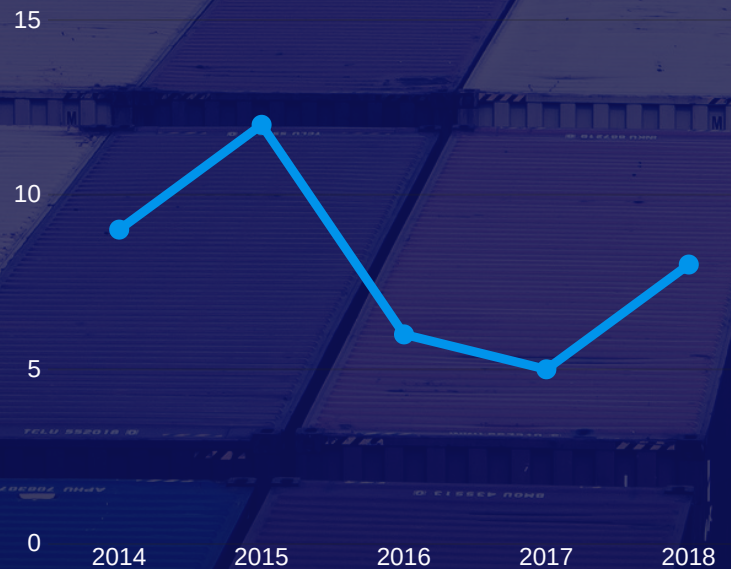
Capital Investment

3,432

Job Creation

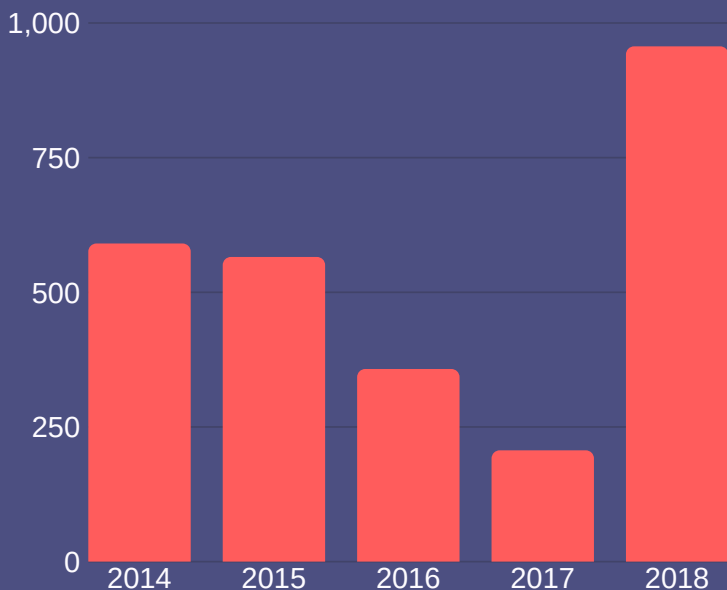
50

New/Existing
Businesses



South Carolina Recycling Industry
5 Year Business Investment (Cumulative)

