

VERMONT SOLID WASTE GENERATION - SUMMARY 2006

MATERIALS		(TONS)
MUNICIPAL SOLID WASTE (MSW)		
MSW Materials Diverted		192,003
MSW Materials Disposed		414,273
TOTAL MSW:		606,276
CONSTRUCTION & DEMOLITION WASTE (C&D) & WOOD		
C&D/Wood Diverted		314
C&D/Wood Used in Landfills - VT Waste		12,325
C&D/Wood Used in Landfills - Waste From Other States		3,868
C&D Disposed		127,592
Wood Burnt		599
TOTAL C&D/WOOD:		144,698
OTHER SOLID WASTE		
Other Diverted - Table		
Other Used in Landfills - VT Waste		16,345
Other Used in VT Landfills - Waste From Other States		8,208
Other Disposed - VT Waste		13,913
Other Disposed - Waste From Other States		2,300
TOTAL OTHER:		40,766
HHW, CEG, MERCURY & ELECTRONICS COLLECTION BY DISTRICTS & TOWNS		
HHW Diverted		428
CEG Diverted		93
Mercury - Products, Debris, Elemental & Lamps		43
Electronics		575
TOTAL HHW & CEG:		1,139
Biosolids		
Beneficial Reuse		42,009
Used in Landfills - VT Biosolids		3,542
Used in Vermont Landfills - Biosolids From Other States		-
Landfilled, Incinerated - Vermont Biosolids		16,092
Disposed in VT Landfills - Biosolids From Other States		-
TOTAL BIOSOLIDS:		61,643
TOTAL SOLID WASTE GENERATED (tons) :		854,522

TABLE 1
GENERATION , DIVERSION AND DISPOSAL
VERMONT MUNICIPAL SOLID WASTE
1987, 1994, 1998 - 2006 (ACTUAL) & 2007 - 2011 (PROJECTIONS)^[1]
(2007-2011 PROJECTION IN ORDER TO REACH 50% DIVERSION RATE)

MSW Generation, Diversion & Disposal - Actual 1987, 1994, 1998-2006 & Projection For 2007-2011 (Tons)																	
	1987 ^[2]	1994 ^[2]	1998	1999	2000	2001	2002	2003	2004	2005	2006	Projection 2007	Projection 2008	Projection 2009	Projection 2010	2011 Projection	50%
Generation	350,000	474,800	570,750	563,564	576,797	597,811	612,279	604,442	644,327	614,519	606,276	628,740	631,585	634,430	637,275	640,120	
Diversion	42,000	164,830	195,930	199,301	189,401	182,562	184,149	186,407	189,047	183,289	192,003	228,879	251,674	274,469	297,264	320,060	
Disposal	308,000	309,970	374,820	364,263	387,396	415,249	428,130	418,035	455,281	431,230	414,273	394,174	375,646	357,118	338,590	320,060	
Population	535,000	583,836	600,416	604,683	608,827	613,090	616,408	619,107	621,394	623,050	625,895	628,740	631,585	634,430	637,275	640,120	
Per Capita MSW Generation (Tons/Year)	0.65	0.81	0.95	0.93	0.95	0.98	0.99	0.98	1.04	0.99	0.97	1.00	1.00	1.00	1.00	1.00	
(Pounds/Day)	3.58	4.46	5.21	5.11	5.19	5.34	5.44	5.35	5.68	5.40	5.31	5.48	5.48	5.48	5.48	5.48	
Per Capita MSW Diversion (Tons/Year)	0.08	0.28	0.33	0.33	0.31	0.30	0.30	0.30	0.30	0.29	0.31	0.37	0.40	0.44	0.47	0.50	
(Pounds/Day)	0.43	1.55	1.79	1.81	1.70	1.63	1.64	1.65	1.67	1.61	1.68	1.97	2.17	2.36	2.55	2.74	
Per Capita MSW Disposal (Tons/Year)	0.58	0.53	0.62	0.60	0.64	0.68	0.69	0.68	0.73	0.69	0.66	0.63	0.59	0.56	0.53	0.50	
(Pounds/Day)	3.15	2.91	3.42	3.30	3.49	3.71	3.81	3.70	4.01	3.79	3.63	3.43	3.25	3.07	2.89	2.74	
% of MSW Waste Generation																	
	1987	1994	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	50% Projection	
Generation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Diversion	12%	34.7%	34.3%	35.4%	32.8%	30.5%	30%	31%	29%	30%	32%	36%	40%	43%	47%	50%	
Disposal	88%	65.3%	65.7%	64.6%	67.2%	69.5%	70%	69%	71%	70%	68%	64%	60%	57%	53%	50%	

