



MassDEP C&D Subcommittee

Via Zoom Webinar

May 16, 2024

10:00 AM – 12:00 PM

Agenda

- Welcome
- CY2023 C&D Facility Annual Report Data Analysis
- Evaluation of MPS Effectiveness at Year-5
- C&D Facility MPS Compliance Status Update, May 2024
- Progressive Enforcement Update
- Discussion

Welcome

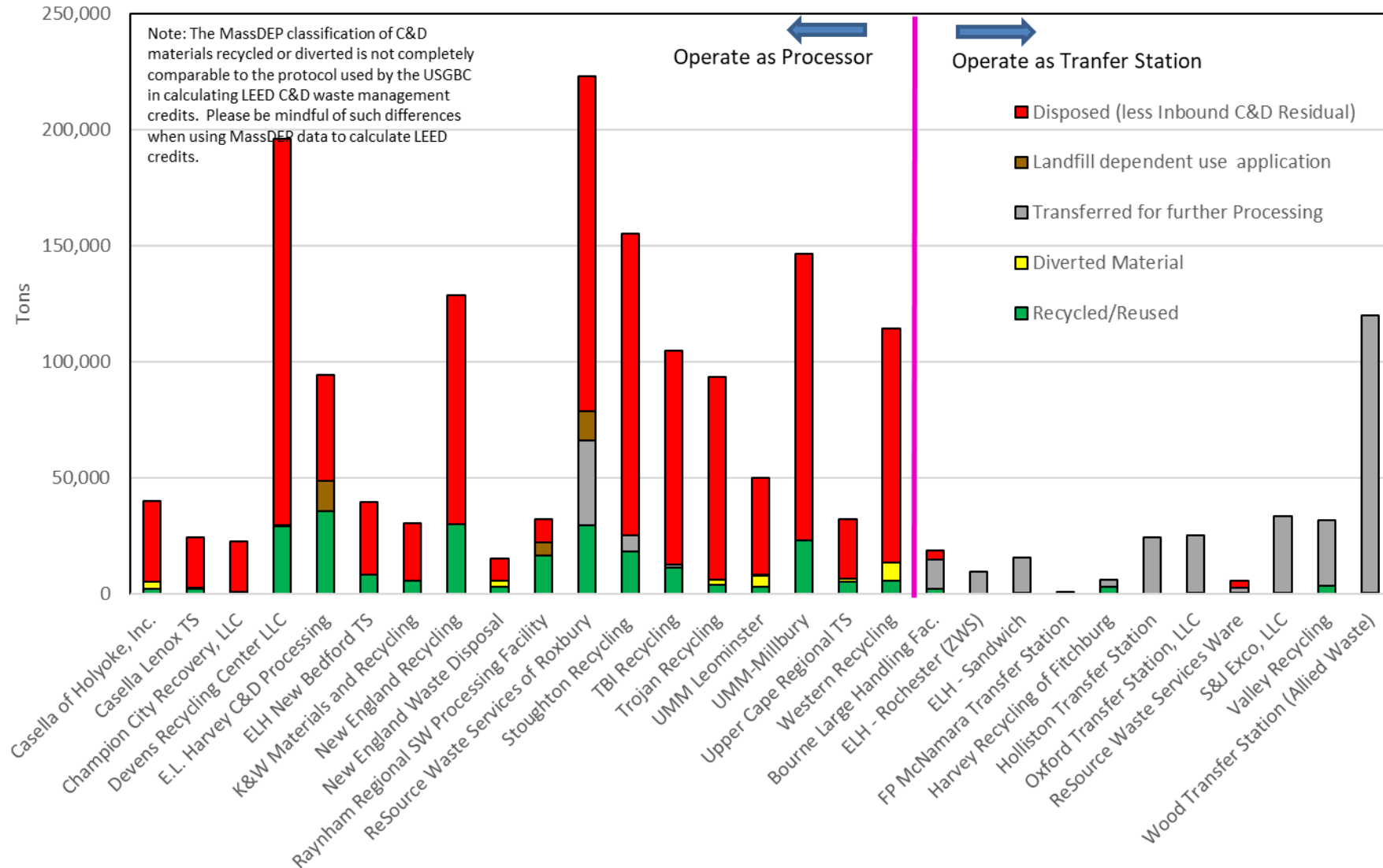
- 53 Registrants on the Zoom call as of 5/16/2024
 - C&D Facilities/waste facilities/waste haulers: 19
 - Recyclers: 4
 - Construction/Demo Contractors: 7
 - Consultants/Architects/Designers: 2
 - Trade Associations: 2
 - Government Agencies: 16
 - NGOs/Academia: 3

