



BREAKOUT 5: LEADING EXAMPLES OF TEXTILE CIRCULARITY IN THE CAROLINAS

Carolina Recycling Association Conference 2024

PANELISTS



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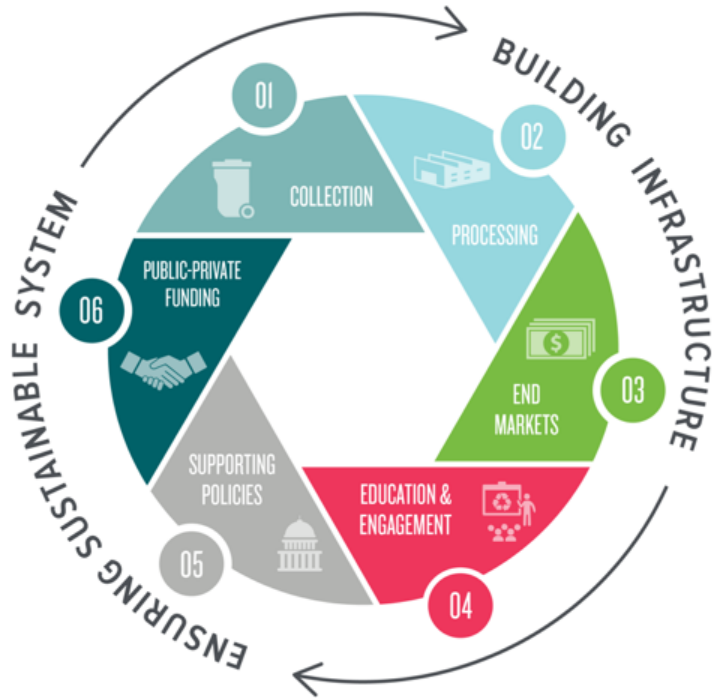
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BUILDING SYSTEMS

for people, profit and planet



ABOUT RRS



A purpose-driven consultancy.



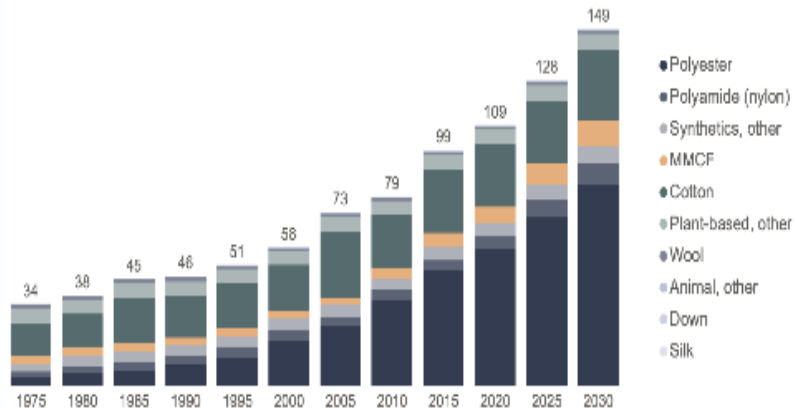
Committed to making a positive business, environmental and social impact by helping our clients to achieve their climate, waste and resource recovery goals.



Providing business and technical expertise to build the circular economy of the future.

PRODUCTION AND CONSUMPTION

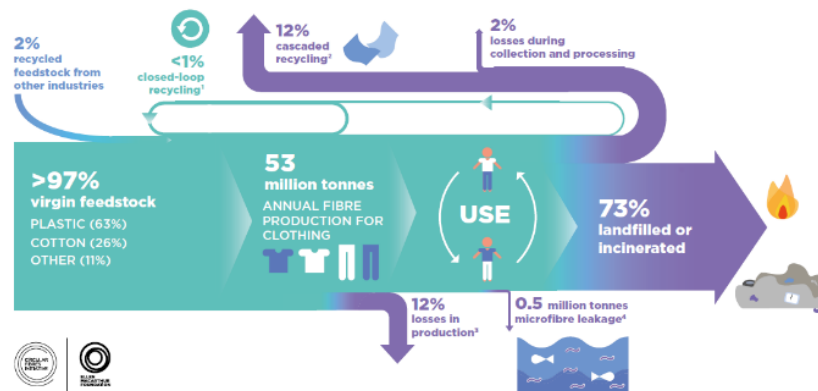
Global fiber production (million tonnes)¹



