

Date of Hearing: April 10, 2023

ASSEMBLY COMMITTEE ON NATURAL RESOURCES

Luz Rivas, Chair

AB 891 (Irwin) – As Introduced March 15, 2023

**SUBJECT:** Beverage container recycling: nonpetroleum materials

**SUMMARY:** Establishes a goal for plastic beverage containers subject to the California Beverage Container Recycling and Litter Reduction Act (Bottle Bill) to include a minimum of 15% nonpetroleum biomaterials by 2030.

**EXISTING LAW:**

- 1) Requires the Air Resources Board (ARB), pursuant to California Global Warming Solutions Act of 2006 [AB 32 (Núñez), Chapter 488, Statutes of 2006], to adopt a statewide greenhouse gas (GHG) emissions limit equivalent to 1990 levels by 2020 and adopt regulations to achieve maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorizes ARB to permit the use of market-based compliance mechanisms to comply with GHG reduction regulations once specified conditions are met. Requires ARB to approve a statewide GHG emissions limit equivalent to 85% below the 1990 level by 2045. (Health and Safety Code 38500-38599.11)
- 2) Establishes as the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of all retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045. (Public Utilities Code 454.53)
- 3) Establishes the Bottle Bill (Public Resources Code 14500-14599), which:
  - a) Requires beverage containers, as defined, sold in-state to have a California redemption value (CRV) of 5 cents for containers that hold fewer than 24 ounces and 10 cents for containers that hold 24 ounces or more. Requires beverage distributors to pay a redemption payment to the Department of Resources Recycling and Recovery (CalRecycle) for every beverage container sold in the state.
  - b) Defines “beverage” as:
    - i) Beer and other malt beverages;
    - ii) Wine and distilled spirit coolers;
    - iii) Carbonated water;
    - iv) Noncarbonated water;
    - v) Carbonated soft drinks;
    - vi) Noncarbonated soft drinks and sports drinks;
    - vii) Noncarbonated fruit juice drinks that contain any percentage of fruit juice;
    - viii) Coffee and tea drinks;
    - ix) Carbonated fruit drinks; and,
    - x) Vegetable juice in beverage containers of 16 ounces or less.

- c) Beginning January 1, 2024, adds wine and distilled spirits to the definition of “beverage.”
  - d) Specifies that “beverage” does not include:
    - i) Any product sold in a container that is not aluminum, glass, plastic, or bimetel, as specified;
    - ii) Wine and wine from which the alcohol has been removed, in whole or in part;
    - iii) Milk, medical food, and infant formula; and,
    - iv) 100% fruit juice sold in containers that are 46 ounces or more in volume.
  - e) Beginning January 1, 2024, removes wine from the list of beverages excluded from the definition of “beverage.”
  - f) Defines “beverage container” as the individual, separate bottle, can, jar, carton, or other receptacle in which a beverage is sold, and which is constructed of metal, glass, plastic, or any other material, or any combination of these materials. Specifies that “beverage container” does not include cups or other similar open or loosely sealed receptacles.
  - g) Requires plastic beverage containers subject to the Bottle Bill to contain the following percentages of postconsumer recycled plastic annually:
    - i) From January 1, 2022, until December 31, 2024, no less than 15%;
    - ii) From January 1, 2025, until December 31, 2029, no less than 25%; and,
    - iii) On and after January 1, 2030, no less than 50%.
  - h) Requires glass beverage containers to contain a minimum of 35% postfilled (i.e., recycled) glass, as specified.
  - i) Requires CalRecycle to establish a processing payment for a beverage container covered under the program that has a scrap value less than the cost of recycling, to be determined as specified, that is at least equal to the difference between the scrap value of the material and the sum of the cost of recycling and a reasonable financial return.
  - j) Requires beverage manufacturers to pay a processing fee to CalRecycle for each container sold in the state equal to 65% of the processing payment. Reduces the amount of the processing fee based on the recycling rate of the type of container, as specified.
- 4) Excludes beverage containers subject to the Bottle Bill from the Plastic Pollution Prevention and Packaging Producer Responsibility Act. (Public Resources Code 42041)

**THIS BILL:**

- 1) Defines “nonpetroleum biomaterials” as materials produced from nonpetroleum feedstocks not fit for human or animal consumption that provide biobased or biogenic carbon, as specified, including:
  - a) Agricultural crop residues;

- b) Bark, lawn, yard, and garden clippings;
- c) Leaves, silvicultural residue, and tree and brush pruning;
- d) Wood, wood chips, and wood “paste”;
- e) Nonrecyclable pulp and nonrecyclable paper materials;
- f) Old corrugated cardboard;
- g) Cotton waste products; and,
- h) Other nonpetroleum biomaterials authorized by CalRecycle.

