



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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2014 Solid Waste Data Update

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Introduction

In the *2010-2020 Solid Waste Master Plan (Master Plan)* the Executive Office of Energy and Environmental Affairs (EEA) and the Massachusetts Department of Environmental Protection (MassDEP) established a plan and vision for how Massachusetts will manage its solid waste for the 2011-2020 timeframe. To assist in implementing the *Master Plan*, MassDEP annually collects and analyzes solid waste management system data. The data are used to track progress in meeting waste reduction milestones and to evaluate solid waste management capacity needs. MassDEP has updated the solid waste data for calendar year 2014 and revised waste management capacity projections through 2020 based on the 2014 data.

MassDEP continues to implement a wide range of program initiatives to reduce waste and increase recycling and composting, while also ensuring that remaining waste is managed and disposed of safely. These initiatives are described in the *Master Plan*.

Goals and Methodology Summary

In the *Master Plan*, MassDEP established a vision to maximize the diversion of materials from disposal by 2020. The *Master Plan* establishes a specific goal to reduce annual disposal by 2 million tons, or 30 percent, from 6,550,000 tons in 2008 to 4,550,000 tons in 2020. This is a change from the previous *Master Plan*, which expressed our waste reduction goals in terms of a waste reduction rate. MassDEP now believes that disposal reduction is a simpler, more direct, and more effective metric for evaluating waste reduction and diversion progress, including source reduction, recycling, composting, and other forms of diversion. Therefore, the *2010-2020 Plan* has shifted from a waste reduction rate to a disposal reduction target as our primary goal for measuring progress. MassDEP will measure disposal reduction by comparing the total disposal in a future year against disposal in 2008 as a baseline year. Given this change, MassDEP is no longer reporting on recycling, composting, and other diversion data on an annual basis.

The methodology for the disposal reduction calculation is summarized in the table below.

Table 1 Methodology Summary		
Waste Reduction Rates		Equation
Disposal Tonnage	=	In State Disposal (Landfill & Municipal Waste Combustor) + Export for Disposal – Import for Disposal
Disposal Tonnage Reduction	=	2008 Disposal Tons – Current Year [2014] Disposal Tons
% Disposal Reduction	=	$\frac{2008 \text{ Disposal Tons} - \text{Current Year [2014] Disposal Tons}}{2008 \text{ Disposal Tons}}$

Progress in Meeting Disposal Reduction Milestone

Total disposal in 2014 was 5,560,000 tons, a decrease of 990,000 tons, or 15 percent, from 2008.

Solid Waste Management Overview

Table 2 highlights how solid waste disposal changed from 2012 to 2014, including the tonnage and percent change. Note that MassDEP is not publishing 2013 solid waste disposal data.

