

Recommendations for Reducing or Banning Foam Food Service Containers

An Analysis of Economic and Environmental Impacts of Polystyrene Policies



Equinox Project
Center for Sustainable Energy

Prepared by
Stephen Heverly, project manager
(former), Equinox Project, Center for
Sustainable Energy

Jocelyn Lu, research fellow (2016),
Equinox Project, Center for Sustainable
Energy

Anne Middleton, water resources
specialist, San Diego County Water
Authority

Sumeeta Ghai, government affairs
analyst, Center for Sustainable Energy

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Expanded polystyrene (EPS), more commonly but incorrectly known as Styrofoam™, is a lightweight, insulating plastic material commonly used in thermal insulation and food service containers. Single-use EPS food takeout ware is used in a multitude of industries, including food retail, hospitals and schools.

However, the qualities that make single-use EPS food service containers desirable also make them unsustainable. Most EPS food service containers are utilized once and discarded and ultimately make their way to the landfill or end up as litter.¹

EPS reduction policies that limit use and encourage replacement with recyclable or compostable alternatives have become increasingly popular throughout California. Supporters of EPS reduction policies and ordinances often cite the negative environmental impacts of EPS in marine ecosystems—specifically with its propensity to break into smaller pieces that are easily ingested by wildlife—and the negative economic impact on tourism, with EPS being a noticeable source of trash along California’s coastline.

While many municipalities have successfully implemented regulations targeting EPS food service takeout containers, opposition has been substantial and constant. Those who oppose EPS reduction policies cite negative economic impacts on the restaurant industry—which already has a low profit margin—and the subsequent impacts on customers. They point out that litter is a human problem, not a product problem, and argue for an increase in EPS recycling rather than banning EPS takeout containers.

In this report, Equinox Project examines the environmental and economic impacts of EPS reduction policies. The report focuses on California and West Coast activities, but the information and examples can be applied in any area when considering EPS reduction strategies. This analysis is based on a review of literature, including reports produced by environmental groups, industry associations and municipalities; an analysis of existing municipal policies; and interviews with key stakeholders.

EPS Food Service Containers

EPS is in many ways a uniquely well-suited material for use in disposable food service containers. However, there are numerous drawbacks that must be taken into consideration. Below is a review of the benefits and problems with using EPS disposable food service containers.

Benefits of EPS

- **EPS is heat resistant.** EPS does not conduct heat, which prevents the need to use multiple cups or cardboard sleeves for drinks, and keeps takeout food warm.
- **EPS is lightweight and sturdy.** Food containers made from EPS can hold heavy and oily products without leaking or tearing.
- **EPS is inert and stable.** EPS is not chemically reactive or conducive to bacterial growth. These characteristics make it sanitary and safe for food service.
- **EPS can be produced at a low cost.** This makes EPS products cheaper than many other disposable food service packaging materials. Compared to reusable dishes, EPS and other disposable materials do not require dishwashing equipment or labor.

Problems of EPS

- **EPS is not biodegradable and persists in the environment.** Researchers have not tracked EPS in the ocean long enough to document its disappearance. Instead, plastic waste tends to degrade into smaller pieces that pose an even greater threat to marine life.²
- **EPS constitutes thousands of tons of waste each year.** In 1999, an estimated 300,000 tons of EPS was landfilled in California, which represents 0.8 percent of total waste. This translates to a total disposal cost of \$30 million per year.³ Although the weight-based percentage is small, EPS is very light, so it represents a larger percentage of the total waste stream by volume.

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In a trash assessment study conducted by the Southern California Coastal Water Research Project (SCCWRP) in Orange County, foamed plastics were the second most abundant form of trash found on beaches in terms of number of pieces (second only to preproduction plastic pellets).

- **EPS litter builds up in storm drains, resulting in cleanup costs.** In 2000, a litter study by the California Department of Transportation (Caltrans) found that Styrofoam (with no delineation of EPS content) was 15 percent by volume of all litter found in a sample of storm drains in the Los Angeles basin.⁴ A 2012 study found that West Coast communities located in watersheds that drain into the Pacific Ocean, regardless of their distance from the ocean, spend approximately \$13 per resident to clean up litter, much of which would otherwise become marine debris.⁵
- **EPS foam is beach litter, which can impact tourism.** In San Diego County, environmental groups such as San Diego Coastkeeper conduct regular beach cleanups. In their 2015 San Diego County Beach Cleanup Data Report, 7 percent of the waste collected was plastic foam, at 13,970 items.⁶ EPS is consistently one of the top items of concern in Coastkeeper’s beach cleanup reports. In a trash assessment study conducted by the Southern California Coastal Water Research Project (SCCWRP) in Orange County, foamed plastics were the second most abundant form of trash found on beaches in terms of number of pieces (second only to preproduction plastic pellets).⁷
- **EPS foam is marine pollution, which impacts wildlife.** Plastics, such as EPS, are the most common type of marine litter worldwide; estimates of the proportion of plastic in marine debris range from 60 to 80 percent.⁸ Plastic-derived fragments, including EPS, floating through the ocean are a transport mechanism for toxic substances through the marine environment.⁹ Seabirds that feed near the ocean surface are especially prone to ingesting plastic debris that floats.
- **EPS food service containers are difficult to recycle.** While the ability to recycle large pieces of foam packaging has increased, recycling for food service containers is not widely available; in many places recycling for EPS

is nonexistent. This is largely due to a lack of viable markets for recycled EPS food service containers. In addition, once containers are dirty, they are difficult to clean for recycling. Groups like the Foam Recycling Coalition (FRC) have attempted to accelerate this process.¹⁰ In San Diego County, Escondido Disposal Inc. has started allowing their customers to place “Styrofoam Packaging” in their blue recycling bins, but emphasizes that “soiled disposable plates or cups” should not be recycled.¹¹ As of December 2014, the City of San Diego accepts block packaging Styrofoam for recycling, but not food containers or peanuts.¹²

EPS Reduction Policies

Because of the negative environmental impacts of EPS food service containers, there has been a movement to eliminate their use through a variety of EPS reduction policies. To date, cities within 10 states throughout the United States have chosen to enforce some sort of EPS reduction policy, including California, Florida, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Texas and Washington. Washington, D.C., passed an EPS ordinance in 2014 that banned the use of plastic-foam food and drink containers that became effective January 2016.¹³ Some entire countries outside of the United States have adopted EPS reduction policies, including Guyana (2014) and Haiti (2012).¹⁴

The majority of U.S.-based EPS reduction policies have been in California. To date, 99 California cities and counties have chosen to adopt some sort of EPS ordinance. (See Appendix A for a list of jurisdictions with EPS bans.) Major players include the City and County of Los Angeles (2008), City of San Jose (2013), City of San Francisco (2007) and the City of Oakland (2007); in Orange County, the coastal communities of Dana Point, Laguna Niguel and San Clemente have EPS bans. In October 2015, Solana Beach became the first city in San Diego County to ban EPS.¹⁵

EPS reduction policies range from city and county ordinances to voluntary programs. Citywide ordinances that specifically ban EPS foam food service ware constitute the most popular type of EPS reduction policy. The rest of this section provides a review of different types of EPS reduction policies at different scales.

State Level: Proposed California Ban on EPS Food Service Ware

In 2011, a statewide California ban on EPS food service containers was proposed through Senate Bill 568. The bill would have prohibited any food vendors from dispensing prepared food to customers in EPS containers, with possible exceptions for school districts and food vendors in cities or counties with EPS recycling programs (where it could be shown that at least 60 percent of the containers would, in fact, be recycled). The bill passed the Senate but failed to pass the Assembly.¹⁶ The full bill is included in Appendix B.

City Level: Citywide Ordinances

Citywide ordinances that specifically ban EPS food service containers for all businesses are the most common type of EPS reduction policy. Ordinances vary between locations.

- **Types of materials:** Bans typically focus on EPS food service containers (as opposed to EPS packaging and other materials) because they are difficult

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Example: Ocean Friendly Restaurants Program

In San Diego, the nonprofit Surfrider Foundation runs a voluntary EPS reduction program called Ocean Friendly Restaurants. Participating restaurants agree to abide by a number of sustainability criteria, including avoiding the use of EPS. In exchange, Surfrider Foundation provides marketing by promoting the businesses as “ocean friendly” to their members. Voluntary partnerships like this can provide an incentive for restaurants to stop using EPS; however, their reach may be limited to businesses that are already making an effort to implement more sustainable practices.

to recycle due to food contamination and their takeout retail usage makes them more likely to become litter. Some bans, however, include other materials as well. For example, Solana Beach’s 2015 ban also extends to packing materials such as foam peanuts.