Source: Textile Exchange based on data from ICAC, FAO, WTO, Monitor Group Africa, Isoreo, CIEFF, JAC, M&E Research, and its own modelling

Source: Textile Exchange 2022

FIGURE 3: GLOBAL MATERIAL FLOWS FOR CLOTHING IN 2015

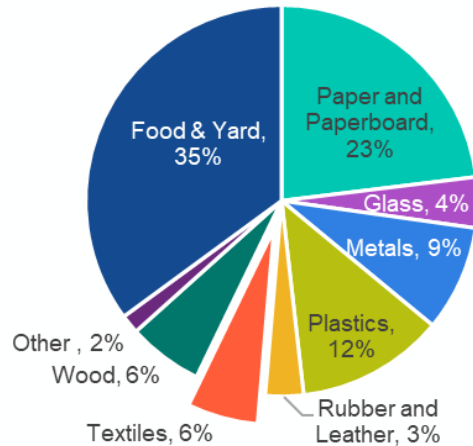


- 1 Recycling of clothing into the same or similar quality applications
- 2 Recycling of clothing into other, lower-value applications such as insulation material, wiping cloths, or mattress stuffing
- 3 Includes factory offcuts and overstock liquidation
- 4 Plastic microfibres shed through the washing of all textiles released into the ocean

