

**IN CONNECTION  
WITH AGENDA  
ITEM NO. 3**

**From:** [Hoivin Ip](#)  
**To:** [Environmental Programs](#); [Sean Crumby](#); [Joel Belding](#)  
**Cc:** [Kim Orbe](#)  
**Subject:** Public Comment: Plastic Waste Reduction Ordinance - Irvine Sustainability Commission  
**Date:** Sunday, November 5, 2023 12:49:29 PM  
**Attachments:** [Meal on Wheels.png](#)

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**CAUTION:** EXTERNAL EMAIL

Dear Sustainability Commission and staff,

On behalf of the Sierra Club, I start with thanks to every person who contributed to [agenda](#) item 3 Plastic Waste Reduction Ordinance. This is not just a milestone for Irvine, but also for the region and the statewide movement.

I recommend adding some following regulations to the staff report:

- California Water Boards' [Trash Provisions](#) that the City adopted in 2017 and started a ten-year process to prevent trash originating in high priority areas from reaching waterways.
- [SB 1383](#) organic waste reduction. Less plastic reduces contamination of waste stream and increases recovery rates of all organics (and recyclables).

The links I provided here are Sierra Club's proposals, in 2018 and 2021 respectively, to Irvine and other municipalities, and explain the importance of plastic reduction as compliance efforts - many other agencies are doing this as you've seen [our foodware policy tracker](#) numerous times over the years.

I'll be honest with you. My activism at Irvine since 2017 has no shortage of frustrations. While a couple of important plastic-related actions were taken (citywide smoking ban in 2019 and divestment from the fossil fuel and tobacco industries in 2022), the neighboring Laguna Beach has adopted more programs and ordinances. Yet, many more ordinances and bills have passed in the state. But today at Irvine, we see significant progress with the draft ordinance and \$300,000 planned for public education and enforcement of the ban. Thanks.

Below are my comments by section.

**Sec. 4-10-702 – Definitions.**

"Food Provider": sidewalk vendor should be changed to street vendor. [SB 972](#) (2022) extended SB 946 (2018) from sidewalk vending to street vending.

"Marine degradable" should have a definition.

**Sec. 4-10-703 – Prohibited and Authorized Single-Use Products.**

We support all of these, particularly Irvine joining the nationwide movement of banning plastic water bottles.

We suggest adding the italic part to A4 for more clarity and better enforcement: "Items containing expanded polystyrene *that is not wholly encapsulated or encased, such as egg cartons, coolers, ice chests, pool or beach toys, packing peanuts.*" [Oceanside's ordinance](#) adopted on 9/13/2023 is one of the examples.

**Sec. 4-10-704 – Applicability.**

We support the scope of "*any business or entity required to maintain a City business license or a health permit issued by the department of Orange County Environmental Health,*" as well as the twenty-five-cent disposable cup fee and the ten-cent bag fee.

"City Properties" should be added to "City Establishments and City-Sponsored Events." The [Climate Action and Adaptation Plan – Proposed Measures and Actions](#) includes Measure SW-1.3: "*All polystyrene foam products are prohibited from City facilities (including parks).*" It would actually be more beneficial to form a regional standard with Laguna Beach, that banned all single-use plastic foodware on "[city beaches, parks and trails.](#)" As local businesses are prohibited from providing these products, people should also not be allowed to bring them from

outside the city to City parks for a picnic or other gatherings. Banning the use in open space is the most effective way to reduce litter and ocean pollution. The citywide smoking ban has set a good precedent. The balloon ban shares the same concept.

Lastly, we continue to urge the City to take steps towards reusable foodware. At least [over 20 municipalities](#) require reusable foodware for dine-in. The City should also develop more sustainable programs with partners, such as Meals on Wheels. The photo on the left is a local delivery of one day's meals, this happens five days a week. The photo on the right is from Spectrum Community Services in Alameda County - one of the places where the Meals on Wheels service is done with reusable containers, they're happy with the money saved from constantly buying single-use. Recently, [New York Times](#) showed a variety of data on how tax dollars are disproportionately spent more on seniors than the young, and called it an economic war of the generations. Making the [Irvine Meals on Wheels](#) program sustainable is a practical step the City can take for wiser and fairer spending.