- **Acceptable alternatives:** There are many alternatives to EPS foam food service ware, including recyclable (paperboard), compostable (bagasse) and biodegradable (bioplastics) options. Some ordinances simply ban EPS foam food service ware and do not require the use of specific alternatives (for example, Newport Beach, 2008), while others not only ban EPS foam ware but also mandate that specific alternatives must be used, like recyclable or compostable products (for example, San Francisco, 2008).
- **Scope of ban:** In some cases, EPS bans only include municipal service contracts, rather than extending to all businesses. The City of San Diego, for example, currently has a ban on EPS for service contracts with the city. This ban is enacted through the city’s Environmentally Preferable Purchasing Program (EP3). Any vendor who does business with the city must use recycled, biodegradable or compostable materials for city business.
- **Phase-in period:** Most ordinances are implemented in phases, giving retailers time to use up any existing stock before switching. This time period differs from city to city; for example, the District of Columbia’s 2014 initiative went into effect in 2016.¹⁷
- **Enforcement:** Many ordinances have a monetary fine built in to encourage businesses to comply. The amount and severity of the fine differs from ordinance to ordinance, with some allowing for a warning buffer before charging the business (for example, San Jose, 2013).

Voluntary and Self-Regulated EPS Reduction Efforts

Voluntary programs work to educate businesses and customers about the problems with EPS food service packaging in an effort to motivate businesses to take action and customers to support those businesses. Voluntary programs have several benefits: they can be implemented immediately (there are no delays due to lawsuits or other challenges), they do not require an enforcement program and they allow more flexibility for businesses.

However, because EPS is less expensive than many alternatives, businesses may choose not to switch under a voluntary program. For example, Santa Cruz first established a voluntary EPS foam takeout food service ban in 1989. Despite ongoing education and outreach, the voluntary reductions were not meeting the target goals. As a result, after 18 years, Santa Cruz decided to adopt mandatory restrictions. Voluntary programs require extensive outreach and education for success.

Examples of EPS Ordinances in Major Cities

Analyzing how EPS ordinances have been enacted in various locations provides insight into strategies, challenges and successes in enacting EPS bans. Here, we examine three large coastal cities with vibrant restaurant communities: San Francisco, San Jose and Seattle.

San Francisco, California (2006)

In 2006, San Francisco passed a food service waste reduction ordinance prohibiting the use of EPS disposable food service ware and requiring the use of biodegradable/compostable or recyclable disposable food service ware by restaurants, retail food vendors, municipal departments and municipal contractors (see Appendix C).¹⁸ It allowed individuals and entities to apply for a one-year waiver with proof of “undue hardship.”¹⁹

The ordinance affected approximately 4,500 food establishments, with compliance rates jumping from 80 percent the first year to 98 percent in 2012. Part of what made San Francisco’s action unique was the extensive outreach conducted in advance. San Francisco made an effort to visit and educate every single establishment—a process that took four years.²⁰ Litter audits completed in 2007, 2008 and 2009 found a 41 percent decrease in EPS litter in streets over the three-year period.²¹

Seattle, Washington (2008)

Before passage of an EPS ordinance, the Seattle Public Utilities first studied the local environmental impact of EPS. According to a State of Washington litter study conducted in 2004, 1.6 percent of total litter collected (prior to the ban) was single-use takeout food containers. The city put the annual cost for collection, recycling, disposal and litter cleanup of disposable food items at about \$620,000.²²

Seattle’s ordinance took place in two phases. The first phase (effective January 1, 2009) banned EPS food service ware without a requirement of specific alternatives. At 18 months (by July 1, 2010), all single-use food service ware had to be compostable or recyclable.²³ (For complete ordinance language, see Appendix D.) Seattle worked with waste haulers to accept more materials

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for recycling and signed a new collection contract that ensured acceptance of all plastic and coated paper for recycling. Seattle also expanded its limited composting program to accept all food composting for commercial and residential spaces.²⁴ In 2011, over 95 percent of businesses were in compliance, with only six establishments fined.²⁵

San Jose, California (2013)

San Jose chose to prohibit the use of EPS disposable food service ware by food vendors in September 2013; the ordinance became effective January 1, 2014

The City of San Jose focused on EPS food service ware after finding that it comprised a majority of the EPS litter observed in storm drains.²⁶ San Jose chose to prohibit the use of EPS disposable food service ware by food vendors in September 2013; the ordinance became effective January 1, 2014 (see Appendix E). Their ordinance occurred in two vendor-specific phases. As of January 1, 2014, “national vendors” were prohibited from using EPS food service ware, with a national vendor defined as a vendor that is a chain of corporately owned establishments located in more than one state. On January 1, 2015, the ordinance expanded to all vendors within the city. Exceptions exist for restaurants experiencing a “unique packaging hardship” or “financial hardship.”²⁷ Businesses were provided with a comprehensive EPS alternatives list compiled by Cascadia Consulting for the city (Appendix F).

Impacts of EPS Reduction Policies

For EPS reduction policies to effectively mitigate the problems caused by single-use EPS food containers, several goals must be achieved.

- **Environmental goals:** Confirm that bans are successful at reducing EPS litter and that the alternative materials are actually better for the environment from a litter perspective.
- **Economic goals:** Ensure that local businesses and the economy are not negatively impacted in the long term.

In the following section we review environmental and economic impacts of EPS policies.

Environmental Impacts of EPS Reduction Policies

Analysis of EPS reduction policies in various locations found the following environmental impacts.

Success in reducing the volume of EPS food service containers in circulation

EPS reduction policies and ordinances are successful at reducing the volume of EPS food service containers used in those cities. Many of the cities contacted declared a high level of compliance with few complaints. Major players like San Francisco, Palo Alto and San Jose all boast a high percentage of compliance.

Success in reducing EPS food container litter

Where quantified, EPS ordinances are successful in reducing the quantity of EPS food container litter. For example, San Francisco experienced a 41 percent decrease in EPS litter over the three years following passage of its ordinance.²⁸ In a case study of the City of San Leandro, it found there was a 61 percent decrease in EPS food container litter after the passage of their ordinance. Other cities, like San Jose, have yet to quantify their environmental changes.

Life cycle analysis: Alternative materials to EPS should be carefully considered

While EPS is clearly problematic in terms of litter, it is cheap and easy to produce. According to a life cycle assessment study comparing different types of disposable food service containers,²⁹ the production of alternative food service containers may have a greater environmental impact than EPS production, since EPS requires relatively little energy and water to produce. However, the end-of-life impacts of EPS food containers in terms of litter and marine debris were not considered in the study. These end-of-life impacts are the fulcrum of this report as EPS often ends up as litter and does not biodegrade. If EPS food ware recycling is available, it typically requires cleaning, which uses water.

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Economic Impacts of EPS Reduction Policies

Analysis of EPS reduction policies in various locations found the following economic impacts.

Economic impacts on retailers: Increased costs of alternatives

In many cases, products made from alternative materials cost more than their EPS counterparts. The California Restaurant Association has cited as much as a three times increase for alternative packaging materials.³⁰ Any such increases vary based on geographic location and product type.

The following figure places this assertion in context by providing an overview of cost differences between commonly used EPS products and alternatives. Prices are from the food service industry website WebstaurantStore.com.

Figure 1: Price Comparison of Selected Food Service Items

Product	Official Product Name	Unit Cost	Cost Difference
8 oz. White Foam Coffee Cup	8 oz. White Foam Cup - 1000/case	\$ 0.015/cup	
8 oz. Paper Coffee Cup	Choice 8 oz. White Poly Paper Hot Cup - 1000/case	\$ 0.025/cup	\$ 0.01 cost difference
Polystyrene plate	Dart 9PWC Concorde 9" White Non-Laminated Road Foam Plate - 500/case	\$ 0.025/plate	
Paper plate	EcoChoice Biodegradable, Compostable Sugarcane/Bagasse 9" Plate - 500/case	\$ 0.056/plate	\$ 0.03 cost difference
Polystyrene Takeout Container	Dart 90HTPF1R 9" x 9" x 3" White Foam Square Take Out Container with Perforated Hinged Lid - 200/case	\$ 0.07/container	
Paper Takeout Container	EcoChoice 9" x 9" x 3" Biodegradable, Compostable Sugarcane/Bagasse 1 Compartment Takeout Box - 200/case	\$ 0.15/container	\$ 0.08 cost difference

All prices from the WebstaurantStore, February 2017

As the figure shows, prices vary by a few cents per item. For hot cups, plates and takeout containers, which are three common products restaurants and catering services purchase, the cost difference is eight cents or less between the EPS product and the paper product. Despite fears of the costs of EPS

alternatives, some retailers have actually saved money by shifting away from EPS. For example, McDonald’s stopped using polystyrene clamshell containers in 1990. According to the Environmental Defense Fund, this and other changes in packaging actually saved the company an estimated \$6 million per year, and in the decade following the packaging changes, McDonald’s reduced restaurant waste by 30 percent.³¹

Many restaurants may find that the cost impacts of an EPS ban are negligible. In a survey of San Diego restaurants conducted by the Surfrider Foundation, only 17 percent of the 59 restaurants surveyed said they currently use EPS for takeout orders. Out of those currently using EPS for takeout, only 20 percent—or 3 percent of the overall businesses surveyed—said that an EPS ban by the city would represent an “extreme hardship” to their business. It is possible that some restaurants could lose business for failure to adhere to an EPS ban; the decision of McDonald’s to end EPS use in 1990 was partially due to consumer pressure.³²

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Several options exist to make a transition to EPS easier for businesses. First, businesses may be able to overcome cost barriers through organized bulk purchasing, which is a cost-effective strategy already widely used by the restaurant community. Second, some ordinances (for example, the City of San Jose) include exemptions for food vendors who may not have access to EPS alternatives or who do not have the necessary profit margin to incur the burden of those extra costs.

