



Plastics Recycling in North Carolina

Environmental Review Commission
February 7, 2024

NCDEQ Division of Environmental Assistance and Customer Service



North Carolina Recycling Industry

Supports 550 private businesses directly employing 15,700 North Carolinians

NC Recycling Industry Impact*

\$3.21B economic activity

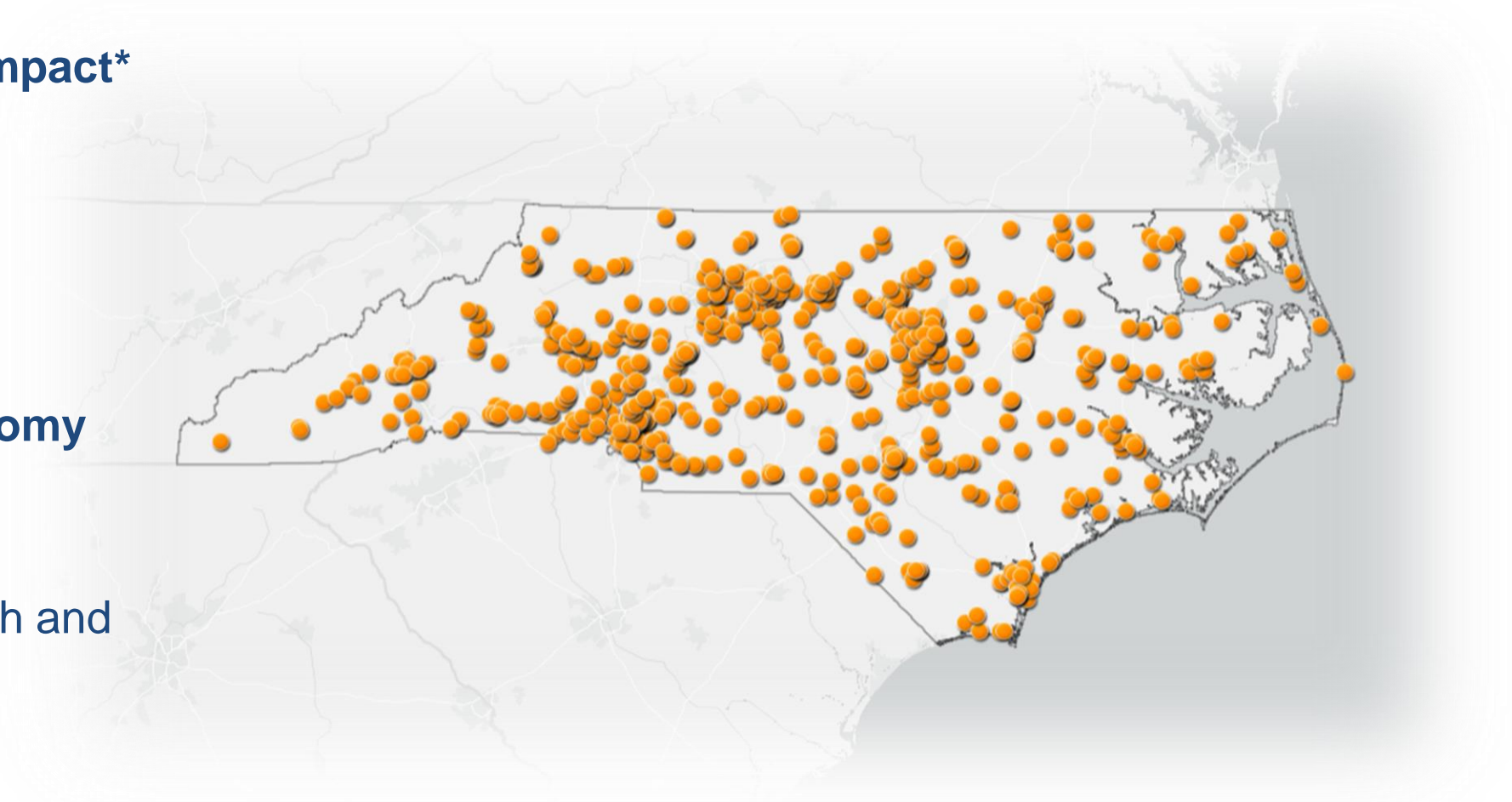
\$900M in wages

\$298M in tax revenues

Building a Circular Economy

60+ manufacturers using
recycled content

Opportunities for job growth and
economic development



* Institute for Scrap Recycling Industries (ISRI) 2021 Economic Impact Study: <https://www.isri.org/economic-impact>

North Carolina Plastics Recycling Industry

More than 120 private businesses recycling PET and HDPE



UNIFI
Yadkinville and Reidsville

Manufactures 100% recycled yarn from plastic PET bottles.



