

Municipal Solid Waste Generation, Recycling, and Disposal in the United States
Tables and Figures for 2010

U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery

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Table 1

MATERIALS GENERATED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(In thousands of tons and percent of total generation)

Materials	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Paper and Paperboard	29,990	44,310	55,160	72,730	87,740	84,840	82,530	77,420	68,430	71,310
Glass	6,720	12,740	15,130	13,100	12,770	12,540	12,520	12,150	11,780	11,530
Metals										
Ferrous	10,300	12,360	12,620	12,640	14,150	15,210	15,940	15,960	15,940	16,900
Aluminum	340	800	1,730	2,810	3,190	3,330	3,360	3,410	3,440	3,410
Other Nonferrous	180	670	1,160	1,100	1,600	1,860	1,890	1,960	1,970	2,100
<i>Total Metals</i>	<i>10,820</i>	<i>13,830</i>	<i>15,510</i>	<i>16,550</i>	<i>18,940</i>	<i>20,400</i>	<i>21,190</i>	<i>21,330</i>	<i>21,350</i>	<i>22,410</i>
Plastics	390	2,900	6,830	17,130	25,530	29,250	30,740	30,070	29,830	31,040
Rubber and Leather	1,840	2,970	4,200	5,790	6,670	7,290	7,500	7,590	7,630	7,780
Textiles	1,760	2,040	2,530	5,810	9,480	11,510	12,170	12,710	13,020	13,120
Wood	3,030	3,720	7,010	12,210	13,570	14,790	15,190	15,400	15,590	15,880
Other **	70	770	2,520	3,190	4,000	4,290	4,550	4,670	4,710	4,790
Total Materials in Products	54,620	83,280	108,890	146,510	178,700	184,910	186,390	181,340	172,340	177,860
Other Wastes										
Food Scraps	12,200	12,800	13,000	23,860	29,810	31,990	32,610	33,340	34,290	34,760
Yard Trimmings	20,000	23,200	27,500	35,000	30,530	32,070	32,630	32,900	33,200	33,400
Miscellaneous Inorganic Wastes	1,300	1,780	2,250	2,900	3,500	3,690	3,750	3,780	3,820	3,840
Total Other Wastes	33,500	37,780	42,750	61,760	63,840	67,750	68,990	70,020	71,310	72,000
Total MSW Generated - Weight	88,120	121,060	151,640	208,270	242,540	252,660	255,380	251,360	243,650	249,860
Materials	Percent of Total Generation									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Paper and Paperboard	34.0%	36.6%	36.4%	34.9%	36.2%	33.6%	32.3%	30.8%	28.1%	28.5%
Glass	7.6%	10.5%	10.0%	6.3%	5.3%	5.0%	4.9%	4.8%	4.8%	4.6%
Metals										
Ferrous	11.7%	10.2%	8.3%	6.1%	5.8%	6.0%	6.2%	6.3%	6.5%	6.8%
Aluminum	0.4%	0.7%	1.1%	1.3%	1.3%	1.3%	1.3%	1.4%	1.4%	1.4%
Other Nonferrous	0.2%	0.6%	0.8%	0.5%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%
<i>Total Metals</i>	<i>12.3%</i>	<i>11.4%</i>	<i>10.2%</i>	<i>7.9%</i>	<i>7.8%</i>	<i>8.1%</i>	<i>8.3%</i>	<i>8.5%</i>	<i>8.8%</i>	<i>9.0%</i>
Plastics	0.4%	2.4%	4.5%	8.2%	10.5%	11.6%	12.0%	12.0%	12.2%	12.4%
Rubber and Leather	2.1%	2.5%	2.8%	2.8%	2.8%	2.9%	2.9%	3.0%	3.1%	3.1%
Textiles	2.0%	1.7%	1.7%	2.8%	3.9%	4.6%	4.8%	5.1%	5.3%	5.3%
Wood	3.4%	3.1%	4.6%	5.9%	5.6%	5.9%	5.9%	6.1%	6.4%	6.4%
Other **	0.1%	0.6%	1.7%	1.5%	1.6%	1.7%	1.8%	1.9%	1.9%	1.9%
Total Materials in Products	62.0%	68.8%	71.8%	70.3%	73.7%	73.2%	73.0%	72.1%	70.7%	71.2%
Other Wastes										
Food Scraps	13.8%	10.6%	8.6%	11.5%	12.3%	12.7%	12.8%	13.3%	14.1%	13.9%
Yard Trimmings	22.7%	19.2%	18.1%	16.8%	12.6%	12.7%	12.8%	13.1%	13.6%	13.4%
Miscellaneous Inorganic Wastes	1.5%	1.5%	1.5%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.5%
Total Other Wastes	38.0%	31.2%	28.2%	29.7%	26.3%	26.8%	27.0%	27.9%	29.3%	28.8%
Total MSW Generated - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Generation before materials recovery or combustion. Does not include construction & demolition debris, industrial process wastes, or certain other wastes.

** Includes electrolytes in batteries and fluff pulp, feces, and urine in disposable diapers. Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 2

RECOVERY* OF MUNICIPAL SOLID WASTE, 1960 TO 2010
(In thousands of tons and percent of generation of each material)

Materials	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Paper and Paperboard	5,080	6,770	11,740	20,230	37,560	41,960	44,480	42,940	42,500	44,570
Glass	100	160	750	2,630	2,880	2,590	2,880	2,810	3,000	3,130
Metals										
Ferrous	50	150	370	2,230	4,680	5,030	5,280	5,300	5,270	5,710
Aluminum	Neg.	10	310	1,010	860	690	730	720	690	680
Other Nonferrous	Neg.	320	540	730	1,060	1,280	1,300	1,360	1,370	1,480
<i>Total Metals</i>	50	480	1,220	3,970	6,600	7,000	7,310	7,380	7,330	7,870
Plastics	Neg.	Neg.	20	370	1,480	1,780	2,110	2,140	2,140	2,360
Rubber and Leather	330	250	130	370	820	1,090	1,140	1,130	1,140	1,170
Textiles	50	60	160	660	1,320	1,840	1,920	1,910	1,910	1,970
Wood	Neg.	Neg.	Neg.	130	1,370	1,830	2,020	2,110	2,200	2,300
Other **	Neg.	300	500	680	980	1,210	1,240	1,300	1,310	1,410
Total Materials in Products	5,610	8,020	14,520	29,040	53,010	59,300	63,100	61,720	61,530	64,780
Other Wastes										
Food Scraps	Neg.	Neg.	Neg.	Neg.	680	690	810	800	850	970
Yard Trimmings	Neg.	Neg.	Neg.	4,200	15,770	19,860	20,900	21,300	19,900	19,200
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	4,200	16,450	20,550	21,710	22,100	20,750	20,170
Total MSW Recovered - Weight	5,610	8,020	14,520	33,240	69,460	79,850	84,810	83,820	82,280	84,950
Materials	Percent of Generation of Each Material									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Paper and Paperboard	16.9%	15.3%	21.3%	27.8%	42.8%	49.5%	53.9%	55.5%	62.1%	62.5%
Glass	1.5%	1.3%	5.0%	20.1%	22.6%	20.7%	23.0%	23.1%	25.5%	27.1%
Metals										
Ferrous	0.5%	1.2%	2.9%	17.6%	33.1%	33.1%	33.1%	33.2%	33.1%	33.8%
Aluminum	Neg.	1.3%	17.9%	35.9%	27.0%	20.7%	21.7%	21.1%	20.1%	19.9%
Other Nonferrous	Neg.	47.8%	46.6%	66.4%	66.3%	68.8%	68.8%	69.4%	69.5%	70.5%
<i>Total Metals</i>	0.5%	3.5%	7.9%	24.0%	34.8%	34.3%	34.5%	34.6%	34.3%	35.1%
Plastics	Neg.	Neg.	0.3%	2.2%	5.8%	6.1%	6.9%	7.1%	7.2%	7.6%
Rubber and Leather	17.9%	8.4%	3.1%	6.4%	12.3%	15.0%	15.2%	14.9%	14.9%	15.0%
Textiles	2.8%	2.9%	6.3%	11.4%	13.9%	16.0%	15.8%	15.0%	14.7%	15.0%
Wood	Neg.	Neg.	Neg.	1.1%	10.1%	12.4%	13.3%	13.7%	14.1%	14.5%
Other **	Neg.	39.0%	19.8%	21.3%	24.5%	28.2%	27.3%	27.8%	27.8%	29.4%
Total Materials in Products	10.3%	9.6%	13.3%	19.8%	29.7%	32.1%	33.9%	34.0%	35.7%	36.4%
Other Wastes										
Food, Other [^]	Neg.	Neg.	Neg.	Neg.	2.3%	2.2%	2.5%	2.4%	2.5%	2.8%
Yard Trimmings	Neg.	Neg.	Neg.	12.0%	51.7%	61.9%	64.1%	64.7%	59.9%	57.5%
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	6.8%	25.8%	30.3%	31.5%	31.6%	29.1%	28.0%
Total MSW Recovered - %	6.4%	6.6%	9.6%	16.0%	28.6%	31.6%	33.2%	33.3%	33.8%	34.0%

* Recovery of postconsumer wastes; does not include converting/fabrication scrap.

** Recovery of electrolytes in batteries; probably not recycled.

Neg. = Less than 5,000 tons or 0.05 percent.

[^] Includes recovery of paper and mixed MSW for composting.

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 3

MATERIALS DISCARDED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(In thousands of tons and percent of total discards)

Materials	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Paper and Paperboard	24,910	37,540	43,420	52,500	50,180	42,880	38,050	34,480	25,930	26,740
Glass	6,620	12,580	14,380	10,470	9,890	9,950	9,640	9,340	8,780	8,400
Metals										
Ferrous	10,250	12,210	12,250	10,410	9,470	10,180	10,660	10,660	10,670	11,190
Aluminum	340	790	1,420	1,800	2,330	2,640	2,630	2,690	2,750	2,730
Other Nonferrous	180	350	620	370	540	580	590	600	600	620
<i>Total Metals</i>	<i>10,770</i>	<i>13,350</i>	<i>14,290</i>	<i>12,580</i>	<i>12,340</i>	<i>13,400</i>	<i>13,880</i>	<i>13,950</i>	<i>14,020</i>	<i>14,540</i>
Plastics	390	2,900	6,810	16,760	24,050	27,470	28,630	27,930	27,690	28,680
Rubber and Leather	1,510	2,720	4,070	5,420	5,850	6,200	6,360	6,460	6,490	6,610
Textiles	1,710	1,980	2,370	5,150	8,160	9,670	10,250	10,800	11,110	11,150
Wood	3,030	3,720	7,010	12,080	12,200	12,960	13,170	13,290	13,390	13,580
Other **	70	470	2,020	2,510	3,020	3,080	3,310	3,370	3,400	3,380
<i>Total Materials in Products</i>	49,010	75,260	94,370	117,470	125,690	125,610	123,290	119,620	110,810	113,080
Other Wastes										
Food Scraps	12,200	12,800	13,000	23,860	29,130	31,300	31,800	32,540	33,440	33,790
Yard Trimmings	20,000	23,200	27,500	30,800	14,760	12,210	11,730	11,600	13,300	14,200
Miscellaneous Inorganic Wastes	1,300	1,780	2,250	2,900	3,500	3,690	3,750	3,780	3,820	3,840
<i>Total Other Wastes</i>	33,500	37,780	42,750	57,560	47,390	47,200	47,280	47,920	50,560	51,830
<i>Total MSW Discarded - Weight</i>	82,510	113,040	137,120	175,030	173,080	172,810	170,570	167,540	161,370	164,910
Materials	Percent of Total Discards									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Paper and Paperboard	30.2%	33.2%	31.7%	30.0%	29.0%	24.8%	22.3%	20.6%	16.1%	16.2%
Glass	8.0%	11.1%	10.5%	6.0%	5.7%	5.8%	5.7%	5.6%	5.4%	5.1%
Metals										
Ferrous	12.4%	10.8%	8.9%	5.9%	5.5%	5.9%	6.2%	6.4%	6.6%	6.8%
Aluminum	0.4%	0.7%	1.0%	1.0%	1.3%	1.5%	1.5%	1.6%	1.7%	1.7%
Other Nonferrous	0.2%	0.3%	0.5%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
<i>Total Metals</i>	<i>13.1%</i>	<i>11.8%</i>	<i>10.4%</i>	<i>7.2%</i>	<i>7.1%</i>	<i>7.8%</i>	<i>8.1%</i>	<i>8.3%</i>	<i>8.7%</i>	<i>8.8%</i>
Plastics	0.5%	2.6%	5.0%	9.6%	13.9%	15.9%	16.8%	16.7%	17.2%	17.4%
Rubber and Leather	1.8%	2.4%	3.0%	3.1%	3.4%	3.6%	3.7%	3.9%	4.0%	4.0%
Textiles	2.1%	1.8%	1.7%	2.9%	4.7%	5.6%	6.0%	6.4%	6.9%	6.8%
Wood	3.7%	3.3%	5.1%	6.9%	7.0%	7.5%	7.7%	7.9%	8.3%	8.2%
Other **	0.1%	0.4%	1.5%	1.4%	1.7%	1.8%	1.9%	2.0%	2.1%	2.0%
<i>Total Materials in Products</i>	59.4%	66.6%	68.8%	67.1%	72.6%	72.7%	72.3%	71.4%	68.7%	68.6%
Other Wastes										
Food Scraps	14.8%	11.3%	9.5%	13.6%	16.8%	18.1%	18.6%	19.4%	20.7%	20.5%
Yard Trimmings	24.2%	20.5%	20.1%	17.6%	8.5%	7.1%	6.9%	6.9%	8.2%	8.6%
Miscellaneous Inorganic Wastes	1.6%	1.6%	1.6%	1.7%	2.0%	2.1%	2.2%	2.3%	2.4%	2.3%
<i>Total Other Wastes</i>	40.6%	33.4%	31.2%	32.9%	27.4%	27.3%	27.7%	28.6%	31.3%	31.4%
<i>Total MSW Discarded - %</i>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Discards after materials and compost recovery. In this table, discards include combustion with energy recovery. Does not include construction & demolition debris, industrial process wastes, or certain other wastes.

** Includes electrolytes in batteries and fluff pulp, feces, and urine in disposable diapers.

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 4
PAPER AND PAPERBOARD PRODUCTS IN MSW, 2010
(In thousands of tons and percent of generation)

Product Category	Generation	Recovery		Discards
	(Thousand tons)	(Thousand tons)	(Percent of generation)	(Thousand tons)
Nondurable Goods				
Newspapers/Mechanical Papers†	9,880	7,070	71.6%	2,810
Books	990			
Magazines	1,590			
Office-type Papers*	5,260			
Standard Mail**	4,340			
Other Commercial Printing	2,480			
Tissue Paper and Towels	3,490			
Paper Plates and Cups	1,350			
Other Nonpackaging Paper***	4,190			
Subtotal Nondurable Goods				
excluding Newspaper/Mechanical Papers§	23,690	10,650	45.0%	13,040
Total Paper and Paperboard Nondurable Goods	33,570	17,720	52.8%	15,850
Containers and Packaging				
Corrugated Boxes	29,050	24,690	85.0%	4,360
Gable Top/Aseptic Cartons‡	540			
Folding Cartons	5,470			
Other Paperboard Packaging	90			
Bags and Sacks	1,040			
Other Paper Packaging	1,490			
Subtotal Containers and Packaging				
excluding Corrugated Boxes§	8,630	2,160	25.0%	6,470
Total Paper and Paperboard Containers and Packaging	37,680	26,850	71.3%	10,830
Total Paper and Paperboard^	71,250	44,570	62.6%	26,680

† Starting in 2010, newsprint and groundwood inserts expanded to include directories and other mechanical papers previously counted as Other Commercial Printing.

* High-grade papers such as copy paper and printer paper; both residential and commercial.

** Formerly called Third Class Mail by the U.S. Postal Service.

*** Includes paper in games and novelties, cards, etc.

§ Valid default values for separating out paper and paperboard sub-categories for recovery and discards were not available.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

^ Table 4 does not include 10,000 tons of paper used in durable goods and 50,000 tons tissue in disposable diapers (Table 1).

Neg. = Less than 5,000 tons or 0.05 percent.

Source: Franklin Associates, A Division of ERG

Table 5
GLASS PRODUCTS IN MSW, 2010
(In thousands of tons and percent of generation)

Product Category	Generation	Recovery		Discards
	(Thousand tons)	(Thousand tons)	(Percent of generation)	(Thousand tons)
Durable Goods*	2,170	Neg.	Neg.	2,170
Containers and Packaging				
Beer and Soft Drink Bottles**	5,670	2,350	41.4%	3,320
Wine and Liquor Bottles	1,700	420	24.7%	1,280
Other Bottles and Jars	<u>1,990</u>	<u>360</u>	<u>18.1%</u>	<u>1,630</u>
Total Glass Containers	9,360	3,130	33.4%	6,230
Total Glass	<u>11,530</u>	<u>3,130</u>	<u>27.1%</u>	<u>8,400</u>

* Glass as a component of appliances, furniture, consumer electronics, etc.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

Neg. = Less than 5,000 tons or 0.05 percent.

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 6
METAL PRODUCTS IN MSW, 2010
(In thousands of tons and percent of generation)

Product Category	Generation (Thousand tons)	Recovery		Discards (Thousand tons)
		(Thousand tons)	(Percent of generation)	
Durable Goods				
Ferrous Metals*	14,160	3,820	27.0%	10,340
Aluminum**	1,310	Neg.	Neg.	1,310
Lead†	1,540	1,480	96.1%	60
Other Nonferrous Metals‡	560	Neg.	Neg.	560
Total Metals in Durable Goods	<u>17,570</u>	<u>5,300</u>	<u>30.2%</u>	<u>12,270</u>
Nondurable Goods				
Aluminum	200	Neg.	Neg.	200
Containers and Packaging				
Steel				
Cans	2,300	1,540	67.0%	760
Other Steel Packaging	440	350	79.5%	90
Total Steel Packaging	<u>2,740</u>	<u>1,890</u>	<u>69.0%</u>	<u>850</u>
Aluminum				
Beer and Soft Drink Cans§	1,370	680	49.6%	690
Other Cans	70	NA		70
Foil and Closures	460	NA		460
Total Aluminum Packaging	<u>1,900</u>	<u>680</u>	<u>35.8%</u>	<u>1,220</u>
Total Metals in Containers and Packaging	<u>4,640</u>	<u>2,570</u>	<u>55.4%</u>	<u>2,070</u>
Total Metals	<u>22,410</u>	<u>7,870</u>	<u>35.1%</u>	<u>14,540</u>
Ferrous	16,900	5,710	33.8%	11,190
Aluminum	3,410	680	19.9%	2,730
Other nonferrous	2,100	1,480	70.5%	620

* Ferrous metals (iron and steel) in appliances, furniture, tires, and miscellaneous durables.

** Aluminum in appliances, furniture, and miscellaneous durables.

† Lead in lead-acid batteries.

‡ Other nonferrous metals in appliances and miscellaneous durables.

§ Aluminum can recovery does not include used beverage cans imported to produce new beverage cans.

Neg. = Less than 5,000 tons or 0.05 percent. NA = Not Available

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 7
PLASTICS IN PRODUCTS IN MSW, 2010
(In thousands of tons, and percent of generation by resin)

Product Category	Generation (Thousand tons)	Recovery		Discards (Thousand tons)
		(Thousand tons)	(Percent of Gen.)	
Durable Goods				
PET	160			
HDPE	1,170			
PVC	240			
LDPE/LLDPE	2,000			
PP	4,070			
PS	580			
Other resins	2,740			
Total Plastics in Durable Goods	10,960	700	6.4%	10,260
Nondurable Goods				
Plastic Plates and Cups [§]				
LDPE/LLDPE	20			20
PLA	10			10
PP	140			140
PS	720			720
Subtotal Plastic Plates and Cups	890	Neg.	Neg.	890
Trash Bags				
HDPE	230			230
LDPE/LLDPE	750			750
Subtotal Trash Bags	980			980
All other nondurables*				
PET	440			440
HDPE	510			510
PVC	270			270
LDPE/LLDPE	1,180			1,180
PLA	30			
PP	1,290			1,290
PS	210			210
Other resins	600			600
Subtotal All Other Nondurables	4,530			4,530
Total Plastics in Nondurable Goods, by resin				
PET	440			440
HDPE	740			740
PVC	270			270
LDPE/LLDPE	1,950			1,950
PLA	40			
PP	1,430			1,430
PS	930			930
Other resins	600			600
Total Plastics in Nondurable Goods	6,400	Neg.	Neg.	6,400
Plastic Containers & Packaging				
Bottles and Jars**				
PET	2,670	560	21.0%	2,110
Natural Bottles†				
HDPE	800	220	27.5%	580

[§] Due to source data aggregation, PET cups are included in "Other Plastic Packaging".

* All other nondurables include plastics in disposable diapers, clothing, footwear, etc.

** Injection stretch blow molded PET containers as defined in the 2008 Report on Postconsumer PET Container Recycling Activity Final Report. National Association for PET Container Resources.

Prior to 2010, caps and labels recovered with PET bottles and jars were included in the PET recovery estimate. Beginning in 2010, these recovered materials were included with other plastic packaging.

† White translucent homopolymer bottles as defined in the 2007 United States National Postconsumer Plastics Bottles Recycling Report. American Chemistry Council and the Association of Postconsumer Plastic Recyclers.

Neg. = negligible, less than 5,000 tons

Source: Franklin Associates, A Division of ERG

Table 7 (continued)
PLASTICS IN PRODUCTS IN MSW, 2010
(In thousands of tons, and percent of generation by resin)

Product Category	Generation (Thousand tons)	Recovery		Discards (Thousand tons)
		(Thousand tons)	(Percent of Gen.)	
Plastic Containers & Packaging, cont.				
Other plastic containers				
HDPE	1,450	280	19.3%	1,170
PVC	30	Neg.		30
LDPE/LLDPE	30	Neg.		30
PP	240	20	8.3%	220
PS	80	Neg.		80
<i>Subtotal Other Containers</i>	1,830	300	16.4%	1,530
Bags, sacks, & wraps				
HDPE	690	30	4.3%	660
PVC	50			50
LDPE/LLDPE	2,380	420	17.6%	1,960
PP	680			680
PS	130			130
<i>Subtotal Bags, Sacks, & Wraps</i>	3,930	450	11.5%	3,480
Other Plastics Packaging‡				
PET	710	Neg.		710
HDPE	600	40	6.7%	560
PVC	320	Neg.		320
LDPE/LLDPE	1,070	Neg.		1,070
PLA	10	Neg.		10
PP	1,110	40	3.6%	1,070
PS	340	20	5.9%	320
Other resins	290	30	10.3%	260
<i>Subtotal Other Packaging</i>	4,450	130	2.9%	4,320
Total Plastics in Containers & Packaging, by resin				
PET	3,380	560	16.6%	2,820
HDPE	3,540	570	16.1%	2,970
PVC	400			400
LDPE/LLDPE	3,480	420	12.1%	3,060
PLA	10			10
PP	2,030	60	3.0%	1,970
PS	550	20	3.6%	530
Other resins	290	30	10.3%	260
<i>Total Plastics in Cont. & Packaging</i>	13,680	1,660	12.1%	12,020
Total Plastics in MSW, by resin				
PET	3,980	560	14.1%	3,420
HDPE	5,450	570	10.5%	4,880
PVC	910			910
LDPE/LLDPE	7,430	420	5.7%	7,010
PLA	50			50
PP	7,530	60	0.8%	7,470
PS	2,060	20	1.0%	2,040
Other resins	3,630	730	20.1%	2,900
<i>Total Plastics in MSW</i>	31,040	2,360	7.6%	28,680

HDPE = High density polyethylene

LDPE = Low density polyethylene

LLDPE = Linear low density polyethylene

PET = Polyethylene terephthalate

PLA = Polylactide

PP = Polypropylene

PS = Polystyrene

PVC = Polyvinyl chloride

‡ Other plastic packaging includes coatings, closures, lids, PET cups, caps, clamshells, egg cartons, produce baskets, trays, shapes, loose fill, etc. Some detail of recovery by resin omitted due to lack of data.

