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CRI Analysis of AB 1454

June 22, 2021

Executive Summary

Almost 1,400 redemption centers have closed in California since 2013. These closures have created “recycling deserts” across the State, depriving consumers of more than $600 million in lost deposits in 2020 alone, and driving the redemption rate down from 72% in 2015 to 58% in calendar 2020.

Inadequate compensation to redemption centers has driven the closures. The per ton “processing payment” formula for paying redemption centers to make up for the difference between operating costs and free market scrap values is inadequate. CRI has estimated that redemption center operators have absorbed a combined shortfall of *almost $70 million* for processing PET and glass since 2013. Increases to the minimum wage have added to RCs’ financial burdens.

Does AB 1454 help? While AB 1454 proposes multiple measures to address these problems, CRI has concluded that these measures fall short as follows:

- **Larger regional convenience zones** will create the illusion of fewer unserved convenience zones, whereas in reality, the bill talks about – ***but never provides actual funding*** – for financial incentives to spur new recycling centers (theoretically averaging $25,000 in seed money for each new center). If actually funded, this wouldn’t be nearly enough to make these start-up investments realistic for businesses.

- **Many retailers** will remain relieved of the burden of complying with the deposit law: neither providing on-site or nearby take-back, nor paying Option B fees of $100 per day into the beverage container recycling system in lieu of providing physical take-back.

- **Enforcement of retailer obligations** is not addressed in the bill. CalRecycle reports that less than one third of Option B stores are paying what they owe. This amounts to approximately $20 million per year in uncollected revenues.

- **Plastic quality incentive payments are both non-binding** (zero money appropriated in the bill) and **target the wrong sector.** They in effect encourage materials flow through curbside programs and MRF processing; producing materials that are *still* not as clean and valuable as deposit material.

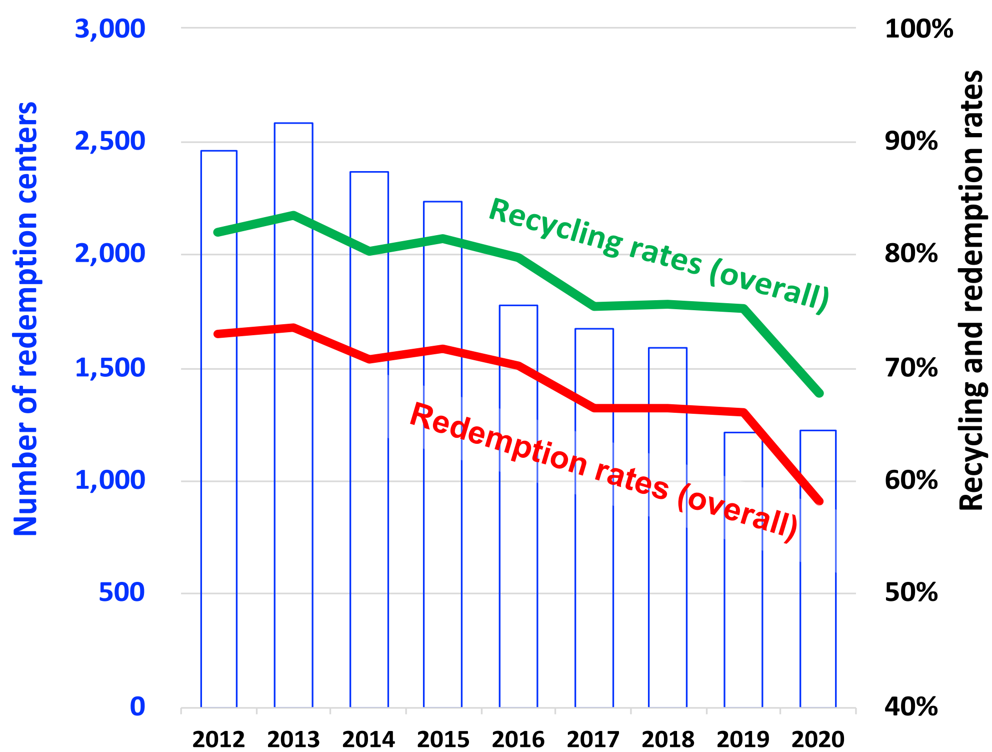
- **Fraud along the redemption chain is not addressed by the bill.** AB 1454 could serve as an opportunity to modernize the logistics and real-time data tracking of container redemption. We urge such features to be added into the bill.

