



Market and Technology Report

2023-2026



August 31, 2026

This report submitted pursuant to NYSDEC Permit Number 7-3142-00028/000011, Certificate to Operate the Onondaga County Resource Recovery Facility; NYSDEC Permit Number 7-3156-00047/00001 Permit to Construct and Operate the OCRRA Landfill; and NYSDEC Permit Number 7-3148-00048/00001-0 Solid Waste Transfer Station-Ley Creek.

Submitted To:

New York State Department of Environmental Conservation

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Introduction

The following report includes an analysis of what markets exist for materials that are currently accepted in Onondaga County's curbside recycling program. The report also includes a review of developing technologies that result in the creation or enhancement of economic markets for materials that are not currently required to be separated from the waste stream.

Current Recycling Program in Onondaga County

Onondaga County currently has a population of approximately 470,000, with over 194,000 occupied households. The solid waste management system is managed by the Onondaga County Resource Recovery Agency (OCRRA) on behalf of the Planning Unit, Onondaga County. OCRRA serves 33 of the 35 municipalities of Onondaga County with quality programs and sound waste solutions. OCRRA's award-winning, integrated solid waste program continues to exceed established recycling goals and provide safe and environmentally appropriate waste management. OCRRA funds the recycling program and other operations through disposal tip fees supplemented with revenues from the sale of electricity from the Waste-to-Energy Facility, and grant funding from the New York State Department of Environmental Conservation.

OCRRA has a strong recycling program due to its commitment to fund the processing and marketing of recyclables, its ability to maintain long-term contracts for services, including a contract with Waste Management-Recycle America (WM-RA) for services at the Liverpool material recovery facility (MRF) and its comprehensive and innovative public education efforts.

The following materials are currently collected in Onondaga County's curbside recycling program.

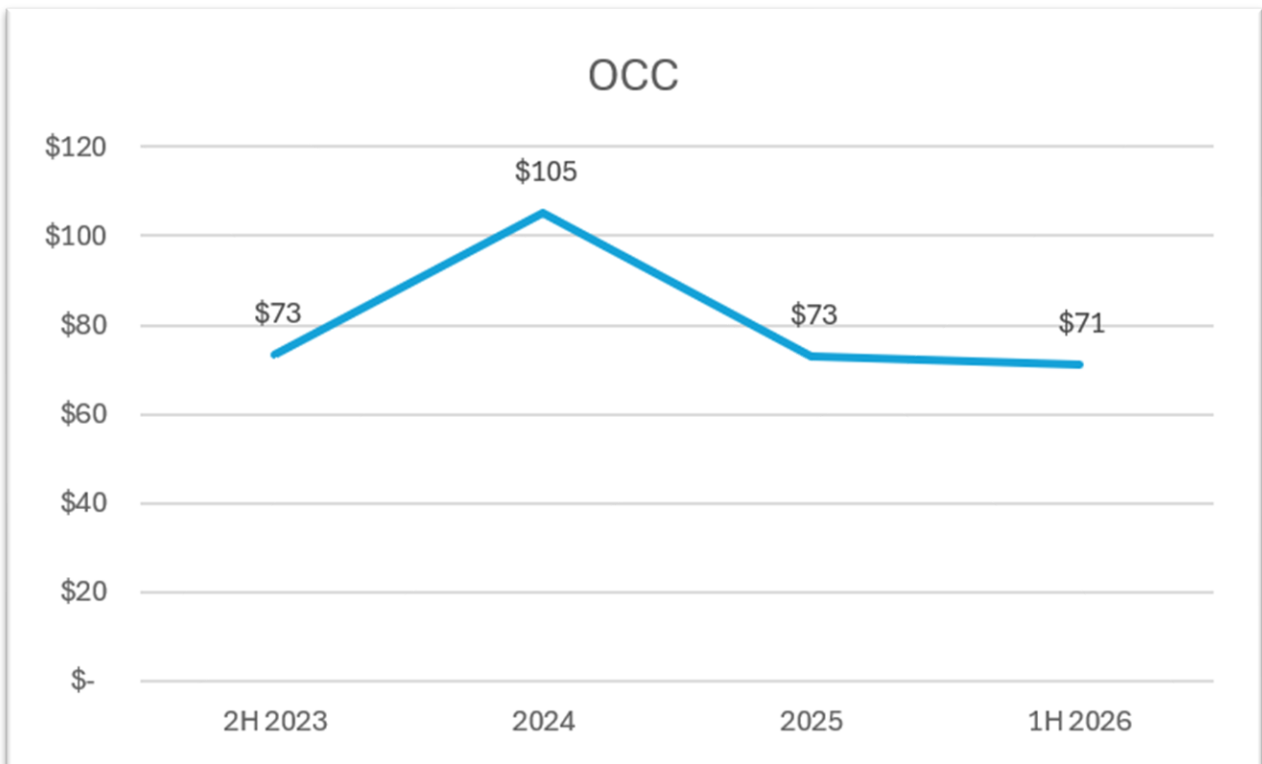
- Office Paper and Discarded Mail
- Newspapers and Magazines
- Corrugated Cardboard, Brown Paper Bags, Paperboard, Pizza Boxes
- Glass Food and Beverage Containers
- Metal Food and Beverage Containers
- Aluminum Foil
- Aerosol Cans
- Plastic Bottles, Jugs and Jars
- Plastic Dairy Tubs

Market Analysis for Non-Hazardous Solid Waste

OCRRA does not collect, process or market the materials that are collected from the curbside recycling program. OCRRA has a contract agreement with Waste Management-Recycle America (WM-RA) to process and market residential curbside recycling at the WM owned and operated material recovery facility in Liverpool, NY. The recycling market information by commodity type from the second half of 2023 through the first half of 2026 is described below. Prices are based on the higher of the prices published on Secondary Materials Pricing (SMP) for the New York (NE US/Maritimes) region, first dated price each month, as contractually agreed between OCRRA and Waste Management.