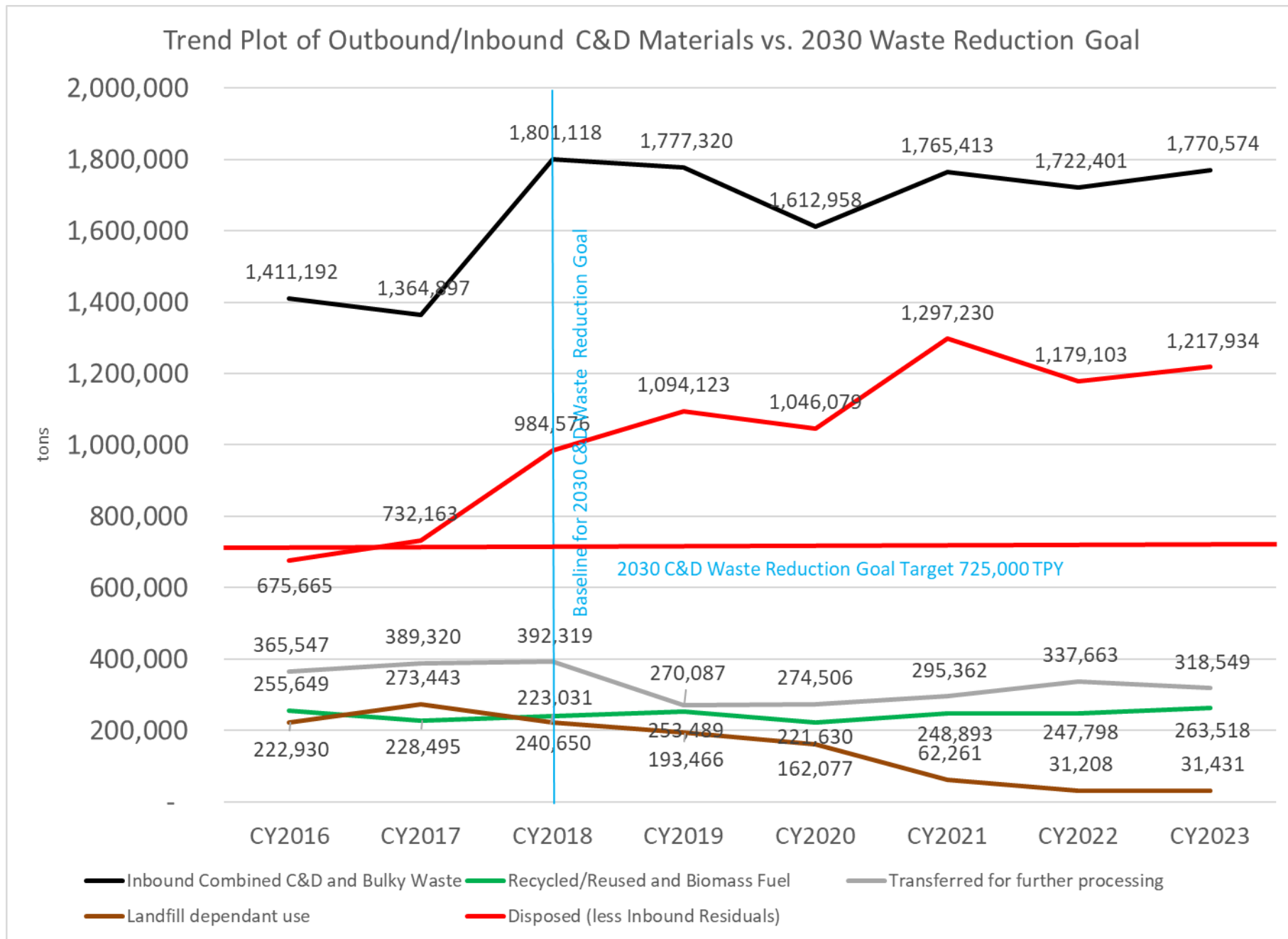
CY2023 C&D Facility Annual Report Data Analysis

<https://www.mass.gov/doc/2023-annual-cd-report-data-summary/download>

- Massachusetts C&D Handling Facilities - Disposition of C&D Materials Handled by Facility in 2023*

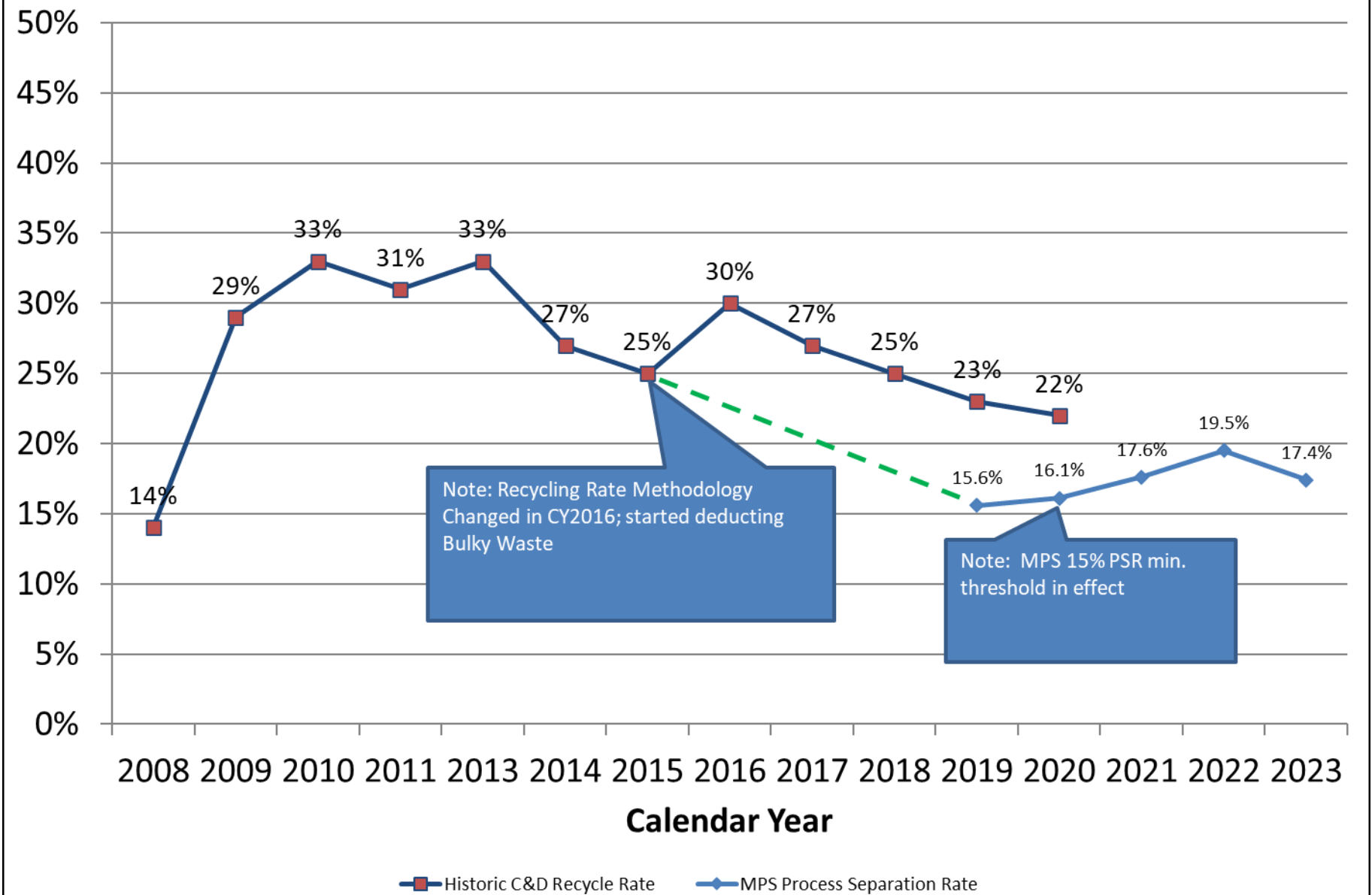
*Quantities are "as reported" to MassDEP in CY2022 C&D Annual Facility Reports

