CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

DATE: October 26, 2022

TO: The Honorable Mitch O'Farrell, Chair
The Honorable Paul Koretz, Member
The Honorable Paul Krekorian, Member

FROM: Barbara Romero, Director and General Manager
LA Sanitation and the Environment

SUBJECT: **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) NOTICE OF EXEMPTION AND DRAFT ENVIRONMENTAL ANALYSIS FOR THE PROHIBITION OF DISTRIBUTION AND SALE OF EXPANDED POLYSTYRENE PRODUCTS ORDINANCE (COUNCIL FILE # 21-0064)**

On April 27, 2022, the Los Angeles City Council approved the Energy, Climate Change, Environmental Justice, and River Committee (ECCEJR) report, instructing the City Attorney to draft an ordinance that bans expanded polystyrene (EPS) products on a City-wide basis, and for the draft ordinance to return to ECCEJR Committee, together with the required California Environmental Quality Act (CEQA) analysis (COUNCIL FILE # 21-0064).

RECOMMENDATIONS FOR COUNCIL ACTION:

1. Following the requirements of the California Environmental Quality Act (CEQA), the City of Los Angeles - LA Sanitation and the Environment has prepared a draft Notice of Exemption (NOE), and accompanying Environmental Analysis report attached thereto, based upon its environmental review of the proposed project: Prohibition of Distribution and Sale of Expanded Polystyrene Products Ordinance (Council File # 21-0064). Staff recommends that City Council make the following determination as its first recommended action before approving the remaining recommended actions that approve the project:

    a. Determine that the City's actions approving the Prohibition of Distribution and Sale of Expanded Polystyrene Products Ordinance project are categorically exempt from the California Environmental Quality Act pursuant to State CEQA Guidelines Sections 15307 (Class 7) and 15308 (Class 8) of the CEQA guidelines, and that no exceptions to the exemptions under CEQA Guidelines Section 15300.2 exist, including that no unusual circumstances exist that would cause a significant impact on the environment, as more fully described in the Notice of Exemption (NOE) and accompanying Environmental Analysis report submitted by LASAN in the Council File for this action.

2. Approve the Prohibition of Distribution and Sale of Expanded Polystyrene (EPS) Products Ordinance provided by the City Attorney with amendments to the ordinance implementation schedule, including enforcement and fine structure.

3. Direct LASAN to prepare an outreach program to educate consumers and businesses about the Prohibition of Distribution and Sale of EPS Products Ordinance.

4. Direct LASAN to report back by April of 2025, regarding compliance with the Ordinance, the efficacy of fines and determine if fines should be increased, and if the annual cap on fines should be removed.

BACKGROUND

EPS is formed when a blowing agent, such as pentane or isopentane, is added to polystyrene, which is a thermoplastic resin made of styrene, a constituent of petroleum. EPS is lightweight, a good thermal insulator, moisture-resistant, and has high shock absorbency. These characteristics have led to its extensive use in the food and packaging industries. However, EPS is neither recyclable nor compostable in the City, does not biodegrade, poses a risk to wildlife, can easily blow out of open garbage cans and trucks because it is so lightweight, and can leach harmful chemicals into the environment when landfilled.

The City's objectives for the ordinance include the following:

- Reduce the amount of EPS, which cannot be composted or recycled, in the City's solid waste;
- Reduce the amount of EPS material that reaches local waterways and the Pacific Ocean.
- Encourage the use of reusable packaging and containers.

DISCUSSION

As analyzed in the attached Draft Environmental Analysis, the ordinance would have substantial environmental benefits. The ordinance would not result in a significant adverse impact, either direct, indirect, or cumulative. These findings are based on the assumption that there will be a shift away from EPS products, because of the ordinance, to other, substitute products. There are numerous materials readily available for use as EPS substitutes including compostable fiber/paperboard, compostable plant fibers, various recyclable plastics, which are recyclable when empty, clean and dry, glass, and durable materials such as stainless steel, ceramic, bamboo, wood, and stoneware.

<u>Recommended Implementation Schedule</u>

LASAN recommends that the new draft ordinance be implemented in two phases.

- Phase 1 - Applicable to food and beverage facilities with more than 26 employees beginning on April 22, 2023.
- Phase 2 - Applicable to all food and beverage facilities beginning on April 22, 2024.

The purposes of a phased approach are: 1) to allow businesses to use their existing stock of the banned EPS items, 2) to allow LASAN time to conduct adequate public outreach on the new ordinance and to research and facilitate potential eco-friendly alternative options for businesses, with emphasis to small businesses, and 3) to allow businesses to find and purchase eco-friendly alternative options.

<u>Recommended Enforcement</u>

LASAN recommends that the new draft ordinance be enforced in the following manner:

- LASAN to begin complaint-driven enforcement of this ordinance effective April 22, 2023.
- Written notices will be issued for first and second violations. An administrative fine of $25 will be assessed for a third violation and each subsequent violation. The Administrative fine of $25 shall be imposed for each day the Food or Beverage Facility or Retail Establishment is in violation, but shall not exceed $300 per calendar year.

Statewide Legislation

In the State of California, there are 97 cities or counties that have EPS bans, ranging from bans that apply only to government facilities, to bans on use in restaurants and by foodware vendors, to full bans on the distribution or use of any EPS products. In addition Senate Bill 54 was signed into law in June 2022 and specifies the following: *"(i) Producers of expanded polystyrene food service ware shall not sell, offer for sale, distribute, or import in or into the state expanded polystyrene food service ware unless the producer demonstrates to the department that all expanded polystyrene meets the following recycling rates:*

A. Not less than 25 percent on and after January 1, 2025.
B. Not less than 30 percent on and after January 1, 2028.
C. Not less than 50 percent on and after January 1, 2030.
D. Not less than 65 percent on and after January 1, 2032, and annually thereafter."

Los Angeles County Supervisors passed an EPS ban[1] on April 13, 2022. Most provisions of the Los Angeles County ordinance will become effective on the following schedule:

1. May 1, 2023, for food facilities operating in a permanent location and for all retail establishments;
2. November 1, 2023, for food trucks; and
3. May 1, 2024, for certified farmers' markets, temporary food facilities, and catering operations.

Education and Outreach

LASAN has launched an education and outreach campaign, consisting to date of five virtual meetings with food service providers and retailers. LASAN has also sent a survey to potentially affected businesses to obtain feedback on the ordinance.

Upon Council approval of the draft ordinance, LASAN will conduct further education and outreach, including one or more press events; contact with all major affected businesses and industries; development and mailing of an informational document to all food/beverage facilities operating in the City of Los Angeles. LASAN's informational document will be designed to also serve as a customer advisory that can be posted inside restaurants and/or at drive-through kiosks.

[1] Title 12 – Environmental Protection, Chapter 12.86 of the Los Angeles County Code, Reduction of Waste from Single-Use Articles and Expanded Polystyrene Products." The County filed a Notice of exemption for the amended ordinance, using Class 7 and Class 8 categorical exemptions, on April 13, 2022.

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Los Angeles

From: (Public Agency): City of Los Angeles, Bureau of Sanitation

1149 S Broadway 5th floor, Los Angeles, CA 90015

(Address)

Project Title: Prohibition on Distribution or Sale of Expanded Polystyrene Products Ordinance

Project Applicant: City of Los Angeles

Project Location - Specific:

City of Los Angeles - citywide

Project Location - City: Los Angeles Project Location - County: Los Angeles

Description of Nature, Purpose and Beneficiaries of Project:

The Project would ban the sale and distribution of certain expanded polystyrene (EPS) products throughout the City of Los Angeles. See attached "Environmental Analysis for Prohibition on Distribution or Sale of Expanded Polystyrene Products Ordinance Notice of Exemption" (Council File: 21-0064). The City Council determined the Project was exempt from CEQA and approved the project on _____, 20____.

Name of Public Agency Approving Project: City of Los Angeles

Name of Person or Agency Carrying Out Project: City of Los Angeles

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 7 (Section 15307), Class 8 (Section 15308)
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:

The Prohibition on Distribution or Sale of Expanded Polystyrene Products Ordinance would prohibit the sale and distribution of EPS products that cause harm to the environment when properly or improperly disposed of, as well as cause harm to human health when used and disposed of. The ordinance would reduce pollution and waste caused by EPS products and would prevent harm to human health caused by use and disposal of EPS products. See attached "Environmental Analysis for Prohibition on Distribution or Sale of Expanded Polystyrene Products Ordinance Notice of Exemption" (Council File:21-0064).

Lead Agency Contact Person: Paul S. Cobian Area Code/Telephone/Extension: 213-675-6412

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature: _____ Date: _____ Title: Environmental Affairs Officer

▪ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

Environmental Analysis for

Prohibition on Distribution or Sale of Expanded Polystyrene Products Ordinance Notice of Exemption

October 2022

Lead Agency:

City of Los Angeles

LA Sanitation and Environment

Barbara Romero, Director and General Manager

Alex Helou, Assistant General Manager

Consultant to Lead Agency:

Catalyst Environmental Solutions Corporation

SECTION 1 Project Description

The proposed project is a City of Los Angeles City Council ordinance adding Article 5 to Chapter XIX of the Los Angeles Municipal Code to ban the sale and distribution of certain expanded polystyrene (EPS) products. Polystyrene is a thermoplastic resin made of styrene, a constituent of petroleum. EPS is formed when a blowing agent, such as pentane or isopentane, is added to polystyrene. EPS is lightweight, a good thermal insulator, moisture-resistant, and has high shock absorbency. These characteristics have led to its extensive use in the food and packaging industries.

Los Angeles County recently passed an EPS ban[1]. It is the intent of the City to be consistent with the County elements, except as indicated below, and the key elements of the County EPS ban are summarized, as follows:

- Prohibition of the sale, rental, or offering by retail establishments to customers of products made from EPS (also known as "Styrofoam").
- The County defines an “Expanded polystyrene product" as products such as coolers, ice chests, cups, bowls, plates, shipping boxes, packing peanuts, packing materials, and pool or beach toys, that are made from EPS, unless the product is encased in a durable material.
- EPS products do not include products such as surfboards, coolers, and craft supplies that are wholly encapsulated or encased in a more durable material. EPS products do not include products that are pre-packaged outside of the County using EPS as part of the packaging material, as long as the products themselves are not made of EPS that is not encased in a more durable material.
- The County ordinance does not apply to online sales of products that are shipped from a location outside of the unincorporated area of the County.

The proposed City ordinance prohibits the sale or distribution of any EPS products; any food or beverage in an EPS product; and shipping or packaging materials that contain EPS. These EPS products include the following:

- EPS products intended primarily for food or beverage service use including but not limited to, cups, plates, bowls, trays, and clamshells;
- EPS egg cartons;
- EPS coolers and ice chests that are not encased in a more durable material;
- EPS shipping materials including shipping boxes, loose fill packing materials (e.g., packing peanuts), molded packaging materials.

Exempt products are as follows:

- Products such as surfboards, coolers, or craft supplies that are wholly encapsulated or encased in a more durable material;
- Craft supplies;
- Products required for medical necessity such as portable coolers used for transport of drugs, medical devices, and biological materials;

[1] Title 12 – Environmental Protection, Chapter 12.86 of the Los Angeles County Code, Reduction of Waste from Single-Use Articles and Expanded Polystyrene Products." The County filed a Notice of exemption for the amended ordinance, using Class 7 and Class 8 categorical exemptions, on April 13, 2022.