Old Corrugated Cardboard (OCC)

OCC collected from Onondaga County's curbside residential recycling program is marketed to pulp and packaging manufacturers in New York State. In the second half of 2023, OCC averaged \$73/ton. In 2024, the average value per ton rose to \$105/ton. In 2025, this value returned to the average level seen in the second half of 2023, \$73/ton. In the first half of 2026, the average value decreased to \$71/ton.

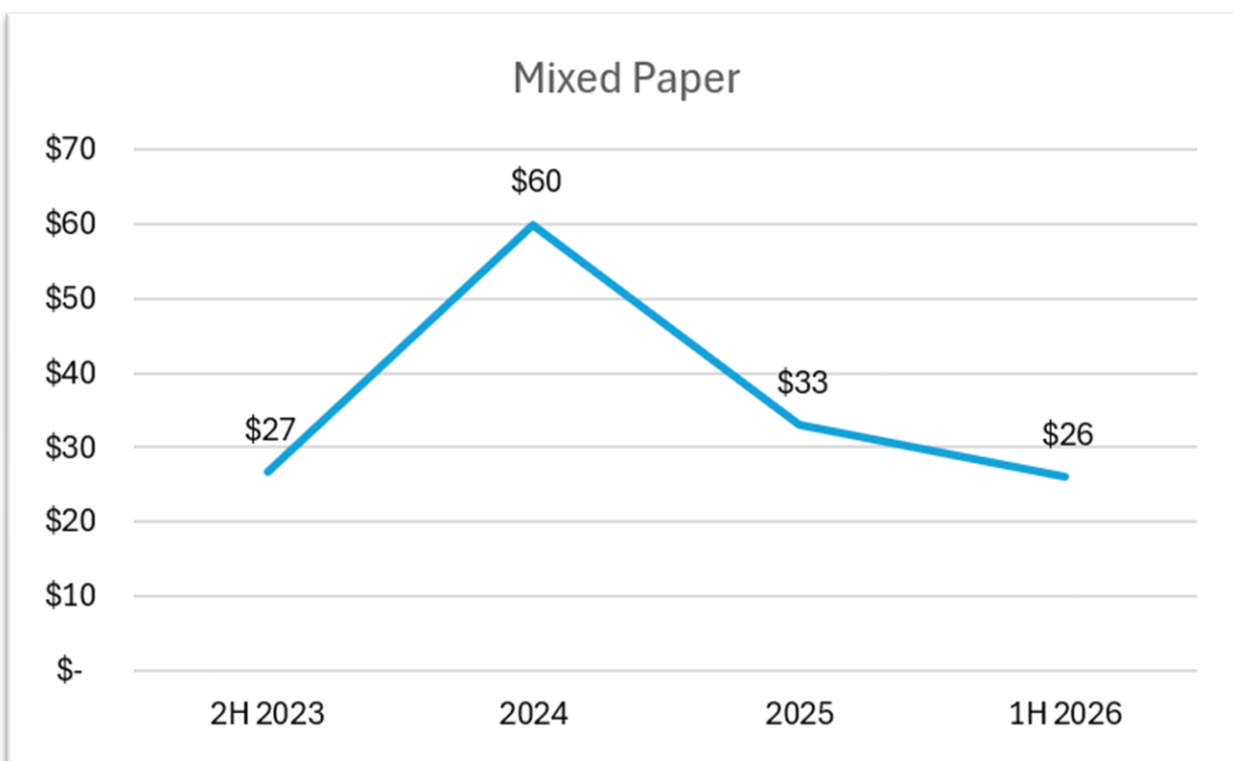


Mixed Paper

Mixed Paper includes items like newspapers, magazines, catalogs, paper and mail collected from Onondaga County's curbside residential recycling program. Mixed Paper is marketed to a paper mill in Ohio.

In the second half of 2023, mixed paper's value averaged \$27/ton. In 2024, the average value for Mixed Paper spiked to \$60/ton. In 2025, the market value declined to an average of \$33/ton. As of June 2026, the average value of a ton of Mixed Paper is back near levels seen in the second half of 2023, averaging \$26/ton for the period.