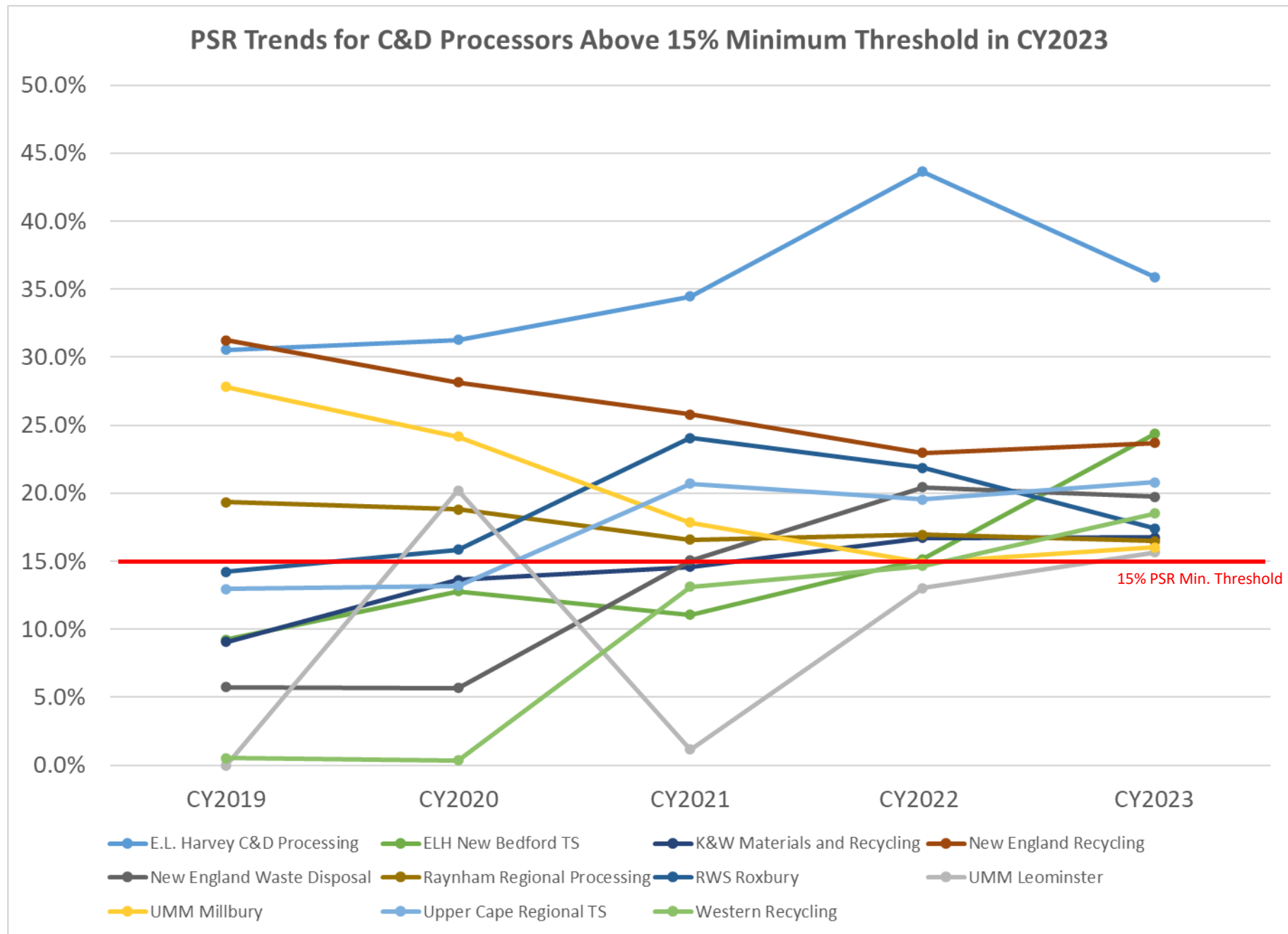


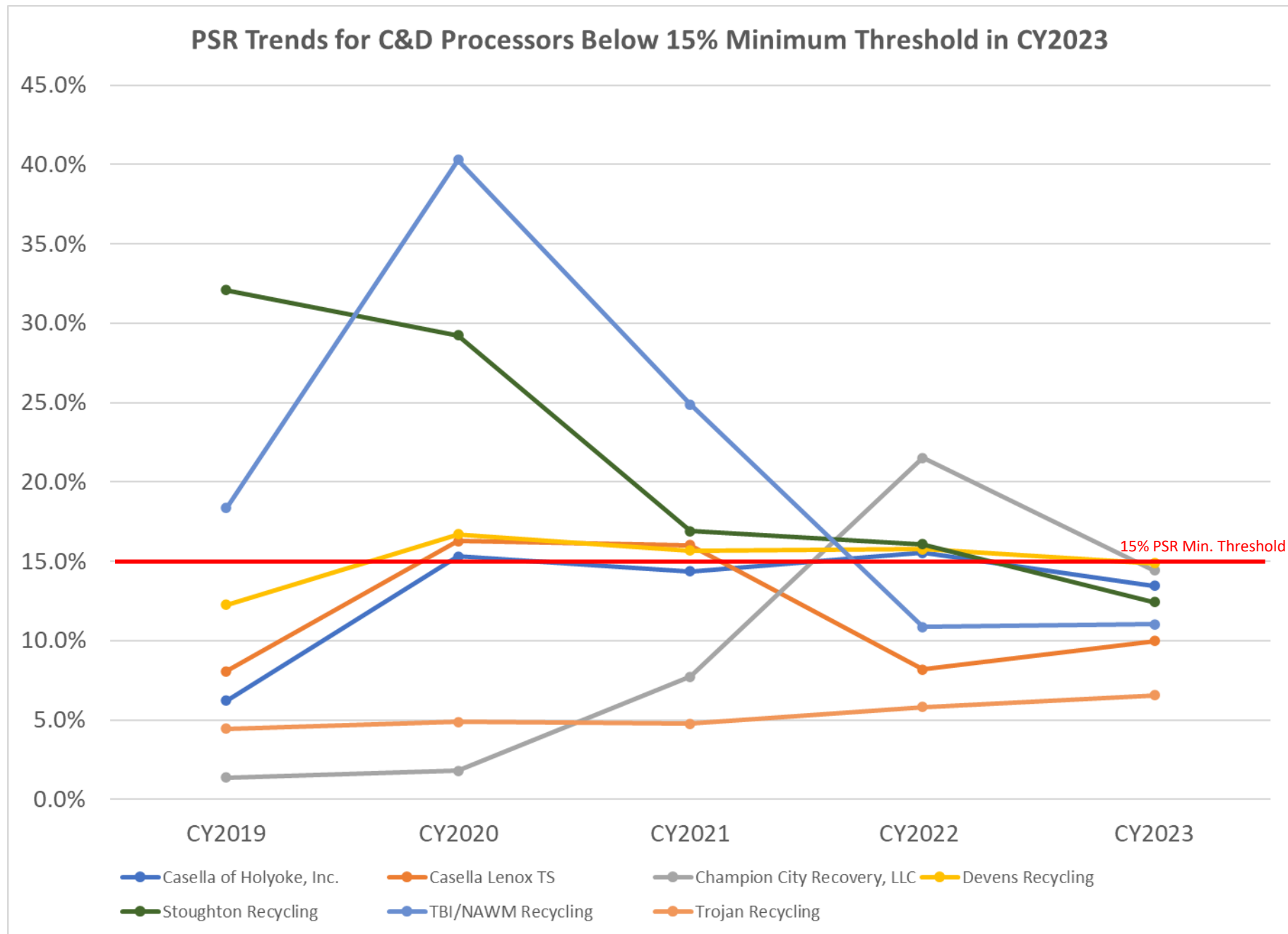


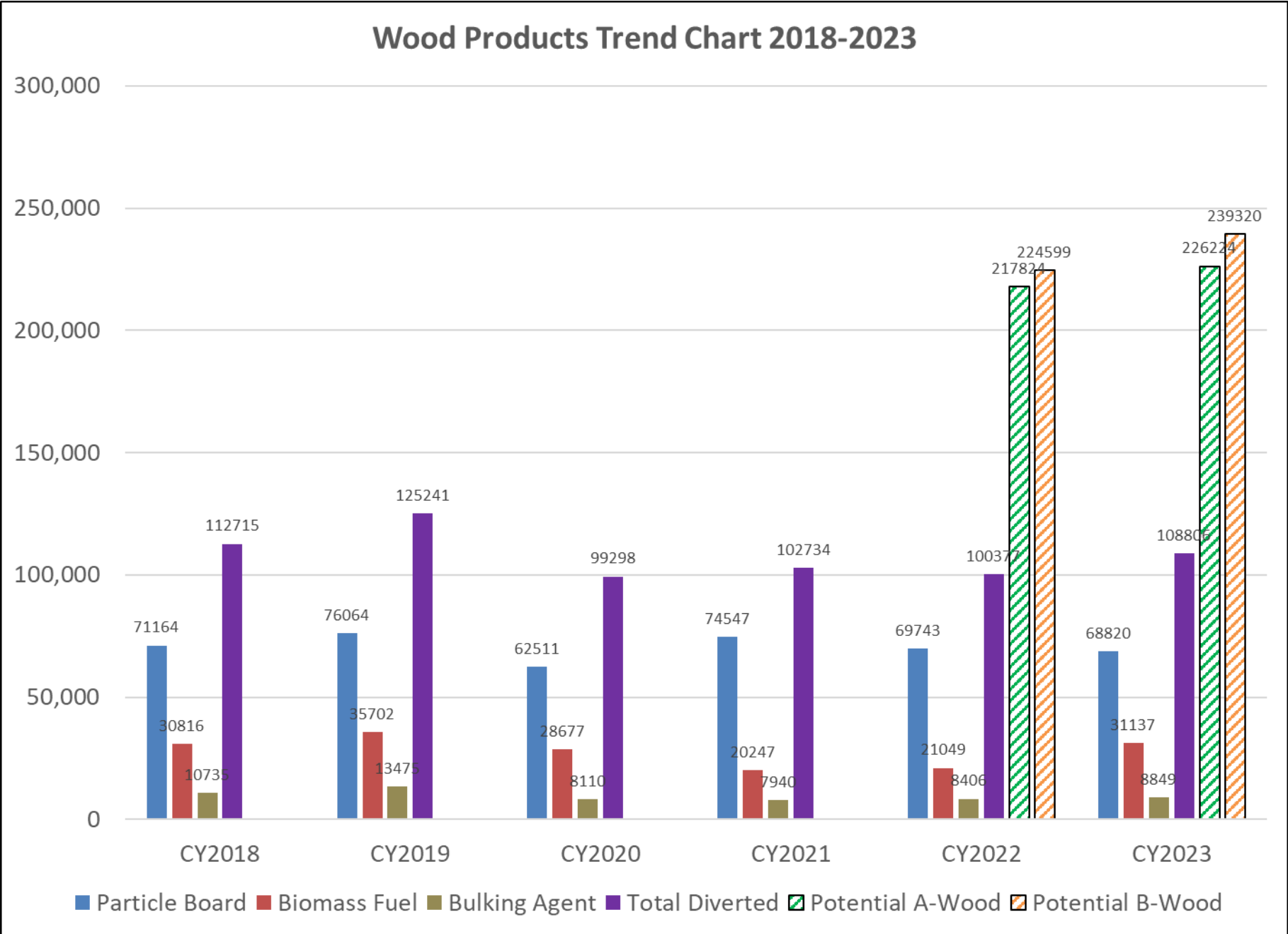
