

Massachusetts Waste Characterization Data



Solid Waste Advisory Committee

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Background

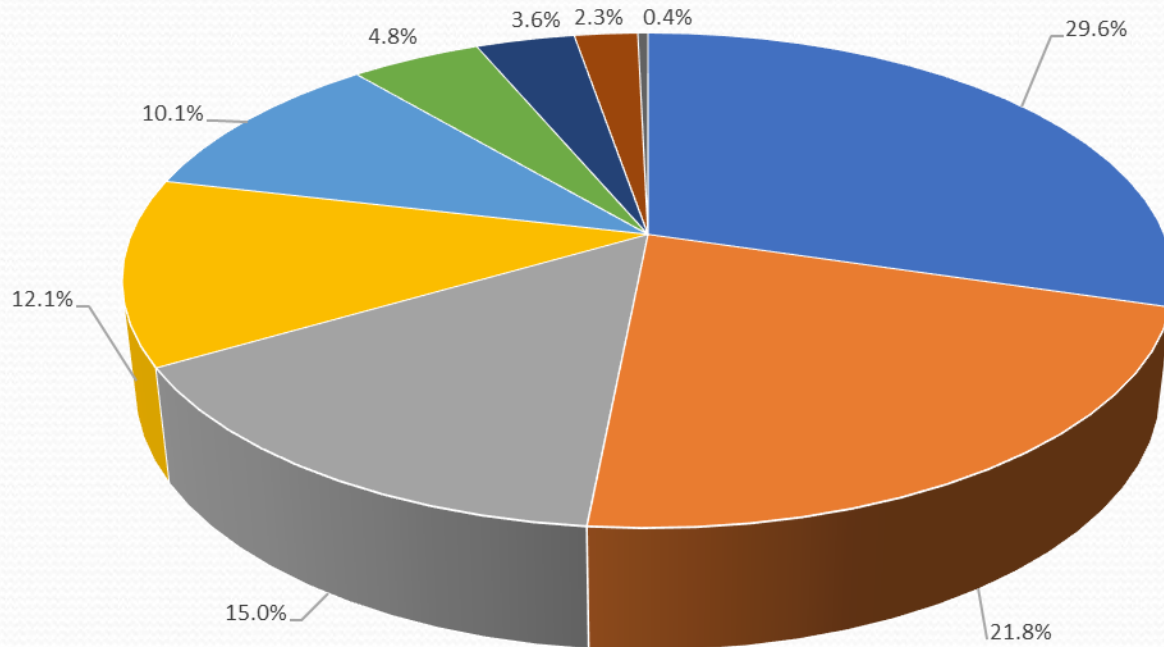
- Waste characterization studies required of five municipal waste combustors
- Required as part of Class II Recycling Program for facilities earning waste to energy credits (WECs)
- Guidance based on ASTM Test Method D-5231-92 (2016)
- Must be conducted every 3 years – most recent in 2022
- Alternate between:
 - Spring/summer – April – June and July - September
 - Winter/fall – January-March and October - December

2022 Data

- 62 detailed categories and 9 primary categories
- Conducted in winter/fall seasons
- Data presented is weighted average for 5 facilities
- Characterizes municipal solid waste (MSW)
- 2021 MSW Disposal = 3,860,000 tons
- 1% = about 40,000 tons
- Does not include Non-MSW disposal
 - About 2 million tons in 2021 – primarily C&D

