

Estimating Beverage Container-Related Profits from Curbside & Dropoff Programs in California

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Revenues, Costs, and Profits

Summary of CRV Beverage Container Revenues, Costs and Profits to Curbside and Dropoff Centers in California, 2017 (million)				
	Revenue: CalRecycle payments+ scrap value	Cost to recycle	Net profit	Percent profit
Aluminum	\$45	\$5	\$40	800%
Glass	\$68	\$21	\$46	217%
PET	\$73	\$14	\$59	424%
HDPE	\$6	\$3	\$4	141%
Total	\$192	\$43	\$149	347%
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Overview: CA within larger context

More than 50 container deposit programs worldwide

10 U.S. states

12 Canadian provinces

Dozens of other countries

Curbside access:
73% of U.S.
population (2017)

Dropoff access:
more prevalent in
rural areas

**Most deposit systems co-exist with
curbside & dropoff recycling
programs**

Operated by separate entities
Financed differently

CRI's recent research conducted to:

Unravel complexity & explain sources of 7 different types of funding for CA curbside & dropoff programs
accepting beverage containers

Quantify payments:

Individually and collectively

Dollar-per-ton basis & total dollar basis

Quantify total revenues, including

estimated costs

total profits

How Curbside & Dropoff are Typically Funded

Fee for service: primary funding by *ratepayers* or *taxpayers*, with supplementary funding from

Sale of recyclables

State grant programs (sometimes)

Hawaii & British Columbia allow curbside operators to separate deposit containers for refund monies.

California is unique in having a complex and varied system of using deposit system monies to help fund curbside & dropoff recycling.

California: 5 Payments from CalRecycle

1. “CRV” deposit revenue (5¢ or 10¢ refund)
2. Administrative fees
3. Processing payments
4. Quality Incentive Payments
5. Curbside Supplemental Payments

California: Payments from Other Parties

1. **Service fees** from municipalities or ratepayers: per household (*i.e.* monthly bill).

We will not discuss these.

2. **Material (scrap) revenues** from the sale of recyclables (aluminum, glass, PET, HDPE.)

We will discuss these.

Adjusted CRV Revenue Per Ton

Program Type	Material	CRV per pound	Administrative fees per pound	Adjusted CRV revenue per pound	Adjusted CRV revenue per ton
		5¢ or 10¢ per unit A	$\frac{3}{4}$ of 1% of CRV B	= A + B C	= C x 2,000 D
Curbside	Aluminum	\$ 1.60	\$0.0120	\$1.612	\$3,224
	Glass	\$ 0.11	\$0.0008	\$0.107	\$214
	PET	\$ 1.00	\$0.0075	\$1.008	\$2,015
	HDPE	\$ 0.48	\$0.0036	\$0.484	\$967
Dropoff	Aluminum	\$ 1.50	\$0.0113	\$1.511	\$3,023
	Glass	\$ 0.10	\$0.0008	\$0.103	\$206
	PET	\$ 0.93	\$0.0070	\$0.937	\$1,874
	HDPE	\$ 0.53	\$0.0040	\$0.534	\$1,068

Other State Revenue Per Ton

Processing Payments:
Complex formula based
on cost of recycling and
past scrap values

**Quality Incentive
Payments:**
Paid to processors to
encourage clean glass

**Curbside
supplemental
payments:**
paid to curbside
and dropoff
operators based
on volume
(units)
collected:
*total of \$15
million*

Program Type	Material	Processing payment per ton	Quality Incentive Payments (QIP) per ton	Curbside supplemental payments per ton	Subtotal, Other State Revenue per ton
		E	F	G	H
Curbside	Aluminum	n/a	n/a	\$415	\$415
	Glass	\$99	\$52	\$27	\$177
	PET	\$209	n/a	\$210	\$419
	HDPE	\$287	n/a	\$69	\$356
Dropoff	Aluminum	n/a	n/a	\$392	\$392
	Glass	\$99	\$52	\$26	\$176
	PET	\$209	n/a	\$223	\$431
	HDPE	\$287	n/a	\$87	\$374

Scrap Values Per Ton, as Surveyed by CalRecycle

Aluminum
price does
not vary by
program
type

Glass has
small
difference

Dropoff plastic
is more
valuable:
especially
HDPE

Program Type	Material	Scrap Revenue
Curbside		Average scrap value per ton
		I
	Aluminum	\$1,416
	Glass	(\$21)
Dropoff	PET	\$131
	HDPE	\$161
	Aluminum	\$1,416
	Glass	(\$19)
	PET	\$167
	HDPE	\$248

Profit Per Ton

Gross revenue per ton:
Adjusted CRV
revenue +
Other state
revenue +
Scrap revenue

Gross cost per ton:
Surveyed by CalRecycle

Profit per ton:
Gross
revenue per
ton
minus gross
cost per ton

Percentage profits:
gross profit
per ton
divided by
gross cost per
ton

Program Type	Material	Gross revenue per ton J	Gross cost per ton K	L	Profit per ton M
Curbside	Aluminum	\$5,055	\$555	\$4,500	811%
	Glass	\$370	\$116	\$253	218%
	PET	\$2,565	\$485	\$2,080	429%
	HDPE	\$1,485	\$630	\$855	136%
Dropoff	Aluminum	\$4,830	\$555	\$4,276	771%
	Glass	\$362	\$116	\$246	211%
	PET	\$2,473	\$485	\$1,987	410%
	HDPE	\$1,690	\$630	\$1,060	168%

Profit Statewide

Tons of CRV
recycled:
surveyed by
CalRecycle

Profit statewide:
Tons recycled
x
profit per ton

Program Type	Material	Tons of CRV containers recycled statewide	Profit statewide (million)
Curbside		N	O
	Aluminum	6,588	\$29.6
	Glass	153,520	\$38.9
	PET	21,578	\$44.9
	HDPE	3,576	\$3.1
		185,262	\$116
Dropoff	Aluminum	2,381	\$10.2
	Glass	30,545	\$7.5
	PET	7,186	\$14.3
	HDPE	702	\$0.7
		40,814	\$33
		226,077	\$149

Numbers are illustrative, not definitive

Actual profits will vary by:

- program operational particulars
- consumer patterns
- material
- changing scrap market conditions
- location

Use estimates as guideposts in evaluating CalRecycle's payment mechanisms to curbside and dropoff programs.