

Fall 2012

## An Assessment of Policies on Polystyrene Food Ware Bans

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### Recommended Citation

Nguyen, Linda D., "An Assessment of Policies on Polystyrene Food Ware Bans" (2012). *Master's Projects*. 266.

DOI: <https://doi.org/10.31979/etd.yzrk-wpb8>

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# **An Assessment of Policies on Polystyrene Food Ware Bans**

Linda D. Nguyen

*A Thesis-Quality Research Project Submitted in Partial Fulfillment of the  
Requirements for the Masters of Public Administration*

San José State University

November 2012

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## ***Introduction***

The purpose of this research project is to provide an analysis of local policies on polystyrene (PS) food ware bans to assist The City of San José evaluate alternatives to reducing PS litter. On November 2009 San José voted to ban polystyrene carryout food packaging from large city events. “Effective May 2010, special events with over 1,000 attendees, as a condition of the Event Authorization permit, are required to ban polystyrene use by food vendors” (City of San José Memo, 2010, p. 2). The city was then prompted by its Transportation and Environment (T&E) Committee to further investigate how to reduce PS litter citywide, that may include a citywide ban of PS (City of San José, 2012 January 3). Polystyrene is a form of plastic derived from fossil fuels. Polystyrene’s major types are extruded, molded, and expanded polystyrene (EPS). Extruded PS includes agricultural trays, clamshells and meat trays. Molded PS products include compact disc jewel cases and flatware. EPS includes various foam to-go food ware containers (cups, clamshells, plates), packaging for electronics, and loose-fill packaging “peanuts”. For the purpose of this paper the author will mostly be referring to EPS or polystyrene foam, also known as Styrofoam (CIWMB, 2004).

Trash in its many forms has become a major environmental issue in creeks, neighborhoods, and various communities. Local creeks and the ocean have become the final storage area for consumer items and waste materials including expanded polystyrene foam food ware. EPS is not only visually unsightly, it can also negatively impact the livability of neighborhoods and water quality (City of San José, 2011 November 17). Because EPS is lightweight and floats, it readily travels from land to waterways and eventually out to the ocean. Polystyrene foam easily breaks up into tiny pieces that can be mistaken for food and ingested by marine animals. The smaller lightweight pieces also contribute to roadside litter; California

Department of Transportation (Caltrans) spends \$60 million annually on litter clean-up efforts (California Department of Transportation website). According to Caltrans (2000) study, polystyrene foam comprises 15% of storm drain litter. According to a beach debris study conducted in Orange County, California (Moore et al., 2001), it is also the second most common type of beach litter.

Polystyrene is a nonrenewable product that is depleting the Earth's limited resources and has become a challenge to deal with in our waste stream. Recycling of EPS foam is not economically viable due to the high cost in hauling the lightweight and high volume waste to the recyclers as well as a lack of a market for the foam material. Ren (2003) states that cost associated with cleaning the highly contaminated food ware is a challenge. Not only is EPS not biodegradable, but because of its recycling challenges a significant amount ends up in the landfill. According to a study by California Integrated Waste Management Board (2004) an estimated 300,000 tons of PS was land-filled, with a total disposal cost of \$30 million and only 0.2% actually recycled. Polystyrene is not only a challenge for waste management but can be a threat to public health.

Polystyrene is made from styrene, which is primarily a synthetic chemical that is widely used and its exposure potentially harmful. About 90,000 workers that work with styrene are potentially exposed to the harmful chemical. Health effects from exposure to styrene may involve the central nervous system and include headaches, fatigue, dizziness, confusion, drowsiness, malaise, difficulty in concentrating, and a feeling of intoxication. The International Agency for Research on Cancer classifies styrene as a potential human carcinogen (United States Department of Labor-OSHA website).

Polystyrene litter is extremely costly for local governments to manage, some of whom are required by law to achieve "zero" trash litter in impaired waterways. "Due to the negative water quality impacts of all types of trash, reducing the amount of trash in waterways has become a priority for citizens, municipalities, and water quality regulators" (City of San José, 2012, January 3, p. 2). The City of San José is regulated under the Municipal Regional Stormwater, National Pollution Discharge Elimination System (NPDES) Permit (Order R2 2009 0074), also known as the Stormwater Permit.

The Stormwater Permit specifies necessary actions to reduce the discharge of pollutants, including trash, into stormwater to the maximum extent practicable and to effectively prohibit non-stormwater discharges into the municipal storm sewer system to protect local creeks and the Bay (City of San José, 2012, January 3, p. 2).

The Stormwater Permit requires all Permittees to reduce trash from storm sewer systems by 40 percent by 2014. It also includes a 70 percent reduction by 2017 and 100 percent by 2022. Municipalities will be granted trash reduction credits toward meeting the trash reduction goals under the Stormwater Permit that would include product bans, such as an EPS food ware ban (California Regional Water Quality Control Board, 2009, October 14).

Litter clean ups can be a costly and an inefficient way to use dwindling resources, leading some to believe that preventing litter at the source would be more effective for municipalities. Since the State of California has not acted to reduce polystyrene litter, local jurisdictions have decided to pass their own local ordinances to deal with the persistent problem of EPS food ware. "Senate bill (SB) 568, introduced February 17, 2011 would prohibit a food vendor or restaurant on or after January 1, 2016 from dispensing prepared food to a customer in a polystyrene foam food container." SB 568 failed to pass the Assembly floor on the last day of session (August 31,

2012). Many municipalities in the Bay Area have seen that the most cost effective method to deal with the problem of EPS foam food ware is to ban the distribution and sometimes the sale of the product in their jurisdictions to prevent anymore of the product from littering their streets and continuing to be a costly, environmental and unsightly issue. There are over 53 local jurisdictions in California that have passed some sort of a ban on EPS, while more municipalities also consider a ban (Californians against Waste website). While the City of Palo Alto has taken a lead on an EPS food ware ban in Santa Clara County, other jurisdictions in the county have recently taken some action on the matter as well. The City of Palo Alto adopted an ordinance in 2009 restricting food vendors from providing prepared food in disposable food service containers made from EPS or other non-recyclable plastic. In October 2011, the Santa Clara Valley Water District Board of Directors adopted a resolution prohibiting District purchase of EPS food and beverage containers and also prohibiting their use at Water District facilities. On December 13, 2011, the Santa Clara County Board of Supervisors voted unanimously to adopt an internal policy prohibiting EPS foam food ware and to move ahead with an ordinance for unincorporated Santa Clara County regulating foam food ware containers (City of San José, 2012, January 3). One year after implementation of the San Francisco ordinance that prohibits the use of EPS food ware, San Francisco's litter audit showed a 36% decrease in EPS litter (HDR et al., 2008). Because polystyrene contributes to litter and can negatively affect our waters, marine life and public health, municipal ordinances like the one enacted in San Francisco can dramatically reduce the environmental damage caused by EPS litter.

