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California Recycling in Crisis

The world is engulfed in an environmental pandemic from plastic waste. Plastic is killing our planet and humanity. We each eat a credit card worth of plastic every week. We breathe it, we drink it, and we eat it.

“The greatest danger to our planet is the belief that someone else will save it” ~Robert Swan.

The State of California Legislature is a world leader in bring forth Legislation to **Save The Environment to Save Humanity**. AB 793, the California Beverage Container Recycling and Litter Reduction Act, goes into effect January 1, 2022.

This bill after January 1, 2022, would require the total number of plastic beverage containers filled with a beverage sold by a beverage manufacturer, must have a specified amounts of postconsumer recycled “PCR” content per year pursuant to a tiered plan that would require the total number of plastic beverage containers to contain, on average, no less than 50% postconsumer recycled plastic content per year on and after January 1, 2030, except as specified.

Assembly Bill 793 requires that all plastic bottles covered by the state’s container redemption program average at least 15% Post-Consumer Recycled resin (PCR) starting 2022. That recycled-content mandate increase to 25% in 2025 and 50% in 2030.

This bill is a great start to reduce plastic waste in California. But there is one BIG PROBLEM there is not enough PCR – Post-Consumer Recycled plastic available to beverage manufacturers to meet the requirements of the bill. To date there is only one plastic recycler in California that produces PCR that is FDA title 21 Food Contract Complaint.

The other big problem is sorting, separating all the different types of plastic to recycle it, grind it, clean it, then regrind to meet FDA title 21 compliance, compounding it into a reusable pellet to make new plastic food and beverage containers.

California used more than 12 billion plastic beverage bottles in 2017, according to the state agency CalRecycle.

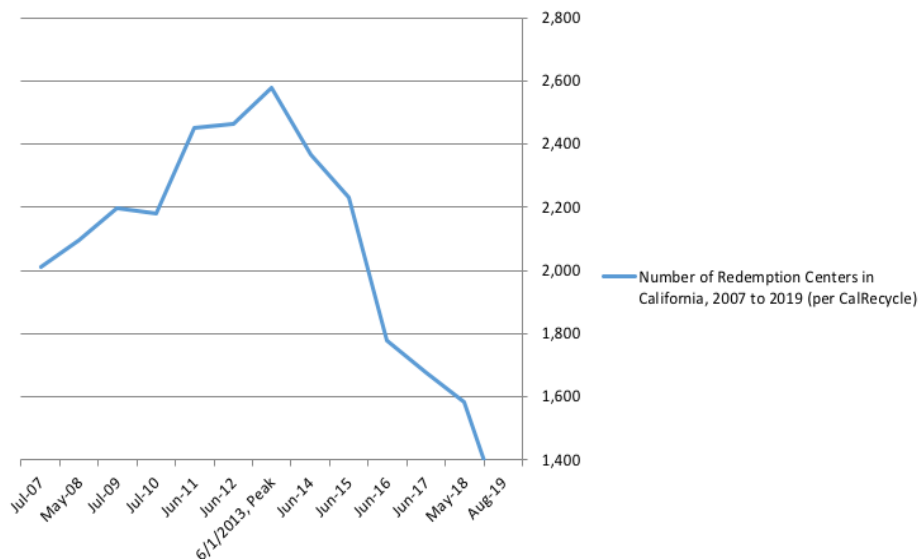
PET plastic – Polyethylene terephthalate is the most commonly used plastic for beverage bottles.

Plastic recycling is extremely challenging. It is almost impossible to recycle all of the different types of plastic together, to blend into one or two types PCR pellets that can be reused to make bottles or food packaging.

The other issue is as fast as we recycle plastic into new products, a great deal of it ends up back into our landfills and oceans.

From 2013 through mid-2019, more than 1,300 (53%) of the state’s redemption centers closed, resulting in less recovered income for consumers, fewer recycling industry jobs, a drop into the state’s recycling rate by approximately 10 percentage points, and ensuing harm to the sustainable economy and the environment at a time when we must take every step possible to address the climate crisis and ocean plastic pollution.

**California Loses 53% of Redemption Centers from 2013 to 2019;
1,356 Fewer Centers than in 2013**



Coca- Cola revealed in March 2019 that it produces 3 million tons of plastic packaging every year - the equivalent of 200,00 bottles per minute. According to its latest filing with CalRecycle, only 9% of its soda bottles currently include post-consumer recycled plastic. The company has pledged to make its bottles and cans out of at least 50% recycled by 2030.

Meanwhile, Danone, which owns Evian mineral water, has pledged to make all its plastic bottles from 100% recycled plastic by 2025. And according to Ting, California-based Naked Juice, which is owned by PepsiCo, already used bottles with 100% recycled content.

Still, at a hearing before the Natural Resources Committee, representatives of the bottling and beverage industries expressed concerns with the legislation.

“We want to see recycled content,” said Fredericka McGee, head of California government affairs with the American Beverage Association. But, she added, the timeline proposed in bill was too accelerated.

“The numbers that are outlined in AB 729 are simply not reachable,” she said.