As always, the Sierra Club is happy to provide any assistance, and committed to work with Irvine for our shared climate and biodiversity goals. Thanks.

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**City of Irvine  
Sustainability Commission  
Hearing on Plastic Waste Ordinance  
November 8, 2023**

**Written Testimony**

**James P. Toner, Jr.  
Director of Government Relations  
International Bottled Water Association**

Chair Craciun, Vice Chair Abazajian, and members of the Sustainability Commission, thank you for this opportunity to submit written testimony on the proposed plastic waste ordinance, which would prohibit the sale and distribution of single-serve plastic water bottles.

The International Bottled Water Association (IBWA)<sup>1</sup> strongly opposes this proposed ordinance. This legislation is not in the public interest and IBWA would urge the commission not to support it. IBWA opposes this legislation because:

- bottled water products in plastic containers have the lowest environmental footprint of any packaged beverage
- plastic water bottles are the best option for consumers, the environment, and recycling
- efforts to ban bottled water sales, no matter what packaging material is used, would hinder consumers looking for a healthier beverage alternative
- removal of plastic bottled water from the marketplace provides fewer options for citizens at extreme high risk should there be a failure of a public water system
- it would greatly reduce existing recycling streams for polyethylene terephthalate (PET) in the state since that is one of the most sought- after materials in resource recovery markets
- the proposed ordinance lacks clarity of what constitutes a single-serve plastic bottle
- the proposed ordinance does not provide exemptions in emergency situations

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<sup>1</sup> IBWA is the trade association representing all segments of the bottled water industry, including spring, artesian, mineral, sparkling, well, groundwater and purified bottled waters. IBWA represents bottled water bottlers, distributors and suppliers throughout the United States, including several small, medium and large-size companies doing business in California. IBWA's stated mission is to serve the members and the public, by championing bottled water as an important choice for healthy hydration and lifestyle, and promoting an environmentally responsible and sustainable industry.

We believe it is important for the Sustainability Commission and the City of Irvine to know the facts about plastic bottled water containers.

- PET bottled water containers have the lowest environmental footprint of any packaged beverage.
- PET bottled water containers weigh less, emit fewer greenhouse gases, and use less fossil fuels and less water to make than any other packaged beverage container.
- All single-serve PET plastic bottled water containers are 100 percent recyclable.
- PET plastic bottled water containers are the most frequently recycled PET beverage containers in curbside recycling programs.
- Bottled water containers make up only 3.3 percent of all drink packaging in landfills.
- PET plastic bottles are favored by bottled water drinkers, with 79 percent saying so in a recent survey by The Harris Poll.

### **Bottled Water Has the Smallest Environmental Footprint of All Beverages**

Attempts to eliminate the use of plastic bottled water would remove the most environmentally friendly packaging option for beverages. A recent report from the American Chemistry Council (ACC), conducted by Franklin Associates, examined the overall impact of plastics on the environment, compared to other materials. The study looked at energy demand, water consumption, solid waste, global warming potential, eutrophication (nutrient runoff from the land into a body of water impacting oxygen levels) potential, smog formation potential, and ozone depletion potential.

The ACC report concluded that, when comparing materials throughout the entire life cycle of a package, plastics leave a much smaller environmental footprint than alternatives, such as glass, aluminum cans, and paperboard cartons.<sup>2</sup> Perhaps the most significant finding from the ACC report is that alternatives to plastic beverage containers would produce about 60 percent more greenhouse gas emissions – a major contributor to climate change.