This paper will analyze local polystyrene food ware ban ordinances to assist the City of San José in evaluating methods to reduce polystyrene litter from EPS food ware that may include a potential ban at food service establishments citywide. There will also be an examination of



economic/market based methods to control EPS litter that include environmental fees/taxes and the concept of extended producer responsibility (EPR). Other large cities that have implemented EPS food ware ordinances include San Francisco, California (2007), Portland, Oregon (1990), and Seattle, Washington (2009). A qualitative analysis of these municipalities' policies on EPS food ware will be evaluated to identify trends and best practices to implementing a city wide policy on polystyrene food ware ban.

## ***Methodology***

Research was conducted by doing a literature review that included online sources, and obtaining information from the City of San José's database on the subject. Online sources include San José State University's Martin Luther King Library's electronic data base and various municipalities' websites. An understanding of local EPS bans came from interning with the City of San José's Environmental Service Department (ESD). The author served on the planning committee on efforts to reduce/regulate EPS food ware litter; involved in the City's outreach campaign "Green to Go" on exploring options of reducing polystyrene use throughout the City (City of San José "Green to Go" website). The author's work with the City of San José included researching and surveying local governments and waste haulers on their policies on EPS food ware. The author's responsibilities included surveying 28 (out of 53) California local governments that have passed bans on EPS food ware, including every California jurisdiction with a population of more than 80,000 that have banned EPS food ware (City of San José, 2012 January 3). San José's data base includes studies, presentations, interviews with program staff of various municipalities and waste haulers, as well as articles on polystyrene. Data will also be collected via interviews with staff members, from the various municipalities' on clarifying questions regarding their city's ordinance on polystyrene food ware. The author also consulted two books on policy analysis by Weiss (1998) and Rosenbloom et al. (2005). According to Weiss (1998, p. 131), measurements of a policy analysis have to be based on program expectations and assumptions about what features will matter. It is also important for an evaluator to pay attention to how well a project teaches and manages, in addition to the quality of the policy. Outcome measures can include goals, as well as measuring progress or success of a policy. It is also important to take note of what types of variables are apt to make a difference

and the use of accepted performance standards (Weiss, 1998). According to Rosenbloom et al. (2005), process analysis concerns the way in which a particular policy is implemented; are enough resources being devoted to a policy? Policy design should also maximize the likelihood that implementation will be successful. Rosenbloom et al. (2005, p. 376) also addresses the theories of political perspective on implementation of a policy, the idea that those most directly affected by a policy be granted a voice in deciding how it will be implemented. According to Rosenbloom et al. (2005) the concept of responsiveness is also an important indicator, such as how sensitive a city is to the businesses that will be affected by regulation.

The author will perform a qualitative analysis of ordinances and related materials as well as conduct interviews with city staff to better understand effective practices. Policy evaluation measures will include: an outreach plan/materials, ordinance/goals, litter/environmental studies, composting programs/contact with hauler, enforcement mechanisms, rate of compliance and statistics on reduction of EPS litter. Measures of process and how a policy is being carried out will include presence of an outreach plan, as well as any outreach materials/handouts. Measures of outcome will include presence of litter studies or statistics before and after the ordinance to measure success. Political perspective on implementation of a policy will include whether those most directly affected by the policy be granted a voice in deciding how it will be implemented-involvement of stakeholders. Responsiveness will be measured by how sensitive each city is to the concerns of businesses affected, such as presence of an “undue economic hardship” clause (recourse to exemption). The author will also review the literature to understand the effectiveness of alternatives to EPS food packaging that include various biodegradable/compostable and recyclable food ware. Program staff will be contacted for the cities of Portland, San Francisco, and Seattle to request clarifying questions regarding their jurisdiction’s ordinance on polystyrene

after careful review of each city's ordinance and records of prior interviews (*refer to beginning of Appendix B, C and D*). The following staff members will be contacted for interviews: Bruce Walker from the City of Portland's Office of Sustainable Development; City of San Francisco's Alex Dmitriew, Commercial Zero Waste Assistant Coordinator of San Francisco Environmental Department and Dick Lilly of Seattle's Public Utilities Department.

Several factors add to the success of a municipality's polystyrene food ware ban ordinance. According to the study conducted for the City of Milpitas by Cascadia Consulting Group (2011, April), the success of a ban is affected by the availability of alternative products as well as the needed infrastructure for processing alternative materials of EPS. Education and outreach is another key component of achieving compliance. It is anticipated that there may be similar support and opposition from campaigns on single-use plastic bag bans that include the plastics industry, business associations and environmental groups. There is an expectation that industry as well as various food establishments will not be supportive of a ban that would prohibit their decision from using a product that is known to be inexpensive compared to alternatives (CIWMB, 2004). Not only will the political will of a city's elected officials play a significant role, but the types and number of affected businesses as well as the size of the jurisdiction may contribute to the efforts of passing such a product ban. The City of San José is the largest city (pop. 945,942 according to Census 2010) in the San Francisco Bay Area with a diverse city council reflecting its demographics. San José is also known to be sensitive to businesses needs as the "heart of Silicon Valley," that may pose a challenge for the passage of such an ordinance. The cities of Portland (Oregon), San Francisco (California) and Seattle (Washington) were selected to be reviewed because of their comparable size and because a significant amount of time has passed since their ordinances have been in effect to compare

results and establish best management practices for The City of San José. United States 2010 census data was used to determine the populations of the cities; that also include effective date of EPS ordinances below:

City	Date of ordinance	Population
Portland, OR	1990	583,776
San Francisco, CA	2007	805,235
Seattle, WA	2009	608,660

Below is a list of process and outcome measures that will be used to compare the efforts of each city.

Measures/indicators:

- Ordinance/goal
- Staff reports/environmental studies
- Outreach to stakeholders or partners established
- Outreach Handouts: fact sheet, acceptable food ware, food service ware vendors lists etc.
- Contact with hauler/ composting program in place
- Statistics on reduction in EPS litter
- Enforcement mechanisms
- Rate of compliance

Through careful research, interviews, and qualitative analysis of data, the author will make recommendations to the City of San José on how to best implement an EPS food ware ordinance. There will be an analysis of implementation of local ordinances on EPS, as well as an examination of possible economic/market tools to also manage litter. Such recommendations will include needed infrastructure (facilities), legal challenges that may arise as well as alternative food ware to EPS food ware if San José chooses to continue with a citywide ban. Public inclusion and support is also required in the successful implementation and enforcement of any product ban.