NOTES:

^[1] MSW generation projection for 2007-2011 is based on the average of the per capita MSW generation rate for 2001 through 2005: 1.0T/PERSON/YR
Vermont Population Projections for 2007- 2011 is based on the same rate of changes as 2000- 2005- 2845 people/year.

^[2] Table 1.1, 2001 State of Vermont Revised Solid Waste Management Plan

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TABLE 2
SOLID WASTE DIVERSION - 2006
2006 - ESTIMATED BY MATERIAL TYPE & DIVERSION ACTIVITY

MATERIAL	SOURCE OF MATERIAL						TOTAL (Tons)
	Recycling Facilities	Soft Drink and Beer Distributors(1)(2) (Broker Direct)	Economic Recycling(2) (Direct to Market)	Scrap Metal Facilities	Organics Composting	Reuse Facilities & Programs(2)	
SINGLE STREAM	3164						3164
FIBERS	54,832	386	33,495			137	88,850
CONTAINERS	9,438	17,500	117			19	27,074
SCRAP METAL			251	34,830		159	35,240
ORGANIC					31,774	0	31,774
MISCELLANEOUS	3,720		14			2,167	5,901
Total:	71,154	17,886	33,877	34,830	31,774	2,482	192,003

2006 MSW DISPOSED (tons): 414,273

2006 MSW DIVERSION RATE: 32%

(1) Total includes 16,174 tons of deposit return containers processed by Vermont recycling facilities

(2) Data for containers from report titled *Analysis of Vermont's Bottle Bill: Costs, Impacts and Expansion*, Northbridge Environmental Management Consultants, December 2006. Data for fibers from report titled *Vermont's Municipal Solid Waste Diversion Rate 2001*, DSM Environmental Services, September 2002

(3) Included in "Scrap Metal Facilities" totals.

(4) Includes composting data for exempt facilities from *Vermont's Municipal Solid Waste Diversion Rate 2001*, DSM Environmental Services, September 2002

2/19/2008

TABLE 3

**Vermont Solid Waste - 2006
Disposal & Incineration**

DESTINATION	TYPE OF WASTE					Waste Used in Landfill ^[2]
	MSW (Tons)	C&D/Wood (Tons)	Other ^[1] (Tons)	Total (Tons)	% Disposed	
In-State						
Landfill	326,333	112,283	15,641	454,257	81.76%	35,001
Incineration ^[3]		39		39	0.01%	
Subtotal:	326,333	112,322	15,641	454,296		
Out-of-State						
Landfill	40,654	15,229	405	56,288	9.68%	9,232
Incineration	47,286	39	166	47,491	8.55%	
Subtotal:	87,940	15,268	571	103,779		
Total (tons):	414,273	127,590	16,212	558,075	100%	44,233
NOTES:						
[1] Refer to Table 4A for specific wastes disposed in Vermont landfills.						
[2] Refer to Table 4B for specific wastes used in landfills.						
[3] On site clean wood burn at transfer stations.						