South Carolina Recycling Industry
5 Year Job Creation



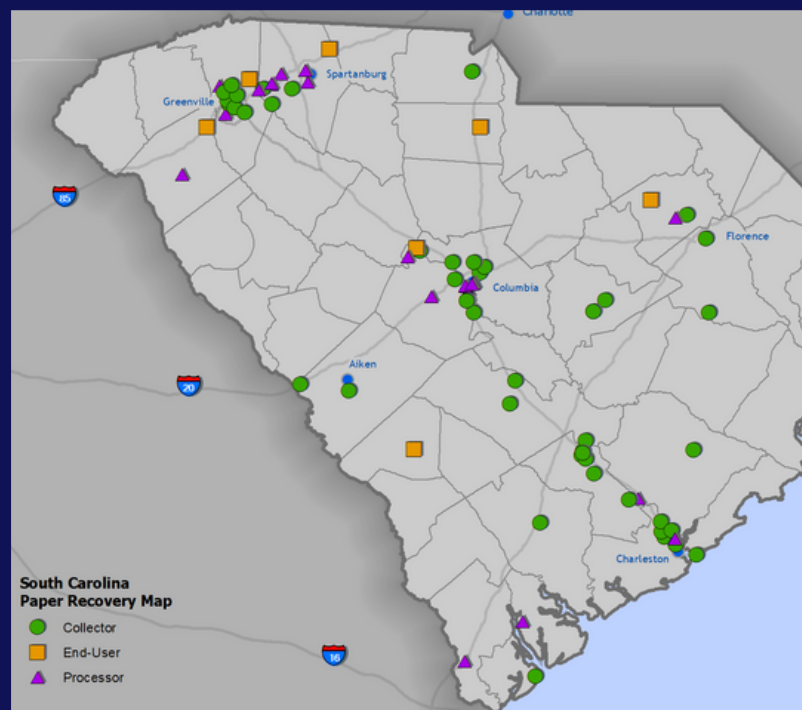
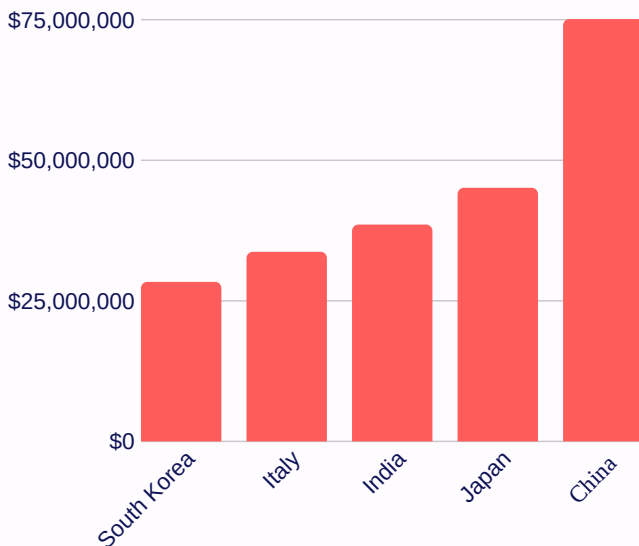
Paper

The paper recovery value chain consists of more than 80 companies who employ approximately 3,000 workers across the state. Though we mainly use digital communication today, most businesses still use a lot of office paper, magazines, and cardboard packaging. Similarly, residents are seeing more Amazon boxes from internet orders. SC has many recycling collectors, haulers, shredders, processors and mills to easily recycle these paper products. In fact, 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. Sonoco and WestRock-Florence are in the Pee Dee region, and Carotell Paperboard and WestRock-Cowpens (formerly KapStone) are in the Upstate. Orchids Paper located a paper mill in Barnwell, SC with 130 employees and uses recycled pre-consumer paper to make tissue.

China's National Sword policy served as a disruptor for fiber and plastic export markets. In March 2018, "Blue Sky" was announced as a program designed to reduce contamination for recycled goods entering China. Moving into 2019, this standard will likely remain consistent. Smaller export markets like Malaysia, Thailand and Vietnam began to accept "export" bales. South Carolina sees the volatility as an opportunity to invest in domestic sorting infrastructure and encourage clean, sorted recycling. 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 were hard hit in 2018. Those paper mills that had the ability to increase mixed paper production benefited from lower material costs while others looked toward mixed paper equipment investment opportunities. OCC makes up the largest portion of fiber in the commercial recycling stream and is the second most prevalent grade, after mixed paper, in municipal recycling programs. OCC had a slow start but experienced consistent growth, ending the year on a high note. Domestic markets remained strong for OCC to the benefit of South Carolina mills.