Source: Franklin Associates, A Division of ERG

Table 8

RUBBER AND LEATHER PRODUCTS IN MSW, 2010
(In thousands of tons and percent of generation)

Product Category	Generation	Recovery		Discards
	(Thousand tons)	(Thousand tons)	(Percent of generation)	(Thousand tons)
Durable Goods				
Rubber in Tires*	3,300	1,170	35.5%	2,130
Other Durables**	<u>3,440</u>	<u>Neg.</u>	<u>Neg.</u>	<u>3,440</u>
<i>Total Rubber & Leather Durable Goods</i>	6,740	1,170	17.4%	5,570
Nondurable Goods				
Clothing and Footwear	790	Neg.	Neg.	790
Other Nondurables	<u>250</u>	<u>Neg.</u>	<u>Neg.</u>	<u>250</u>
<i>Total Rubber & Leather Nondurable Goods</i>	1,040	Neg.	Neg.	1,040
<i>Total Rubber & Leather</i>	<u>7,780</u>	<u>1,170</u>	<u>15.0%</u>	<u>6,610</u>

* Automobile and truck tires. Does not include other materials in tires.

** Includes carpets and rugs and other miscellaneous durables.

Neg. = Less than 5,000 tons or 0.05 percent.

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 9

CATEGORIES OF PRODUCTS GENERATED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(In thousands of tons and percent of total generation)

	Thousands of Tons									
Products	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 12)</i>	9,920	14,660	21,800	29,810	38,850	44,930	46,260	46,950	47,580	49,080
Nondurable Goods <i>(Detail in Table 15)</i>	17,330	25,060	34,420	52,170	64,010	63,650	61,760	58,690	53,440	53,140
Containers and Packaging <i>(Detail in Table 18)</i>	27,370	43,560	52,670	64,530	75,840	76,330	78,370	75,700	71,320	75,640
Total Product** Wastes	54,620	83,280	108,890	146,510	178,700	184,910	186,390	181,340	172,340	177,860
Other Wastes										
Food Scraps	12,200	12,800	13,000	23,860	29,810	31,990	32,610	33,340	34,290	34,760
Yard Trimmings	20,000	23,200	27,500	35,000	30,530	32,070	32,630	32,900	33,200	33,400
Miscellaneous Inorganic Wastes	1,300	1,780	2,250	2,900	3,500	3,690	3,750	3,780	3,820	3,840
Total Other Wastes	33,500	37,780	42,750	61,760	63,840	67,750	68,990	70,020	71,310	72,000
Total MSW Generated - Weight	88,120	121,060	151,640	208,270	242,540	252,660	255,380	251,360	243,650	249,860
	Percent of Total Generation									
Products	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 12)</i>	11.3%	12.1%	14.4%	14.3%	16.0%	17.8%	18.1%	18.7%	19.5%	19.6%
Nondurable Goods <i>(Detail in Table 15)</i>	19.7%	20.7%	22.7%	25.0%	26.4%	25.2%	24.2%	23.3%	21.9%	21.3%
Containers and Packaging <i>(Detail in Table 19)</i>	31.1%	36.0%	34.7%	31.0%	31.3%	30.2%	30.7%	30.1%	29.3%	30.3%
Total Product** Wastes	62.0%	68.8%	71.8%	70.3%	73.7%	73.2%	73.0%	72.1%	70.7%	71.2%
Other Wastes										
Food Scraps	13.8%	10.6%	8.6%	11.5%	12.3%	12.7%	12.8%	13.3%	14.1%	13.9%
Yard Trimmings	22.7%	19.2%	18.1%	16.8%	12.6%	12.7%	12.8%	13.1%	13.6%	13.4%
Miscellaneous Inorganic Wastes	1.5%	1.5%	1.5%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.5%
Total Other Wastes	38.0%	31.2%	28.2%	29.7%	26.3%	26.8%	27.0%	27.9%	29.3%	28.8%
Total MSW Generated - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Generation before materials recovery or combustion. Does not include construction & demolition debris, industrial process wastes, or certain other wastes.

** Other than food products.

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 10

RECOVERY* OF MUNICIPAL SOLID WASTE, 1960 TO 2010
(In thousands of tons and percent of generation of each category)

	Thousands of Tons									
Products	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 13)</i>	350	940	1,360	3,460	6,580	8,030	8,230	8,360	8,430	9,080
Nondurable Goods <i>(Detail in Table 16)</i>	2,390	3,730	4,670	8,800	17,560	19,770	20,970	19,310	18,890	19,190
Containers and Packaging <i>(Detail in Table 20)</i>	2,870	3,350	8,490	16,780	28,870	31,500	33,900	34,050	34,210	36,510
Total Product** Wastes	5,610	8,020	14,520	29,040	53,010	59,300	63,100	61,720	61,530	64,780
Other Wastes										
Food, Other [^]	Neg.	Neg.	Neg.	Neg.	680	690	810	800	850	970
Yard Trimmings	Neg.	Neg.	Neg.	4,200	15,770	19,860	20,900	21,300	19,900	19,200
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	4,200	16,450	20,550	21,710	22,100	20,750	20,170
Total MSW Recovered - Weight	5,610	8,020	14,520	33,240	69,460	79,850	84,810	83,820	82,280	84,950
	Percent of Generation of Each Category									
Products	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 13)</i>	3.5%	6.4%	6.2%	11.6%	16.9%	17.9%	17.8%	17.8%	17.7%	18.5%
Nondurable Goods <i>(Detail in Table 16)</i>	13.8%	14.9%	13.6%	16.9%	27.4%	31.1%	34.0%	32.9%	35.3%	36.1%
Containers and Packaging <i>(Detail in Table 21)</i>	10.5%	7.7%	16.1%	26.0%	38.1%	41.3%	43.3%	45.0%	48.0%	48.3%
Total Product** Wastes	10.3%	9.6%	13.3%	19.8%	29.7%	32.1%	33.9%	34.0%	35.7%	36.4%
Other Wastes										
Food, Other [^]	Neg.	Neg.	Neg.	Neg.	2.3%	2.2%	2.5%	2.4%	2.5%	2.8%
Yard Trimmings	Neg.	Neg.	Neg.	12.0%	51.7%	61.9%	64.1%	64.7%	59.9%	57.5%
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	6.8%	25.8%	30.3%	31.5%	31.6%	29.1%	28.0%
Total MSW Recovered - %	6.4%	6.6%	9.6%	16.0%	28.6%	31.6%	33.2%	33.3%	33.8%	34.0%

* Recovery of postconsumer wastes; does not include converting/fabrication scrap.

** Other than food products.

[^] Includes recovery of paper and mixed MSW for composting.

Details may not add to totals due to rounding. Neg. = Less than 5,000 tons or 0.05 percent.

Source: Franklin Associates, A Division of ERG

Table 11

CATEGORIES OF PRODUCTS DISCARDED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(In thousands of tons and percent of total discards)

	Thousands of Tons									
Products	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 14)</i>	9,570	13,720	20,440	26,350	32,270	36,900	38,030	38,590	39,150	40,000
Nondurable Goods <i>(Detail in Table 17)</i>	14,940	21,330	29,750	43,370	46,450	43,880	40,790	39,380	34,550	33,950
Containers and Packaging <i>(Detail in Table 22)</i>	24,500	40,210	44,180	47,750	46,970	44,830	44,470	41,650	37,110	39,130
Total Product** Wastes	49,010	75,260	94,370	117,470	125,690	125,610	123,290	119,620	110,810	113,080
Other Wastes										
Food Wastes	12,200	12,800	13,000	23,860	29,130	31,300	31,800	32,540	33,440	33,790
Yard Trimmings	20,000	23,200	27,500	30,800	14,760	12,210	11,730	11,600	13,300	14,200
Miscellaneous Inorganic Wastes	1,300	1,780	2,250	2,900	3,500	3,690	3,750	3,780	3,820	3,840
Total Other Wastes	33,500	37,780	42,750	57,560	47,390	47,200	47,280	47,920	50,560	51,830
Total MSW Discarded - Weight	82,510	113,040	137,120	175,030	173,080	172,810	170,570	167,540	161,370	164,910
	Percent of Total Discards									
Products	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 14)</i>	11.6%	12.1%	14.9%	15.1%	18.6%	21.4%	22.3%	23.0%	24.3%	24.3%
Nondurable Goods <i>(Detail in Table 17)</i>	18.1%	18.9%	21.7%	24.8%	26.8%	25.4%	23.9%	23.5%	21.4%	20.6%
Containers and Packaging <i>(Detail in Table 23)</i>	29.7%	35.6%	32.2%	27.3%	27.1%	25.9%	26.1%	24.9%	23.0%	23.7%
Total Product** Wastes	59.4%	66.6%	68.8%	67.1%	72.6%	72.7%	72.3%	71.4%	68.7%	68.6%
Other Wastes										
Food Scraps	14.8%	11.3%	9.5%	13.6%	16.8%	18.1%	18.6%	19.4%	20.7%	20.5%
Yard Trimmings	24.2%	20.5%	20.1%	17.6%	8.5%	7.1%	6.9%	6.9%	8.2%	8.6%
Miscellaneous Inorganic Wastes	1.6%	1.6%	1.6%	1.7%	2.0%	2.1%	2.2%	2.3%	2.4%	2.3%
Total Other Wastes	40.6%	33.4%	31.2%	32.9%	27.4%	27.3%	27.7%	28.6%	31.3%	31.4%
Total MSW Discarded - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Discards after materials and compost recovery. In this table, discards include combustion with energy recovery. Does not include construction & demolition debris, industrial process wastes, or certain other wastes.

** Other than food products.

Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 13

RECOVERY* OF PRODUCTS IN MUNICIPAL SOLID WASTE, 1960 TO 2010
(WITH DETAIL ON DURABLE GOODS)
(In thousands of tons and percent of generation of each product)

Products	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods										
Major Appliances	10	50	130	1,070	2,000	2,420	2,430	2,470	2,510	2,610
Small Appliances**				10	20	20	20	110	110	110
Furniture and Furnishings	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	10	10	10
Carpets and Rugs**				Neg.	190	250	280	270	280	310
Rubber Tires	330	250	150	440	1,290	1,700	1,770	1,770	1,770	1,840
Batteries, Lead-Acid	Neg.	620	1,040	1,470	2,130	2,640	2,700	2,820	2,840	3,070
Miscellaneous Durables										
Selected Consumer Electronics***					190	360	550	560	600	650
Other Miscellaneous Durables					760	640	480	350	310	480
<i>Total Miscellaneous Durables</i>	10	20	40	470	950	1,000	1,030	910	910	1,130
Total Durable Goods	350	940	1,360	3,460	6,580	8,030	8,230	8,360	8,430	9,080
Nondurable Goods	2,390	3,730	4,670	8,800	17,560	19,770	20,970	19,310	18,890	19,190
<i>(Detail in Table 16)</i>										
Containers and Packaging	2,870	3,350	8,490	16,780	28,870	31,500	33,900	34,050	34,210	36,510
<i>(Detail in Table 20)</i>										
Total Product Wastes†	5,610	8,020	14,520	29,040	53,010	59,300	63,100	61,720	61,530	64,780
Other Wastes										
Food Scraps	Neg.	Neg.	Neg.	Neg.	680	690	810	800	850	970
Yard Trimmings	Neg.	Neg.	Neg.	4,200	15,770	19,860	20,900	21,300	19,900	19,200
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	4,200	16,450	20,550	21,710	22,100	20,750	20,170
Total MSW Recovered - Weight	5,610	8,020	14,520	33,240	69,460	79,850	84,810	83,820	82,280	84,950
Products	Percent of Generation of Each Product									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods										
Major Appliances	0.6%	2.3%	4.4%	32.3%	54.9%	67.0%	67.1%	66.9%	68.0%	64.9%
Small Appliances**				2.2%	1.9%	1.7%	1.4%	7.2%	7.2%	6.9%
Furniture and Furnishings	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	0.1%	0.1%	0.1%
Carpets and Rugs**				Neg.	7.8%	8.8%	9.3%	8.6%	8.9%	9.0%
Rubber Tires	29.5%	13.2%	5.5%	12.2%	26.2%	34.6%	35.3%	35.3%	35.3%	35.5%
Batteries, Lead-Acid	Neg.	75.6%	69.8%	97.4%	93.4%	96.0%	95.7%	95.9%	96.6%	96.2%
Miscellaneous Durables										
Selected Consumer Electronics***					10.0%	13.7%	23.9%	24.2%	26.0%	26.6%
Other Miscellaneous Durables					5.2%	3.6%	2.6%	1.9%	1.7%	2.6%
<i>Total Miscellaneous Durables</i>	0.2%	0.3%	0.4%	3.8%	5.8%	4.9%	5.0%	4.5%	4.5%	5.4%
Total Durable Goods	3.5%	6.4%	6.2%	11.6%	16.9%	17.9%	17.8%	17.8%	18.0%	18.5%
Nondurable Goods	13.8%	14.9%	13.6%	16.9%	27.4%	31.1%	34.0%	32.9%	32.2%	36.1%
<i>(Detail in Table 16)</i>										
Containers and Packaging	10.5%	7.7%	16.1%	26.0%	38.1%	41.3%	43.3%	45.0%	45.2%	48.3%
<i>(Detail in Table 21)</i>										
Total Product Wastes†	10.3%	9.6%	13.3%	19.8%	29.7%	32.1%	33.9%	34.0%	33.9%	36.4%
Other Wastes										
Food Scraps	Neg.	Neg.	Neg.	Neg.	2.3%	2.2%	2.5%	2.4%	2.5%	2.8%
Yard Trimmings	Neg.	Neg.	Neg.	12.0%	51.7%	61.9%	64.1%	64.7%	60.5%	57.5%
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	6.8%	25.8%	30.3%	31.5%	31.6%	29.6%	28.0%
Total MSW Recovered - %	6.4%	6.6%	9.6%	16.0%	28.6%	31.6%	33.2%	33.3%	32.7%	34.0%

* Recovery of postconsumer wastes; does not include converting/fabrication scrap.

** Not estimated separately prior to 1990.

*** Not estimated separately prior to 1999.

† Other than food products.

Neg. = Less than 5,000 tons or 0.05 percent. Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Table 15

PRODUCTS GENERATED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(WITH DETAIL ON NONDURABLE GOODS)
(In thousands of tons and percent of total generation)

Products	Thousands of Tons											
	1960	1970	1980	1990	1995	1999	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 12)</i>	9,920	14,660	21,800	29,810	31,140	35,340	38,850	44,930	46,260	46,950	47,580	49,080
Nondurable Goods												
Newspapers/Mechanical Papers†	7,110	9,510	11,050	13,430	13,140	14,870	14,790	12,790	10,780	8,800	7,760	9,880
Directories†**				610	490	740	680	660	760	840	650	-
Other Paper Nondurable Goods												
Books and Magazines	1,920	2,470	3,390									
Books**				970	1,150	1,130	1,240	1,100	1,270	1,340	960	990
Magazines**				2,830	2,530	2,210	2,230	2,580	2,550	2,050	1,450	1,590
Office-Type Papers***	1,520	2,650	4,000	6,410	6,640	7,710	7,420	6,620	6,060	6,050	5,380	5,260
Standard Mail§				3,820	4,620	5,320	5,570	5,830	5,910	5,510	4,650	4,340
Other Commercial Printing†	1,260	2,130	3,120	4,460	6,770	6,270	7,380	6,440	6,200	5,130	3,490	2,480
Tissue Paper and Towels	1,090	2,080	2,300	2,960	2,970	3,240	3,220	3,460	3,500	3,460	3,490	3,490
Paper Plates and Cups	270	420	630	650	970	950	960	1,160	1,230	1,250	1,170	1,350
Other Nonpackaging Paper	2,700	3,630	4,230	3,840	4,270	4,620	4,250	4,490	4,260	4,630	4,420	4,190
Total Other Paper Nondurable Goods												23,690
Disposable Diapers	Neg.	350	1,930	2,700	3,010	3,310	3,230	3,410	3,730	3,770	3,810	3,740
Plastic Plates and Cups§			190	650	780	910	870	930	860	780	900	890
Trash Bags**				780	780	950	850	1,060	1,070	930	1,000	980
Clothing and Footwear	1,360	1,620	2,170	4,010	5,070	6,260	6,470	7,890	8,320	8,820	9,080	8,950
Towels, Sheets and Pillowcases**				710	740	780	820	980	1,100	1,160	1,230	1,290
Other Miscellaneous Nondurables	100	200	1,410	3,340	3,320	3,730	4,030	4,250	4,160	4,170	4,000	3,720
Total Nondurable Goods	17,330	25,060	34,420	52,170	57,250	63,000	64,010	63,650	61,760	58,690	53,440	53,140
Containers and Packaging <i>(Detail in Table 18)</i>	27,370	43,560	52,670	64,530	70,730	76,800	75,840	76,330	78,370	75,700	71,320	75,640
Total Product Wastes‡	54,620	83,280	108,890	146,510	159,120	175,140	178,700	184,910	186,390	181,340	172,340	177,860
Other Wastes	33,500	37,780	42,750	61,760	58,160	59,740	63,840	67,750	68,990	70,020	71,310	72,000
Total MSW Generated - Weight	88,120	121,060	151,640	208,270	217,280	234,880	242,540	252,660	255,380	251,360	243,650	249,860
	Percent of Total Generation											
Products	1960	1970	1980	1990	1995	1999	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 12)</i>	11.3%	12.1%	14.4%	14.3%	14.3%	15.0%	16.0%	17.8%	18.1%	18.7%	19.5%	19.6%
Nondurable Goods												
Newspapers/Mechanical Papers†	8.1%	7.9%	7.3%	6.4%	6.0%	6.3%	6.1%	5.1%	4.2%	3.5%	3.2%	4.0%
Directories†**				0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	-
Other Paper Nondurable Goods												
Books and Magazines	2.2%	2.0%	2.2%									
Books**				0.5%	0.5%	0.5%	0.5%	0.4%	0.5%	0.5%	0.4%	0.4%
Magazines**				1.4%	1.2%	0.9%	0.9%	1.0%	1.0%	0.8%	0.6%	0.6%
Office-Type Papers***	1.7%	2.2%	2.6%	3.1%	3.1%	3.3%	3.1%	2.6%	2.4%	2.4%	2.2%	2.1%
Standard Mail§				1.8%	2.1%	2.3%	2.3%	2.3%	2.3%	2.2%	1.9%	1.7%
Other Commercial Printing†	1.4%	1.8%	2.1%	2.1%	3.1%	2.7%	3.0%	2.5%	2.4%	2.0%	1.4%	1.0%
Tissue Paper and Towels	1.2%	1.7%	1.5%	1.4%	1.4%	1.4%	1.3%	1.4%	1.4%	1.4%	1.4%	1.4%
Paper Plates and Cups	0.3%	0.3%	0.4%	0.3%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%
Other Nonpackaging Paper	3.1%	3.0%	2.8%	1.8%	2.0%	2.0%	1.8%	1.8%	1.7%	1.8%	1.8%	1.7%
Total Other Paper Nondurable Goods												9.5%
Disposable Diapers	Neg.	0.3%	1.3%	1.3%	1.4%	1.4%	1.3%	1.3%	1.5%	1.5%	1.6%	1.5%
Plastic Plates and Cups§			0.1%	0.3%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%	0.4%
Trash Bags**				0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Clothing and Footwear	1.5%	1.3%	1.4%	1.9%	2.3%	2.7%	2.7%	3.1%	3.3%	3.5%	3.7%	3.6%
Towels, Sheets and Pillowcases**				0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.5%	0.5%	0.5%
Other Miscellaneous Nondurables	0.1%	0.2%	0.9%	1.6%	1.5%	1.6%	1.7%	1.7%	1.6%	1.7%	1.6%	1.5%
Total Nondurables	19.7%	20.7%	22.7%	25.0%	26.3%	26.8%	26.4%	25.2%	24.2%	23.3%	21.9%	21.3%
Containers and Packaging <i>(Detail in Table 19)</i>	31.1%	36.0%	34.7%	31.0%	32.6%	32.7%	31.3%	30.2%	30.7%	30.1%	29.3%	30.3%
Total Product Wastes‡	62.0%	68.8%	71.8%	70.3%	73.2%	74.6%	73.7%	73.2%	73.0%	72.1%	70.7%	71.2%
Other Wastes	38.0%	31.2%	28.2%	29.7%	26.8%	25.4%	26.3%	26.8%	27.0%	27.9%	29.3%	28.8%
Total MSW Generated - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Generation before materials recovery or combustion. Does not include construction & demolition debris, industrial process wastes, or certain other wastes. Details may not add to totals due to rounding.

† Starting in 2010, newsprint and groundwood inserts expanded to include directories and other mechanical papers previously counted as Other Commercial Printing.

** Not estimated separately prior to 1990.

*** High-grade paper such as printer paper; generated in both commercial and residential sources.

§ Standard Mail: Not estimated separately prior to 1990. Formerly called Third Class Mail and Standard (A) Mail by the U.S. Postal Service.

¶ Plastic Plates and Cups: Not estimated separately prior to 1980.

‡ Other than food products.

- Detailed data not available.

Neg. = Less than 5,000 tons or 0.05 percent.