The following pages contain CRI’s analysis about how the proposed measures in AB 1454 would or would not function.

Introduction

California has been losing redemption centers at a rapid clip. From a 2013 peak of 2,578 redemption centers (RCs), the number has dropped by more than half: to 1,209 as of May 2021, as the blue bars in Figure 1 show. Not only has this trend led to thousands of lost jobs for redemption center operators and their employees, but it has led to less consumer access to recycling opportunities, and therefore to falling redemption rates. As the red line in Figure 1 shows, overall redemption rates fluctuated between 71% and 74% between 2012 and 2016. By CY 2019, the overall rate had fallen to 66% primarily as a result of redemption center closures. Further closures combined with the impact of the Covid-19 pandemic depressed the CY 2020 redemption rate to 58%. Falling redemption rates means more litter and more container waste: with all of its attendant environmental implications. It also means that consumers are unable to redeem more than $600 million worth of containers.

Figure 1. Number of redemption centers, and beverage container recycling and redemption rates in California, Fiscal Year 2012 - 2020*

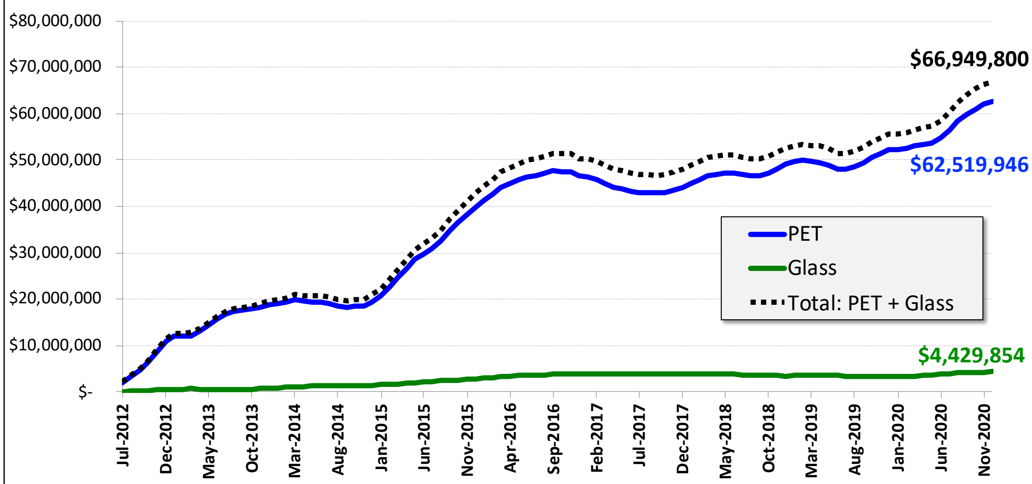


***Notes:**
Recycling rates are derived by dividing all CRV (California redemption value) containers recycled through all channels (deposit refund, curbside and drop-off programs, and community service donations) divided by all CRV containers sold.
Redemption rates are derived by multiplying fiscal year recycling rates (through 2015) or calendar year recycling rates (for 2016 on) by redemption center "participant shares:" the portion of recycled CRV containers that consumers return for the 5¢ or 10¢ deposit refund at supermarkets or stand-alone redemption centers.
Reference years: 2012-2015 are based on fiscal years. 2016-2020 are based on the most recent calendar year data available. See sources in endnote 1.

CRI's 2016 analysis explained that these RC closures occurred because RC operating costs exceed total revenues—including value of the scrap material sold, per unit handling fees and per ton processing payments paid to RCs by CalRecycle, and various supplemental grants and payments.[1]

CRI calculated that between 2013 and December 2020, redemption centers have incurred **more than $66.9 million in cumulative shortfalls** from processing glass and PET plastic, as Figure 2 shows.