Economic impacts on consumers: Potential for slight cost increases

Because EPS alternatives are more costly, restaurants may have to raise their prices to cover costs, which could potentially impact consumers. In a study conducted by Cascadia Consulting for the City of Milpitas, residents were polled to see if they would continue to support a business that had to increase its prices. More than 50 percent (146 responses) said yes, 27 percent (78 responses) said maybe and 23 percent (66 responses) said no.³³

However, our analysis shows that even if businesses pass along the entire price increase to their customers, the price increase would be minimal. The following figure lists the percentages that costs would have to increase to cover the differences in costs between EPS and non-EPS packaging. As the figure shows, when the difference is considered as a percentage of the total cost of the food item, cost increases are minimal. A mandatory program ensures that compliance will not lead to a competitive cost disadvantage within the jurisdiction, assuming that everyone complies.

Figure 2: Effect of Packaging Price Increase on Food Item Cost

Packaging Price Increase	Percentage Cost Increase for \$2.00 Food Item	Percentage Cost Increase for \$6.00 Food Item	Percentage Cost Increase for \$10.00 Food Item
\$ 0.01 per item	0.5%	0.17%	0.1%
\$ 0.03 per item	1.5%	0.5%	0.3%
\$ 0.08 per item	4%	1.3%	0.8%

Economic impacts on city governments

Some opponents of EPS bans suggest that purchase of EPS alternatives will come at a cost to city governments. However, in reality, economic impacts on cities would be minimal. For example, in 2008 the City of Santa Monica successfully passed a ban on nonrecyclable plastic disposable food service containers, including EPS. In a presentation to the Los Angeles City Council, Santa Monica's manager of the Environmental Programs Division stated that the cost to the city for switching to non-EPS products was only \$600 a year.³⁴

The City of San Diego already has an Environmentally Preferable Purchasing Program in place. This program requires city departments to purchase environmentally preferable products whenever possible.³⁵ EPS foam food service ware is explicitly prohibited in the administrative regulation, and the City of San Diego also has written this provision into food concession contracts (for example, in Balboa Park).³⁶ Thus adoption of a broader EPS ordinance applicable to all businesses would not directly impact the City of San Diego.

Positive economic impacts of reducing EPS

EPS reduction policies may have long-term economic benefits in terms of savings from avoided cleanup of litter. The estimated \$13 per resident West Coast cities spend on annual litter cleanups may decline as EPS food container waste decreases.³⁷ Additionally, coastal areas with a large tourism economy could benefit from reduction in beach litter.

Responses to Common Arguments Against EPS Ordinances

Several arguments are commonly made against EPS ordinances. In this section we review these arguments and respond to them.

The portion of waste streams and litter comprised of EPS food service packaging is too small to justify action.

Response: EPS food service packaging may comprise only a small fraction of local waste streams and litter composition, but the long-term environmental impacts are pervasive and perpetual. There is still no conclusive evidence on how long it takes EPS to fully degrade, if it ever does.³⁸ Instead of biodegrading, EPS breaks down into small pieces that are potentially harmful to marine life. Thus it can have a disproportionately large and negative environmental impact.

EPS food packaging waste should be recycled instead of banning it entirely.

Response: EPS recycling is technically possible, and it is preferable to throwing food packaging in the landfill. However, recycling of food service EPS containers is not widely available. In a 2001 estimate provided by the Integrated Waste Management Board, only 0.2 percent of the 154,808 tons of EPS food service packaging waste that California produced was recycled.³⁹ Recycling for EPS food service containers is particularly difficult for several reasons. First, it is generally economically unfeasible. Recycling of any product relies upon the existence of markets for the raw material. There is a lack of demand for recycled EPS, which is hard to turn into new products. Second, EPS is often contaminated with food, grease and other substances, making it difficult and expensive to clean, not to mention the additional use of water, especially crucial during periods of drought. Contamination degrades the quality of the recycled foam and makes

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recycling even less economically feasible. The City of San Diego, for example, recycles larger packaging foam but does not accept EPS food service containers in its curbside recycling program.⁴⁰

Banning EPS food service packaging is only going to change the composition of litter, not eliminate it.

Response: While there was a significant decrease in EPS litter seen in San Francisco's litter audits in 2007, 2008 and 2009, there was also an increase in alternative packaging, like "paper food wrap," "plastic packaging other" and hot and cold "paper cups."⁴¹ Littering is very much a human problem, and the inevitability of packaging items being littered likely will not change based on the product. However, many EPS alternatives are made out of biodegradable materials such as paper and thus have less of an impact on the environment.

Municipalities make rules, but they do not help businesses cope with the impacts.

Response: Many cities assist businesses in switching to EPS alternatives. Some cities help by providing a list of approved EPS alternatives along with their respective supplier. This list may identify local suppliers, the use of which should reduce shipping costs.⁴² For example, San Jose provided a list to businesses that includes type, sizes, style, vendor and price of suppliers in the area (see Appendix F).⁴³ Other cities have coordinated bulk purchasing and distribution of alternatives for small businesses, provided exemptions for businesses struggling to comply or have introduced EPS ordinances in phases to give businesses more time to adapt to the changes.

Recommendations and Conclusions

EPS bans have successfully reduced EPS litter, which reduces cleanup costs and is beneficial for wildlife and the environment.

EPS bans have successfully reduced EPS litter, which reduces cleanup costs and is beneficial for wildlife and the environment. The economic impacts of EPS reduction policies are most clearly visible in the costs that restaurants incur in order to switch to alternatives. However, the costs are minimal and many customers prefer to support businesses that do not use EPS. In addition, EPS bans may help cities save money on costs to clean up litter.

The following are recommendations for implementing citywide EPS bans and suggestions for cities that are trying to reduce EPS but are not prepared to implement a ban.

Recommendations for implementation of citywide EPS reduction ordinances

If municipalities consider implementing an ordinance that bans the use of EPS food service containers, the following are recommended steps in creation and implementation of ordinances.

- 1. Research:** Examine EPS ordinances implemented in other cities of a similar size to determine what types of policies others have chosen to enforce.
- 2. Scope:** Determine whether the ban will apply to all businesses or a smaller subset, for example municipal contracts only.
- 3. EPS alternatives:** Evaluate whether specific alternatives will be required, such as recyclable or biodegradable/compostable products. If these

alternatives are mandated, ensure that municipal recycling and composting programs are robust enough to handle the increase in volume.

4. **Exemptions:** Determine whether there will be any potential exemptions from the EPS ordinance due to financial hardship or lack of access to alternatives.
5. **Partnerships:** Consider a partnership with the private sector to donate biodegradable food service containers to facilities that would experience an immediate hardship as a result of an EPS ban.
6. **Enforcement:** Determine how the ordinance will be enforced and on what timeline.
7. **Education:** Before the ordinance is passed, reach out to and educate retailers about the ordinance, what alternatives are available and how to purchase them.
8. **Evaluate litter impacts:** Perform a pre- and post-ordinance litter audit in order to evaluate ordinance performance and impact on litter composition.
9. **Evaluate economic impacts:** Conduct a quantitative analysis on employment, as well as revenue and costs, for retailers and consumers before and after the ordinance to better assess economic impacts of EPS reduction policies.

Other recommendations

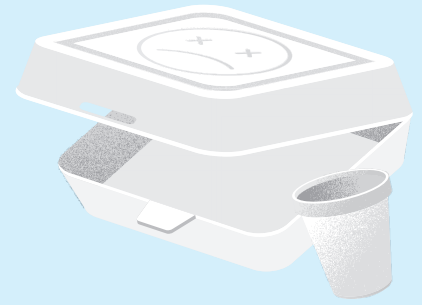
If municipalities choose not to pass an EPS ordinance, the following actions are recommended in order to limit negative environmental impacts of EPS food service containers.

Support voluntary EPS reduction programs: Provide services to support voluntary programs that incentivize businesses to reduce their use of EPS.

Retailer education: Increase education to retailers about the negative impacts of EPS food service packaging to encourage switching to alternatives.

Consumer education: Increase education to consumers about the negative impacts of EPS food service packaging as litter in the environment. This will raise awareness and, in turn, may help to encourage behavioral change and reduce littering.