- EPS used in the manufacture of safety devices and equipment including but not limited to vehicle child restraint systems, personal floatation devices such as life jackets and life preservers, helmets, and vehicle impact protection systems;
- Construction and building products made from EPS if the products are used in compliance with City of Los Angeles Municipal Code Chapter IX: Building Regulations and used in a manner preventing the EPS from being released into the environment;
- Products that are pre-packaged outside of the City using EPS as part of the packaging material (except for egg cartons), as long as the products themselves are not made of EPS or unless a more durable material wholly encapsulates or encases the EPS;
- Online sales of products that are shipped from a location outside of the City; and
- EPS packaging products that have been received from sources outside the City may be reused in order to keep the products out of the waste stream.

The ordinance applies to food or beverage facilities and retail establishments in the City (as defined) including, but not limited to, a shop, sales outlet, restaurant, bar, pub, coffee shop, coffee stand, juice and/or smoothie bar, cafeteria, caterer, convenience store, liquor store, grocery store, supermarket, delicatessen, farmers market, theater, mobile food truck, roadside stand, kiosks, carts, or a Vendor (as defined in Section 42.13 in the Los Angeles Municipal Code or any successor provision), or any organization, group or individual that regularly provides food or beverage service. The ordinance exempts licensed health and medical facilities, as defined in California Health and Safety Code Section 1250, as well as food and beverage establishments within these facilities (e.g., hospital cafeterias), and residential care facilities for the elderly as defined in California Health and Safety Code Section 1569.2. Further, during a locally declared emergency or disaster, the City Council may enact exemptions for those responding to the disaster or emergency. Accordingly, this Environmental Analysis supporting the Categorical Exemptions considers a City-wide EPS ban with consideration of the specified exemptions.

SECTION 2 Project Objectives

Material Recovery Facilities (MRFs) contracted by LASAN have indicated they are capable of recycling commercial clean EPS products. However, given the mixed stream collection format of LASAN and the recycLA RSPs, no EPS reaches a MRF clean. EPS products from residential waste streams are contaminated with food and broken into small particles, making them impossible to capture and recycle. Over the years, LASAN has attempted multiple pilots to improve the collection and recycling of EPS; unfortunately none of them were viable or sustainable. EPS material received at the MRFs from the residential stream is disposed of at landfills.

The City's objectives for the proposed project include the following:

- Reduce the amount of EPS, which cannot be composted or recycled, in the City’s solid waste;
- Reduce the amount of EPS material that reaches local waterways and the Pacific Ocean.
- Encourage the use of reusable packaging and containers.

SECTION 3 Project Location

The proposed ordinance would apply throughout the City of Los Angeles, which encompasses approximately 469 square miles, stretching from the Angeles National Forest to the north to the Pacific Ocean to the south. Figure 1 shows a map of the project area.

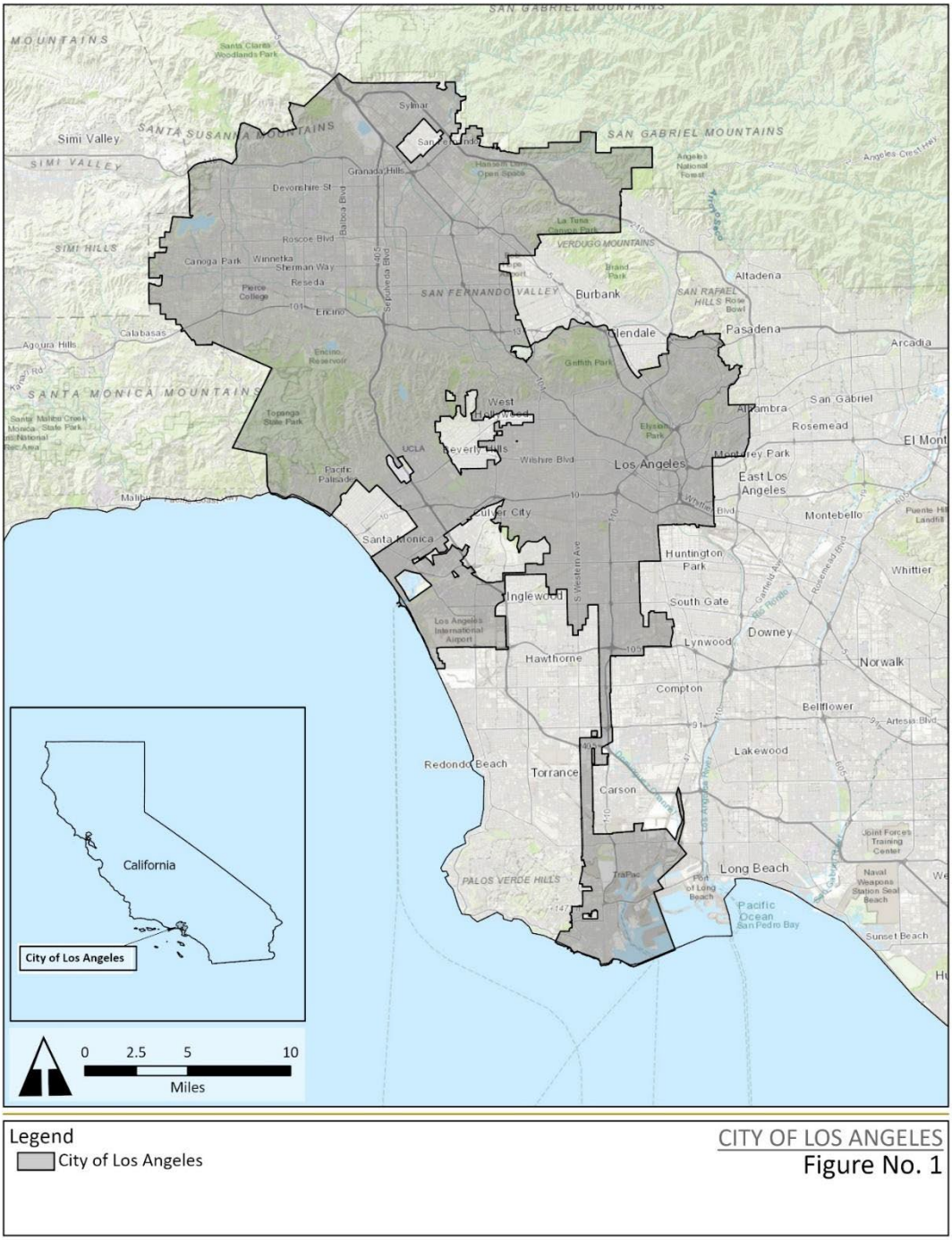

Figure 1. The Project Location: City of Los Angeles

SECTION 4 Basis for Categorical Exemption(s)

The California Environmental Quality Act (CEQA) Guidelines Section 15300, et seq. (California Code of Regulations, Title 14) provide a list of classes of projects that are exempt from CEQA. Two specific classes apply to this ordinance:

- CEQA Guidelines Section 15307 (i.e., Class 7) provides an exemption from environmental review for "actions taken by regulatory agencies as authorized by state law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource where the regulatory process involves procedures for protection of the environment. Examples include but are not limited to wildlife preservation activities of the State Department of Fish and Game. Construction activities are not included in this exemption."
- CEQA Guidelines Section 15308 (i.e., Class 8) provides an exemption from environmental review for "actions taken by regulatory agencies as authorized by state law or local ordinance to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption."

Class 7 and Class 8 Categorical Exemptions apply to this project for the following reasons:

- By the proposed ordinance as authorized by the City Charter, the City is proposing to exercise its regulatory powers for the purpose of protecting natural resources and the environment, and therefore meets the definition of a "regulatory agency".
- As discussed below in the No Significant Impacts section, the ordinance would maintain, enhance, or protect a natural resource and the environment.
- As discussed below in the No Significant Impacts section, there are no construction activities authorized by the ordinance either directly or indirectly, and the ordinance would not allow environmental degradation.
- As discussed below in the No Exceptions Apply section, none of the exceptions to the use of these classes of Categorical Exemptions apply to the project.
- As stated in the City's objectives for the proposed project, the project fits Class 7 and 8 because the project will:
  - Reduce the amount of EPS in the City’s solid waste;
  - Reduce the amount of EPS material that reaches local waterways and the Pacific Ocean.
  - Encourage the use of reusable packaging and containers.

SECTION 5 No Exceptions for Categorical Exemptions Apply

In applying the categorical exemptions, the City must consider if any exceptions apply, as defined in the CEQA Guidelines, Section 15300.2, and summarized in the following:

1. The project site is environmentally sensitive as defined by the project's location. A project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant;
2. The project and successive projects of the same type in the same place will result in cumulative impacts;

3. There are "unusual circumstances" creating the reasonable possibility of significant effects;
4. The project may result in damage to scenic resources, including, but not limited to, trees, historic buildings, rock, outcroppings, or similar resources, within an officially designated scenic highway, except with respect to improvements required as mitigation for projects for which negative declarations or EIRs have been prepared;
5. The project is located on a site that the Department of Toxic Substances Control and the Secretary of the Environmental Protection have identified, pursuant to Government Code section 65962.5, as being affected by hazardous wastes or clean-up problems; or
6. The project may cause a substantial adverse change in the significance of an historical resource.

As described in the following, no exceptions apply to the ordinance, and therefore Class 7 and Class 8 exemptions are appropriate.

5.1 No impact on sensitive environments

CEQA Guidelines Section 15300.2(a) state the following:

"(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located -- a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. These classes are considered to apply in all instances, except where the project may impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies."

The exception to categorical exemptions under CEQA Guidelines Section 15300.2(a) of projects in sensitive environments does not apply to the ordinance, because it does not apply to Class 7 and 8 categorical exemptions.

5.2 No cumulative impact

CEQA Guidelines Section 15300.2(b) state the following:

"(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant."

The ordinance would not lead to significant impacts, and where there are impacts, they are beneficial. Therefore the exception to categorical exemptions under CEQA Guidelines Section 15300.2(b) of successive projects of the same type in the same place over time does not apply to the ordinance.

5.3 No Unusual Circumstances

The ordinance would not lead to a significant impact due to unusual circumstances. None of the direct or indirect impacts of the ordinance described in this section would result in an unusual scope or magnitude of impacts, nor would they occur in sensitive locations such that they would be considered unusual. In addition, there is no unusual circumstance related to this ordinance because it is the usual type of regulation that cities and counties adopt to protect the environment, which fits the Class 7 and 8 exemptions. This finding is consistent with the recent EPS ban passed by the County of Los Angeles, which relied on a categorical exemption under classes 7 and 8.

As noted, this type of regulation to improve the environment is common and many jurisdictions rely on Class 7 and 8 to exempt similar projects. For example, many universities and over 100 cities in the United States have ordinances restricting EPS foodware and/or packaging materials. In the state of California, there are 97 cities or counties that have an EPS ban, ranging from bans that apply only to government facilities, to bans on use in restaurants and by foodware vendors, to full bans on the distribution or use of any EPS products (Table 1).