Table 2 Solid Waste Tonnage and Percent Change Summary: 2012 - 2014

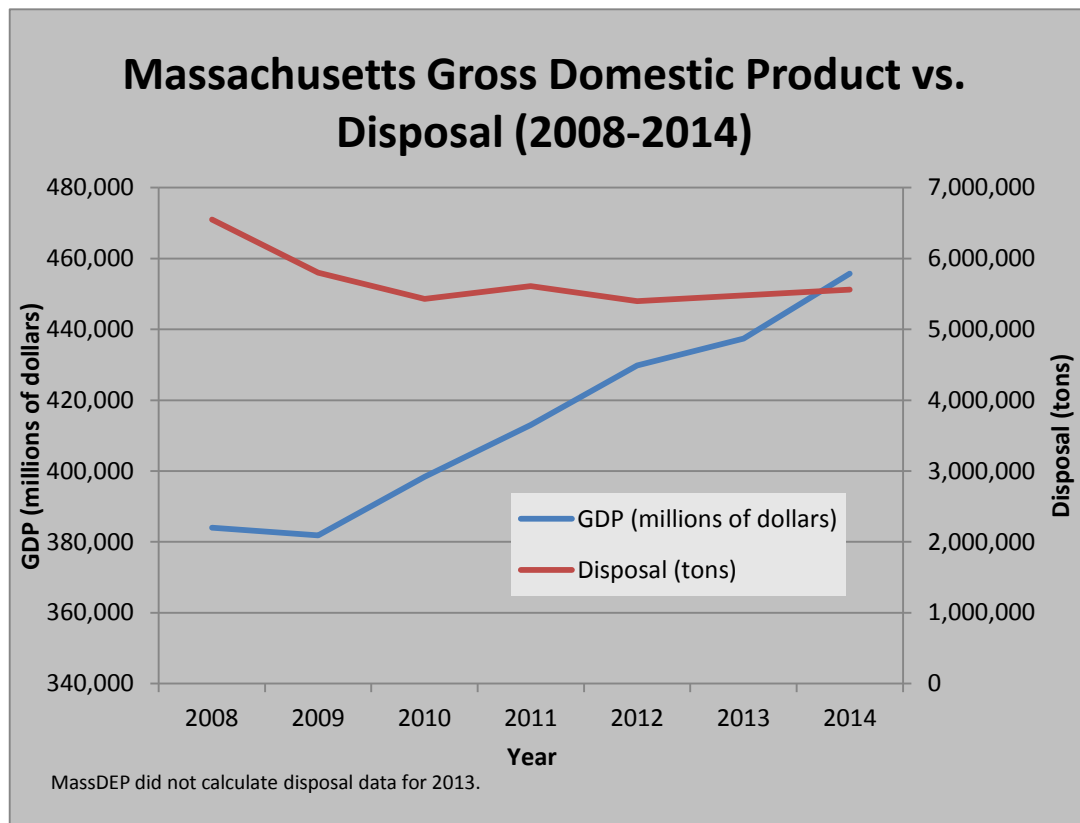
	2012	2014	Tons Change	% Change
Disposal (Incl. Net Exports)	5,400,000	5,560,000	160,000	3.0%
In-State Disposal	4,910,000	4,870,000	(40,000)	-0.8%
Landfill	1,700,000	1,600,000	(100,000)	-5.9%
MSW	1,380,000	1,380,000	0	0.0%
C&D	100,000	50,000	(50,000)	-50.0%
Other	220,000	170,000	(50,000)	-22.7%
Combustion	3,210,000	3,270,000	60,000	1.9%
MSW	3,210,000	3,260,000	50,000	1.6%
Non-MSW	0	0	0	
Net Exports	490,000	690,000	200,000	40.8%
Exports	1,050,000	1,190,000	140,000	13.3%
MSW	510,000	460,000	(50,000)	-9.8%
Non-MSW	540,000	730,000	190,000	35.2%
Imports	560,000	490,000	(70,000)	-12.5%
MSW	420,000	460,000	40,000	9.5%
Non-MSW	150,000	40,000	(110,000)	-73.3%

Note: % Change is calculated based on the rounded amounts in this table.

Percentages may not add exactly to 100% due to rounding.

From 2012 to 2014 total disposal increased by 3%. Of the total waste that required disposal, 4.9 million tons (88%) were disposed in-state, of which 1.6 million tons were land filled and 3.3 million tons were combusted. Massachusetts exported 1.2 million tons for disposal and imported 0.49 million tons, and thus was a net exporter of about 0.69 million tons (12%) of waste requiring disposal. See Table 9 for a more detailed picture of disposal import and export data by state.

Comparing Disposal Trends to State Economic Trends



The chart above gives a visual representation of Massachusetts waste disposal totals from 2008-2014 in the context of the state's Gross Domestic Product (GDP) over the same time frame.

While GDP rebounded in 2010 and has shown growth over five consecutive years, a total of 18.7% percent over 2008 levels, disposal dropped in 2009 with the economy and has remained down. In 2014, disposal was 15.1% below 2008 levels. Note that the 2013 disposal data in this chart is estimated based on averaging 2012 and 2014 disposal.