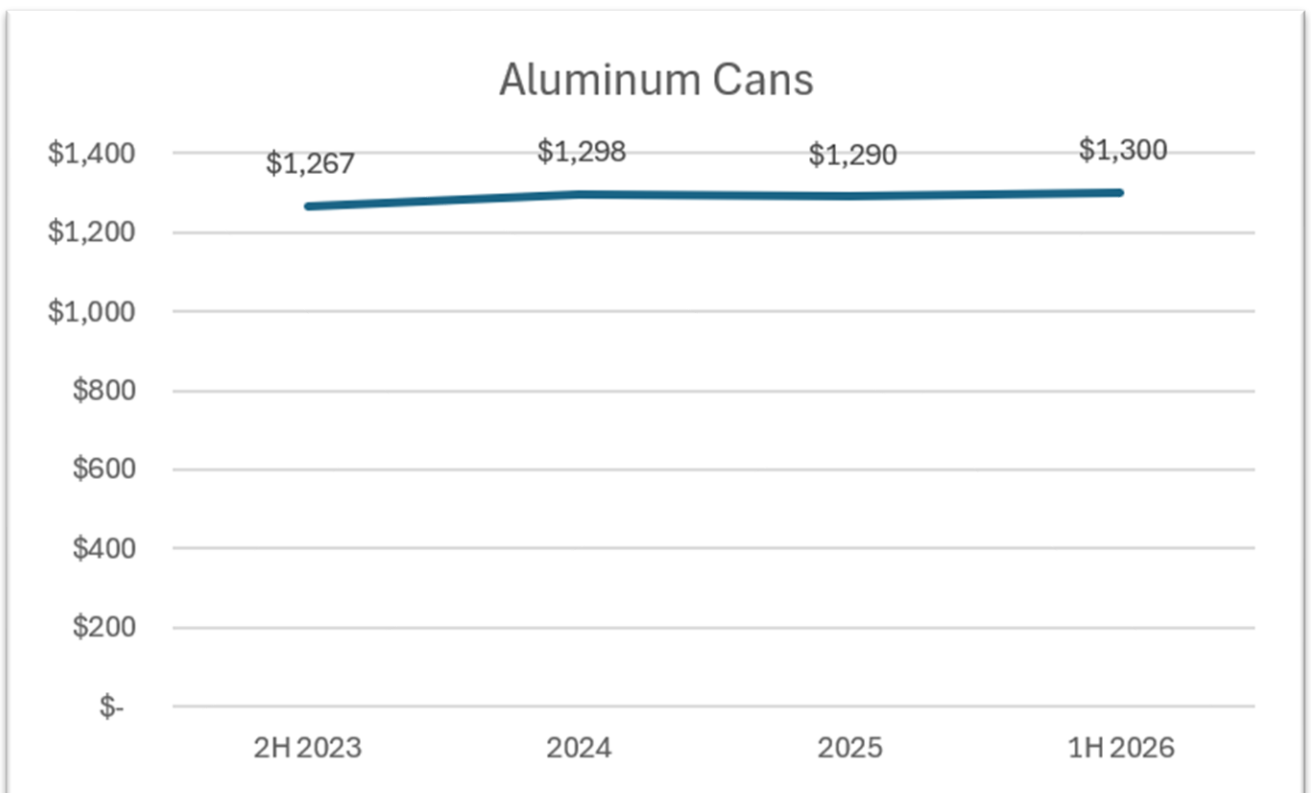
Waste Management rolled out an initiative to accept paper to-go cups in late 2025, and we are evaluating markets before adding them to our list of acceptable items.



Aluminum Cans

Aluminum cans collected from Onondaga County's curbside residential recycling program are marketed to aluminum can manufacturers in the northeastern United States.

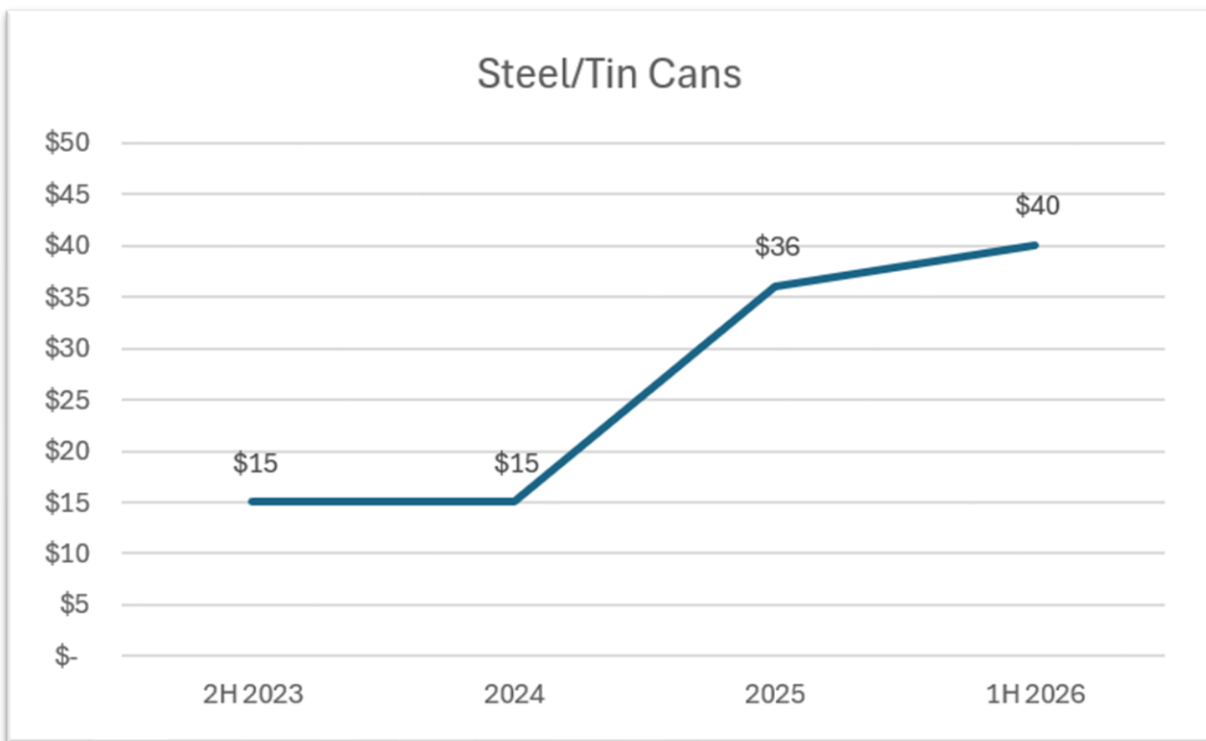
In the second half of 2023, aluminum cans averaged \$1,267/ton. In 2024, the annual average value of aluminum slightly increased to \$1,298/ton. In 2025, the average value declined to \$1,290/ton. As of June 2026, the average value of aluminum has risen to \$1,300/ton. Over the 3 years, the price of aluminum has remained relatively stable.