SC's Top 5 Recycled Paper Export Countries in 2018



Plastics

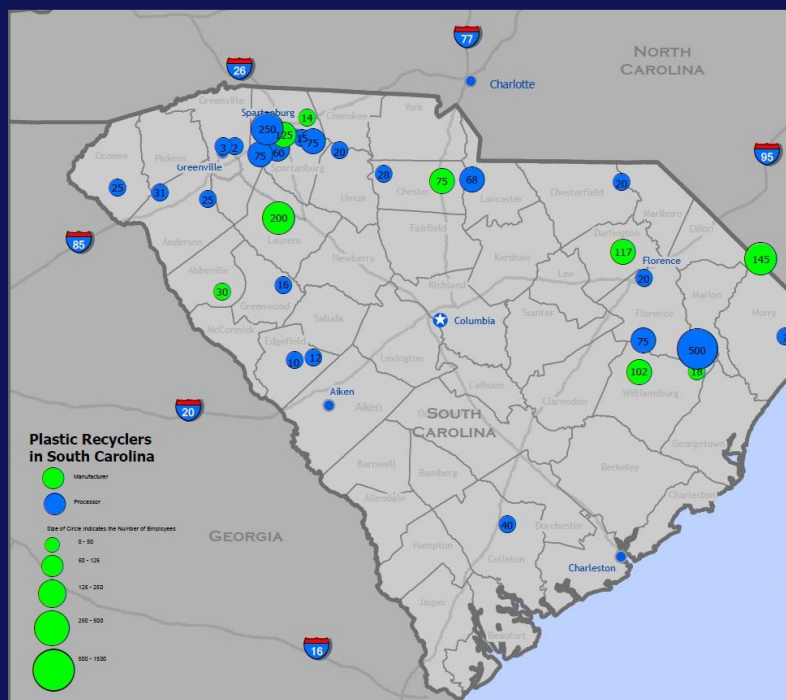
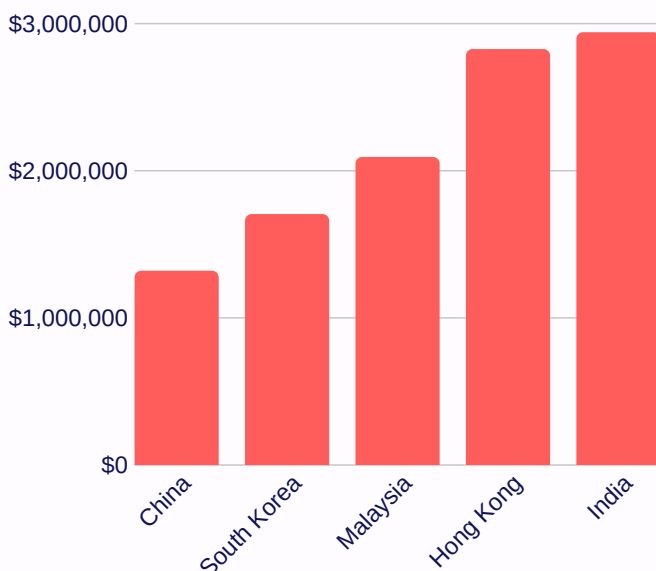
From bottles to car parts and textiles, plastics are everywhere. Companies generate plastic scrap from packaging and manufacturing applications. Luckily, South Carolina has a robust plastic recycling industry with 100 companies in the value chain who collect and recycle residential, commercial and industrial 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.

South Carolina has the capacity to process more than 500 million pounds of plastic bottles per year. Companies like PolyQuest, Palmetto Synthetics, US Fibers, Sun Fibers and others recycle PET bottles into new products. Recycled bottle demand exceeds SC Carolina's-based supply.

Recycled consumer resins for the automotive industry remain strong for recycled content for applications such as manifold and cam covers, trunk and head liners, air ducts and much more. Recycled plastic applications of HDPE, Nylon, PET, and PP have been proven to meet industry specs for tensile strength, impact resistance and safety and more. Industrial plastics (like PC/ABS, PP, Nylon, LDPE, PE, PS) are generated from automotive, distribution, aerospace and other industries. 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.

