# Writing Project: Data Report

**Materials Management Report** 

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Materials Management Report

## Municipal Solid Wastes Generation Rates, Municipal Solid Wastes Recycling & Composting Rates, and Management of Municipal Solid Wastes in the United States:

**2015 Tables and Figures** 

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#### Introduction

The focus of this report is to provide an assessment of trends in materials management for the following data: (1) materials generated, (2) recycling, (3) composting, (4) energy recovery, and (5) landfilling. The subjects covered in this data report include municipal solid waste (MSW) generation rates and materials recycled and composted, as shown in the figures and tables. MSW are items used and thrown away on a daily basis, otherwise known as trash or garbage [2]. The trend in numbers is based on total weight of materials and percentage of total waste generated from 1960 to 2015.

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#### Municipal Solid Wastes Generation Rates, Municipal Solid Wastes Recycling & Composting Rates, and Management of Municipal Solid Wastes in the United States

#### Materials Generated in the Municipal Waste Stream (MWS)

**Table 1.** The following table illustrates the total municipal solid waste (MSW) *generated* (produced) by weight for years 1960–2015 (weight is determined per thousands of tons). **Table 1** also provides the total MSW generated according to the total materials in products and total other wastes. As shown in **Table 1**, significant increases in the total MSW generated (total materials in products and total other wastes) occurred over the last few decades. For example, an increase of over 174,000 total MSW was generated between 1960 to 2015 (this number is determined by taking the difference of total MSW generated in 2015 and subtracting it from the total MSW generated in 1960).

A more detailed trend listing of the total MSW generated by weight is provided in "Table 1. Materials Generated\* in the Municipal Waste Stream, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.

	Municipal Solid Waste (MSW) Generation Rates, 1960 to 2015 (Weight is Determined Per Thousands of Tons)									
	1960	1970	1980	1990	2000	2005	2010	2014	2015	
Total Materials in Products	54,620	83,280	108,890	146,510	178,720	185,040	178,070	181,810	183,990	
Total Other Wastes	33,500	37,780	42,750	61,760	64,730	68,690	72,980	77,140	78,440	
Total MSW Generated	88,120	121,060	151,640	208,270	243,450	253,730	251,050	258,950	262,430	

#### Table 1, Municipal Solid Waste (MSW) Generation Rates, 1960 to 2015

**Figure 1** below provides the same numbers as **Table 1**, however, in a graph format. The total MSW generated weight is factored for each year (1960 to 2015), including total materials in products and total other wastes.

For a breakdown of materials and other wastes generated, see the section on material categories on page 5 of this data report.



Figure 1, Municipal Solid Waste (MSW) Generation Rates, 1960 to 2015

**Figure 2** on page 6 of this data report also provides an illustration of MSW generation rates from 1960 to 2015, however, is a detailed breakdown of the materials and other wastes generated based on weight (in thousands of tons).

Total materials in products. Below is a breakdown on total materials in products as shown in Figure 2:

- Paper and paperboard
- Glass
- Metals (ferrous, aluminum, other nonferrous)
- Plastics
- Rubber and leather
- Textiles
- Wood
- Postconsumer wastes (listed under *Other*\*\* in **Figure 2**)

*Total other wastes.* Below is a breakdown on the total other wastes as shown in **Figure 2**:

- Food
- Yard trimmings
- Miscellaneous inorganic wastes (e.g., aluminum cans, spoons, plastics, and glass)

As shown in **Figure 2**, increases occurred in MSW generated for certain types of materials over the last few decades, such as paper, glass, plastics, and metals. Each colored line in **Figure 2** indicates the breakdown of materials and other wastes reported from 1960 to 2015. A more detailed trend listing of materials and other wastes are provided in "Table 1. Materials Generated\* in the Municipal Waste Stream, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.





Figure 3 provides a percentage breakdown of the material generated from 1960 to 2015.

For a breakdown of materials and other wastes, see section on total materials and products and total other wastes listed on page 5 of this report.

As shown in **Figure 3**, increases and decreases in percentages of MSW generated occurred from 1960 to 2015, depending on the product or waste. Each colored bar in **Figure 3** indicates the breakdown of materials and other wastes reported from 1960 to 2015. A more detailed trend listing of the total MSW generated by percentage is provided in "Table 1. Materials Generated\* in the Municipal Waste Stream, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.





Note:

Other\*\* includes electrolytes in batteries and fluff pulp, feces and urine in disposable diapers [1].

#### Materials Recycled and Composted in Municipal Solid Waste (MSW)

**Table 2** displays the total materials recycled and composted from 1960 to 2015. A more detailed listingof total materials in products and total other wastes are provided in "Table 2. Materials Recycled andComposted\* in Municipal Solid Waste, 1960 to 2015" in the Advancing Sustainable MaterialsManagement: 2015 Tables and Figures report. As indicated in Table 2, significant increases in totalMSW recycled and composted (total materials in products and total other wastes) occurred over the lastfew decades. For example, an increase of over 85,000 total MSW was recycled and composted between1960 to 2015 (this number is determined by taking the difference of total MSW recycled and compostedin 2015 and subtracting it from the total MSW recycled and composted in 1960).