Guide for Polystyrene Reduction Policies



For a visual representation, view the *Guide for Polystyrene Reduction Policies* at www.energycenter.org/resources

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Appendix A: List of California cities with EPS bans

The following list of California cities with EPS bans was compiled by the California Restaurant Association and Californians Against Waste, and was last updated 2/15/2016.^{1,2}

- Alameda. 2008 Expanded polystyrene ban, requirement that all takeout food packaging be compostable.
- Alameda County. 2015 Polystyrene ban for all disposable food service items, with a requirement for recyclable or biodegradable replacements.
- Albany. 2008 Expanded polystyrene ban, requirement that all takeout food packaging be compostable or recyclable.
- Aliso Viejo. 2005 Government facility expanded polystyrene ban. Ordinance #2004-060
- Arcata. October 2015 Expanded polystyrene ban.
- Arroyo Grande. 2016 Expanded polystyrene ban for both distribution and sale, with a requirement that all disposable food containers be biodegradable, compostable or recyclable. Effective August 9, 2016.
- Belmont. 2012 Expanded polystyrene ban.
- Berkeley. 1988 Expanded polystyrene ban, requirement that 50% of takeout food packaging be recyclable or compostable.
- Burlingame. 2012 Expanded polystyrene ban, referencing San Mateo County's ordinance.
- Calabasas. 2008 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- Campbell. June 1, 2015 Expanded Polystyrene Ban.
- Capitola. 2009 Requirement that all disposable takeout food packaging be compostable.
- Carmel. 1989 Expanded polystyrene ban, requirement that 50% of takeout food packaging be recyclable, compostable or reusable.
- Carpinteria. 2009 Ban on non-recyclable plastic food takeout containers, including expanded polystyrene.
- Cupertino. 2014 Food vendors prohibited from using expanded polystyrene food takeout containers.
- Dana Point. 2012 Ban on expanded polystyrene food containers. Effective six months after adoption date.
- Del Ray Oaks. 2010 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- El Cerrito. January, 1, 2014 Expanded polystyrene foodware ban, requirement that food packaging be recyclable, compostable, or reusable.
- Emeryville. 2008 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- Encinitas. November 16, 2016 Expanded polystyrene food service ware prohibition ordinance.
- Fairfax. 1993 Expanded polystyrene ban for all restaurants and food retail vendors. Fort Bragg. March 2015 Expanded Polystyrene ban.
- Fort Bragg. 2014 Eps foodware ban effective March 2015.
- Foster City. 2012 Polystyrene ban for restaurants and food vendors.
- Fremont. 2011 Expanded polystyrene ban for food vendors, requirement that all takeout food packaging be recyclable or compostable.
- Gonzales. January 1, 2015. Expanded Polystyrene Ban.
- Greenfield. February 12, 2015 Expanded Polystyrene ban.
- Half Moon Bay. 2011 Passed an ordinance, referencing San Mateo County's polystyrene food container ban.
- Hayward. 2011 Expanded polystyrene ban for restaurant vendors, requirement that takeout food packaging be recyclable or compostable.
- Hercules. 2008 Expanded polystyrene ban.
- Hermosa Beach. 2012 Polystyrene container ban.
- Huntington Beach. 2005 Government facility expanded polystyrene ban.
- Lafayette. July 1, 2015 Expanded polystyrene ban.
- Laguna Beach. 2008 Polystyrene ban, requirement that all plastic takeout food packaging be recyclable.
- Laguna Hills. 2008 Government facility expanded polystyrene ban.

- Laguna Woods. 2004 Government facility expanded polystyrene ban.
- Livermore. 2010 Food vendors are required to use recyclable or compostable takeout food packaging.
- Los Altos. 2014 Prohibits the distribution and sale of expanded polystyrene foam food containers.
- Los Altos Hills. 2012 Ban on expanded polystyrene and non-recyclable plastic food containers.
- Los Angeles City. 2008 Government facility expanded polystyrene ban. Chapter IV, Article 13 of Municipal Code.
- Los Angeles County. 2008 Government facility expanded polystyrene ban.
- Los Gatos. 2015 Expanded Polystyrene ban.
- Malibu. 2005 Expanded polystyrene ban.
- Manhattan Beach. 2013 Adopted a polystyrene food packaging ban.
- Marin County. 2010 Expanded polystyrene ban.
- Marina. 2011 Expanded polystyrene food container ban. Requires the use of recyclable or compostable takeout food packaging unless alternatives are unavailable.
- Mendocino County. March 1, 2015 Expanded Polystyrene ban.
- Menlo Park. 2012 Adopted San Mateo County ordinance by reference in August of 2012.
- Millbrae. 2008 Polystyrene ban, requirement that all plastic takeout food packaging be recyclable or compostable.
- Mill Valley. 2009 Food vendors and city facilities are prohibited from using expanded polystyrene foam food containers.
- Monterey City. 2009 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- Monterey County. 2010 Expanded polystyrene ban.
- Morgan Hill. 2014 An expanded polystyrene ban in restaurants and other food facilities.
- Morro Bay. 2016 Expanded polystyrene ban for both distribution and sale, with a requirement that all disposable food containers be biodegradable, compostable or recyclable. Effective May 1, 2016.
- Mountain View. 2014 A ban on expanded polystyrene products, either distributed in food facilities or sold in retailers.
- Newport Beach. 2008 Expanded polystyrene ban.
- Novato. 2013 Expanded polystyrene ban.
- Oakland. 2007 Expanded polystyrene ban, requirement that all takeout food packaging be compostable.
- Ojai. January 28, 2014 Expanded polystyrene ban for all stores and vendors.
- Orange County. 2005- 2006 Government facility expanded polystyrene ban, including cities of Aliso Viejo, Huntington Beach, Laguna Hills, Laguna Woods, San Clemente, San Juan Capistrano and the Santa Margarita Water District.
- Pacific Grove. 2008 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- Pacifica. 2010 Expanded polystyrene ban.
- Palo Alto. 2010 Expanded polystyrene ban.
- Pasadena. 2016 Polystyrene ban for all food providers. Effective July 18, 2017.
- Pismo Beach. 2015 Expanded polystyrene disposable food container ban, as well as a ban on the sale of any expanded polystyrene products. Effective January 15, 2016.
- Pittsburg. 1993 Prohibit the use of CFC processed polystyrene ban.
- Pleasanton. 2013. Bans food vendors from using EPS containers.
- Portola Valley. 2012 Expanded polystyrene ban, referencing the San Mateo County ordinance.
- Redwood City. 2013 Expanded polystyrene ban, referencing the San Mateo County ordinance.
- Richmond. 2010 Expanded polystyrene ban for takeout food packaging in restaurants.
- Salinas. 2012 Expanded polystyrene ban on takeout containers.
- San Bruno. 2010 Polystyrene ban, requirement that all plastic takeout food packaging be recyclable or compostable.
- San Carlos. 2012 Adopted the San Mateo County ordinance by reference.
- San Clemente. 2011 Prohibits the use of expanded polystyrene.
- San Francisco. 2007, 2016 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable. On July 19th, 2016, the Board of Supervisors expanded the ban to include the sale of non-recyclable non-compostable polystyrene food service ware, egg cartons, meat trays, and packing materials, as well as coolers,

pool or beach toys, and floats or buoys that are not encapsulated in a more durable material. San Francisco now has the most comprehensive ban in the nation. Effective January 1, 2017.

- San Jose. January 1, 2014 for chain restaurants, 1/1/2015 for all other food establishments. Expanded polystyrene ban in all food establishments.
- San Juan Capistrano. 2004 Government facility expanded polystyrene ban.
- San Leandro. 2012 Expanded polystyrene food container ban.
- San Luis Obispo City. December 16, 2015 Expanded polystyrene ban.
- San Mateo City. 2013 Polystyrene food packaging ban based on the San Mateo County model was adopted in May 2013.
- San Mateo County. 2008, 2011 Government facility polystyrene ban passed in 2008. An expanded ban for the rest of unincorporated San Mateo County effective July 1, 2011.
- San Rafael. 2013 Polystyrene container ban.
- Santa Clara County. 2013 Expanded polystyrene takeout container ban.
- Santa Cruz City. 2008, 2012 In 2012 the sale of all foam polystyrene products is prohibited. In 2008, the City banned the distribution of expanded polystyrene food containers, with a requirement that the food packaging be recyclable or compostable.
- Santa Cruz County. 2008, 2012 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable. The ban was expanded to prohibit the sale of all expanded polystyrene products in stores on April 17, 2012.
- Santa Monica. 2007 Polystyrene ban with requirement that all plastic takeout food packaging be recyclable.
- Sausalito. 2008 Food vendors and city facilities and events are prohibited from using expanded polystyrene foam food containers.
- Scotts Valley. 2009 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- Seaside. 2010 Polystyrene ban with requirement that all plastic takeout food packaging be recyclable or compostable.
- Solana Beach. 2015 Ban on polystyrene and non-recyclable plastic disposable food service containers as well as ban on EPS packing materials.
- Sonoma City. 1989 Government facility expanded polystyrene ban. Chapter 7.30 of the Municipal Code.
- Sonoma County. 1989 Government facility expanded polystyrene ban. Title 19, Section 19-6.1 of Municipal Code.
- South San Francisco. 2008 Polystyrene ban.
- Sunnyvale. 4/22/2014 Expanded polystyrene ban in restaurants
- Ukiah. March 1, 2015. Expanded polystyrene ban.
- Ventura County. 2004 Government facility expanded polystyrene ban.
- Walnut Creek. 12/18/2014 Expanded polystyrene takeout packaging ban.
- Watsonville. 2009 Expanded polystyrene ban, requirement that all takeout food packaging be recyclable or compostable.
- West Hollywood. 1990 Polystyrene ban for restaurants and food vendors.
- Yountville. 1989 Expanded polystyrene food container ban.

