

AB 54 Report to the Legislature

Analyzing Convenience Zones in
California's Beverage Container
Recycling Program

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Executive Summary

The California Beverage Container Recycling and Litter Reduction Act (Act), signed into law in 1986, established the Beverage Container Recycling Program (BCRP) to reduce litter and increase recycling. The Act established a consumer deposit on beverage containers, known as the California Redemption Value (CRV), and set a goal to achieve an 80 percent recycling rate. Since its enactment, the BCRP has recycled over 400 billion beverage containers through an extensive collection infrastructure and achieved a 76 percent recycling rate in 2018.

There are several statutory provisions that dictate convenience and payments to recyclers. As consumers must be able to redeem their beverage containers in order to receive their CRV, the Act requires that consumers have a convenient means to do so. The current convenience standard of at least one recycling center within one half mile of a supermarket (i.e. convenience zone) has not been updated for more than 30 years and does not consider geographic and population differences across California. The Act also prescribes specific operating requirements for recycling centers that do not allow for flexibility nor consideration of alternative consumer redemption opportunities. At the same time, changes in the global marketplace have caused recycling to be less profitable. As a result of the inability to innovate new recycling opportunities to consumers and respond to market forces, approximately 800 recycling centers have closed since 2016.

Assembly Bill 54 (Ting, Chapter 793, Statutes of 2019) required the Department of Resources Recycling and Recovery (CalRecycle) to issue a report to the Legislature on “options to expand or otherwise reconfigure convenience zones under the Act in order to reduce or eliminate public costs of supporting uneconomic and low-volume recycling centers while preserving the public’s ability to redeem beverage containers for the refund value.”

Based on convenience models and recycling methods from other recycling programs, reconfiguring convenience zones in order to reflect the needs of a region—while allowing for more flexible mechanisms for redeeming beverage containers—could reduce the costs to recycle, improve the viability of recycling operations, and preserve consumer access to redeem. Recycling is economically sustainable when the scrap value for recycled materials exceeds the costs to recycle that material. Currently, many materials are not able to be recycled economically without subsidies from the BCRP. Payments to recycling centers from the BCRP make up the difference between scrap value and the cost to recycle. Assembly Bill 54 required CalRecycle to identify mechanisms to make recycling more economical and to reduce public subsidies. Importantly, all payments to recycling centers from the BCRP are paid from unredeemed CRV and beverage container manufacturer processing fees, which cover a percentage of payments to recycling centers and vary by container type.

Per statute, this report identifies options to make beverage container recycling more economical, and preserve the public's ability to redeem by: Option 1) Reconfiguring convenience zones and recycler payments from a statewide to a regional standard; and, Option 2) Allowing additional, cost-effective recycling collection methods such as mobile and "bag-drop" services.

Options 1 and 2 also assist in maintaining and improving scrap values by facilitating recycling that avoids contamination and improves the marketability of recycled material. As the value of recycled material increases, the amount of programs payments necessary to cover the cost of recycling decreases. To improve scrap value for recycled material, this report provides an option to: Option 3) Enhance recycled material markets by establishing minimum recycled content requirements for beverage containers.

Each of these options builds on convenience models and recycling methods used successfully in other recycling and collection programs (see appendix). However, each option would require additional analysis to determine how best to integrate it into the BCRP. This report does not provide all potential options that could reduce the need for recycler payments and improve consumer convenience.

California's Beverage Container Recycling Program

The Act established the BCRP as a comprehensive mechanism to increase beverage container recycling and reduce litter in California. Under the BCRP, consumers pay \$0.05 or \$0.10, the CRV deposit, when purchasing beverage containers included in the program. The CRV is returned when the consumer redeems the empty beverage container at a certified recycling center.

Convenience Zones and Operating Requirements

To provide consumers access to redeem the CRV, the Act established convenience zones as the area one-half mile radius around a supermarket. When enacted, the statute assumed that consumers would return beverages to the point of purchase, which would most often be a supermarket. A supermarket is defined as a full-line retail store with gross annual sales of \$2 million dollars or more. If there is no recycling center within a convenience zone, the zone is considered “unserved.” To ensure redemption opportunities exist in unserved zones, the Act requires each “dealer,” a retailer that sells beverage containers, in the zone to redeem beverage containers for consumers or pay a \$100 daily fee.