Southeastern Container
Enka and Kings Mountain

Manufactures PET drink bottles for Coca-Cola Consolidated using recycled content.



Clear Path Recycling
Fayetteville

Largest PET recycler in US, recycling bottles into flake for use in carpet or new food and beverage packaging.



Crumpler Pipe
Roseboro

Manufacturers corrugated pipe using recycled HDPE bottles and jugs.

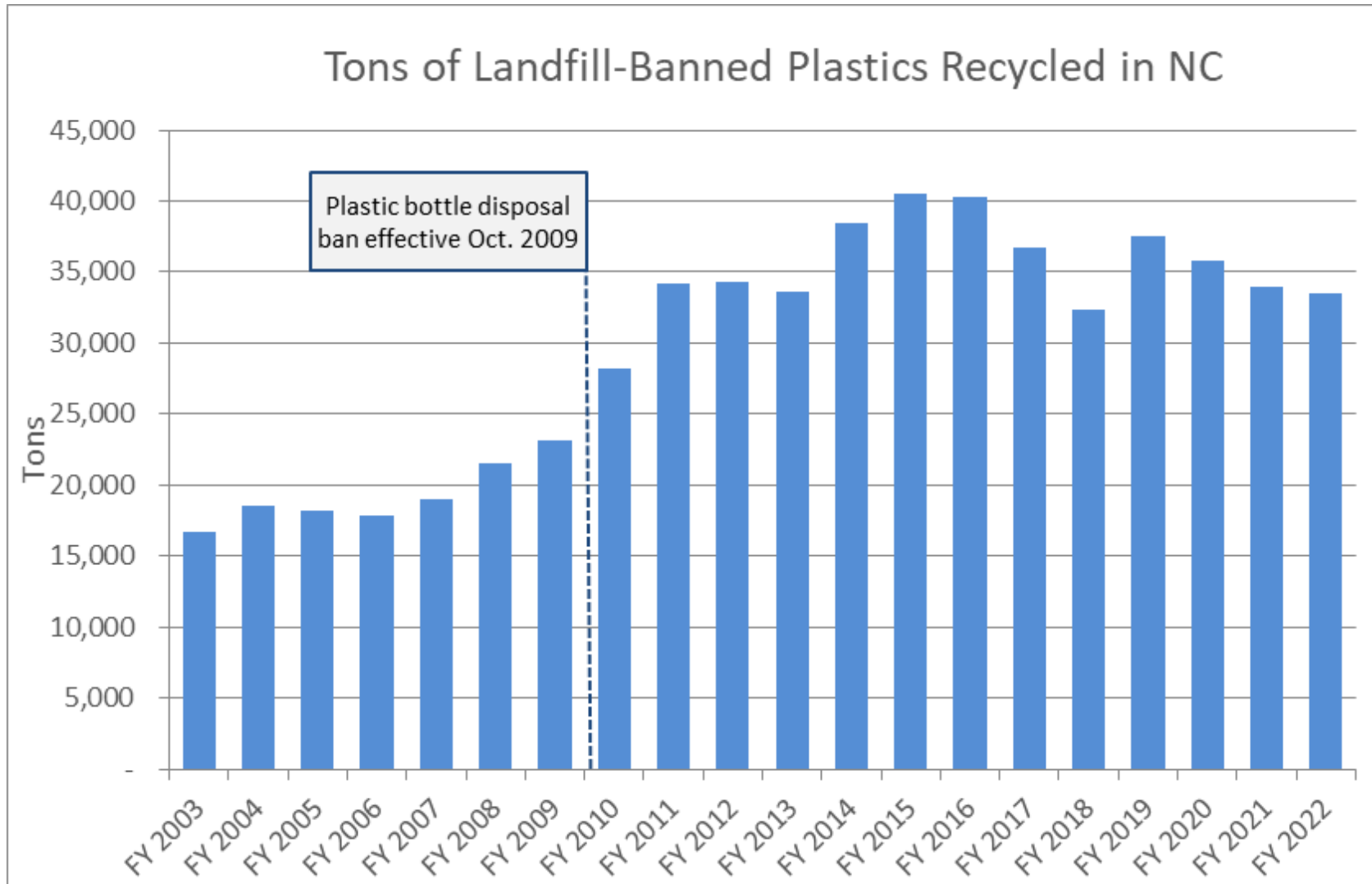
Plastics Banned from Landfill Disposal



Plastics addressed in the following slides include those banned from landfill disposal in North Carolina pursuant to G.S. 130A-309.10(f)(11)

- Plastic bottles: *Recyclable rigid plastic containers... that have a neck smaller than the body of the container, and that accept a screw top, snap cap, or other closure.*
- PET (#1) bottles, jugs and jars.
- HDPE (#2) bottles and jugs.
- *Does not apply to motor oil or pesticide containers.*

Plastics Recycling by NC Local Governments



Plastic bottle recycling has more than doubled since FY 2003.

Benefits of the landfill ban:

- Plastics recognized as a valuable commodity.
- Public expansion of recycling programs.
- Private investment in hauling and processing.
- Provides manufacturing feedstock.

Investment Supported with Grant Funding

5-Year Recycling Grant Impacts:

- 316 jobs created
- 302,780 tons added diversion

Clear Path Recycling

- Added equipment to improve efficiency and increase yield.
- 6,550 tons additional recycling annually
- \$1.7M private investment



LOCATION

 Fayetteville, Cumberland County 

AMOUNT AWARDED

 **\$140,000** over three grants

NUMBER OF JOBS

 **90**

END PRODUCT

 PET flake — for polyester fiber and packaging

Landfill-Banned Plastic Generation and Recycling

3-Year Total	Tons
Generated: *	466,028
Waste-to-Energy: **	243
Residential Recycling through local government programs:	102,929
Private-Sector Recycling:	unknown

* Based on national generation data from the Association of Plastics Recycling (APR) <https://plasticsrecycling.org/library>, adjusted by population to provide a statewide estimate.