1 California Restaurant Association. "Local Expanded Polystyrene Bans." Available at: http://www.calrest.org/uploads/2/6/1/5/26153474/7.13.2015_cra_local_eps_bans_list.pdf

2 Californians Against Waste. "Polystyrene: Local Ordinances." Available at: <http://www.cawrecycles.org/polystyrene-local-ordinances/>

Appendix B: California Senate Bill 568

Below is the complete language of the California Senate Bill 568, introduced in 2011.¹

AMENDED IN ASSEMBLY AUGUST 24, 2012

AMENDED IN ASSEMBLY JULY 12, 2011

AMENDED IN ASSEMBLY JUNE 15, 2011

AMENDED IN SENATE MAY 23, 2011

AMENDED IN SENATE APRIL 14, 2011

CALIFORNIA LEGISLATURE — 2011–2012 REGULAR SESSION

SENATE BILL

No. 568

**Introduced by Senator Lowenthal
(Coauthor(s): Assembly Member Brownley, Chesbro, Skinner, Wieckowski)**

February 17, 2011

An act to add Chapter 6.6 (commencing with Section 42391) to Part 3 of Division 30 of the Public Resources Code, relating to recycling.

LEGISLATIVE COUNSEL'S DIGEST

SB 568, as amended, Lowenthal. Recycling: polystyrene food containers.

Existing law requires all rigid plastic bottles and rigid plastic containers sold in the state to be labeled with a code that indicates the resin used to produce the rigid plastic bottle or rigid plastic container. The California Integrated Waste Management Act of 1989, administered by the Department of Resources Recycling and Recovery, requires every rigid plastic packaging container, as defined, sold or offered for sale in this state to generally meet one of specified criteria.

This bill would prohibit a food vendor, on and after January 1, 2016, from dispensing prepared food to a customer in a polystyrene foam food container and would define related terms. The bill would provide that a food vendor that is a school district is not required to comply with the bill's requirements until July 1, 2017, and would allow a food vendor that is a school district to dispense prepared food to a customer in a polystyrene foam food container after that date if the governing board of the school district elects to adopt a policy to implement a verifiable recycling program for polystyrene foam food containers, which would be renewable, as specified. The bill would also allow a food vendor to dispense prepared food to a customer in a polystyrene foam food container after January 1, 2016, in a city or county if the city or county elects to adopt an ordinance establishing a specified recycling program for polystyrene foam food containers, which would be operative, as specified.

The bill would allow a food vendor to dispense prepared food to a customer in a polystyrene foam food container in a city or county if that food vendor demonstrates to the satisfaction of the city or county that compliance with the requirements of the bill would impose an undue economic hardship, as defined. The bill would authorize a city or county to exempt the food vendor until January 1, 2017, or for a period of not more than one year from the date of the demonstration, and would allow a food vendor to reapply for additional one-year exemptions from the bill's requirements.

DIGEST KEY

Vote: majority Appropriation: no Fiscal Committee: no Local Program: no

BILL TEXT

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1.

Chapter 6.6 (commencing with Section 42391) is added to Part 3 of Division 30 of the Public Resources Code, to read:

CHAPTER 6.6. Polystyrene Foam Food Containers

42391.

For the purposes of this chapter, the following terms have the following meanings:

- (a) "Customer" means a person obtaining prepared food from a food vendor.
- (b) (1) "Polystyrene foam food container" means a container made of blown polystyrene and expanded and extruded foam that are thermoplastic petrochemical materials utilizing the styrene monomer and the container meets all of the following conditions:
 - (A) Polystyrene is the sole resin used to produce the rigid plastic packaging container.
 - (B) The container is required to be labeled with a "6" pursuant to subdivision (a) of Section 18015.
 - (C) The container is used, or is intended to be used, to hold prepared food.
- (2) A polystyrene foam food container may be processed by a number of techniques, including, but not limited to, fusion of polymer spheres or expandable bead polystyrene.
- (3) Polystyrene foam may also be referred to as Styrofoam™, a Dow Chemical Company trademarked form of polystyrene foam insulation.
- (4) A polystyrene foam food container includes, but is not limited to, a cup, bowl, plate, tray, or clamshell container that is intended for single use.
- (c) (1) "Food vendor" means a food facility, as defined in Section 113789 of the Health and Safety Code, including, but not limited to, a restaurant or retail food and beverage vendor located or operating within the state.
- (2) A food vendor also includes, but is not limited to, an itinerant restaurant, pushcart, vehicular food vendors, a caterer, a cafeteria, a store, a shop, a sales outlet, or other establishment, including a grocery store or a delicatessen.
- (3) A food vendor does not include a correctional facility, including, but not limited to, a state prison, county jail, facility of the Division of Juvenile Justice, county- or city-operated juvenile facility, including juvenile halls, camps, or schools, or other state or local correctional institution.
- (d) "Prepared food" means food, as defined in Section 109935 of the Health and Safety Code, including a beverage, that is served, packaged, cooked, chopped, sliced, mixed, brewed, frozen, squeezed, or otherwise prepared for consumption. Prepared food includes "ready-to-eat food," as defined in Section 113881 of the Health and Safety Code.
 - (1) "Prepared food" does not include raw, butchered meats, fish, or poultry that is sold from a butcher case or a similar retail appliance.
 - (2) "Prepared food" may be eaten either on or off the premises, and includes takeout food.
- (e) "Recycled" means the product or material is reused in the production of another product and is diverted from disposal in a landfill.
- (f) "Undue economic hardship" means a situation unique to a food vendor in which there are no reasonable alternatives to polystyrene foam food containers in use by that food vendor and compliance with Section 42392 would cause significant economic hardship to that food vendor.*

42392.

Except as provided in Sections 42393 ~~and~~, 42394, and 42394.5, on and after January 1, 2016, a food vendor shall not dispense prepared food to a customer in a polystyrene foam food container.

42393.

(a) A food vendor that is a school district, as defined in Section 80 of the Education Code, is not required to comply with Section 42392 until July 1, 2017.

(b) On and after July 1, 2017, a food vendor that is a school district may dispense prepared food to a customer in a polystyrene foam food container if the governing board of the school district elects to adopt a policy to implement a verifiable recycling program for polystyrene foam food containers under which at least 60 percent of the polystyrene foam food containers purchased annually by that school district will be recycled.

(c) If the governing board of a school district elects to adopt a policy to implement a recycling program pursuant to subdivision (b), the recycling program shall be effective for not more than five years, and the school district may elect to renew the policy implementing the program continuously for a period not to exceed five years if, at the time of renewal, the school district demonstrates with empirical data that the recycling program is achieving the goal of recycling at least 60 percent of the polystyrene foam food containers generated annually by the school district.

42394.

(a) On and after January 1, 2016, a food vendor may dispense prepared food to a customer in a polystyrene foam food container in a city or county if either of the following apply:

(1) The city elects to adopt an ordinance establishing a recycling program for polystyrene foam food containers for which the city makes a finding, by a majority vote of the city council at a public hearing, that, based on empirical data, at least 60 percent of the polystyrene foam food containers generated annually in the city will be recycled by that program.

(2) The county elects to adopt an ordinance establishing a recycling program for polystyrene foam food containers for which the county makes a finding, by a majority vote of the board of supervisors at a public hearing, that, based on empirical data, at least 60 percent of the polystyrene foam food containers generated annually in the county will be recycled by that program.

(b) If a city or county elects to adopt an ordinance pursuant to this section, the ordinance shall be operative for no more than five years, and the city or county may elect to readopt the ordinance continuously for an operative period not to exceed five years if, at the time of adoption, the city or county demonstrates with empirical data that the ordinance is achieving the goal of recycling at least 60 percent of the polystyrene foam food containers generated annually in its jurisdiction.

42394.5.

(a) A food vendor may dispense prepared food to a customer in a polystyrene foam food container in a city or county if that food vendor demonstrates to the satisfaction of the city or county that compliance with Section 42392 will impose an undue economic hardship. A city or county may exempt the food vendor pursuant to this subdivision from the requirements of Section 42392 until January 1, 2017, or not more than one year from the date of the demonstration, whichever date is later.

(b) A food vendor granted an exemption pursuant to subdivision (a) may reapply to the city or county prior to the expiration of the exemption.

(c) The city or county may grant additional exemptions, each exemption not to exceed one year, from the requirements of Section 42392, if the food vendor demonstrates, at the time of application, to the satisfaction of the city or county, continued undue economic hardship.

42395.

This chapter does not preempt the authority of a county, city, or city and county to adopt and enforce additional single-use takeout food packaging ordinances, regulations, or policies that are more restrictive than the applicable standards required by this chapter.

42396.

The provisions of this chapter are severable. If any provision of this chapter or its application is held invalid, that invalidity shall not affect other provisions or applications that can be given effect without the invalid provision or application.

1 California Legislative Information. "SB-568 Recycling: polystyrene food containers.(2011-2012)." Available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=2011201205B568

Appendix C: San Francisco EPS Ordinance

San Francisco's Food Service Waste Reduction Ordinance addresses EPS amongst other waste reduction measures. Full text available at: <https://law.resource.org/pub/us/code/city/ca/SanFrancisco/Environment%20Code/chapter16.pdf> and below. More information on San Francisco's Food Service Waste Reduction Ordinance is available at: <http://www.sfgov2.org/index.aspx?page=886>

CHAPTER 16: FOOD SERVICE WASTE REDUCTION ORDINANCE

SEC. 1601. TITLE.