## **Literature Review**

### ***Background***

Polystyrene is derived from the chemical styrene and its application is widespread in many products. Styrene was discovered in 1827 by Bonastre during experimentation. There was no commercial application of styrene for many years because the polymers were brittle and cracked easily. According to Rueff (2009), Dow Chemical & Company and BASF in 1937 were the first to develop a process for the manufacture of styrene. Polystyrene is a synthetic plastic used commonly in the production of disposable food ware, packaging material as well as in certain electronic uses. According to Shah (2008), polystyrene foam is used for its lightweight, stiffness and thermal insulation.

### ***Litter/waste challenge***

Litter from polystyrene is a complex problem for municipalities and waste management. A potential PS disposal problem results when disposable food containers either spill over or blow out from trash containers. Because the EPS material is so light, it can blow away, becoming litter. This release into the environment is one of the key concerns with food service PS. According to a California Integrated Waste Management Board (CIWMB) report (2004) to the California Legislature, in 1999 an estimated 300,000 tons of PS was land-filled, with a total disposal cost of \$30 million. A comprehensive two year study assessing effectiveness in reducing litter that is discharged from storm water systems was conducted by Caltrans (2000) along Los Angeles highways showed that polystyrene, accounted for 15% of total volume or 11% of total count. According to Snaveley (2007), storm drains flow into natural waterways and ultimately into the ocean, increasing exposure of wildlife to containments and litter. The prevalence of litter, including foam plastic can become a deterrent for tourists affecting the local economy as

well as the marine life. According to a beach litter study (Moore et al., 2001) conducted along Southern California beaches, foamed plastic accounted for the second most common type of beach litter. Moore et al. (2001) quantified the distribution and composition of beach debris by sampling 43 random sites on the Orange County, California coast. Polystyrene litter has negative impacts on tourism in California. The state has more than 1,000 miles of coastline according to CIWMB (2004), so maintaining clean beaches and coastal areas is important to its tourism industry. According to California Integrated Waste Management, “The high costs of litter cleanup and collection are a significant economic externality of plastics” (2004, p. 21). While technically feasible, food service PS is difficult to recycle due to being contaminated with food. It also experiences transportation challenges due to its light weight and other collection difficulties. Industry found that there was reluctance among organizations, businesses, and consumers to collect food service PS for recycling; resulting in low demand and lack of market for the product. “It was difficult for the recycled resin to compete with virgin PS on both a cost and quality basis” (CIWMB, 2004, p. 16). “Plastic cannot be recycled forever because every time plastic is reprocessed, its polymers break down, lowering the quality of the performance standards for the recycled product” (DePaolo and Anthony, 1995, p. 3).

### ***Health/environmental problems***

The persistence of EPS litter in the environment is not only an eye sore for communities but has also contributed to environmental impacts that threaten marine life and public safety. Polystyrene in the marine environment results in significant problems for wildlife. Worldwide, there have been reports of entanglement for at least 143 marine species that includes almost all of the world’s sea turtles. At least 162 marine species, including most sea birds, have been reported to have eaten plastics and other litter (United Nations Environment Program Global Program of

Action website). Ingestion of polystyrene pieces, which look like food to many species, results in reduced appetite, reduced nutrient adsorption, and starvation for wildlife. Litter debris can also create problems for fishermen and boaters, particularly when plastics get into boat engines and cause damage (CIWMB, 2004). A study conducted by Delilah and Goran (2011) ranked 55 thermoplastics, assessing their environmental and health hazards. Most chemicals used for producing plastic, including styrene are derived from non-renewable crude oil, and several are hazardous. These may be released during the production, use and disposal of the plastic product. They found that the chemical styrene, used in the production of polystyrene can possess a significant health hazard (Delilah and Goran, 2011). There are potential environmental impacts of PS in the degradation stage with the possibility of PS releasing dangerous chemicals. “When it is degraded by thermal or chemical means it releases products like; styrene, benzene, toluene and acrolein” (Shah et al., 2008, p. 257). Improperly disposed plastic materials are a significant source of environmental pollution, potentially harming life. “In the categories of energy consumption, greenhouse gas effect, and total environmental effect, EPS’s environmental impacts were the second highest, behind aluminum”, (CIWMB, 2004, p. 19). Styrene is a commercial chemical widely used in the manufacture of synthetic rubber, resins, polyesters, and plastics. The highest level of human exposure to styrene occurs in occupational settings. Absorption of styrene occurs mainly through inhalation and via skin contact. Workers may be exposed in a number of industries and operations. Occupational exposure occurs mainly via the lungs as well as reports of impaired color vision. Symptoms include drowsiness, light-headedness, dizziness, headaches, tiredness, and balance disturbances (Rueff et al., 2009, p.10). A study conducted by the U.S. Census (2004, December) states that there are as many as 150,000 of California’s plastics industry workers affected, which includes over 4,000 individuals working in



the polystyrene foam manufacturing sector. These people are chronically exposed to styrene and are at increased risk for depression, headache, fatigue, weakness, kidney dysfunction and cancer (U.S. Census, 2004, December).

### ***Related legislation***

There have been a number of California legislative attempts (Senate and Assembly Bills) statewide to respond to the issue of plastic as well as EPS litter that include banning the product as well as other economic/market based methods. SB 1069, introduced by Chesbro during the 2001-02 Legislative Session; “The bill would have, among other things, imposed a plastic pollution fee on manufacturers of containers for every plastic container of a resin type that does not achieve a 50 percent recycling rate by a future date.” The monies would have been used to promote the recycling of plastic containers, including payments to recyclers and local governments to off-set the cost of recycling plastic containers. AB 2138, introduced by Assembly Member Chesbro on February 18, 2010, would have enacted the Plastic Ocean Pollution Reduction, Recycling, and Composting Act. “The bill would prohibit a food provider, on and after July 1, 2013, from distributing a disposable food service packaging or a single-use carryout bag to a consumer, unless the department determines the packaging or bag meet a specified composting or recycling rate.” This bill passed Assembly’s Natural Resources Committee 6 - 3 on April 12, 2010. It was referred to the Committee on Appropriations with the author’s amendments and placed in the suspend file. AB 283, known as the solid waste: extended producer responsibility program. This bill would have created the California Product Stewardship Act of 2009 and would have required the board to administer the program.

