

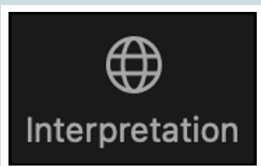


2026 Rate Determination Survey Methodology Workshop

August 30, 2024
10:00 am – 11:30 am



Interpretation Services | Servicios de Interpretación



Zoom – Select your language on the Interpretation icon
Zoom - Seleccione su idioma en el icono Interpretación

Submit your questions via the Q&A feature; these will be addressed at the end of the workshop.



Questions and Comments

During the workshop, use the Q&A feature to submit questions or comments

Questions and comments will be accepted until 5 pm September 9, 2024. Please email your questions and comments to RateDetermination@CalRecycle.ca.gov



Introductions

Beverage Container Recycling Program (Division of Recycling):

- Amy Cameron
- Monica Torres
- Oswaldo Hernández



Introductions (Cont'd)

Rate Determination Section

**Jose Covarrubias
Kevin Fobes
Michael Goncharov
Jacob Goodwin**

**Deysi Hernandez
Jonathan Íñiguez
Rafael Martinez
Rocio Perez**



Agenda

- **Workshop Purpose**
- **Rate Determination Survey Methodology**
- **Financial Risk & Refund Value**
- **Confidence Level and Error Rate**
- **Survey Sites / Sample Sizes**
- **Site Data Collection Methodology**
- **Questions / Comments / Input / Ideas**



2026 Survey Cycle

- **Methodology Workshop** August 2024
- **Rounds**
 - **1st Round** Oct. 2024 – Mar. 2025
 - **2nd Round** Apr. 2025– Sep. 2025
- **Public Hearing for Rates** October 2025
- **Notice of New Rates** December 2025
- **New Rates Effective** January 1, 2026



Workshop Purpose

Per PRC 14549.5 “. . . the department shall . . .
(a) consult with private and public operators of curbside recycling programs, collection programs, and recycling centers concerning the size of the statewide sample, appropriate sampling methodologies, and alternatives to exclusive reliance on a statewide commingled rate.”



Our Goal

To ensure the most accurate rates feasible to properly compensate consumers and industry, and to protect the solvency and integrity of the California Beverage Container Recycling Fund



What Process Does CalRecycle Use to Determine Rates for the California Beverage Container Recycling Program?



Who Do We Survey?

- **Recycling Centers (RC)**
- **Curbside Programs (CS)**
- **Drop-Off / Collection Programs (CP)**
- **Community Service Programs (SP)**
- **Reverse Vending Machines (RVM)**



Assessing the Financial Risk

- Determine the refund value of each material for each program
- Rank the redemption frequency from high to low
- Based on confidence level and error rate goals, determine the number of containers to sample for each material at each program
- Determine the number of sites to survey for each program