Statute requires certified recycling centers to meet certain operating requirements. Among other requirements, recycling centers must be open and staffed at least thirty hours per week with a minimum of five hours on Saturday or Sunday. To be eligible to receive handling fee payments, recycling centers within convenience zones must also be located on a supermarket site. These requirements impact recycling centers' costs, such as rent, labor and transportation. In addition, these requirements prevent recyclers from utilizing redemption methods that may reduce costs while maintaining consumer convenience, such as mobile pick-up or bag-drop options.

The current convenience standard does not reflect regional variations in recycling center operating costs, which can vary greatly. Across California, communities have varying levels of beverage container returns, affecting the volumes received by recycling centers and the potential profit from scrap material. In some areas, high rent and increased wages make it difficult for recycling centers to make a profit. In other regions with lower population, recyclers may face higher transportation costs to move recycled materials to market. In all regions of California, recycling center operators have indicated that they are having a difficult time maintaining profitability given statutory requirements, operation costs, and global market conditions. As a result, recycling centers rely on the payments made from the BCRF to cover the costs associated with recycling and, ultimately, to stay in business.

Payments to Recycling Centers

Recycling centers are privately owned businesses certified by CalRecycle to collect CRV containers and provide redemption payments to customers. Recycling centers sell the collected containers to processors, receive the CRV, and benefit from any additional scrap value. When scrap values are high, recycling centers are more likely to be profitable. When scrap values decrease, recycling center profit margins are impacted. The Act provides payments to support recycling centers and provide consumers with convenient recycling opportunities.

All recycling centers under the BCRP receive a processing payment for each beverage container type collected that has a scrap value less than the cost of recycling. The processing payment is intended to cover the difference in costs between scrap values and the costs to recycle the beverage container, plus a reasonable financial return for recycling centers. All beverage containers within the BCRP, except for aluminum, are currently eligible for a processing payment.

Processing payment calculations are prescribed in statute and are not able to be adjusted without legislation. Per statute, processing payments are based on a statewide survey of the actual costs to recycle. Because processing payments are based on a statewide average, recycling centers that have increased costs for transportation, labor, rent, or other factors, as compared to other regions, receive less than needed to cover the difference between scrap value and the costs of recycling in that area. Recycling centers with lower operating costs than the statewide average receive a higher processing payment than needed.

To incentivize recycling centers to locate in a convenience zone, the Act provides the handling fee payment—in addition to the processing payment—to recycling centers located on a supermarket site. Per statute, the handling fee is calculated through a statewide survey that analyzes the average additional costs of recycling containers on supermarket sites compared to the average statewide costs of all recycling centers. As with processing payments, the statewide average of these handling fee payments does not account for differential costs across California.

The processing payments, handling fee payments, and all other program payments are paid from the Beverage Container Recycling Fund (BCRF). The BCRF receives approximately \$1.3 billion annually from CRV deposits. The largest expenditure from the BCRF is redemption of CRV directly to consumers, totaling approximately \$933 million per year. The second and third largest payments from the BCRF consist of processing payments and handling fee payments. These payments totaled approximately \$175 million in fiscal year 2018-2019.

All handling fee payments, and most processing payments, are paid from the unredeemed CRV funds within the BCRF. Processing fees, paid by beverage

manufacturers, make up the remaining percentage of the processing payments and vary by container type.

Current Status of the BCRP and Collection Infrastructure

There are approximately 1,200 certified recycling centers currently operating in California, down from a high of approximately 2,000 in 2016. In August 2019, the largest operator of recycling centers in the state closed all 281 locations. CalRecycle has been actively working with prospective businesses interested in becoming certified recycling centers at unserved locations and expediting new applications. Since these closures, 101 new recycling centers have been certified as of March 2, 2020. Of those 101 new recycling centers, 52 are located at or near recently closed recycling centers.

Falling Scrap Prices and Program Payment Adjustment

Historically, aluminum beverage containers have held high scrap value and have been the primary profit generator for recycling centers. However, aluminum scrap values are nearing their lowest value since 2009, significantly reducing potential profits for recycling centers. Additionally, aluminum beverage containers have declined and have largely been replaced by plastic beverage containers, which have a lower scrap value. These combined factors have led to an estimated decline of \$115 million in revenue for recycling centers in 2019 compared to 2012.