This Ordinance shall be known as the Food Service Waste Reduction Ordinance. (Ord. 29506, File No. 060944, App. 11/29/2006)

SEC. 1602. DEFINITIONS.

(a) "Affordable" means purchasable for not more than 15 percent more than the purchase cost of the non-Biodegradable non-Compostable or nonrecyclable alternative(s).

(b) "ASTM Standard" means meeting the standards of the American Society for Testing and Materials (ASTM) International Standards D6400 or D6868 for biodegradable and compostable plastics, as those standards may be amended.

(c) "Compostable" means all the materials in the product or package will break down into, or otherwise become part of, usable compost (e.g., soilconditioning material, mulch) in a safe and timely manner in San Francisco's Composting Program. Compostable Disposable Food Service Ware must meet ASTM Standards for compostability and any bio-plastic or plastic like product must be clearly labeled, preferably with a color symbol, to allow proper identification such that San Francisco's compost collector and processor can easily distinguish the ASTM Standard Compostable plastic from non-ASTM Standard Compostable plastic. For the purposes of this ordinance the term biodegradable shall have the same meaning as compostable. This ordinance uses the terms biodegradable and compostable interchangeably and in all cases whether the terms are used separately, in the disjunctive or in the conjunctive they shall always be interpreted and applied consistent with this definition of the term "compostable".

(d) "City Administrator" means the City Administrator appointed under Section 3.104 of the Charter or his or her designee.

(e) "City contractors and lessees" means any person or entity that has a contract with the City for public works or improvements to be performed, for a franchise, concession or lease of property, for grant monies or goods and services or supplies to be purchased at the expense of the City and County, or to be paid out of monies deposited in the Treasury or out of trust monies under the control or collected by the City and County.

(f) "City Facility" means any building, structure or vehicle owned or operated by the City of San Francisco.

(g) "City Facility Food Provider" means an entity that provides, but does not sell, Prepared Food in City Facilities, including without limitation, San Francisco General Hospital, Laguna Honda Hospital, San Francisco County Jail and the San Bruno Jail Complex.

(h) "Disposable Food Service Ware" means all containers, bowls, plates, trays, carton, cups, lids, straws, forks, spoons, knives, napkins and other items that are designed for one-time use for Prepared Foods, including without limitation, service ware for takeout foods and/or leftovers from partially consumed meals prepared by Food Vendors. The term "Disposable Food Service Ware" does not include items composed entirely of aluminum or polystyrene foam coolers and ice chests that are intended for reuse.

(i) "Food Vendor" means any Restaurant or Retail Food Vendor located or operating within the City and County of San Francisco.

(j) "Person" means an individual, trust, firm, joint stock company, corporation including a government corporation, partnership, or association.

(k) "Polystyrene Foam" means blown polystyrene and expanded and extruded foams (sometimes called Styrofoam™) which are thermoplastic petrochemical materials utilizing a styrene monomer and processed by any number of techniques including, but not limited to, fusion of polymer spheres (expandable bead polystyrene), injection molding, foam molding, and extrusion-blown molding (extruded foam polystyrene). Polystyrene foam is generally used to make cups, bowls, plates, trays, clamshell containers, meat trays and egg cartons.

(l) "Prepared Food" means food or beverages, which are serviced, packaged, cooked, chopped, sliced, mixed, brewed, frozen, squeezed or otherwise prepared (collectively "prepared") within the City and County of San Francisco for individual customers or consumers. For the purpose of this Chapter, Prepared Food includes take-out food, but does not include raw, butchered meats, fish and/or poultry sold from a butcher case or similar retail appliance.

(m) "Recyclable" means material that can be sorted, cleansed, and reconstituted using San Francisco's available recycling collection programs for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating, converting, or otherwise thermally destroying solid waste.

(n) "Restaurant" means any establishment located within the City and County of San Francisco that sells Prepared Food for consumption on, near, or off its premises. For purposes of this Chapter, the term includes a Restaurant operating from a temporary facility, cart, vehicle or mobile unit.

(o) "Retail Food Vendor" means any store, shop, sales outlet, or other establishment, including a grocery store or a delicatessen, other than a Restaurant, located within the City and County of San Francisco that sells Prepared Food. (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1603. PROHIBITED DISPOSABLE FOOD SERVICE WARE.

(a) Food Vendors may not sell Prepared Food in Disposable Food Service Ware that contains Polystyrene Foam.

(b) City Facility Food Providers may not provide Prepared Food in Disposable Food Service Ware that contains Polystyrene Foam.

(c) City Departments may not purchase, acquire or use Disposable Food Service Ware that contains Polystyrene Foam.

(d) City contractors and lessees may not use Disposable Food Service Ware that contains Polystyrene Foam in City Facilities and while performing under a City contract or lease. (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1604. REQUIRED BIODEGRADABLE/COMPOSTABLE OR RECYCLABLE DISPOSABLE FOOD SERVICE WARE.

(a) All Food Vendors using any Disposable Food Service Ware shall use a suitable Affordable alternative Biodegradable/Compostable or Recyclable product, unless there is no suitable Affordable Biodegradable/Compostable or Recyclable product available as determined by the City Administrator in accordance with this subsection. Not later than 30 days before the operative date of this Chapter, and after a public hearing, the City Administrator shall adopt a list of available suitable Affordable Biodegradable/Compostable or Recyclable alternatives for each product type. The City Administrator shall regularly update the list.

(b) All City Facility Food Providers and City departments using any Disposable Food Service Ware shall use Biodegradable/Compostable or Recyclable Disposable Food Service Ware unless there is no Affordable Biodegradable or Compostable product available as determined by the City Administrator in accordance with Subsection 1604(a).

(c) City contractors and lessees using any Disposable Food Service Ware shall use suitable Biodegradable/Compostable or Recyclable Disposable Food Service Ware in City Facilities and while performing under a City contract or lease unless there is no suitable Affordable Biodegradable/Compostable or recyclable product available as determined by the City Administrator in accordance with Subsection 1604(a). (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1605. IMPLEMENTATION; CITY CONTRACTS AND LEASES.

(a) The City Administrator is authorized to promulgate regulations, guidelines and forms and to take any and all other actions reasonable and necessary to implement and enforce this Chapter.

(b) Any person may seek a waiver from the requirements of Section 1604 of this Chapter by filing a request on a form specified by the City Administrator. The City Administrator, consistent with this Chapter, may waive any specific requirement of this Chapter for a period of up to one year if the person seeking the waiver has demonstrated that strict application of the specific requirement would create an undue hardship or practical difficulty not generally applicable to other persons in similar circumstances. The City Administrator's decision to grant or deny a waiver shall be in writing and shall be final.

(c) All City contracts and leases, including without limitation, contracts with City Facility Food Providers, shall contain the following minimum language: "Contractor agrees to comply fully with and be bound by all of the provisions of the Food Service Waste Reduction Ordinance, as set forth in San Francisco Environment Code Chapter 16, including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 16 are incorporated herein by reference and made a part of this agreement as though fully set forth. This provision is a material term of this

agreement. By entering into this agreement, contractor agrees that if it breaches this provision, City will suffer actual damages that will be impractical or extremely difficult to determine; further, Contractor agrees that the sum of one hundred dollars (\$100.00) liquidated damages for the first breach, two hundred dollars (\$200.00) liquidated damages for the second breach in the same year, and five hundred dollars (\$500.00) liquidated damages for subsequent breaches in the same year is a reasonable estimate of the damage that City will incur based on the violation, established in light of the circumstances existing at the time this agreement was made. Such amounts shall not be considered a penalty, but rather agreed monetary damages sustained by City because of contractor's failure to comply with this provision." (Ord. 295-06, File No. 060944, App. 11/29/ 2006)

SEC. 1606. ENFORCEMENT AND PENALTIES.

(a) The City Administrator shall issue a written warning to any person he or she determines is violating Sections 1603(a) or 1604(a) of this Chapter. If after issuing a written warning of violation from the City Administrator, the City Administrator finds that person continues to violate the provisions of Sections 1603(a) or 1604(a), the City Administrator may apply for or impose the various sanctions provided in this Section.

(b) Any person who violates the provisions of Sections 1603(a) or 1604(a) of this Chapter shall be guilty of an infraction. If charged as an infraction, upon conviction thereof, said person shall be punished for the first offense by a fine of not more than \$100.00 for a first violation; not more than \$200.00 for a second violation in the same year and not more than \$250.00 for each subsequent violation in the same year.