	2008	2009	2010	2011	2012	2013	2014	% change vs. 2008	% change vs. 2012
GDP (millions of dollars)	384,032	381,866	398,347	412,958	429,841	437,424	455,732	19%	6%
Disposal (tons)	6,550,000	5,800,000	5,430,000	5,610,000	5,400,000	5,480,000	5,560,000	-15%	3%

Disposal Import/Export Data for 2011-2014

Table 3 shows MSW and C&D data exported and imported for disposal by state. The export and import data for Massachusetts was collected from annual facility reports (AFR) submitted to MassDEP and from direct correspondence with other states. In some instances, the export data provided in the AFR differed from that reported from other states. In order to make the most inclusive estimate of export, the higher number from the two sources was used. For example, if an AFR reported that Massachusetts sent Connecticut 10,000 tons of MSW, and Connecticut reported receiving 29,000 tons of MSW from Massachusetts, 29,000 tons of export was used.

Table 3: Disposal Import/Export Data by State (tons): 2011-2014								
MSW Exported				C&D Exported				
State	2011	2012	2014	State	2011	2012	2014	
CT	14,872	6,544	1,327	ME	97,405	7,449	9,389	
ME	233,625	182,530	49,970	NH	42,361	9,028	26,683	
NH	199,523	148,889	191,192	NY	112	41,779	31,710	
NY	181,507	49,699	56,578	OH	244,022	160,417	284,965	
OH	0	120,549	142,515	RI	1,096	27	27	
RI	0	0	2,592	VT	1,802	0	0	
VA	0	0	0	TOTAL	386,798	218,700	352,774	
VT	0	0	13,094					
TOTAL	629,527	508,211	457,269					
MSW Imported				C&D Imported				
State	2011	2012	2014	State	2011	2012	2014	
CT	79,431	93,471	182,092	CT	102	20,045	129	
ME	1,927	0	2,479	ME	3	0	1	
NH	82,971	63,292	52,445	NH	10,034	6,255	6,066	
NY	19,612	22,854	24,326	NY	0	0	0	
RI	191,625	224,482	194,878	RI	155	8,309	561	
VT	17,832	12,326	1,751	VT	42	5	24	
TOTAL	393,428	416,437	457,971	TOTAL	10,336	34,614	6,781	
CANADA	30	12	0					

Waste Management Capacity Projections

The disposal capacity projections in Table 4 reflect either actual permitted capacity or approved capacity contingent on receiving permits. However, in some cases, landfills may take in less than their permitted tonnage in a particular year. In these cases, capacity for a particular landfill may last beyond the date shown in these projections. MassDEP attempts to take this factor into account by projecting only % of potential landfill capacity in showing waste management capacity projections in future years. The combustion capacity is shown as level based on permit limits, although this actual amount managed will always be somewhat lower than these limits.

Table 5 projects waste management capacity through 2020. These projections are based in part on the disposal capacity projections shown in Table 10. These projections also assume that 58% of potential landfill disposal capacity is utilized (based on 2014 capacity utilization rates). The waste management capacity projections estimate two different scenarios:

- 1) Total disposal remains level from 2015 to 2020
- 2) Total disposal decreases 3.3% per year from 2015-2020, meeting the goal of reducing disposal tonnage by 2 million tons by 2020.

The projections show projected management capacity and net export through 2020. Under scenario 1, net export for disposal in 2020 is projected to be just under 900,000 tons. Under scenario 2, the projection shows Massachusetts to be a net importer of trash at 140,000 tons.

