

California PET Bale Composition Analysis: 2026 Update

OVERVIEW

The PET Recycling Corporation of California (PRCC) is a successful non-profit, producer responsibility organization committed to ensuring California's PET beverage bottles are successfully recycled and PET bales meet or exceed statewide bale quality standards.

- PRCC goals include:
- Add value to quality loads
 - Increase yield
 - Improve CRV program efficiency
 - Increase PET recycling rate

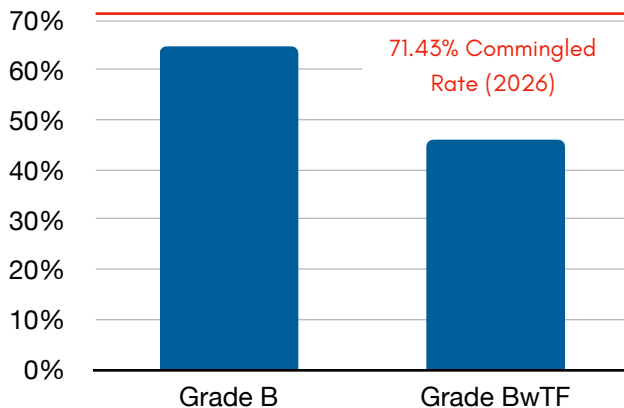
PRCC PET Bale Composition Analyses show a persistent overpayment to some curbside operators

PRCC carries out frequent PET Bale Composition Analyses that have consistently documented a CRV overpayment to many curbside operators. Specifically, CalRecycle's commingled rate overpays facilities that include non-bottle PET with their PET bottles, with higher contamination rates and far lower levels of CRV.

PRCC's first PET Bale Composition Analysis in 2020 revealed two primary types of curbside bales in California: bales *with* non-bottle PET (thermoforms) along with PET bottles, and bales *without*. PRCC introduced a Grade B with Thermoforms (BwTF) bale specification in 2021,¹ which has been adopted by national associations including [REMA](#), [NAPCOR](#) and [APR](#).

To improve quality and preserve the CRV unredeemed fund integrity, PRCC advocates revising the commingled rate to recognize nationally-accepted PET bale specifications

Curbside Bale CRV Content



FINDINGS

The key finding is BwTF curbside bales contain only 46% CRV PET, while Grade B curbside bales contain 65% CRV PET. Yet, both bale grades are paid a refund value based on the *same* commingled² rate. A single curbside commingled rate removes financial motivation to improve bale quality. Curbside programs are actually being rewarded for poor quality.

¹ Bale Specifications: see appendix for definitions of Grade A, B, and BwTF

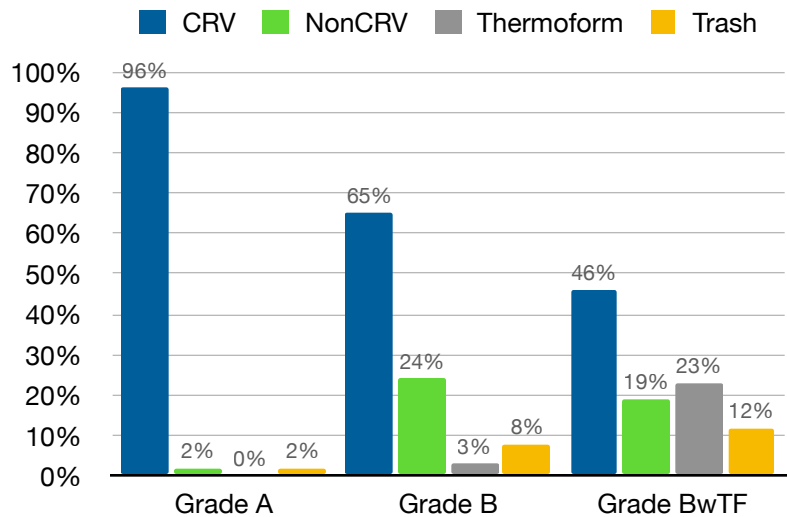
² The Curbside Commingled Rate is the expected percentage of CRV in curbside bales