(c) The City Administrator may issue an administrative civil liability citation to such person in an amount not exceeding \$100.00 for the first violation, an amount not exceeding \$200.00 for the second violation in the same year, and an amount not exceeding \$500.00 for each subsequent violation in the same year. In determining administrative civil penalties, the City Administrator shall consider the extent of harm caused by the violation, the nature and persistence of the violation, the length of time over which the violation occurs, the frequency of past violations, any action taken to mitigate the violation, and the financial burden to the violator. Any person to whom the City Administrator issues a written warning of violation or an administrative civil liability citation may request an administrative hearing to appeal such warning or determination of liability. Not later than 30 days before the operative date of this Chapter, and after a public hearing, the City Administrator shall promulgate rules and procedures for requesting and conducting an administrative hearing under this Chapter. In any administrative hearing under this Article, all parties involved shall have the right to offer testimonial, documentary, and tangible evidence bearing on the issues, to see and copy all documents and other information the City relies on in the proceeding, and to confront and cross-examine any witnesses against them. A decision by the hearing officer shall be final. Any person assessed a penalty under this subsection may contest such decision to the Superior Court within 20 days after service of the City's decision.

(d) The City Attorney may seek legal, injunctive, or other equitable relief to enforce this Chapter, including without limitation, civil penalties in an amount not exceeding \$100.00 for the first violation, \$200.00 for the second violation, and \$250.00 for each subsequent violation in any given year.

(e) The City may not recover both administrative and civil penalties pursuant to Subsections (c) and (d) of this Section for the same violation. Penalties collected under Subsections (c) and (d) of this Section, which may include recovery of enforcement costs, shall be used to fund implementation and enforcement of this Chapter. (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1607. REPORT TO THE BOARD OF SUPERVISORS.

No later than June 1, 2008, the Director of the Department of the Environment, in consultation with the City Administrator and with input from members of the public, shall submit to the Board of Supervisors a report recommending changes, if any, to this Chapter, including whether the ban imposed by this Chapter should be extended to other products, as supported by the report. If the Director recommends banning additional products, the report must include an estimate of the costs and benefits of compliance with a ban on additional products, including the increased costs to the City as well as to the City's food service industry. (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1608. OPERATIVE DATE.

This ordinance shall become operative on June 1, 2007. (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1609. SEVERABILITY.

If any section, subsection, sentence, clause, or phrase of this Chapter is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the Chapter. The Board of Supervisors hereby declares that it would have passed this Chapter and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of this Chapter would be subsequently declared invalid or unconstitutional. (Ord. 295-06, File No. 060944, App. 11/29/ 2006)

SEC. 1610. NO CONFLICT WITH FEDERAL OR STATE LAW.

Nothing in this Ordinance shall be interpreted or applied so as to create any requirement, power or duty in conflict with any federal or state law. (Ord. 295-06, File No. 060944, App. 11/29/2006)

SEC. 1611. UNDERTAKING FOR THE GENERAL WELFARE.

In undertaking the implementation of this Chapter, the City is assuming an undertaking only to promote the general welfare. It is not assuming, nor is it imposing on its officer and employees, an obligation for breach of which it is liable in money damages to any person who claims that such breach proximately caused injury. (Ord. 295-06, File No. 060944, App. 11/29/ 2006)

Appendix D: Seattle EPS Ordinance

The full text of Seattle's EPS ordinance is below. More information, including information for businesses and resources on compostable packaging, is available at: <http://www.seattle.gov/util/ForBusinesses/SolidWaste/FoodYardBusinesses/Commercial/FoodPackagingRequirements/index.htm>

Council Bill Number: 116853

Ordinance Number: 123307

AN ORDINANCE relating to the City of Seattle's solid waste system, providing for the collection of compostable and recyclable food service ware from certain food service businesses, and amending Section 21.36.086 of the Seattle Municipal Code.

Status: Passed

Date passed by Full Council: May 17, 2010

Vote: 7-0 (Excused: Burgess, Conlin)

Date filed with the City Clerk: May 24, 2010

Date of Mayor's signature: May 20, 2010

Date introduced/referred to committee: May 3, 2010

Committee: Seattle Public Utilities and Neighborhoods

Sponsor: O'BRIEN

Text:

AN ORDINANCE relating to the City of Seattle's solid waste system, providing for the collection of compostable and recyclable food service ware from certain food service businesses, and amending Section 21.36.086 of the Seattle Municipal Code.

WHEREAS, the Washington State Legislature in RCW 70.95.010(8)(a) established waste reduction as the first priority for the collection, handling, and management of solid waste; and

WHEREAS, the Washington State Legislature in RCW 70.95.010(6)(c) found it is the responsibility of city governments "to assume primary responsibility for solid waste management and to develop and implement aggressive and effective waste reduction and source separation strategies"; and

WHEREAS, the City Council in 2007 adopted, the Mayor concurring, Resolution 30990, which reaffirmed the City's 60% recycling goal and set a longer-term goal of 70% recycling along with targets for waste reduction; and

WHEREAS, Resolution 30990 called for studies on how to reduce Seattleites' use of hard-to-recycle materials, many of them plastics, and specifically required Seattle Public Utilities ("SPU") to propose strategies, including bans, to discourage the use and landfilling of disposable food service containers and food service ware; and

WHEREAS, SPU has completed those studies, finding that the production, use and disposal of expanded polystyrene food service products and disposable food service ware have significant adverse impacts on the environment and that compostable or recyclable alternative products are available; and

WHEREAS, costs associated with the use and disposal of one-time-use food service ware in Seattle creates burdens on the City's solid waste disposal system; and

WHEREAS, to discourage and decrease the use of certain disposable food service ware in the city, the City enacted Ordinance 122751, amending Chapter 21.36 of the Seattle Municipal Code, to prohibit food service businesses from selling or providing food in or with one-time-use disposable food service ware; and

WHEREAS, to divert from landfill and further promote the efficient collection and processing of compostable and recyclable food service ware, the City intends to adopt requirements for such collection and processing; NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Section 21.36.086 of the Seattle Municipal Code is amended as follows:

21.36.086 Compostable or recyclable food service ware required

A. Effective July 1, 2010, food service businesses shall be prohibited from selling or providing food, for consumption on or off the premises, in or with disposable food service ware. Acceptable alternatives for prohibited disposable food service ware shall be compostable or recyclable.

B. Food service businesses providing food for consumption on premises using compostable or recyclable food service ware must provide conveniently located and clearly marked containers where customers may discard compostable and recyclable food service ware and must provide for the collection and delivery of these materials to appropriate processing facilities.

C. On such commercially reasonable terms as determined by the landlord, landlords of food service businesses subject to the requirements of this section shall make adequate space and/or services available to such food service businesses for the collection and pick up of the compostable and recyclable materials generated by such food service businesses.

D. Landlords operating food courts or similar settings that include food service businesses and common areas set aside and maintained for the consumption of food and beverages shall provide in such common areas the services required in subsection B of this section.

E. The Director is authorized to promulgate rules, in accordance with the provisions of the Administrative Code, SMC Chapter 3.02, for purposes of interpreting and clarifying the requirements of this section. Such rules may provide temporary waivers or other relief that apply to use of certain food service ware products for an initial period of up to one year from July 1, 2010, with the option for an up to one year extension to expire no later than June 30, 2012. Such waivers or relief shall be granted only for circumstances where commonly used recycling and composting technology cannot process the food service ware, or where suitable alternative products that meet performance and food health and safety standards are unavailable.

F.((B)). For purposes of this section, the following definitions shall apply.

1. "Compostable" means made solely of organic substances that break down into a stable product due to the action of bacteria in a controlled, aerobic commercial process that results in a material safe and desirable as a soil amendment meeting the compost quality standards found under WAC 173-350-220 for metals, physical parameters, pathogens, manufactured inert material and other testing parameters set by the local Health Department and has been found to degrade satisfactorily at the composting facility receiving the material.

2. "Disposable (~~(plastic)~~) food service ware" means non-compostable and non-recyclable containers, plates, "clamshells," serving trays, meat and vegetable trays, hot and cold beverage cups, wrappers, and utensils that are (~~(made of plastic or plastic coated paper and)~~) intended only for one-time use, including so called biodegradable products where any portion is not compostable.

3. "Food service businesses" means full-service restaurants, fast food restaurants, cafes, delicatessens, coffee shops, grocery stores, vending trucks or carts, business or institutional cafeterias, and other businesses, selling or providing food within the City of Seattle for consumption on or off the premises.

4. "Recyclable" means made solely of materials that are capable of being separated from a waste stream by a food service business and made available for collection and delivery to a processor for reuse or remanufacture into the same or other products.

5. "Consumed on premises" means consumption of food or beverages in the public areas of a food service business, common areas of a food court, outside seating areas and parking lots exclusively for customers of the food service business, rather than taken out for consumption elsewhere.

6. "Food court" means an area of a retail mall, office building, sports facility or other premises where one or more food service businesses are located and customer seating for dining and consumption of beverages is provided in a common area.

Section 2. This ordinance shall take effect and be in force 30 days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten days after presentation, it shall take effect as provided by Seattle Municipal Code Section 1.04.020.

