Board of Directors Meeting
April 19, 2024

2023 MSW Waste Characterization Study

Presented by
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ReGen Monterey

Prepared by
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1

Presentation of
2023 MSW Waste Characterization Study

July 2023: the Board Approved MSW Waste Characterization Study

2

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What is MSW?

3

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MSW is Taken Directly to the Landfill

4

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What is a Waste Characterization Study?

5

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6

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7

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Waste Characterization Customer Types and Sort Methodology

Residential Curbside

Commercial Curbside

Rolloff Bin Customers

Self Haul Customers

Hand sorted into separate materials

Visually Characterized Materials

8

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Residential Waste Characterization

How is the Data Used?

- Inform **infrastructure planning**
- Inform **community outreach needs**
- Provide 2023 snapshot of solid waste **disposal behavior** to, in part, monitor SB1383 implementation and adoption progress

Material Components	Composition	+/-	Annual Tons
PAPER	**8.9%**	**0.5%**	**3,192**
Uncoated Corrugated Cardboard	0.9%	0.2%	320
White Office Paper	0.4%	0.1%	130
Mixed Paper	3.0%	0.3%	1,090
Paper Board	1.5%	0.1%	550
ONP	0.3%	<0.1%	110
Aseptic Lined Containers	0.2%	<0.1%	70
Plastic Lined Paper	2.4%	0.2%	860
Gable-top Containers	0.2%	<0.1%	62
PLASTIC	**6.0%**	**0.3%**	**2,150**
PET	0.4%	<0.1%	160
PET Thermoform	1.1%	<0.1%	390
Natural HDPE	0.2%	<0.1%	60
Pigment HDPE	0.3%	<0.1%	90
Polypropylene #5	1.2%	<0.1%	430
Mixed Plastic #3,4,6,7	0.3%	<0.1%	110
Polystyrene	0.3%	<0.1%	110
Film Plastic	1.4%	0.1%	500
Rigid Plastic	0.8%	0.1%	300
METAL	**1.9%**	**0.2%**	**690**
Bi Metal	0.5%	<0.1%	180
Ferrous Metal	0.4%	0.1%	150
Aluminum	0.2%	<0.1%	90
Aluminum Other	0.7%	<0.1%	270
GLASS	**2.4%**	**0.3%**	**860**
Mixed Glass	2.4%	0.3%	860

Material Components	Composition	+/-	Annual Tons
ORGANICS	**33.1%**	**1.6%**	**11,949**
Perishable Edible Food	2.0%	0.4%	730
Shelf Stable Edible Food	1.3%	0.3%	460
Inedible Food Scraps (NO meat or dairy)	13.7%	1.1%	4,930
Inedible Meat Products	1.5%	0.4%	550
Inedible Packaged Meat Products	0.6%	0.1%	200
Inedible Dairy Products	<0.1%	<0.1%	9
Inedible Packaged Dairy Products	0.5%	0.1%	180
Raw Meat	0.8%	0.3%	300
Hard-to-Compost Landscape	0.2%	0.2%	70
Yard Debris	2.1%	1.1%	760
Wood Material	0.6%	0.3%	220
Compostable Containers	0.9%	0.1%	340
Food Soiled Paper	8.0%	0.4%	2,880
Treated/Painted Wood Products	0.9%	0.2%	320
HAZARDOUS	**1.1%**	**0.4%**	**409**
HHW	0.3%	0.2%	110
Lithium Batteries	<0.1%	<0.1%	1
Other Batteries	<0.1%	<0.1%	28
Manufactured Products	0.7%	0.3%	270
OTHER	**46.7%**	**1.6%**	**16,850**
Medical Waste	8.8%	0.9%	3,190
Inerts	1.0%	0.2%	360
Organic Textiles	0.5%	0.2%	190
Non-Organic Textiles	3.4%	0.5%	1,240
Refuse	32.9%	1.6%	11,870
TOTAL	**100.0%**		**36,100**

Composition based on 93 samples.