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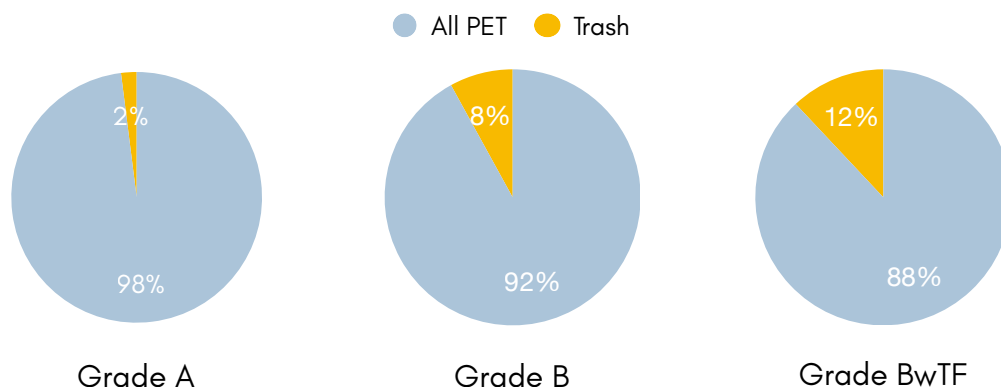
CalRecycle released new curbside commingled rates, effective January 1, 2026. This single PET curbside commingled rate assumes all PET bales contain 71.43% CRV. CalRecycle now pays a refund value of \$0.65 per pound for the entire bale, up from \$0.61 in 2024. As a result, CalRecycle is paying suppliers of PET, for bales that contain less CRV than expected. BwTF bales also contain much more trash than other grades. **There are no monitoring or follow up systems in place to check the actual CRV percentage of bales.**

PRCC's bale sorts consistently reinforce the fact that Certified Recycling Center bale quality (Grade A) is far superior to all curbside material (B & BwTF)

The Certified Recycling Center redemption system needs to be strengthened and expanded.



PRCC strongly supports California's deposit program and recommends the program be modernized and expanded with more redemption sites. This PET Bale Composition Analysis reinforces the need to strengthen the CRV redemption system, as these bales have the best quality, from a proven system that is highly effective.



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BALE GRADE SUMMARY

PRCC's 2026 bale analysis found that curbside Grade B with thermoforms (BwTF) bales had only 46% CRV, compared to 65% CRV in curbside Grade B bales, and 96% CRV in redemption Grade A bales. The data shows that all B and BwTF bales—regardless of sortation methods—are below the new 2026 commingled rate of 71.43% PET CRV, and have much more Non-PET, metal, and waste contamination than Grade A.

2026 Bale Sort	Redemption Centers Grade A	Curbside Bottles Only Grade B	Curbside Non-bottle & Bottles Grade BwTF
PET CRV	96%	65%	46%
PET Non-CRV	2%	24%	19%
PET Thermoform	0%	3%	23%
Non-PET Plastic/Metal/Waste	2%	8%	12%

It is noteworthy that although CRV was expanded in 2024 to include wine and spirits, the percentage of wine and spirits containers in bales remains very small (1%).

RECOMMENDATIONS

There are several legislative and regulatory options to consider on how to improve the curbside commingled program:

1. Establish two commingled rates for PET, one based on:
 - Bottles only
 - Bottles mixed with non-bottle materials (e.g. PET clamshells)
2. Conduct more audits on bale quality to adjust the commingled rate more frequently.
3. Change the current commingled methodology of calculating the rate on incoming MRF material to determining the actual CRV content after the material has been sorted. This change would provide a much more accurate percentage of the CRV portion.

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CURBSIDE BALE GRADE HISTORY

The results of the 2026 PET Bale Composition Analysis support the findings from all previous analyses. California curbside facilities produce Grade BwTF bales with a significant amount of PET thermoforms. Curbside sorting facilities that positive-sort³ only PET bottles have very few PET thermoforms, and less overall contamination, which results in cleaner Grade B bales, although that appears to be slipping, perhaps because the commingled rate offers less and less incentive to provide clean bales.