The bill would have required the board to adopt regulations by July 1, 2011, in order to implement the program to provide environmentally sound product stewardship protocols

that encourage producers to research alternatives during the product design and packaging phases to foster cradle-to-cradle producer responsibility and reduce the end-of-life environmental impacts of the product (AB 283).

SB568 a statewide EPS prohibition would be a more effective approach compared to a Countywide/Citywide EPS prohibition to ensure uniformity within the state. Under SB568 “The bill would prohibit a food vendor or restaurant on or after January 1, 2016 from dispensing prepared food to a customer in a polystyrene foam food container.” While SB 568 was passed by the Senate, it failed to pass the Assembly floor (August 31, 2012) on the last day of session (Californians against waste website).

### ***Legal issues/CEQA***

The California Environmental Quality Act (CEQA) is the principle statute mandating environmental impact review of governmental actions in California. The Act applies generally to all activities undertaken by state and local agencies, and to private activities financed, regulated or approved by state and local agencies.

The Legislature intended the Act to maintain a quality environment for the people of the state to take all actions necessary to protect and rehabilitate the environmental quality of the state, and to require governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality (Monahan et al., 1997, p. 275).

An environmental impact report (EIR) may be required to be prepared whenever a governmental action may have a significant effect on the environment. CEQA is modeled after the federal National Environmental Policy Act (NEPA). The inquiry in any CEQA matter is whether the activity in question is a “project” that may trigger the necessity of CEQA review. The guidelines define the term project to include “the whole of an action, which has a potential for resulting in a

physical change in the environment” (Monahan et al., 1997, p.276). The guidelines also specifically provide that CEQA does not apply to an activity where, after preliminary review it can be determined with certainty that there is no possibility that the activity may have a significant effect on the environment. Certain types of projects are exempted from CEQA requirements, “When a project is exempt from CEQA, the agency may approve it or carry it out without undertaking any CEQA review” (Monahan et al., 1997, p. 275). CEQA also provides that the lead agency may issue a negative declaration rather than an EIR where the initial study reveals no substantial evidence that the project may have a significant effect on the environment (Monahan et al., 1997). According to a study conducted by Los Angeles County that reviewed 53 California local jurisdictions that passed an EPS ban they determined no legal barriers to adopting an EPS prohibition were identified; “Many jurisdictions have adopted prohibitions through local ordinances without legal challenges” (County of Los Angeles, 2011 November, p.1). The County determined that it would have to decide what level of review is necessary for compliance with CEQA, if any, which may or may not require the development of an environmental document (County of Los Angeles, 2011 November).

### ***Studies/reports on EPS***

To better understand the California climate on EPS bans, studies on local ordinances in the state were also reviewed to understand best practices. On behalf of the City of Milpitas, Cascadia Consulting Group reviewed the efforts of approximately 15 California cities to regulate the replacement of polystyrene containers with recyclable or compostable alternatives. They targeted their research on the following California cities: Fremont, Hayward, Millbrae, Monterey, Oakland, Palo Alto, Santa Cruz, and San Francisco. Through a review of ordinances and outreach materials as well as conducting interviews with city staff members, Cascadia (2011

April) developed multiple recommendations to the City of Milpitas if they choose to continue with an EPS ban. According to the study, the success of a ban is affected by the availability of alternative products as well as the needed infrastructure for processing alternative materials of EPS. Recommendations that focus on economic/market based methods to make recyclable and compostable products more cost comparable to polystyrene products include: creating a co-op from which businesses can buy recyclable and compostable products in bulk; develop outreach materials or a website to promote alternative products to businesses, increasing the market and possibly driving prices down; provide financial incentives for businesses to use alternative products; and provide incentives for alternative product suppliers who conduct business in the City. “Reducing the costs of alternatives to be comparable to expanded polystyrene would address a primary barrier to voluntary polystyrene reductions; however the City must consider its ability to provide sufficient financial incentives to achieve cost parity” (Cascadia, 2011 April, p.3). Other findings that could contribute to a successful ban include: phasing implementation by product type can help businesses comply given limited availability of some products; offer food scrap and container composting to businesses and residents; allow time-limited exemptions for undue hardship; involve stakeholder early in the process; and provide informational materials to all affected parties rather than targeting only businesses or only consumers. It was found that most chain restaurants were already using alternatives to EPS food ware, so a majority of resources should be on aiding small food service businesses. Another method to increase compliance is to slowly implement the ordinance, “it is shown that a long (up to a year) phase-in period with outreach would significantly increase effectiveness” (Cascadia, 2011 April, p.18). Los Angeles County conducted an extensive study (2011 November) that reviewed case studies of at least 53 jurisdictions in California that have restricted EPS in some form. The study found

that there is little information regarding the potential financial impact on businesses or consumer preference. The report included an appendix that includes case studies from all the California jurisdictions that have passed an expanded polystyrene food ware ban, including details of each ordinance. The study also includes restaurants and retail food vendors with food container policies, jurisdictions that recycle EPS food containers and composting programs in California (County of Los Angeles, 2011 November). In 2009, the Recycling and Waste Reduction Commission (RWRC) of Santa Clara County directed staff to report back with policy recommendations for decreasing the amount of EPS foam food and beverage containers in the county. The County recommends cities in Santa Clara County to adopt EPS food ware bans in the following tiers: education and outreach; ban EPS food ware at all City facilities; ban EPS food ware at all food vendors within their jurisdiction; ordinance requiring that all food vendors within the jurisdiction use only containers that are accepted by haulers, not to be land-filled (Santa Clara County, 2011 June 27).

### ***Economic/market tools***

Various scholars and industry professionals feel that an outright ban of a product alone will not solve the solution to EPS litter; that economic/market tools also need to be used to change behavior. Economic tools include environmental fees/taxes to discourage littering as well as the concept of extended producer responsibility (EPR) that entails shared responsibility of product disposal end life. A study by Ren (2003) analyzed biodegradable plastics in the context of waste management and examines economic/market based tools to try to change behavior. He states that even though biodegradable plastics were developed as a solution for the waste problem, they also create new challenges “The development in law and policy, advance in technology and in waste management, adoption of economic and market-based instruments