2022 Primary %

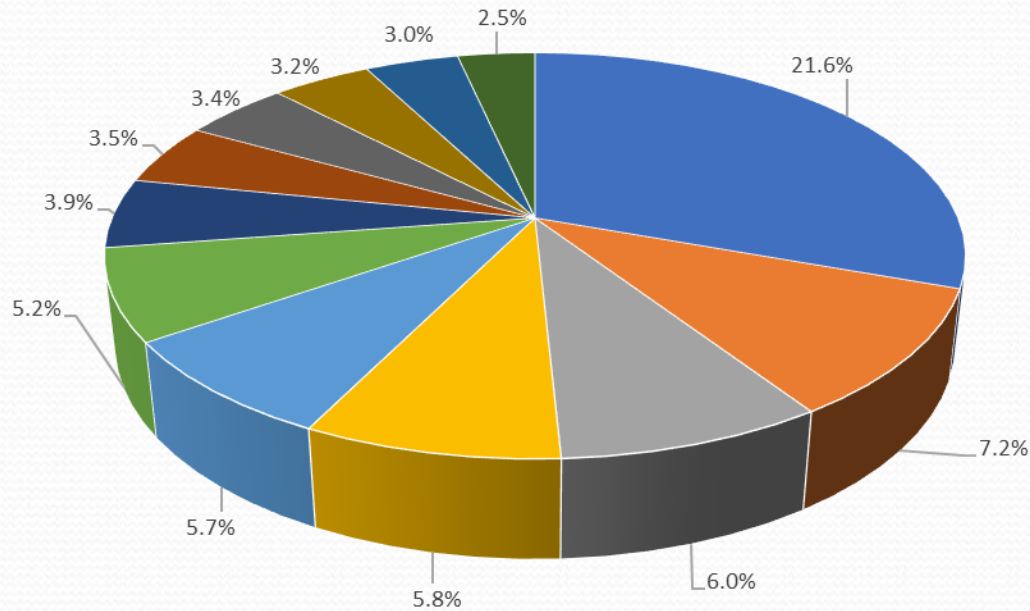
Primary Category % - 2022



■ Organic Materials ■ Paper ■ Plastic ■ Construction & Demolition ■ Other Materials ■ Metal ■ HHW ■ Glass ■ Electronics

2022 Detailed %

% of MSW - Top 10 Materials



- Food Waste
- Uncoated Corrugated Cardboard/Kraft Paper
- Other Recyclable Paper
- Remainder/Composite Paper
- Compostable Paper
- Other Film means plastic film
- Bio-Hazardous
- Wood - Untreated
- Remainder/Composite Organic
- Textiles
- Wood - Treated
- Remainder/Composite Plastic

Paper Trend Chart

Weighted Average by Material Category	2010 Winter/Fall	2013 Spring/Summer	2016 Winter/Fall	2019 Spring/Summer	2022 Winter/Fall
Paper	25.8%	24.7%	21.7%	21.0%	21.8%
Uncoated Corrugated Cardboard/Kraft Paper	8.7%	7.3%	9.2%	5.4%	5.8%
Waxed Cardboard	1.0%	0.6%	0.3%	0.4%	0.5%
High Grade Office Paper	1.1%	1.1%	0.5%	0.5%	0.5%
Magazines/Catalogs	1.7%	1.3%	0.8%	0.6%	0.4%
Newsprint	1.9%	1.4%	0.7%	0.7%	0.3%
Other Recyclable Paper	3.6%	3.5%	3.6%	3.0%	3.9%
Compostable Paper	6.2%	7.8%	5.8%	8.7%	7.2%
Remainder/Composite Paper	1.6%	1.7%	0.7%	1.7%	3.2%