Most recycling centers operate on low profit margins and do not have the revenue to remain open when both scrap values and program payments are low. Per statute, processing payments are based on the prior year's cost of recycling. If there are sudden changes in the costs of recycling due to fluctuations in the scrap market or other factors, the processing payment is slow to react. The processing payment may only be adjusted if there has been at least a five percent change in the average scrap value during the preceding 12-month period. Given that scrap values change frequently, the adjustment does not reflect the near-term difference between the scrap values and the cost of recycling. As a result, recycling centers have received low program payments during periods of low scrap values in some cases. Taken together, these factors impact recycling center profits and viability.

Options to Reduce the Costs of Recycling and Preserve Consumer Convenience

Assembly Bill 54 required CalRecycle to issue a report to the Legislature on “options to expand or otherwise reconfigure convenience zones under the Act in order to reduce or eliminate public costs of supporting uneconomic and low-volume recycling centers while preserving the public’s ability to redeem beverage containers for the refund value.”

Expanding the radius of the current convenience zone standard would not address the factors outlined previously in this report that impact recycling center viability and consumer convenience. For these reasons, the options below focus on reconfiguring the convenience zones rather than expanding the convenience zones.

This section contains options to reconfigure convenience zones, allow additional redemption methods, and enhance recycled material markets that could improve the resiliency and cost-effectiveness of recycling centers while more effectively serving consumers in the various regions of California. Further analysis of these options would be necessary to determine how best to integrate these options into the BCRP.

Option 1: Reconfigure Convenience Standards and Adjust Payments

Reconfigure Convenience Standards

California cities and counties vary in population and geography. The current standard for convenience does not recognize diverse consumer habits or variable costs such as differential property and transportation costs. In addition to determining the appropriate level of convenience needed in a region, these factors also impact the viability of recycling businesses.

To reduce the cost of recycling and preserve the public’s ability to redeem CRV, this option reconfigures convenience zones from a statewide to a regional-based approach, taking into consideration the diversity of factors throughout the state. The process to establish the convenience standards should include a public process and be informed by the Beverage Container Recycling Pilot Program (see appendix). The new convenience standard should be structured to maintain and expand the existing recycling center infrastructure in California.

Under this option, the Legislature could direct the development of new criteria through a robust regulatory process, allowing standards for convenience to reflect the unique needs and characteristics of the various regions in California. Factors that could be considered for establishing the standards include population density, geography, distance between redemption centers, and consumer transportation times. These are factors that have been considered in establishing convenience standards in other recycling programs, as discussed further in the appendix.

This option would be most effective with, in addition to traditional recycling centers, the mechanisms outlined in Option 2 (mobile recycling, bag-drop, and pick-up services). Under this construct, once a standard is adopted for each region, local governments, businesses, and communities within a region could work together to choose which recycling mechanisms to employ in order to achieve the convenience standard.

As under the current program, this option would require dealers to maintain the role of providing in-store redemption opportunities in cases when the convenience standard is not met. Establishing better consumer education, as well as in-store redemption limits and a clear and efficient process for dealers to redeem CRV should also be considered under this option. In addition, consideration could be given to narrowing the scope of dealers required to redeem beverage containers (by establishing a sales or square footage threshold, for example).

Adjust Payments to Align with Regional-Based Convenience Approach

Given that program payments to recyclers are tied to the current convenience standard in statute, these payments would need to be adjusted to reflect a new regional-based approach to convenience. Current statutory requirements for handling fee payments would no longer be relevant, since the convenience standard would no longer be tied to a radius around a supermarket.

This option would aim to provide each recycling operation a payment reflecting the cost of recycling by region and type of redemption method. At a minimum, program payments to recyclers would need to be adjusted. As with the current program, the new recycler payment would seek to provide recycling centers with a payment to cover the difference between scrap value and the costs of recycling. Unlike the current payments based on statewide averages, the new payment structure could account for factors such as recycling volume, real estate costs, labor costs, and other differences in the cost of operating a recycling facility. For example, the actual costs of recycling for a traditional recycling center will vary from that of a mobile recycling center, and rural operations may vary in costs from urban operations.