As 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 2018

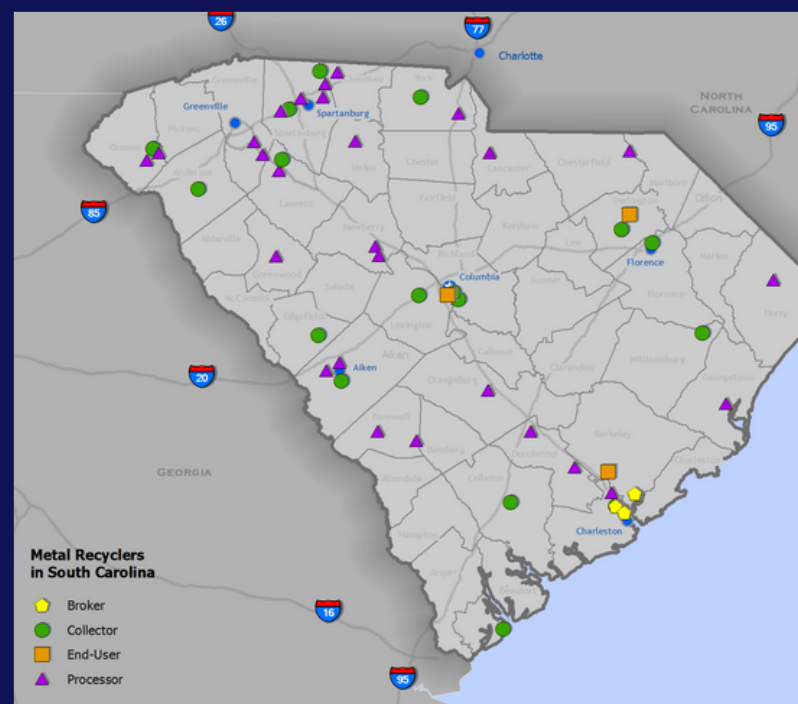


Metals

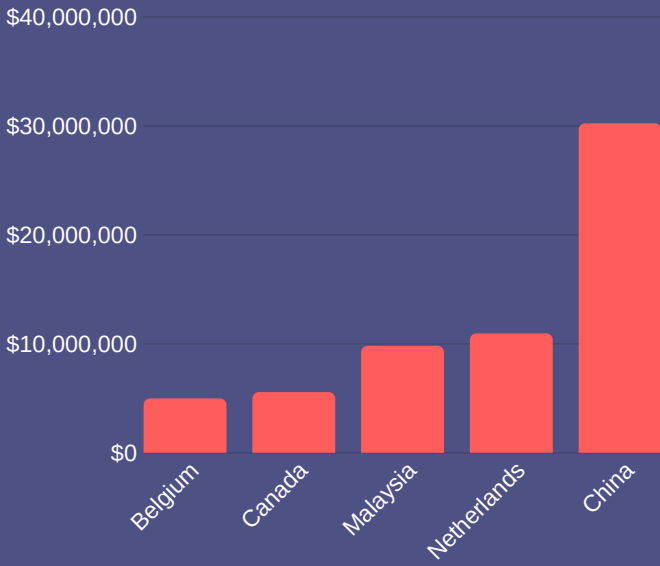
Commercial and industrial firms can reduce waste collection costs by increasing the volume of metals and other recyclables by working with scrap recyclers to divert those materials into the recycling stream. Construction, automotive, metal fabrication, packaging and other industry sectors generate many 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.