Grade B	2026	2024	2023	2022	2021	2020
PET CRV	65%	74%	66%	66%	68%	68%
PET Non-CRV	24%	19%	27%	28%	25%	24%
PET Thermoform	3%	4%	2%	2%	3%	3%
Trash	8%	3%	5%	4%	4%	5%

Grade BwTF	2026	2024	2023	2022	2021	2020
PET CRV	46%	52%	50%	44%	41%	41%
PET Non-CRV	19%	17%	23%	23%	29%	28%
PET Thermoform	23%	18%	17%	19%	20%	24%
Trash	12%	13%	11%	14%	10%	7%

Note: Percentages may not add up to 100% due to rounding.

For the first time since PRCC has conducted these analyses (aside from Grade B data from 2024), all curbside grades—whether B or BwTF, hand-sorted or auto-sorted—are below the commingled rate set in 2026 of 71.43% PET CRV.

³ Positive sort = removing desired item. Negative sort = removing undesired item

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PET COMMINGLED RATE OVERPAYMENTS

		BwTF Optical Sort	BwTF Manual Sort	B
	Percentage of CRV PET in Bales	45%	50%	65%
2026	% of CRV Under Commingled Rate	-37%	-30%	-9%
	Amount of Overpayment in \$/ton	\$481	\$390	\$117
2024	% of CRV Under/Over Commingled Rate	-26%	-18%	7%
	Amount of Over/Underpayment in \$/ton	\$317	\$220	-\$85

Commingled Rate: 2024 was 61%; 2026 is 71.43%

Commingled Payment: 2024 was \$1,220/ton; 2026 is \$1,300/ton

The table above shows how the PET commingled rate and payment structure further exacerbates the challenges with BwTF bales. The current methodology does not account for trash, reduces the financial incentive for curbside operators to deliver quality bales that meet the PET commingled rate. The growing disconnect between actual bale composition and refund payments, contributes to increased program inefficiencies and undermines efforts to encourage the production and delivery of higher-quality CRV content bales.

The above table is an average across bales from multiple suppliers. **The analysis found individual suppliers are overpaid as much as \$572/ton for bales that are up to 44% below the new PET commingled rate standard!**

It's important to note that the CRV system is funded by unredeemed deposits from beverage container sales, and yet pays for BwTF bales with a high percentage of thermoforms, which are too contaminated to be recycled back into bottles—the products that support the system. Thermoforms are mostly used for packaging, an industry that contributes nothing to the CRV system. PRCC sells significantly more BwTF bales than Grade B bales. It is our understanding that the overall percentage of BwTF bales in the market far exceeds half of the curbside total.

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CONCLUSION

The results of this bale composition analysis suggest that the current commingled methodology substantially overvalues curbside PET bales by compensating for non-CRV material at rates intended for higher volume PET CRV bales. Based on our observations, PRCC estimates that today's curbside stream consists of approximately 90% Grade B with thermoform bales and 10% Grade B bales, with the 10% Grade B being a liberal estimate.

Applying this estimate to approximately 120 million pounds of curbside PET collected annually indicates an overpayment averaging \$0.21 per pound, resulting in an estimated \$25.5 million in annual overpayments under the current commingled rate methodology.

While the exact amount will vary depending on annual volumes and material composition, these findings demonstrate that the existing payment structure no longer reflects the current composition or market value of curbside PET. As thermoforms continue to represent an increasing share of the curbside stream, updating the methodology to distinguish between Grade B bales and B with thermoform material would better align payments with material value and create stronger incentives for producing higher-quality PET bales.

Commingled Rate Overpayment Estimate - Curbside (120M lbs.)			
Grade	BwTF (optical)	BwTF (manual)	B
Overpmt/lb.	\$0.2405	\$0.1950	\$0.0585
Approx. % of material	67.5%	22.5%	10%
# Overpaid lbs.	81,000,000	27,000,000	12,000,000
Overpmt. Amount	\$19,480,500	\$5,265,000	\$702,000
Total Estimated Overpayment		\$25,447,500	

Simply put, California is spending approximately \$25.5 million each year for material that does not meet the quality or value assumptions on which the commingled rate was originally established thus reducing incentives for quality improvements while increasing costs to the Beverage Container Recycling Fund.

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As recommended in this and all prior analyses, the PET commingled rate needs to more accurately pay for the CRV content in curbside bale types. This will reduce contamination, improve bale quality and protect the unredeemed fund.

Specifically, CalRecycle should recognize the industry reality of two types of PET curbside bales; those that are bottle-only and those with non-bottle material.