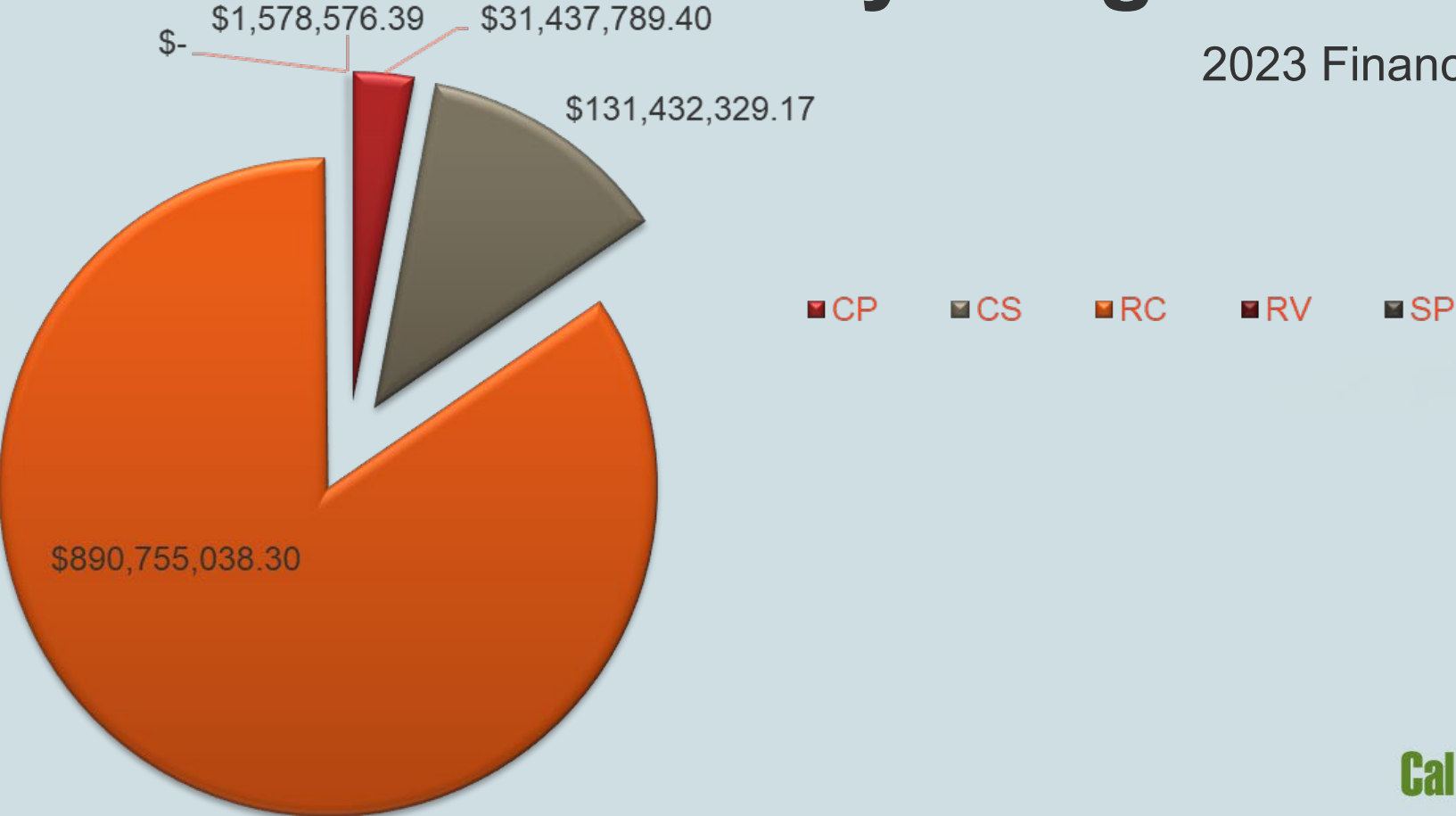
Refund Value Calendar Year (CY) 2023

Program-Material	Redeemed Value	% of total
PET	\$520,457,866	50.1%
Aluminum	\$420,152,990	40.3%
Glass	\$89,646,572	8.6%
Total		98.99%



CRV Paid by Program

2023 Financials





Confidence Level

A number, shown as a percentage, that represents the likelihood that the value of survey results will fall within a specified range (dollar value), compared to the value of the whole population



Error Rate

The Error Rate or “margin of error” is a number shown as a percentage that expresses the maximum expected difference between our survey sample result and the true value of the entire population



High Confidence Level + Low Error Rate

Although it is impossible to sample all the containers in a population, with a high confidence level and a low error rate, the results of the survey sample will be close to, and representative, of the value of the entire population



Why Are the Confidence Level and Error Rate Important?

- Impact rates and the health of the Beverage Control Recycling Fund
- Impact every consumer and industry participants who deals with CRV material
- Provide confidence and assurance that the rates are reliable and accurate



Minimum Rate Calculation Goals

**CALIFORNIA CODE OF REGULATIONS
TITLE 14. NATURAL RESOURCES, DIVISION 2.,
CHAPTER 5., SUBCHAPTER 1., § 2000. -
DEFINITIONS**

**"Statistical Sample" means an estimate with
an 85% confidence level**



How Is Sample Size Determined?

- Based on data from previous survey cycle
- Binomial Formula for commingled (percentage of CRV to Non-CRV materials)
- Standard Deviation of beverage container weights



Number of CRV Containers Sold in California (January 1, 2023 – December 31, 2023)

PET	13.3 Billion
Aluminum	10.2 Billion
Glass	2.7 Billion
HDPE	166.9 Million
Other (bi-metal & plastics 3 - 7)	340.2 Million

Total 26.6 Billion



Binomial Formula

- Used to determine sample size based on proportions
 - i.e. - proportion of CRV containers to non-CRV containers
- The closer the proportion is to 0%, the fewer containers needed to sample
- Is not appropriate for segregated-only programs