Table 1. List of California Cities and Counties with Adopted Polystyrene Foam Bans

Jurisdiction	Adoption Date	Type	Description
Alameda	2008	REST	EPS, requirement that all takeout food packaging be compostable.
Alameda County	2015	REST	Polystyrene ban for all disposable food service items, with a requirement for recyclable or biodegradable replacements.
Albany	2008	REST	EPS, requirement that all takeout food packaging be compostable or recyclable.
Aliso Viejo	2005	GOV	Government facility EPS ban. Ordinance #2004-060
Arcata	2015	FULL	Ban of distribution and sale of polystyrene food packaging products.
Arroyo Grande	2016, 2020	FULL	EPS ban for both distribution and sale, with a requirement that all disposable food containers be biodegradable, compostable, or recyclable.
Avalon	2017	REST	Ban on the distribution of EPS food containers for prepared foods.
Belmont	2012	REST	EPS ban (San Mateo County ordinance).
Berkeley	1988	REST	EPS ban, requirement that 50% of takeout food packaging be recyclable or compostable. Title 11.58 and 11.60 of Municipal Code.
Brisbane	2014	REST	Polystyrene food packaging ban.
Burlingame	2011	REST	The City of Burlingame passed an ordinance referencing San Mateo County's ordinance on May 16, 2011.
Calabasas	2008	REST	EPS ban, requirement that all takeout food packaging be recyclable or compostable.
Campbell	2014	REST	EPS foodware ban, adopted in December of 2014, effective June 1, 2015.
Capitola	2012	FULL	Prohibit the sale of EPS products (expansion of 2009 requirement that all disposable takeout food packaging be compostable)
Carmel	1989 (updated 2010)	REST	EPS ban, requirement that 50% of takeout food packaging be recyclable, compostable or reusable.

Carpenteria	2017	FULL	Ban on non-recyclable plastic food takeout containers, including EPS. Chapter 8.5 of Municipal Code.
Colma	2013	REST	Ban on polystyrene-based food service ware for prepared foods.
Concord	2018	REST	Ban on all polystyrene foam food and beverage service ware.
Contra Costa County	2020	REST	Ban on all polystyrene foam food and beverage service ware.
Costa Mesa	2020	GOV	Prohibits use or purchase of EPS food service products at city facilities & city sponsored events.
Culver City	2017	FULL	Ban on distribution or sale of EPS food containers and includes a provision which requires food providers to ask customers before providing disposable utensils.
Cupertino	2014	REST	Food vendors prohibited from using EPS food takeout containers.
Daly City	2012	REST	Ban on polystyrene-based food service ware for prepared foods. Effective September 12, 2012.
Dana Point	2012	REST	Ban on EPS food containers. Effective six months after adoption date.
Davis	2017	REST	Ban on polystyrene food containers, requirement that all takeout food packaging be recyclable or compostable.
Del Mar	2019	REST	Bans distribution of polystyrene food ware. Additional prohibition of polystyrene packing materials.
Del Ray Oaks	2010	REST	EPS ban, requirement that all takeout food packaging be recyclable or compostable. Municipal Code 8.30.
El Cerrito	2014	REST	EPS food ware ban, requirement that food packaging be recyclable, compostable, or reusable.
Emeryville	2008	REST	EPS ban, requirement that all takeout food packaging be recyclable or compostable.
Encinitas	2016	REST	In November 2016, City Council banned all disposable food service ware made from EPS for all food providers and city facilities.
Fairfax	1993	REST	EPS ban for all restaurants and food retail vendors. Title 8.16.030 of Municipal Code.
Fort Bragg	2015	REST	EPS food ware ban adopted in September 2014.
Foster City	2012	REST	Polystyrene ban for restaurants and food vendors, adopted October 17, 2011.
Fremont	2011	REST	EPS ban for food vendors, requirement that all takeout food packaging be recyclable or compostable. Section 8.40.860 of Municipal Code.

Gonzales	2015	REST	EPS ban for food vendors, requirement that all takeout food packaging be recyclable or compostable.
Greenfield	2015	REST	EPS ban for food vendors, requirement that all takeout food packaging be recyclable or compostable.
Grover Beach	2018	FULL	Ban on the sale and distribution of any EPS products.
Half Moon Bay	2011	REST	Half Moon Bay passed an ordinance, referencing San Mateo County's polystyrene food container ban, on May 17, 2011.
Hayward	2011	REST	EPS ban for restaurant vendors, requirement that takeout food packaging be recyclable or compostable.
Hercules	2008	REST	EPS ban. Sec.5-3109, Title 5, Chapter 3 of Municipal Code.
Hermosa Beach	2012	REST	Polystyrene container ban. Effective March 2013.
Huntington Beach	2005	GOV	Government facility EPS ban.
Imperial Beach	2018	REST	Ban on non-recyclable plastic food takeout containers, including EPS. Including a ban on expanded polystyrene packaging materials. Effective 7/18/18
Lafayette	2015	REST	CFC processed polystyrene ban, 50% of food containers must be recyclable or returnable (75% by 2020).
Laguna Beach	2008	REST	Polystyrene ban, requirement that all plastic takeout food packaging be recyclable. Bans the retail sale of foam or other nonrecyclable plastic disposable foodware. Title 7.05 of municipal code.
Laguna Hills	2008	GOV	Government facility EPS.
Laguna Woods	2004	GOV	Government facility EPS.
Livermore	2010	REST	Food vendors are required to use recyclable or compostable takeout food packaging.
Long Beach	2018	REST	Covers restaurants and requires plastic utensils and straws upon request.
Los Altos	2014	FULL	Starting July 4, 2014, the distribution and sale of eps foam food containers and ice chests is prohibited.
Los Altos Hills	2012	REST	Ban on EPS and non-recyclable plastic food containers.
Los Angeles City	2008	GOV	Government facility EPS ban. Chapter IV, Article 13 of Municipal Code.
Los Angeles County	2008	GOV	Government facility EPS ban.
Los Gatos	2014	REST	Ban on EPS food containers and coolers. Effective June 1, 2015.

Malibu	2005, 2016	FULL	Ban on sale and distribution of any food packaging, containers and food service ware that is made from EPS, and that is not either compostable or recyclable. Includes a ban on the retail sale of packing materials, coolers, pool/beach toys, buoys, and other items made from EPS. Title 9.24 of Municipal Code.
Manhattan Beach	2013	FULL	In 2013 Manhattan Beach adopted a polystyrene food packaging ban, updating its 1988 ban on CFC processed polystyrene. In 2014 it was amended to include ALL other non-recyclable disposables and polystyrene coolers. This makes for one of the strongest bans in the nation.
Marin County	2010	REST	EPS food container ban.
Marina	2011	REST	EPS food container ban. Requires the use of recyclable or compostable takeout food packaging unless alternatives are unavailable.
Martinez	2014	REST	Ban on CFC processed polystyrene food takeout containers. Full compliance effective January 15, 2015.
Mendocino County	2014	REST	EPS food container ban adopted July 22, 2014.
Menlo Park	2012	REST	Adopted San Mateo County's ordinance by reference in August of 2012.
Mill Valley	2009	REST	Food vendors and city facilities are prohibited from using EPS food containers.
Millbrae	2008	REST	Polystyrene ban, requirement that all plastic takeout food packaging be recyclable or compostable.
Milpitas	2017	REST	EPS food service ware ban. Effective July, 2018
Monterey City	2009	REST	EPS ban, requirement that all takeout food packaging be recyclable or compostable.
Monterey County	2010	REST	EPS ban. Title 10, Chapter 10.42 of Municipal Code.
Monrovia	2017	GOV	Prohibits the use or purchase of EPS food service products at City facilities.
Morgan Hill	2014	REST	EPS ban in restaurants and other food facilities was adopted on October 2, 2013.
Morro Bay	2016	FULL	EPS ban for both distribution and sale, with a requirement that all disposable food containers be biodegradable, compostable or recyclable. Effective May 2016.
Mountain View	2014	FULL	Ban on EPS food packaging products for retail sale or distribution in food facilities was adopted on March 25, 2014.
Newport Beach	2008	REST	EPS ban. Title 6, Section 5 of Municipal Code.
Novato	2013	REST	EPS ban.

Oakland	2007	REST	EPS ban, requirement that all takeout food packaging be compostable. Businesses that generate a large portion of litter must pay a litter fee. Title 8.07 municipal code.
Ojai	2014	FULL	EPS ban for all stores and vendors was passed on January 28, 2014.
Orange County	2005	GOV	Government facility EPS 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	REST	EPS ban, requirement that all takeout food packaging be recyclable or compostable. Title 11, Chapter 11.99 of Municipal Code.
Pacifica	2010	REST	EPS ban. Effective January 1, 2010.
Palo Alto	2010	FULL	EPS ban. Chapter 5.30 of Municipal Code. In November 2015 the ordinance was expanded so that retailers can no longer sell or distribute polystyrene foam of any sort. Effective March 1, 2016.
Pasadena	2017	FULL	Polystyrene ban for all food providers, retail and government facilities/sponsored events.
Petaluma	2020	FULL	Prohibits EPS disposable foodware and the sale of EPS coolers and packing materials.
Pismo Beach	2016	FULL	EPS disposable food container ban, as well as a ban on the sale of any EPS products.
Pittsburg	1993	GOV	CFC processed polystyrene ban. Title 8.06.210 of Municipal Code.
Pleasanton	2013	REST	Ban on polystyrene food takeout containers with a requirement for food takeout containers to be recyclable or compostable.
Portola Valley	2012	REST	Polystyrene ban (San Mateo County ordinance).
Rancho Cucamonga	2007	GOV	Resolution banning polystyrene food service products at city facilities and city sponsored events.
Redondo Beach	2020	FULL	Ban on the disposable EPS food service ware as well as the retail sale of EPS coolers.
Redwood City	2013	REST	Polystyrene ban (San Mateo County ordinance).
Richmond	2014	FULL	Polystyrene ban (2010) for takeout food packaging in restaurants was expanded to prohibit retail sale of polystyrene products on July 16, 2013. Effective January 2014.
Salinas	2011	REST	On August 16, 2011, an EPS ban on takeout containers was passed.
San Anselmo	2018	FULL	Bans EPS foodware and retail sale of EPS Ice Chests and Coolers.

San Bruno	2010	REST	Polystyrene ban, requirement that all plastic takeout food packaging be recyclable or compostable.
San Carlos	2012	REST	Adopted the San Mateo County ordinance by reference. Chapter 8.27 of Municipal Code.
San Clemente	2011	REST	Government facility EPS ban in 2004. Council passed a city wide ban in 2011.
San Diego	2019	FULL	Bans the use and distribution within city limits of products like egg cartons, food containers, coolers, ice chests, pool or beach toys, mooring buoys and navigation markers made fully or partially of polystyrene foam.
San Francisco	2007/2016	FULL	EPS 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 has the most comprehensive ban in the nation. Effective January 1, 2017.
San Jose	2014	REST	An EPS ban in all food establishments was adopted in 2013. Prior to that, the city had a government facility expanded polystyrene ban for special events.
San Juan Capistrano	2004	GOV	Government facility EPS ban.
San Leandro	2012	REST	EPS food container ban, adopted October 2011.
San Luis Obispo	2015	FULL	EPS food container ban. Includes ban on retail sale of foam products.
San Luis Obispo County	2021	FULL	EPS food container ban. Includes ban on retail sale of foam products.
San Mateo (City)	2013	REST	Polystyrene food packaging ban based on the San Mateo County model.
San Mateo (County)	2008/2011	REST	Government facility polystyrene ban passed in 2008. An expanded ban for the rest of unincorporated San Mateo County was passed in 2011, effective July 1, 2011.
San Pablo	2014	REST	Ban on polystyrene food service ware and requires all disposable food service ware to be recyclable or compostable. Effective April 1, 2015.
San Rafael	2013	REST	City Council adopted foamed polystyrene container ban in October 2012.
Santa Barbara	2019	FULL	Ban on EPS food service ware and requires all disposable food service ware to be recyclable or compostable. Prohibits any retailer from selling or otherwise providing any EPS product which is not wholly encapsulated. Effective January 1, 2019.
Santa Clara (City)	2015	REST	Ban on polystyrene food service ware. National chain restaurants were phased in on September 1st, 2014 and all other restaurants were phased in on January 1st, 2015.