PRCC remains committed to PET thermoform recycling by working to find buyers who will consistently take PET thermoform loads. Keeping thermoforms separate from PET bottles improves the economics of PET bottle reclamation, improves yields, and results in better quality recycled PET, ready to be converted into new PET bottles.

While increasing thermoform recovery is important, maintaining material quality is critical. Collection programs that generate heavily contaminated bales may achieve diversion goals on paper but can undermine recycling economics and limit opportunities for thermoform-to-thermoform manufacturing. A successful system will require not only higher recovery rates, but also consistent bale quality, reliable processing yields, and strong end-market demand.

As manufacturers look for pathways to satisfy SB 54's source reduction requirements, demand for high-quality recycled PET feedstock is likely to increase. Developing successful thermoform-to-thermoform and further developing bottle-to-bottle recycling systems can help provide the recycled content needed to reduce virgin resin use while keeping valuable material in circulation.

The Beverage Container Recycling Law's commingled rate regulations are inhibiting the production of clean curbside PET bales. The current single curbside commingled rate excessively rewards programs that combine PET bottles with non-bottles, and discounts programs that don't.

Reclaimers are left to absorb the costs of contamination. It lowers yield, causes operational issues when non-PET look-alike containers are processed, and creates substantial landfill disposal expenses for residual waste.

Yet reclaimers must repeatedly fight to preserve the PMDP –Plastic Market Development Payments– and face uncertainty every time the program approaches sunset. If reclaimers are expected to manage contamination and bear its costs, they should be compensated for doing so, rather than subsidizing the inefficiencies created elsewhere in the system. Reclaimers play a critical role in California's recycling system, but they bear the cost of processing contaminated bales and managing volatile recycled material markets. **To maintain a reliable domestic**

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recycling infrastructure, reclaimers must be fairly compensated for both the costs associated with contamination and the risks created by market volatility.

Clear, clean PET is needed for bottle-to-bottle recycling, and PET from California's recycling centers (RC's) have less contamination, more caps, and more clear bottles than bales from curbside programs. While the CRV redemption system is a very effective collection mechanism with a high recycling rate of quality PET bottles, we can do better. Investment in the CRV system is essential if California wishes to preserve in-state recycling and manufacturing, protect California jobs and infrastructure, and meet its progressive environmental policies.

CalRecycle is currently funding an independent study through an educational institution to evaluate the existing commingled rate methodology and assess potential revisions to the formula. The objective of the study is to determine whether changes can improve the accuracy of the commingled rate, better reflect actual material recovery, and reduce overpayments associated with the current methodology.

PRCC is encouraged by this effort and hopeful that the study's findings will support a more accurate, transparent, and equitable commingled rate calculation.

ACKNOWLEDGEMENTS

PRCC would like to thank Ming's Recycling for their assistance with the bale sort. Ming's provided the workspace, some bales, and skilled personnel!

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ADDENDUM - BALE SPECIFICATIONS

PRCC has four PET bale specification grades, all of which can be found on PRCC's website www.PRCC.biz. PET buyers value Grade B over Grade B with thermoforms (BwTF) and continue to value Grade A bales over Grade B bales. Grade A bales are the cleanest. Grade A also has the highest yield, the highest percentage of clear bottles, and requires less processing; thus it is lower in cost and energy to convert bottle-to-bottle.

Grade	Description
A	Redemption centers
B	Curbside with manual positive sort of bottles only, and Curbside with auto-sort technology, then remove TF manually
BwTF	Curbside with auto-sort technology, then partially remove TF manually or robotically
TF	Curbside Thermoform (Clamshell)

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ADDENDUM - METHODOLOGY

PRCC staff sorted 4,965 pounds of PET from bales taken from 23 different facilities throughout California. Each bale was from one of four grades, shown on the previous page in descending order of quality.

PRCC used the Association of Plastic Recyclers' Protocol for Assessing PET Truckload Bale Grade that staff previously tested successfully to ensure that it accurately reflects the composition of bales.

For each bale, PRCC staff noted the grade and sort method, then pulled out at least 200 pounds from random locations within the bale to get a representative sample. Staff then sorted the sample material into groups according to the table below.