Evaluation of MPS Effectiveness at Year-5

C&D Industry Recycle Rate/Process Separation Rate Trend Chart







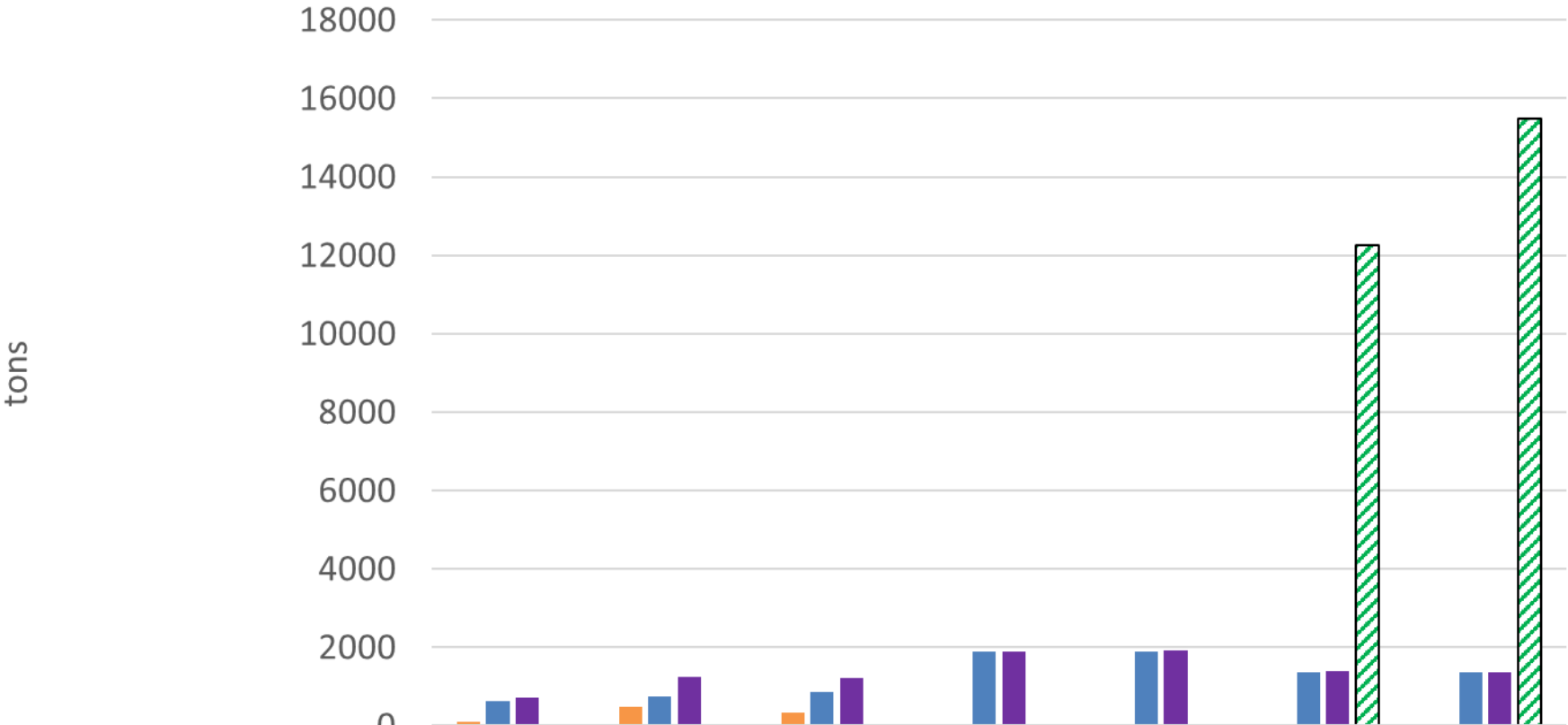


Wood Separation Rate (WSR) by Facility (CY2023 AR Data)

