2021 Solid Waste Data Update

SWAC

May 30, 2023

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Overall Disposal Trends

- Total Solid Waste
  - Up 10 percent 2018 - 2021 (560K tons)
  - Up 5 percent from 2020 - 2021 (300K tons)
- Non-MSW
  - Up 70 percent from 2018 - 2021 (800K tons)
  - Up 27 percent from 2020 - 2021 (410K tons)
- MSW
  - Down 5 percent from 2018 - 2021 (210K tons)
  - Down 2 percent from 2020 - 2021 (90K tons)

Disposal Trend Summary 2018-2021

Table 4 MSW and Non-MSW Disposal 2018-2021						
	2018	2019	2020	2021	% change vs 2018	% change vs 2020
Total Disposal (Tons)	5,660,000	5,510,000	5,920,000	6,220,000	10%	5%
MSW	4,510,000	4,310,000	4,390,000	4,300,000	-5%	-2%
Non-MSW	1,140,000	1,200,000	1,530,000	1,940,000	70%	27%

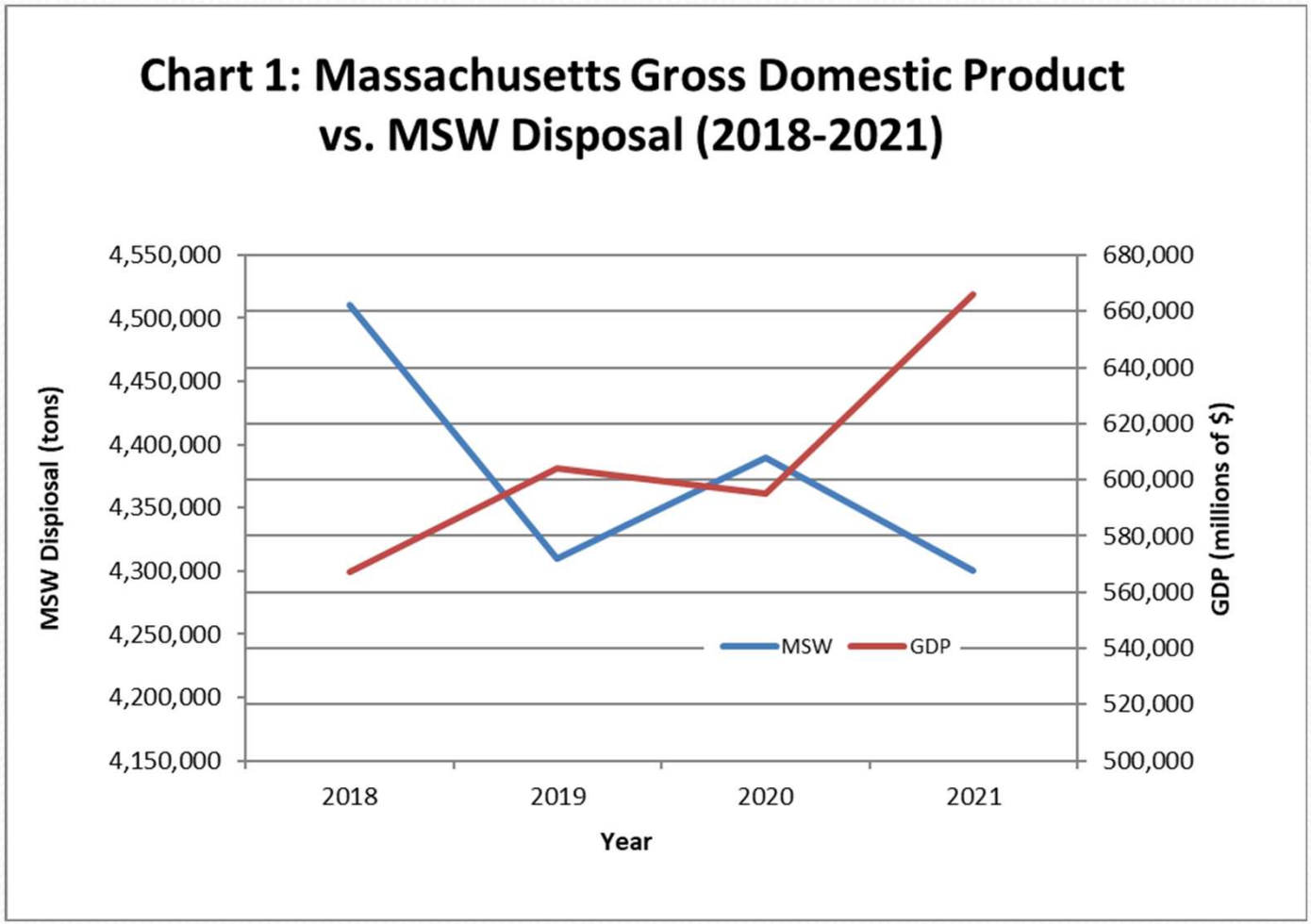
2020-2021 Summary

Table 3 Solid Waste Disposal 2018-2021 (all data in tons)						
			2018	2019	2020	2021
Disposal			**5,660,000**	**5,510,000**	**5,920,000**	**6,220,000**
	Landfill		1,270,000	880,000	660,000	600,000
		MSW	1,190,000	820,000	570,000	490,000
		C&D	0	0	-	-
		Other	70,000	60,000	90,000	110,000
	Combustion		**3,200,000**	**2,990,000**	**3,040,000**	**3,060,000**
		MSW	3,180,000	2,970,000	3,020,000	3,060,000
		Non-MSW	20,000	10,000	20,000	10,000
	Net Exports		**1,190,000**	**1,640,000**	**2,220,000**	**2,570,000**
		Exports	1,820,000	1,970,000	2,470,000	2,920,000
		MSW	750,000	820,000	1,040,000	1,050,000
		Non-MSW	1,070,000	1,140,000	1,430,000	1,870,000
		Imports	630,000	330,000	250,000	360,000
		MSW	610,000	310,000	240,000	300,000
		Non-MSW	20,000	20,000	10,000	50,000