First Sort (Material)	Second Sort (Contents)	Third Sort (Packaging)
PET CRV Bottles PET Non-CRV Bottles	PET Wine and Spirits Bottles	Clear or Light Blue Green Other Colors Full Wrap Barrier Bottles with Metal
Thermoforms	Clear PET Colored PET Non-PET	No Third Sort
Non-PET / Other Plastic Metal/Aluminum Waste/Other Contaminants	No Second Sort	No Third Sort

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ADDENDUM - SORT DETAIL GRADE A

Grade	Method	Material	Content	Packaging	Weight	% of Total
A		CRV	Wine/Spirits	Clear/Light Blue	10.9	1.3%
A		CRV		Clear/Light Blue	755.3	87.7%
A		CRV		Green	24.7	2.9%
A		CRV		Other Color	0.2	0%
A		CRV		Full Wrap Label	32.4	3.8%
A		CRV		Barrier	0.4	0%
A		CRV		With Metal	0.1	0%
A		Non CRV		Clear/Light Blue	8.3	1%
A		Non CRV		Green	1.3	0.2%
A		Non CRV		Other Color	0.9	0.1%
A		Non CRV		Full Wrap Label	4.4	0.5%
A		Non CRV		Barrier	3.8	0.4%
A		Non CRV		With Metal	0.1	0%
A		Thermoform		Clear/Light Blue	0.4	0%
A		Non PET		None	4	0.5%
A		Metal		None	1.2	0.1%
A		Waste		None	12.5	1.5%
Total					860.9	100%

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ADDENDUM - SORT DETAIL GRADE B+

Grade	Method	Material	Content	Packaging	Weight	% of Total
B+	Manual	CRV	Wine/Spirits	Clear/Light Blue	11.4	1.7%
B+	Manual	CRV		Clear/Light Blue	390.4	59%
B+	Manual	CRV		Green	18.7	2.8%
B+	Manual	CRV		Other Color	1.9	0.3%
B+	Manual	CRV		Full Wrap Label	40	6%
B+	Manual	CRV		Barrier	0.8	0.1%
B+	Manual	CRV		With Metal	0.8	0.1%
B+	Manual	Non CRV		Clear/Light Blue	106	16%
B+	Manual	Non CRV		Green	8.8	1.3%
B+	Manual	Non CRV		Other Color	24	3.6%
B+	Manual	Non CRV		Full Wrap Label	24.8	3.7%
B+	Manual	Non CRV		Barrier	2.4	0.4%
B+	Manual	Non CRV		With Metal	3.8	0.6%
B+	Manual	Thermoform		Clear/Light Blue	0.2	0%
B+	Manual	Thermoform		None	2.6	0.4%
B+	Manual	Non PET		None	10	1.5%
B+	Manual	Metal		None	1.9	0.3%
B+	Manual	Waste		None	13.1	2%
Total					661.6	100%

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ADDENDUM - SORT DETAIL GRADE B MANUAL

Grade	Method	Material	Content	Packaging	Weight	% of Total
B	Manual	CRV	Wine/Spirits	None	1.5	0.4%
B	Manual	CRV		Clear/Light Blue	298.7	70.3%
B	Manual	CRV		Green	10.2	2.4%
B	Manual	CRV		Other Color	0.9	0.2%
B	Manual	CRV		Full Wrap Label	12.4	2.9%
B	Manual	CRV		Barrier	0.4	0.1%
B	Manual	Non CRV		Clear/Light Blue	40.4	9.5%
B	Manual	Non CRV		Green	2	0.5%
B	Manual	Non CRV		Other Color	11.8	2.8%
B	Manual	Non CRV		Full Wrap Label	12.4	2.9%
B	Manual	Non CRV		Barrier	1.9	0.4%
B	Manual	Non CRV		With Metal	2.8	0.7%
B	Manual	Thermoform		None	2.4	0.6%
B	Manual	Non PET		None	7.4	1.7%
B	Manual	Metal		None	2	0.5%
B	Manual	Waste		None	17.4	4.1%
Total					424.6	100%

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ADDENDUM - SORT DETAIL GRADE B OPTICAL