- $WSR = (Wood\ Separated\ or\ Diverted) \div [(C\&D\ Mat'l.\ Accepted + Bulky\ Waste) - C\&D\ Transferred]$
- WSR Industry Avg. = 8.5%
- Processing Facilities above Industry Avg. (7 fac.)
 - Includes Processing Facilities at more than 2X Industry Avg. highlighted with **BOLD** font (2 fac.)
- Processing Facilities below Industry Avg. highlighted in RED font. (12 fac.)
- Note: PRE-Greenleaf unplanned shut-down impacted end-market capacity for wood (5/2022-3/2023)

CY2023 A Wood Recovery Actuals and Potential					Processed Internally by Facility	
Facilities directly shipping separated wood to re-use/recycling end-markets	Town/City	Region	% Wood Sep/Div	Actual Wood Sep/Div	Potential A-Wood Available per 2022 BW Study	Potential A-Wood Available per 2016 Market Study
Devens Recycling Center	Ayer	CERO	1.9%	3,554	30721	51818
UMM-Millbury	Millbury	CERO	8.7%	12,330	23456	39567
E.L. Harvey C&D Processing	Westborough	CERO	25.7%	23,252	14887	25322
Resource Waste Services Roxbury	Boston	NERO	4.6%	7,082	25466	43572
TBI/North Andover Waste Systems	N. Andover	NERO	4.7%	4,618	10574	27566
ELH-New Bedford	New Bedford	SERO	14.7%	4,807	5411	9137
Raynham Regional Processing	Raynham	SERO	9.6%	9,187	13701	26687
Stoughton Recycling	Stoughton	SERO	8.1%	11,832	24362	41103
New England Recycling	Taunton	SERO	17.5%	21,916	20732	34985
K&W Materials Recycling	W. Springfield	WERO	7.7%	2,524	4834	9210
Sub-Totals				101,102	174144	308966
A-Wood diverted to F&G, East Windsor				7,736	11148	19143
Total Wood				108,838	185292	328109
Facilities separating wood for diversion to another processor for aggregation/grinding to meet end-market size specification						
UMM-Leominster	Leominster	CERO	9.9%	4,904	8263	13938
CCR	Brockton	SERO	0.5%	20	691	1166
ZWS/ELH-Rochester	Rochester	SERO	28.3%	17	7	17
NEWD	Taunton	SERO	8.0%	2,156	4458	7520
UCRTS	Sandwich	SERO	4.9%	1,373	4285	7881
Trojan Recycling	Brockton	SERO	2.4%	2,237	11431	25909
Western Recycling	Wilbraham	WERO	11.3%	7,736	11148	19143
RWSW	Ware	WERO	0.0%	0	286	482
Casella Lenox TS	Lenox	WERO	0.9%	197	3662	6185
Casella Holyoke TS	Holyoke	WERO	7.7%	2,991	5523	10810
Totals				21,631	49755	93050
*C&D Material Accepted = (Cat-1 Mixed C&D + C&D Wood)						

Clean Gypsum Wallboard Recycling Trend Chart 2018-2023



	CY2017	CY2018	CY2019	CY2020	CY2021	CY2022	CY2023
Other	94	494	344	7	19	29	0
Agricultural Applications	625	755	868	1886	1902	1377	1360
Total	719	1249	1212	1893	1921	1406	1360
Potential Recoverable						12254	15499

Other Agricultural Applications Total Potential Recoverable

Summary of CY2023 Compliance Inspections performed jointly by BOS and Regions*

- Common observations
 - No manual pickers on tip floor
 - Rely on heavy equipment (front end loaders, and excavators equipped with grapple attachment, better facilities use skid steers)
 - Excuse: safety hazard to have manual pickers on tip floor; heavy equipment separates just as well as manual pickers
 - Loads are not spread out to 1-2 foot depth when tipped on tip floor
 - This is the biggest problem with recovering material from Bulky Waste loads
 - Bulky Waste loads are assumed to have little value and often get immediately pushed up into Residuals pile
 - Separation of clean gypsum wallboard (CGW) only happens for the most part when loads arrive with high percentage of CGW,
 - Otherwise there is almost no separation of CGW from mixed loads
 - Excuse: not safe to pick individual pieces from tipped load; not worth the effort


* Not including additional routine facility inspections performed by regional staff

Summary of CY2023 Compliance Inspections

- Common observations Cont'd
 - Picking lines are not operating at all times
 - Shut-downs often caused by mechanical/equipment failures or material blockage upstream
 - Pick lines are not fully staffed with manual pickers
 - Usually one to two picking stations are empty
 - Excuse: Operation is more efficient with fewer pickers
 - Post-Process Residuals appear to contain excessive levels of recoverable wood

C&D Action Plan

- Establishes 4 main objectives
 1. Improve Jobsite Waste Management
 2. Enhance Collection & Processing
 3. Develop End Markets
 4. Promote State Inter-agency Cooperation to Advance “Leading by Example”



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

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2030 Construction and Demolition (C&D) Materials Management Action Plan

Updated: March 2023

Background

Beginning in the early 2000s, MassDEP launched the Construction and Demolition (C&D) Subcommittee to work with C&D material management industry stakeholders to develop waste bans for C&D materials to promote greater reuse and recycling of such materials. Working in close collaboration with that stakeholder group to ensure the availability of viable markets, MassDEP promulgated its initial C&D material waste bans on ABC, wood and metal in 2006. That was followed by adding clean gypsum wallboard as a waste ban material in 2010.