Source: Franklin Associates, A Division of ERG

Table 16

**RECOVERY* OF PRODUCTS IN MUNICIPAL SOLID WASTE, 1960 TO 2010
(WITH DETAIL ON NONDURABLE GOODS)**

(In thousands of tons and percent of generation of each product)

Products	Thousands of Tons											
	1960	1970	1980	1990	1995	1999	2000	2005	2007	2008	2009	2010
Durable Goods (Detail in Table 13)	350	940	1,360	3,460	5,010	5,920	6,580	8,030	8,230	8,360	8,430	9,080
Nondurable Goods												
Newspapers/Mechanical Papers†	1,820	2,250	3,020	5,110	7,010	8,040	8,720	9,360	8,550	7,740	6,840	7,070
Directories†**				50	60	130	120	120	140	180	240	-
Other Paper Nondurable Goods												
Books and Magazines	100	260	280									
Books**				100	220	190	240	270	360	390	320	-
Magazines**				300	650	550	710	960	1,010	820	780	-
Office-Type Papers***	250	710	870	1,700	3,040	3,630	4,090	4,110	4,300	4,290	3,990	-
Standard Mail§				200	710	1,360	1,830	2,090	2,380	2,240	2,950	-
Other Commercial Printing†	130	340	350	700	1,120	1,230	810	1,440	2,790	2,200	2,310	-
Tissue Paper and Towels	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Paper Plates and Cups	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Other Nonpackaging Paper	40	110	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Total Other Paper Nondurable Goods												10,650
Disposable Diapers				Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Plastic Plates and Cups§			Neg.	Neg.	10	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Trash Bags**				Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Clothing and Footwear	50	60	150	520	660	860	900	1,250	1,250	1,250	1,250	1,250
Towels, Sheets and Pillowcases**				120	130	140	140	170	190	200	210	220
Other Miscellaneous Nondurables	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Nondurable Goods	2,390	3,730	4,670	8,800	13,610	16,130	17,560	19,770	20,970	19,310	18,890	19,190
Containers and Packaging (Detail in Table 20)	2,870	3,350	8,490	16,780	27,530	28,750	28,870	31,500	33,900	34,050	34,210	36,510
Total Product Wastes†	5,610	8,020	14,520	29,040	46,150	50,800	53,010	59,300	63,100	61,720	61,530	64,780
Other Wastes	Neg.	Neg.	Neg.	4,200	9,600	14,720	16,450	20,550	21,710	22,100	20,750	20,170
Total MSW Recovered - Weight	5,610	8,020	14,520	33,240	55,750	65,520	69,460	79,850	84,810	83,820	82,280	84,950
	Percent of Generation of Each Product											
Products	1960	1970	1980	1990	1995	1999	2000	2005	2007	2008	2009	2010
Durable Goods (Detail in Table 13)	3.5%	6.4%	6.2%	11.6%	16.1%	16.8%	16.9%	17.9%	17.8%	17.8%	17.7%	18.5%
Nondurable Goods												
Newspapers/Mechanical Papers†	25.6%	23.7%	27.3%	38.0%	53.3%	54.1%	59.0%	73.2%	79.3%	88.0%	88.1%	71.6%
Directories†**				8.2%	12.2%	17.6%	17.6%	18.2%	18.4%	21.4%	36.9%	-
Other Paper Nondurable Goods												
Books and Magazines	5.2%	10.5%	8.3%									
Books**				10.3%	19.1%	16.8%	19.4%	24.5%	28.3%	29.1%	33.3%	-
Magazines**				10.6%	25.7%	24.9%	31.8%	37.2%	39.6%	40.0%	53.8%	-
Office-Type Papers***	16.4%	26.8%	21.8%	26.5%	45.8%	47.1%	55.1%	62.1%	71.0%	70.9%	74.2%	-
Standard Mail§				5.2%	15.4%	25.6%	32.9%	35.8%	40.3%	40.7%	63.4%	-
Other Commercial Printing†	10.3%	16.0%	11.2%	15.7%	16.5%	19.6%	11.0%	22.4%	45.0%	42.9%	66.2%	-
Tissue Paper and Towels	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Paper Plates and Cups	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Other Nonpackaging Paper	1.5%	3.0%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Total Other Paper Nondurable Goods												45.0%
Disposable Diapers				Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Plastic Plates and Cups§			Neg.	Neg.	1.3%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Trash Bags**				Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Clothing and Footwear	Neg.	Neg.	Neg.	13.0%	13.0%	13.7%	13.9%	15.8%	15.0%	14.2%	13.8%	14.0%
Towels, Sheets and Pillowcases**				16.9%	17.6%	17.9%	17.1%	17.3%	17.3%	17.2%	17.1%	17.1%
Other Miscellaneous Nondurables	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Nondurables	13.8%	14.9%	13.6%	16.9%	23.8%	25.6%	27.4%	31.1%	34.0%	32.9%	35.3%	36.1%
Containers and Packaging (Detail in Table 21)	10.5%	7.7%	16.1%	26.0%	38.9%	37.4%	38.1%	41.3%	43.3%	45.0%	48.0%	48.3%
Total Product Wastes†	10.3%	9.6%	13.3%	19.8%	29.0%	29.0%	29.7%	32.1%	33.9%	34.0%	35.7%	36.4%
Other Wastes	Neg.	Neg.	Neg.	6.8%	16.5%	24.6%	25.8%	30.3%	31.5%	31.6%	29.1%	28.0%
Total MSW Recovered - %	6.4%	6.6%	9.6%	16.0%	25.7%	27.9%	28.6%	31.6%	33.2%	33.3%	33.8%	34.0%

* Recovery of postconsumer wastes; does not include converting/fabrication scrap. Details may not add to totals due to rounding.

† Starting in 2010, newsprint and groundwood inserts expanded to include directories and other mechanical papers previously counted as Other Commercial Printing.

** Not estimated separately prior to 1990.

*** High-grade paper such as printer paper; generated in both commercial and residential sources.

§ Standard Mail: Not estimated separately prior to 1990. Formerly called Third Class Mail and Standard (A) Mail by the U.S. Postal Service.

§ Plastic Plates and Cups: Not estimated separately prior to 1980.

† Other than food products.

- Detailed data not available.

Neg. = Less than 5,000 tons or 0.05 percent.

Source: Franklin Associates, A Division of ERG

Table 17

PRODUCTS DISCARDED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(WITH DETAIL ON NONDURABLE GOODS)
(In thousands of tons and percent of total discards)

Products	Thousands of Tons											
	1960	1970	1980	1990	1995	1999	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 14)</i>	9,570	13,720	20,440	26,350	26,130	29,420	32,270	36,900	38,030	38,590	39,150	40,000
Nondurable Goods												
Newspapers/Mechanical Papers†	5,290	7,260	8,030	8,320	6,130	6,830	6,070	3,430	2,230	1,060	920	2,810
Directories†**				560	430	610	560	540	620	660	410	-
Other Paper Nondurable Goods												
Books and Magazines	1,820	2,210	3,110									
Books**				870	930	940	1,000	830	910	950	640	-
Magazines**				2,530	1,880	1,660	1,520	1,620	1,540	1,230	670	-
Office-Type Papers***	1,270	1,940	3,130	4,710	3,600	4,080	3,330	2,510	1,760	1,760	1,390	-
Standard Mail§				3,620	3,910	3,960	3,740	3,740	3,530	3,270	1,700	-
Other Commercial Printing†	1,130	1,790	2,770	3,760	5,650	5,040	6,570	5,000	3,410	2,930	1,180	-
Tissue Paper and Towels	1,090	2,080	2,300	2,960	2,970	3,240	3,220	3,460	3,500	3,460	3,490	-
Paper Plates and Cups	270	420	630	650	970	950	960	1,160	1,230	1,250	1,170	-
Other Nonpackaging Paper	2,660	3,520	4,230	3,840	4,270	4,620	4,250	4,490	4,260	4,630	4,420	-
Total Other Paper Nondurable Goods												13,040
Disposable Diapers	Neg.	350	1,930	2,700	3,010	3,310	3,230	3,410	3,730	3,770	3,810	3,740
Plastic Plates and Cups§			190	650	770	910	870	930	860	780	900	890
Trash Bags**				780	780	950	850	1,060	1,070	930	1,000	980
Clothing and Footwear	1,310	1,560	2,020	3,490	4,410	5,400	5,570	6,640	7,070	7,570	7,830	7,700
Towels, Sheets and Pillowcases**				590	610	640	680	810	910	960	1,020	1,070
Other Miscellaneous Nondurables	100	200	1,410	3,340	3,320	3,730	4,030	4,250	4,160	4,170	4,000	3,720
Total Nondurable Goods	14,940	21,330	29,750	43,370	43,640	46,870	46,450	43,880	40,790	39,380	34,550	33,950
Containers and Packaging <i>(Detail in Table 22)</i>	24,500	40,210	44,180	47,750	43,200	48,050	46,970	44,830	44,470	41,650	37,110	39,130
Total Product Wastes‡	49,010	75,260	94,370	117,470	112,970	124,340	125,690	125,610	123,290	119,620	110,810	113,080
Other Wastes	33,500	37,780	42,750	57,560	48,560	45,020	47,390	47,280	47,280	47,920	50,560	51,830
Total MSW Discarded - Weight	82,510	113,040	137,120	175,030	161,530	169,360	173,080	172,810	170,570	167,540	161,370	164,910
	Percent of Total Discards											
Products	1960	1970	1980	1990	1995	1999	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 14)</i>	11.6%	12.1%	14.9%	15.1%	16.2%	17.4%	18.6%	21.4%	22.3%	23.0%	24.3%	24.3%
Nondurable Goods												
Newspapers/Mechanical Papers†	6.4%	6.4%	5.9%	4.8%	3.8%	4.0%	3.5%	2.0%	1.3%	0.6%	0.6%	1.7%
Directories†**				0.3%	0.3%	0.4%	0.3%	0.3%	0.4%	0.4%	0.3%	-
Other Paper Nondurable Goods												
Books and Magazines	2.2%	2.0%	2.3%									
Books**				0.5%	0.6%	0.6%	0.6%	0.5%	0.5%	0.6%	0.4%	-
Magazines**				1.4%	1.2%	1.0%	0.9%	0.9%	0.9%	0.7%	0.4%	-
Office-Type Papers***	1.5%	1.7%	2.3%	2.7%	2.2%	2.4%	1.9%	1.5%	1.0%	1.1%	0.9%	-
Standard Mail§				2.1%	2.4%	2.3%	2.2%	2.2%	2.1%	2.0%	1.1%	-
Other Commercial Printing†	1.4%	1.6%	2.0%	2.1%	3.5%	3.0%	3.8%	2.9%	2.0%	1.7%	0.7%	-
Tissue Paper and Towels	1.3%	1.8%	1.7%	1.7%	1.8%	1.9%	1.9%	2.0%	2.1%	2.1%	2.2%	-
Paper Plates and Cups	0.3%	0.4%	0.5%	0.4%	0.6%	0.6%	0.6%	0.7%	0.7%	0.7%	0.7%	-
Other Nonpackaging Paper	3.2%	3.1%	3.1%	2.2%	2.6%	2.7%	2.5%	2.6%	2.5%	2.8%	2.7%	-
Total Other Paper Nondurable Goods												7.9%
Disposable Diapers	Neg.	0.3%	1.4%	1.5%	1.9%	2.0%	1.9%	2.0%	2.2%	2.3%	2.4%	2.3%
Plastic Plates and Cups§			0.1%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.5%
Trash Bags**				0.4%	0.5%	0.6%	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
Clothing and Footwear	1.6%	1.4%	1.5%	2.0%	2.7%	3.2%	3.2%	3.8%	4.1%	4.5%	4.9%	4.7%
Towels, Sheets and Pillowcases**				0.3%	0.4%	0.4%	0.4%	0.5%	0.5%	0.6%	0.6%	0.6%
Other Miscellaneous Nondurables	0.1%	0.2%	1.7%	1.9%	2.1%	2.2%	2.3%	2.5%	2.4%	2.5%	2.5%	2.3%
Total Nondurables	18.1%	18.9%	21.7%	24.8%	27.0%	27.7%	26.8%	25.4%	23.9%	23.5%	21.4%	20.6%
Containers and Packaging <i>(Detail in Table 23)</i>	29.7%	35.6%	32.2%	27.3%	26.7%	28.4%	27.1%	25.9%	26.1%	24.9%	23.0%	23.7%
Total Product Wastes‡	59.4%	66.6%	68.8%	67.1%	69.9%	73.4%	72.6%	72.7%	72.3%	71.4%	68.7%	68.6%
Other Wastes	40.6%	33.4%	31.2%	32.9%	30.1%	26.6%	27.4%	27.3%	27.7%	28.6%	31.3%	31.4%
Total MSW Discarded - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Discards after materials and compost recovery. In this table, discards include combustion with energy recovery.

Does not include construction & demolition debris, industrial process wastes, or certain other wastes. Details may not add to totals due to rounding.

† Starting in 2010, newsprint and groundwood inserts expanded to include directories and other mechanical papers previously counted as Other Commercial Printing.

** Not estimated separately prior to 1990.

*** High-grade paper such as printer paper; generated in both commercial and residential sources.

§ Standard Mail: Not estimated separately prior to 1990. Formerly called Third Class Mail and Standard (A) Mail by the U.S. Postal Service.

§ Plastic Plates and Cups: Not estimated separately prior to 1980.

‡ Other than food products.

- Detailed data not available.

Neg. = Less than 5,000 tons or 0.05 percent.

Source: Franklin Associates, A Division of ERG

Table 18
PRODUCTS GENERATED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(WITH DETAIL ON CONTAINERS AND PACKAGING)
(In thousands of tons)

Products	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 12)</i>	9,920	14,660	21,800	29,810	38,850	44,930	46,260	46,950	47,580	49,080
Nondurable Goods <i>(Detail in Table 15)</i>	17,330	25,060	34,420	52,170	64,010	63,650	61,760	58,690	53,440	53,140
Containers and Packaging										
Glass Packaging										
Beer and Soft Drink Bottles**	1,400	5,580	6,740	5,640	5,710	6,540	6,760	6,350	6,000	5,670
Wine and Liquor Bottles	1,080	1,900	2,450	2,030	1,910	1,630	1,620	1,610	1,710	1,700
Other Bottles & Jars	3,710	4,440	4,780	4,160	3,420	2,290	2,030	2,090	1,950	1,990
Total Glass Packaging	6,190	11,920	13,970	11,830	11,040	10,460	10,410	10,050	9,660	9,360
Steel Packaging										
Beer and Soft Drink Cans	640	1,570	520	150	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Cans	3,760	3,540	2,850	2,540	2,630	2,130	2,430	2,240	1,880	2,300
Other Steel Packaging	260	270	240	200	240	240	240	240	360	440
Total Steel Packaging	4,660	5,380	3,610	2,890	2,870	2,370	2,670	2,480	2,240	2,740
Aluminum Packaging										
Beer and Soft Drink Cans	Neg.	100	850	1,550	1,520	1,450	1,420	1,390	1,360	1,370
Other Cans	Neg.	60	40	20	50	80	30	70	60	70
Foil and Closures	170	410	380	330	380	400	430	420	460	460
Total Aluminum Packaging	170	570	1,270	1,900	1,950	1,930	1,880	1,880	1,880	1,900
Paper & Paperboard Pkg										
Corrugated Boxes	7,330	12,760	17,080	24,010	30,210	30,930	31,230	29,710	27,190	29,050
Other Paper & Paperboard Pkg										
Gable Top/Aseptic Cartons‡			790	510	550	500	500	490	460	540
Folding Cartons			3,820	4,300	5,820	5,530	5,530	5,340	4,980	5,470
Other Paperboard Packaging	3,840	4,830	230	290	200	160	150	120	90	90
Bags and Sacks			3,380	2,440	1,490	1,120	1,140	1,170	910	1,040
Wrapping Papers			200	110	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Other Paper Packaging	2,940	3,810	850	1,020	1,670	1,400	1,390	1,460	1,310	1,490
<i>Subtotal Other Paper & Paperboard Pkg</i>										8,630
Total Paper & Board Pkg	14,110	21,400	26,350	32,680	39,940	39,640	39,940	38,290	34,940	37,680
Plastics Packaging										
PET Bottles and Jars			260	430	1,720	2,540	2,840	2,680	2,570	2,670
HDPE Natural Bottles			230	530	690	800	820	750	760	800
Other Containers	60	910	890	1,430	1,740	1,420	1,910	1,900	1,750	1,830
Bags and Sacks			390	940	1,650	1,640	1,010	940	660	770
Wraps			840	1,530	2,550	2,810	3,180	3,020	3,190	3,160
<i>Subtotal Bags, Sacks, and Wraps</i>			1,230	2,470	4,200	4,450	4,190	3,960	3,850	3,930
Other Plastics Packaging	60	1,180	790	2,040	2,840	3,210	3,870	3,720	3,600	4,450
Total Plastics Packaging	120	2,090	3,400	6,900	11,190	12,420	13,630	13,010	12,530	13,680
Wood Packaging	2,000	2,070	3,940	8,180	8,610	9,230	9,520	9,680	9,790	9,940
Other Misc. Packaging	120	130	130	150	240	280	320	310	280	340
Total Containers & Pkg	27,370	43,560	52,670	64,530	75,840	76,330	78,370	75,700	71,320	75,640
Total Product Wastes†	54,620	83,280	108,890	146,510	178,700	184,910	186,390	181,340	172,340	177,860
Other Wastes										
Food Scraps	12,200	12,800	13,000	23,860	29,810	31,990	32,610	33,340	34,290	34,760
Yard Trimmings	20,000	23,200	27,500	35,000	30,530	32,070	32,630	32,900	33,200	33,400
Miscellaneous Inorganic Wastes	1,300	1,780	2,250	2,900	3,500	3,690	3,750	3,780	3,820	3,840
Total Other Wastes	33,500	37,780	42,750	61,760	63,840	67,750	68,990	70,020	71,310	72,000
Total MSW Generated - Weight	88,120	121,060	151,640	208,270	242,540	252,660	255,380	251,360	243,650	249,860

* Generation before materials recovery or combustion.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

† Other than food products.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

Details may not add to totals due to rounding.

Neg. = Less than 5,000 tons or 0.05 percent.

- Detailed data not available.

Source: Franklin Associates, A Division of ERG

Table 19
PRODUCTS GENERATED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(WITH DETAIL ON CONTAINERS AND PACKAGING)
(In percent of total generation)

Products	Percent of Total Generation									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 12)</i>	11.3%	12.1%	14.4%	14.3%	16.0%	17.8%	18.1%	18.7%	19.5%	19.6%
Nondurable Goods <i>(Detail in Table 15)</i>	19.7%	20.7%	22.7%	25.0%	26.4%	25.2%	24.2%	23.3%	21.9%	21.3%
Containers and Packaging										
Glass Packaging										
Beer and Soft Drink Bottles**	1.6%	4.6%	4.4%	2.7%	2.4%	2.6%	2.6%	2.5%	2.5%	2.3%
Wine and Liquor Bottles	1.2%	1.6%	1.6%	1.0%	0.8%	0.6%	0.6%	0.6%	0.7%	0.7%
Other Bottles & Jars	4.2%	3.7%	3.2%	2.0%	1.4%	0.9%	0.8%	0.8%	0.8%	0.8%
Total Glass Packaging	7.0%	9.8%	9.2%	5.7%	4.6%	4.1%	4.1%	4.0%	4.0%	3.7%
Steel Packaging										
Beer and Soft Drink Cans	0.7%	1.3%	0.3%	0.1%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Cans	4.3%	2.9%	1.9%	1.2%	1.1%	0.8%	1.0%	0.9%	0.8%	0.9%
Other Steel Packaging	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Total Steel Packaging	5.3%	4.4%	2.4%	1.4%	1.2%	0.9%	1.0%	1.0%	0.9%	1.1%
Aluminum Packaging										
Beer and Soft Drink Cans	Neg.	0.1%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%
Other Cans	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	0.01%	0.03%	0.02%	0.03%
Foil and Closures	0.2%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Total Aluminum Packaging	0.2%	0.5%	0.8%	0.9%	0.8%	0.8%	0.7%	0.7%	0.8%	0.8%
Paper & Paperboard Pkg										
Corrugated Boxes	8.3%	10.5%	11.3%	11.5%	12.5%	12.2%	12.2%	12.2%	11.2%	11.6%
Other Paper & Paperboard Pkg										
Gable Top/Aseptic Cartons‡			0.5%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Folding Cartons			2.5%	2.1%	2.4%	2.2%	2.2%	2.1%	2.0%	2.2%
Other Paperboard Packaging	4.4%	4.0%	0.2%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Bags and Sacks			2.2%	1.2%	0.6%	0.4%	0.4%	0.5%	0.4%	0.4%
Wrapping Papers			0.1%	0.1%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Other Paper Packaging	3.3%	3.1%	0.6%	0.5%	0.7%	0.6%	0.5%	0.6%	0.5%	0.6%
<i>Subtotal Other Paper & Paperboard Pkg</i>										3.5%
Total Paper & Board Pkg	16.0%	17.7%	17.4%	15.7%	16.5%	15.7%	15.6%	15.2%	14.3%	15.1%
Plastics Packaging										
PET Bottles and Jars			0.2%	0.2%	0.7%	1.0%	1.1%	1.1%	1.1%	1.1%
HDPE Natural Bottles			0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Other Containers	0.1%	0.8%	0.6%	0.7%	0.7%	0.6%	0.7%	0.8%	0.7%	0.7%
Bags and Sacks			0.3%	0.5%	0.7%	0.6%	0.4%	0.4%	0.3%	0.3%
Wraps			0.6%	0.7%	1.1%	1.1%	1.2%	1.2%	1.3%	1.3%
<i>Subtotal Bags, Sacks, and Wraps</i>			0.8%	1.2%	1.7%	1.8%	1.6%	1.6%	1.6%	1.6%
Other Plastics Packaging	0.1%	1.0%	0.5%	1.0%	1.2%	1.3%	1.5%	1.5%	1.5%	1.8%
Total Plastics Packaging	0.1%	1.7%	2.2%	3.3%	4.6%	4.9%	5.3%	5.2%	5.1%	5.5%
Wood Packaging	2.3%	1.7%	2.6%	3.9%	3.5%	3.7%	3.7%	3.9%	4.0%	4.0%
Other Misc. Packaging	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Total Containers & Pkg	31.1%	36.0%	34.7%	31.0%	31.3%	30.2%	30.7%	30.1%	29.3%	30.3%
Total Product Wastes†	62.0%	68.8%	71.8%	70.3%	73.7%	73.2%	73.0%	72.1%	70.7%	71.2%
Other Wastes										
Food Scraps	13.8%	10.6%	8.6%	11.5%	12.3%	12.7%	12.8%	13.3%	14.1%	13.9%
Yard Trimmings	22.7%	19.2%	18.1%	16.8%	12.6%	12.7%	12.8%	13.1%	13.6%	13.4%
Miscellaneous Inorganic Wastes	1.5%	1.5%	1.5%	1.4%	1.4%	1.5%	1.5%	1.5%	1.6%	1.5%
Total Other Wastes	38.0%	31.2%	28.2%	29.7%	26.3%	26.8%	27.0%	27.9%	29.3%	28.8%
Total MSW Generated - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Generation before materials recovery or combustion.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

† Other than food products.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

Details may not add to totals due to rounding.

Neg. = Less than 5,000 tons or 0.05 percent.

- Detailed data not available.