Figure 2. Cumulative shortfalls to redemption centers, 2012-2020



Notes: Shortfalls are additive from Jul. '12 - June '20. Monthly per ton shortfalls were multiplied by monthly tons recycled by recycling centers. Per ton shortfalls are the difference between fixed-period scrap values CalRecycle uses to calculate processing payments, and actual scrap values during the months the recycling took place. Monthly tonnages were derived by dividing CalRecycle's reported units recycled by 12, and by multiplying by containers per pound and by recycling centers' "participant share" (reported annually). Source: CalRecycle, 2012-2020.

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As Table 1 shows, $8.4 million of these shortfalls occurred *just in the first half of FY2021* (July-Dec 2020), which is more than the shortfalls for all of 12 months of FY 2020 ($7 million). There is also a pending loss of $5 million in monthly payments to small recycling centers. For two years, the 416 lowest-volume redemption centers in California had been receiving supplemental payments of $1,000 per month, as mandated by AB 54. However, those payments expire in June 2021. AB 1454 has been described as an attempt to mitigate these losses by creating financial incentives for existing RCs to stay in business. It is worth noting that redemption centers are being hit by increases in the minimum wage: from $10 in 2016 to $13 in 2021, and is set to rise to $14 in 2022 and $15 in 2023.[2]

However, after conducting an analysis, CRI has concluded that this bill risks failing to adequately address the current lack of access to redemption for millions of Californians. The actions proposed in AB 1454 as amended **are still not immediate enough *or* strong enough** to stem the tide of closing redemption centers, especially in recycling deserts of the state where consumers do not have access to RCs at all. There remain huge areas where people can't redeem, and these consumers are losing hundreds of millions of dollars per year.

Table 1. Shortfalls in processing payments for glass and PET, July 2012 - Dec. 2020*

Year	PET Payment Shortfalls (million)	Glass Payment Shortfalls (million)	Sum of PET & Glass Payment Shortfalls (million)
FY 2013	$15.6	$0.6	$16.2
FY 2014	$3.7	$0.7	$4.4
FY 2015	$10.5	$0.7	$11.3
FY 2016	$16.5	$1.5	$18.0
FY 2017	($3.2)	$0.3	($2.8)
FY 2018	$4.1	($0.2)	$3.9
FY 2019	$0.8	($0.3)	$0.5
FY2020	$6.7	$0.3	$7.0
1st half FY 2021	$7.8	$0.6	$8.4
Total to date	**$62.5**	**$4.4**	**$66.9**

*Numbers in red are profits rather than shortfalls.

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More than $600 million lost deposits in 2020

The total value of deposits initiated in 2020 was approximately $1.5 billion, representing 27 billion containers sold. Of these, 58% of containers were redeemed for the deposit value at supermarket sites or stand-alone redemption centers (consumers received $856 million in refunds); 10% were recycled through curbside, drop-off, or community service programs (consumers voluntarily donated about $144 million in forgone deposits), and 32% were wasted (not recycled at all). In 2020, consumers suffered a record-breaking **$615 million in lost deposits.**[3]

Issues not addressed by AB 1454 fall into four main categories:

1) Modernization of the law: increase deposit values, add covered beverages, improve logistics
2) Consumers rights to obtain refunds: retailers, redemption centers, and convenience zones
3) Program oversight: fraud, auditing, and enforcement
4) Curbside program issues

1) Modernization of the law:

- **Deposit values should keep up with inflation.** This bill does not include an increase in the deposit values, updating them from 5¢ and 10¢ to 10¢ and 20¢. This is a modernization measure that has been implemented in Oregon, Michigan, Connecticut and nearly every province in Canada. In the past, California's law was updated three times to increase the deposit to keep up with inflation. The current levels of 5¢ and 10¢ (for small containers versus large) were adopted in 2007, 14 years ago.

- **Update beverages covered in program**: wine & spirits should be added to the deposit law because they represent a large proportion of curbside glass, and thus a large municipal burden in terms of collection and costly MRF sorting, and still ending up with less marketable material.