Specifies that nonpetroleum biomaterials do not include crops grown for the express purpose of creating feedstocks pursuant to this bill or materials or processes that undermine or contaminate the recyclability of a plastic container.

- 2) Beginning January 1, 2025, specifies that a beverage manufacturer uses nonpetroleum materials in containers covered by the Bottle Bill receive a reduction in the processing fee “equal to 10% of the processing fee applicable only to the certified percentage of the beverage container, by weight, that derives from nonpetroleum biomaterials.”
- 3) Requires certification of the percentage of the beverage container, by weight, that derives from nonpetroleum biomaterials by a third-party certification entity, which shall be independent and accredited, as specified.
- 4) Requires CalRecycle to charge a fee to a beverage manufacturer who applies for a processing fee reduction under the bill that is sufficient to cover, but not exceed, CalRecycle’s reasonable costs to implement the bill.
- 5) Codifies legislative intent that beverage manufacturers transition toward increasing levels of nonpetroleum biomaterials when producing recyclable plastic beverage containers with a companywide and industrywide goal of 15% or more by January 1, 2030.
- 6) Authorizes beverage manufactures to report the amount of virgin plastic derived from nonpetroleum biomaterials in the report they submit annually to CalRecycle regarding postconsumer recycled content.
- 7) States related legislative findings and declarations.

**FISCAL EFFECT:** Unknown

**COMMENTS:**

1) **Author’s statement:**

I introduced AB 891 with the intent to reduce fossil fuel based plastics and instead incentivize the use of recyclable non petroleum based plastics in plastic bottles. As joint author of AB 793 with Assemblymember Ting, I believe the time is right

to work towards reducing fossil fuel based plastics and supporting the circular economy.

- 2) **Plastic production.** While the conversation around plastic has generally focused on its end of life, plastic pollution starts with fossil fuel extraction, and continues through manufacturing, transportation, usage, and finally disposal. Hundreds of petrochemical facilities throughout the United States create the pellets used in the production of plastic products. The vast majority of plastic is synthesized from fossil fuels, including oil, coal, and natural gas. About 14% of oil is used in petrochemical manufacturing, a precursor to producing plastic. By 2050, it is predicted to account for 50% of oil and fracked gas demand growth.

Plastic production is a significant driver of climate change. According to the Organisation for Economic Co-operation and Development, plastics generated 18 billion metric tons of GHGs in 2019. By 2060, GHG emissions from plastics are expected to reach 4.3 billion metric tons, given the ongoing exponential increase in production.

- 3) **Plastic pollution.** An estimated 8 million metric tons of plastic waste enters the world's oceans annually. By 2040, that number is expected to triple to 24 million metric tons. Ocean plastic pollution is driven by ocean currents and accumulates in certain areas throughout the ocean. The North Pacific Central Gyre is the ultimate destination for much of the marine debris originating from the California coast. However, plastic generated in California pollutes oceans across the globe, as bales of plastic collected for recycling here are exported for processing and recycling. The plastic with value is collected and recycled, and the rest is landfilled or incinerated.

As plastic circulates in the environment, it breaks down into smaller particles, known as microplastic. Microplastic refers to plastic particles that are less than 5 millimeters in length (about the size of a sesame seed). They come from a variety of sources, including primary microplastics, which are purposely manufactured for use in products, such as "microbeads" used in cosmetics, household cleaners, and personal care products, and pellets used for plastic manufacturing, and secondary microplastics that are generated as larger plastic debris degrades into smaller and smaller pieces over time, and microfibers, which are small plastic fibers that are shed from polyester fabrics, such as polyester fleece, and from plastic-based textiles like upholstery and carpet.

Microplastics have become ubiquitous in the environment. They are floating in outdoor and indoor air, even in areas far from any identifiable source. The particles are small enough to be carried by wind currents. They have been found in waterways and drinking water. Like all plastic in the environment, these particles accumulate toxins like pesticides, heavy metals, and other chemicals. Humans are breathing and ingesting microplastics, but there is almost no research into their health impacts.

Policies that target plastic production help to reduce its impacts on the environment and public health; however, these policies alone are not a solution. To address the plastic pollution crisis, we need to produce less of it.