Source: Franklin Associates, A Division of ERG

Table 20
RECOVERY* OF PRODUCTS IN MUNICIPAL SOLID WASTE, 1960 TO 2010
(WITH DETAIL ON CONTAINERS AND PACKAGING)
(In thousands of tons)

Products	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 13)</i>	350	940	1,360	3,460	6,580	8,030	8,230	8,360	8,430	9,080
Nondurable Goods <i>(Detail in Table 16)</i>	2,390	3,730	4,670	8,800	17,560	19,770	20,970	19,310	18,890	19,190
Containers and Packaging										
Glass Packaging										
Beer and Soft Drink Bottles**	90	140	730	1,890	1,530	2,000	2,340	2,260	2,340	2,350
Wine and Liquor Bottles	10	10	20	210	430	250	240	240	310	420
Other Bottles & Jars	Neg.	Neg.	Neg.	520	920	340	300	310	350	360
Total Glass Packaging	100	150	750	2,620	2,880	2,590	2,880	2,810	3,000	3,130
Steel Packaging										
Beer and Soft Drink Cans	10	20	50	40	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Cans	20	60	150	590	1,530	1,340	1,570	1,410	1,240	1,540
Other Steel Packaging	Neg.	Neg.	Neg.	60	160	160	160	190	290	350
Total Steel Packaging	30	80	200	690	1,690	1,500	1,730	1,600	1,530	1,890
Aluminum Packaging										
Beer and Soft Drink Cans	Neg.	10	320	990	830	650	690	670	690	680
Other Cans	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	10	NA	NA
Foil and Closures	Neg.	Neg.	Neg.	20	30	40	40	40	NA	NA
Total Aluminum Pkg	Neg.	10	320	1,010	860	690	730	720	690	680
Paper & Paperboard Pkg										
Corrugated Boxes	2,520	2,760	6,390	11,530	20,330	22,100	22,980	22,760	22,100	24,690
Other Paper & Paperboard Pkg										
Gable Top/Aseptic Cartons‡			Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	30	-
Folding Cartons			520	340	410	1,190	1,550	1,880	2,490	-
Other Paperboard Packaging			Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Bags and Sacks			Neg.	200	300	320	420	440	450	-
Wrapping Papers			Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Other Paper Packaging	220	350	300	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
<i>Subtotal Other Paper & Paperboard Pkg</i>										2,160
Total Paper & Board Pkg	2,740	3,110	7,210	12,070	21,040	23,610	24,950	25,080	25,070	26,850
Plastics Packaging										
PET Bottles and Jars			10	140	380	590	700	730	720	560
HDPE Natural Bottles			Neg.	20	210	230	230	220	220	220
Other Containers	Neg.	Neg.	Neg.	20	170	140	190	280	290	300
Bags and Sacks										
Wraps										
<i>Subtotal Bags, Sacks, and Wraps</i>			Neg.	60	180	230	380	390	360	450
Other Plastics Packaging	Neg.	Neg.	Neg.	20	90	90	90	110	130	130
Total Plastics Packaging	Neg.	Neg.	10	260	1,030	1,280	1,590	1,730	1,720	1,660
Wood Packaging	Neg.	Neg.	Neg.	130	1,370	1,830	2,020	2,110	2,200	2,300
Other Misc. Packaging	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Containers & Pkg	2,870	3,350	8,490	16,780	28,870	31,500	33,900	34,050	34,210	36,510
Total Product Wastes†	5,610	8,020	14,520	29,040	53,010	59,300	63,100	61,720	61,530	64,780
Other Wastes										
Food Scraps	Neg.	Neg.	Neg.	Neg.	680	690	810	800	850	970
Yard Trimmings	Neg.	Neg.	Neg.	4,200	15,770	19,860	20,900	21,300	19,900	19,200
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	4,200	16,450	20,550	21,710	22,100	20,750	20,170
Total MSW Recovered - Weight	5,610	8,020	14,520	33,240	69,460	79,850	84,810	83,820	82,280	84,950

* Recovery of postconsumer wastes; does not include converting/fabrication scrap. Details may not add to totals due to rounding.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

† Other than food products.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

Neg. = Less than 5,000 tons or 0.05 percent.

NA = Not Available

- Detailed data not available.

Source: Franklin Associates, A Division of ERG

Table 21
RECOVERY* OF PRODUCTS IN MUNICIPAL SOLID WASTE, 1960 TO 2010
(WITH DETAIL ON CONTAINERS AND PACKAGING)
(In percent of generation of each product)

Products	Percent of Generation of Each Product									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 13)</i>	3.5%	6.4%	6.2%	11.6%	16.9%	17.9%	17.8%	17.8%	17.7%	18.5%
Nondurable Goods <i>(Detail in Table 16)</i>	13.8%	14.9%	13.6%	16.9%	27.4%	31.1%	34.0%	32.9%	35.3%	36.1%
Containers and Packaging										
Glass Packaging										
Beer and Soft Drink Bottles**	6.4%	2.5%	10.8%	33.5%	26.8%	30.6%	34.6%	35.6%	39.0%	41.4%
Wine and Liquor Bottles	Neg.	Neg.	Neg.	10.3%	22.5%	15.3%	14.8%	14.9%	18.1%	24.7%
Other Bottles & Jars	Neg.	Neg.	Neg.	12.5%	26.9%	14.8%	14.8%	14.8%	17.9%	18.1%
Total Glass Packaging	1.6%	1.3%	5.4%	22.1%	26.1%	24.8%	27.7%	28.0%	31.1%	33.4%
Steel Packaging										
Beer and Soft Drink Cans	1.6%	1.3%	9.6%	26.7%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Cans	Neg.	1.7%	5.3%	23.2%	58.2%	62.9%	64.6%	62.9%	66.0%	67.0%
Other Steel Packaging	Neg.	Neg.	Neg.	30.0%	66.7%	66.7%	66.7%	79.2%	80.6%	79.5%
Total Steel Packaging	Neg.	1.5%	5.5%	23.9%	58.9%	63.3%	64.8%	64.5%	68.3%	69.0%
Aluminum Packaging										
Beer and Soft Drink Cans	Neg.	10.0%	37.6%	63.9%	54.6%	44.8%	48.6%	48.2%	50.7%	49.6%
Other Cans	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	14.3%	NA	NA
Foil and Closures	Neg.	Neg.	Neg.	6.1%	7.9%	10.0%	9.3%	9.5%	NA	NA
Total Aluminum Pkg	Neg.	1.8%	25.2%	53.2%	44.1%	35.8%	38.8%	38.3%	36.7%	35.8%
Paper & Paperboard Pkg										
Corrugated Boxes	34.4%	21.6%	37.4%	48.0%	67.3%	71.5%	73.6%	76.6%	81.3%	85.0%
Other Paper & Paperboard Pkg										
Gable Top/Aseptic Cartons‡			Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	6.5%	-
Folding Cartons			Neg.	Neg.	7.0%	21.5%	28.0%	35.2%	50.0%	-
Other Paperboard Packaging			Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Bags and Sacks			Neg.	Neg.	20.1%	28.6%	36.8%	37.6%	49.5%	-
Wrapping Papers			Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
Other Paper Packaging	7.5%	9.2%	35.3%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	-
<i>Subtotal Other Paper & Paperboard Pkg</i>										25.0%
Total Paper & Board Pkg	19.4%	14.5%	27.4%	36.9%	52.7%	59.6%	62.5%	65.5%	71.8%	71.3%
Plastics Packaging										
PET Bottles and Jars			3.8%	32.6%	22.1%	23.2%	24.6%	27.2%	28.0%	21.0%
HDPE Natural Bottles			Neg.	3.8%	30.4%	28.8%	28.0%	29.3%	28.9%	27.5%
Other Containers	Neg.	Neg.	Neg.	1.4%	9.8%	9.9%	9.9%	14.7%	16.6%	16.4%
Bags and Sacks										
Wraps										
<i>Subtotal Bags, Sacks, and Wraps</i>			Neg.	2.4%	4.3%	5.2%	9.1%	9.8%	9.4%	11.5%
Other Plastics Packaging	Neg.	Neg.	Neg.	1.0%	3.2%	2.8%	2.3%	3.0%	3.6%	2.9%
Total Plastics Packaging	Neg.	Neg.	Neg.	3.8%	9.2%	10.3%	11.7%	13.3%	13.7%	12.1%
Wood Packaging	Neg.	Neg.	Neg.	1.6%	15.9%	19.8%	21.2%	21.8%	22.5%	23.1%
Other Misc. Packaging	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Containers & Pkg	10.5%	7.7%	16.1%	26.0%	38.1%	41.3%	43.3%	45.0%	48.0%	48.3%
Total Product Wastes†	10.3%	9.6%	13.3%	19.8%	29.7%	32.1%	33.9%	34.0%	35.7%	36.4%
Other Wastes										
Food Scraps	Neg.	Neg.	Neg.	Neg.	2.3%	2.2%	2.5%	2.4%	2.5%	2.8%
Yard Trimmings	Neg.	Neg.	Neg.	12.0%	51.7%	61.9%	64.1%	64.7%	59.9%	57.5%
Miscellaneous Inorganic Wastes	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Total Other Wastes	Neg.	Neg.	Neg.	6.8%	25.8%	30.3%	31.5%	31.6%	29.1%	28.0%
Total MSW Recovered - %	6.4%	6.6%	9.6%	16.0%	28.6%	31.6%	33.2%	33.3%	33.8%	34.0%

* Recovery of postconsumer wastes; does not include converting/fabrication scrap. Details may not add to totals due to rounding.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

† Other than food products.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

Neg. = Less than 5,000 tons or 0.05 percent.

NA = Not Available

- Detailed data not available.

Source: Franklin Associates, A Division of ERG

Table 22
PRODUCTS DISCARDED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(WITH DETAIL ON CONTAINERS AND PACKAGING)
(In thousands of tons)

Products	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 14)</i>	9,570	13,720	20,440	26,350	32,270	36,900	38,030	38,590	39,150	40,000
Nondurable Goods <i>(Detail in Table 17)</i>	14,940	21,330	29,750	43,370	46,450	43,880	40,790	39,380	34,550	33,950
Containers and Packaging										
Glass Packaging										
Beer and Soft Drink Bottles**	1,310	5,440	6,010	3,750	4,180	4,540	4,420	4,090	3,660	3,320
Wine and Liquor Bottles	1,070	1,890	2,430	1,820	1,480	1,380	1,380	1,370	1,400	1,280
Other Bottles & Jars	3,710	4,440	4,780	3,640	2,500	1,950	1,730	1,780	1,600	1,630
Total Glass Packaging	6,090	11,770	13,220	9,210	8,160	7,870	7,530	7,240	6,660	6,230
Steel Packaging										
Beer and Soft Drink Cans	630	1,550	470	110	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Cans	3,740	3,480	2,700	1,950	1,100	790	860	830	640	760
Other Steel Packaging	260	270	240	140	80	80	80	50	70	90
Total Steel Packaging	4,630	5,300	3,410	2,200	1,180	870	940	880	710	850
Aluminum Packaging										
Beer and Soft Drink Cans	Neg.	90	530	560	690	800	730	720	670	690
Other Cans	Neg.	60	40	20	50	80	30	60	60	70
Foil and Closures	170	410	380	310	350	360	390	380	460	460
Total Aluminum Pkg	170	560	950	890	1,090	1,240	1,150	1,160	1,190	1,220
Paper & Paperboard Pkg										
Corrugated Boxes	4,810	10,000	10,690	12,480	9,880	8,830	8,250	6,950	5,090	4,360
Other Paper & Paperboard Pkg										
Gable Top/Aseptic Cartons‡			790	510	550	500	500	490	430	-
Folding Cartons			3,300	3,960	5,410	4,340	3,980	3,460	2,490	-
Other Paperboard Packaging	3,840	4,830	230	290	200	160	150	120	90	-
Bags and Sacks			3,380	2,240	1,190	800	720	730	460	-
Wrapping Papers			200	110	Neg.	Neg.	Neg.	Neg.	Neg.	-
Other Paper Packaging	2,720	3,460	550	1,020	1,670	1,400	1,390	1,460	1,310	-
<i>Subtotal Other Paper & Paperboard Pkg</i>										6,470
Total Paper & Board Pkg	11,370	18,290	19,140	20,610	18,900	16,030	14,990	13,210	9,870	10,830
Plastics Packaging										
PET Bottles and Jars			250	290	1,340	1,950	2,140	1,950	1,850	2,110
HDPE Natural Bottles			230	510	480	570	590	530	540	580
Other Containers	60	910	890	1,410	1,570	1,280	1,720	1,620	1,460	1,530
Bags and Sacks										
Wraps										
<i>Subtotal Bags, Sacks, and Wraps</i>			1,230	2,410	4,020	4,220	3,810	3,570	3,490	3,480
Other Plastics Packaging	60	1,180	790	2,020	2,750	3,120	3,780	3,610	3,470	4,320
Total Plastics Packaging	120	2,090	3,390	6,640	10,160	11,140	12,040	11,280	10,810	12,020
Wood Packaging	2,000	2,070	3,940	8,050	7,240	7,400	7,500	7,570	7,590	7,640
Other Misc. Packaging	120	130	130	150	240	280	320	310	280	340
Total Containers & Pkg	24,500	40,210	44,180	47,750	46,970	44,830	44,470	41,650	37,110	39,130
Total Product Wastes†	49,010	75,260	94,370	117,470	125,690	125,610	123,290	119,620	110,810	113,080
Other Wastes										
Food Scraps	12,200	12,800	13,000	23,860	29,130	31,300	31,800	32,540	33,440	33,790
Yard Trimmings	20,000	23,200	27,500	30,800	14,760	12,210	11,730	11,600	13,300	14,200
Miscellaneous Inorganic Wastes	1,300	1,780	2,250	2,900	3,500	3,690	3,750	3,780	3,820	3,840
Total Other Wastes	33,500	37,780	42,750	57,560	47,390	47,200	47,280	47,920	50,560	51,830
Total MSW Discarded - Weight	82,510	113,040	137,120	175,030	173,080	172,810	170,570	167,540	161,370	164,910

* Discards after materials and compost recovery. In this table, discards include combustion with energy recovery.

Does not include construction & demolition debris, industrial process wastes, or certain other wastes. Details may not add to totals due to rounding.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

† Other than food products.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

Neg. = Less than 5,000 tons or 0.05 percent.

- Detailed data not available.

Source: Franklin Associates, A Division of ERG

Table 23
PRODUCTS DISCARDED* IN THE MUNICIPAL WASTE STREAM, 1960 TO 2010
(WITH DETAIL ON CONTAINERS AND PACKAGING)
(In percent of total discards)

Products	Percent of Total Discards									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Durable Goods <i>(Detail in Table 14)</i>	11.6%	12.1%	14.9%	15.1%	18.6%	21.4%	22.3%	23.0%	24.3%	24.3%
Nondurable Goods <i>(Detail in Table 17)</i>	18.1%	18.9%	21.7%	24.8%	26.8%	25.4%	23.9%	23.5%	21.4%	20.6%
Containers and Packaging										
Glass Packaging										
Beer and Soft Drink Bottles**	1.6%	4.8%	4.4%	2.1%	2.4%	2.6%	2.6%	2.4%	2.3%	2.0%
Wine and Liquor Bottles	1.3%	1.7%	1.8%	1.0%	0.9%	0.8%	0.8%	0.8%	0.9%	0.8%
Other Bottles & Jars	4.5%	3.9%	3.5%	2.1%	1.4%	1.1%	1.0%	1.1%	1.0%	1.0%
Total Glass Packaging	7.4%	10.4%	9.6%	5.3%	4.7%	4.6%	4.4%	4.3%	4.1%	3.8%
Steel Packaging										
Beer and Soft Drink Cans	0.8%	1.4%	0.3%	0.1%	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Cans	4.5%	3.1%	2.0%	1.1%	0.6%	0.5%	0.5%	0.5%	0.4%	0.5%
Other Steel Packaging	0.3%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Total Steel Packaging	5.6%	4.7%	2.5%	1.3%	0.7%	0.5%	0.6%	0.5%	0.4%	0.5%
Aluminum Packaging										
Beer and Soft Drink Cans	Neg.	0.1%	0.4%	0.3%	0.4%	0.5%	0.4%	0.4%	0.4%	0.4%
Other Cans	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Foil and Closures	0.2%	0.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
Total Aluminum Pkg	0.2%	0.5%	0.7%	0.5%	0.6%	0.7%	0.7%	0.7%	0.7%	0.7%
Paper & Paperboard Pkg										
Corrugated Boxes	5.8%	8.8%	7.8%	7.1%	5.7%	5.1%	4.8%	4.1%	3.2%	2.6%
Other Paper & Paperboard Pkg										
Gable Top/Aseptic Cartons‡			0.6%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	-
Folding Cartons			2.4%	2.3%	3.1%	2.5%	2.3%	2.1%	1.5%	-
Other Paperboard Packaging	4.7%	4.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	-
Bags and Sacks			2.5%	1.3%	0.7%	0.5%	0.4%	0.4%	0.3%	-
Wrapping Papers			0.1%	0.1%	Neg.	Neg.	Neg.	Neg.	Neg.	-
Other Paper Packaging	3.3%	3.1%	0.4%	0.6%	1.0%	0.8%	0.8%	0.9%	0.8%	-
<i>Subtotal Other Paper & Paperboard Pkg</i>										3.9%
Total Paper & Board Pkg	13.8%	16.2%	14.0%	11.8%	10.9%	9.3%	8.8%	7.9%	6.1%	6.6%
Plastics Packaging										
PET Bottles and Jars			0.2%	0.2%	0.8%	1.1%	1.3%	1.2%	1.1%	1.3%
HDPE Natural Bottles			0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%
Other Containers	0.1%	0.8%	0.6%	0.8%	0.9%	0.7%	1.0%	1.0%	0.9%	0.9%
Bags and Sacks										
Wraps										
<i>Subtotal Bags, Sacks, and Wraps</i>			0.9%	1.4%	2.3%	2.4%	2.2%	2.1%	2.2%	2.1%
Other Plastics Packaging	0.1%	1.0%	0.6%	1.2%	1.6%	1.8%	2.2%	2.2%	2.2%	2.6%
Total Plastics Packaging	0.1%	1.8%	2.5%	3.8%	5.9%	6.4%	7.1%	6.7%	6.7%	7.3%
Wood Packaging	2.4%	1.8%	2.9%	4.6%	4.2%	4.3%	4.4%	4.5%	4.7%	4.6%
Other Misc. Packaging	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%
Total Containers & Pkg	29.7%	35.6%	32.2%	27.3%	27.1%	25.9%	26.1%	24.9%	23.0%	23.7%
Total Product Wastes†	59.4%	66.6%	68.8%	67.1%	72.6%	72.7%	72.3%	71.4%	68.7%	68.6%
Other Wastes										
Food Scraps	14.8%	11.3%	9.5%	13.6%	16.8%	18.1%	18.6%	19.4%	20.7%	20.5%
Yard Trimmings	24.2%	20.5%	20.1%	17.6%	8.5%	7.1%	6.9%	6.9%	8.2%	8.6%
Miscellaneous Inorganic Wastes	1.6%	1.6%	1.6%	1.7%	2.0%	2.1%	2.2%	2.3%	2.4%	2.3%
Total Other Wastes	40.6%	33.4%	31.2%	32.9%	27.4%	27.3%	27.7%	28.6%	31.3%	31.4%
Total MSW Discarded - %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Discards after materials and compost recovery. In this table, discards include combustion with energy recovery.

Does not include construction & demolition debris, industrial process wastes, or certain other wastes. Details may not add to totals due to rounding.

** Includes carbonated drinks and non-carbonated water, teas, flavored drinks, and ready-to-drink alcoholic coolers and cocktails.

† Other than food products.

‡ Includes milk, juice, and other products packaged in gable top cartons and liquid food aseptic cartons.

Neg. = Less than 5,000 tons or 0.05 percent. Details may not add to totals due to rounding.

- Detailed data not available.

Source: Franklin Associates, A Division of ERG

Table 24

SELECTED EXAMPLES OF SOURCE REDUCTION PRACTICES

Source Reduction Practice	MSW Product Categories			
	Durable Goods	Nondurable Goods	Containers & Packaging	Organics
Redesign				
Materials reduction	<ul style="list-style-type: none"> • Downgauge metals in appliances 	<ul style="list-style-type: none"> • Paperless purchase orders 	<ul style="list-style-type: none"> • Concentrates • Container lightweighting 	<ul style="list-style-type: none"> • Xeriscaping
Materials substitution	<ul style="list-style-type: none"> • Use of composites in appliances and electronic circuitry 		<ul style="list-style-type: none"> • Cereal in bags • Coffee brick • Multi-use products 	
Lengthen life	<ul style="list-style-type: none"> • High mileage tires • Electronic components reduce moving parts 	<ul style="list-style-type: none"> • Regular servicing • Look at warranties • Extend warranties 	<ul style="list-style-type: none"> • Design for secondary uses 	
Consumer Practices				
	<ul style="list-style-type: none"> • Purchase long lived products 	<ul style="list-style-type: none"> • Repair • Duplexing • Sharing • Reduce unwanted mail 	<ul style="list-style-type: none"> • Purchasing: products in bulk, concentrates • Reusable bags 	
Reuse				
By design	<ul style="list-style-type: none"> • Modular design 	<ul style="list-style-type: none"> • Envelopes 	<ul style="list-style-type: none"> • Reusable pallets • Returnable secondary packaging 	
Secondary	<ul style="list-style-type: none"> • Borrow or rent for temporary use • Give to charity • Buy or sell at garage sales 	<ul style="list-style-type: none"> • Clothing • Waste paper scratch pads 	<ul style="list-style-type: none"> • Loosefill • Grocery sacks • Dairy containers • Glass and plastic jars 	
Reduce/Eliminate Toxins				
	<ul style="list-style-type: none"> • Eliminate PCBs 	<ul style="list-style-type: none"> • Soy ink, waterbased • Waterbased solvents • Reduce mercury 	<ul style="list-style-type: none"> • Replace lead foil on wine bottles 	
Reduce Organics				
Food scraps				<ul style="list-style-type: none"> • Backyard composting • Vermi-composting
Yard trimmings				<ul style="list-style-type: none"> • Backyard composting • Grasscycling

Source: Franklin Associates, A Division of ERG

Table 25
NUMBER AND POPULATION SERVED BY
CURBSIDE RECYCLABLES COLLECTION PROGRAMS, 2010

Region	Number of Programs	Population* (in thousands)	Population Served	
			(in thousands)	Percent**
NORTHEAST	3,619	55,417	47,160	85%
SOUTH	1,157	27,127	17,870	66%
MIDWEST	3,286	37,844	20,720	55%
WEST	1,004	27,610	18,670	68%
Total	<u>9,066</u>	<u>147,998</u>	<u>104,420</u>	<u>71%</u>
Total U.S. Population		309,051		

* Population in states reporting population served data.

** Percent of population served by curbside programs was calculated using population of states reporting data.

Sources:

U.S. Census Bureau, *BioCycle* preliminary State of Garbage data received August 2010, *BioCycle* The State of Garbage in America. April 2006, and data from the following websites Connecticut Department of Environmental Protection, Delaware Solid Waste Management Authority, Georgia Department of Community Affairs, Maine State Planning Office, North Dakota Department of Health Division of Waste Management, Oregon Department of Environmental Quality, and Pennsylvania Department of Environmental Protection.

Table 26

MATERIAL RECOVERY FACILITIES (MRF), 2010

Region	Number	Estimated Throughput (tpd)
NORTHEAST	153	27,186
SOUTH	195	24,754
MIDWEST	153	23,118
WEST	132	23,391
<i>U.S. Total</i>	633	98,449

Source: Governmental Advisory Associates, Inc.

Table 27
MUNICIPAL WASTE-TO-ENERGY PROJECTS, 2010

Region	Number Operational	Design Capacity (tpd)
NORTHEAST	40	46,704
SOUTH	22	31,896
MIDWEST	16	11,393
WEST	8	6,171
<i>U.S. Total*</i>	86	96,164

* Projects on hold or inactive were not included.
WTE includes mass burn, modular, and refuse-derived
fuel combustion facilities.

Source: "The 2010 ERC Directory of Waste-to-Energy Plants."
Energy Recovery Council (ERC). December 2010.