- **Modern logistics and inventory control** is needed**.** Multiple sources of fraud need to be documented, and a *real-time* detection and tracking process needs to be developed and implemented. This has been done in British Columbia through real-time scanning and recording along the transportation chain. In contrast, the California redemption tracking system has not been modernized since computerized reports were mandated in 2010.

2) <u>Retailers, redemption centers, and convenience zones</u>

- **Eliminate "redemption deserts:"** rebuild convenient consumer access to redemption by prioritizing retailer enforcement and restoring profitability to redemption centers.

- **Many zones and retailers are exempt**: they are not accepting containers for redemption at all.

- **Enforce Option B fees**: retailers who should be paying Option B fees ($100/day in lieu of providing take-back) are not doing so, and enforcement on this is inadequate.

- **Retailer participation:** pay retailers handling fees, reimburse them for deposit refunds, and create a customized and streamlined certification process for retailers.

- **Statutory language is needed to facilitate retailers taking containers back and interacting with material processors**. Retailers should be eligible to receive handling fees. With such changes, as well as CalRecycle enforcement of existing law, this would create immediate in-store take-back throughout California.

- **De-couple redemption center revenues from volatile scrap markets** by paying RCs a flat fee per container. This would ensure profitability regardless of geography. Hawaii made this change a few years ago. California is the only container deposit program in the world that makes redemption center viability dependent on volatile scrap markets. We note that the bankruptcy of rePlanet, with the closing of nearly 300 redemption centers, occurred just months after the nationwide plummet in aluminum scrap prices (which occurred due to the closure of a melter that had previously handled 14% of aluminum can scrap in the United States.)

3) Program oversight: fraud, auditing, and enforcement

- Consider using the California Department of Alcoholic Beverage Control (ABC) as a monitor to create consistent and persistent monitoring and enforcement of retailers. To be successful, this effort must be adequately staffed and funded.

- This bill does not address the need to reduce **fraud** in the program, where CalRecycle has **documented** accusations of more than $500 million. A complete review of fraud occurrences is necessary, along with development of new procedures and accompanying statutory and regulatory language. New monitoring and enforcement provisions are also needed.

- **Audits of beverage distributors** should be timely and significant in order to recover the hundreds of millions of dollars that go uncollected each year in initiated deposits. AB 1067 included a provision to add 5 more permanent, full-time auditors, which would be a welcome addition to this bill. In this area as well, CRI has estimated that more than $200 million per year are not being collected by CalRecycle. A full review of procedures is needed to develop a new program for revenue collection, with adequate monitoring and enforcement. The program should include changes to procedures, as well as statutory and regulatory language, as needed.

- **Be more transparent and current about fund balances:** the beverage container fund balance in the Governor's budget understates the amount of money in the fund by $180 million. $454 million is the true fund balance, per CalRecycle's report to the State Controller's Office (2/8/21), not $274 million as stated in the Governor's Budget (January 2021). In addition, the Budget lists $468 million as "receivables" in the penalty account, which in practice means unpaid penalties for violations of the law. That half-billion dollar amount is nearly equal to the fund balance itself, and it is highly unlikely that beverage industry violators who have managed to skirt the law thus far will ever pay up.

- The distributor administrative fee should be eliminated, as it does not serve to create more recycling opportunities nor to pay for recycling processes. The beverage distributors receive about $20 million per year from this "fee" they are able to retain, and as such, it cancels out most of the "producer responsibility" fees (processing fees) that they pay into the fund.

4) Curbside program issues

- **Curbside program management** should be monitored and enforced to zero out material contamination.

- **Significantly reduce curbside payments** to a level that properly compensates and eliminates contamination

This is not a comprehensive list of the actions that we believe should be included in AB 1454, but an enumeration of the actions that we think would be most impactful.