Santa Clara (County)	2013	REST	The Santa Clara County Board of Supervisors adopted an EPS takeout container ban for unincorporated county on June 5, 2012.
Santa Cruz (City)	2012	FULL	Ban on sale of all foam polystyrene products. Prior to 2012, the City banned the distribution of EPS food containers, with a requirement that the food packaging be recyclable or compostable.
Santa Cruz (County)	2008/2012	FULL	EPS ban, requirement that all takeout food packaging be recyclable or compostable. Title 5, Section 46 of Municipal Code. The ban was expanded to prohibit the sale of all EPS products in stores on April 17, 2012.
Santa Monica	2007	REST	Ban on all polystyrene AND most other non-recyclable plastic disposable food service containers. This makes for one of the strongest bans in the nation.
Sausalito	2008	REST	Food vendors and city facilities and events are prohibited from using EPS food containers.
Scotts Valley	2009	REST	EPS ban, requirement that all takeout food packaging be recyclable or compostable.
Seaside	2010	REST	Polystyrene ban with requirement that all plastic takeout food packaging be recyclable or compostable.
Solana Beach	2015	REST	Ban on polystyrene and non-recyclable plastic disposable food service containers as well as ban on EPS packing materials.
Sonoma (City)	1989	GOV	Government facility EPS ban. Chapter 7.30 of the Municipal Code.
Sonoma (County)	1989	GOV	Government facility EPS ban. Title 19, Section 19-6.1 of Municipal Code.
South Lake Tahoe	2018	FULL	Ban on sale and distribution. Plastic cutlery and straws only upon request.
South Pasadena	2017	FULL	In November 2016, City Council banned all disposable food service ware made from EPS for all food providers, retail sales and city facilities.
South San Francisco	2008	REST	Polystyrene ban. Chapter 8.60 of Municipal Code.
Sunnyvale	2013	FULL	EPS container ban in restaurants (effective Earth Day 2014) and ban on EPS food packaging products for retail sale (effective Earth Day 2015).
Ukiah	2015	REST	EPS food ware ban adopted in November of 2014.
Union City	2016	REST	Ban on polystyrene disposable food ware and requires all disposable food ware to be recyclable or compostable. Effective January 1, 2017.
Ventura County	2004	GOV	Government facility EPS ban.
Ventura (City)	2021	REST	Bans EPS food ware starting July 1, 2021.

Walnut Creek	2014	REST	Polystyrene food packaging ban.
Watsonville	2009/2014	FULL	EPS ban, requirement that all takeout food packaging be recyclable or compostable. Title 6, Chapter 6 of Municipal Code. First adopted in 2009. Amended in 2014 to include a ban on retail sales of EPS products.
West Hollywood	1990	REST	Polystyrene ban for restaurants and food vendors.
Yountville	1989	REST	EPS food container ban.
Notes: REST = applies to food service establishments; GOV = applies only to government facilities; FULL = applies to food services establishments and regulates the retail sale of certain EPS products. Source: https://www.cawrecycles.org/polystyrene-local-ordinances			

The ordinance is also consistent with the US Environmental Protection Agency's waste management hierarchy, in which source reduction is the environmentally preferred method of managing waste (Figure 2).[2] Therefore, there are no unusual circumstances that would lead to a significant impact due to the ordinance.

Figure 2. US EPA Waste Management Hierarchy

5.3.1 No Significant Impacts

The ordinance would not result in a significant impact, either direct, indirect, or cumulative. This section provides the factual basis for these findings. The analysis is based on the assumption that there will be a

[2] United States Environmental Protection Agency (USEPA). 2021. National Overview: Facts and Figures on Materials, Wastes and Recycling. Available online at: https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials.

shift away from EPS products due to the ordinance to other substitute products, where they are available. There are numerous options for products that are available for use as substitutes of EPS products, which include those made from various materials including the following:

- Fiber/paperboard (cardboard), made from tree fiber (virgin or recycled).
- Compostable plant fibers made of the refuse of corn, potatoes, rice, and other starch materials. For example, bagasse is extracted from sugarcane and suitable for hot and cold food and is heat resistant up to 220 degrees Fahrenheit.
- Polyethylene or polypropylene plastic – plastic numbers 1, 2, and 5 are recyclable in the City.
- Metals – including aluminum and tin.
- Glass.

Substitution products will also include durable/reusable products made from a variety of materials including durable plastics, metals (e.g., stainless steel), ceramic, wood, stoneware, and glass. The shift away from EPS may also promote the establishment of City-wide reusable food container programs. For example, in Portland, Oregon, the subscription-based GO Box, works with over 100 local vendors to supply reusable containers to consumers. Vendors charge a deposit for the containers to the consumer, whose deposit is refunded upon returning it to a specialized drop box to be commercially washed and reused by the next patron. The service estimates they have saved over 735,000 single-use products since the program launched.[3]

Because the use of a particular substitute product would be determined on a case-by-case basis by individual vendors and consumers based on a variety of factors, it is not possible to forecast the exact substitution behavior caused by the ordinance. Substitution behavior will be impacted by numerous factors, including the following factors at least:

- Specific EPS product to be replaced;
- Outreach and education for both vendors and consumers;
- Availability of and ease of access to replacement products;
- Cost; and
- Systems available to promote use of durable goods.

It is reasonably foreseeable that a wide spectrum of replacement products will be made from a variety of materials and used as replacements in various degrees within different contexts. Therefore, a life-cycle analysis of the potential substitute products is not warranted nor possible for the proposed ordinance because a large number of potential replacement material and product combinations could be used to replace EPS products. Thus the basis of the calculations would be highly speculative (e.g., manufacturing processes for both EPS and substitute products differ by manufacturing plants, grade of product, origin of the raw materials, regulations/permits of facilities outside City limits) and beyond the influence of the City (i.e., the City does not control where establishments purchase their products, how far they must be transported, or the exact substitute materials chosen).

This analysis is a good faith effort to provide comparisons between the environmental impacts of EPS products and the potential impacts of substitution products using the best available evidence and substantiated research. For example, replacement products for EPS egg cartons would likely be cardboard and plastic. Thus, where data exist, comparisons between EPS egg cartons and these likely

[3] https://goboxpdx.com/

substitute products are made. The analysis includes analysis of the foreseeable impacts related to increased use of replacement materials, including indirect effects. Based on this analysis, the proposed ordinance would not have a significant adverse impact, directly, indirectly, or cumulatively, on the environment.

There are two foam manufacturing facilities in the City of Los Angeles. This ordinance does not ban the manufacture of EPS. A ban on the sale and distribution of certain EPS materials would reduce local demand for banned EPS goods from these local businesses and would prevent sale of banned products within the City. However, the ordinance would allow the distribution and sale of various exempt EPS products. In addition, these facilities manufacture many other products in addition to banned EPS products and would continue distribution and sale of these goods to customers. Therefore, impacts to these businesses through loss of revenue or job loss would not be significant.

A thorough analysis by UCLA in 2020[4] identified alternative foodware materials, including reusable and compostable products, and found that increased usage of reusable items by food vendors and their customers would have an unequivocal net benefit. The report concluded that the adoption of compostable materials would not represent a significant change in the business model for food vendors but would likely result in an increased expenditure for food service items due to the higher expense of compostable items compared to plastic equivalents. The magnitude of per-unit cost increase for compostable items compared to single-use plastics amounts to approximately five cents per item.[5]

5.3.1.1 Aesthetics

Litter has historically presented a challenge to environmental management. Trash and debris that are not properly disposed of are an unsightly presence. Once littered, EPS food containers or packaging materials are easily blown into storm drains, carried downstream in waterways, entangled in bushes, tossed along freeways, and washed up on beaches. A 1998 study in Orange County, California, quantified the composition of beach debris and found that foamed plastics comprised 43 percent of materials collected.[6] Caltrans conducted a study from 1998-2000 on litter discharged at 24 freeway catchments throughout Los Angeles and found that EPS accounted for 15% of all litter by volume and was the third most common type of trash by count (out of 11 categories, cigarette butts and plastic film were first and second, respectively).[7] Another study conducted in the Los Angeles in 2004 found that 83% of litter collected from the river (by count) was foamed products (inclusive of EPS).[8] Even when EPS materials are properly disposed of, they can easily become litter because they are light-weight and can blow out of waste bins, transport containers, and landfills.

The categories of food wrappers/containers and cups/plates/utensils were the second and fifth most common items, respectively, found on beaches during the California Coastal Commission annual

[4] UCLA Luskin School of Public Affairs. 2020. Policy Pathways to a Plastic-Free Los Angeles. Prepared for the Los Angeles County Chief Sustainability Office. Available at: https://innovation.luskin.ucla.edu/wp-content/uploads/2020/07/Policy-Pathways-to-a-Plastic-Free-Los-Angeles.pdf.
[5] Ibid.
[6] Moore, S.L., Gregorio, D., Carreon, M., Weisberg, S.B., and M.K. Leecaster. 2001. Composition and distribution of beach debris in Orange County, California. Marine Pollution Bulletin 42(3):241-245.
[7] Lippner, G., J. Johnston, S. Combs, K. Walter, D. Marx. 2000. Results of the Caltrans Litter Management Pilot Study.
[8] Moore C.J., G.L.Lattin, A.F. Zellers. 2005. Working Our Way Upstream: A Snapshot of Land-Based Contributions of Plastic and Other Trash to Coastal Waters and Beaches of Southern California.

"Cleanup Day" between 1988 and 2020, comprising over 15% of waste items collected over that period.[9] Cleanup organizers began differentiating foam products within the records in 2013, at which point foam was reported from several categories, including cups and plates, foam pieces <0.25 cm), other plastic/foam packaging, and take out/away foam containers. Results from 2013 through 2020 indicate that those categories of foam litter represent 13% of the litter collected during coastal cleanup events. Paper and cardboard products are not included in the list of littered items[10], likely because they are recyclable and also biodegrade in the environment. Foamed pieces were among the top ten littered items collected on five beaches during a 2019 research study evaluating beach litter in southeastern Spain.[11] In this study, plastics comprised approximately 77% of litter (inclusive of foamed products), whereas plastic alternatives such as metal, paper/cardboard, and glass comprised approximately 7%, 4%, and 1% of litter, respectively. Similarly, beach litter monitoring conducted on various northeast Atlantic European beaches from 2001-2006 showed that plastic and polystyrene accounted for 75% of all litter, while paper and cardboard accounted for just over 4%, metal under 3%, glass approximately 2%, and pottery and ceramics 0.4%.[12]

Litter found around our communities, especially in public recreation areas like the beach, is detrimental to the aesthetic value of the City's shared spaces. Implementation of the EPS ordinance would reduce the amount of disposable, non-recyclable products used, disposed of, and littered in the City. Therefore, the ordinance would result in an aesthetic improvement, it would improve the environment consistent with the Class 7 and 8 categorical exemptions, and the ordinance would result in no impact or a beneficial impact to aesthetics.