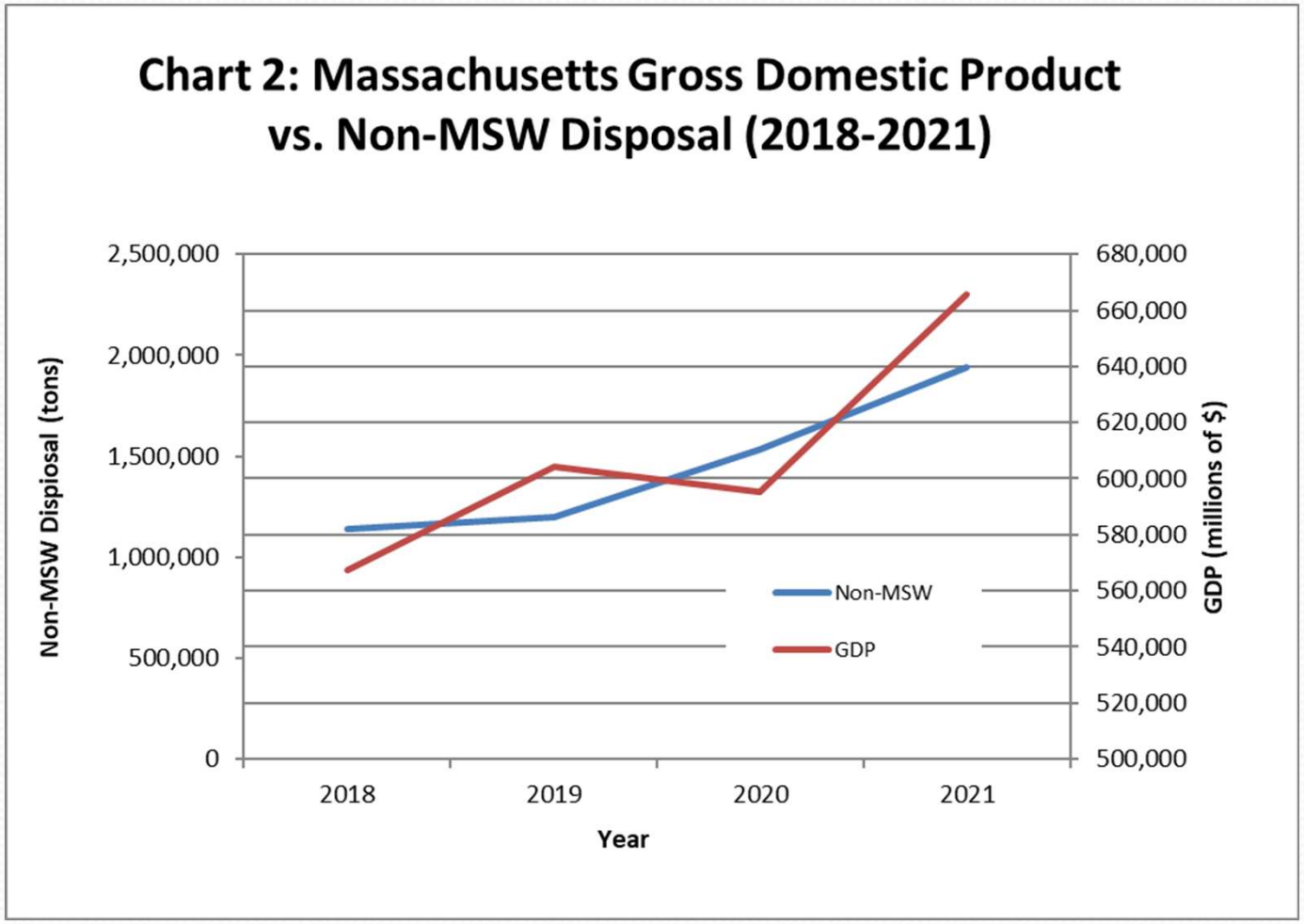
Disposal vs. State GDP: 2018-2021

- GDP up 17 percent from 2018-2021
- GDP up 12 percent from 2020-2021

MSW Disposal vs. State GDP



Non-MSW Disposal vs. State GDP



Import/Export Data by State

Table 6 Disposal Import/Export Data by State (tons): 2020-2021					
MSW Exported			**Non-MSW Exported**		
State	**2020**	**2021**	**State**	**2020**	**2021**
AL	23,707	85,775	**CT**	0	0
CT	16,326	35,314	**ME**	0	1,084
ME	6,520	224	**NH**	310,291	321,857
MI	50,962	15,760	**NY**	130,346	121,389
NH	398,953	401,746	**OH**	971,996	1,395,055
NY	346,951	338,804	**VA**	14,784	2,551
OH	59,633	53,765	**VT**	0	0
SC	102,007	96,286	**MI**	**282**	**1,152**
VA	37,386	26,242			
GA	664				
TOTAL	**1,043,109**	**1,053,916**	**TOTAL**	**1,427,699**	**1,843,088**
MSW Imported			**Non-MSW Imported**		
State	**2020**	**2021**	**State**	**2020**	**2021**
CT		33,290	**CT**	3,900	9,538
ME	2,045	0	**ME**	30	98
NH	85,697	32,995	**NH**	6,834	43,658
NY	2,267	499	**RI**	1,391	1,636
RI	110,720	232,134	**VT**	19	0
VT	3,257	2,064			
TOTAL	**203,986**	**300,982**	**TOTAL**	**12,174**	**54,930**

In State Landfill Cover Material

Table 11: Landfill Cover Material Use in 2021	
Material Type	**Tons**
Contaminated Soil	107,850
Auto Shredder Residue/Auto Fluff	60,059
Bottom Ash	51,841
Soil/Sand	45,369
Cullet (crushed glass)	9,239
Sludge Ash	14,938
Street Sweepings	16,024
Compost	21,910
C&D Fines	11,587
Wood Chips	7,474
Foundry Sand	158
Other	589
C&D Residuals	3,342
Total	**350,380**