Analysis of main provisions of AB 1454

If passed, AB 1454 would make changes to California's Beverage Container & Litter Reduction Act by:

1) Allowing **regional convenience zones** (CZs) to be created out of up to 5 currently **unserved** CZs
2) Expressing the **intent** of the legislature to appropriate funding for plastic **quality incentive payments** (QIPs) and **startup loans** for new redemption centers (RCs) sometime in the undefined future. (The bill currently provides zero actual funding for this.)
3) Legislature **<u>may</u>** appropriate the increase in **processing payments** to RCs for a limited time (until 1/1/25.) (The bill currently provides zero actual funding for this.)
4) Providing **handling fees** to the first RCs to get sited in previously unserved convenience zones, regardless of whether located ***at*** a supermarket
5) Enabling "certified" **bottle drop** recycling programs to provide e-refunds within 3 days of redemption (although the bill does not spell out criteria for certification)

In the following sections, we examine where we believe each bill provision falls short.

1. **"Regional" convenience zones don't provide redemption access, and, in the future, will result in permanently retiring as many as 1,250 of the current convenience zones, resulting in a permanent reduction in access to redemption for millions of Californians**

The "convenience zone" system is the part of California's bottle bill that places responsibility on retailers to ensure that there is sufficient redemption infrastructure for consumers throughout the state. It was designed to keep the number and location of redemption locations in rough proportion to the number and location of supermarket shopping locations, while still allowing flexibility for retailers and recycling businesses. If there is no redemption center in a zone, convenience is provided by the mandate that retailers provide take-back of beverage containers.

The current system is not succeeding in achieving the convenience it was designed to; for millions of Californians who cannot access refunds, the program is effectively a tax. California has lost almost 1,400 redemption centers since 2013 (not 600, as AB 1454 states). The losses have not been evenly distributed throughout the state; some regions such as the Bay Area and West Los Angeles are "recycling deserts" where few, if any, redemption centers remain to serve the local population. **At present, 71% of currently-defined convenience zones are not served by a redemption center.** In general, retailers have not stepped up to provide redemption service in "unserved" zones; independent investigations by news outlets and nonprofits have found that two-thirds of retailers aren't fulfilling their take-back obligations.

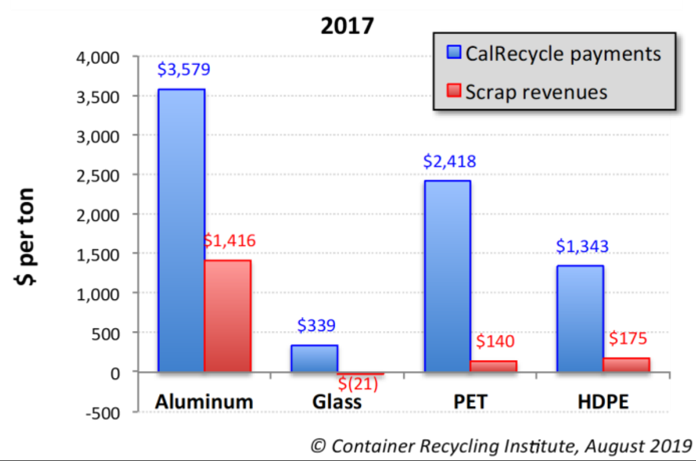
AB 1454 would allow for the creation of large "regional" convenience zones comprised of **up to five unserved existing convenience zones**. This change would **not directly create any incentives** for new redemption centers to set up shop. This provision would merely convert 5 unserved zones into one large unserved zone – a distinction without a difference for the residents and retailers in the unserved zone. Residents in the larger zone would still be without a redemption center, and retailers in the larger zone would still have a legal mandate to redeem containers.

The proposal to enlarge convenience zones appears to be an accounting trick. Instead of the current 1,600 "unserved" zones, the California map would be redrawn into 350, larger unserved zones. While it would appear to the casual observer that progress has been made in providing recycling access, actual access would remain unchanged.

Permanent Inconvenience for Consumers, With Potential Annual Benefit of $256 million for Retailers
Once these larger, unserved zones are in place, AB 1454 allows for new handling fees to any single redemption center established in a new large zone, and implies that there will be start-up funds in the future to help new centers get established. If a new center does get established, the existence of an RC would immediately relieve all of the retailers from take-back requirements and Option B fees. With

an average of 4 beverage retailers per zone currently, and the merging of 5 zones to create one super-zone, a single RC could relieve 20 retailers of Option B fees, which is the equivalent of saving those retailers $730,000 per year for a single RC location. Taken statewide to 350 super-zones, the potential benefit to retailers of avoided Option B fees is $256 million per year.