5.3.1.2 Air Quality

The use of EPS can have indirect effects on air quality through emissions associated with its production and through emissions associated with its transport (both delivery for use and as part of disposal). Large-scale production of plastics, including EPS, for use in consumer goods produces emissions of air pollutants including sulfur oxides, nitrous oxides, methanol, ethylene oxide, and volatile organic compounds.[13]

The ordinance would lead to an increase in the manufacture of substitute products from allowed materials. At those facility locations where EPS products are produced, there would be a related decrease in emissions associated with production of EPS. Similar to EPS, the manufacturing process of alternative products such as paper or other plastic products can vary as would the associated air emissions, which would be dependent on the manufacturing process, input materials, and origin of the raw materials anywhere in the world. By eliminating the use of EPS for applications such as foodware, egg cartons, and non-durable ice chests/coolers, the ordinance would result in less manufacturing of EPS but would increase the manufacture of substitute products. Life cycle emissions include indirect

[9] California Coastal Commission. 2020. https://www.coastal.ca.gov/publiced/ccd/stats/data.xls. Accessed June 24, 2022.
[10] Ibid.
[11] Asensio-Montesinos F., G. Anfuso, A.T. Williams, C. Sanz-Lazaro. 2021. Litter behaviour on Mediterranean cobble beaches, SE Spain. Marine Pollution Bulletin 173: 113106.
[12] OSPAR. 2009. Marine litter in the North-East Atlantic Region: Assessment and priorities for response. London, United Kingdom, 127 pp.
[13] Ecology Center. N.d. PTF: Environmental Impacts. Available at: https://ecologycenter.org/plastics/ptf/report3/. Accessed March 22, 2021.

emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for emissions of their particular activity. The California Natural Resources Agency (CNRA) found that life-cycle analyses were not warranted for project-specific CEQA analysis in most situations.[14] Because the origin of the raw materials purchased is not known, the manufacturing information for those raw materials is also not known, and specific suppliers are variable, calculation of life cycle emissions would be speculative. Thus, for the purposes of analyzing air quality, manufacturing emissions of criteria and toxic air pollutants are not included in this analysis because information is not known, and the proposed ordinance does not propose any change to any manufacturing process.

Local manufacturing facilities that may increase production of substitute products would continue to operate under permits from the South Coast Air Quality Management District, ensuring compliance with both federal and state air quality regulations.

Delivery trucks that transport EPS materials from manufacturers or distributors to local retailers generate criteria air pollutants, including ROGs/VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Implementation of the proposed ordinance would increase the use of alternative products (e.g., paper and plastic products) proportional with the reduction in use of EPS products, which could result in an increase in the weight of products used by the public. Both plastic and paper replacement products are generally heavier than polystyrene. The actual shifts or split in composition between plastic and paper food containers as a result of the proposed ordinance may vary from year to year and change over time. Shifts may be influenced by changes in price, product availability, and as new products enter the market. The Cities of San Jose, Palo Alto, and Seattle anticipate a predominant shift to recyclable plastic for disposable food containers and assumed that the alternative plastic and paper food containers would be 85 percent plastic and 15 percent paper.[15] Because the actual split in composition between plastic and paper food containers is not known and can vary over time, the analysis conservatively assumed that all replacement products would be plastic because plastic is heavier than paper. To estimate the potential increase in weight, the data from Franklin Associates life cycle study of foam polystyrene was used.[16] Using a representative 16 ounce cup, the shipping weight of a case of 1,000 foam polystyrene cups weighs 14 pounds where the equivalent case of plastic cups weighs 36.3 pounds.[17] The shipping volume however is greater for the foam polystyrene cup at an estimated 8.89 cubic feet per case versus 3.15 cubic feet for the case of plastic cups. The volumetric capacity of a typical 53-foot truck is approximately 3,489 cubic feet with a maximum load limit of approximately 48,000 pounds. Therefore, a typical 53-foot truck could potentially haul approximately 1,111 cases of plastic cups with a total associated weight of 40,335 pounds. Thus, the plastic cups would not exceed the maximum load of a typical truck. Using

[14] California Natural Resources Agency (CNRA). 2009. Final Statement of Reasons for Regulatory Action. Available at: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Final_Statement_of_Reasons.pdf. Accessed August 26, 2022.
[15] City of San Jose. 2013. Polystyrene Foam Disposable Food Service Ware Ordinance Initial Study. Available at: https://cupertino.org/Home/ShowDocument?id=7699. Accessed August 26, 2022.
[16] Franklin Associates. 2011. Life cycle inventory of foam polystyrene, paper-based, and PLA foodservice products. Prepared for the Plastic Foodservice Packaging Group. February 4, 2011. Available at: https://www.plasticfoodservicefacts.com/wp-content/uploads/2017/12/Peer_Reviewed_Foodservice_LCA_Study-2011.pdf. Accessed August 26, 2022.
[17] Callico. 2022. Product information for Solo TP16D Ultra Clear™ Cold Drink Cup 16 Oz, Clear, Polyethylene Terephthalate, Recyclable, Practical-Fill, (1000 per Case) and Dart Container 16J16 J Cup® 16 Oz, White, Expanded Polystyrene, J Cup, Insulated, Foam Drink Cup (1000 per Case). Available at: https://callico.com/catalogsearch/result/index/?cup_capacity=10227&p=3&q=cups. Accessed August 26, 2022.

this rationale, the anticipated increased use in alternative products would potentially decrease the number of truck trips as compared with an equal number of EPS products. It is assumed that substitute materials that are recyclable and/or compostable but not reusable would have similar transportation needs as single-use plastics to arrive at composting and recycling centers but would reduce materials transported to landfills. Thus, these replacement products would not result in changes to air quality emissions associated with transportation to disposal facilities. Therefore, the proposed ordinance would not result in significant impacts to air quality.

5.3.1.3 Biological Resources

EPS waste generated from human activity has the potential to threaten biological resources, particularly when waste is improperly disposed. While EPS litter can contaminate terrestrial, freshwater, and marine environments, most available data on EPS pollution comes from marine environments. A discussion of EPS impacts to the food chain and water quality is included in Section 5.3.1.6 below.

Approximately eight million tons of plastic waste ends up in the ocean every year, either through intentional dumping or accidental reasons.[18] Several litter studies have found EPS to make up the majority of particles in the total litter stream.[19] Because EPS containers persist in the natural environment and are also easily broken into small pieces, they are very difficult to contain or collect. Plastics do not biodegrade, but instead present a threat to marine wildlife because they break down to microplastics (i.e., plastic pieces smaller than 5 millimeters), which marine wildlife, including special status turtles, mammals, birds, and fish, may confuse with food and ingest, either directly or through prey items. Exposure to plastics, and subsequently microplastics, can have harmful effects on wildlife, including transport of toxicants through the food chain, decreased reproduction, starvation, and death.[20] [21] [22] Additionally, floating marine debris is known to facilitate "rafting", the process by which organisms are transported across vast distances to new ecosystems. Transport of species can result in biodiversity impacts when a new species proves to be invasive.[23]

Banning the use of EPS would have a beneficial impact on biological resources. Lower rates of usage would result in less EPS waste entering marine, freshwater, and terrestrial ecosystems. Therefore, the ordinance would have a beneficial impact to biological resources, which is consistent with improving the environment under the Class 7 and 8 categorical exemptions.

[18] Ocean Protection Council. 2022. Plastic Pollution. Available at: https://www.opc.ca.gov/programs-summary/marine-pollution/plastics/. Accessed June 24, 2022.

[19] Moore, C.J., Lattin, G.L., and A.G. Zellers. 2005. Working our Way Upstream: A Snapshot of Land-Based Contributions of Plastic and Other Trash to Coastal Waters and Beaches of Southern California. Algalita Marine Research Foundation. Available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.485.8035&rep=rep1&type=pdf. Accessed June 17, 2022.

[20] USEPA. 2016. State of the Science White Paper A Summary of Literature on the Chemical Toxicity of Plastics Pollution to Aquatic Life and Aquatic-Dependent Wildlife. EPA-822-R-16-009. December.

[21] Sussarellu, R., et al., 2016. Oyster reproduction is affected by exposure to polystyrene microplastics. Proc. Natl. Acad. Sci. 113, 2430–2435.

[22] Thompson, R. et al. 2009. Plastics, the environment and human health: current consensus and future trends. Phil. Trans. R. Soc. B: 364, 2153–2166.

[23] California Coastal Commission. 2022. The Problem with Marine Debris. Available at: https://www.coastal.ca.gov/publiced/marinedebris.html. Accessed June 17, 2022.

5.3.1.4 Energy

A ban on EPS products will result in energy used to manufacture, transport, and dispose of or recycle substitute products made of allowed materials as well as eliminate some of the energy use that would have been required for manufacture, transport, dispose of, and clean up litter of EPS products. There are many factors that determine the total energy expenditure during the life cycle of a product. A 2011 study on the life cycle of disposable food products found that by weight, total energy requirements for average polystyrene products were generally lower than for the equivalent number of (heavier) PLA or paperboard products analyzed.[24] Total energy requirements for low density polyethylene (LDPE)-coated cups and molded pulp plates were not significantly different for the corresponding polystyrene products. The study found that a significant portion of the total energy requirements for each of the products analyzed came from the energy of the material resources (EMR), which is not an expended energy, but the energy value of resources removed from nature and used as material inputs for the product systems (e.g., for plastic, the EMR is associated with fossil fuels while for paperboard or PLA the EMR reflects the energy content of harvested trees and corn).[25]

The same study also determined that for polystyrene products, over 95 percent of total energy is fossil fuel energy; for paperboard product systems, fossil energy accounts for 28 to 37 percent of the total; and for PLA products, 56 to 63 percent of total energy is fossil energy.[26] Fossil energy is inclusive of natural gas, petroleum and coal that are used for direct combustion as process and transportation fuels and also are used to generate electricity in the United States. Petroleum is also the dominant energy source for transportation. The use of natural gas and petroleum as raw material inputs for the production of plastics is included in the estimated totals for fossil energy. All other associated energy associated with each product is inclusive of non-fossil and/or renewable energy (e.g., wood-derived energy at paper mills, use of hydropower, nuclear, and wind energy to produce grid electricity) as well as the biomass EMR for paperboard and PLA products. A life cycle assessment applied to egg packaging made from polystyrene and recycled paper found that the energy required for the production of EPS egg cartons was 2.2 times more than that required for the production of recycled paper.[27]

Similarly, a study prepared for the Oregon Department of Environmental Quality and U.S. EPA Environmentally Preferable Purchasing Program included a life cycle inventory of packaging dunnage (i.e., loose packing materials used to protect products during shipment) including inflated air packets, EPS foam loose fill, cornstarch foam loose fill, molded pulp loose fill, kraft paper, newsprint, and

[24] The life cycle inventory boundaries of this study encompassed: 1) raw material extraction (e.g., extraction of petroleum and natural gas as feedstocks for EPS and General Purpose Polystyrene resin, growing of corn used as feedstock for PLA production, harvesting of trees used for papermaking); 2) processing and fabrication steps to transform raw materials into finished products; and 3) end-of-life management. Transportation of products from manufacturing sites to retail stores was not included.