generate many new challenges in the decision making process with regard to waste management” (Ren, 2003, p.27). In many developed countries in Europe, instead of simply banning or promoting certain technologies or products, regulatory and economic instruments tend to be combined and structured in an integrated manner to create a concerted driving force. Ren (2003) warns that biodegradable products alone will not solve the litter issue. The most common economic and market based methods in waste management include environmental charges and taxes as well as EPR as the most relevant and frequently used methods. A fee on all disposable food containers, or specifically on EPS, would aim to curb the littering of such containers in much the same way that fees on single-use bags and bottles discourage their littering. “Manufacturers and retailers purchase disposable products upfront but are not responsible for the litter costs associated with the products, which are currently shouldered by taxpayers” (CIWMB, 2004, p.3). Although a fee may help offset costs on clean-up activities, the provisions of California Proposition 26 (Prop 26) may cause difficulty in implementing a new fee. “Prop 26, passed by voters in 2010, broadens the definition of taxes to include payments traditionally considered to be fees or charges” (County of Los Angeles, 2011 November, p. 20). As a result, local proposals to increase government revenues may require approval by local voters. Mandatory fees may be unpopular among industry groups and complicated to implement for both government and industry (DePaolo and Anthony, 1995). The EPR proposal puts the burden of recycling on both producers and waste generators. The major advantage of this plan is its encouragement of private-public partnerships to address the recycling markets problem. Having producers be held responsible for recycling costs would encourage source reduction, “Producer financial responsibility for recycling costs would provide incentives for both source reduction and production of easily recyclable products” (DePaolo and Anthony, 1995, p.13). The

development and success of this program would require the implementation of backing legislation; such as failed attempts with California's AB283 (February 12, 2009). Specifics of the program, such as the materials to be collected, the percentage of the waste stream to be diverted, recycling rates, and system costs, would also have to be defined (DePaolo and Anthony, 1995).

### ***Alternatives to EPS***

Alternatives to EPS which include paper, compostable/biodegradable products, and other various recyclable products are readily available, although generally they are more expensive compared to EPS (refer to Appendix A tables one, four and six). The environmental benefit of alternative to EPS is maximized if they are recycled or composted (County of Los Angeles, 2011 November). Compostable/Biodegradable products are more sustainable and carbon neutral, and can be derived from potato, corn, wheat, sugarcane, or tapioca sources, and are suitable as hot and cold food containers. These materials are capable of undergoing decomposition and can be used as an organic feedstock or soil improvement when commercially composted. The speed of biodegradation depends on temperature (50-70° Celsius), humidity, number and type of microbes. The process may take about 6-12 weeks (Siracusa et al., 2008). However, these products are typically more expensive than EPS; depending on numerous factors, including quantity, type of container, material type, as well as vendor source. There are a variety of biodegradable materials derived from natural resources and include products made from the following materials:

- Polylactic acid (PLA) also known as bio-plastics, is a corn-based resin used to create clear plastic cups and containers suitable for cold food and liquids (up to 110 degrees Fahrenheit).








- Bagasse is extracted from sugarcane, suitable for hot and cold food, and is heat resistant up to 220 degrees Fahrenheit.
- Paper/ Paperboard food containers can be made from tree fiber (virgin or recycled), and can be coated with bio-plastics (PLA) instead of petroleum derived plastics, making the final product compostable (County of Los Angeles, 2011 November).

Recyclable products are single-use products made from plastic, paper, aluminum foil and other materials that can be readily recycled. This includes non-foamed polystyrene products. Plastics (except PLA) are neither biodegradable nor renewable; however certain plastics, especially Polyethylene Terephthalate (PET- type #1) and High-density polyethylene (HDPE- type #2), have a well established recycling market and are primarily used for bottles containing liquid. This is due to the widespread acceptance of these plastics in curbside recycling programs and the California Redemption Value placed on certain plastic beverage containers. Higher numbers (type #3-7) plastics can be more challenging to recycle and also have a lower market value; as a result they are recovered for recycling at a much lower rate. Crystalline polystyrene/rigid plastic (type #6) are clear plastic containers that are also a common alternative to EPS food ware which may be acceptable in some recycling collection programs. Paper food ware products lined with petroleum-based coated plastic (PET and PP) may be recyclable in some materials recovery facilities (MRFs). The table below explains the differences among these plastics and their most common uses among food containers (County of Los Angeles, 2008 October). Some common recyclable products are listed below.

- Paper products- made from post-consumer recycled content, with use of less or no virgin materials; or lined with PET or PP



- Crystalline polystyrene - clear rigid plastic containers made from polystyrene (non foam) products (type #6)
- Aluminum tin/foil - pieces of thin and flexible sheet metal (County of Los Angeles, 2011 November).

Symbol	Acronym	Full name and uses
	PET	Polyethylene terephthalate - Fizzy drink bottles and frozen ready meal packages.
	HDPE	High-density polyethylene - Milk and washing-up liquid bottles
	PVC	Polyvinyl chloride - Food trays, cling film, bottles for squash, mineral water and shampoo.
	LDPE	Low density polyethylene - Carrier bags and bin liners.
	PP	Polypropylene - Margarine tubs, microwaveable meal trays.
	PS	Polystyrene - Yoghurt pots, foam meat or fish trays, hamburger boxes and egg cartons, vending cups, plastic cutlery, protective packaging for electronic goods and toys.
	Other	Any other plastics that do not fall into any of the above categories. For example melamine, often used in plastic plates and cups.

### ***Biodegradable/compostable products***

Renewable sources of packaging are intended to utilize renewable and potentially more sustainable sources of raw materials (crops instead of crude oil); and to reduce materials that end up in the land-fill. Biodegradable packaging material can be seen as the most appropriate for single use because of its potential to be composted and diverted from landfills. “The most favored end-of-life disposal options for these materials are domestic and municipal composting

in place of landfill” (Davis et al., 2006, p.159). The value of biodegradable food service packaging can include two benefits: the packaging can be incorporated into food composting collection systems without the labor and expense of separating the container from the food, and if the material is improperly disposed of and blows out of trash cans, the negative impact on wildlife and storm drain systems is minimized when the material biodegrades. According to Siracusaa et al. (2008, p. 643), “Bio-plastics (such as PLA) fulfill the environmental concerns but they show some limitations in terms of performance like thermal resistance, barrier and mechanical properties, associated with the costs” (Also refer to Appendix A, table five). Depending on the production process and on the source, bio-plastics can have properties similar to traditional, oil based material (Siracusaa et al., 2008). “Wide acceptance of biodegradable plastics will bring about new challenges and higher requirements on integrated waste management, ranging from clear labeling, source separation to sound operation of composting and application of compost” (Ren,2003, pg39). To facilitate composting, however, infrastructure must be established to certify biodegradable packaging materials and to collect biodegradable packaging with organic waste. By using local or regional composting facilities, the total waste to landfill could be reduced, in addition to the reduction of transport cost and associated emissions. “Biodegradable polymers can thus make significant contributions to material recovery, reduction of landfill and utilization of renewable resources” (Davis and Song, 2006, p.159). Strong clear labeling is required so that compostable products can be easily identified and separated so that they do not end up in the landfill (Davis and Song, 2006). In general, products made from renewable; naturally occurring resources (such as tree fiber or other plant material) are more sustainable than products made from non-renewable resources, such as fossil fuels. Since these products are made from natural and renewable resources rather than non-renewable resources,

they are considered by industry standards to be carbon neutral and sustainable (County of Los Angeles, 2008 October). In the next ten years, the trend of eco-friendly packaging in place of EPS is predicted to grow substantially. The Wall Street Journal reports that bio-plastics volume could grow 30% a year globally in the next decade due to demand for more environmentally conscious products (Stein et al., 2010 October 18).