South Carolina has four steel mills including two at the Nucor Corporation that are located in Darlington and Berkeley Counties, plus CMC Steel in Lexington and Liberty Steel in Georgetown, SC. Steel is recycled at these locations to create structural steel building products and steel wire rod. Similarly, JW Aluminum, a recycled aluminum mill produces siding, automotive body materials, and flexible packaging. JW Aluminum announced a \$255M investment creating 50 jobs in 2018. The company, located in Mount Holly, SC manufactures building and distributor sheets, fin stock, cable wrap, honeycomb foil and more. The expansion includes the construction of a new, 220,000-square-foot building and the installation of green, state-of-the-art technology.

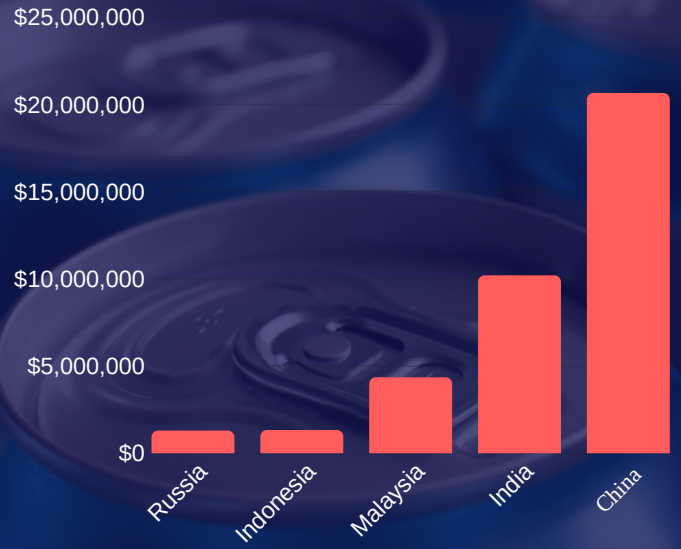
Aluminum markets peaked in the second quarter of 2018 ending the year on a low note. Prices remain strong. Market uncertainty will continue into 2019 with the US and China posturing over tariffs. The strength of the US dollar, demand for steel goods and trade tariffs all have major impacts on domestic steel markets.



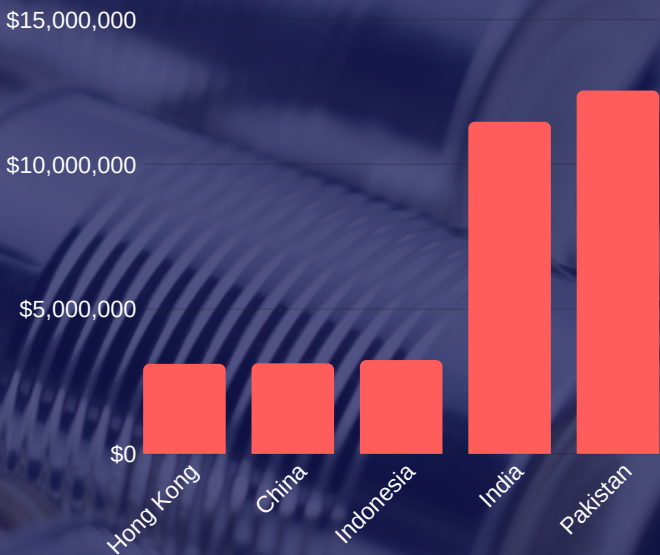
SC's Top 5 Export Countries in 2018 for Recycled Copper



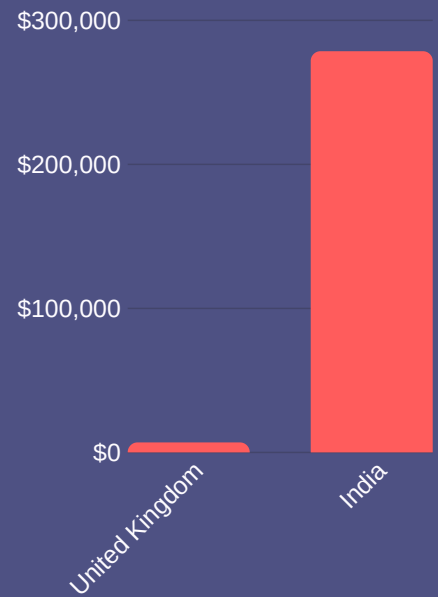
SC's Top 5 Export Countries in 2018 for Recycled Aluminum