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TABLE 4 DESTINATIONS FOR VERMONT SOLID WASTE - 2006 DISPOSAL & INCINERATION

State	Facility	MSW (Tons)	C&D & Wood (Tons)(1)	OTHER (Tons)(2)	Total (Tons)	Waste Used In Landfill(3)
VT	Waste USA Landfill	242,695	93,789	11,034	347,518	12,240
	WSI Landfill	82,971	16,200	3,648	102,818	22,476
	2 - 1000 Ton Landfills	667	94	8	769	285
	Burgess C&D Landfill		567	125	692	
	On-site Disposal - Transfer Stations & Cat.Cert Sites		1,634	826	2,460	
	On-site Burning, clean wood - Transfer Stations		39		39	
	2006- Total Vermont (tons):	326,333	112,322	15,641	454,295	35,001
MA	BFI					
	ECO - Pittsfield Waste To Energy	2,627			2,627	
	South Hadley Landfill	12,430	347		12,777	
	2006 - Total Massachusetts:	15,057	347		15,404	
NH	Wheelabrator Waste To Energy, Claremont	27,268	31	89	27,387	
	Lebanon Landfill	15,748		395	16,143	973
	North Country Landfill, Bethlehem	4,185	175		4,359	
	Waste Management - Turnkey Landfill	357	142		499	
	Mt Carbury Landfill	1,327			1,327	
	Colebrook Landfill	2,449	351		2,800	
	West Stewardstown	46			46	
	All Waste Transfer Station		4,714		4,714	
	2006 - Total New Hampshire:	51,379	5,412	484	57,275	973
NY	Adirondak Waste To Energy, Hudson Falls	17,391	8	77	17,475	
	Clinton County Landfill	4,114	2,618	11	6,742	
	County Waste, Clifton Park		6,883		6,883	
	Waste Management Landfill(s)				-	8,259
	2006 - Total New York:	21,505	9,508	88	31,101	
2006 - Total Out-Of-State (tons):		87,940	15,268	571	103,780	9,232
2006 - Total In-State & Out-Of-State (tons):		414,273	127,590	16,212	558,075	44,233

(1) Waste USA included 374 tons from NH

(2) Refer to Table 4A for specific wastes and amounts disposed in Vermont landfills including some waste from other states.

(3) Refer to Table 4B for specific wastes used in landfills, amounts brought to Vermont landfills from other states and amount of VT waste used in landfills in other states.

TABLE 4A
OTHER WASTES DISPOSED IN VERMONT LANDFILLS 2006
 (Detailing Column E from Table 4)

	Waste USA Landfill - VT Waste	Waste USA Landfill - Waste From Other states		WSI - VT Waste	WSI Landfill - Waste From Other states		Burgess Bros. Landfill	1000 Ton Landfills - Salisbury and Bristol	Transfer Stations & Cat Cert Disposal - On-site Disposal	TOTAL TONS
Asbestos	434	635		396	11					1,476
Bulky Wastes				22				8		29
Biosolids	7,115	959		1,859						9,933
Contaminated Soils				92						92
Medical Waste	9	3		123						135
Paper Sludge										-
Other Wastes	1,421	458		911	234		125		826	3,975
TOTAL TONS:	8,979	2,055		3,403	245		125	8	826	15,640
	NOTES:		NH NY & PQ		NH					

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TABLE 4B
Waste Used in Landfills (Tons) - 2006 TONS
(Detailing Column H from Table 4)

	Waste USA Landfill - VT Waste	Waste USA Landfill - Waste From Other states	WSI - VT Waste	WSI Landfill - Waste From Other states	Bristol Landfill - Waste From Other states	Salisbury Landfill -	Hartford TS VT C&D to Lebanon LF	Hubbard & Castleton TSs - VT C&D to NY Landfill(s)	TOTAL TONS
Cover Material:									
Biosolids	3,542								3,542
C&D							973	8,259	9,232
Contaminated Soils	3,681		2,147	1,562					7,390
Foundary Sand			4,397						4,397
Paper Sludge	1,573	7	3,474	5,703		285			11,042
Other Wastes	1,017			651					1,668
Road Base:									
C&D	2,350	14	152	3,854					6,370
Crushed Glass									
Ground Wood Waste	56		535						591
TOTAL TONS:	12,219	21	10,705	11,771		285	973	8,259	44,232
NOTES:		NY, PQ		MA,NY,PQ	None in 2006	NY	Also processed 864 tons C&D - NH	Waste Man. Landfill(s)	