Steel/Tin Cans

Steel/tin cans collected from Onondaga County's curbside residential recycling program are marketed to steel mills in various domestic locations, depending on demand. The recycled metal is used as raw material to create new products across diverse industries like automotive, construction, electronics, and more.

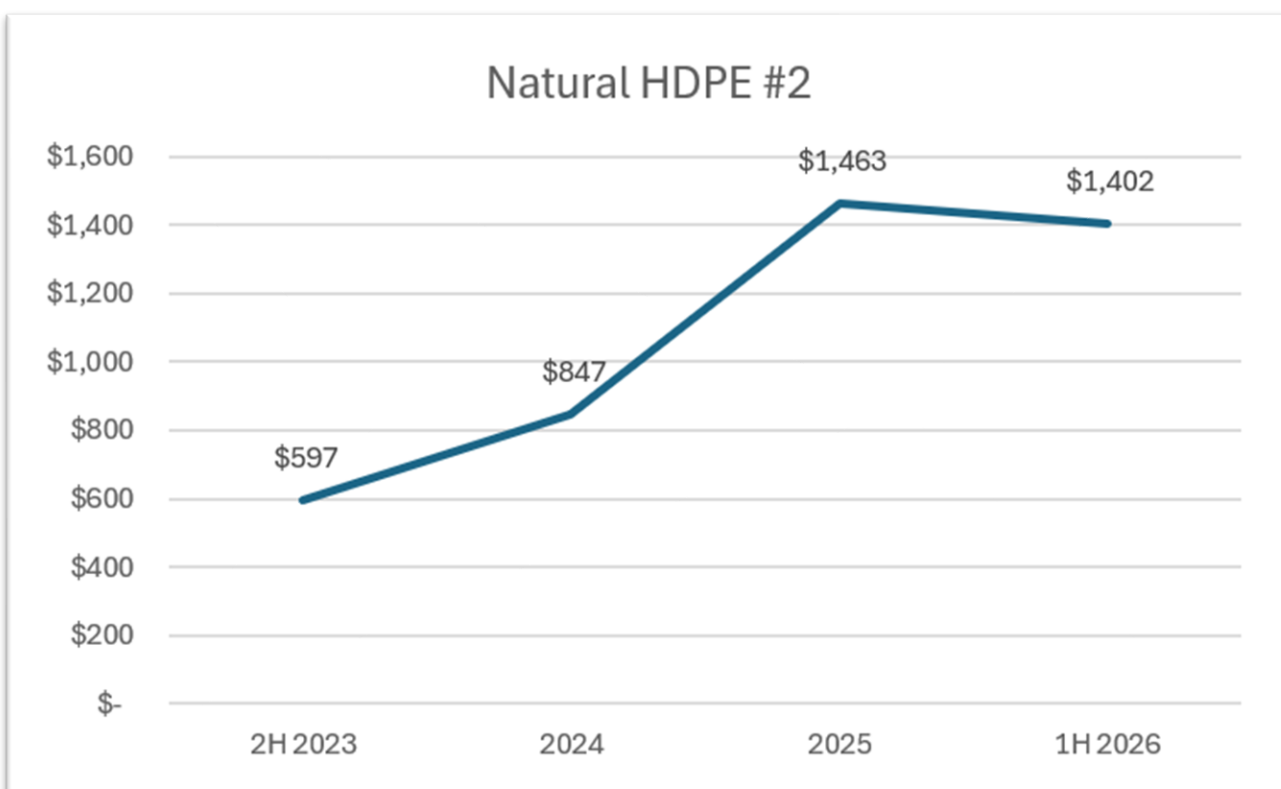
In the second half of 2023, the annual average value for steel/tin cans was \$15/ton. In 2024, this material's average value remained stable with the previous period at \$15/ton. In 2025, the value rose to \$36/ton. In the first half of 2026, that value slightly rose to \$40/ton.