Standard Deviation

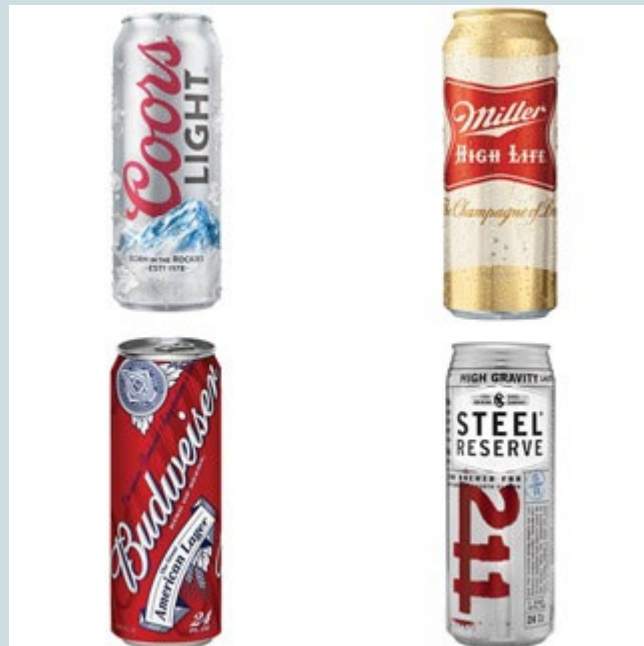
- The variability of the CRV containers surveyed



Aluminum



5¢ AL containers



10¢ AL containers



PET





Glass





HDPE





New CRV Containers

As of January 1, 2024:

- **Wine and distilled spirits added to the program per SB 1013**
 - Includes new beverage containers for wine and distilled spirits
- **Fruit and vegetable juices regardless of size are part of the program per SB 353.**
 - Previously fruit juices less than 46 oz and vegetable juices 16 oz or less part of program



New CRV Containers (cont'd)

CRV for new container types:

- **Bag in a box - \$0.25**
- **Pouch - \$0.25**
- **Bladder - \$0.25**

CRV for existing container types

- **\$0.05 or \$0.10 based on container type and size**



New CRV Containers (cont'd)





Recycling Centers Samples

- Aluminum = 1,092+ containers
- Glass = 914+ containers
- HDPE = 5,621+ containers
- PET = 12,830+ containers
- Bi-Metal = 863+ containers
- BBPs = 295+ containers
- #3 - #7 plastics = 295+ containers

21,910+ containers



Drop-Off/Collection And Community Service Programs

- Aluminum = 924+ containers
 - Glass = 1,211+ containers
 - HDPE = 7,724+ containers
 - PET = 13,697+ containers
- 23,556+



Curbside Program Samples

- Aluminum = 1,317+ containers
 - Glass = 1,104+ containers
 - HDPE = 5,947+ containers
 - PET = 13,590+ containers
- 21,958+



Reverse Vending Machines

- Aluminum = 390+ containers
 - Glass = 520+ containers
 - PET = 4,810+ containers
- 5,360+



2026 Rate Determination Survey Sites



How Are Survey Sites Selected?

- Based on data from previous survey year
- The total number of containers to survey
- Variance between survey sites
- CalRecycle staff resources availability



How Are Survey Sites Selected? (cont'd)

- **Currently operational programs:**
 - **Certified at least eight months during prior Fiscal Year**
 - **Reported volume to DORiiS during prior Fiscal Year**
 - **2 or more months of reporting in DORiiS during the prior year.**
 - **If only 2 months reported, they can not be consecutive.**
 - **Not receiving an Individual Commingled Rate (ICR)**
- **Location**
- **Volume**



Survey Site by Regions

RC and CS sites are grouped by region:

- **Southern California**
 - Los Angeles, San Diego, Orange, Riverside, San Bernardino, Ventura, Santa Barbara, and Imperial Counties (8 counties)
- **Northern California**
 - All other counties (50 counties)



What are Strata?

Sites are stratified based on received PET, AL, GL volumes

- **Strata #1** **Top 50% of volume**
- **Strata #2** **Next 25% of volume**
- **Strata #3** **Lowest 25% of volume**




Process for Selecting Sites

1. Each site is given a random number by a computer program
2. Random site numbers are sorted in numerical order by program
3. Sites are sorted by volume strata (high, medium, low volumes)
4. The needed number of sites are selected from each volume strata for each program



Sites not Included in Survey Selection

- **Recycling Centers not open adequate amount of time. RCs open less than 4 days a week will not be selected**
- **Programs that can not be surveyed seasonally. Programs that run historically less then 9 months a year will be not be selected**



Sites not Included in Survey Selection (cont'd)

- **CS/CP/SP programs that separate Non-CRV items from CRV items**
- **Removal of “Off-Spec” items - such as rigid plastic, thermoforms*, and plastic lined food aluminum will be evaluated and may be allowed based on staff review**