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



SC's Top Export Countries in 2018 for Recycled Nickel

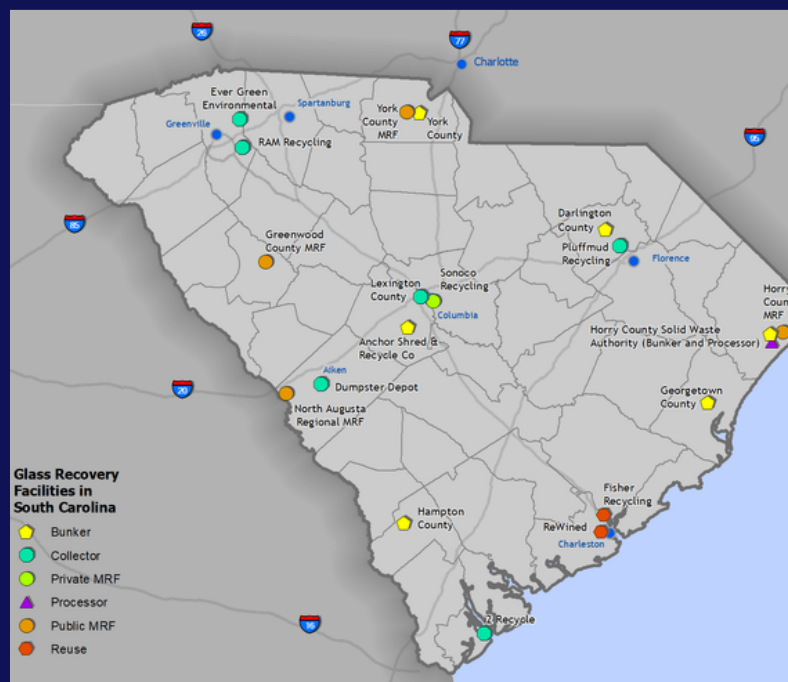


Glass

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. The closest glass processor to South Carolina is Strategic Materials in Wilson, NC and College Park, GA. Single stream collection and processing practices lower the market value for glass as all glass colors (clear, amber, and green) are commingled. This results in a lower value three color-mix (three-mix) coming out of single stream programs which processors then have to sort back out into the individual colors. Businesses who generate the largest volume of glass bottles are largely restaurants, bars, caterers and other hospitality related entities. 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. 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.

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. Examples of reuse of glass in SC: 1) the Horry County Solid Waste Authority which accepts residential glass and has invested in glass crushing equipment to create a crushed glass product suitable for landscape and roadbed applications. 2) Fisher Recycling in Charleston, SC constructs countertops with recycled glass. Fisher Recycling provides commercial collection of glass and collects glass bottles from businesses such as restaurants and bars. 3) ReWined in Charleston, SC crafts the base of repurposed wine bottles from restaurants into candle vessels with a 100% natural soy wax.