Natural High-Density Polyethylene (HDPE #2)

Plastic jugs that contain items like milk, juice, detergent, and water can be made of natural HDPE. Natural HDPE collected from Onondaga County's curbside residential recycling program is marketed to a plastic mill in the Midwest United States that supplies high-quality bottle grade HDPE resin to manufacturers.

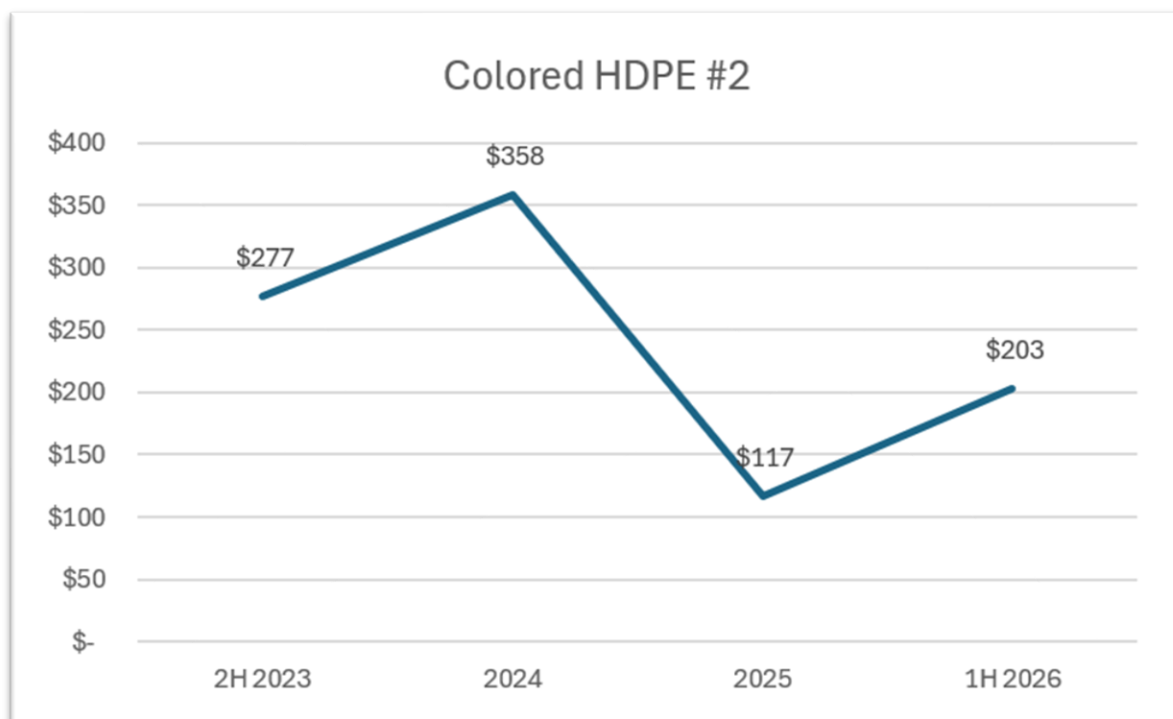
In the second half of 2023, the average value of natural HDPE was \$597/ton. In 2024, that value increased to \$847/ton. In 2025, the yearly average increased by over 70% to a value of \$1,463/ton. As of June 2026, the average value of natural HDPE has dipped to \$1,402/ton.



Colored High-Density Polyethylene (HDPE #2)

Plastic jugs that contain items like milk, juice, and detergent can be made of Colored HDPE. Colored HDPE collected from Onondaga County's curbside residential recycling program is marketed to plastic mills in the southeast United States. End-use applications include packaging for household and personal care items, as well as automotive, agriculture, recreational and durable goods.