## Findings

	Portland, OR	San Francisco, CA	Seattle, WA
<b>Population</b>	583,776	805,235	608,660
<b>Ordinance passage/effective date</b>	<ul style="list-style-type: none"> <li>• Passage: 1/25/1989</li> <li>• Effective: 1/1/1990</li> </ul>	Passage: 11/21/2006 Effective: 6/1/2007	Passage date: 7/30/2008 Effective dates: 1 <sup>st</sup> phase 1/1/2009; 2 <sup>nd</sup> phase 7/1/2011
<b>Goal/objective of ordinance</b>	Concerns about disposable, non-biodegradable food and beverage containers contributing to litter; potential hazard to wildlife; lack of recycling programs for EPS	Aim is waste reduction; protect the public health and safety of city residents, and the city's natural environment, waterways, and wildlife.	Toward litter reduction, due to the financial cost of disposing EPS; reaffirm City's 60% recycling goal; concerns on adverse impacts on the environment
<b>Number of business affected</b>	Approximately 1,000+	Approximately 4,500	Approximately 4,000
<b>Environmental Reports (EIR)</b>	No environmental impact report of any kind was completed	No EIR, CEQA exempt	Conducted an extensive study published in January 2008 that dealt with both foam food containers and single use plastic shopping bags
<b>Rate of compliance/litter reduction</b>	No statistics available, but "A definite change in litter has been noted."	<ul style="list-style-type: none"> <li>• 1st year 80%, presently 98% compliant</li> <li>• 41% litter reduction</li> </ul>	Less than 5% out of compliance; 6 businesses fined
<b>Composting Program</b>	<ul style="list-style-type: none"> <li>• 2008 commercial food composting</li> <li>• 2011 weekly residential food scrap with yard debris</li> </ul>	2003/2004 residential/commercial composting program	<ul style="list-style-type: none"> <li>• 2005 vegetative food curbside composting</li> <li>• April 2009 all food composting residential/commercial</li> </ul>
<b>Economic hardship exemption</b>	One year period exemption, upon showing that the condition of this Code would cause undue hardship.	Applicant must demonstrate that the product that they choose to replace be at least 15% higher than any biodegradable/compostable or recyclable item; exemption valid for 1 year period.	There are no economic hardship exemptions. However, it is part of the ordinance to work with small businesses.

## **Portland, OR**

### **“Polystyrene Foam Container Ban”**

#### **Ordinance 161573**

**Passed: January 25, 1989; Effective January 1, 1990**

Portland, Oregon’s passage of a polystyrene food-ware ban was an exceptional case, not only because it was one of the first in the nation but also because they proved that a local municipality could go up against a large fast food chain in court and succeed. According to the City of Portland, the ban was immediately met with a lawsuit by the McDonalds Corporation. The company subsequently lost the case, but the challenge provided ample publicity for the program and public support. Following the loss, McDonalds moved away from EPS clamshells at all of their stores nationwide (Herrera Environmental Consultants Inc, 2008 January). The Portland City Council first became involved with the polystyrene foam issue in July, 1988, when it unanimously approved an ordinance imposing an immediate ban on city purchase of any polystyrene foam products manufactured with CFC's (chlorofluorocarbons) and any foam products of a readily disposable nature (Romero, 2012 March 8). Ordinance 161061, dated July 21, 1988, also established a ban on City purchases of polystyrene foam products. Passage of Portland’s “Polystyrene foam container ban” ordinance passed on January 25, 1989 and was effective almost a year later (January 1, 1990) for approximately 1,000+ food establishments. (Walker, 2011 April 5). As of January 1, 1990, restaurants, grocery stores and other retail vendors have been prohibited from using polystyrene foam (PSF) containers for prepared food within the City’s jurisdiction. The ban also applies to vendors who renew a lease or initially lease city space and activities that require a city permit (Portland Ordinance no. 161573). This action came in response to growing concerns about disposable, non-biodegradable food and beverage

containers contributing to litter. There is also the potential hazard that broken pieces of foam can be ingested by wildlife. The lack of recycling programs available in the area for polystyrene foam containers was also another concern (Appendix B “No foam brochure”).

As Portland was one of the first cities in the nation to ban EPS food ware citywide, they were paving the way for other jurisdictions to follow suit. According to city staff, Portland did not base their ordinance on any studies or conduct any type of environment review; though they have noted that a definite change in litter has been noted, and that city policies were investigated and verified that the ordinance would not conflict with existing state and city regulations (Walker, 2011 April 5). The city had also included the option of a hardship exemption to extend to businesses that found it difficult to comply. “The City Council, or its appointee, may exempt a food vendor, food packager or non-profit food provider from the requirements of this Code for a one year period, upon showing by the applicant that the condition of this Code would cause undue hardship” (Portland Ordinance 161573). The ordinance regulating the use of EPS food ware affects all food vendors within the city’s jurisdiction that includes approximately 1,000+ establishments (Walker, 2011 April 5). The following may not be packaged in/on PSF:

- Bakery products baked, assembled, packaged or prepackaged in the store
- Deli items dispensed from a larger container to a smaller container for the customer
- Deli items assembled in the store
- Meats that have been cooked, smoked, sliced or otherwise prepared or served in the store
- Cheese sliced in the store
- Fruits or vegetables washed, cooked, cut, squeezed or otherwise prepared in the store
- Dried fruits and vegetables packaged in the store
- Frozen yogurt or ice cream dispensed into containers for the customer at the store
- Coffee, tea, soft drinks or other ready-to-drink beverages served at the store
- Sample "tasting" foods prepared and served in the store  
(City of Portland website, 2007)

Exemptions to products that were not regulated included items that were not specific to food or that were packaged outside city lines that include packaging materials, florist supplies and construction materials. The following may be packaged in/on PSF:

- Bakery goods that have been prepackaged outside of the store
- Deli items that have been prepackaged outside of the store
- Raw eggs
- Ready to cook items
- Raw meat, including fish and seafood regardless of preparation in the store
- Uncooked or instant foods
- Fruits and vegetables that are delivered to the store already in the PSF package
- Meats smoked, cooked or otherwise prepared and packaged outside of the store, not repackaged in the store
- Unprepared fresh fruits and vegetables packaged in store for sale in units
- Beverages packaged outside of the store

(City of Portland website, 2007)

The City of Portland's outreach strategy was basic and concise compared to more comprehensive recent efforts by several municipalities to regulate food ware. Resolution 34448 appointed a task force to recommend policies, program and ordinances prohibiting the use and sale of particular polystyrene foam products in the City. The task force was instructed to consider the following aspects in their recommendations: public education and promotion; alternative product recycling/energy conversion; financial assistance and; alternative products research (Portland ordinance 161573). The task force reviewed possible actions regarding polystyrene foam for three months. The task force's recommendations were later amended by the City Council to enact the ban on foam food containers (Romero, 2012 March 8). According to city staff, no external partners were established; they were mainly addressed at the City Council level. Walker stated (2011 April 5 interview) that establishments were already changing their practices prior to the ordinance, to uphold an image with their customers. The outreach material from city staff included two handouts (included in Appendix B); one on the background of the

ordinance “Ban Explanation” as well as a flyer explaining the banned food ware (PSF) citywide “No Foam Brochure” both only available in English. The City’s Sustainable Development Department also has a web page that details the product ban with the City’s contact information for their waste program. Portland’s enforcement on the food ware ordinance is complaint based. According to city staff, when they receive complaints their staff begins their investigation; generally they can reach compliance just by educating the establishment of the offense as well as a follow-up site visit. Most complaints are regarding new food carts, restaurants and grocery stores that are new to the area and are not familiar with the ordinance. Their enforcement staff conducts a follow-up site visit with a formal letter citing the Polystyrene Ban ordinance and informs of fines that could be imposed as well as providing material on the ordinance. A re-inspection date is also set approximately twenty days after the date of the initial letter (Romero, 2012 March 8).

After the passage of Portland’s food ware ordinance, there were evident lessons to be learned. According to city staff, alternative products were still found in the landfill; it is important to have a plan to manage alternative food products, by recycling or composting. Walker stated (2011 April 5 interview) “Be sure to establish a method of disposing of the compostable/biodegradable waste”. The city did not have an all inclusive composting program in place during the passage of the ordinance in response to the alternative compostable/biodegradable products. When asked about the City’s composting program city staff mentions that it has had residential yard debris composting since 1992. Some businesses have been voluntarily composting food scraps for a number of years, “In 2008 the Portland Recycles Plan set forth requirements for food composting by the largest food-producing businesses (commercial food compost program).” Recently in 2011 the City started weekly



collection for residential food scrap with yard debris (Romero, 2012 March 8). The City of Portland and County of Multnomah (Oregon) also agreed to a joint effort to enforce their food ware ordinances, since both the jurisdictions passed a food ware ordinance during the same period. Multnomah County passed ordinance no. 614 (adopted April 6, 1989) concerning polystyrene foam food containers within the limits of unincorporated Multnomah County. The City of Portland and County of Multnomah (Oregon) agreed to share their resources and avoid duplication to provide for joint efforts in the enforcement of City and County regulations concerning polystyrene foam products as of April 26, 1990 (Ordinance 163000).

## **San Francisco, CA**

### **“Food service waste reduction ordinance”**

#### **Ordinance 295-06**

**Passage: November 21, 2006; Effective: June 1, 2007**

San Francisco is a known progressive city in California that has taken the initiative in many social and environmental issues, including product bans that are important environmental and public safety concerns. According to city staff, The City had little resistance from the community because many food vendors had already switched from EPS. The ordinance passed on November 21, 2006 and went into effect six months later (June 1, 2007) affecting approximately 4,500 food establishments (Dmitriew, 2011, March 22). The City conducted litter audits of city streets and sidewalks in 2007, 2008 and 2009. The studies showed that there was a 41% decrease in polystyrene litter over the three year period after passage of the ordinance (Dmitriew, 2011 March 22). The statistics of these studies have been repeatedly cited as support for local polystyrene food ware bans as well as evidence to the success of San Francisco’s food service ordinance. San Francisco not only prohibits the use of EPS containers but also regulates disposable food ware in general, specifying what types of alternatives may be used in place, the ordinance states:

Prohibits the use of polystyrene foam disposable food service ware and require the use of biodegradable/compostable or recycle disposable food service ware by restaurants, retail food vendors, City departments and the City’s contractors and leases unless there is no affordable alternative (San Francisco Ordinance 295-06).

The aim of this ordinance is waste reduction; the goal is to have zero waste by 2020. According to the City’s ordinance the purpose of the regulation is to protect the public health and safety of

city residents, and the city's natural environment, waterways, and wildlife (San Francisco Ordinance 295-06).

San Francisco's food service ordinance is much more restrictive and detailed as compared to Portland's ordinance of 1990, reflecting the need to be more explicit on regulations to ensure compliance and prevent confusion. As Portland only restricted the use of EPS food ware, San Francisco went further to specify that alternative products had to be compostable/biodegradable or recyclable. The product ban extends to the following food ware items: containers, bowls, plates, trays, cartons, cups, lids, straws, forks, spoons, knives, napkins, and any item designed for one-time use for prepared foods, such as takeout and/or leftovers. Products that are not acceptable include plastic wrap and EPS or foam products. Exempted products include aluminum products, polystyrene foam coolers and ice chest intended for reuse. San Francisco includes an economic hardship waiver that establishments can apply for as recourse if they are having difficulty complying with the ordinance, which can be waived for up to a year. According to the ordinance, if a suitable "affordable" biodegradable/compostable or recyclable product is not available the City Administrator will make the final decision. "They [the business] have to demonstrate that the product that they choose to replace be at least 15% higher than any compostable/recyclable alternative" (San Francisco Ordinance 295-06). There is no cost exemption for EPS; foam products are not permitted even under the "undue hardship" provision (Dmitriew, 2011, March 22). According to city staff, the City interpreted the ordinance as CEQA exempt, as a result there was no environment impact report completed and legal issues have not come up (Dmitriew, 2011 March 22). According to city staff San Francisco is also unique as a dual city/county, "it is pretty easy to streamline here, [we do] not need a year study

as much as other municipalities” (Dmitriew, 2012 March 16). It was noted that San Francisco briefly observed the city of Berkeley and Oakland’s food ware ordinance as reference.