Source: Ellen MacArthur Foundation 2017

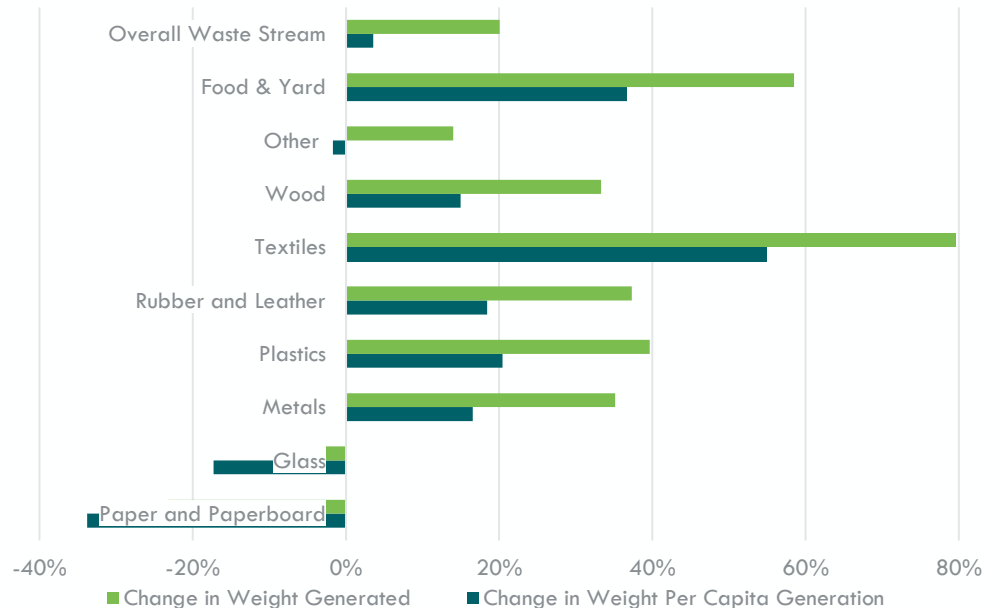
TEXTILE WASTE IS GROWING FASTER THAN ANY OTHER MATERIAL IN THE US WASTE STREAM

2018 U.S. MSW: 15,4 Million Tonnes of Textile Waste of 265 Million Tonnes Total MSW



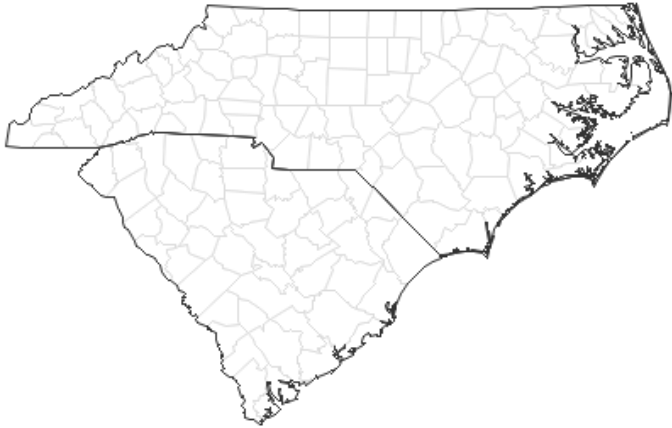
RRS analysis based on US EPA data

Percent Change in Absolute Weight and Weight Per Capita Waste Generation, 2000-2018