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TABLE 5**Operating Solid Waste Disposal Capacity in Vermont ^[3]****Status 7/1/06**

Solid Waste Landfills	Remaining Capacity For Waste(tons)	Maximum Permitted Fill Rate		Permit Year
		(tons/day)	(tons/year)	
NEWS Landfill, ^[1] (Phase I, II, III)	445,000	2,500	370,000	4/1/06-3/31/07
NEWS Landfill, ^[1] (Phase IV)	6,661,350	"	"	
WSI Landfill ^[2] (Cell 2)	134,000	600	172,000	1/1/06-12/31/06
WSI Landfill ^[2] (Cell 3)	1,027,500	"	"	
Totals	8,267,850		542,000	

Maintains ANR Solid Waste Certification:

Greater Upper Valley Solid Waste District Hartland - Phase 1 North	250,000	200	50,000	Not planning to construct in near Future
Northwest Solid Waste District - Sheldon - Cell 1	130,000	125	20,000	Not planning to construct in near Future

Designing New Landfill and preparing application for submittal to ANR:
Chittenden Solid Waste District - Williston

Vermont Solid Waste Requiring Disposal (2005): 542,730 Tons

[1] NEWS=New England Waste Services, Coventry Vermont

[2] WSI = Waste Systems International, Inc., Moretown Vermont

[3] Does not include the two 1000 TPY unlined landfills operating in Bristol Town and Salisbury.

TABLE 6**2006 Estimated Quantities of Biosolids Managed In and Out of State****(As reported to RMS¹ from Vermont facility generators)**Amounts are in wet tons at 15% solids²

Management Option	In-State (wet tons)	Out-of-State (wet tons)	Total (wet tons)	Percent of Total	Percent Managed
Beneficial Uses:					68%
Land Application	5,408	0	5,408	9%	
Composted	8,742	27,859	36,601	59%	
Subtotal	14,150	27,859	42,009		
Non-Beneficial Uses:					32%
Landfill	17,434	960	18,394	30%	
Incineration**	0	1,240	1,240	2%	
Subtotal	17,434	2,200	19,634		
Total:	31,584	30,059	61,643		
Percent of Total In & Out of State	51%	49%			

¹RMS - Residuals Management Section. Wastewater Management Division. (802) 241-3822²All amounts of biosolids reported to DEC are converted to dry tons. Then the dry tons are converted to wet weight assuming 15% solids, which is generally the percent solids that can qualify to be land filled.³Please note that nearly all biosolids sent to incinerators are in liquid form and the actual weight is greater than that in this table.