9

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SCS ENGINEERS
Environmental Consultants and Contractors

greenwaste™

WM WASTE MANAGEMENT

Monterey City Disposal Service

2023

SEPTEMBER

Mo	Tu	We	Th	Fr	Sa	Su
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

2023

OCTOBER

Mo	Tu	We	Th	Fr	Sa	Su
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

10

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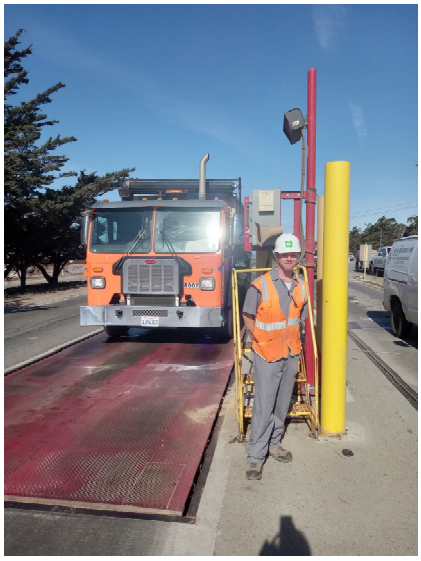

11

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12

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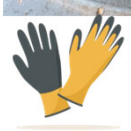

13

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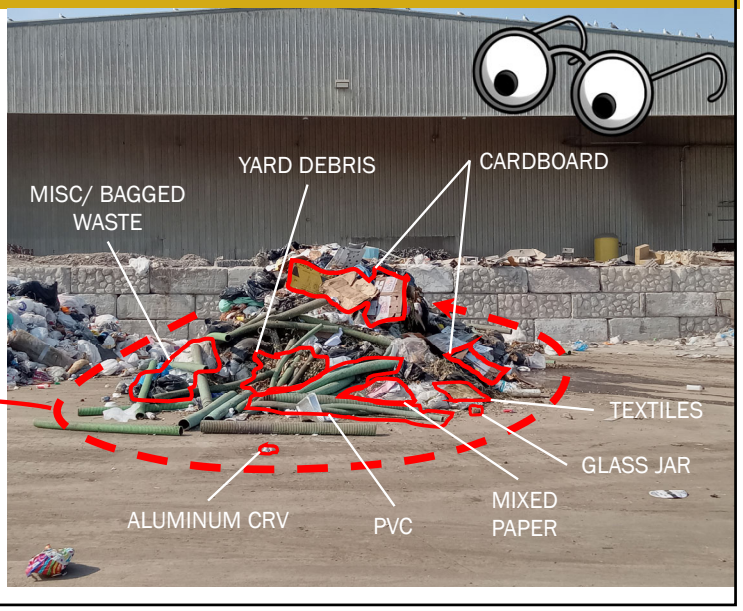
Visual Characterization
Which Sources Included?

- Residential and Commercial waste from **franchise and self-hauled** sources
- Franchise, curb-collected waste, **manually sorted** (Sort Method A) ASTM Standard D 5231-92
- Roll-off, self hauled waste, **visually characterized** (Sort Method B)

$$\underset{\text{(Known)}}{\textit{Total Sample Volume}} \times \underset{\text{(Per Material Type)}}{\textit{Estimated \% Volume}} \times \underset{\text{(Per EPA Value)}}{\textit{Assumed Density}} = \underset{\text{(Per Material Type)}}{\textit{Calculated Mass}}$$



14

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Roll-off/ Self-haul Visual Characterization

Material Components	Composition	Annual Tons
PAPER	**5.8%**	**3,290**
Cardboard	2.4%	1,370
Mixed Paper	3.4%	1,920
PLASTIC	**3.8%**	**2,170**
CRV Plastic	0.2%	110
Rigid Plastics	0.8%	470
Remainder Plastics	0.9%	490
PVC Pipe or Products	0.6%	320
Plastic Film	1.4%	780
METAL	**3.8%**	**2,180**
CRV Aluminum	0.2%	100
Non-Ferrous Metals	2.1%	1,170
Ferrous Metals	1.0%	540
Rebar	<0.1%	30
Other Metal	0.3%	160
White Goods	0.3%	180
GLASS	**1.5%**	**840**
Glass Containers/Jars	0.9%	500
Glass Other	0.6%	340
ORGANICS	**27.1%**	**15,290**
Yard Debris	8.8%	5,000
Food Scraps	2.1%	1,210
Engineered Wood	7.9%	4,480
Other Wood	1.2%	680
Clean Dimensional Lumber	0.6%	340
Clean Pallets and Crates	1.8%	1,020
Treated/Painted Wood	2.9%	1,660
Hard-to-Compost Organics	1.6%	900