[25] Franklin Associates. 2011. Life cycle inventory of foam polystyrene, paper-based, and PLA foodservice products. Prepared for the Plastic Foodservice Packaging Group. February 4, 2011. Available at: https://www.plasticfoodservicefacts.com/wp-content/uploads/2017/12/Peer_Reviewed_Foodservice_LCA_Study-2011.pdf. Accessed June 22, 2022.

[26] Ibid.

[27] Zabaniotou, A., and Kassidi, E. 2003. Life Cycle Assessment Applied to Egg Packaging Made from Polystyrene and Recycled Paper. Journal of Cleaner Production (2003), 11, p. 556. Available at: https://www.internationalegg.com/app/uploads/2011/03/Zabanioutou-2003.pdf. Accessed September 23, 2022.

shredded postconsumer office paper and corrugated cardboard.[28] The data provided in Table 1 was developed under the assumption that some percentage of the packaging materials studied are reused or recycled once they have been used to deliver the product to the residential customer (material-specific reuse and recycling rates ranged from 10 to 55 percent and are based on assumptions and two national studies conducted by Franklin Associates).[29] Note that the data provided in Table 2 below are standardized for 10,000 packages using a corrugated box and dunnage and is inclusive of energy associated with the box, dunnage, transportation of dunnage to retail order center, transport of package to customer, end of life disposal of box, and end of life disposal of dunnage.

Table 2. Life Cycle Energy Results for 10,000 Packages Using Corrugated Box and Dunnage (MM Btu/10,000 packages)[30]

Box with Inflated LDPE Air Packets	Box with EPS Loose Fill	Box with Cornstarch Loose Fill	Box with Molded Pulp Loose Fill	Box with Unbleached Kraft Paper Dunnage	**Box with Unbleached 100% PC Kraft Paper Dunnage**	Box with Newsprint Dunnage	Box with Shredded PC Office Paper Dunnage	Box with Shredded PC Corrugated Dunnage
313	308	288	360	310	294	314	281	286

Table 2 illustrates that shredded post-consumer paper, post-consumer corrugated dunnage, cornstarch loose fill, and unbleached post-consumer kraft paper require less energy than EPS loose fill while LDPE inflated air packets, unbleached kraft paper, and newsprint dunnage are more energy intensive. As kraft paper packaging made with 100% post-consumer materials is less expensive than kraft paper made with virgin materials, it is reasonable to assume that shippers would favor the use of recycled content kraft paper dunnage over virgin content kraft paper dunnage. Thus, there are a variety of options of substitute packaging products that would not result in a net increase in fossil energy associated with raw material extraction, manufacture, and end-of-life management. Further, as detailed in Section 5.3.1.2, the anticipated increased use in alternative products would potentially decrease the number of truck trips to retail stores and food establishments as compared with an equal number of EPS products. It is assumed that substitute materials that are recyclable and/or compostable but not reusable would have similar transportation needs as single-use plastics to arrive at composting and recycling centers, but would reduce materials transported to landfills. Thus, these replacement products would not result in changes to energy consumption associated with transportation to disposal facilities. Therefore, the ordinance would have no significant impact on energy.

5.3.1.5 Greenhouse Gases

The use of EPS can indirectly release greenhouse gases (GHGs) through their production and transport. Polystyrene emits 2.5 MT CO_2e for each ton produced.[31] EPS production includes process-related GHG emissions from resin production processes as well as from the production and destruction of the blowing agent (e.g., pentane). Three primary atmospheric emissions contributing to global warming

[28] Franklin Associates, A Division of ERG Prairie Village, KS. 2004. Life Cycle Inventory of Packaging Options for Shipment of Retail Mail-Order Soft Goods. Available at: https://www.oregon.gov/deq/FilterDocs/LifeCycleInventory.pdf. Accessed September 23, 2022.
[29] Ibid.
[30] Ibid.
[31] USEPA. 2015. WARM Version 13. Plastics. March.

were analyzed in a 2011 life cycle study of foodware products: fossil fuel-derived carbon dioxide, methane, and nitrous oxide. End-of-life GHG results from that study were strongly dependent on assumptions about decomposition of alternatives (e.g., paperboard) in landfills and the fate of methane produced in decomposition.[32]

Polystyrene does not decompose to produce methane in landfills, but EPS products also do not sequester carbon. The U.S. EPA has determined that landfilling plastic serves to transfer from one source of carbon (the oil field) to another (the landfill) with no net change in overall carbon stored.[33] For PLA products, there are also significant process GHG emissions associated with nitrous oxides emissions from fertilizers used for corn production. The end-of-life GHG results from that study were considered uncertain due to the scope and scale of assumptions required to complete calculations. The study found that the life cycle of 10,000 16-ounce EPS cups emits 723 pounds of CO_2e and that 10,000 PLA- or LDPE-lined paper cups emit anywhere between 147 and 1,215 pounds of CO_2e depending on to what extent they decompose in landfills and whether or not a corrugated sleeve is used.[34] A 2012 case study of plastic clamshells in California[35] by CalRecycle concluded that if EPS clamshells were phased out and replaced with an even mix of the other polymers (e.g., PET, PLA plastics), a recycling rate of roughly 30 percent or greater would lead to a net reduction in GHG emissions. As the City has achieved a recycling rate of at least 76%,[36] it is reasonable to assume that the substitution of EPS products with these other materials would achieve a reduction in GHG emissions.

A life cycle assessment study applied to egg packaging made from polystyrene and recycled paper found that during the life cycle of both packages, EPS egg cartons emitted 2.22 times more methane, 1.65 times more carbon dioxide, and 7.86 times more nitrogen oxides than recycled paper egg cartons.[37] Similarly, a study prepared for the Oregon Department of Environmental Quality and U.S. EPA Environmentally Preferable Purchasing Program included a life cycle inventory of packaging dunnage (i.e., loose packing materials used to protect products during shipment) including inflated air packets, EPS foam loose fill, cornstarch foam loose fill, molded pulp loose fill, Kraft paper, newsprint, and shredded postconsumer office paper and corrugated cardboard.[38] The data provided in Table 2 was developed under the assumption that some percentage of the packaging materials studied are reused or

[32] Franklin Associates. 2011. Life cycle inventory of foam polystyrene, paper-based, and PLA foodservice products. Prepared for the Plastic Foodservice Packaging Group. February 4, 2011. Available at: https://www.plasticfoodservicefacts.com/wp-content/uploads/2017/12/Peer_Reviewed_Foodservice_LCA_Study-2011.pdf. Accessed June 22, 2022.
[33] USEPA. 2006. Solid Waste Management and Greenhouse Gases. A Life-Cycle Assessment of Emissions and Sinks. 3rd Edition. September 2006. Available: https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=60000AVO.TXT.
[34] Franklin Associates. 2011. Life cycle inventory of foam polystyrene, paper-based, and PLA foodservice products. Prepared for the Plastic Foodservice Packaging Group. February 4, 2011. Available at: https://www.plasticfoodservicefacts.com/wp-content/uploads/2017/12/Peer_Reviewed_Foodservice_LCA_Study-2011.pdf. Accessed June 22, 2022.
[35] CalRecycle. 2012. Plastic Clamshell Container Case Study. The Potential Impacts of Extended Producer Responsibility (EPR) in California on Global Greenhouse Gas (GHG) Emissions. California Department of Resources Recycling and Recovery. Produced Under Contract by B. Kuczenski, R. Geyer, M. Trujillo, and D. Bren of Environmental Science and Management University of California at Santa Barbara. May 2012.
[36] LASAN. Recycling. Available at: https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r?_adf.ctrl-state=4ao74lcs8_5&_afrLoop=13130801064123045#!.
[37] Zabaniotou, A., and Kassidi, E. 2003. Life Cycle Assessment Applied to Egg Packaging Made from Polystyrene and Recycled Paper. Journal of Cleaner Production (2003), 11, p. 557. Available at: https://www.internationalegg.com/app/uploads/2011/03/Zabanioutou-2003.pdf. Accessed September 23, 2022.
[38] Franklin Associates, A Division of ERG Prairie Village, KS. 2004. Life Cycle Inventory of Packaging Options for Shipment of Retail Mail-Order Soft Goods. Available at: https://www.oregon.gov/deq/FilterDocs/LifeCycleInventory.pdf. Accessed September 23, 2022.

recycled once they have been used to deliver the product to the residential customer (material-specific reuse and recycling rates ranged from 10 to 55 percent and are based on assumptions and two national studies conducted by Franklin Associates).[39] Note that the data provided in Table 3 below are standardized for 10,000 packages using a corrugated box and dunnage and is inclusive of energy associated with the box, dunnage, transportation of dunnage to retail order center, transport of package to customer, end of life disposal of box, and end of life disposal of dunnage.

Table 3. Life Cycle GHG Results for 10,000 Packages Using Corrugated Box and Dunnage (lb CO_2e/10,000 packages)[40]

Box with Inflated LDPE Air Packets	Box with EPS Loose Fill	Box with Cornstarch Loose Fill	Box with Molded Pulp Loose Fill	Box with Unbleached Kraft Paper Dunnage	Box with Unbleached 50% PC Kraft Paper Dunnage	Box with Newsprint Dunnage	Box with Shredded PC Office Paper Dunnage	Box with Shredded PC Corrugated Dunnage
35,510	35,674	34,752	44,773	35,920	36,901	37,895	33,701	34,524

Table 3 illustrates that LDPE air packets, cornstarch loose fill, shredded post-consumer paper, and post-consumer corrugated dunnage would result in less GHG emissions EPS loose fill while kraft paper and newsprint dunnage would result in greater GHG emissions. Thus, there are a variety of options of substitute packaging products that would not result in a net decrease in GHG emissions associated with production, transport, and end-of-life management.

A study that investigated the production of hydrocarbon gases from various plastics, including polystyrene and polypropylene, found that when incubated in seawater and exposed to ambient solar radiation for several days, all plastic polymers tested released the GHGs methane and ethylene. Of the plastic types studied, polystyrene produced the second highest amount of both GHGs.[41] In a meta-analysis of ten life-cycle analysis studies for single use (including EPS, paper, and various plastics) and reusable beverage cups, the United Nations determined that "*For all types of single-use beverage cups the largest contributor to the environmental impacts is the production of raw materials. Using recycled materials to produce beverage cups reduces fossil fuel resource depletion and climate impact substantially. The end-of-life scenario has a substantial influence on the environmental impacts of single-use beverage cups. In general, the higher the recycling rate the lower the climate impact*."[42]

The South Coast Air Quality Management District (SCAQMD) does not regulate GHG emissions from specific consumer products. It has published interim CEQA GHG thresholds for stationary/industrial sources (<10,000 MT CO_2eq/yr). Any increased production of substitute products by local manufacturers would be conducted under the jurisdiction of the SCAQMD and applicable Best Available Control

[39] Ibid.