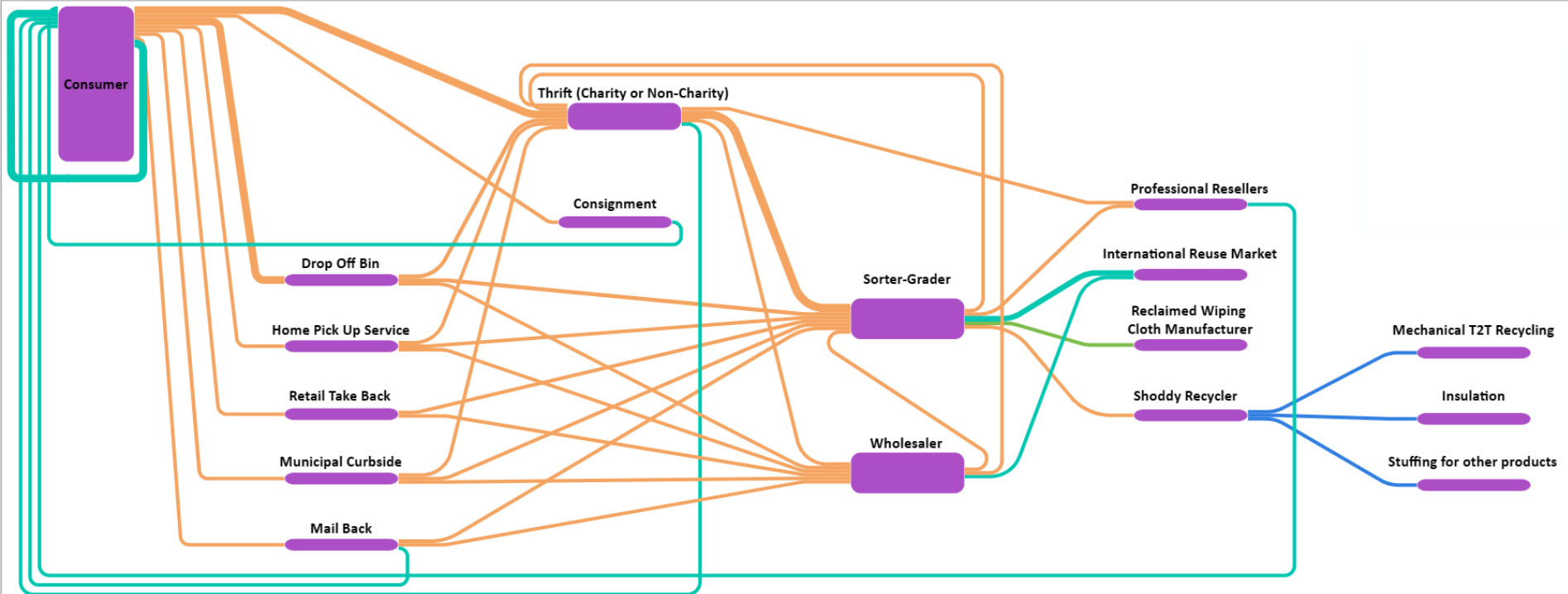
SIGNIFICANCE OF CAROLINAS

North and South Carolina



- NC & SC have a 200+ year history as the country's epicenter of textile manufacturing.
- Still today, the Carolinas lead the nation in total value of textile exports and is home to the largest textile mill industry in the US.
- These mills are pushing boundaries using recycled fibers in addition to the emergence of new chemical recyclers looking to site plants here.
- There is also a strong foundation of university R&D forming the backbone of new innovation in textile manufacturing. NSF just awarded \$160M in funding to the Industrial Commons and partner universities.
- Carolina stakeholders have the right combination of capabilities and expertise to bring sustainable manufacturing back through textile circularity.

HOW USED TEXTILES ARE MANAGED TODAY



END MARKETS OPTIONS FOR USED TEXTILES

THERE ARE A VARIETY OF END MARKETS FOR TEXTILES, EACH AT DIFFERENT STAGES OF MATURITY.