Material Components	Composition	Annual Tons
INERTS	**18.3%**	**10,360**
Concrete	3.7%	2,080
Brick	0.9%	490
Rock	1.7%	980
Gypsum Board/Drywall	3.2%	1,790
Asphalt Roofing	6.4%	3,640
Asphalt Paving	0.1%	70
Soil	1.2%	690
Tires	<0.1%	30
Mattresses/Box Springs	0.4%	240
Carpet/Carpet Padding	0.6%	350
DONATABLE	**0.9%**	**530**
Furniture Donatable	0.5%	290
Building Materials	0.3%	180
Rec. Equipment	<0.1%	50
Other	<0.1%	10
HAZARDOUS	**6.0%**	**3,410**
HHW	0.1%	60
Manufactured Products	5.9%	3,350
OTHER	**32.6%**	**18,430**
Textiles	0.5%	280
Furniture	1.0%	550
Insulation	0.2%	120
Medical Waste	<0.1%	40
Bulky Waste	1.0%	570
Miscellaneous/Bagged Waste	29.9%	16,870
TOTAL		**56,500**

Composition based on visual characterizatio of 105 waste loads.

15

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16

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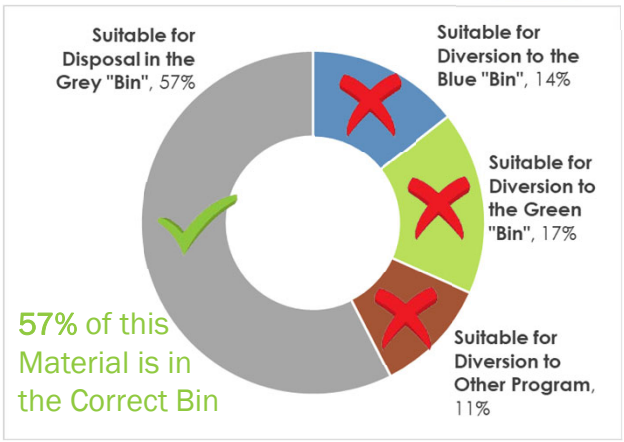
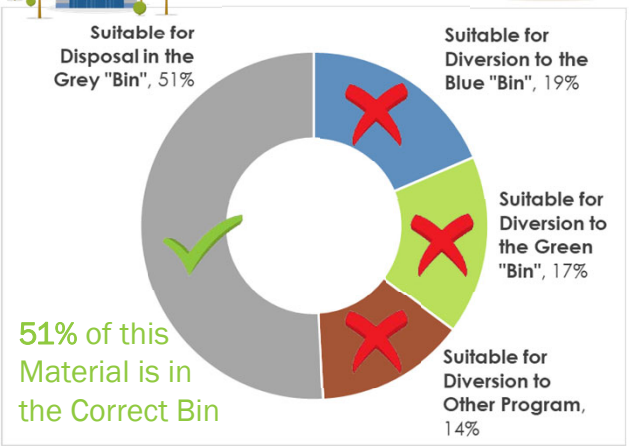
Residential



Commercial



17

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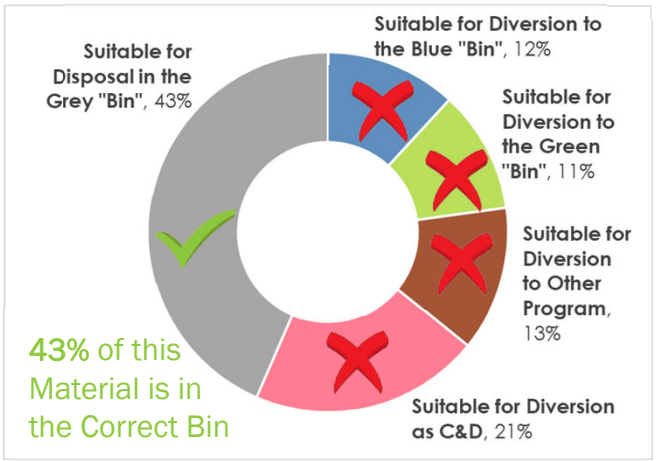
Roll-off/ Self-haul Visual Characterization