In addition, McKinsey & Company, a well-respected consulting firm, issued a report that shows “PET bottles have the lowest GHG emissions because of their lightweight properties and the low amount of energy required to produce them. By contrast, aluminum cans have two times the emissions of PET bottles, and emissions from glass bottles are three times higher.” It is important to note that this report compares PET soda bottles, rather than PET water bottles, with other packaging types. If McKinsey & Associates had included PET water bottles in this report, it is highly likely that the report would have found an even greater disparity between GHG emissions when compared with aluminum cans and glass bottles.

The ACC and McKinsey findings are consistent with the Life Cycle Assessment prepared for IBWA by Trayak LLC, a product sustainability consulting and software solutions company that enables companies to design and manufacture their entire portfolio of products using sustainable strategies.

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<sup>2</sup> Life Cycle Impacts of Plastic Packaging Compared to Substitutes in the United States and Canada. April 2018. Available at: <https://plastics.americanchemistry.com/Reports-and-Publications/LCA-of-Plastic-Packaging-Compared-to-Substitutes.pdf>

In this assessment, Trayak measured several variables to determine the overall impact of specific packaging types, including PET water bottles, PET soda bottles, glass bottles, aluminum canned water, and beverage cartons. The variables measured include fossil fuel use, human impact, water use, mineral resource use, greenhouse gas emissions, and freshwater eco-toxicity and eutrophication. The research strongly shows that PET water bottles have lower environmental impacts than the other containers, across each of the considered variables.<sup>3</sup>

### Environmental Impact of Drink Packaging

(Weights are for individual 16.9 oz containers. Other values represent 1 million 16.9 oz bottles, cartons, or cans each.)

Resources Used to Make Packaging	PET Water Bottle	Aluminum Can	Beverage Carton	Glass Bottle	PET Soda Bottle
<b>Avg. Container Weight</b>	8.3 grams	19.7 grams	21.8 grams	300.6 grams	22.2 grams
<b>Greenhouse Gas (GHG) Emissions</b>	50 Ton CO <sub>2</sub> eq.	155 Ton CO <sub>2</sub> eq.	75 Ton CO <sub>2</sub> eq.	383 Ton CO <sub>2</sub> eq.	141 Ton CO <sub>2</sub> eq.
<b>Fossil Fuel Use</b>	958 GJ Consumed	1342 GJ Consumed	1056 GJ Consumed	4320 GJ Consumed	2639 GJ Consumed
<b>Water Use</b>	4.6 million gallons	7.5 million gallons	13.7 million gallons	29.9 million gallons	12.5 million gallons

Much of this benefit is derived from the low material usage compared to the other container types, with the average PET water bottle considered using less than half of the material weight of the other container types. Lower material usage means less impact from material extraction and manufacturing, and ultimately results in less material entering landfills or needing to be recycled.

Bottled water has the smallest environmental footprint of all packaged beverages. All bottled water containers are 100 percent recyclable – even the caps. As an industry, we support strong community recycling initiatives and recognize that a continued focus on increased recycling is important for residents and the environment. In addition, PET bottled water containers are the most recognized and most recycled containers in curbside programs, making up nearly 55 percent of all PET plastic beverage containers collected.<sup>4</sup>

The industry is always looking for ways to strengthen existing recycling programs and help expand recycling efforts ever further. However, even when they are not properly recycled, individual serving size PET plastic bottled water containers make up only 3.3 percent of all drink packaging in U.S. landfills. Soda PET plastic containers make up 13.3 percent, and aluminum cans make up 7.9 percent.