Figure 3. Comparative per Ton Revenues: CalRecycle Payments vs. Market (Scrap) Values,



Retailers are refusing to pay "option B" fees
As of April 2021, more than 800 stores belong to a group of retailers that have been placed on the "Option B" list, where they are required to pay daily fees rather than operate physical take-back. However, CalRecycle records show that less than one-third of these stores are actually paying these fees. Together, those 804 stores would owe ***more than $29 million per year*** to CalRecycle (if indeed the fee mechanism were adequately enforced). CalRecycle's financial records for FY 19/20 show that only $8.7 million were received in "option B" fees.

2. Legislative "Intent" to fund Quality Incentive Payments and Startup Loans is Illusory

> *"This bill would express the intent of the Legislature to appropriate in a future Budget Act or other bill the sum of $25,000,000 from the California Beverage Container Recycling Fund to the department for plastic quality incentive payments and startup loans in the amount of $25,000 to entities that establish and operate certified recycling centers in unserved or underserved areas in the state. The bill would require a startup loan to be forgiven if the entity continually maintains operations for 18 months."*

a) **No immediate establishment of redemption opportunities:** If passed, the bill would express the ***"intent"*** to have the legislature, *in some unspecified year in the future*, appropriate $25 million in quality incentive payments (QIPs) for PET plastics and startup loans for new RCs. The bill does ***not require*** this appropriation, however, nor does it state ***when*** these expenditures might be made. Meanwhile, in 2020, California residents lost out on $600 million in redemption value, which speaks to the immediacy of the need to restore redemption infrastructure.

b) **No guidelines are provided** in the bill as to what proportion of the $25 million would go to plastic QIPs and what proportion would go to startup loans to help establish new redemption centers.

c) **In theory, sites could receive awards of up to $25,000** each, but in practice there is not enough information in the bill as written to determine how these monies might be allocated. $25,000 in seed money is not nearly enough for a new redemption center; in fact, it is not enough to buy even one recycling truck. Tri-CED estimated that at least $100,000 was required to open a new redemption center. Since AB 1454 would create convenience zones that are 5 times as large as existing zones, it stands to reason that these very large RCs would cost even more to create.

d) **QIPs target a sector that is already being overpaid.** PET plastic bottles collected through curbside recycling programs are very contaminated, requiring a great deal of expensive processing, whereas deposit PET bottles are very clean, requiring much less processing. CalRecycle is already paying curbside operators thousands of dollars per ton for dirty bales of plastic beverage containers, as Figure 3 shows.

While AB 1454 promises to provide "relief for recycling infrastructure," it in fact stands to serve as a mechanism for subsidizing thermoform (clamshell food container) processors and manufacturers by sorting out these containers in MRFs. It is inappropriate to use beverage container money to pay to recycle items that are not beverage containers.

In sum, AB 1454 would continue to allow curbside operators to be overpaid for dirty bales (through CRV refund revenue, processing payments, administrative fees, curbside supplemental payments, etc.[4]) and then would allow them to be paid *even more* (in QIPs) to produce bales of thermoforms. Instead, CalRecycle should refuse to pay for bales that are not pristine. The payment structure should be reformed to eliminate the current perverse incentive to create heavier bales to reap larger payments from the system.

e) **Longevity of new RCs not guaranteed**: We applaud the section of the bill that promises to forgive startup loans to new RCs if they stay open for 18 months.

3. **Legislature may appropriate processing payment increases, which** would provide much-needed support for existing sites.

In recognizing that existing processing payments have been inadequate to close the gap between RC operating costs and revenues, AB 1454 allows the Legislature to consider providing bonus processing payments over and above those already provided to RCs in previously unserved zones for glass and PET processing. The bonuses would consist of payments of **50% above existing processing payments** for 40,000 glass bottles and 200,000 plastic bottles per RC per month. **However, this bill does not actually authorize any funding, instead, it gives the option for the Legislature to later appropriate this.**

According to CalRecycle 2020 redemption data, the **average monthly** bonus payment per certified redemption center site would be $**1,557**. The maximum monthly bonus payment per site would be **$1,813**, for a statewide total of about $23 million, as shown in Tables 2 and 3 below.