To adjust recycler payments, there are two options to consider:

Restructure the Current Payment Structure for Recycling Centers: Replace the two existing recycler payments—processing payments and handling fee payments—with a

new, single recycler payment system based on the unique costs within a region. This option would also require a corresponding change to the processing fee structure paid by beverage manufacturers.

Restructure Handling Fee Payments to Convenience Zone Recycling Centers: Maintain the current processing payment and processing fee structure and replace the handling fee payment with an additional, new recycler payment system. This option would maintain the existing processing payment and include the statewide average and annual adjustment periods. The new recycler payment would be based on the difference between the processing payment and the unique costs within each region.

Option 2: Authorize Additional Redemption Methods

In addition to reconfiguring convenience zones, allowing additional, cost-effective redemption methods can reduce the cost to recycle and increase consumer convenience. This option could be adopted under the current convenience zone structure or paired with Option 1 for maximum effectiveness.

Current statute prescribes specific operating requirements for recycling centers that only allow for consumer redemption through traditional recycling centers and limited use of reverse vending machines. Alternative redemption methods, such as mobile pick-up and bag-drop recycling services, have been used in other programs to offer consumers a more flexible mechanism to redeem while reducing the overall costs of collection and recycling. Statutory changes would be needed to adjust the requirements for certified recycling centers including requirements for operating hours, payment mechanisms, and recycling center locations. This could allow non-traditional and innovative recycling methods to be utilized in the BCRP.

Option 3: Enhance the Stability of Recycled Commodity Scrap Values by Establishing Minimum Content Standards for Plastic Beverage Containers

Reducing or eliminating public costs of subsidizing recycling centers requires that scrap values exceed the cost of recycling. As scrap values increase, recycling centers are less dependent upon program payments to stay profitable.

Establishing minimum recycled content standards for plastic beverage containers in statute could help develop domestic markets for plastic scrap and stabilize scrap values. Due in part to low oil prices, virgin plastic is priced lower than recycled plastic. Establishing minimum content standards for plastic beverage containers would increase demand for recycled plastic, thus increasing the scrap value of the material for recycling centers. If the scrap value for recycled plastics increases, recycler payments would decrease.

Conclusion

The Beverage Container Recycling Program is one component of a much broader recycling system in California. In Assembly Bill 54, the Legislature identified a need to evaluate convenience and the cost of recycling within the BCRP and directed CalRecycle to provide options to address these issues. While these tenets are important components of a successful recycling program, the scope of this report does not capture all challenges and options for evolution within the BCRP.

Specifically, Assembly Bill 54 directed CalRecycle to issue a report to the Legislature on “options to expand or otherwise reconfigure convenience zones under the Act in order to reduce or eliminate public costs of supporting uneconomic and low-volume recycling centers while preserving the public’s ability to redeem beverage containers for the refund value.”

Each of the options provided in this report require legislative change and robust consideration. CalRecycle welcomes the opportunity to collaborate with the Legislature to determine how best to improve consumer access to redemption opportunities while supporting California’s recycling infrastructure within the BCRP. CalRecycle also looks forward to engaging in holistic conversations about the future of the state’s overall recycling system and the development of California’s circular economy.

Appendix: Convenience Standards and Redemption Methods in Other Recycling Programs

Convenience zones were originally intended to ensure that if an individual purchased a beverage container from a retail outlet, the individual would be able to return the container close to, or to the same, retail outlet. Based on recent studies and other models of convenience from recycling programs, there are many new considerations and modern technologies that could be considered to improve consumer redemption opportunities in a cost-effective manner.

Beverage Container Recycling Pilot Program

In 2017, SB 458 (Wiener, Chapter 648, Statutes of 2017) authorized CalRecycle to explore new, innovative models for CRV redemption by approving up to five pilot projects from jurisdictions designed to increase consumer convenience in unserved areas.* AB 54, signed into law in October 2019, allocated \$5 million dollars to support these pilot projects. As of February 13, 2020,† CalRecycle has approved two pilot projects that include mobile and bag-drop services.