Bottled water also has the lowest water and energy-use ratios of all packaged beverages. On average, it takes only 1.39 liters of water to produce 1 liter of finished bottled water (including the 1 liter of water consumed), which is the lowest water-use ratio of any packaged beverage

<sup>3</sup> Life Cycle Assessment for the IBWA. 2021. Available at:

<https://voterveice.s3.amazonaws.com/groups/ibwa/attachments/IBWA%20Trayak%20Report%2032321.pdf>

<sup>4</sup> National Association for PET Container Resources' 2018 Postconsumer PET Bottle Bale Composition Analysis.

product. And, on average, only 0.21 mega joules of energy are used to produce 1 liter of bottle of water.<sup>5</sup>

The amount of water used for bottling water in the United States is very small — less than 0.01 percent of the total groundwater withdrawn each year. While that figure may vary slightly by location, the amount of water used for bottled water is only a small fraction of overall water use in any state. To put it in context, the entire U.S. bottled water market was about 22.1 billion gallons in 2022. In contrast, residents of Los Angeles goes through that amount of tap water in 11.4 weeks, based upon the latest data from LA Water and Power for FY 2018-19.

In addition, most of the bottled water that comes from a state's water sources is sold in that state. In fact, the vast majority of bottled water companies in the United States use local water sources and distribute their products to nearby towns and states. Bottled water is 100 percent intended for human consumption. However, less than one-half of 1 percent of tap water is drunk by humans.

While bottled water is just one of thousands of consumer items packaged in plastic, the bottled water industry has gone to great lengths to reduce the environmental impact of its packaging, including developing new technologies in product packaging, such as the use of recycled content, light-weighting, reduction of plastic used in caps and shrink-wrapping, and reduction of paper used in labels and shipping cardboard.

### **Recycled Content Usage and Light-weighting**

IBWA member companies are increasing their use of recycled PET (rPET), and many bottled water companies already use bottles made from 50, 75, and, in some cases, 100 percent rPET. Furthermore, the bottled water industry is continually developing additional ways to reduce its environmental footprint from production to distribution to consumption. Those efforts include development of “green” bottling facilities, as well as utilization of more fuel-efficient means of producing and transporting their products to market.

Bottled water companies have also reduced the environmental footprint of their plastic containers by continually light-weighting PET bottled water plastic packaging, which has resulted in the average weight drop to 9.25 grams per 16.9 ounce single-serve container. That is over 50 percent less PET than the amount it takes to make soda and other drink containers, which need to be thicker due to carbonation and manufacturing processes and weigh, on average, 23.9 grams. Between 2000 and 2014, the average weight of a 16.9 ounce single-serve PET bottled water container was reduced by 51 percent, according to the Beverage Marketing Corporation, the leading research company for the beverage industry. This saved 6.2 billion pounds of PET resin during that time period.

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<sup>5</sup> Water and Energy Use Benchmarking Study. Antea Group, prepared for the International Bottled Water Association. November 14, 2018. Available at: [https://bottledwater.org/wp-content/uploads/attachments/IBWA\\_ExecSummary\\_14Nov2018\\_0.pdf](https://bottledwater.org/wp-content/uploads/attachments/IBWA_ExecSummary_14Nov2018_0.pdf)

## **Water Is the Healthiest Beverage Choice**

For those who want to eliminate or moderate calories, sugar, caffeine, artificial flavors or colors, and other ingredients from their diet or simply wish to opt for a convenient beverage with refreshing taste, reliable quality, and zero calories – choosing water is the right choice no matter the delivery method. Bottled water is a smart decision and a healthy choice when it comes to packaged beverage options. Efforts to eliminate or reduce access to water, via any delivery method, only hinder attempts to encourage people to choose healthier drink options and is not in the public interest.

For over a decade, the majority of the growth in bottled water consumption relative to other beverages has come from people switching to bottled water from other less-healthy packaged drinks (44 percent between 2010 and 2020). One of the simplest changes a person striving to live healthier can make is to switch to drinking water instead of other beverages that are loaded with sugar and calories. According to the National Academy of Medicine (formerly the Institute of Medicine) and the American Journal of Preventative Medicine, two-thirds of American adults are overweight with one-third of those individuals being obese, and over the last 30 years, children’s obesity rates have climbed from 5 percent to 17 percent. Drinking zero-calorie beverages, such as water, instead of sugary drinks is regularly cited as a key component of a more healthful lifestyle, and promoting greater consumption of water from all sources, including from bottled water, can only benefit those efforts.