Table 4: Projected Disposal Capacity 2015-2020 (Tons Per Year)

Municipality	2014 Actual Disposal	Permitted Capacity	End of current permitted capacity	Lifetime of LF	2015	2016	2017	2018	2019	2020
Active Landfills										
Bourne	166,694	219,000	2016	2025	219,000	219,000	219,000	219,000	219,000	219,000
Carver	120,449	620,500	2018	2021	620,500	620,500	620,500	620,500	620,500	620,500
Chicopee	218,328	365,000	2017	2017	365,000	365,000	365,000	0	0	0
Dartmouth	93,338	115,000	2018	2026	115,000	115,000	115,000	115,000	115,000	115,000
Middleborough	36,283	60,000	2020	2029	60,000	60,000	60,000	60,000	60,000	60,000
Nantucket	2,314	26,000	2020	2030	26,000	26,000	26,000	26,000	26,000	26,000
Southbridge	403,730	405,600	2017	2017	405,600	405,600	405,600	0	0	0
Taunton	97,565	120,120	2019	2019	120,120	120,120	120,120	120,120	120,120	0
Westminster	223,894	390,000	2017	2024	390,000	390,000	390,000	390,000	390,000	390,000
Municipal Waste Combustors										
Agawam	121,334	131,400			131,400	131,400	131,400	131,400	131,400	131,400
Haverhill	588,265	602,250			602,250	602,250	602,250	602,250	602,250	602,250
Millbury	477,064	529,575			529,575	529,575	529,575	529,575	529,575	529,575
North Andover	453,613	460,500			460,500	460,500	460,500	460,500	460,500	460,500
Pittsfield	77,443	84,000			84,000	84,000	84,000	84,000	84,000	84,000
Rochester	1,117,131	1,591,200			1,591,200	1,591,200	1,591,200	1,591,200	1,591,200	1,591,200
Saugus	433,777	460,500			460,500	460,500	460,500	460,500	460,500	460,500
	4,852,962	6,573,645			3,859,425					
TOTAL PERMITTED CAPACITY					6,180,645	6,180,645	5,961,645	4,801,045	4,801,045	3,859,425
TOTAL POTENTIAL CAPACITY					6,180,645	6,180,645	6,180,645	5,410,045	5,410,045	5,289,925
KEY:										
Permitted Capacity Number without shading										
Potential Additional Capacity Number with shading										
ESTIMATED TOTAL POTENTIAL AVAILABLE CAPACITY					5,205,733	5,205,733	5,205,733	4,758,785	4,758,785	4,689,115
58% of potential for LFs and 100 % of combustion capacity actual combustion amount will vary slightly year to year										
Total Potential LF Capacity					1,346,308	1,346,308	1,346,308	899,360	899,360	829,690

Actual 2014 disposal for MWCs is actual tonnage burned minus post combustion metal recovery.

MWC disposal capacity is not a fixed tonnage amount, but rather a function of the facility's air permit and may vary slightly.

Table 5: Waste Management Capacity Projections: 2015-2020

	2014	2015	2016	2017	2018	2019	2020
Total Disposal (baseline)	5,564,275	5,564,275	5,564,275	5,564,275	5,564,275	5,564,275	5,564,275
Total Disposal (reduced)	5,564,275	5,380,654	5,203,093	5,031,391	4,865,355	4,704,798	4,549,540
Combustion Capacity	3,268,627	3,859,425	3,859,425	3,859,425	3,859,425	3,859,425	3,859,425
Potential LF Capacity	1,604,014	1,346,308	1,346,308	1,346,308	899,360	899,360	829,690
In-state Disposal Capacity	4,872,641	5,205,733	5,205,733	5,205,733	4,758,785	4,758,785	4,689,115
Net Disposal Export (baseline disposal)	691,634	358,543	358,543	358,543	805,491	805,491	875,160
Net Disposal Export (reduced disposal)	691,634	174,922	-2,640	-174,342	106,570	-53,987	-139,575

Assumptions for Annual Percent Change:

2015-2020

Baseline Disposal Tonnage

0.0%

Decreased Disposal Tonnage

-3.3%

2014 data shows actual figures.

Combustion Capacity is projected to remain level from 2015 through 2020 based on permit limits.

Future landfill capacity is calculated to be 58% of total potential based on 2014 acceptance rate.