2026 Survey Sites

• Recycling Centers	80
• Curbside Programs	80
• Drop-Off / Collection Programs	30
• <u>RVMs</u>	<u>13</u>
Total	203



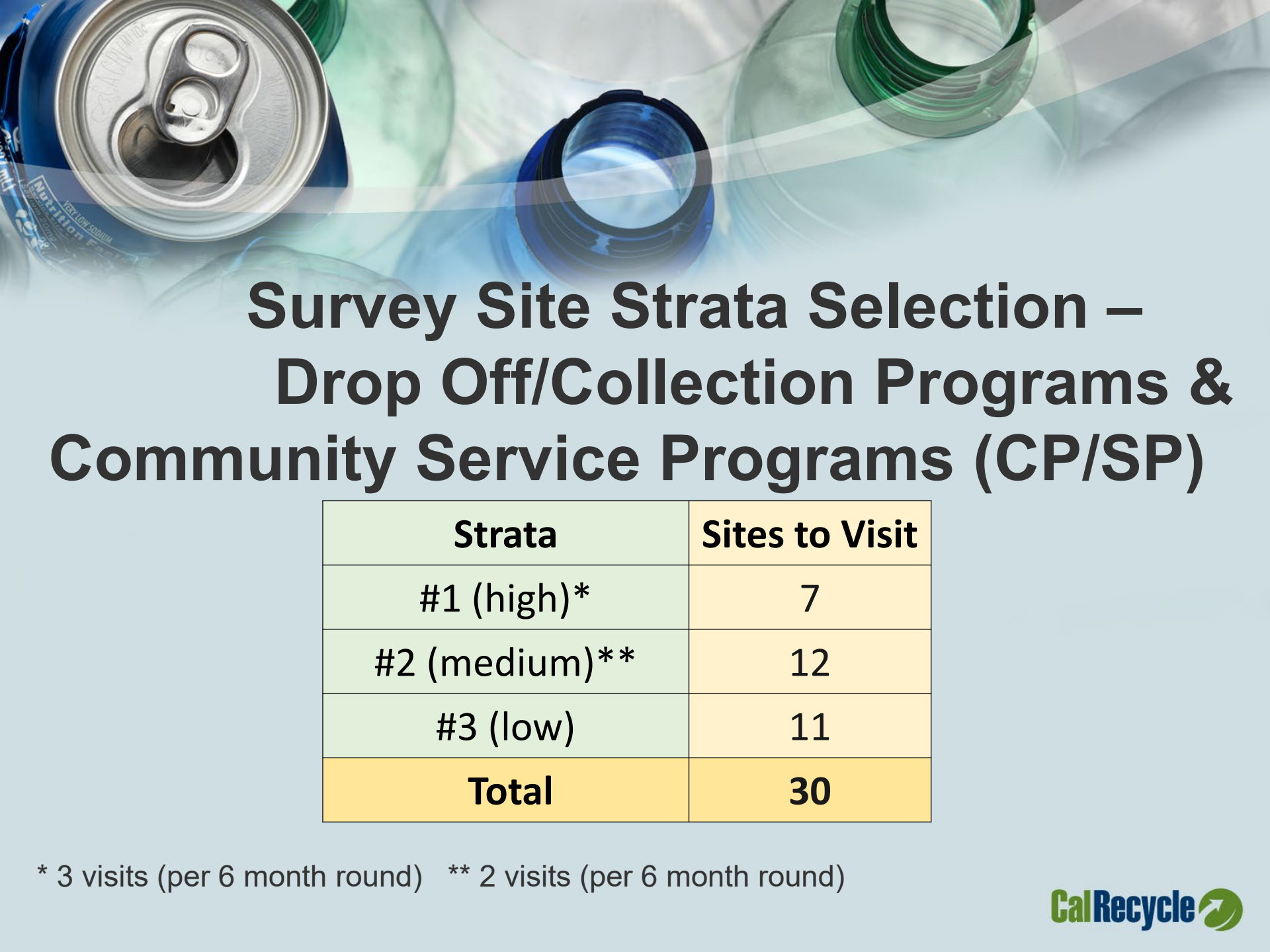
Survey Site Strata Selection – Recycling Centers (RC)

Strata	Sites to Visit
#1 South (high)	26
#2 South (medium)	11
#3 South (low)	13
#1 North (high)	14
#2 North (medium)	8
#3 North (low)	8
Total	80



Survey Site Strata Selection – Curbside Programs (CS)

Strata	Sites to Visit
#1 South (high)	14
#2 South (medium)	9
#3 South (low)	9
#1 North (high)	20
#2 North (medium)	14
#3 North (low)	14
Total	80