Table 28
LANDFILL FACILITIES, 2010

Region	Number of Landfills
NORTHEAST	128
SOUTH	668
MIDWEST	394
WEST	<u>718</u>
<i>U.S. Total</i>	1,908

Source: *BioCycle* October 2010.

Table 29
GENERATION, MATERIALS RECOVERY, COMPOSTING, COMBUSTION,
AND DISCARDS OF MUNICIPAL SOLID WASTE, 1960 TO 2010
(In thousands of tons and percent of total generation)

	Thousands of Tons									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Generation	88,120	121,060	151,640	208,270	242,540	252,660	255,380	251,360	243,650	249,860
Recovery for recycling	5,610	8,020	14,520	29,040	53,010	59,300	63,100	61,720	61,530	64,780
Recovery for composting*	Neg.	Neg.	Neg.	4,200	16,450	20,550	21,710	22,100	20,750	20,170
Total Materials Recovery	5,610	8,020	14,520	33,240	69,460	79,850	84,810	83,820	82,280	84,950
Discards after recovery	82,510	113,040	137,120	175,030	173,080	172,810	170,570	167,540	161,370	164,910
Combustion with energy recovery**	0	400	2,700	29,700	33,730	31,620	31,970	31,550	29,010	29,260
Discards to landfill, other disposal†	82,510	112,640	134,420	145,330	139,350	141,190	138,600	135,990	132,360	135,650

	Pounds per Person per Day									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Generation	2.68	3.25	3.66	4.57	4.72	4.67	4.64	4.53	4.35	4.43
Recovery for recycling	0.17	0.22	0.35	0.64	1.03	1.10	1.15	1.11	1.10	1.15
Recovery for composting*	Neg.	Neg.	Neg.	0.09	0.32	0.38	0.39	0.40	0.37	0.36
Total Materials Recovery	0.17	0.22	0.35	0.73	1.35	1.48	1.54	1.51	1.47	1.51
Discards after recovery	2.51	3.03	3.31	3.84	3.37	3.19	3.10	3.02	2.88	2.92
Combustion with energy recovery**	0.00	0.01	0.07	0.65	0.66	0.58	0.58	0.57	0.52	0.52
Discards to landfill, other disposal†	2.51	3.02	3.24	3.19	2.71	2.61	2.52	2.45	2.36	2.40
Population (thousands)	179,979	203,984	227,255	249,907	281,422	296,410	301,621	304,060	307,007	309,051

	Percent of Total Generation									
	1960	1970	1980	1990	2000	2005	2007	2008	2009	2010
Generation	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Recovery for recycling	6.4%	6.6%	9.6%	14.0%	21.9%	23.5%	24.7%	24.5%	25.3%	25.9%
Recovery for composting*	Neg.	Neg.	Neg.	2.0%	6.7%	8.1%	8.5%	8.8%	8.5%	8.1%
Total Materials Recovery	6.4%	6.6%	9.6%	16.0%	28.6%	31.6%	33.2%	33.3%	33.8%	34.0%
Discards after recovery	93.6%	93.4%	90.4%	84.0%	71.4%	68.4%	66.8%	66.7%	66.2%	66.0%
Combustion with energy recovery**	0.0%	0.3%	1.8%	14.2%	13.9%	12.5%	12.5%	12.6%	11.9%	11.7%
Discards to landfill, other disposal†	93.6%	93.1%	88.6%	69.8%	57.5%	55.9%	54.3%	54.1%	54.3%	54.3%

* Composting of yard trimmings, food scraps and other MSW organic material. Does not include backyard composting.

** Includes combustion of MSW in mass burn or refuse-derived fuel form, and combustion with energy recovery of source separated materials in MSW (e.g., wood pallets and tire-derived fuel). 2010 includes 25,930 MSW, 520 wood, and 2,810 tires (1,000 tons)

† Discards after recovery minus combustion with energy recovery. Discards include combustion without energy recovery. Details may not add to totals due to rounding.

Source: Franklin Associates, A Division of ERG

Figure 1- B. Definition of terms

The materials flow methodology produces an estimate of total municipal solid waste generation in the United States, by material categories and by product categories.

The term **generation** as used in this report refers to the weight of materials and products as they enter the waste management system from residential, commercial, institutional, and industrial sources and before materials recovery or combustion takes place. Preconsumer (industrial) scrap is not included in the generation estimates. Source reduction activities (e.g., backyard composting of yard trimmings) take place *ahead of* generation.

Source reduction activities reduce the amount or toxicity of wastes before they enter the municipal solid waste management system. Reuse is a source reduction activity involving the recovery or reapplication of a package, used product, or material in a manner that retains its original form or identity. Reuse of products such as refillable glass bottles, reusable plastic food storage containers, or refurbished wood pallets is considered to be source reduction, not recycling.

Recovery of materials as estimated in this report includes products and yard trimmings removed from the waste stream for the purpose of recycling (including composting). For recovered products, recovery equals reported purchases of postconsumer recovered material (e.g., glass cullet, old newspapers) plus net exports (if any) of the material. Thus, recovery of old corrugated containers (OCC) is the sum of OCC purchases by paper mills plus net exports of OCC. If recovery as reported by a data source includes converting or fabrication (preconsumer) scrap, the preconsumer scrap is *not* counted towards the recovery estimates in this report. Imported secondary materials are also not counted in recovery estimates in this report. For some materials, additional uses, such as glass used for highway construction or newspapers used to make insulation, are added into the recovery totals.

Combustion of MSW with energy recovery, often called “waste-to-energy,” is estimated in Chapter 3 of this report. Combustion of separated materials—wood and rubber from tires—is included in the estimates of combustion with energy recovery in this report.

Discards include MSW remaining after recovery for recycling (including composting). These discards presumably would be combusted without energy recovery or landfilled, although some MSW is littered, stored or disposed onsite, or burned onsite, particularly in rural areas. No good estimates for these other disposal practices are available, but the total amounts of MSW involved are presumed to be small.

For the analysis of municipal solid waste, products are divided into three basic categories: durable goods, nondurable goods, and containers and packaging. The durable goods and nondurable goods categories generally follow the definitions of the U.S. Department of Commerce.

Durable goods are those products that last 3 years or more. Products in this category include major and small appliances, furniture and furnishings, carpets and rugs, tires, lead-acid batteries, consumer electronics, and other miscellaneous durables.

Nondurable goods are those products that last less than 3 years. Products in this category include newspapers, books, magazines, office papers, directories, mail, other commercial printing, tissue paper and towels, paper and plastic plates and cups, trash bags, disposable diapers, clothing and footwear, towels, sheets and pillowcases, other nonpackaging paper, and other miscellaneous nondurables.

Containers and packaging are assumed to be discarded the same year the products they contain are purchased. Products in this category include bottles, containers, corrugated boxes, milk cartons, folding cartons, bags, sacks, and wraps, wood packaging, and other miscellaneous packaging.