Traditional Reuse Markets

Thrift
Donation
Export



Emerging Reuse Markets

Recommerce
Resale



Traditional Recycling Markets

Rag
Shoddy
Mechanical fiber recycling

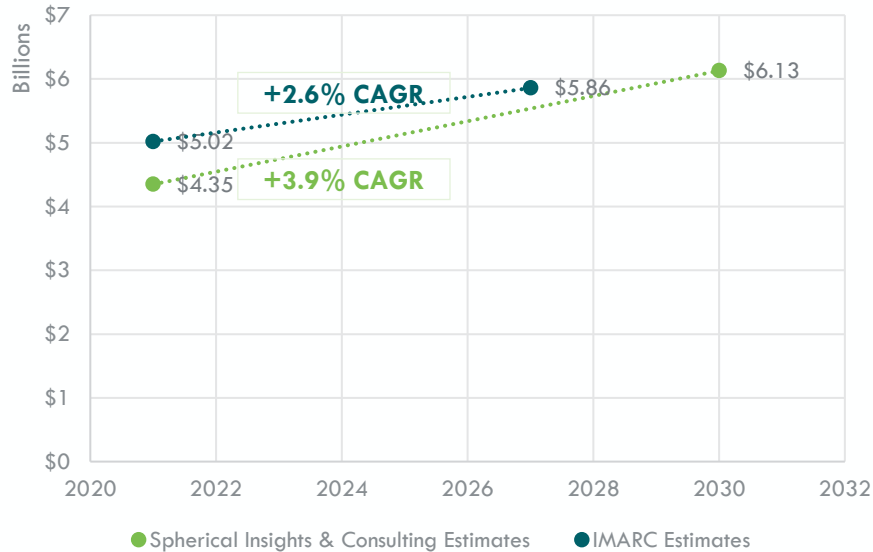


Emerging Recycling Markets

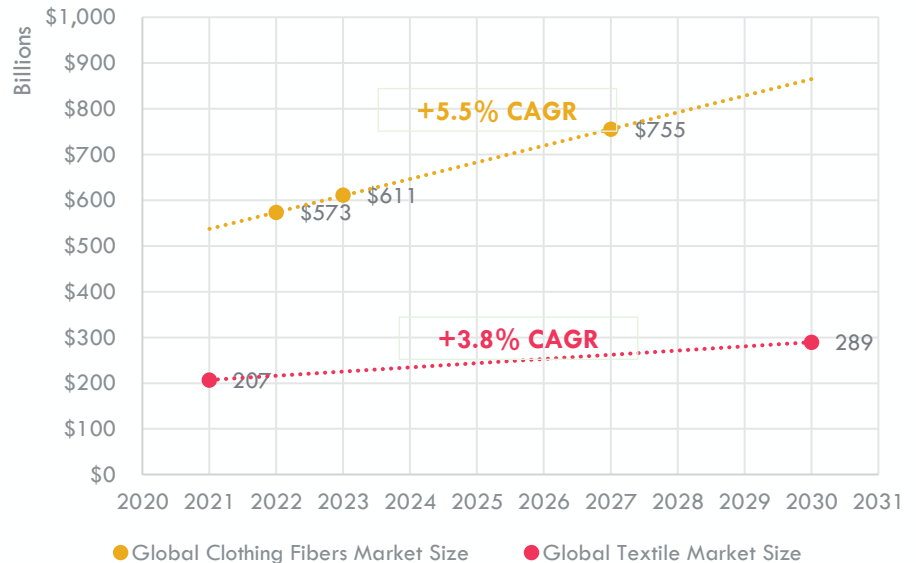
Molecular fiber to fiber recycling

VALUATION OF THE GLOBAL TEXTILE RECYCLING MARKET

Size of the Global Textile Recycling Market (USD)



Size of New Fiber and Textile Industry Globally (USD)



Sources: 1) IMARC Group 2022 2) Spherical Insights & Consulting 2022 3) Straits Research 2022 4) Business Research Company 2022

RECYCLERS

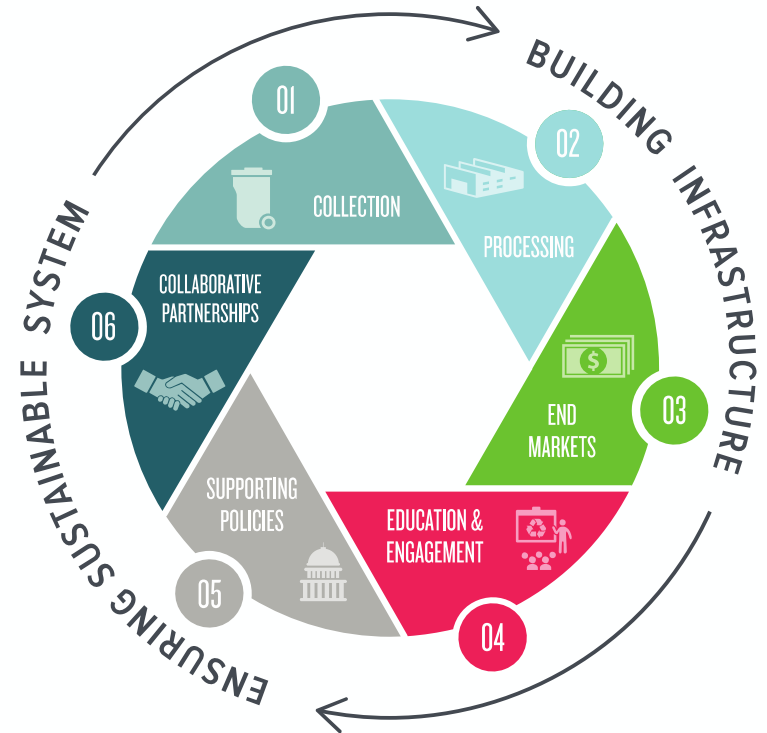


Textile recovery technologies



HOW TO SCALE TEXTILE RECOVERY

- 01 Widespread convenient collection systems;
- 02 Regional textile sorting facilities (textile MRFs), mechanical and advanced recycling technologies to convert inputs into global commodities.
- 03 Robust end markets with brand uptake agreements that support a domestic recycler economy;
- 04 Compelling outreach that drives engagement with consumers, brands, and communities;
- 05 Thoughtful supportive policies that create a level playing field and incentivize textile recovery and infrastructure development; and
- 06 Innovative strategic partnerships that increase the circularity of pre-consumer and post-consumer textiles and decrease textile waste going to landfill.



PANEL DISCUSSION



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