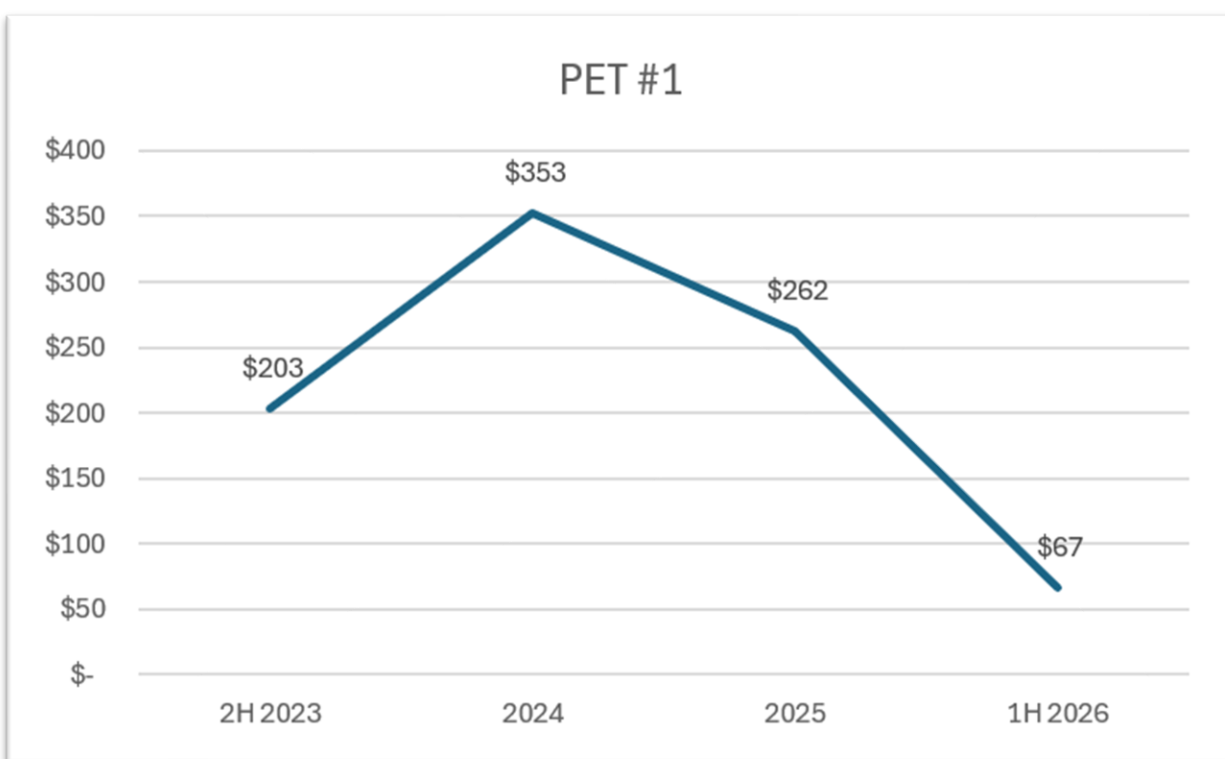
In the second half of 2023, the average value of colored HDPE was \$277/ton. In 2024, the average market value rose to \$358/ton. In 2025, the annual average value was \$117/ton. As of June 2026, the value has recovered by climbing to an average of \$203/ton.



Polyethylene Terephthalate (PET #1)

Plastic bottles that contain items like beverages, soap, and shampoo are made of PET. PET collected from Onondaga County's curbside residential recycling program is marketed to plastic mills in the southeast United States.

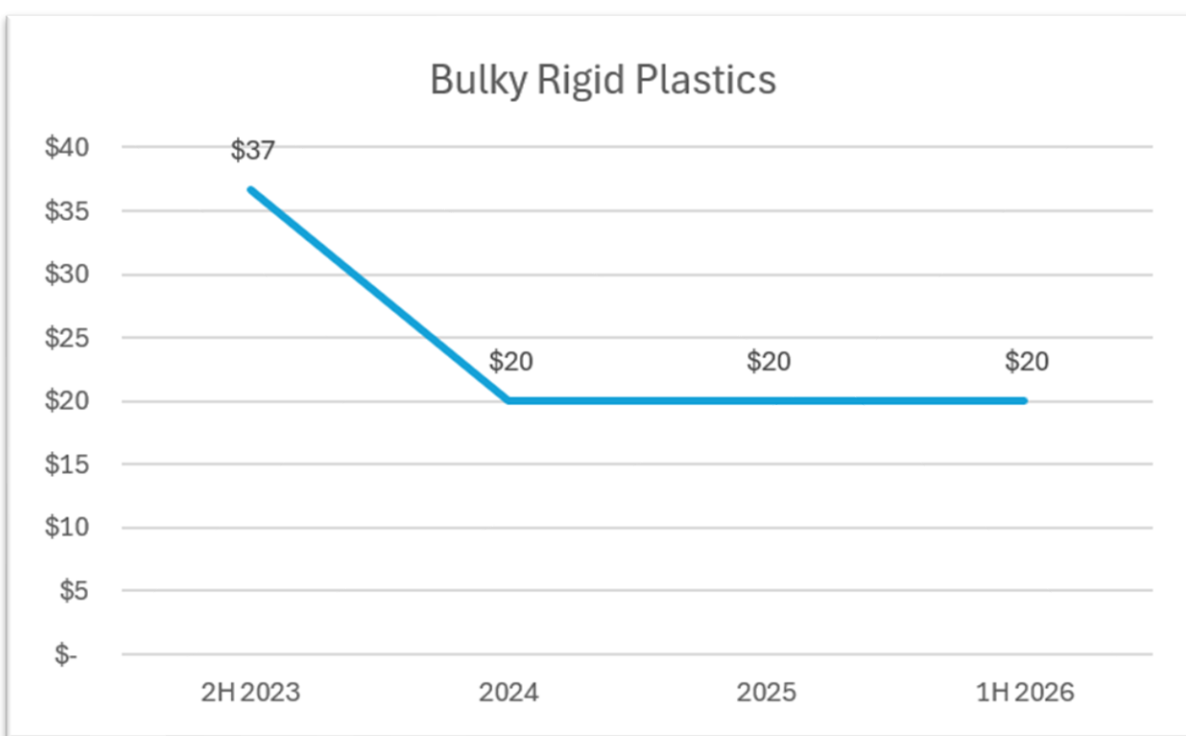
In the second half of 2023, the annual average value of PET was \$203/ton. In 2024, the average value per ton of PET rose to \$353/ton. In 2025, this average value declined by 26% to \$262/ton. In the first half of 2026, the value further declined to an average of \$67/ton, seeing a low of \$20/ton in the month of April. Between 2025 and 2026, seven PET recycling facilities closed, equating to approximately 25% of domestic operating capacity. More companies have been choosing to buy more virgin plastic than recycled PET (rPET).