Figure 2. Paper and paperboard products generated in MSW, 2010

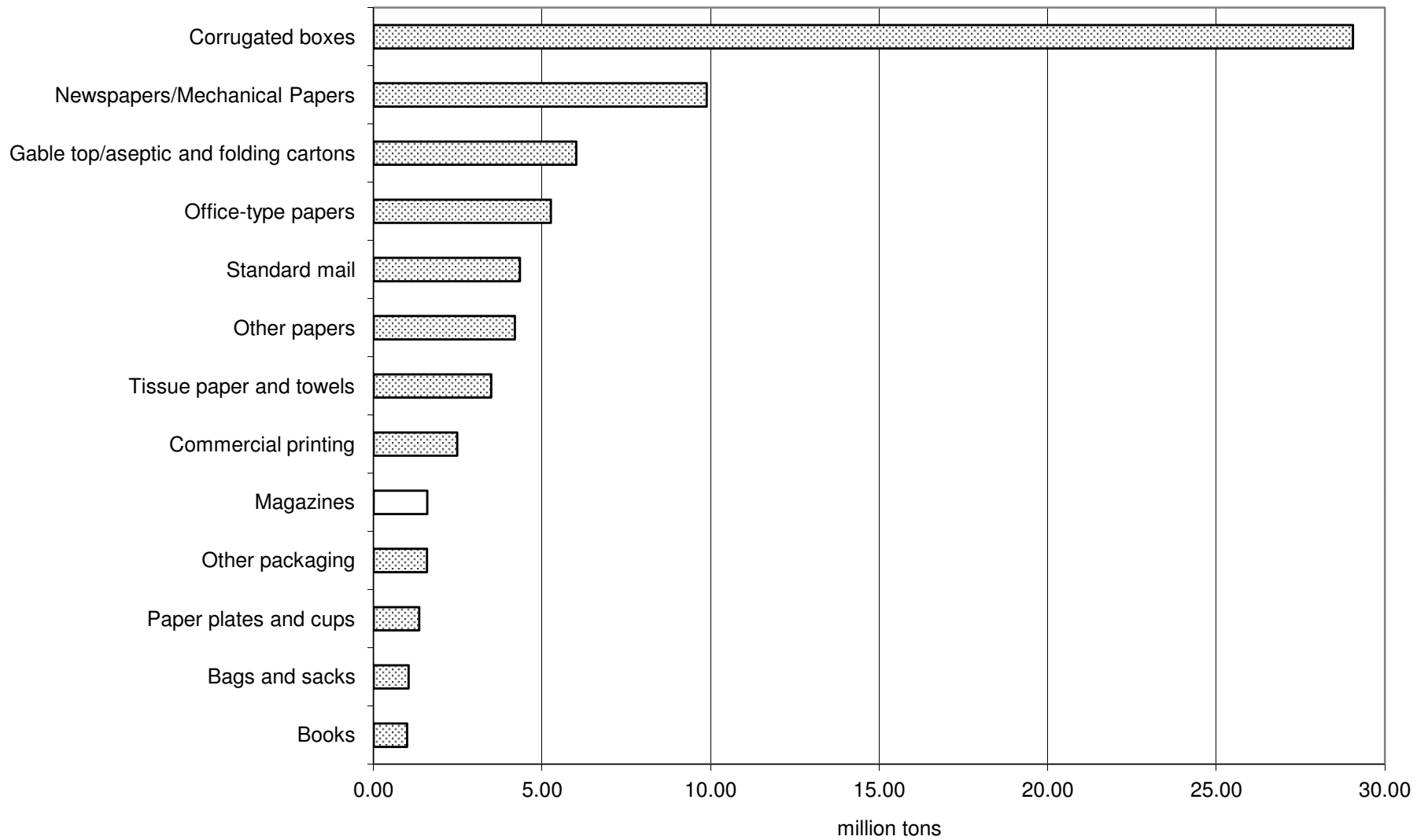


Figure 3. Paper and paperboard generation and recovery, 1960 to 2010

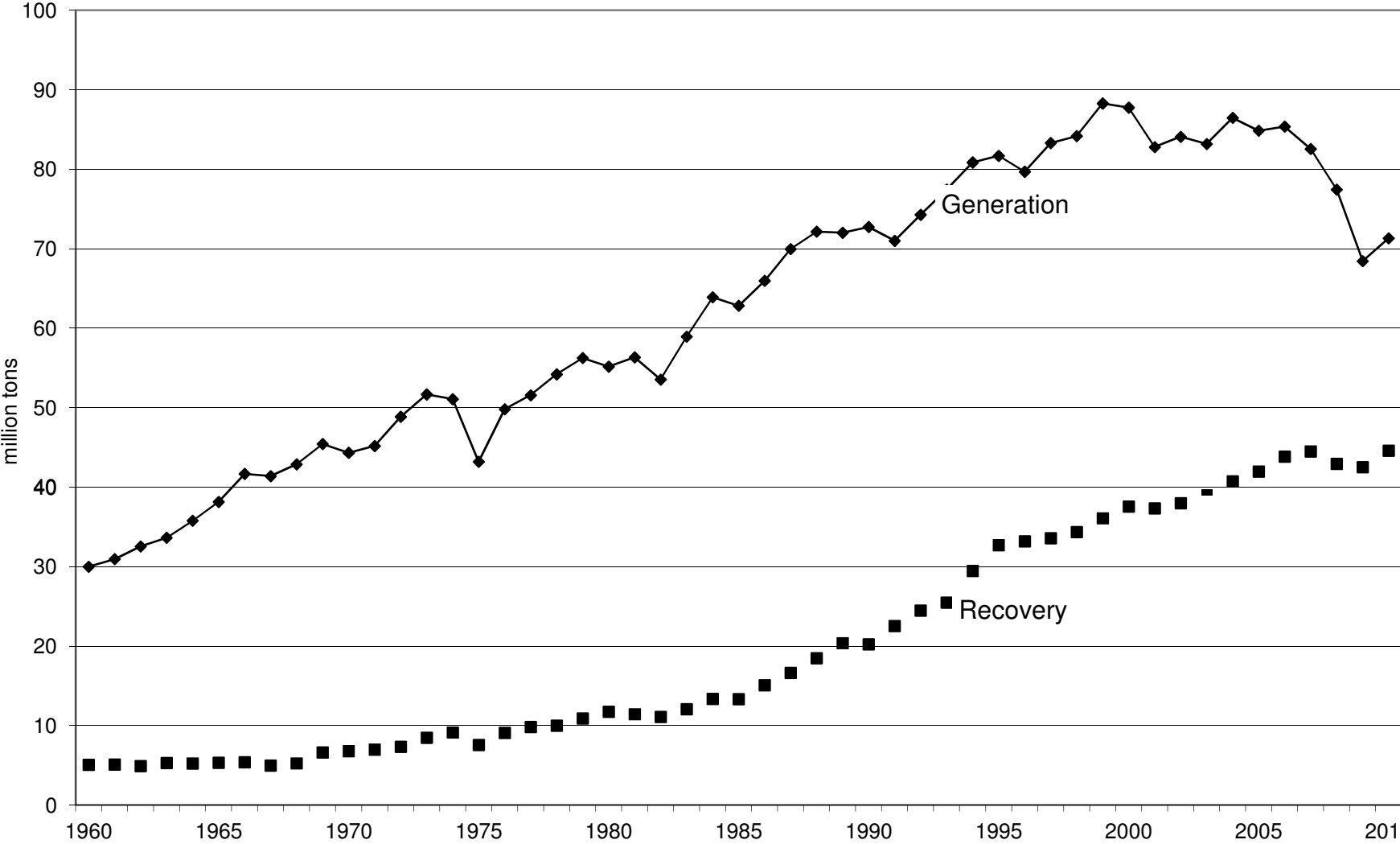


Figure 4. Glass products generated in MSW, 2010

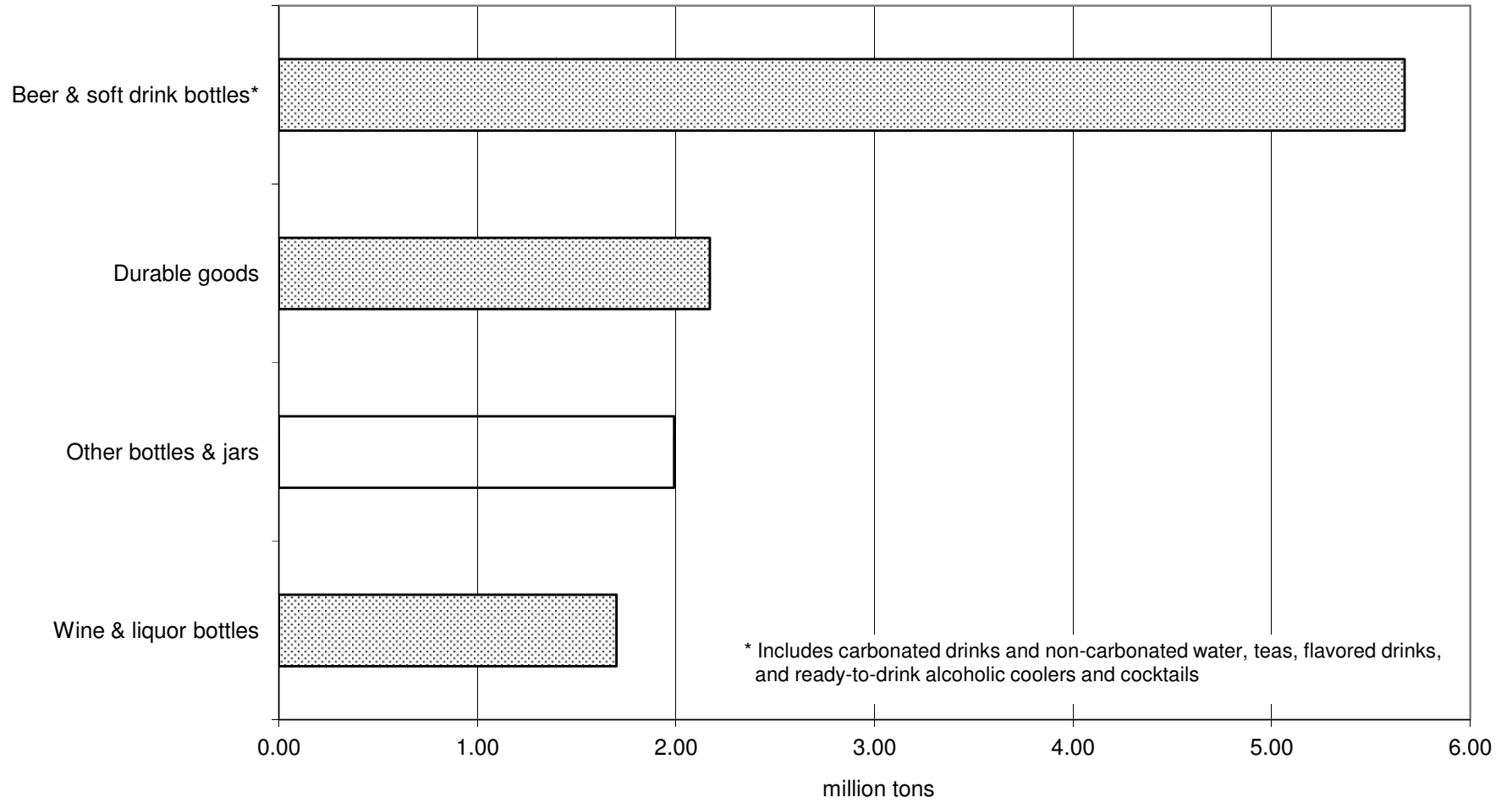


Figure 5. Glass generation and recovery, 1960 to 2010

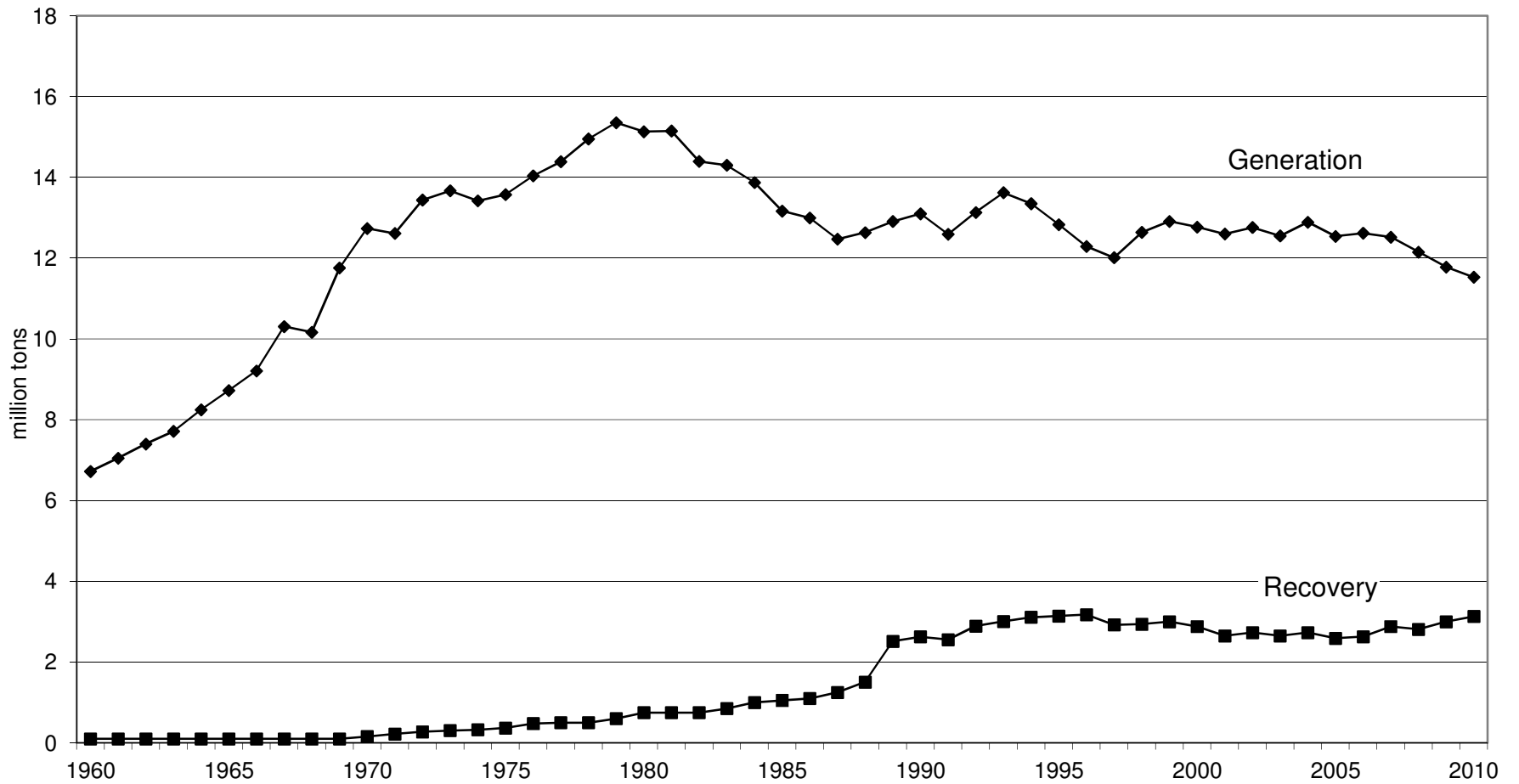


Figure 6. Metal products generated in MSW, 2010

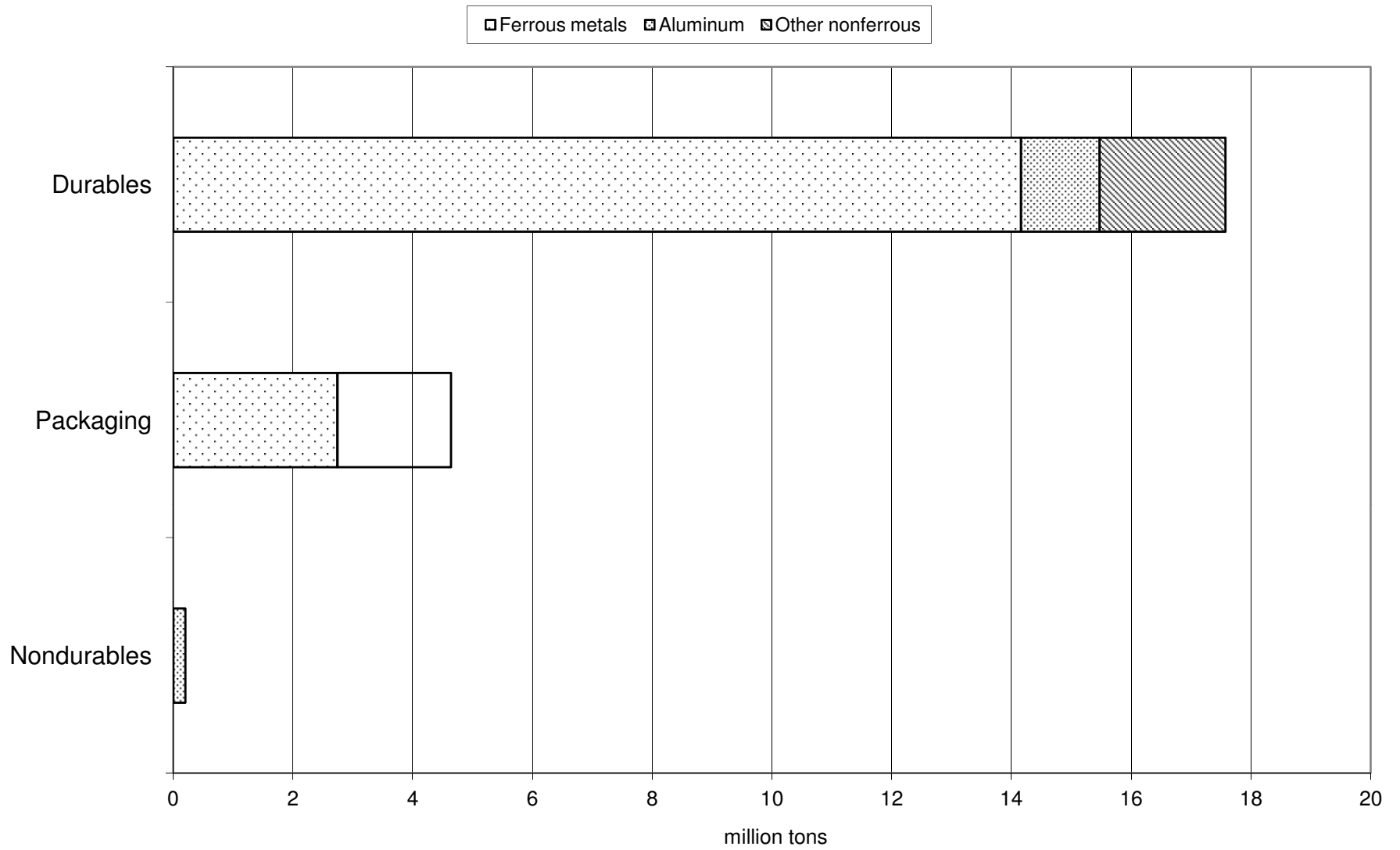


Figure 7. Metals generation and recovery, 1960 to 2010

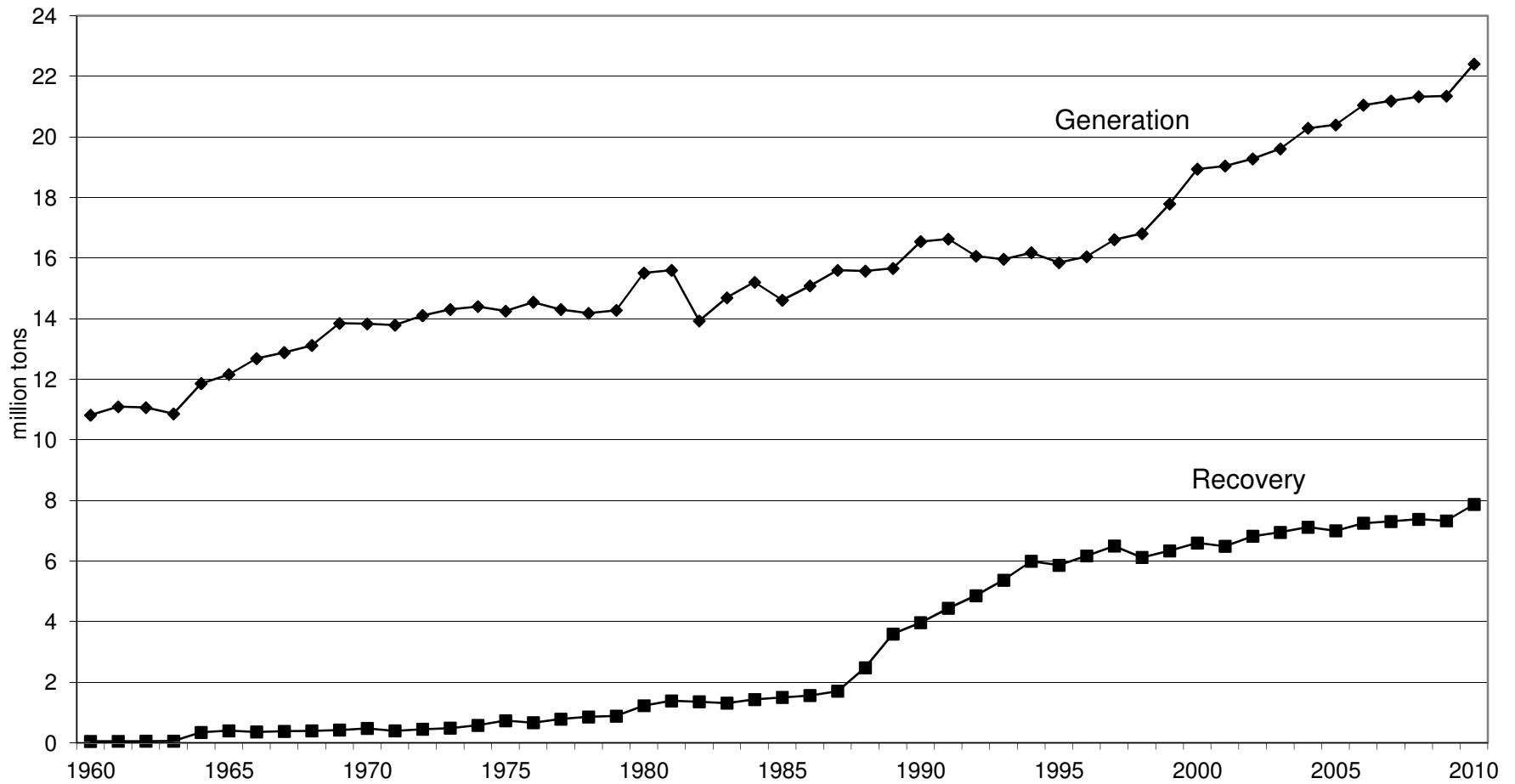


Figure 8. Plastics products generated in MSW, 2010

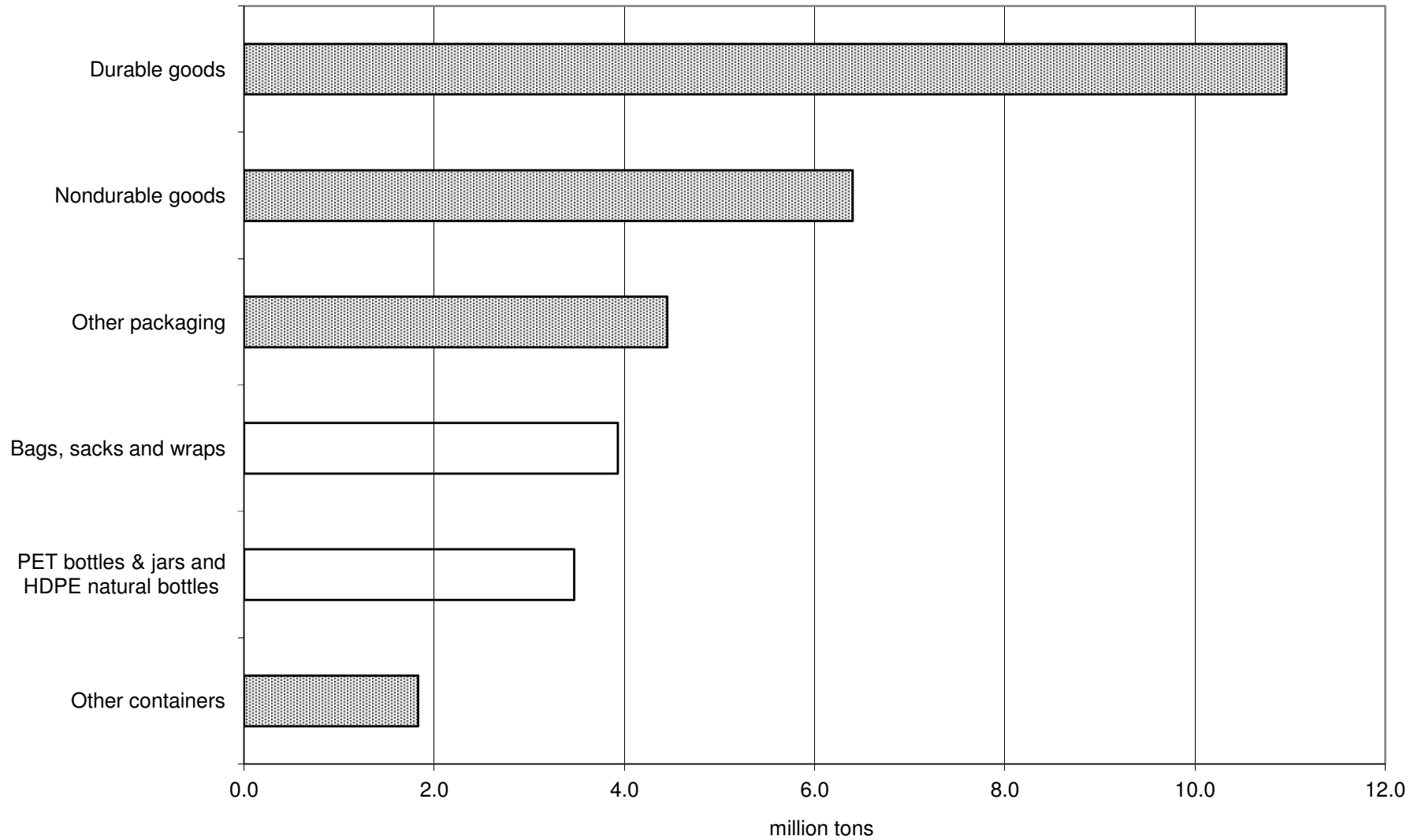


Figure 9. Plastics generation and recovery, 1960 to 2010

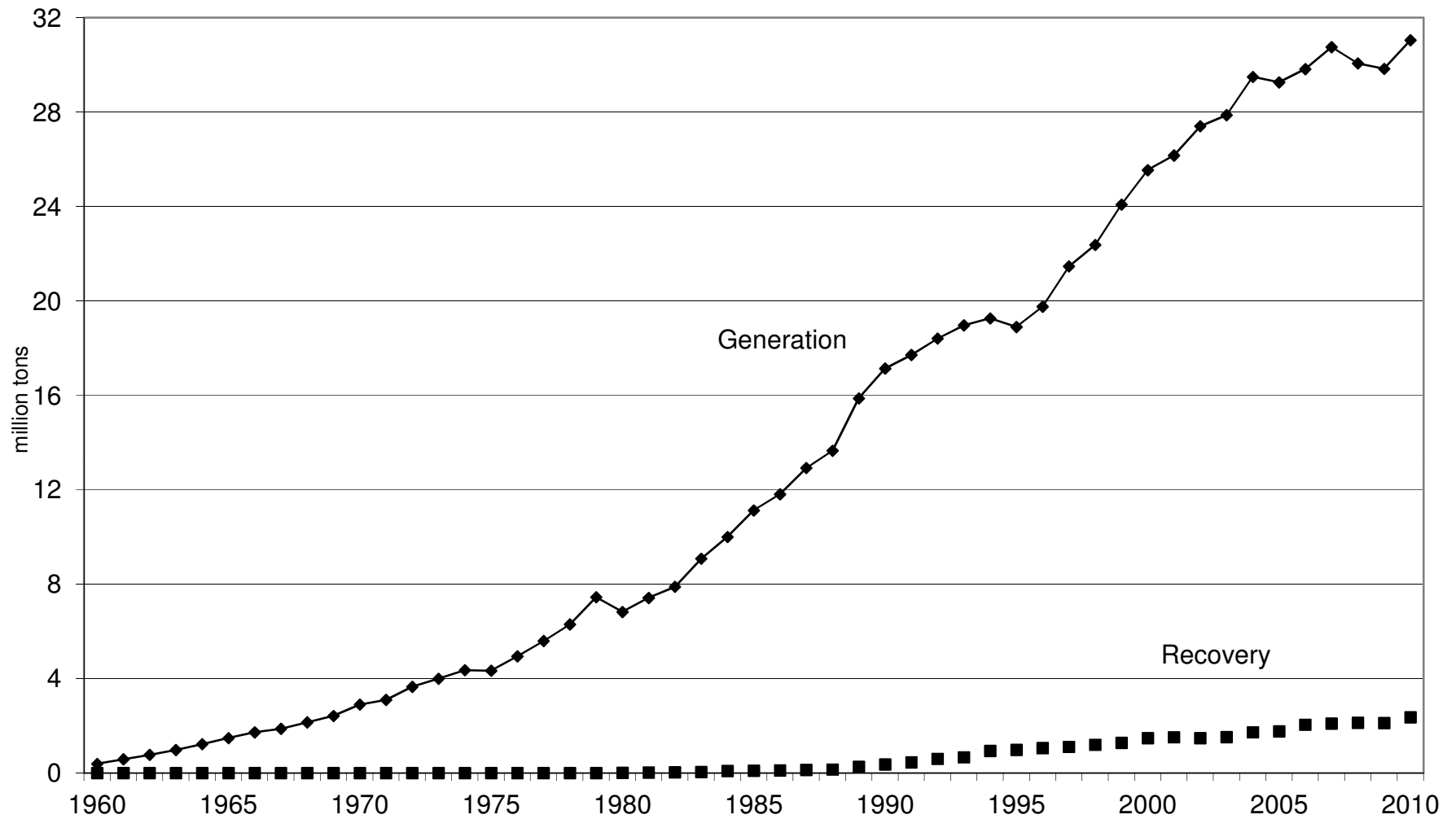


Figure 10. Generation of materials in MSW, 1960 to 2010

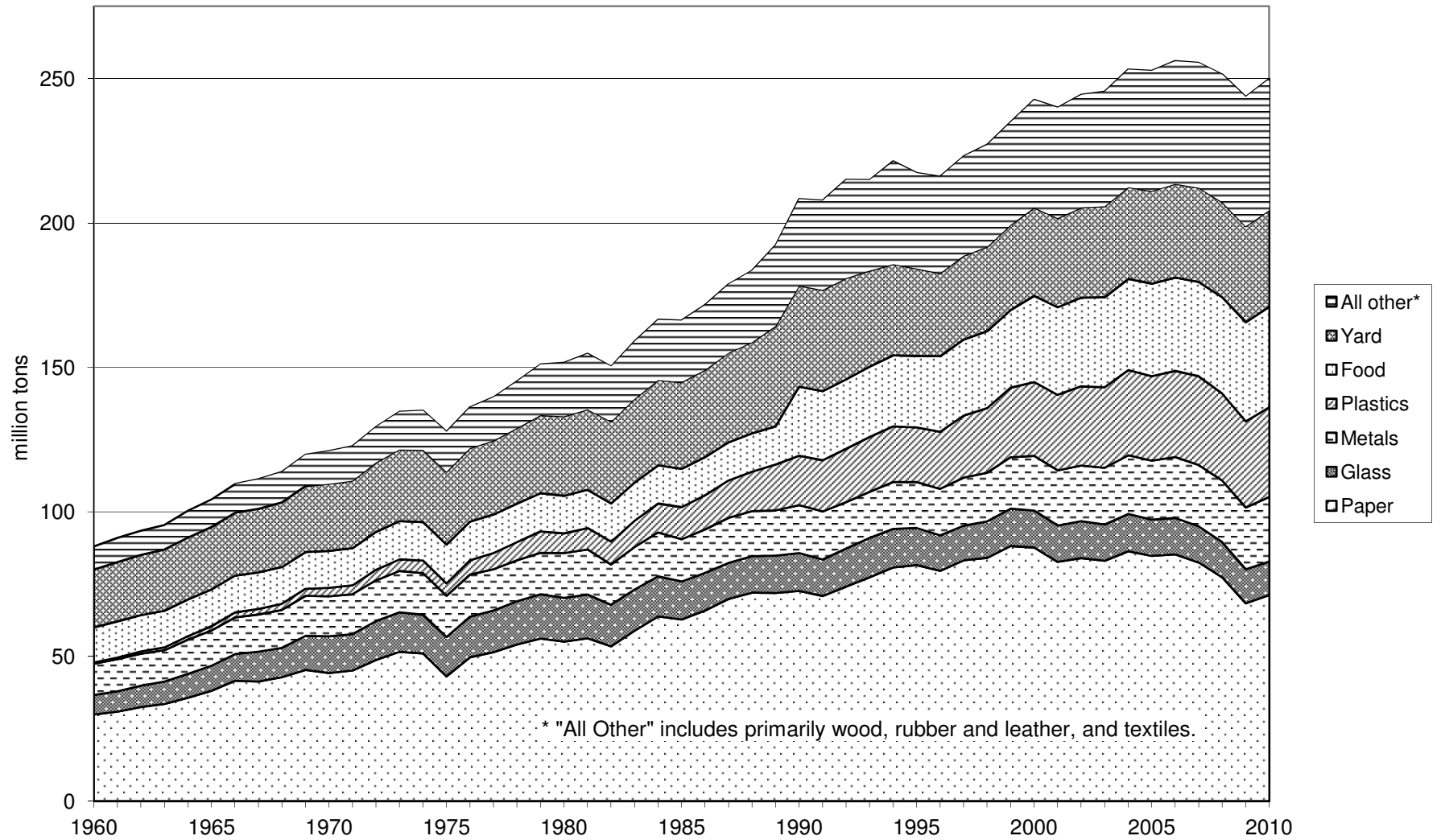


Figure 11. Recovery and discards of materials in MSW, 1960 to 2010

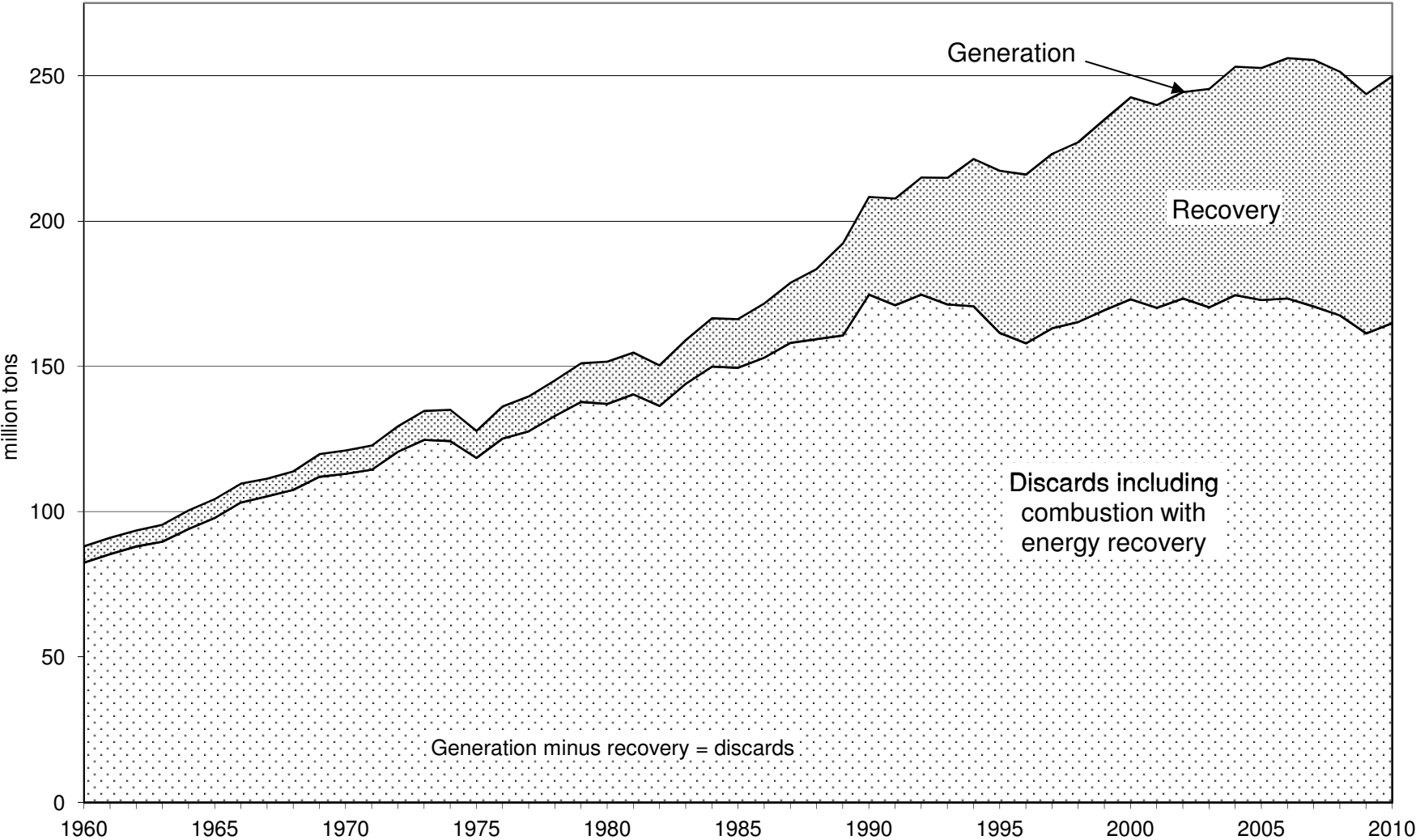
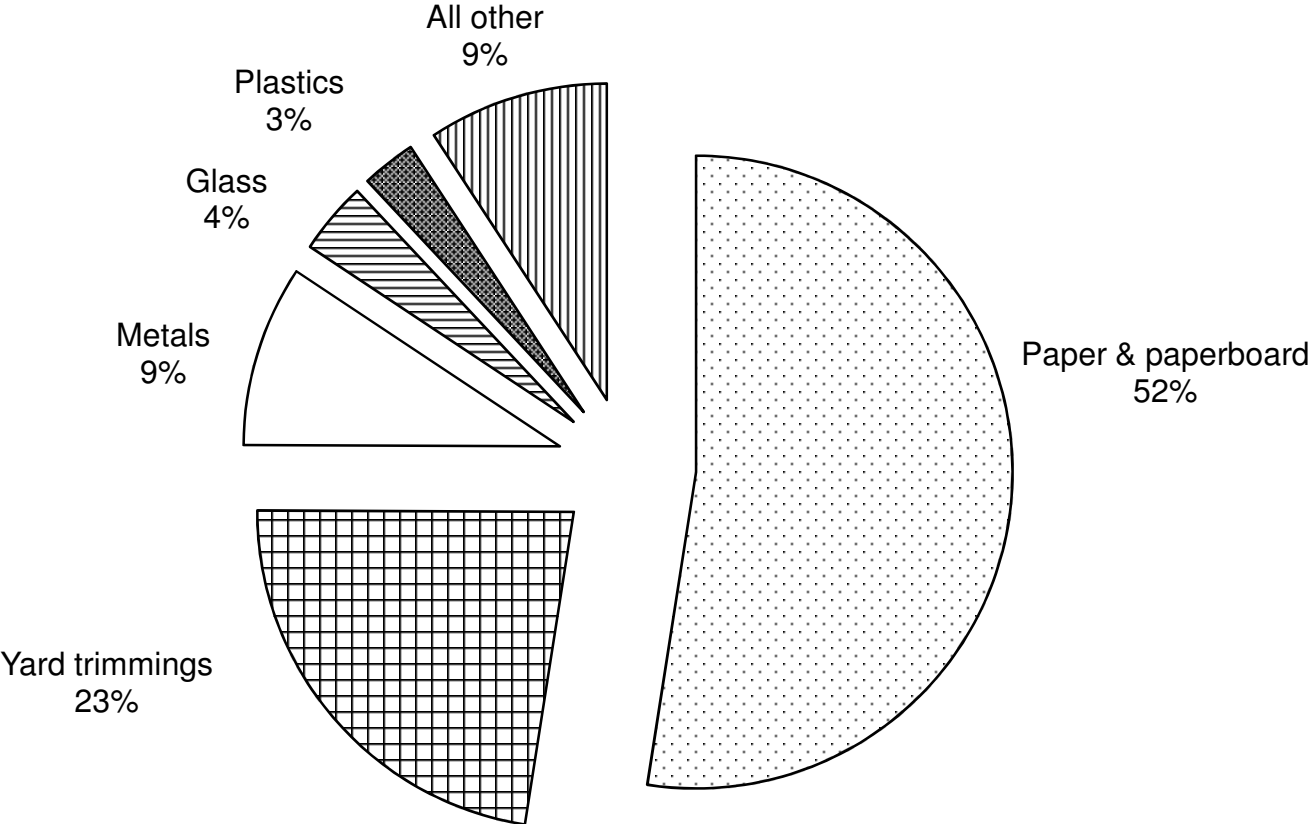
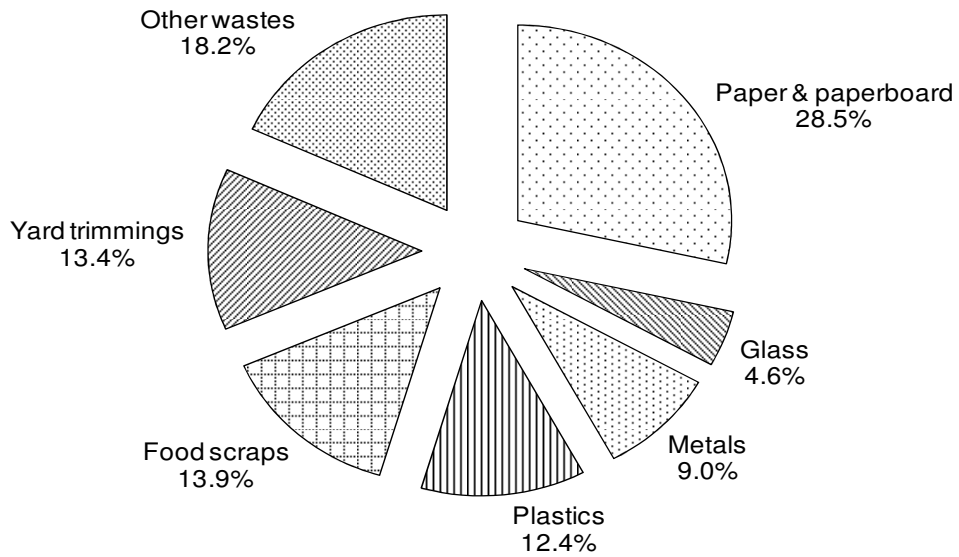