Plastics Trend Chart

Weighted Average by Material Category	2022				
	2010 Winter/Fall	2013 Spring/Summer	2016 Winter/Fall	2019 Spring/Summer	Winter/Fall
Plastic	13.9%	14.4%	13.1%	15.9%	15.0%
PET Beverage Containers (non-MA deposit containers)	0.6%	0.6%	0.7%	0.8%	0.8%
PET Containers other than Beverage Containers (which originally contained non-hazardous material)	0.2%	0.2%	0.2%	0.4%	0.5%
Plastic MA Deposit Beverage Containers	0.1%	0.2%	0.1%	0.1%	0.1%
HDPE Bottles, colored and natural, (which originally contained non-hazardous material)	0.6%	0.6%	0.4%	0.5%	0.6%
Plastic Tubs and lids (HDPE, PP, etc)	0.4%	0.6%	0.4%	0.4%	N/A
#5 PP Bottles & Containers					0.9%
Plastic Containers #3-#7 (which originally contained non-hazardous material)	0.3%	0.7%	0.5%	0.9%	N/A
Other Plastic Bottles & Containers					0.3%
Expanded Polystyrene Food Grade	0.5%	1.0%	0.4%	0.4%	0.4%
Expanded Polystyrene Non-food Grade	0.2%	0.2%	0.2%	0.1%	0.2%
Bulk Rigid Plastic Items	2.7%	2.2%	1.6%	0.9%	1.8%
Film (non-bag clean commercial and industrial packaging film)	0.5%	1.3%	0.5%	0.8%	1.0%
Grocery and other Merchandise Bags	0.9%	0.7%	0.5%	0.6%	0.3%
Other Film means plastic film	3.7%	4.4%	4.8%	6.5%	5.7%
Remainder/Composite Plastic	3.2%	1.8%	2.8%	3.5%	2.5%

Organics Trend Chart

Weighted Average by Material Category	2022				
	2010 Winter/Fall	2013 Spring/Summer	2016 Winter/Fall	2019 Spring/Summer	Winter/Fall
Organic Materials	20.7%	26.6%	31.2%	28.2%	29.6%
Food Waste	15.1%	18.8%	26.0%	21.5%	21.6%
Branches and Stumps	1.0%	0.2%	0.1%	0.1%	0.4%
Prunings, Trimings, Leaves and Grass	2.4%	4.1%	2.5%	2.5%	1.3%
Manures	0.8%	0.4%	0.1%	0.3%	0.2%
Remainder/Composite Organic	1.4%	3.2%	2.6%	3.8%	6.0%

Construction Materials Trend Chart

Weighted Average by Material Category	2010 Winter/Fall	2013 Spring/Summer	2016 Winter/Fall	2019 Spring/Summer	2022 Winter/Fall
Construction and Demolition (in the MSW stream)	13.9%	12.7%	15.0%	14.3%	12.1%
Asphalt Pavement, Brick, and Concrete	0.4%	0.2%	0.1%	0.3%	0.1%
Aggregates, Stone, Rock	0.6%	0.4%	0.4%	0.1%	0.6%
Wood – Treated	4.2%	4.1%	5.7%	5.9%	3.4%
Wood – Untreated	3.3%	2.0%	2.0%	2.5%	3.0%
Asphalt Roofing	0.7%	0.2%	0.3%	0.2%	0.3%
Drywall/Gypsum Board	0.6%	0.9%	0.6%	0.5%	0.9%
Carpet and Carpet Padding	2.9%	2.6%	3.3%	2.5%	1.8%
Remainder/Composite Construction and Demolition	1.2%	2.3%	2.6%	2.3%	2.1%

Other Materials Trend Chart

Weighted Average by Material Category	2010 Winter/Fall	2013 Spring/Summer	2016 Winter/Fall	2019 Spring/Summer	2022 Winter/Fall
Other Materials	11.6%	11.5%	8.5%	9.1%	10.1%
Tires and other rubber	1.5%	1.8%	0.7%	0.8%	0.4%
Textiles	4.9%	5.2%	5.8%	4.3%	5.2%
Bulky Materials	3.2%	2.9%	0.8%	2.6%	2.2%
Mattresses	N/A	N/A	0.1%	0.3%	0.1%
Restaurant Fats, Oils and Grease	0.1%	0.1%	0.1%	0.0%	0.0%
Other Miscellaneous	1.9%	1.5%	1.0%	1.1%	2.3%

For More Information

- <https://www.mass.gov/guides/solid-waste-master-plan#-waste-characterization-&-capacity-studies->
- John Fischer – john.fischer@mass.gov