[40] Franklin Associates, A Division of ERG Prairie Village, KS. 2004. Life Cycle Inventory of Packaging Options for Shipment of Retail Mail-Order Soft Goods. Available at: https://www.oregon.gov/deq/FilterDocs/LifeCycleInventory.pdf. Accessed September 23, 2022.

[41] Royer S-J, Ferron S, Wilson ST, Karl DM. 2018. Production of methane and ethylene from plastic in the environment. PLoS ONE 13(8): e0200574. Available at: https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0200574&type=printable

[42] United Nations Environment Programme. 2021. Single-use beverage cups and their alternatives - Recommendations from Life Cycle Assessments.

Technology (BACT) for facilities subject to prevention of significant deterioration for GHG established by the USEPA in 40 CFR 52.21 and incorporated by reference in SCAQMD Rule 1714.

Delivery trucks that transport EPS materials from manufacturers or distributors to local retailers would also generate GHGs. Implementation of the proposed ordinance would increase the use of alternative products (e.g., paper and plastic products) proportional with the reduction in use of EPS products, which could result in an increase in the weight of products used by the public. Both plastic and paper replacement products are generally heavier than polystyrene. The actual shifts or split in composition between plastic and paper food containers as a result of the proposed ordinance may vary from year to year and change over time. Shifts may be influenced by changes in price, product availability, and as new products enter the market. The Cities of San Jose, Palo Alto, and Seattle anticipate a predominant shift to recyclable plastic for disposable food containers and assumed that the alternative plastic and paper food containers would be 85 percent plastic and 15 percent paper.[43] Because the actual split in composition between plastic and paper food containers is not known and can vary over time, the analysis conservatively assumed that all replacement products would be plastic because plastic is heavier than paper. To estimate the potential increase in weight, the data from Franklin Associates life cycle study of foam polystyrene was used.[44] Using a representative 16 ounce cup, the shipping weight of a case of 1,000 foam polystyrene cups weighs 14 pounds where the equivalent case of plastic cups weighs 36.3 pounds.[45] The shipping volume however is greater for the foam polystyrene cup at an estimated 8.89 cubic feet per case versus 3.15 cubic feet for the case of plastic cups. The volumetric capacity of a typical 53-foot truck is approximately 3,489 cubic feet with a maximum load limit of approximately 48,000 pounds. Therefore, a typical 53-foot truck could potentially haul approximately 1,111 cases of plastic cups with a total associated weight of 40,335 pounds. Thus, the plastic cups would not exceed the maximum load of a typical truck. Using this rationale, the anticipated increased use in alternative products would potentially decrease the number of truck trips and associated GHG emissions as compared with an equal number of EPS products. It is assumed that substitute materials that are recyclable and/or compostable but not reusable would have similar transportation needs as single-use plastics to arrive at composting and recycling centers but would reduce materials transported to landfills. Thus, these replacement products would not result in changes to air quality emissions associated with transportation to disposal facilities.

Therefore, the ordinance would have no significant impact on there would be no significant impacts on GHG emissions.

5.3.1.6 Hazards/Hazardous Waste

Polystyrene is made from styrene. Due to the extensive commercial use of styrene, people come into contact with styrene in air, food, water, consumer products, and the built environment. Thermal

[43] City of San Jose. 2013. Polystyrene Foam Disposable Food Service Ware Ordinance Initial Study. Available at: https://cupertino.org/Home/ShowDocument?id=7699. Accessed August 26, 2022.
[44] Franklin Associates. 2011. Life cycle inventory of foam polystyrene, paper-based, and PLA foodservice products. Prepared for the Plastic Foodservice Packaging Group. February 4, 2011. Available at: https://www.plasticfoodservicefacts.com/wp-content/uploads/2017/12/Peer_Reviewed_Foodservice_LCA_Study-2011.pdf. Accessed August 26, 2022.
[45] Callico. 2022. Product information for Solo TP16D Ultra Clear™ Cold Drink Cup 16 Oz, Clear, Polyethylene Terephthalate, Recyclable, Practical-Fill, (1000 per Case) and
Dart Container 16J16 J Cup® 16 Oz, White, Expanded Polystyrene, J Cup, Insulated, Foam Drink Cup (1000 per Case). Available at: https://callico.com/catalogsearch/result/index/?cup_capacity=10227&p=3&q=cups. Accessed August 26, 2022.

degradation of styrene polymers like EPS also releases styrene into ambient air. Most of the general population has detectable levels of styrene in their biological fluids[46] (e.g., blood, breast milk). The International Agency for Research on Cancer (IARC) has classified styrene as a probable human carcinogen (Group 2A) based on positive associations between exposure to styrene and lymphohematopoietic malignancies as well as sufficient evidence of carcinogenicity in experimental animals.[47] Styrene is also listed by the California Office of Environmental Health and Hazard Assessment (OEHHA) under Proposition 65 as a chemical known to cause cancer.[48]

As noted above, microplastics can accumulate in the aquatic food chain, predominantly in the fatty tissues of animals. A study of predatory fishes, including species commonly eaten by people, in the North Pacific Subtropical Gyre found that 19 percent of sampled fish contained marine debris, most of it plastic.[49] Humans also ingest microplastics in other seafood (e.g., oysters, crabs, and scallops) as well as from food containers and in drinking water.[50]

Many of the chemicals used to synthesize polystyrene particles are considered to be environmental contaminants that can adversely affect water quality. EPS microplastics have been shown to contain various contaminants such as polychlorinated biphenyls, polycyclic aromatic hydrocarbons, metals, and pesticides.[51] EPS microplastics cannot be digested, so aggregates can cause gastrointestinal obstruction. Absorbed microplastics and nanoplastics can damage cells directly and can be passed into the bloodstream via the digestive tract. Microplastics ingested via food or water may cause immune reactions such as cytokine or chemokine production.[52]

Although the migration of styrene monomers in foods and food contact materials is of concern, recent studies have demonstrated that polystyrene particles can also be cytotoxic when degraded to nanoplastic size (460 nm diameter).[53] The EPS ban would directly reduce exposure from consumer products and packaging and indirectly may reduce exposure via food and water by resulting in overall lower casual use of EPS materials. The ordinance would result in a reduction of potentially carcinogenic styrene monomers and potentially toxic polystyrene micro and nanoplastic particles in the environment and would therefore not result in significant impacts to the environment, and where there are impacts, they would be beneficial and would improve the environment consistent with the Class 7 and 8 categorical exemptions.

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[46] IARC. 2002. Some traditional herbal medicines, some mycotoxins, naphthalene and styrene. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans 82:1–556. Available at: http://publications.iarc.fr/100 PMID:12687954.

[47] IARC. 2019. Styrene, Styrene-7,8-Oxide and Quinoline. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 121. Available at: https://publications.iarc.fr/582.

[48] OEHHA. 2016. California Environmental Protection Agency Office of Environmental Health Hazard Assessment Sage Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) Notice to Interested Parties April 22, 2016. Chemical Listed Effective April 22, 2016, as Known to the State of California to Cause Cancer: Styrene. Available at: https://oehha.ca.gov/media/downloads/crnr/042216listingnoticestyrene.pdf.

[49] Choy, C.A. and J. C. Drazen. 2013. Plastic for dinner? Observations of frequent debris ingestion by pelagic predatory fishes from the central North Pacific. Marine Ecology Progress Series 485:155-163. Doi: 10.3354/meps10342.

[50] Van Cauwenberghe, L. and C.R. Janssen. 2014. Microplastics in bivalves cultured for human consumption. Environmental Pollution 193:65-70. http://dx.doi.org/10.1016/j.envpol.2014.06.010.

[51] Teuten, Emma L et al. 2009. Transport and release of chemicals from plastics to the environment and to wildlife." Philosophical transactions of the Royal Society of London. Series B, Biological sciences vol. 364,1526.

[52] Hwang, J., D. Choi, S. Han, S. Jung, J. Choi, and J. Hong. 2020. Potential toxicity of polystyrene microplastic particles. Science Reports 10, 7391. https://doi.org/10.1038/s41598-020-64464-9.

[53] Ibid.

5.3.1.7 Hydrology/Water Quality

The use of EPS may impact water quality through improper disposal, urban run-off, or wastewater effluent (for micro and nanoplastics). Ultraviolet radiation from the sun and physical forces degrade larger plastics, such as packing materials or food containers, into microparticles and nanoparticles.

As noted above, because EPS products are so lightweight, they can be easily transported by wind into local waterways during proper or improper disposal. Substitute products are generally heavier than EPS and not as likely to be transported by wind off haul truck loads and along streets if deposited as litter. Substitute products may also be more adequately removed by street sweeping or maintenance activities before entering the stormwater collection system and other waterways. Many substitute products can also be recycled in the City (see Section 5.3.1.8 below).

Reducing the quantity and mass of EPS used and discarded in the City would have a beneficial impact on water quality by resulting in lower rates of EPS waste and associated contaminants entering surface water, groundwater, and marine environments. Further, a reduction of disposable EPS waste would help the City meet the Los Angeles River Trash Total Maximum Daily Load (TMDL), Echo Park Lake Trash TMDL, Lincoln Park Lake Trash TMDL, and Santa Monica Bay Trash TMDL. Because the ordinance would result in reductions in litter because substitute items could be recycled or reused, the impact to water quality is not a significant impact, and where there are potential impacts, they would be beneficial and would improve the environment consistent with the Class 7 and 8 categorical exemptions.

5.3.1.8 Utilities and Service Systems

Within the City, solid waste is managed by Los Angeles Sanitation and Environment and private waste management companies. These companies collect, dispose of, and recycle the solid waste generated by multi-family (with more than 4 units), industrial, and commercial buildings throughout the city.[54] EPS is not recyclable at the City contracted Material Recovery Facilities or compostable in any of the City's Green Material Processing Facilities.[55] Therefore, all EPS products become refuse and must be disposed of in a landfill. Los Angeles Sanitation and Environment currently collects over one million tons of refuse annually from its 750,000 customers.[56] The five landfills that the City owns are closed, and refuse is disposed of at private landfills and those outside of the City.

Alternative products to EPS, such as cardboard boxes (e.g., frozen food boxes, dry food boxes), rigid clamshell packaging, food and blister plastic packaging, and plastics numbers 1, 2, and 5 are recyclable in the City through the municipal residential curbside recycling program and the commercial franchise

[54] Los Angeles City Planning Department. August 2001. The Citywide General Plan Framework An Element of the City of Los Angeles General Plan. Available at: https://planning.lacity.org/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf.
[55] City of Los Angeles Sanitation and Environment. 2022. Blue Bin Recycling. https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-wwd-s-r-rybb?_adf.ctrl-state=ziwt0u0xk_159&_afrLoop=7156691206552088#! Accessed June 17, 2022.
[56] City of Los Angeles Sanitation and Environment. 2022. Collection. Available at: https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-wwd-s-c?_adf.ctrl-state=127qhyp90y_5&_afrLoop=5286601647667777#! Accessed June 17, 2022.

recycling program (recycLA).[57] [58] Therefore, the ordinance would help the City achieve its goal of achieving zero trash to landfills by 2050. The ordinance does not require any physical development or alteration to the current state of solid waste management in the city. Overall, the ordinance is expected to have a beneficial impact on the utility and service systems of Los Angeles.