In the first few years after implementation of the C&D waste bans, the C&D facility annual report data showed an improvement in the recovery rate of banned materials. Initially, the recovery rates as compared to the tonnage of inbound mixed C&D waste improved rapidly from 14% in 2008 to over 30% in 2010. The statewide average recovery rate plateaued between 2010 and 2013 to around 25% and 30%. Since then, the recovery rate steadily declined as wood markets contracted, and C&D waste volume increased as a function of increased C&D activity over the same time period.

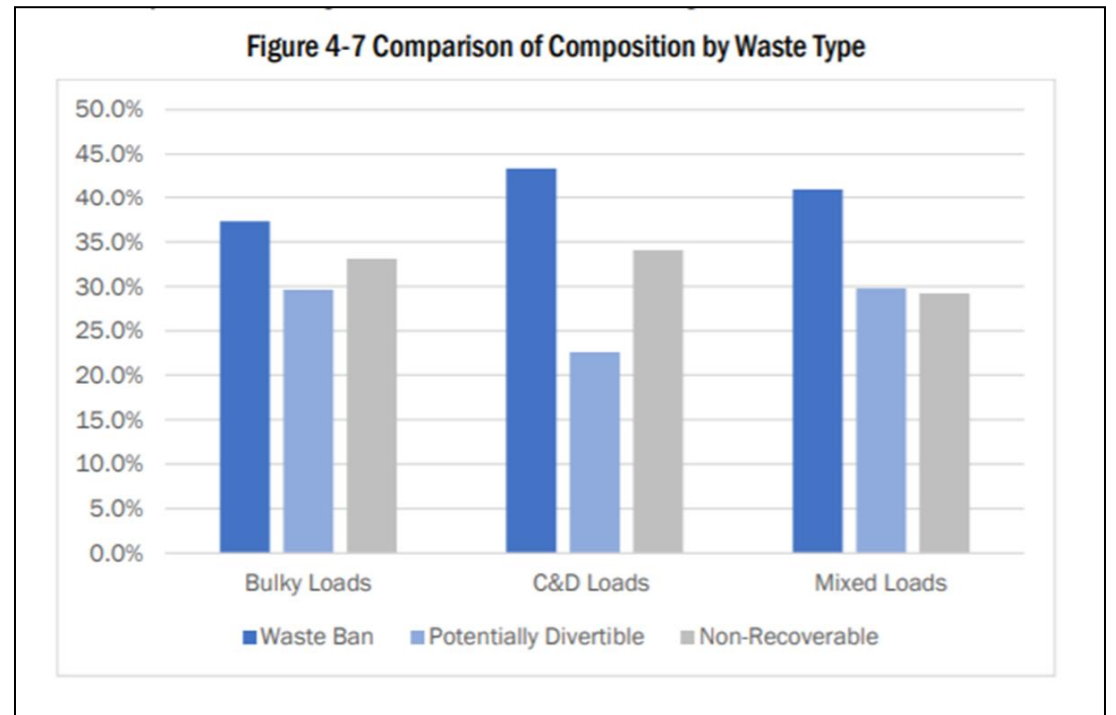
From 2016-2019, MassDEP again worked with the C&D Subcommittee to improve the operational efficiency of the 30 large C&D Handling Facilities to increase recovery rates, send more separated material to reuse and recycling end markets, and reduce the volume of residuals sent for disposal. During CY2019, the process separation rate at C&D processors ranged from less than 1% to about 46%. Better performance correlated, for the most part, with facilities that had invested in mechanical processing equipment and that incurred the added operating expense of fully staffed picking lines.

To address the historic limitations and variability of the C&D handling facility performance, MassDEP launched the C&D Minimum Performance Standard (MPS) in 2020. The MPS established measurable performance criteria that all Large C&D Handling Facilities now need to meet. The intent of the MPS is to level the playing field and ensure that all C&D waste loads are being sent to an MPS-compliant C&D facility for processing, and thus successfully removing and recovering banned materials from all C&D materials as required by the waste ban regulations.

This information is available in alternate format. Please contact Melissa Esenye at 617-426-1282.
TTY: MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep
Printed on Recycled Paper

Proposed Incremental Increases in PSR Minimum Threshold

- The most recent MassDEP 2022 Waste Characterization study documented >35% Waste Ban material content in all types of C&D material loads (C&D, Bulky, and Mixed)
- Proposed Incremental increases in PSR minimum threshold:
 - 2020 = 15% (currently in effect)
 - 2025 = 20%
 - 2027 = 23%
 - 2030 = 25%
- Tied to 2030 SWMP Goal to reduce disposal by 260,000 tons compared to 2018 baseline



<https://www.mass.gov/doc/statewide-bulky-waste-characterization-study-june-2022/download>

Future opportunities to grow business

- C&D Handling Facilities can leverage strengths
 - Access to secondary markets
 - Processing equipment to meet product recycling specs
 - Established locations for material aggregation
- C&D Facilities can adopt new business strategies
 - Material re-use aggregation points/vendors
 - Partner with developers to enable jobsite source separation and deconstruction
 - Process source separated materials for reuse/recycling
 - Expand secondary markets