Bulky Rigid Plastics

Bulky rigid plastics like old recycling containers, plastic buckets and laundry baskets are not accepted in the curbside recycling in Onondaga County. However, there is a market for rigid plastics that incidentally end up in our stream. Currently, bulky rigid plastics collected from Onondaga County's curbside residential recycling program are marketed to the northeastern region. Through a mill's proprietary process, the material is transformed into pellets that are sold to manufacturers to create new products.

In the second half of 2023, this material averaged \$37/ton. Both 2024 and 2025 saw an average annual value of \$20/ton for this material. In the first half of 2026, the value averaged \$38/ton, returning closely to the value averaged in the second half of 2023.

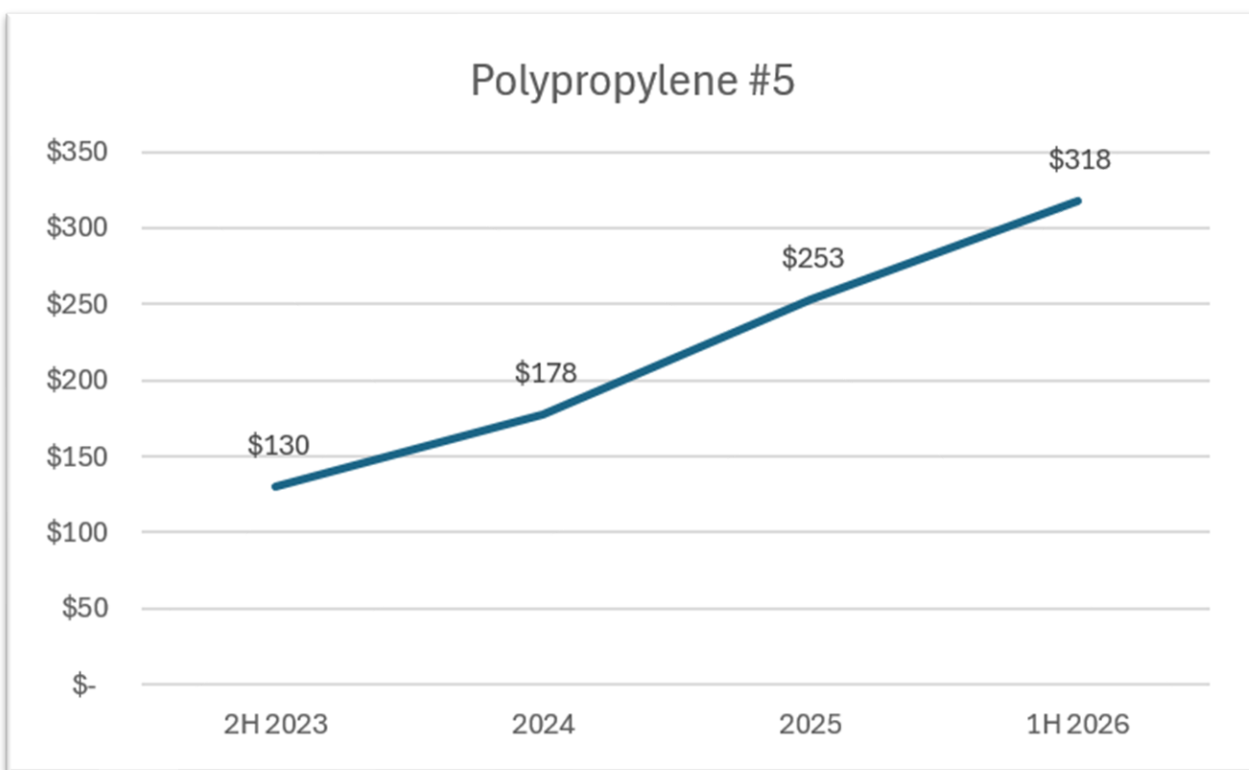


Polypropylene (PP #5)

Polypropylene collected from Onondaga County's curbside residential recycling program is marketed to a plastic mill in the northeast United States and is cleaned, shredded, and reprocessed into pellets or flakes that are sold to manufacturers for use in new products.

In the second half of 2023, polypropylene's value averaged \$130/ton. In 2024, polypropylene bales averaged \$178/ton throughout the year. The value increased further in 2025, averaging \$253/ton. As of June 2026, polypropylene continues to rise, averaging \$318/ton.

Waste Management rolled out an initiative to accept #5 plastic to-go cups in late 2025, and we are evaluating markets before adding them to our list of acceptable items.



Glass

Glass bottles and jars that are collected in the curbside recycling program are crushed and dirty from the collection process and are not desired by glass recyclers resulting in a lack of market for this material.