Survey Site Strata Selection – Drop Off/Collection Programs & Community Service Programs (CP/SP)

Strata	Sites to Visit
#1 (high)*	7
#2 (medium)**	12
#3 (low)	11
Total	30

* 3 visits (per 6 month round) ** 2 visits (per 6 month round)



Survey Scheduling

- **Scheduled every month of the year**
- **Scheduled 35-40 weeks of the year**
- **Conducted every day of the week for RCs**
- **Distributed evenly over all seasons to reflect “seasonality”**



2026 Rate Survey Period

- 12 month study (two six-month survey rounds)
 - Round #1 - October 1, 2024 to March 31, 2025
 - Round #2 - April 1, 2025 to September 30, 2025
- Same sites surveyed in each six-month round
- The same number of containers are surveyed for each material type at each type of recycling program



Site Visits

- **Site visits begin in October**
- **For each site survey:**
 - **Site hours, locations, material availability reviewed**
 - **Draft schedule created**
 - **Staff send scheduling emails (3 weeks prior)**
 - **Staff call sites to schedule visit and confirm site details**



Site Visit at RCs





RC Sample Collection

- **AL, GL, PET, HDPE**
 - **Collect material after customer transaction is completed (as purchased)**
 - **Collect CRV material “as-is”, including contaminants, residual product, etc., as purchased by the attendant**
 - **Survey whole containers only**



RC Sample Collection (cont'd)

- **Bimetal, Plastic 3-7, and New Container Types**
 - Not typically collected from the consumer
 - Team members use material in RC's bins
 - Survey whole containers only



CS/CP/SP Sample Collection

- For AL, GL, PET, HDPE, sample collection includes:
 - Whole containers only
 - Empty AL and Glass containers – no liquids
 - “As-is” plastics – residual product and other liquids
 - Containers from a pile based on baling



CS/CP/SP Sample Collection Process

- **AL, GL, PET, HDPE**
 1. Confirm that material provided is from selected program
 2. Collect sample from pile dropped by route truck
 3. Collect from bins or bunkers if material types are separated and **ONLY** from program selected
 4. Collect from MRF line if material is **ONLY** from program selected (rare)



Pile





Bunkers






Bins/Dumpsters





How are Collected Samples Analyzed?

- Containers of a single material type are counted and weighed into batches as follows:
 - RC – as purchased from customers
 - CS / CP / SP – from piles, bins, and bunkers
 - RVMs – from the machine storage unit



How are Collected Samples Analyzed? (cont'd)

- **Batches of containers are sorted, counted, weighed, and analyzed**
 - **CRV by volume**
 - **Non-CRV containers**
 - **Bladders, Boxes and Pouches**
 - **Identify Product Type**
 - **Individual Weights for a Sub-Sample of Containers**
 - **Contaminants**



Why is Sample Data Collected?

Data from surveys is analyzed by program type and material type:

- To establish the Containers Per Pound (CPP)
- To establish the Refund Value Per Segregated Pound (RVSP)
- To establish the Refund Value Per Commingled Pound (RVCP)
- Respond to Legislation and Regulation questions
- Provide data and analysis to internal and external stakeholders



Segregated

"Segregated" means divided by material type and that such divided load consists of 100% California Refund Value material



Commingled

A commingled load is “a mix of empty beverage containers as defined in Section 14512 [CRV containers], and all other containers of the same material type.”
§14506.5 PRC 12.1



Program Rates

- **Segregated rate:**
 - Recycling centers
 - Reverse Vending Machines
- **Commingled rate:**
 - Curbside Programs
 - Dropoff /Collection Programs
 - Community Service Programs
 - Reverse Vending Machines



Individual Commingled Rate Survey

- Program suspended August 2019
- Currently includes 100 participants
- Re-examining program



Workshop Purpose – Recap

California Beverage Container Recycling & Litter Reduction Act Section: 14549.5

“. . . the department shall . . . consult with private and public operators of curbside recycling programs, collection programs, and recycling centers concerning . . . “



Our Goal - Recap

To ensure the most accurate rates feasible to properly compensate consumers and industry, and to protect the solvency and integrity of the California Beverage Container Recycling Fund



Discussion and Industry Input

- **Size of the statewide sample**
- **Appropriate sampling methodologies**
- **Alternatives to exclusive reliance on statewide commingled rate**



Questions and Comments

Questions and comments will be accepted until 5 pm
September 9, 2024. Please email your questions and
comments to RateDetermination@CalRecycle.ca.gov



Thank You!