Figure 12. Materials recovery,* 2010

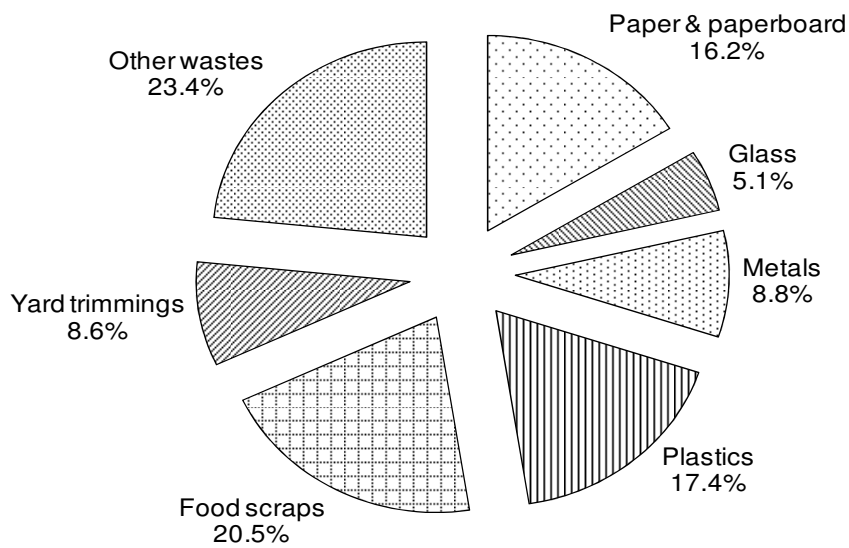


* In percent by weight of total recovery

Figure 13. Materials generated and discarded*
in municipal solid waste, 2010
(In percent of total generation and discards)



Generation



Discards

*Discards in this figure include combustion with energy recovery.

Figure 14. Generation of products in MSW, 1960 to 2010

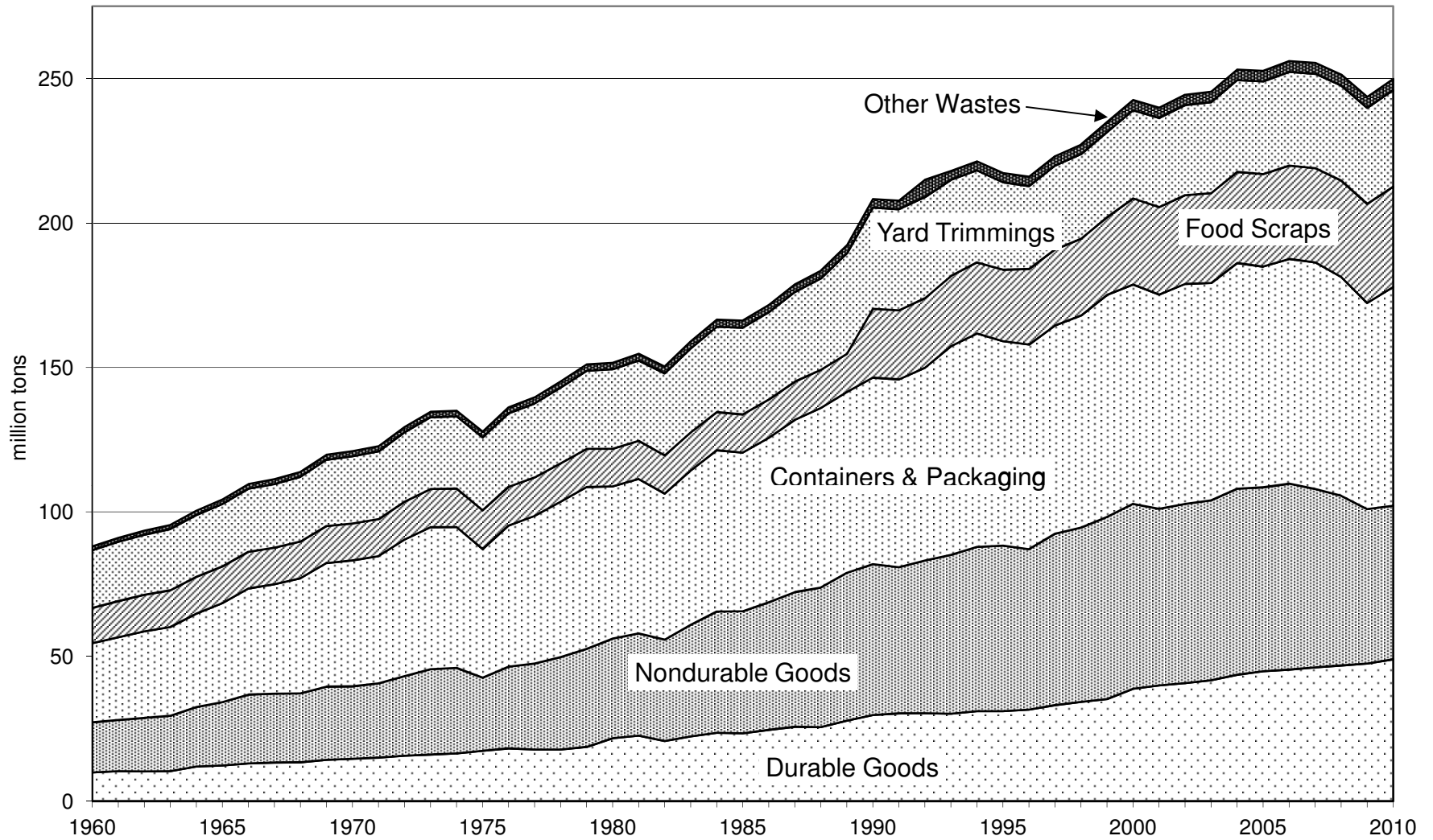
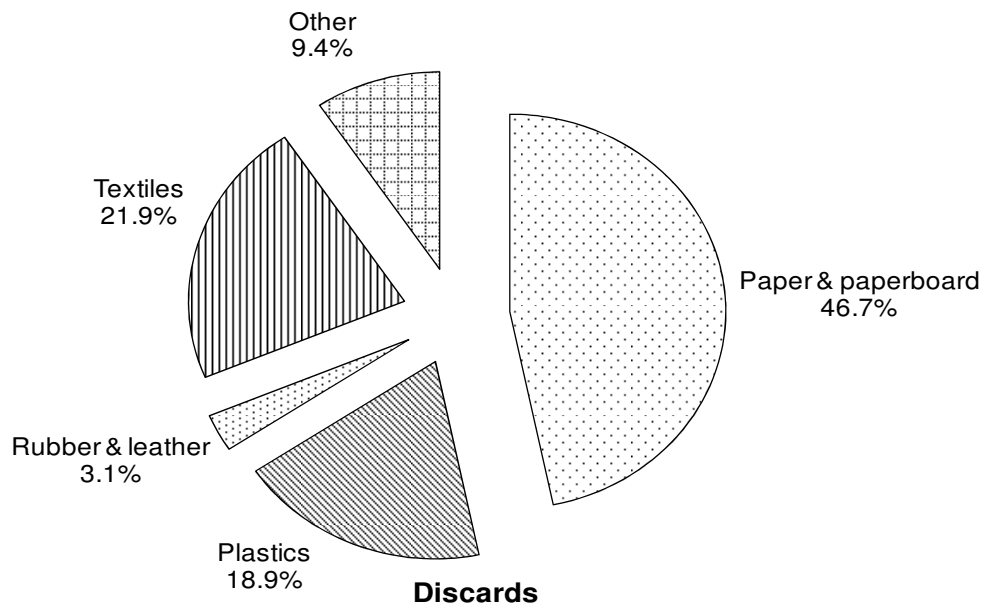
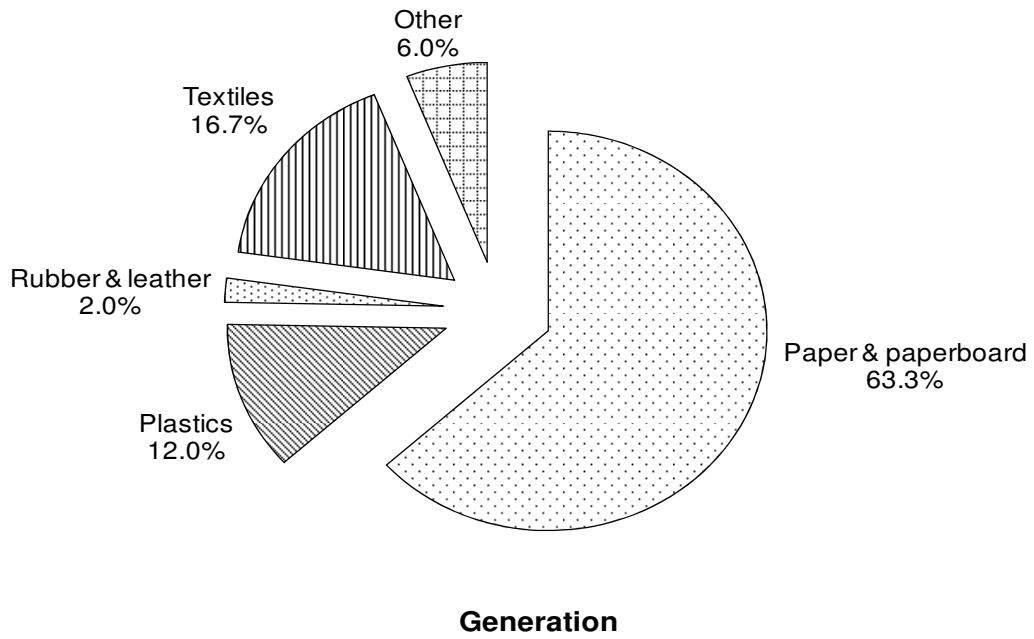
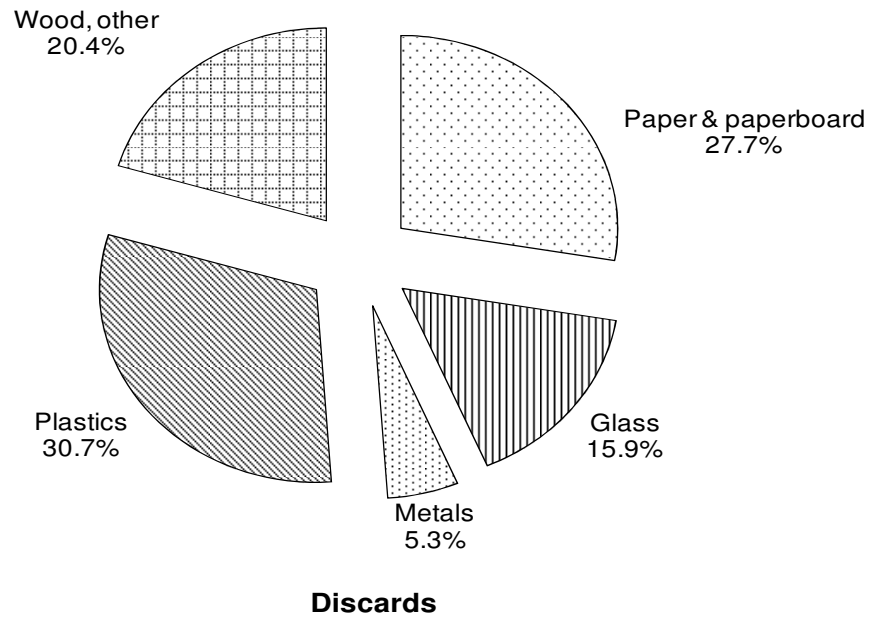
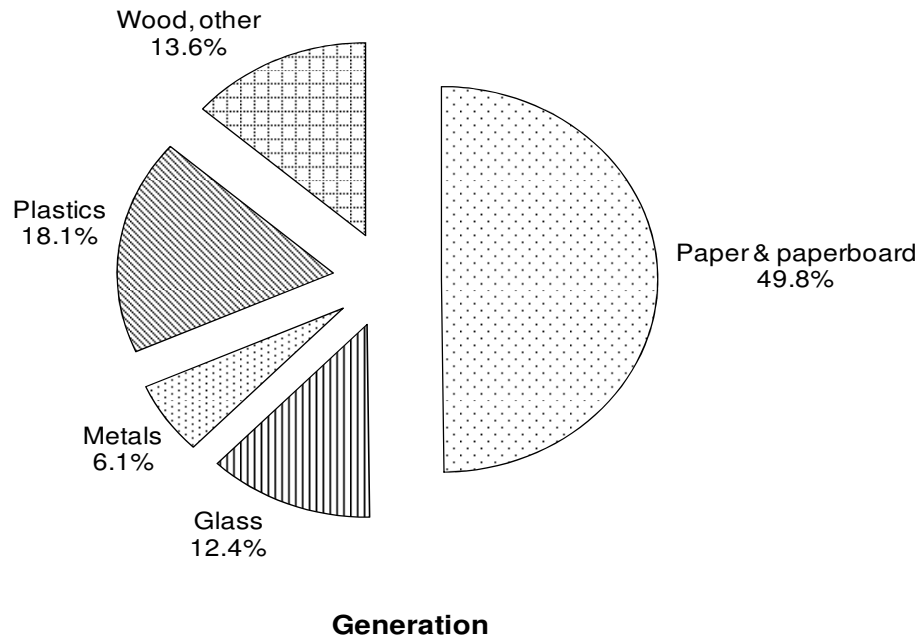


Figure 15. Nondurable goods generated and discarded*
in municipal solid waste, 2010
(In percent of total generation and discards)



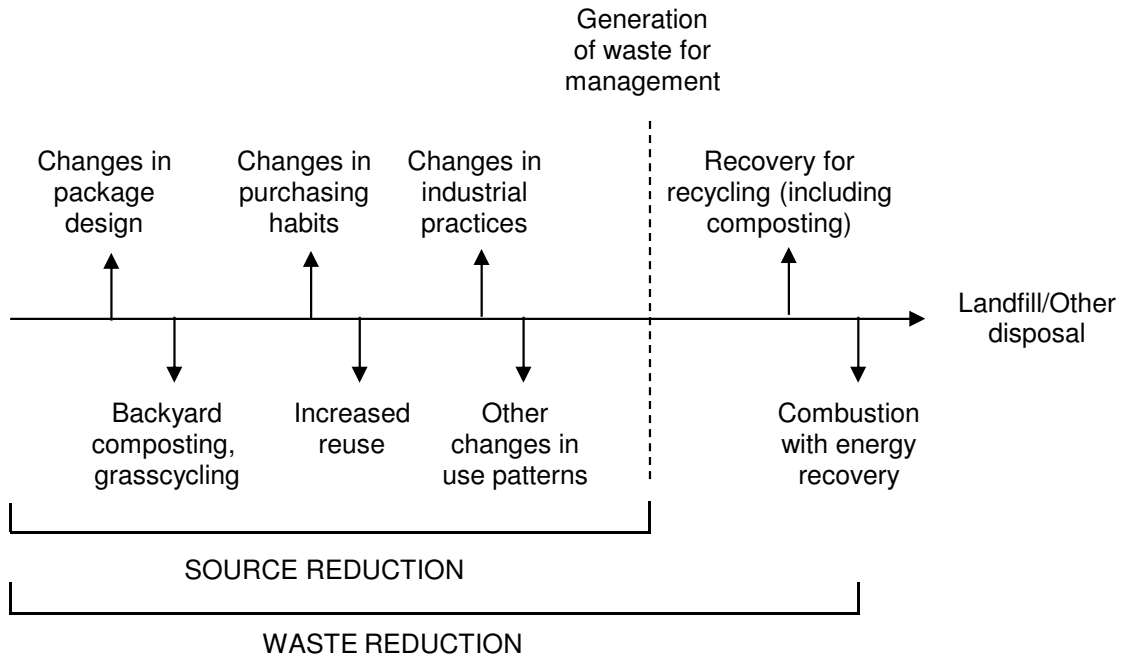
*Discards in this figure include combustion with energy recovery.

Figure 16. Containers and packaging generated and discarded*
in municipal solid waste, 2010
(In percent of total generation and discards)



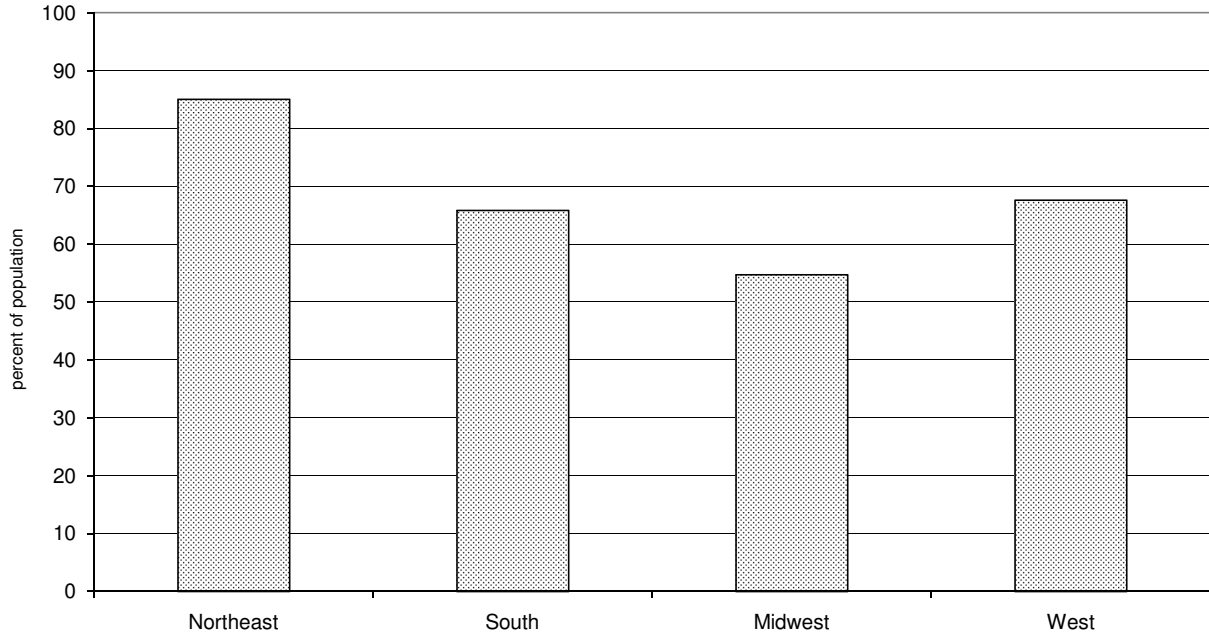
*Discards in this figure include combustion with energy recovery.