SC's Exports Countries in 2018 for Recycled Glass

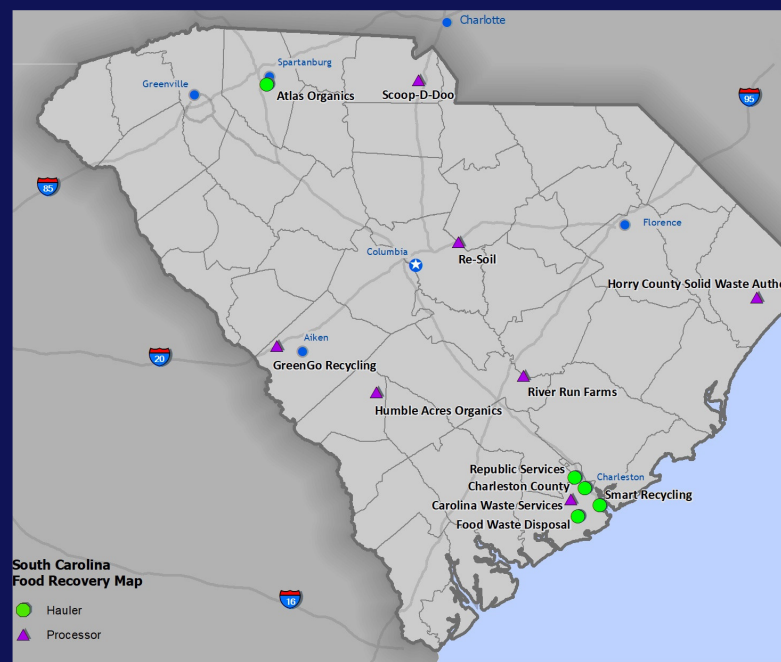


Food

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. Wasted food also 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. All this while more than 41 million Americans are food insecure. Why are we wasting all this food? The US spends less than any other country on its food supply resulting in food being less valued and thrown away more. Food waste occurs at all levels of the system from farm to plate.

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. Virtually anyone can take part in reducing food waste. 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.

Businesses in SC have access to four industrial scale food composting facilities in Greenville, Columbia, Horry County and Charleston County, as well as an anaerobic digester in Charlotte, NC. In October 2018, Food Waste Disposal and the Composting Rangers merged with CompostNow in Charleston. SMART Recycling purchased Re-soil in Elgin. We will continue to see momentum in this emerging market in 2019.



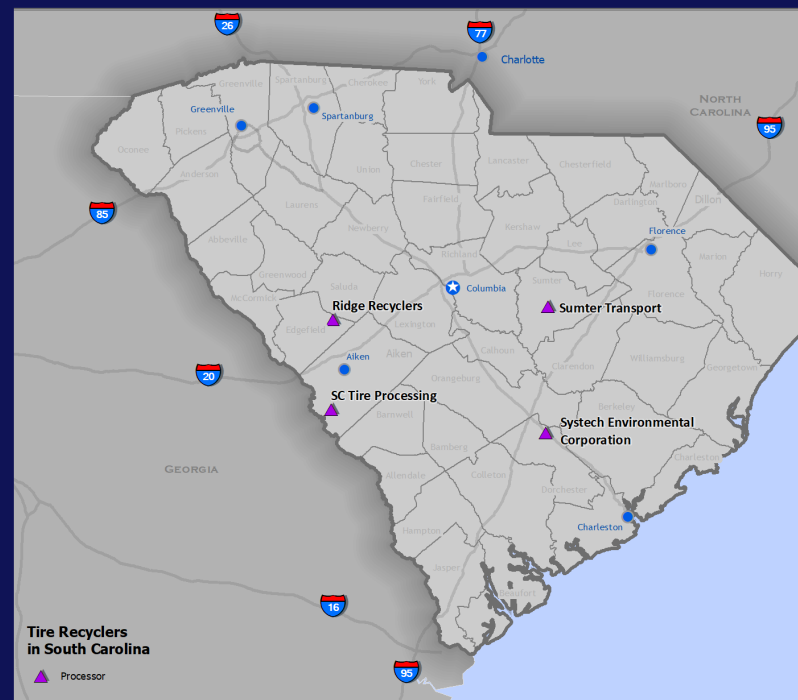
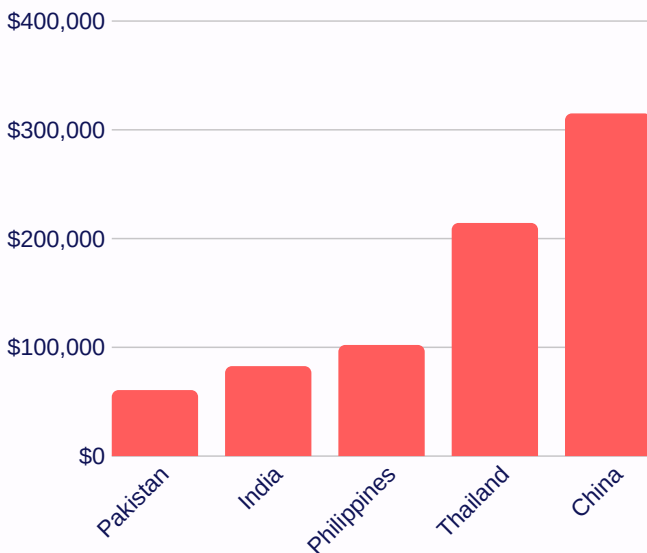
Tires