- 4) **Alternative plastics.** Concerns about plastic have contributed to the development of alternative types of plastics. These plastics are intended to, or claim to, address different

environmental impacts associated with plastic production and use. These generally fall into two categories – biobased plastics and compostable or degradable plastics.

Biobased plastics are intended to reduce the environmental impacts associated with the production of plastic. They are conventional resin types, generally PET, produced out of materials other than fossil fuels. Source materials can include crops, like corn and soy, or waste materials, like crop residues and yard waste. These plastics are identical to fossil fuel-derived resins and can be recycled with other types of plastic in conventional recycling systems. Like conventional plastics, they do not degrade into their organic constituents when released into the environment; instead, they persist in the environment indefinitely and eventually break down into microplastics.

Compostable and “degradable” plastics are intended to reduce the environmental impacts associated with plastic’s end-of-life. These are plastics that are designed to break down into their organic constituents in composting operations. In California, plastics have to meet specified standards to be labeled compostable (both for industrial composting operations and home composting). Even those that meet California’s strict standards may not actually compost in the state’s compost facilities, as most facilities process material faster than compostable plastics can break down. Additionally, compost containing compostable plastics does not meet federal organic standards and cannot be labeled organic, greatly reducing the marketability of the finished compost. Other plastics claim to be “degradable” or “biodegradable,” which are intended to break down into their organic constituents under various environmental conditions, such as the presence of certain microbes. California law prohibits labeling plastic products biodegradable or degradable, as there are no approved testing standards to verify these claims. Real world conditions don’t necessarily replicate the specific conditions under which these products degrade, so they may persist in the environment for extended periods of time. These plastics are contaminants in recycling streams and must be either composted, if compostable, or disposed of as solid waste.

The various claims about less impactful plastics have created consumer confusion about what their benefits are, if any, and about how to manage them. For example, consumers may feel more comfortable littering a product labeled “biodegradable,” even though the product may persist in the environment for years. A 2014 CalRecycle report, *Biobased and Degradable Plastics Understanding New Packaging Materials and Their Management in California*, concluded that “While producing bioplastics in the state may offer some environmental benefits, currently the potential value is overshadowed by end-of-life concerns.”

- 5) **Bottle Bill.** The Bottle Bill was established in 1986 to be a self-funded program that encourages consumers to recycle beverage containers and to prevent littering. The program accomplishes this goal by requiring consumers to pay a deposit for each eligible container purchased. Then the program guarantees consumers repayment of that deposit, the CRV, for each eligible container returned to a certified recycler. Statute includes two main goals for the program: (1) reducing litter; and, (2) achieving a recycling rate of 80% for eligible containers. Containers recycled through the Bottle Bill’s certified recycling centers also provides a consistent, clean, uncontaminated stream of recycled materials with minimal processing.
- 6) **Eligible beverage containers.** Only certain containers containing certain beverages are part of the CRV program. Most containers made from glass, plastic, aluminum, and bimetals

(consisting of one or more metals) are included. Containers for wine, spirits, milk, fruit juices over 46 ounces, vegetable juice over 16 ounces, and soy drinks are not part of the program. Container types that are not included in the CRV program are cartons, pouches, and any container that holds 64 ounces or more. Beginning January 1, 2024, the Bottle Bill will include containers for wine and distilled spirits.

- 7) **Processing payments and processing fees.** The largest challenge facing the Bottle Bill is the closure of more than 1,000 recycling centers, leaving many Californians without redemption opportunities. While a number of factors have contributed to the closures, one of the key challenges facing recycling centers is the volatile nature of the per container “processing payments” that are made to recycling centers by the program. These payments are intended to cover the cost of recycling so that the recycled plastic collected by the centers can compete with virgin plastic in the marketplace. Unfortunately, the methodology used to calculate the payments does not adequately reflect recyclers’ costs, and the timelines of adjustments to the payments have resulted in sudden and significant shifts in funding for recycling centers. For example, at the end of 2022, the processing payment for PET was \$0.13 per pound. In January, the payment dropped to just \$0.04 per pound. Earlier this month, CalRecycle exercised its authority to revise the processing payment every three months and increased it to just over \$0.08 per pound. This instability causes significant financial strain on recycling centers.