Figure 17. Diagram of solid waste management



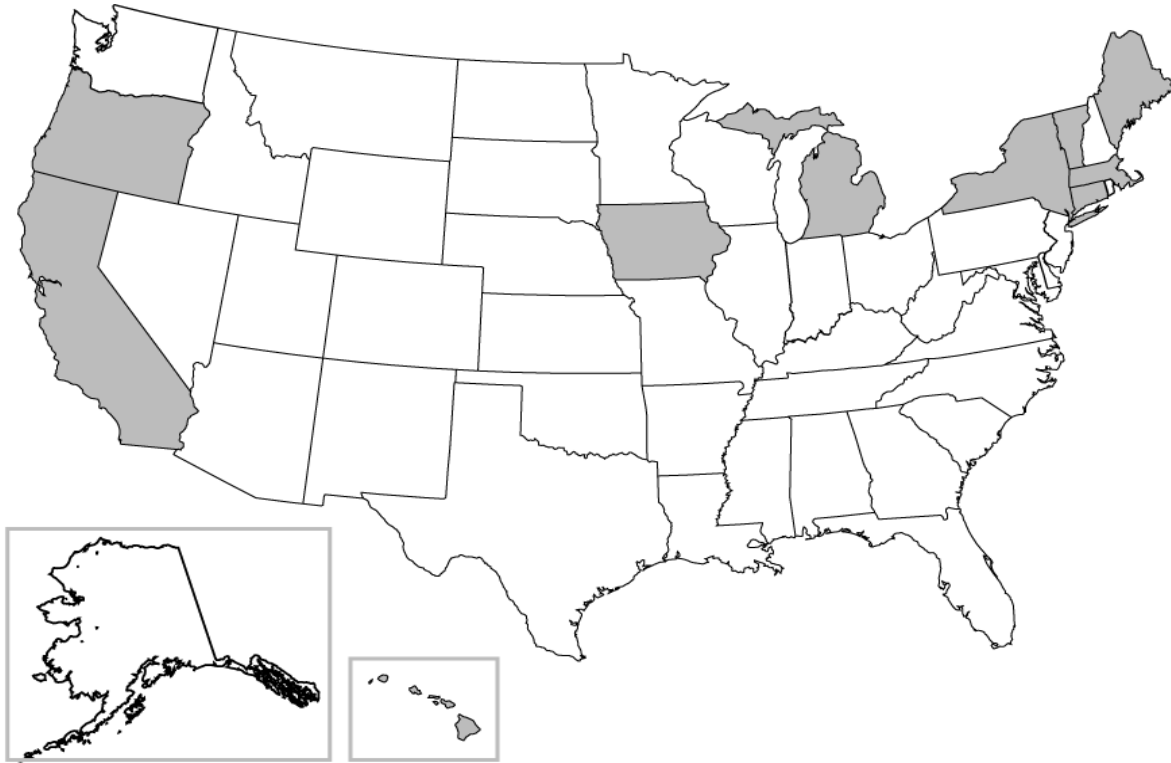
Source: Franklin Associates, A Division of ERG

Figure 18. Population served by curbside recycling, 2010



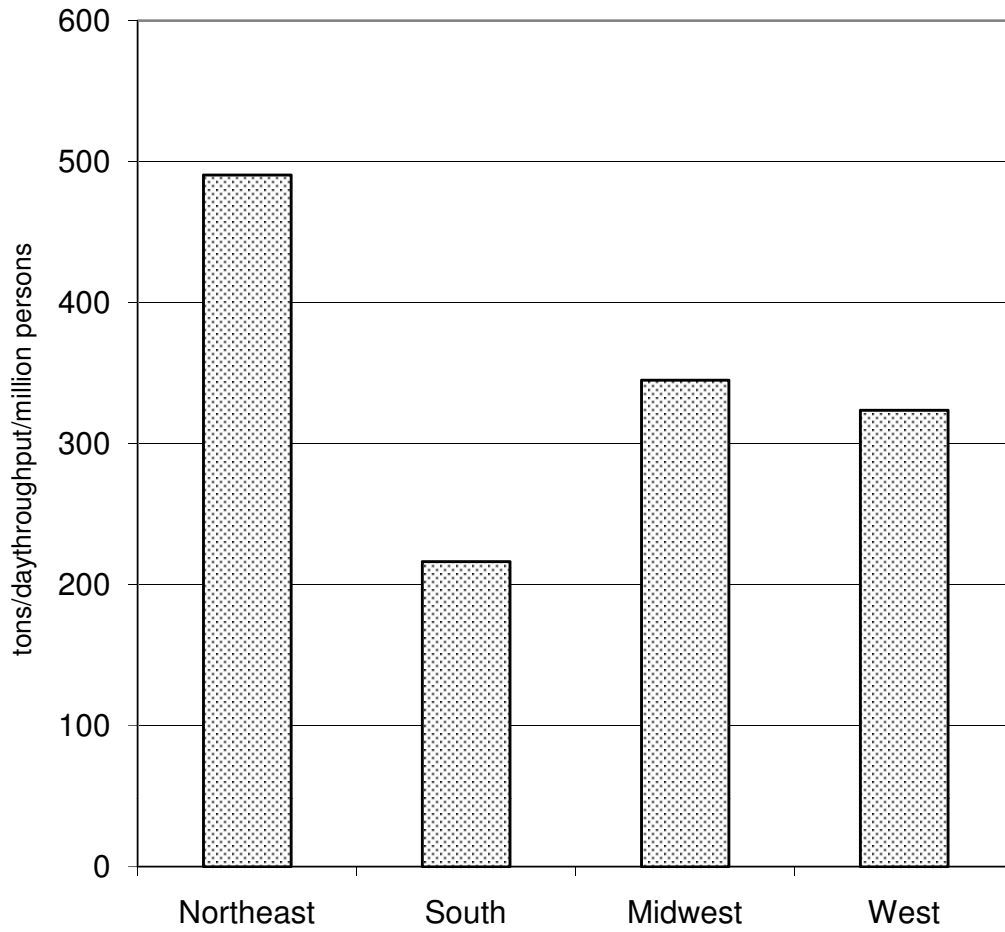
U.S. Census Bureau, BioCycle preliminary State of Garbage data received August 2010, BioCycle The State of Garbage in America, April 2006, and data from the following websites Connecticut Department of Environmental Protection, Delaware Solid Waste Management Authority, Georgia Department of Community Affairs, Maine State Planning Office, North Dakota Department of Health Division of Waste Management, Oregon Department of Environmental Quality, and Pennsylvania Department of Environmental Protection.

Figure 19. States With Bottle Deposit Rules



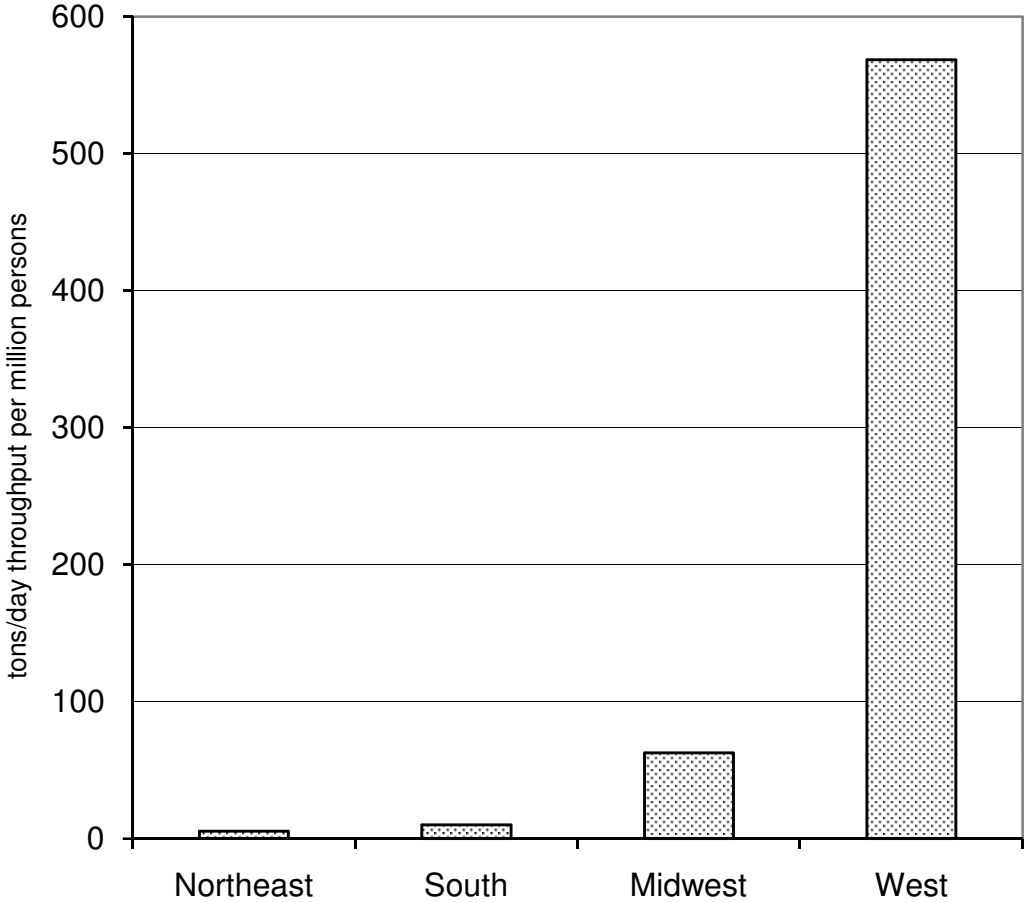
Source: Container Recycling Institute, 2011.

**Figure 20. Estimated MRF throughput, 2010
(Tons per day per million persons)**



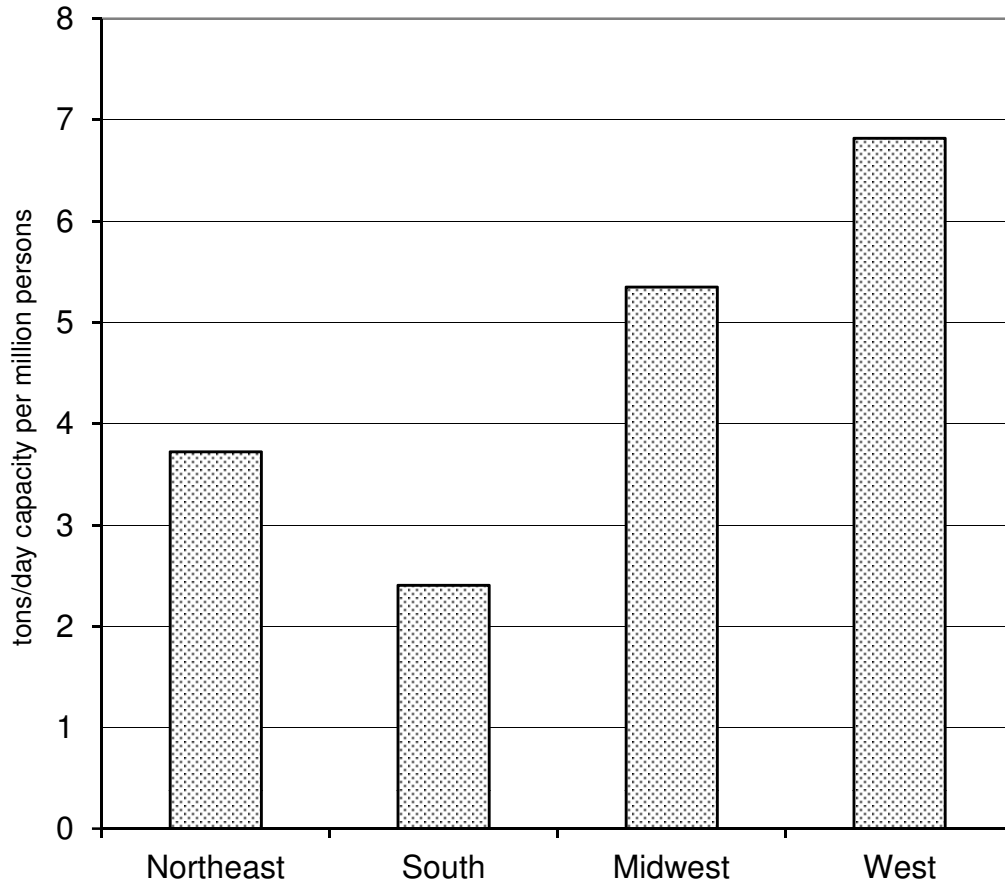
Source: U.S. Census Bureau, Governmental Advisory Associates, Inc.

**Figure 21. Mixed waste processing estimated throughput 2010
(tons per day per million persons)**



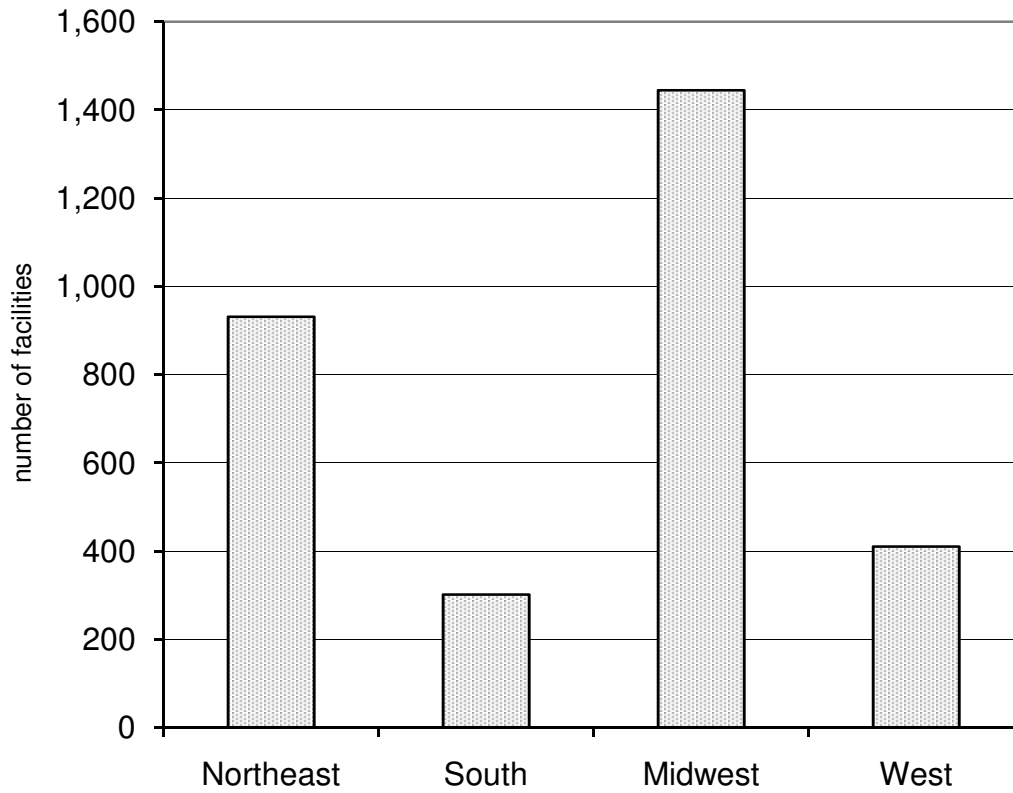
Source: U.S. Census Bureau; Governmental Advisory Associates, Inc.

**Figure 22. MSW composting capacity, 2010
(Capacity in tons per day per million persons)**



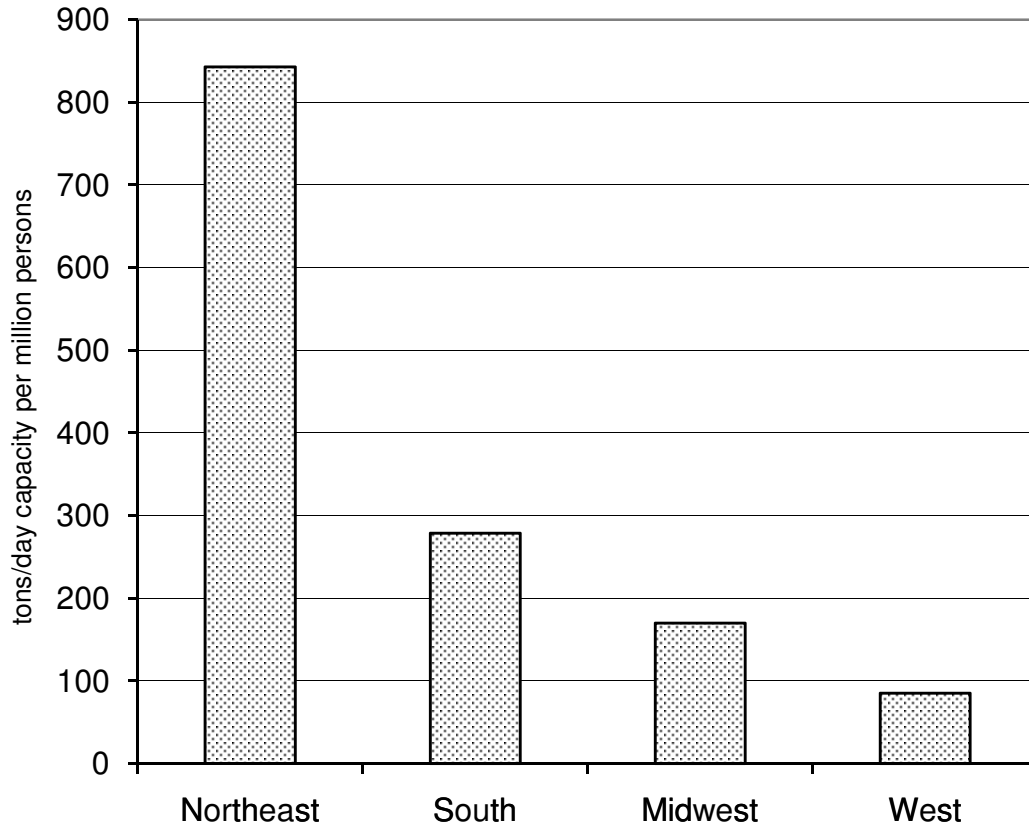
Source: U.S. Census Bureau; *BioCycle*, November 2010; Medina County, Ohio, Solid Waste District 2010 Annual Report; and West Wendover, Nevada, City website.

**Figure 23. Yard trimmings composting facilities, 2010
(In number of facilities)**



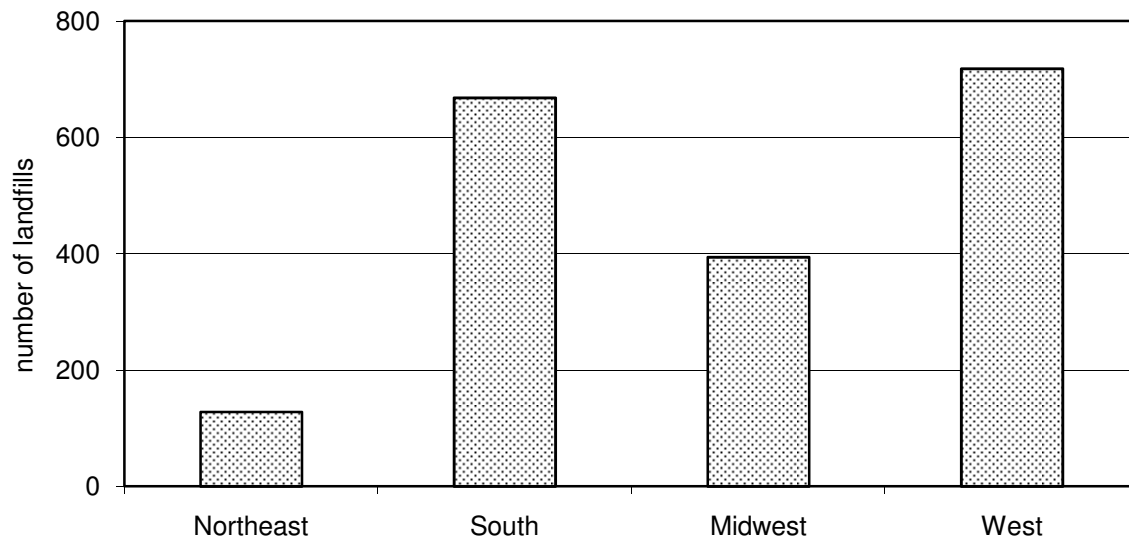
Source: Internet search: includes data for 47 states and the District of Columbia.

**Figure 24. Municipal waste-to-energy capacity, 2010
(Capacity in tons per million persons)**



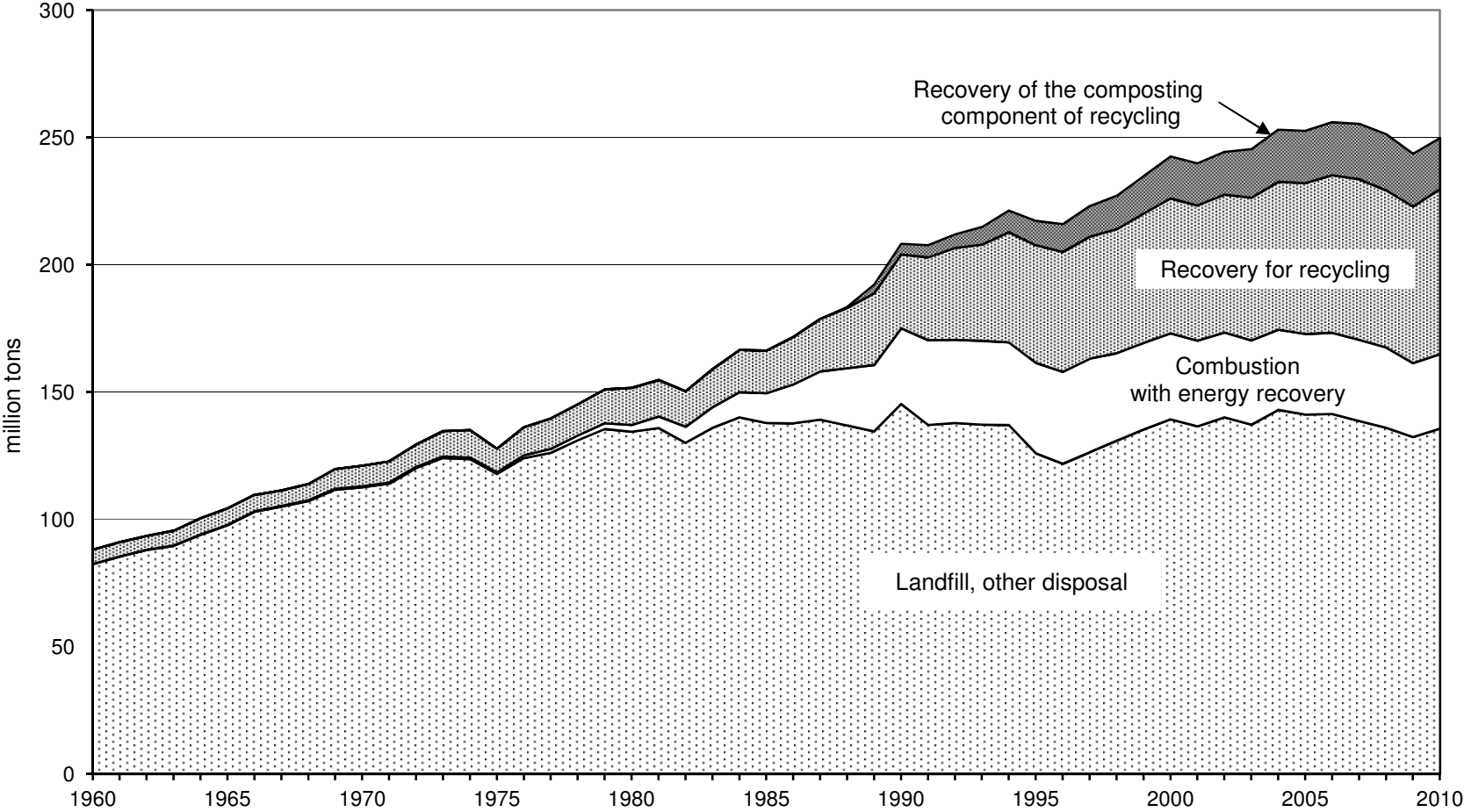
Source: U.S. Census Bureau, Energy Recovery Council (ERC). December 2010.

Figure 25. Number of landfills in the U.S., 2010



Source: *BioCycle* October 2010.

Figure 26. Municipal solid waste management, 1960 to 2010



Source: Franklin Associates, A Division of ERG