Grade	Method	Material	Content	Packaging	Weight	% of Total
B	Optical	CRV	Wine/Spirits	Clear/Light Blue	4.1	0.6%
B	Optical	CRV	Wine/Spirits	With Metal	0.1	0%
B	Optical	CRV	Wine/Spirits	None	0.9	0.1%
B	Optical	CRV		Clear/Light Blue	303.3	45.3%
B	Optical	CRV		Green	13.4	2%
B	Optical	CRV		Other Color	0.2	0%
B	Optical	CRV		Full Wrap Label	26	3.9%
B	Optical	CRV		Barrier	0.2	0%
B	Optical	Non CRV		Clear/Light Blue	83.1	12.4%
B	Optical	Non CRV		Green	8.3	1.2%
B	Optical	Non CRV		Other Color	17.8	2.7%
B	Optical	Non CRV		Full Wrap Label	33	4.9%
B	Optical	Non CRV		Barrier	13	1.9%
B	Optical	Non CRV		With Metal	8.1	1.2%
B	Optical	Non CRV		None	18.5	2.8%
B	Optical	Thermoform		Clear/Light Blue	42.3	6.3%
B	Optical	Thermoform		None	7.2	1.1%
B	Optical	Non PET		None	24	3.6%
B	Optical	Metal		None	1.6	0.2%
B	Optical	Waste		None	64.9	9.7%
Total					670	100%

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ADDENDUM - SORT DETAIL GRADE B WITH THERMOFORM MANUAL

Grade	Method	Material	Content	Packaging	Weight	% of Total
BwTF	Manual	CRV	Wine/Spirits	Clear/Light Blue	4.4	1.1%
BwTF	Manual	CRV		Clear/Light Blue	182.3	43.9%
BwTF	Manual	CRV		Green	6.5	1.6%
BwTF	Manual	CRV		Other Color	0.1	0%
BwTF	Manual	CRV		Full Wrap Label	11.5	2.8%
BwTF	Manual	CRV		Barrier	0.8	0.2%
BwTF	Manual	Non CRV		Clear/Light Blue	49.2	11.9%
BwTF	Manual	Non CRV		Green	2.5	0.6%
BwTF	Manual	Non CRV		Other Color	4.8	1.2%
BwTF	Manual	Non CRV		Full Wrap Label	13.7	3.3%
BwTF	Manual	Non CRV		Barrier	1.2	0.3%
BwTF	Manual	Non CRV		With Metal	1.3	0.3%
BwTF	Manual	Thermoform		Clear/Light Blue	100	24.1%
BwTF	Manual	Non PET		None	20	4.8%
BwTF	Manual	Metal		None	10.8	2.6%
BwTF	Manual	Waste		None	6	1.4%
Total					415.1	100%

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ADDENDUM - SORT DETAIL GRADE B WITH THERMOFORM OPTICAL

Grade	Method	Material	Content	Packaging	Weight	% of Total
BwTF	Optical	CRV	Wine/Spirits	Clear/Light Blue	8.4	0.6%
BwTF	Optical	CRV	Wine/Spirits	None	6	0.4%
BwTF	Optical	CRV		Clear/Light Blue	593	39.1%
BwTF	Optical	CRV		Green	23.4	1.5%
BwTF	Optical	CRV		Other Color	0.8	0.1%
BwTF	Optical	CRV		Full Wrap Label	41.8	2.8%
BwTF	Optical	CRV		Barrier	2.7	0.2%
BwTF	Optical	Non CRV		Clear/Light Blue	173.2	11.4%
BwTF	Optical	Non CRV		Green	12.9	0.9%
BwTF	Optical	Non CRV		Other Color	46.4	3.1%
BwTF	Optical	Non CRV		Full Wrap Label	37.8	2.5%
BwTF	Optical	Non CRV		Barrier	6.4	0.4%
BwTF	Optical	Non CRV		With Metal	14.1	0.9%
BwTF	Optical	Non CRV		None	9.8	0.6%
BwTF	Optical	Thermoform		Clear/Light Blue	222.6	14.7%
BwTF	Optical	Thermoform		None	128.9	8.5%
BwTF	Optical	Non PET		None	53	3.5%
BwTF	Optical	Metal		None	12.8	0.8%
BwTF	Optical	Waste		None	122.7	8.1%
Total					1,516.7	100%