Processing payments are intended to be funded by processing fees paid by beverage manufacturers. Processing fees are designed to cover the cost of recycling the beverage containers marketed by the manufacturers, and are the only producer responsibility component of the Bottle Bill. The fees are discounted, or “offset,” based on the recycling rate (i.e., collection rate), and the total amount of the proceeding fees paid by manufacturers are capped at 65% of the processing payment, so while intended to assist with the cost of recycling, they cover only about 20% of the processing payments made to manufacturers. The difference is funded by the Beverage Container Recycling Fund (BCRF). For example, in the 2020-21 Fiscal Year (FY), total processing fees were over \$155 million, but after the processing fee offsets, the amount paid by beverage manufacturers totaled just over \$30 million. The same year, processing payments made to recyclers were just over \$153 million.

- 7) **This bill.** California has adopted a number of statutes that are intended to move the state away from fossil fuels; however, the state has not taken action to begin to transition away from fossil fuel-based plastic. This bill is intended to begin to transition the state away from fossil-fuel based virgin plastic. AB 891 mirrors the feedstocks that are approved for use under the state’s renewable energy procurement law and adds old, nonrecyclable cardboard and cotton waste, which are currently used by some nonpetroleum biomaterial plastic producers. These feedstocks are waste materials that are difficult to manage. This bill also excludes the use of crops grown for the purpose of creating biomaterial and materials that undermine or contaminate the recyclability of the container. The use of the biomaterials authorized by the bill has the potential to reduce the GHG emissions and other pollutants associated with the production of virgin plastic. Additionally, by limiting the approved feedstock to waste materials, it encourages a way to use those materials and avoids the environmental and social problems associated with raising crops for industrial purposes, such as pollution from the use of pesticides, fertilizers, and herbicides, GHG emissions associated with industrial farming practices, and contributing to global deforestation,.

This bill establishes minimum nonpetroleum-derived plastic content requirements for beverage containers covered by the state's Bottle Bill program. This would be a first step toward reducing the state's dependence on oil for plastic production.

- 8) **The right reward?** It is not clear that processing fee reductions are the appropriate incentive for the purposes of this bill. While this bill is structured to provide an incentive to producers who use nonpetroleum biomaterial for the production of virgin plastic bottles, the incentive used is an additional reduction in the amount of processing fees paid by beverage manufacturers. The Bottle Bill is intended to manage the end-of-life of beverage containers by reducing litter and increasing recycling, not govern the production of virgin plastic.

In keeping with the intent of the Bottle Bill, the processing fee is intended to reflect the cost of recycling and support the state's recycling infrastructure, and the offsets are intended to incentivize higher recycling rates. This bill, however, does not improve the recyclability or recycling rates of plastic beverage containers. Moreover, the processing fee is already significantly discounted for beverage manufacturers and does not fully fund the cost of recycling beverage containers, which is subsidized by the BCRF. This additional reduction will require the BCRF to cover the costs of the further reduced processing fees. For FY 2021-22, for example, PET processing fees were nearly \$67 million, but after offsets, beverage manufacturers paid just \$9.1 million. This bill proposes to discount the processing fees "imposed" up to 10%, based on the amount of biomaterials used in the beverage container, further reducing the amount beverage manufacturers who use biomaterials would pay for processing fees. The author's office indicates that this language is intended to apply to the amount of the processing fee after offsets, so, for FY 2021-22, up to \$900,000.

- 9) **One piece of the puzzle.** Policies that encourage the use of biomaterials in the production of plastic need to avoid undermining other plastic production reduction and recycling efforts. Lower-polluting production methods are one piece of the plastic pollution puzzle, but they do not solve the myriad issues associated with plastic's end of life. Policies like this bill should be in addition to, and not combined with or overlapping, other policies like source reduction, recycling, and postconsumer recycled-content requirements.

- 10) **Suggested amendments.** *The committee may wish to make the following amendments to the bill:*

- a) Correct drafting errors by replacing the word "paste" on page 3, line 36 with "waste" and correcting a reference to "nonpetroleum materials" on page 4, line 34.
- b) Clarify that the definition of "nonpetroleum biomaterials" does not include crops grown for the express purpose of creating feedstocks for plastic production.
- c) Limit the percentage of a beverage container that is eligible for processing fee reduction to 50%.
- d) Specify that the certification body must certify that the nonpetroleum biomaterials do not require any change to collection or processing of the beverage containers.

**REGISTERED SUPPORT / OPPOSITION:**

**Support**

Californians Against Waste

**Opposition**

American Beverage Association

Consumer Brands Association

International Bottled Water Association

**Analysis Prepared by:** Elizabeth MacMillan / NAT. RES. /