5.3.1.9 Resource Areas with No Impact

There are multiple resource areas that would not be affected by the ordinance. These resource areas include the following:

- Agriculture and Forestry Resources
- Cultural Resources
- Geology and Soils
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Wildfire

The ordinance would not have impacts on any of the listed areas.

5.3.2 Summary of Environmental Impacts

As demonstrated by this analysis, the ordinance would maintain, enhance, or protect a natural resource and the environment, and the ordinance would not cause environmental degradation.

5.4 No damage to scenic resources

CEQA Guidelines Section 15300.2(d) state the following:

"(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR."

The proposed ordinance would not result in a significant impact on scenic resources as it would not involve any construction or adverse changes to the aesthetic environment of the City. As described above in Section 5.3.1.1, reduced littering of EPS products would have a beneficial impact on scenic resources.

[57] City of Los Angeles Sanitation and Environment. 2022. Blue Bin Recycling. https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-wwd-s-r-rybb?_adf.ctrl-state=ziwt0u0xk_159&_afrLoop=7156691206552088#! Accessed June 17, 2022.
[58] City of Los Angeles Sanitation and Environment. 2022. Mandatory Commercial Recycling. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r/s-lsh-wwd-s-r-mcrab?_adf.ctrl-state=1biqku5cgg_5&_afrLoop=7758060316408378#! Accessed June 24, 2022.

5.5 Not located on a hazardous waste site

CEQA Guidelines Section 15300.2(e) state the following:

“(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site, which is included on any list compiled pursuant to Section 65962.5 of the Government Code.”

The proposed ordinance does not propose construction on "a site". Therefore, there would be no impacts on hazardous waste sites.

5.6 No substantial adverse change in the significance of an historical resource.

CEQA Guidelines Section 15300.2(f) state the following:

“(f) Historical Resources. A categorical exemption shall not be used for a project, which may cause a substantial adverse change in the significance of a historical resource.”

The proposed ordinance does not modify current protections for historical resources in the city and does not involve any construction or activity that would cause an adverse change in the significance of a historical resource. Therefore, there would be no impacts on historical resources.

SECTION 6 Conclusion

As set forth above, the ordinance is exempt under the above-cited classifications and can be appropriately determined to be categorically exempt from CEQA pursuant to CEQA Guidelines 15307 (Class 7) and 15308 (Class 8).

Dan Tormey, Ph.D., P.G.

PRESDIENT, TECHNICAL DIRECTOR

Summary of Qualifications

Dr. Tormey is an expert in energy, water resources, land management and environmental policy. He has served as a technical expert in state and federal court, including testimony in Federal Court on questions related to water supply and sustainable yield and testimony in state court on contaminant assessment, fate and transport, risk assessment and remediation. Other litigation and testimony have included environmental effects of plastics, water quality and quantity, water rights, and Endangered Species Act issues.

Dr. Tormey has been project manager or technical lead for many controversial CEQA and NEPA projects and is noted for the creativity of his policy and technical approaches. He has managed CEQA/NEPA reviews both for regulatory agencies (US Federal Energy Regulatory Commission, US Bureau of Land Management, US Bureau of Reclamation, US Forest Service, California Public Utilities Commission, California State Lands Commission, California State Water Resources Control Board) and for private-sector applicants.

Dr. Tormey has managed several CEQA reviews for the City of Los Angeles, including the PEIR for the City's enhanced watershed management plans; 2 major projects related to achieving the goal of 100% recycling of wastewater; projects related to reducing the presence of plastics; and several support assignments in environmental justice, cleanup of contaminated sites, and CEQA support. Dr. Tormey has conducted geochemical analysis and fate and transport analysis of plastic waste in the environment and associated natural resource damages. He has benchmarked local and state approaches to reducing plastics in the environment, and in the analysis of the comparative impacts and manufacturing of plastic compounds and replacement compounds.

Education

- Ph.D., Geology and Geochemistry, MIT
- B.S., Civil Engineering and Geology, Stanford University

Registrations

- Professional Geologist

Appointed

- U.S. National Academy of Sciences: Steering Committee on Geoheritage (2020-present)
- IUCN Geoscientist Specialist Group (2015-present)
- UNESCO World Heritage Site Review Panel (2009 - present)
- California Council on Science and Technology: Hydraulic Fracturing Study (2014-2015)
- California governor and legislature-appointed advisory committees on oil and gas issues (2014-present)
- Lead Scientist, Cruz del Sur (Andean post-disaster search and rescue group)
- Fellow, Explorers Club

Representative Project Experience

- Project Manager – Programmatic EIR for Stormwater Management Program – City of Los Angeles Bureau of Sanitation
- Project Manager – EIR for Bacteria TMDL Compliance in Ballona Creek – City of Los Angeles Bureau of Sanitation
- Project Manager – Disposable Foodware Accessories Ordinance Categorical Exemption – City of Los Angeles Bureau of Sanitation
- Project Manager – CEQA/NEPA/Permitting for Santa Felicia Dam Safety Improvement Project – United Water Conservation District
- Geomorphology Expert – Newhall Ranch EIR/EIS, Los Angeles County
- Technical Lead – Comprehensive analysis of impacts of high-volume hydraulic fracturing at an oil and gas field in Los Angeles County
- Project Manager – CEQA Review of SCE's Gas-Fired Generation Capacity — Southern California

Lindsey Garner, Ph.D.

SENIOR SCIENTIST

Summary of Qualifications

Dr. Lindsey Garner is an environmental toxicologist with over a decade of aquatic toxicology, water resources, CEQA/NEPA, permitting, litigation support, risk assessment, and project management experience. Dr. Garner has worked on a variety of large and complex projects involving multiple stakeholders including federal, state, and local government agencies, private industry, legal professionals, and the public. She has evaluated the toxicity, fate, and transport for various anthropogenic and natural compounds, including oil constituents, pesticides, drilling fluid-related materials, and metals, in support of environmental impact reports (EIRs), natural resource damage assessments (NRDAs), ecological risk assessments (ERAs), and various litigated cases. She has also served as subject matter expert and resource lead for various sections of EIRs, environmental impact statements (EISs), and environmental assessments (EAs).

Education

- PhD, Integrated Toxicology and Environmental Health, Duke University
- BS, Biology, Aquinas College

Disciplines

- Environmental Toxicology
- Ecological Risk Assessment
- Natural Resource Damage Assessment
- Aquatic Toxicology
- NEPA/CEQA
- Research and Publication

Professional Affiliations

- Society of Toxicology
- Society of Environmental Toxicology and Chemistry (SETAC)
- Pacific Northwest SETAC

Representative Project Experience

- Deputy Project Manager, EIR Analyst, and Risk Assessor – Hydrilla Eradication Program Environmental Impact Report, California Department of Food and Agriculture
- CEQA Lead Author and Analyst – Disposable Foodware Accessories Ordinance Categorical Exemption – Los Angeles Sanitation and Environment
- CEQA Lead Author – Categorical Exemption for 61 Oak Grove St Project – EVgo, San Francisco, California
- Project Manager and CEQA Analyst – Ventura County Coastal and Noncoastal Zoning Ordinance Updates for Oil and Gas Development – Ventura County Resource Management Agency
- CEQA Biological Resources Author – Hyperion Wastewater Reclamation Plant Recycled Water Program EIR – Los Angeles Sanitation and Environment
- Environmental Scientist – Comments on Draft CalEnviroScreen 4.0 – Los Angeles Bureau of Sanitation, California
- CEQA Resource Author – San Gabriel Valley Greenway Network Implementation Plan – Los Angeles County Department of Public Works
- CEQA Resource Author – Santa Ana River Watershed Weather Modification Initial Study/Mitigated Negative Declaration – SAWPA
- Deputy Project Manager, EIR and EA Resource Analyst, Biological Assessment Author, Permitting Specialist – Santa Felicia Dam Safety Improvement Project – United Water Conservation District
- Deputy Project Manager, Resource Analyst, Permitting Specialist – Harvey Diversion Fish Passage Restoration Project Environmental Assessment/Mitigated Negative Declaration – CalTrout
- Deputy Project Manager and CEQA Lead Author – Project-Specific Analysis and Addendum for the North Ojai Incendiary Fuels and Ember Cast Reduction Project – Ventura County Fire Department

Paden J. Voget, P.E., QSD, ENV SP

SENIOR SCIENTIST

Summary of Qualifications

Ms. Voget is a licensed Professional Engineer with over 19 years of experience in environmental and civil engineering consulting. She has a diverse background that includes CEQA and NEPA projects, environmental compliance, construction project management, environmental permitting, civil/restoration engineering, and water resources projects. She is highly experienced in working with federal and California environmental regulations and has a working knowledge of many other state and local regulatory requirements and agencies.

Ms. Voget has accumulated extensive experience in CEQA and NEPA compliance for air quality and greenhouse gas resource areas, including air quality and greenhouse gas impact assessments, air mitigation quantification methods, and air pollution control technology. In particular, she has developed air quality and climate change impact assessments to support CEQA and NEPA environmental review documents. For these assessments, she analyzed the construction and operational impacts through quantification of emissions, modelling of pollutant concentrations, and determination of the level of significance, along with providing recommendations for mitigation measures.

Representative Project Experience

- CEQA Resource Analyst, Transportation/Noise/Air Quality/Greenhouse Gas – Ballona Creek Low-Flow Treatment Facility EIR, City of Los Angeles
- CEQA Resource Analyst, Air Quality/Greenhouse Gas/Noise – Statewide Hydrilla Eradication Program EIR – California Department of Food and Agriculture
- Deputy Project Manager – CEQA Review of the Operation Next/Hyperion 2035 Program EIR, City of Los Angeles
- CEQA Resource Analyst, Air Quality/Greenhouse Gas/Noise - D.C. Tillman Recycled Water Project IS/MND – City of Los Angeles
- CEQA Specialist – Hollywood Burbank Airport Terminal Replacement Project EIS Review and Comment – City of Los Angeles
- CEQA Specialist – Comments on the Draft Environmental Impact Report prepared for the Biogas Renewable Generation Project at Scholl Canyon Landfill (SCH No. 2017081062), Los Angeles, California
- Resource Specialist – CalEnviroScreen 4.0 Review and Comment – City of Los Angeles, California
- CEQA Resource Analyst, Hydrology/Geology/Hazards, Transportation and Hazardous Materials/Noise - Santa Felicia Dam Safety Improvement Project EIR, United Water Conservation District
- CEQA/NEPA Resource Analyst, Transportation/Noise/Air Quality/Greenhouse Gas - Bijou Park Creek Watershed Enhancement Project – City of South Lake Tahoe
- NEPA Resource Analyst, Noise/Air Quality/Transportation - Baltazor Geothermal Energy Project Environmental Assessment – US Bureau of Land Management

Education

- Bachelor of Science, Environmental Resources Engineering, Humboldt University

Disciplines

- Civil & Environmental Engineering
- CEQA & NEPA
- Due Diligence
- Site Assessment & Remediation
- Water Resources Compliance & Management
- Hydrology & Geomorphology

Registrations

- California Professional Engineer No. C69238
- California State Water Resources Control Board, QSD Certification No. C06923
- Institute for Sustainable Infrastructure Envision Sustainability Professional

Professional Associations

- American Society of Civil Engineers (ASCE)