‘We know right now, that by 2050, if we don’t do anything else we’ll actually have more plastic in the ocean than fish.’ - Assemblyman Phil Ting

PCR is not biodegradable or biocompostable. Therefore, there was a great need to address all of the issues that will plague the failure of these types of eco-friendly legislation like AB 793.

California has become the first US state to mandate a minimum recycled content in plastic beverage containers. The main objective of the new law is to develop the local market for recycled resins and to create value in the entire recycling chain.

Polyethylene terephthalate (PET) and high-density polyethylene (HDPE) together represent 97% of the US bottle market and consequently those will be the main resins affected by the new mandate.

According to the National Association for PET Container Resources (NAPCOR), out of the total recycled PET resins produced in the US from post-consumer bottle waste in 2018, only 25% was used to produce new bottles. The remaining 75% was consumed in other end-markets such as fibre, sheet, and strapping.

Similarly, only 37% of US recycled HDPE resins from PCR bottles was converted into new bottles in 2018. Other common applications are pipe, lumber/ decking, lawn/garden, automotive, and film/ sheet, as stated by the American Chemistry Council (ACC) and the Association of Plastic Recyclers (APR).

The mandate’s bottle-to-bottle focus may increase sourcing competition among the recycled end-markets. Therefore, there may be a potential switch from fibre, sheet, pipe, among other end-markets, to bottle, which is typically more valuable. In addition, it may also encourage supply developments, especially of food-grade resins.

Food grade R-PET (recycled PET) pricing in the US market has evolved to a premium position in the past 12-15 months. Reaching near \$300/ton above virgin PET resin on the West Coast, such is the demand for food grade material by major beverage brands with pledges to reach levels of 25-50% R-PET content in their bottles by 2030.

With demand outstripping supply, the bottle-to-bottle market has become a high value application. This legislation will now drive the demand for recycled content from all producers.

There is a technology need to develop a process that would allow different types of plastic to be blended to create a PCR that can be used in Food and Beverage packaging, that would be FDA title 21 Food Contact Compliant, as well be biodegradable and biocompostable.

Intec Bioplastics, Inc. has developed a process that allows different types of plastic to be blended together to create a PCR pellet that can be used in food and beverage packaging. On October 19, 2021, a United States Patent was issued **Patent No: US 11, 149, 131 B2** making PCR biodegradable and biocompostable. **Intec Bioplastics, Inc.** has acquired the right to this revolutionary technology.

Intec Bioplastics, Inc. is also developing a recycling technology that would allow consumers to recycle their plastic much easier than today's antiquated redemption centers. This technology would allow AB 729 to move closer to reaching its recycling PCR goals for FDA title 21 PCR in California. This patented technology could provide 250,000,000 pounds of biodegradable PCR annually.

Additional **Intec Bioplastic, Inc.** PCR recycling/compounding facilities can be built through out the state with the first one being developed in Southern California. Each facility would create 400 to 500 full time jobs.

All PCR could become biodegradable, biocompostable creating a safety net. This patented technology is the safety net that stops the vicious cycle of fishing plastic out of the oceans and, pulling it out of our landfills as we do today. We recycle plastic, just to see it go straight back into our environmental landfills, oceans. If something isn't done now "Plastic will be the main ingredient of all our grandchildren's recipes." – Anthony T. Hincks.

1 Million Plastic Bottles Bought Every Minute, That's Nearly 20,000 Every Second.

A new report highlights the astounding amount of plastic bottles humans go through and the environmental havoc it wreaks.

In the U.S., Americans went through about 50 billion plastic water bottles last year with a dismal 23 percent recycling rate.

A North American study last year found that 22 million pounds of plastic goes into the waters of the Great Lakes each year.

The following companies reported a weight figure for recycled resin in 2019 (their 2018 weight is included where applicable):

- Niagara Bottling: 48.8 million pounds (up from 33.2 million pounds in 2018)
- PepsiCo: 14.7 million pounds (down from 16.4 million pounds)
- Chameleon Beverage Co.: 1.7 million pounds (down from 1.9 million pounds)
- Hydration Source: 13,440 pounds
- Anheuser-Busch: 152 pounds (up from 136 pounds)
- Additionally, the following bottlers reported using a percentage of recycled content, although the weight was not listed:

- Nestlé Waters North America: 36.2% (down from 37% in 2018)
- Danone Waters of America: 20% (no change)
- Dolgen California 17% (no change)
- CG Roxane: 3% (up from 0.6%)
- Whole Foods Market: 20% of 431,593 bottles
- Coca-Cola: 19.3% (up from 9%)
- West Coast Liquidators: 8%

California's CRV Beverage Container Recycling Program: Quantifying Payments to Curbside and Drop-off Programs (2017) - Updated August 2019.

Summary of Findings: The operators of curbside and drop-off programs in California received \$193 million in revenue from CalRecycle payments and scrap sales for CRV beverage containers in 2017. The estimated cost for handling those containers was \$43 million, leading to a calculation of \$150 million in gross profits, or a 349% profit

Intec Bioplastics, Inc. is an engineered bioresin company with 465 bioresin formulas utilizing innovative intellectual property to develop technology to **Save The Environment to Save Humanity.**

For more information about our amazing technology go to www.Intecbioplastics.com