"This bill would, until January 1, 2025, authorize the director, upon appropriation by the Legislature from the California Beverage Container Recycling Fund, to increase processing payments to a certified recycling center by up to 50% higher than statewide rates for the first 40,000 glass containers and the first 200,000 plastic containers claimed by a certified recycling center each month. The bill would require the department, upon appropriation by the Legislature from the California Beverage Container Recycling Fund, to pay the first operator of a recycling center certified to operate in a convenience zone that, as of January 1, 2021, has been continuously unserved by a recycling center for at least 6 months a handling fee payment regardless of the physical location of the certified recycling center within that convenience zone."

Table 2. Maximum Bonus Processing Payments Per Redemption Center Per Month

	Containers eligible (units)	Unit to weight conversion factors (containers per lb)	Derived tons	Per ton Processing Payment (most recent*)	Additional Processing Payment (50% of original PP)	Total Maximum **Additional** PPs per recycling center per month
Glass	40,000	1.9	10.4	$159	$79	$826
PET	200,000	23.0	4.3	$454	$227	$987
* Effective 1/1/21						**$1,813**

Table 3. Total Bonus Processing Payments to Eligible Redemption Centers*

Type of redemption center		# of RCs	Average bonus PPs per RC per month	Total additional processing payments to be paid in State of CA: per month	Total additional processing payments to be paid in State of CA: per year
Buyback RCs (a)		1,209	$ 1,557.2	$1,882,604	$22,591,245
(a) As of May 2021					

These hypothetical bonus payments are time-limited (expiring on 1/1/25), without provisions for renewal.

These potential new payments are a modest increase over the current redemption center revenues of processing payments, handling fees, administrative payments and scrap sales that the redemption centers already receive. Since 2014, the state-mandated minimum wage in California has increased six times, up 55% from $9 per hour in 2014 to $14 per hour in 2021. These wage increases were not factored into the processing payment calculations, and have been an unfunded cost to redemption centers for six years. (Cost increases are partially captured retroactively, but always a year or two behind, and some costs are never funded.)

In addition, the 400 lowest-volume RCs in the state have been supported by $1,000 monthly payments for the last two years; these payments will expire in July, 2021.

Therefore, nearly half of these potential "bonus" payments, if funded at all, would merely be used to cover the new minimum wage costs and replace the current $1,000 per month payments to low-volume sites.

If these potential bonus payments are indeed sufficient to bridge the current gap between costs and revenues, what will happen to RC operators when these payments expire?

If appropriated by the Legislature, these temporary bonus payments based on RC size are helpful, but distract from a comprehensive solution.

In addition, as written, AB 1454 suggests allowing for the Legislature to appropriate payments to small redemption centers, based on the notion that small centers need the most help. In reality, the RC closure crisis is caused by several factors, including the relative volume of the centers, real estate costs, local restrictions on permitting redemption centers, refusal of some supermarkets to host centers, and distance to end market (where collected bottles and cans are sold directly to secondary manufacturers, to brokers for transport to domestic manufacturers, or to ports for export). The biggest redemption deserts are in the Bay Area and West Los Angeles, and in remote northern CA where transportation costs to market are high. If the Legislature approves, small redemption centers would certainly benefit from being paid a little more, but these payments ***are an insufficient incentive to open new redemption centers*** in various places in California that don't have RCs.