In 2024, glass was deemed unsuitable for use as Alternative Operating Cover (AOC) at the High Acres Landfill. From that point until mid-2025, glass was landfilled as waste. OCRRA and Madison County, with the approval of the NYSDEC, were able to form an agreement to allow 3,500 tons, annually, of OCRRA MRF glass to be used as AOC at the Madison County Landfill under a Beneficial Use Determination (BUD). Following the approval, for the second half of 2025, glass was managed in this way. As of July 2026, glass has been managed at Madison County Landfill as AOC. OCRRA expects to reach the 3,500-ton annual limit by the end of August. Once that limit is met, OCRRA's MRF glass will be landfilled as waste.

It costs OCRRA about \$28.02 per ton for transportation to and disposal as AOC at Madison County Landfill. On the other hand, it costs between \$70-\$75 per ton to landfill the material as waste.

Review of Developing Technologies and Markets

Various materials were reviewed in the last report submitted in 2023. New York State's 2020 expanded polystyrene loose-fill packaging and foam containers ban remains in effect. In 2024 the law was expanded to include polystyrene foam containers that are used for cold storage (NYSDEC, 2026). OCRRA continues to prohibit expanded polystyrene in curbside recycling, requiring residents to place non-reusable foam in their regular trash. Thermal Foams, Inc will consider accepting some clean, white expanded polystyrene that isn't a food container or loose-fill packaging (Onondaga County Resource Recovery Agency, n.d.).

Plastics numbered #3, #6, and #7 continue to be excluded from OCRRA's residential curbside recycling stream due to ongoing sorting complexities and weak market demand. Although advanced chemical recycling options are developing to address complex resins like PVC (Huang et al., 2025), this material is still not accepted as part of OCRRA's residential curbside recycling program.

Film plastics like LDPE and LLDPE are still barred from OCRRA's residential curbside collection, relying instead on retail drop-off programs routed through recyclers like Trex (Trex Company, Inc., n.d.).

Artificial Intelligence (AI) and Robotic Sorting Systems

Material Recovery Facilities (MRFs) throughout the United States are implementing more artificial intelligence, optical sorting, machine vision, and robotic sorting technologies (Resource Recycling, 2024). These systems utilize cameras, sensors, machine learning software, and automated picking equipment to identify and recover recyclable materials with greater accuracy than traditional sorting methods (Waste Advantage Magazine, 2025). Some industry reports indicate that AI-assisted sorting can improve recovery rates, reduce contamination, improve worker safety, improve data collection, and help address labor shortages experienced by recycling facilities.

While these technologies continue to improve material recovery, implementation requires significant capital investment and substantial facility modifications. OCRRA will continue to evaluate advances in automated sorting equipment and continue to work closely with our MRF operating partner to identify areas of opportunities.

Food Waste Processing and Organics Management

Technologies supporting food waste diversion continue to evolve, particularly in the areas of depackaging systems. Modern depackaging equipment is increasingly capable of separating food waste from packaging materials, allowing a wider range of commercial food waste streams to be diverted from disposal.

For OCRRA, these technologies may create future opportunities to increase organics diversion. However, capital costs, operational requirements, available infrastructure, and quality control remain important considerations. OCRRA will continue to evaluate emerging organics processing technologies and their applicability within the existing composting program.

Textile Recycling Technologies

Textile recycling has received increased attention due to growing concerns regarding landfill disposal of clothing and other fabric materials. Historically, textile recycling has relied primarily on reuse, donation, and mechanical processing into products such as insulation, wiping cloths, and stuffing materials. More recently, chemical and enzymatic recycling technologies have emerged that can separate blended fibers and regenerate textile materials into new fibers suitable for manufacturing new clothing and fabric products (Textile School, 2025).

Although several commercial and pilot-scale facilities are currently operating in North America and Europe, most technologies remain in early commercialization stages and require highly

sorted material streams. Collection, identification, and separation of textile types remain significant challenges. OCRRA currently supports textile reuse and recovery programs through charitable organizations and will continue to monitor the viability of textile-to-textile recycling markets as infrastructure develops.

Municipal Solid Waste (MSW) Combustor Ash

Municipal solid waste (MSW) combustor ash is the by-product that is produced during the combustion of municipal solid waste in solid waste combustor facilities, including the Onondaga County Resource Recovery Facility (OCRRF).

Modern municipal combustor facilities have improved and their complex furnace designs generally achieve better burnout and reduce organic content in the ash product (FHWA).

Following the recovery of ferrous and nonferrous metals, the remaining ash by-product generated at the OCRRF is disposed of at permitted New York State landfills. Ash landfilled totaled 40,429 tons in 2H 2023; 67,275 tons in 2024; 57,121 tons in 2025; and 44,296 tons in 1H 2026.

MSW combustor ash has been used in highway construction, with specific processing requirements. Municipal waste combustor ash has been tested for use as an aggregate substitute in asphalt paving mixes, to replace a sand-size or fine aggregate material. It has also been used as a granular base in road construction, fill material and as embankment material in nine European countries for several decades (FHWA). These practices have not yet been implemented in New York.

Conclusion

Current technological developments suggest that future opportunities may exist to recover additional materials from the municipal solid waste stream, particularly plastics, textiles, and organics. However, many of these technologies remain dependent upon substantial capital investment, stable end markets, regulatory certainty, and sufficient material volumes to be economically viable. OCRRA will continue to monitor advances in recycling, sorting, organics processing, and material recovery technologies and evaluate their potential applicability within the service area as they mature and demonstrate long-term economic sustainability.

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