Appendix E: San Jose EPS Ordinance

Complete text available at: <http://sanjoseca.gov/DocumentCenter/View/31718>

ORDINANCE NO. 29298

AN ORDINANCE OF THE CITY OF SAN JOSE AMENDING CHAPTER 9.10 OF TITLE 9 OF THE SAN JOSE MUNICIPAL CODE TO ADD A NEW PART 17 TO PROHIBIT THE USE OF POLYSTYRENE FOAM DISPOSABLE FOOD SERVICE WARE BY FOOD VENDORS

WHEREAS, plastic debris and in particular expanded polystyrene foam ("EPS") is a distinctive litter concern because it is lightweight, floats, and readily travels from land to inland waterways and out to the ocean where it breaks down into small pieces to be mistaken for food by birds and other marine wildlife; and

WHEREAS, EPS disposable food service ware comprises a majority of EPS litter observed in storm drains; and

WHEREAS, the proposed phase-out of EPS disposable food service ware would require food vendors to use alternative disposable food service ware that should result in a reduction of EPS litter., reduce the risk of harm to aquatic wildlife, and improve water quality in the San Jose creeks and the Southern San Francisco Bay; and

WHEREAS, on August 27, 2013, prior to taking action on the Ordinance, the City Council reviewed, considered and adopted by separate Council resolution, the proposed Negative Declaration analyzing the regional environmental impacts of the Ordinance to phase-out of EPS disposable food service ware (File NO. PP13-043);

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SAN JOSE:

SECTION 1. Chapter 9.10 of Title 9 of the San Jose Municipal Code is hereby amended by adding a new Part, to be numbered, entitled and to read as follows:

Part 17: Polystyrene Foam Disposable Food Service Ware

9.10.3100 Definitions

The definitions set forth in this Section shall govern the application and interpretation of this Part.

A. "Disposable food service ware" means single-use disposable products used in the restaurant and food service industry for serving prepared food and includes, but is not limited to, plates, trays, cups, bowls, trays, and hinged or lidded containers (clamshells). Disposable food service ware does not include straws, utensils, drink lids, or ice chests.

B. "Food vendor" means any establishment located in the City of San Jose that sells or otherwise provides prepared food for consumption on or off its premises, and includes, but is not limited to, any shop, sales outlet, restaurant, bar, pub, coffee shop, cafeteria, caterer, convenience store, liquor store, grocery store, supermarket, delicatessen, mobile food truck, vehicle or cart, or roadside stand. A "food vendor" does not include a food service provider that is associated with either a nonprofit organization with Section 501(c)(3) status under the Internal Revenue Code or a public agency sponsored program.

C. "National food vendor" means a food vendor that is a chain of franchised or corporate owned establishments located in more than one state.

D. "Polystyrene foam" means a thermoplastic petrochemical material made from a styrene monomer and expanded or blown using a gaseous agent (expanded polystyrene) including, but not limited to, fusion of polymer spheres (expandable bead polystyrene), injection molding, form molding, and extrusion-blow molding (extruded foam polystyrene). "Polystyrene foam" is commonly made in disposable food service ware products. "Polystyrene foam" does not include clear or solid polystyrene (oriented polystyrene).

E. "Prepared food" means food or beverages that are packaged, cooked, chopped, sliced, mixed, brewed, frozen, squeezed or otherwise prepared on the premises. "Prepared food" does not include (1) any raw, uncooked meat products or fruits or vegetables unless it can be consumed without further preparation; or (2) prepackaged food that is delivered to the food vendor wholly encased, contained or packaged in a container or wrapper, and sold or otherwise provided by the food vendor in the same container or packaging.

9.10.3110 Polystyrene Foam Disposable Food Service Ware Prohibited

A. No national food vendor shall sell or otherwise provide prepared food in polystyrene foam disposable food service ware on or after January 1, 2014.

B. No food vendor shall sell or otherwise provide prepared food in polystyrene foam disposable food service ware on or after January 1, 2015.

9.10.3120 Exemptions to the Polystyrene Foam Disposable Food Service Ware Prohibition

A. A national food vendor or food vendor may seek an exemption from the prohibition under Section 9.10.3110 due to a "unique packaging hardship" under Subsection B of this Section or a "financial hardship" under Subsection C of this Section.

B. The national food vendor or food vendor must demonstrate that no reasonably feasible alternative exists to a specific and necessary polystyrene foam disposable food service ware to qualify for a "unique packaging hardship" exemption.

C. The national food vendor or food vendor must demonstrate both of the following to qualify for a "financial hardship" exemption: (1) a gross income under \$300,000 on their annual income tax filing for the most recent tax year, and (2) with respect to each specific and necessary polystyrene foam disposable food service ware, that there is no feasible alternative that would cost the same or less than the polystyrene foam disposable food service ware.

D. The national food vendor or food vendor may submit a written application for an exemption on a form provided by the Department of Environmental Services. The Director of Environmental Services or designee ("Director") may require the applicant to submit additional information or documentation to make a determination regarding the exemption request. A request for exemption shall be reviewed on a case by case basis, and may be granted in whole or in part, with or without conditions, for a period of up to twelve (12) months. The national food vendor or food vendor must apply for a new exemption period no later than sixty (60) days prior to the expiration of the then current exemption period to preserve a continuous exemption status. Each application shall be reviewed anew and will be based on the most current information available. The determination of the Director shall be final and is not subject to appeal.

SECTION 2. This ordinance shall be effective on January 1, 2014.

PASSED FOR PUBLICATION of title this 27th day of August, 2013, by the following vote:

AYES: CAMPOS, CHU, HERRERA, KALRA, LICCARDO, NGUYEN, OLIVERIO, ROCHA; REED.

NOES: CONSTANT, KHAMIS.

ABSENT: NONE.

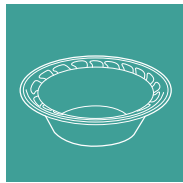
DISQUALIFIED: NONE

Appendix F: List of EPS alternatives compiled for City of San Jose

San Jose has compiled a set of materials to assist businesses in complying with the city's EPS ordinance³.

The city provides a document listing "Alternatives to Foam Food Containers" for different product categories. The complete document is available at: <http://www.sanjoseca.gov/DocumentCenter/View/34104>. Along with this document the city provides a Reference Guide, available at: <http://www.sanjoseca.gov/DocumentCenter/View/46910>. The reference guide provides a glossary of products, glossary of materials, and a listing of vendors.

Below is a sample of the "Alternatives to Foam Food Containers" document.



Alternatives to Foam Food Containers PRODUCT CATEGORY: BOWLS Product Availability and Pricing



SIZE / MATERIAL	IMAGE	VENDOR	PRODUCT NAME	NO.	RETAIL		BULK 1		BULK 2		HEAT SAFE?
					UNITS / CASE	PRICE / UNIT	UNITS / CASE	PRICE / UNIT	UNITS / CASE	PRICE / UNIT	
6 oz		Biomasspackagingstore.com	BagasseWare 6-oz. Flat Bottom Round Bowl (4.5" x 1.5")	226-L015 - 6 oz	1,000	\$0.07					
8 oz		Foodservicewarehouse.com	Dart (DCC 5BWWF) - 6 oz Impact Plastic Bowl	DCC 5BWWF	1,000	\$0.09					
11.5 oz		Worldcentric	11.5oz Plant Fiber Bowls (Lid sold separately: BOL-SC-U24)	BO-SC-U11-11.5oz	20	\$0.17	1,000	\$0.06			
12 oz		Biomasspackagingstore.com	BagasseWare 12-oz. Round Bowl (6.25" x 1.5")	357-BL-12	1,000	\$0.07					
12 oz		Cash&Carry	EARTHCHOICE BOWL MOLDED FIBER 12Z	22709	125	\$0.07	1,000	\$0.06			
12 oz		Costco Online	12 oz. Compostable Sugarcane Bowl	862043	200	\$0.05					
12 oz		Costco Online	eco Kloud 12 oz Compostable Bowl Bagasse Sugarcane	487730	1,000	\$0.06					
12 oz		Foodservicewarehouse.com	Biodegradable 100 Percent Sugarcane Round Bowl	WEECPEP BL12	1,000	\$0.14					
12 oz		Costco Online	Dixie Ultra Paper Bowl 12oz 175ct	1115	100	\$0.06	175	\$0.06			

KEY: = Hot or Cold Contents* = Microwaveable * Heat Safe indicates that product is labeled as appropriate for both hot and cold contents. Review full product details prior to purchase.

Prices are subject to change and may not represent the lowest cost products at any given time. We encourage you to perform your own search for the best pricing for product(s) that meet your needs.

Alternatives to Foam Food Containers PRODUCT CATEGORY: BOWLS



1 City of San Jose. "Foam Food Container Ordinance." Available at: <http://www.sanjoseca.gov/eps>

Research for this paper was conducted by the Equinox Project, an initiative of the Center for Sustainable Energy.



CSE thanks Patagonia Cardiff for providing underwriting for this research project.



This report is available online at energycenter.org/equinox.

Recommendations for Reducing or Banning Foam Food Service Containers, Center for Sustainable Energy, San Diego, CA
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Offices

San Diego (Headquarters)

9325 Sky Park Court, Suite 100
San Diego, CA 92123
Phone: 858-244-1177

Los Angeles

617 West 7th Street, Suite 305
Los Angeles, CA 90017
Phone: 213-481-6115

Oakland

426 17th Street, Suite 700
Oakland, CA 94612
Phone: 415-692-1500

Boston

50 Milk Street, 16th Floor
Boston, MA 02109
Phone: 857-243-2021

EnergyCenter.org