MWC Ash Management

Table 7: Municipal Waste Combustor Ash Management (2021)				
Combustion Facility	**Ash Disposed (tons)**	**Disposal Facilities**	**Pre-Combustion Metal Recovery (tons)**	**Post-Combustion Metal Recovery (tons)**
Haverhill	119,470	Ward Hill, Haverhill	22	15,088
Millbury	121,428	Shrewsbury	73.7	8,513
North Andover	87,714	Shrewsbury	0	7,763
Pittsfield	2,905	Bondi's Island, Springfield	70	1,606
Saugus	105,536	Saugus, Shrewsbury	0	7,434
SEMASS	166,394	Bourne, Carver/Marion/Wareham	30,634	11,436
Springfield	33,023	Bondi's Island, Springfield	15.79	2,907
Totals	**636,470**		**30,815**	**54,747**

Ash Landfills Capacity

Table 7A: Ash Landfills Anticipated Capacity	
Landfill	**Projected Closure Year**
Bondi's Island, Springfield	2030
Peabody	2033
Ward Hill Haverhill	2022
Wheelabrator Saugus	2026
Wheelabrator Shrewsbury	2028

Rail Transfer Capacity

Table 8: Summary of Rail Transfer Facilities						
Facility Name	**Region**	**Town**	**Current Status**	**Tons/Day**	**Tons/Year**	**Waste**
Champion City Recovery	SERO	Brockton	Operating	1,000	286,000	C&D
Devens Recycling Center	CERO	Devens	Operating	1,500	390,000	MSW, C&D
Lenox Valley Waste Transfer Facility	WERO	Lenoxdale	Operating	250	67,250	MSW, C&D
McNamara Transfer Station	WERO	Springfield	Operating	699	218,088	MSW, C&D
New England Waste Disposal	SERO	Taunton	Operating	1,650	495,000	MSW, C&D
Tri-County Recycling	WERO	Ware	Operating	750	195,000	C&D
Trojan Recycling	SERO	Brockton	Operating	500	140,400	MSW, C&D
Upper Cape Regional Transfer Station	SERO	Falmouth	Operating	286	74,360	MSW, C&D
United Materials Management of Leominster	CERO	Leominster	Operating	1,000	300,000	MSW, C&D
Western Recycling	WERO	Wilbraham	Operating	1600	312,000	MSW, C&D
Yarmouth-Barnstable Regional Rail Transfer Station	SERO	Yarmouth	Operating	530	137,800	MSW
Casella	WERO	Holyoke	Permitted	1,250	382,500	MSW, C&D
Howard Transfer Station*	NERO	Roxbury	Permitted	810	-	MSW-
Wood Recycling, Inc.*	NERO	Peabody	Permitted	1,350	-	MSW-C&D
Parallel Products of New England	SERO	New Bedford	Seeking approval	1,500	390,000	MSW, C&D
TLA Holbrook	SERO	Holbrook	Seeking Approval	1,000	260,000	MSW
Totals				**15,675**	**3,648,398**	

Disposal Facility Projections

Table 9: Projected Disposal Capacity 2021-2030 (Tons Per Year)