For a breakdown of materials and other wastes, see section on total materials and products and total other wastes listed on page 5 of this report.

*Note:* The number of recycled and composted materials do not include *fabrication* (construction or manufactured) scrap.

	Mu	Municipal Solid Waste (MSW) Recycling and Composting Rates, 1960 to 2015 (Total Weight is Determined in Thousands of Tons)									
	1960	1970	1980	1990	2000	2005	2010	2014	2015		
Total Materials in Products	5,610	8,020	14,520	29,040	53,010	59,240	65,260	66,550	67,770		
Total Other Wastes	Neg.	Neg.	Neg.	4,200	16,450	20,550	20,170	23,020	23,390		
Total MSW Recycled & Composted	5,610	8,020	14,520	33,240	69,460	79,790	85,430	89,570	91,160		

#### Table 2. Materials Recycled and Composted in Municipal Solid Waste, 1960 to 2015

Notes:

\* Recycling and composting of postconsumer wastes do not include fabrication scrap [1].

\*\* Collection of electrolytes in batteries; probably not recycled [1].

**Neg** = Less than 5,000 tons or 0.05 percent [1]. *Note:* These numbers are not factored into the total MSW generated ^ Includes collection of other MSW organics for composting [1].

**Figure 4** also provides an illustration of the total weight generated for MSW from 1960 to 2015. However, this figure includes a breakdown of the materials and other wastes generated based on weight (in thousands of tons).

Notes:

- Based on data provided in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report, the number of reported materials recycled and composted do not include fabrication scrap [1].
- The materials indicating a "Neg." are not factored into the total MSW recycled and combusted.



Figure 4. Materials Recycled and Composted in Municipal Solid Waste, 1960 to 2015

\* A more detailed listing of total materials in products and total other wastes are provided in "Table 2. Materials Recycled and Composted\* in Municipal Solid Waste, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.

**Figure 5** displays the materials recycled and composted in MSW from 1960 to 2015, including the breakdown of materials and other wastes. The reported weight of materials is per thousands of tons. As shown in **Figure 5**, increases occurred in MSW recycled and composted for certain types of materials over the last few decades, such as paper, plastics, plastics, yard trimmings (other wastes), and metals. Each colored line in **Figure 5** indicates the breakdown of materials and other wastes reported from 1960 to 2015.

For a breakdown of materials and other wastes, see section on total materials and products and total other wastes listed on page 5 of this report.

A more detailed trend listing of the total MSW recycled and composted are provided in "Table 2. Materials Recycled and Composted\* in Municipal Solid Waste, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.





Notes:

\* Recycling and composting of postconsumer wastes do not include fabrication scrap [1].

\*\* Collection of electrolytes in batteries; probably not recycled [1].

**Figure 6** provides a percentage breakdown of the materials recycled and composted in MSW from 1960 to 2015.

As shown in **Figure 6**, increases in the percentage of materials recycled and composted occurred from 1960 to 2015, depending on the product or waste. Each colored bar in **Figure 6** indicates the breakdown of certain materials and other wastes reported from 1960 to 2015.

#### Note:

• The materials indicating a "Neg." are not factored into the total MSW recycled and combusted.

A more detailed listing of the total MSW recycled and composted by percentage are provided in "Table 2. Materials Recycled and Composted\* in Municipal Solid Waste, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.





Note:

Other\*\* includes electrolytes in batteries and fluff pulp, feces and urine in disposable diapers [1].

#### Management of Municipal Solid Waste (MSW)

The management of MSW displayed in **Figure 7** provides a percentage of total waste managed in the areas of recycling, landfilling, and combustion. The data provided in Figure 7 are all based on total weight in 2015, (1) the total MSW recycled and composted, (2) the total MSW combusted for 2015 by weight, and (3) the total MSW landfilled. For more information on the percentages of total waste managed, refer to the following tables:

- "Table 2. Materials Recycled and Composted\* in Municipal Solid Waste, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.
- "Table 3. Materials Combusted with Energy Recovery\* in the Municipal Waste Stream, 1960 to 2015" in the *Advancing Sustainable Materials Management: 2015 Tables and Figures* report.
- "Table 4. Materials Landfilled\* in the Municipal Waste Stream, 1960 to 2015" in the Advancing Sustainable Materials Management: 2015 Tables and Figures report.

As shown in **Figure 7**, the percentage of total waste managed in 2015 was the highest for landfilled wastes; the lowest for combusted wastes.



Figure 7. Management of Municipal Solid Waste (MSW), 2015

#### References

- [1] "Advancing Sustainable Materials Management: 2015 Tables and Figures," Environmental Protection Agency (EPA), July 2018. https://www.epa.gov/sites/production/files/2018-07/documents/smm\_2015\_tables\_and\_figures\_07252018\_fnl\_508\_0.pdf. Accessed: 30-March-2021.
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- [3] "Understanding Waste: Inorganic vs Organic Materials," APP sinarmas, February 2020. https://asiapulppaper.com/-/understanding-waste-inorganic-vs-organic-materials. Accessed 31-March-2021.