South Carolina's growing tire manufacturing industry generate off-spec production tires for recycling in addition to scrap tires generated by retailers, fleets and residents. An estimated 5.02 M 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.

South Carolina's DHEC certified in-state tire recyclers include Ridge Recyclers, Made to Last Straw, 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 South Carolina 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 will continue to be TDF, civil engineering applications and ground rubber applications. Whole tires are banned by law from any type of landfill disposal so growing recycling markets for tires is crucial to the success of the industry. Commerce's Recycling team is working with public and private sector partners to develop new markets.

SC's Top 5 Recycled Rubber Export Countries in 2018



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 at nearly 40 events over the past 3 years. In addition to direct consumer-facing events, YBMJ promoted the recycling message through videos on social media as well as through a multi-media campaign in the state's capitol center. The videos received tens of thousands of views, leading to greater education about recycling's economic impact.

Staff launched the Your Bottle Means Jobs campaign in the Columbia Metropolitan area during the October - December 2018 period. The campaign ran in the Midlands region through billboards, radio, and social media outlets. The campaign generated over **1.27 M billboard impressions** across **8 locations**. New radio ads were customized for the campaign generating **2.57 M listens**. Social media boosts generated over **230,000** impressions on Twitter and Facebook and over **2,400** clicks. Staff developed a toolkit for recycling professionals and trains them to help spread the word about bottle recycling to help our economy.



DON'T WASTE FOOD SC

Staff launched a Don't Waste Food SC (DWFSC) multi-media campaign in the Midlands during the October - December 2018 period. The campaign ran in Lexington, Richland and Sumter counties utilizing billboards, radio, and social media outlets. A bonus was that some DWFSC billboards remained in place as late as March 2019 due to unsold inventory. The campaign generated over **2.63 M** billboard impressions across 8 locations. New radio ads were customized for the campaign generating **2.57 M** listens. Social media boosts generated over **210,000 impressions** on Facebook and over **1,200 clicks**. Staff developed a toolkit online for recycling coordinators, businesses, non-profits, and other recycling professionals to help spread the word about food waste reduction strategies.

DWFSC was featured on four Cumulus Stations who offer a spot per spot match. Cumulus provided reduced rates for B106.7 (Adult Contemporary with far reach), 107.5 (The Game), 103.1 (Urban Adult Contemporary), 98.5 (Classic Hits). Additionally, Midlands Media Group (The Dude) matched placement, as well as including message in their daily e-news Coladaily.com. The radio schedule included both drive time and other desirable slots. The campaign provided public service space through the Outdoor Advertising Association of South Carolina. Eight vinyls were produced and installed.

DWFSC staff were able to track the success of ads on Facebook via ensuring peak placement, active monitoring and periodically running reports. The campaign ran A-B testing to provide feedback early in the campaign so ads were tweaked for maximum success. Target demographics focused on individuals who were 28+, living in a 25 mile radius of Columbia, Lexington or Sumter, South Carolina, having a household income in the top 50% of ZIP codes.



www.scdhec.gov/dontwastefoodsc



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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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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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.