> *"The bill would require the department, upon appropriation by the Legislature from the California Beverage Container Recycling Fund, <u>to pay **the first operator** of a recycling center certified to operate</u> in a convenience zone that, as of January 1, 2021, has been **continuously unserved** by a recycling center for **at least 6 months** a handling fee payment regardless of the physical location of the certified recycling center within that convenience zone."*

4. Newly available handling fees for new operators

AB 1454 would enable any operator to establish a redemption business in any location in a previously unserved convenience zone, and receive handling fees from CalRecycle; they need not be located at supermarket sites. There are currently 1,683 unserved zones. If grouped into 5 old zones per new regional zone, there would be 337 unserved zones. Because such new operators will effectively be the only game in town, they could stand to receive significant amounts of handling fees. However, any new RCs that might be established would replace a small fraction of the nearly 1,400 sites lost to closures over the last 8 years – resulting in a permanent state of inconvenience for the majority of California, as 71% of the zones are currently unserved.

5. Bottle Drop

AB 1454 specifies a payment schedule of not more than 3 days, as the bill text at right shows. However, the bill language does not **define** what a bottle drop site actually is, nor does it detail how such a business or site would be **certified or registered** with CalRecycle, or under what **conditions** it must operate.

The bill would allow such sites to wait up to three days to provide electronic refunds to a consumer who brings bottles and cans back for redemption. For reference, in Oregon, the Oregon Beverage Recycling Cooperative's Bottle Drop sites have terms and conditions that allow them up to 7 days to credit a customer account, although the credits typically happen within 3-5 days.[5] In Maine, the law allows 2 business days for electronic payments.

> *"A certified bottle drop program shall pay the refund value of the beverage container onsite at the time of redemption or as an electronic payment within three business days of redemption."*

In conclusion

The single biggest recycling problem California faces is redemption deserts. The bill doesn't provide funding to alleviate the current situation nor to reestablish access to redemption throughout the state.

CalRecycle should be enforcing existing regulations requiring retailers to provide in-store redemption (or to establish RCs in their convenience zones), rather than re-drawing convenience zone maps or paying curbside operators more per ton.

We urge the Legislature to review the elements missing from this bill, as we identified at the beginning of this analysis. Incorporating such measures would go a long way to modernizing the California deposit system: improving conditions for consumers, for recycling centers, and for the environment.

Addendum for additional background: Under existing law, supermarkets with gross annual sales of $2 million or more are required to redeem beverage containers on site (in-store or in the parking lot) unless there is a state-certified redemption center in a convenience zone consisting of the area of a half-mile radius around the store, (3-mile radius in rural areas). A retailer in an unserved convenience zone (one without a functioning redemption center) may choose, after a 60-day grace period, to pay CalRecycle $100 per day in lieu of redeeming containers on site or establishing a redemption center in the convenience zone. The law also allows for some retailers to apply for exemptions from the law for various reasons, with a cap of 35% of all retailers. According to CalRecycle data, 1,014 retailers have secured exemptions: 623 of these exemptions are more than 5 years old.

About the Container Recycling Institute: *CRI is a nonprofit organization and a leading authority on the economic and environmental impacts of beverage containers and other consumer-product packaging.*

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[1] **Recycling rates**: "Biannual Report[s] of Beverage Container Sales, Returns, Redemption, and Recycling Rates." **Participant shares**: "California's Beverage Container Recycling and Litter Reduction Program Fact Sheet[s]" (2013-2020). **Redemption centers**: CalRecycle website: https://www2.calrecycle.ca.gov/BevContainer/RecyclingCenters/. See also "Integrity of California's Beverage Container Deposit System Threatened by Processing Payment Shortfalls – Report." (Updated: April 2016) https://www.container-recycling.org/images/stories/PDF/Processing%20Payment%20Shortfall%20report%20April%202016%20update.pdf. See also "Beverage Container Recycling Program Monthly Volume Report." CalRecycle, May 2021.
[2] Minimum wage increase history: https://www.dir.ca.gov/iwc/minimumwagehistory.htm, and https://www.dir.ca.gov/dlse/faq_minimumwage.htm. Accessed 6-21-21.
[3] "2021 February Monthly Volume Report." CalRecycle, Feb. 26, 2021.
[4] See "California's CRV Beverage Container Recycling Program: Quantifying Payments to Curbside and Drop-off Programs (2017)." Container Recycling Institute, Aug. 2019.
[5] Personal communication with Eric Chambers, Oregon Beverage Recycling Cooperative, May 14, 2021.