In today’s on-the-go society, most of what we drink comes in a package. Restrictions on bottled water only help to promote less healthy options among other packaged beverages, like juices and soda that have *more plastic packaging, more ingredients (many artificial), and greater environmental impacts* than bottled water. Research shows that if bottled water isn’t available, 74 percent of people will choose another packaged drink – not water from a drinking fountain, filtered tap water, or tap water<sup>6</sup>.

In 2022, only 5.1 percent of the bottled water market was manufactured and sold in glass, cans, or other packaging material<sup>7</sup>. Plastic, of all sizes and types, has been the main delivery container for bottled water for good reasons. It is flexible, lightweight, easy to transport, and is hygienic and shatterproof. Research shows that plastic is the preferred packaging material of not only industry but also consumers. PET packaging uses less water and energy to produce than other packaging types (e.g., aluminum, glass, paperboard containers, and PET soda bottles). Removing a consumer’s access to even just one size or type of plastic container greatly increases the likelihood of them choosing a less healthy option with more adverse environmental impacts.

## **Bottled Water Is Always There When You Need It**

The bottled water industry has always been at the forefront of relief efforts during natural disasters and other catastrophic events. Clean, safe water is a critical need for citizens and first

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<sup>6</sup> Harris Poll, conducted on behalf of the International Bottled Water Association. January 2020. Available at <https://bottledwater.org/nr/consumers-want-bottled-water-to-be-available-wherever-drinks-are-sold-and-if-its-not-most-will-choose-another-packaged-beverage-that-uses-much-more-plastic/>

<sup>7</sup> Beverage Marketing Corporation

responders immediately following a natural disaster or other catastrophic event. Unfortunately, the availability of water from public water systems is often compromised in the aftermath of such an event (e.g., hurricanes, floods, wildfires, and boil alerts). During these times, bottled water is the best option to deliver clean safe drinking water quickly into affected areas.

Removing access to bottled water in the most readily available packaging during times of need could result in an extremely dangerous situation for citizens in need and have a drastic effect on the city's and state's ability to respond in a timely and efficient manner. The bottled water industry would not be able to provide safe, clean drinking water to Irvine citizens when their public water systems are compromised without a viable commercial market. This provides the industry with the capital and resources to respond quickly when needed. The bottled industry cannot, and should not, exist only for disaster responses – something some critics of the bottled water industry desire. We urge committee members to remember that the bottled water industry is called upon every year to provide drinking water during critical times throughout the city and the state.

IBWA would remind the Commission that California receives a large sum of dollars from the existing bottle deposit program. That money goes beyond what the state takes from unclaimed deposits and impacts money generated and received by businesses through the handling fee and the non-refundable container fee. With a substantial amount of that money being produced by the purchase and return on single-serve plastic beverage containers, the state and businesses tied to the deposit program can expect a significant reduction in monies delivered.

In addition, with the enactment of a recycled content mandate in the state for plastic beverage containers that are part of the state's California Refund Value (CRV), manufacturers are desperately seeking to obtain recycled plastic to use in the manufacturing of new bottles. Disruptions in the availability of these feedstock will make it increasingly difficult for bottlers to obtain the necessary materials and meet the state's mandate.

IBWA and several of our members are actively involved with important organizations focused on recycling and waste reduction across the country. Membership in and support of groups like Keep America Beautiful, The Recycling Partnership, and local community groups addressing concerns over litter, waste, and recycling are vital to ensure that consumers are aware of and given every opportunity to dispose of everyday waste. This not only included financial support but also input on program development, education, and in-kind sponsorships. IBWA and all our members are continually seeking additional ways to assist these groups and looking for new organizations in this arena for future involvement.

IBWA hopes that this information has provided you with better insight into the bottled water industry and the importance of bottled water for the people of Irvine. We appreciate this opportunity to offer these comments and are available at any time to discuss information on the industry and the essential products we provide.