18

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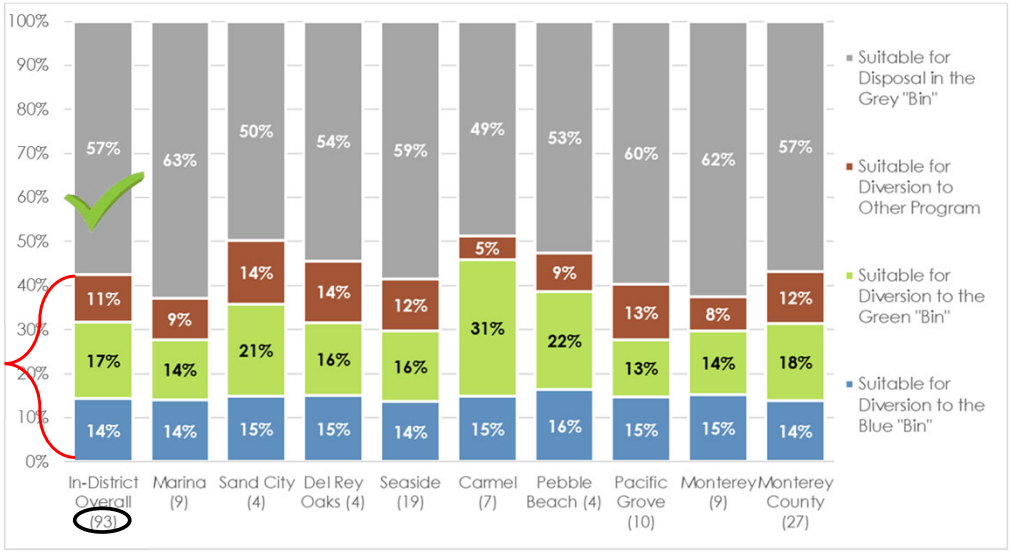
Residential

57% of this Material is in Correct Bin



19

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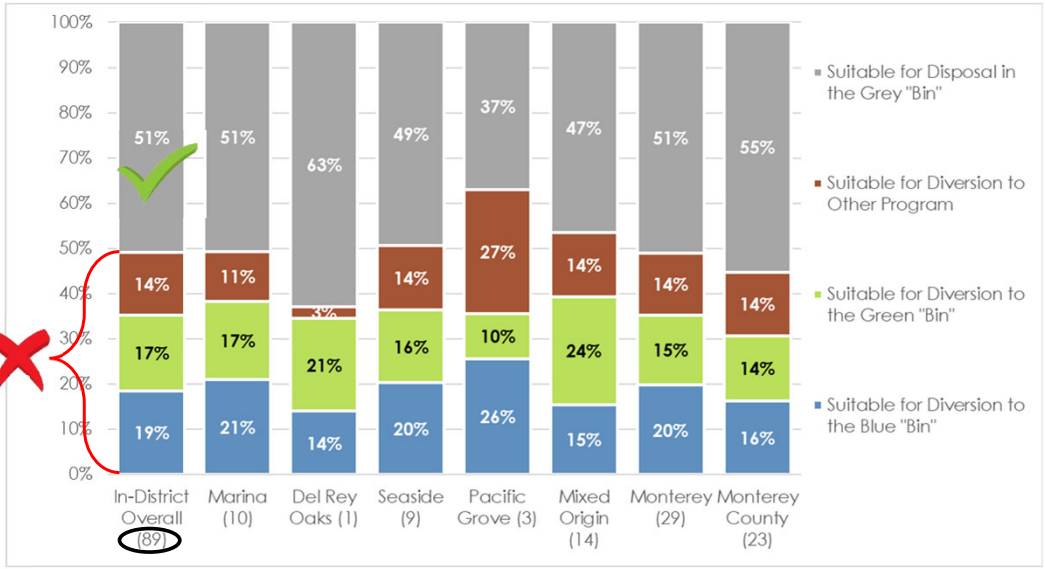
Commercial

51% of this Material is in Correct Bin



20