Municipality	Permitted Capacity	End of current permitted capacity	Lifetime of LF	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Active Landfills													
Bourne	30,000	2024	**2040**	215,915	30,000	30,000	30,000	219,000	219,000	219,000	219,000	219,000	219,000
Dartmouth	115,000	2024	**2026**	98,763	115,000	115,000	115,000	115,000	115,000	0	0	0	0
Middleborough	60,000	2031	**2031**	58,505	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Nantucket	26,000	2029	**2029**	3,388	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	0
Westminster	538,200	2030	**2030**	329,252	538,200	538,200	538,200	538,200	538,200	538,200	538,200	538,200	538,200
Municipal Waste Combustors													
Agawam	131,400			97,051	131,400	-	-	-	-	-	-	-	-
Haverhill	602,250			572,680	602,250	602,250	602,250	602,250	602,250	602,250	602,250	602,250	602,250
Millbury	529,575			479,897	529,575	529,575	529,575	529,575	529,575	529,575	529,575	529,575	529,575
North Andover	547,500			427,737	547,500	547,500	547,500	547,500	547,500	547,500	547,500	547,500	547,500
Pittsfield	84,000			62,674		-	-	-	-	-	-	-	-
Rochester	1,250,000			1,047,692	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Saugus	547,500			372,247	547,500	547,500	547,500	547,500	547,500	547,500	547,500	547,500	547,500
TOTAL PERMITTTED COMBUSTION CAPACITY	*3,692,225*			*3,059,978*	*3,608,225*	*3,476,825*	*3,476,825*	*3,476,825*	*3,476,825*	*3,476,825*	*3,476,825*	*3,476,825*	*3,476,825*
ADJUSTED TOTAL COMBUSTION CAPACITY				*3,059,978*	*3,094,041*	*2,981,366*	*2,981,366*	*2,981,366*	*2,981,366*	*2,981,366*	*2,981,366*	*2,981,366*	*2,981,366*
TOTAL POTENTIAL CAPACITY LF&CMBST				**3,765,801**	**3,863,241**	**3,750,566**	**3,750,566**	**3,939,566**	**3,939,566**	**3,824,566**	**3,824,566**	**3,824,566**	**3,798,566**
KEY:													
Permitted Capacity	Number without shading												
Potential Additional Cap	Number with shading												
ESTIMATED TOTAL POTENTIAL AVAILABLE CAPACITY				**3,059,978**	**3,863,241**	**3,750,566**	**3,750,566**	**3,939,566**	**3,939,566**	**3,824,566**	**3,824,566**	**3,824,566**	**3,798,566**
100% of potential for LFs and 85 % of potential for combustion													
Actual combustion varies per year, has never reached capacity													
Total Potential Landfill Capacity				-	769,200	769,200	769,200	958,200	958,200	843,200	843,200	843,200	817,200

2021 capacity 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. Capacity projections assume Pittsfield and Springfield not available after 2022

2020 % Landfill Capacity	100%
2015-2020 % Permitted Combustion Capacity Used	85.75%

Average total combustion (last five years):
3094040.6

Note: Bourne 189,000 of 219,000 tons of annual capacity dedicated to SEMASS ash disposal through 2024.

Capacity & Net Export Projections

Table 10: Waste Management Capacity Projections: 2021-2030										
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Disposal (baseline)	6,220,000	6,220,000	6,220,000	6,220,000	6,220,000	6,220,000	6,220,000	6,220,000	6,220,000	6,220,000
Total Disposal (reduced)	6,220,000	5,922,684	5,639,580	5,370,008	5,113,321	4,868,905	4,636,171	4,414,562	4,203,546	4,002,616
Combustion Capacity	3,060,000	3,090,000	2,980,000	2,980,000	2,980,000	2,980,000	2,980,000	2,980,000	2,980,000	2,980,000
Potential LF Capacity	600,000	769,200	769,200	769,200	958,200	958,200	843,200	843,200	843,200	817,200
In-state Disposal Capacity	3,660,000	3,859,200	3,749,200	3,749,200	3,938,200	3,938,200	3,823,200	3,823,200	3,823,200	3,797,200
Net Disposal Export (baseline disposal)	2,560,000	2,360,800	2,470,800	2,470,800	2,281,800	2,281,800	2,396,800	2,396,800	2,396,800	2,422,800
Net Disposal Export (reduced disposal)	2,560,000	2,063,484	1,890,380	1,620,808	1,175,121	930,705	812,971	591,362	380,346	205,416
Assumptions for Annual Percent Change:										
Baseline Disposal Tonnage	0.0%									
Decreased Disposal Tonnage/year	4.78%									
2021data shows actual figures.										

Next Steps

- Finalize and post 2021 solid waste data
- Prepare 2022 solid waste data – goal to complete by end of 2023
  - https://www.mass.gov/guides/solid-waste-master-plan#-solid-waste-data-updates-
- Related data – 2022 waste characterization
  - https://www.mass.gov/doc/summary-of-waste-combustor-class-ii-recycling-program-waste-characterization-studies/download