1/24/2008

TABLE 7

SUMMARY OF 2006 VERMONT HHW/CEG HAZARDOUS WASTE PROGRAM ACTIVITY

TOWN/DISTRICT	COLLECTION EVENTS	HH UNITS	PARTICIPANTS	BUSINESSES	REPEAT PARTICIPANTS	% REPEAT PARTICIPANTS	% TOTAL PROGRAM PARTICIPATION	PROGRAM COST	\$/PART	HHW POUNDS OF WASTE	CEG POUNDS OF WASTE	POUNDS OF WASTE PER HHW PARTICIPANT	POUNDS OF WASTE PER CEG PARTICIPANT	POUNDS OF MERCURY-ADDED PRODUCTS/DEBRIS	POUNDS OF ELEMENTAL MERCURY	FLUORESCENT LAMPS (FT)	ELECTRONICS
1 Addison County SWMD	208	12706	1100	80	535	48.64	8.66	\$75,000.00	\$68.18	191520	14000	92	175	34	0	33800	138000
2 Bennington CRC ¹	2	6575	443	3	165	34.99	6.74	\$25,737.35	\$58.10	12052	296	27	99	80	0	2567	57357
3 Central Vermont SWMD ²	8	27251	857	29	221	25.79	3.99	\$66,418.94	\$112.81	116240	2800	136	90	800	0	9782	99706
4 Chittenden SWMD	298	62358	8365	543	0	0.00	13.41	\$564,399.00	\$67.47	293007	129608	35	239	0	0	257427	329640
5 Greater UVSWMD (GLUV) ³	2	14955	575	6	380	66.09	3.84	\$24,828.00	\$43.18	29048	2680	51	447	50	0	21895	46695
6 Lamolite RSWMD	4	12780	418	12	220	52.63	3.27	\$35,703.29	\$85.41	26960	2680	64	223	24	0	20861	53080
7 Londonderry Group ⁴	2	2696	370	4	150	40.54	13.19	\$15,667.70	\$42.35	8040	640	22	160	15	0	6272	2400
8 Mad River SWA	2	8111	298	37	213	71.48	3.67	\$25,533.00	\$85.68	11860	1030	40	28	30	0	24892	7600
9 NE Kingdom SWMD	89	12154	1083	25	199	18.37	8.91	\$45,800.00	\$42.29	49480	597	46	24	64	0	26407	90904
10 Northwest SWMD	12	13758	583	11	320	54.89	4.24	\$32,076.17	\$55.02	23600	2800	40	255	46	17	12251	31949
11 Rutland County SWMD	280	22900	997	119	0	0.00	4.43	\$103,989.52	\$104.30	32296	6800	32	57	1823	0	49515	82955
12 Solid Waste Alliance Committee	4	6546	262	0	0	0.00	4.00	\$28,576.82	\$109.07	16500	0	63	0	1	0	876	15980
13 S. Wind/Windham SWMD	2	20104	214	9	0	0.00	1.06	\$19,267.72	\$90.04	17600	4948	82	550	68	0	20458	39000
14 Tricown Agreement	2	3074	294	3	0	0.00	9.56	\$23,386.26	\$79.55	18640	0	63	0	5	0	4120	0
15 White River Alliance	2	4769	113	0	0	0.00	2.37	\$10,959.88	\$96.99	10560	0	93	0	2	0	2974	41458
16 Windham SWMD	312	19468	1950	18	0	0.00	10.62	\$38,000.00	\$19.49	40160	14120	21	784	160	0	13334	88000
17 Waste USA (NEK) ⁵	2	10831	489	8	0	0.00	4.33	\$45,573.14	\$97.17	18643	0	49	0	0	0	12043	16542
18 Bristol	3	1546	140	0	130	92.86	9.06	\$10,290.00	\$73.50	2690	0	19	0	0	0	0	7706
19 Burke ⁶	1	892	67	0	30	44.78	7.51	\$3,289.00	\$49.09	1200	0	18	0	0	0	3640	0
20 Fairfax	2	1249	67	0	0	0.00	5.36	\$5,595.00	\$83.51	1800	0	27	0	4	0	6772	375
21 Franklin/Highgate	2	2111	48	0	20	41.67	2.27	\$2,559.04	\$53.31	1780	0	37	0	0	0	76	0
23 St. Albans Town	2	2257	259	0	175	67.57	11.48	\$10,525.00	\$40.64	6080	0	31	0	15	0	3228	643
24 St. Johnsbury	2	3482	211	50	168	79.62	6.06	\$18,577.00	\$88.04	9280	2440	44	49	30	0	11304	1000
25 Swanton	2	2688	132	0	50	68.18	4.91	\$5,248.18	\$39.76	4880	0	37	0	1	0	2200	0
TOTALS	1225	275472	18315	957	3066	15.56	6.31	\$1,267,000.03	\$70.19	855916	185238	48	132	3577	17	542694	1158284

¹ Includes the towns of Arlington, Dorset, Manchester, Rupert, Sandgate, and Sunderland.² Includes some of Corbin wastes.³ Includes the Town of Hartford wastes.⁴ Includes the town of Mount Holly for 1 collection.⁵ Includes the following towns: Barton, Brownington, Burke, Charleston, Coventry, Glover, Greensboro, Jay, Lowell, Newport Town, Newport City, Troy, and Westfield.⁶ Participated in one Coventry HHW collection event and held one collection event in Burke.