“Convenient Beverage Recycling in California”: University of California, Berkeley Draft Report

CalRecycle commissioned the University of California, Berkeley to develop a report to study what Californians perceive to be convenient recycling opportunities. The report is not final; however, a draft has been completed. The draft report entitled “Convenient Beverage Recycling in California” (Peter Berck, et al. 2019)‡, found that consumers see recycling as convenient when redemption opportunities are close by, have short wait times, and are open during convenient hours. The draft report concluded that recycling centers located on supermarket parking lots are not necessarily the most convenient redemption opportunity.

* More information on the grant solicitation process can be found here:

<https://www.calrecycle.ca.gov/bevcontainer/grants/bevcontainer/fy201920>

† More information on the approved pilot projects can be found here:

<https://www.calrecycle.ca.gov/NewsRoom/2020/02feb/03/>

‡ Peter Berck et al., (2019) *Convenient Beverage Recycling in California: A Report to the Legislature*. Retrieved from

<https://www.calrecycle.ca.gov/bevcontainer/notices/2019/ucstudy>

Convenience Standards and Redemption Methods in Other Recycling Programs

There are several other recycling programs with convenience standards for various materials around the world. Below is a discussion of some programs with elements that may assist in providing greater consumer convenience in a more cost-effective manner for the BCRP.

Province of British Columbia's Beverage Container Recycling Program

The Province of British Columbia's (BC) beverage container deposit system recognizes regional variations and provides multiple redemption methods. A 30-minute driving radius is used to establish convenience in urban areas and a 45-minute driving radius for rural areas. For higher volume areas, the program allows for "depots," which are very similar to California's recycling centers. Unlike the BCRP, the BC model allows depots to offer an "Express" option where customers can drop off labeled bags filled with unsorted plastic, glass, and aluminum containers and receive their refund electronically. In remote and lower recycling volume areas, the BC program allows for smaller, automated redemption models known as "Express & Go" stations. Costs to maintain these stations are less than the full-service depots. Customers can drop off containers at any time and staff process beverage containers received at the station when the collection area is full. With these mechanisms, BC is able to achieve and maintain a recycling rate of 77 percent and a stable recycling center infrastructure that is less impacted by market fluctuations.

Oregon's Beverage Container Recycling Program

Oregon, in recent years, has developed a more modernized beverage container recycling program. Their program utilizes traditional recycling centers, reverse vending machines (RVMs), as well as a bag-drop option. Consumers use a designated bag to collect containers and can drop it off at a local "BottleDrop" center or partner retailer. The bag is scanned, material is sorted, and the refund is credited to the customer's BottleDrop account. According to OBRC's 2018 annual report, Oregon has a redemption rate of 85 percent. In addition to utilizing technology and expanding redemption methods, Oregon also increased the beverage container deposit from \$0.05 to \$0.10.

Maine's Beverage Container Recycling Program

Maine's state government establishes convenience standards by considering factors such as population density and distance from a retailer to determine appropriate levels of convenience. As of 2017, over 90 percent of Maine's population resides within 15 miles of a redemption center. In 2018, Maine's beverage container recycling rate was 84 percent.

California's Paint Recycling Program

PaintCare, the stewardship organization for California's paint recycling program, established two convenience goals in its stewardship plan based on population and regional variations:

1. Collection sites within 15 miles of 90 percent of the California population, and
2. One additional paint drop-off site for every 50,000 residents in urbanized areas.

PaintCare utilizes population data and geographic information systems (GIS) to analyze convenience in urban areas. Based on the 2019 annual report, PaintCare provided 98.5 percent of consumers year-round access to a paint drop-off point within 15 miles of their residence, exceeding the 90 percent goal. To increase convenience in rural areas, PaintCare partnered with counties and established drop-off sites at household hazardous waste facilities, transfer stations, and landfills. In addition to the network of paint drop-off locations, PaintCare provides pick-up services and holds drop-off events. As in the BCRP, retail sites are also utilized to provide consumer convenience.

California's Mattress Recycling Program

The Mattress Recycling Council (MRC), the stewardship organization for California's mattress recycling program, uses a 15-mile driving distance as the metric to measure convenience in urban areas and a 25-mile metric in rural areas. If a county has less than 2,000 residents, the stewardship organization must provide two collection events in each county each year. CalRecycle, in consultation with MRC, is in the process of developing convenience goals through a public process per AB 187 (Garcia, C., Chapter 673, Statutes of 2019) to ensure that consumers across the state have convenient access to the mattress recycling program.