** Waste-to-energy occurs only in the northeast region of the state where fewer than 10 communities send a portion of recyclables to an out-of-state facility in Virginia.

Local governments reported **102,929 tons of landfill-banned plastics sent to material recovery facilities (MRFs) for recycling** in the past 3 years.

- PET and HDPE, along with aluminum cans, are the most valuable materials in the recycling stream.
- Markets for landfill-banned plastics are strong and growing in North Carolina.
- Recyclers and manufacturers must source PET and HDPE from national and international markets to meet demand.

Recycling's biggest challenge is participation at the consumer level.

How to Achieve a Higher Plastic Bottle Recycling Rate

Recycling's biggest challenge is participation at the consumer level.

More landfill-banned plastics can be recycled with:



Improved Infrastructure

Regions of the state need more hauling and processing infrastructure to improve recycling economics (Eastern NC, Northeastern NC and Outer Banks, Far Western NC).

Increased Access to Convenient Recycling

46% of North Carolina households don't have recycling service provided at their home.

Education

Even when recycling is available only 57% of landfill-banned plastic is placed in recycling containers.*

* Based on national data from The Recycling Partnership 2024 State of Recycling Report: <https://recyclingpartnership.org/residential-recycling-report/>

Managing Landfill-Banned Plastics as MSW

If all landfill-banned plastics were landfilled...

- A minimum of 33,500 tons of additional material would be landfilled annually.
- Local governments would pay \$118.35 per ton* for collection, transportation, and landfilling.
- Costs to manage plastics as waste are **expected to increase** as landfill capacity becomes limited.
- Limited landfill capacity *can be detrimental* to NC business recruitment and expansion.

Municipal Solid Waste (MSW) Average Cost Per Ton*	
Collection and Transportation:	\$77.96
Landfill Tipping Fee:	\$40.39
Total Cost:	\$118.35

* Based on data from 193 local government programs where MSW full cost accounting information was provided on FY 2022 Local Government Annual Solid Waste and Materials Management Report.