SUMMARY

The following 2006 HHW/CEG Hazardous Waste Collection Data was tabulated from Solid Waste Districts, Alliances and Municipalities representing 94% of Vermont households. These statewide collections cost approximately \$1,267,000.00, served approximately 19300 participants and collected approximately 428 tons of Household Hazardous waste, 93 tons of Conditionally Exempt Generator Waste, 17 pounds of mercury, 3577 pounds of mercury-added products/debris, 542,000 linear feet of fluorescent lamps and approximately 1,150,000 pounds of discarded electronics. In comparison, 2005 saw 93% of Vermont Households represented, cost approximately \$1,156,000, served approximately 17800 participants and collected approximately 526 tons of Household Hazardous Waste, 111 tons of Conditionally Exempt Generator Waste, 36 pounds of mercury, 1701 pounds of mercury-added products/debris, 450,000 linear feet of fluorescent lamps and approximately 785,000 pounds of discarded electronics. The following is a comparison of the 2006 and 2005 collection years.

- Average statewide cost per participant in 2006 was approximately \$70.19. This is an decrease from 2005 when the average cost per participant was \$75.60. In addition, the total cost for statewide collections in 2006 was approximately \$110,000 more than 2005 (\$1,267,000 vs. \$1,156,000). 2006 when compared to 2005 saw a decrease in the hazardous waste collected (428 tons vs. 526 tons).
- 2006 Statewide participation saw a increase in the total number of participants (19,315 vs. 17,881) in comparison to 2005, and a slight decrease in the average statewide participation (6.31% vs. 6.51%). Of the participants for 2006, 957 were businesses and 3066 were repeat participants (repeat participants accounted for an average of 15% of the total 2006 participants). Fixed facilities, seasonal collections and some single-day collection events had higher than the state average participation rates (4.43%- 13.41%).
- The amount of waste collected in 2006 per participant decreased when compared with 2005 (48 vs 66 pounds).
- The number of collection events available statewide increased in 2006 compared to 2005 (1225 vs. 1183).
- Approximately 17 pounds of elemental mercury, 3577 pounds of mercury-added products/debris and 542,000 linear feet of fluorescent lamps was collected in 2006. In comparison, 2005 was approximately 36 pounds of mercury, 1701 pounds of mercury-added products/debris and 450,000 linear feet of fluorescent lamps collected.
- Approximately 575 tons of electronic waste was collected in 2006 verses 392 tons collected in 2005.

Household estimates were derived from the US Census Bureau: *Population, Housing Units, Area and Density: 2000*.

Conversion factors used were 8 pounds per gallon, 400 pounds per 55-gallon drum, Gaylord or pallet and .15 pounds per linear foot of fluorescent lamps.

This information is a collection of Household Hazardous and Conditionally Exempt Generator (HHW/CEG) Waste surveys completed by various Solid Waste Districts, Alliances and Municipalities throughout the State Of Vermont. All information compiled and represented here was reported by representatives of the Solid Waste District, Alliance and/or Municipality. Every attempt has made to provide accurate information on Vermont's Household Hazardous Waste and Conditionally Exempt Generator waste collections. Multi-entity collections and districts that provide collection services for other districts or municipalities have reported their collection numbers only (to help prevent any double counting). Any questions, suggestions or corrections, please feel free to contact: Thomas A. Benoit, Sr at (802) 241-3472 or e-mail at thomas.benoit@state.vt.us.

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