Other incentives to encourage Improved Performance across C&D Industry

- Publish individual facility Key Performance Indicator (KPI) scorecards on MassDEP webpage
 - Increase transparency of individual facility performance
 - Create market incentive to favor high performing facilities, and encourage poor performing facilities to improve
- Report greenhouse gas emissions and climate risk liabilities
 - Include embodied carbon of C&D residuals sent for disposal
 - May include in KPI scorecards
- Increase communication of C&D industry performance with “front-end” stakeholders
 - e.g., developers, owners, property managers, architects, engineers, contractors, sustainability managers and consultants

C&D Facility MPS Compliance Status Update, May 2024

<https://www.mass.gov/doc/status-of-facility-compliance-with-cd-minimum-performance-standard-may-2024/download>

MPS Compliant as C&D Processor

Facility	Parent Company	City/Town	Criterion #1:	Criterion #2:	Overall MPS Compliance
			≥15% PSR min. threshold	Separate all 4 C&D WB mat'ls (Y/N)	(Y/N)
E.L. Harvey C&D Processing	Waste Connections	Westborough	35.9%	Y	Y
K&W Materials & Recycling		West Springfield	16.8%	Y	Y
New England Recycling	Win-Waste Innovations	Taunton	23.7%	Y	Y
New England Waste Disposal	Win-Waste Innovations	Taunton	19.7%	Y	Y
Raynham Reg. SW Proc. Fac.	Waste Management	Raynham	16.5%	Y	Y
RWS-Roxbury	ReSource Waste Service	Boston	17.4%	Y	Y
UMM-Millbury	Win-Waste Innovations	Millbury	16.0%	Y	Y
Upper Cape Reg. TS	Cavossa	Sandwich	20.8%	Y	Y
Western Recycling	USA Recycling	Wilbraham	18.5%	Y	Y

Based on CY2023 C&D Facility Annual Report Data

Conditionally MPS Compliant as C&D Processor

Facility	Parent Company	City/Town	Criterion #1:	Criterion #2:	Overall MPS Compliance
			≥15% PSR min. threshold	Separate all 4 C&D WB mat'ls (Y/N)	(Y/N)
Casella-Holyoke TS	Casella	Holyoke	13.4%	Y	N
Casella-Lenox TS	Casella	Lenox	10.0%	Y	N
Champion City Recovery	Win-Waste Innovations	Brockton	14.7%	Y	N
Devens Recycling	Republic	Ayer	14.9%	Y	N
ELH-New Bedford TS	Waste Connections	New Bedford	24.4%	No Gypsum	N
Stoughton Recycling	Win-Waste Innovations	Stoughton	12.4%	Y	N
TBI	Star Waste	North Andover	11.0%	Y	N
Trojan Recycling	Waste Connections	Brockton	6.6%	Y	N
UMM-Leominster	Win-Waste Innovations	Leominster	15.7%	No Gypsum	N

Based on CY2023 C&D Facility Annual Report Data

MPS Compliant as C&D Transfer Station

Facility	Parent Company	City/Town	Overall MPS Compliance
MPS requirement: transfer all C&D mat'ls to MPS compliant facility for further processing (after first separating clean gypsum WB)			Y/N
Bourne Large Handling Fac.	Town of Bourne	Bourne	Y
Harvey Recycling - Fitchburg	Waste Connections	Fitchburg	Y
Holliston TS	Reworld Transfer Systems (Covanta)	Holliston	Y
Oxford TS	Casella	Oxford	Y
S&J Exco TS		Dennis	Y
Wood TS/Allied Waste	Republic	Peabody	Y

Based on CY2023 C&D Facility Annual Report Data

Conditionally MPS Compliant as C&D Transfer Station

Facility	Parent Company	City/Town	Overall MPS Compliance
MPS requirement: transfer all C&D mat'ls to MPS compliant facility for further processing (after first separating clean gypsum WB)			Y/N
ELH-Rochester (ZWS)	Waste Connections	Rochester	No gypsum
ELH-Sandwich	Waste Connections	Sandwich	No gypsum
FP McNamara TS	Republic	Springfield	No gypsum
RWS-Ware	ReSource Waste Services	Ware	No gypsum
Valley Recycling		Northampton	No gypsum

Based on CY2023 C&D Facility Annual Report Data

Progressive Enforcement Update

Failure to meet MPS (announced at 10/30/2019 C&D Subcommittee Meeting)

- **Starting one year after MPS Policy launch, MassDEP may exercise options under Enforcement Response Guidelines**
 - **Follow progressive discipline model to encourage improvement: NONs -> HLE**
 - **Require facility-specific Return-to-Compliance Plans as formal commitment to corrective actions**

Conditions that may trigger enforcement

- Based on analysis of annual/quarterly report data:
 - Failure to achieve PSR minimum threshold (MPS Criterion #1)
 - Failure to separate/divert all C&D WB materials (MPS Criterion #2)
 - ABC, Metal, Wood, and Clean Gypsum Wallboard
- Based on observations during facility inspections
 - No manual pickers on tip floor
 - Failure to spread loads for inspection/kick-sorting on tip floor
 - No containers/bunkers dedicated for separated WB materials
 - Process line not fully operational or fully staffed
 - Excessive contamination in separated WB materials
 - Excessive quantity of WB materials in process fines or residuals
 - Constitutes failure to comply with the Waste Ban Regulation and the Facility's Waste Ban Compliance Plan requirements
 - Includes both C&D (ABC, metal, wood, and CGW) and any Other WB materials (e.g., OCC, mattresses, textiles, CRTs, electronics)

Discussion

For More Information:

Point of Contact:

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- C&D Materials Management webpage: <https://www.mass.gov/lists/managing-construction-demolition-cd-wastes>
- C&D Subcommittee Webpage: <https://www.mass.gov/info-details/massdep-construction-demolition-subcommittee>