Managing Landfill-Banned Plastics as Recycling

If all landfill-banned plastics were recycled...

- 2,900+ new jobs would be created.
*23 jobs created for every 1,000 tons of plastic recycled.**
- As much as 124,500 tons of additional material (worth \$47 million) would be recycled annually.
- Local governments would pay \$179.10 per ton** for collection, transportation, and recycling.
- Recycling economics can be improved with:
 - Enhanced infrastructure;
 - Contamination reduction; and
 - Increased participation to bring economies of scale.

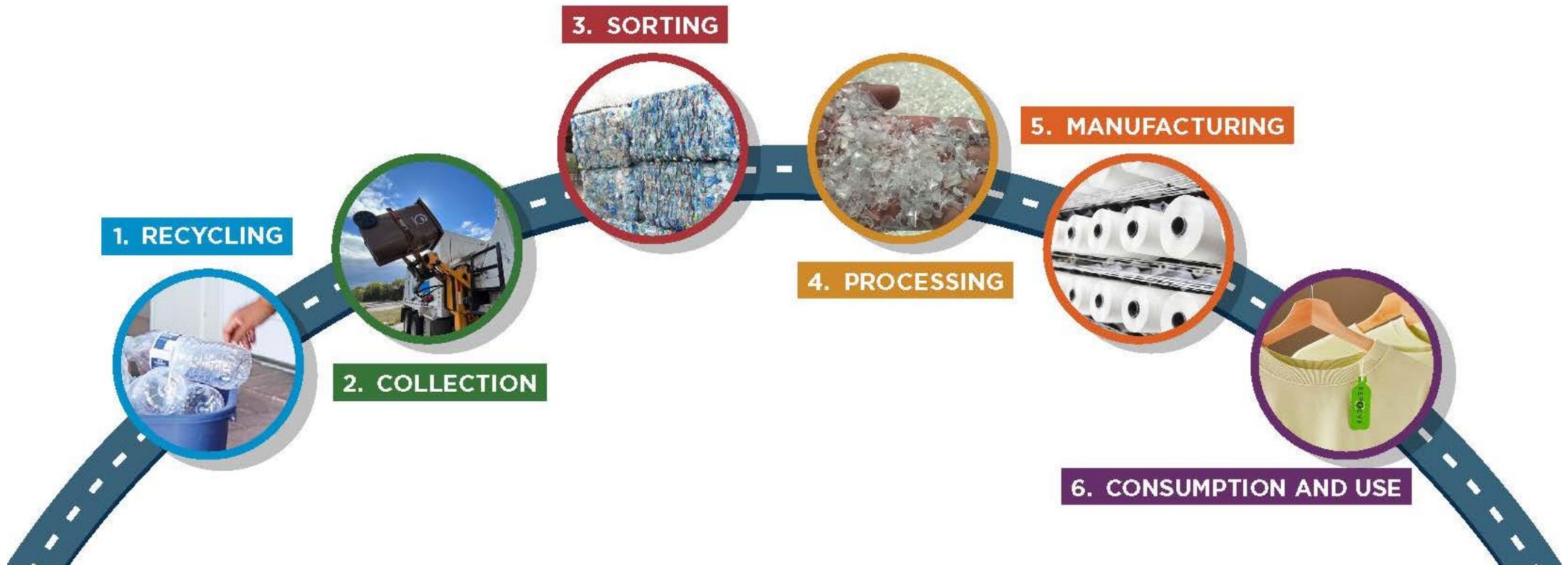
Recycling Average Cost Per Ton**	
Collection and Transportation:	\$134.00
Landfill Tipping Fee:	\$45.10
Total Cost:	\$179.10

* Environmental Protection Agency 2020 Recycling Economic Information Report: <https://www.epa.gov/smm/recycling-economic-information-rei-report>

** Based on data from 56 local government programs where recycling full cost accounting information was provided on FY 2022 Local Government Annual Solid Waste and Materials Management Report.

Benefits of Increased Plastics Recycling in NC

- Maintain North Carolina's status as a national leader in the plastics recycling industry.
- Continue to grow the circular economy.
- Supply manufacturers with feedstock to help meet increasing recycled content goals.
- Stimulate additional investment and the creation of well-paying jobs.



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