San Francisco’s outreach efforts were quite impressive, targeting specific neighborhoods as well as visiting all affected establishments. As the City prepared for their food service ware ordinance (beginning in 2006) it conducted an impressive outreach campaign before and after the passage of their ordinance; considering there was little resistance from the community as many food vendors had already made the switch to alternative products. The success of the outreach campaign can be contributed to the working partnerships with many stakeholders including neighborhood associations, volunteers, retailers (including Restaurant Depot) as well as Golden Gate Restaurant Association. Efforts not only comprised of letters and notice put out through popular channels such as newspapers, but also direct contact with all affected establishments. Outreach started three to four months before the passage of the ordinance that included six meetings held at various neighborhoods with the assistance of neighborhood associations. Outreach after the passage of the ordinance included visits to retailers such as Restaurant Depot, where the City staffed outreach tables to educate owners of food establishments on the ordinance. It took an impressive four years to conduct site visits to all 4,000+ affected businesses to inform them of the new ordinance as well as educate about the City’s composting program in hopes of encouraging enrollment. Outreach material is available in various languages that include English, Chinese and Spanish. The material includes four handouts (included in Appendix C): “Frequently asked questions (FAQs) on the Food Service Waste Reduction Ordinance”; “Accepted Compostable or Recyclable Food Service Ware in San Francisco”; “Vendors of Compostable or Recyclable Food Service Ware and Bags”; and “Rules and regulations on food ware”. According to city staff, to ensure compliance with the ordinance San

Francisco's residential and commercial compost program was well underway before the ordinance since 2003-2004 (Dmitriew, 2012 March 16). San Francisco offers participants in the food scrap and compostable collection program discounts of up to 75 percent off their garbage service costs (SF Environment Department, 2008 June). The composting program was not only a selling point because it encouraged the use of compostable items, but it was a cost savings to businesses because a significant volume of trash that they would have had to pay to dispose of was being diverted from landfill to the composting program (Dmitriew, 2012 March 16).

After the passage of the food service ordinance city staff learned what strategies were and were not effective. According to city staff, the language in the ordinance created some confusion regarding the hardship exemption because it was wordy and complex. The definition for affordable was unclear, "affordable means purchasable for not more than 15% more than the purchase cost of the non-biodegradable/compostable or non-recyclable alternatives" (San Francisco Ordinance 295-06). Businesses have to demonstrate that the product that they chose to replace cost at least 15% more than any compostable/ recyclable item. City staff worked with many businesses to help them comply with the new ordinance. According to city staff, two out of the 4,500 businesses actually applied for hardship exemption and the issue for both was access inventory as city staff helped them resolve that issue (Dmitriew, 2012 March 16). Site inspections to 4200 restaurants have been inspected since the ordinance was passed; 150 citations and 400-500 warning letters were given (Dmitriew, 2011 March 22). According to city staff, the rate of compliance has been getting progressively better; it was about 80 percent the first year and is currently about 98 percent. Some outreach efforts were more successful than others. Informational tables held at certain retailers were not as successful as others. According to city staff, the atmosphere at Costco was too hectic with a minimal presence of restaurant

owners to converse with. On the other hand tables at Restaurant Depot were very successful because it gave staff opportunity to communicate to owners of food vendors in an intimate setting. The City also worked with their hauler when it noticed the ordinance was too restrictive, later allowing for any recycled items that the hauler accepted. According to city staff, initially the City only accepted recyclable items marked numbers two, four and five; after passage of the ordinance the City worked with their hauler to see what they would permit and extended plastic recycles to allow for numbers one and six (rigid plastic only, no foam) as well. San Francisco was also very innovative in their use of volunteers for their extensive outreach efforts to all affected 4,000+ businesses (Dmitriew, 2012 March 16).

## **Seattle, WA**

### **“Food service ware ordinance”**

**Ordinance # 122751**

**Passage: July 30, 2008**

**Effective: 1<sup>st</sup> phase- January 1, 2009; 2<sup>nd</sup> phase- July 1, 2010**

The City of Seattle’s food service ware ordinance is one of the most recent cases, taking lessons from prior ordinances by being explicit in the requirements of its ordinance as well as being responsive to the community and market for alternative food ware. Following Seattle City Council direction under Resolution 30990, Seattle Public Utilities (SPU) was tasked to study the environmental impact of EPS, and consider a ban on its use because of its presence in land and marine litter, and persistence in the environment. SPU hired Herrera Environmental Consultants to study EPS and the general problem of disposable plastic containers, plates, cups and the like in food service business. The extensive study published in January 2008 dealt with both foam food containers and single use plastic shopping bags. Originally the ordinance was addressing both plastic bags and polystyrene; however, based on the results from the preliminary study and a “referendum funded by the plastics industry”, the plastic bag portion was not implemented (Lilly, 2012 June 29). The goal of the ordinance is toward litter reduction; due to the financial cost of disposing of EPS. Litter reduction is part of the City’s green house gas reduction goal, as well as to use compostable food containers. This policy reinforces the City’s programs for reaching its 60 percent recycling goal by increasing the emphasis on food composting. (SPU, 2008 June 16) According to a Washington State litter study conducted in 2004, single use take-out food containers made up 1.6 percent of the total litter collected, and plastic single use take-out food containers made up of 0.9 percent. The current annual costs of disposable food service

items to the City for collection, recycling, disposal and litter cleanup is about \$620,000 (SPU, 2008 June 16). The city's food service ware ordinance is implemented in two phases, affecting all 4,000 food establishments.

The City of Seattle chose to implement their ordinance in two phases, in order to be responsive to the community as well as the market for alternative food ware. The ordinance affects all full-service restaurants, fast food restaurants, cafes, delicatessens, coffee shops, grocery stores, vending trucks or carts, business or institutional cafeterias, and other businesses selling or providing food within the city. The ordinance is separated into two phases; the City first banned EPS food service ware; then eighteen months later all single use food service ware had to be compostable or recyclable. Phase one of the ordinance applied only to expanded polystyrene, banning EPS food ware effective January 1, 2009. Phase two of the ordinance applies to all single use food packaging and service ware requiring compostable or recyclable products (effective July 1, 2010). Product bans affect: food containers, plates, clamshells, hot and cold beverage cups, meat and vegetable trays, egg cartons, utensils, and any item made from polystyrene. Exempted products from the ordinance include: prepackaged foods in expanded polystyrene that "have been filled and sealed prior to receipt by the food service businesses." There is also a temporary exemption (effective June 19, 2010) in place for utensils, straws, small portion cups, foil faced insulated wrap, and cocktail sticks until July 1, 2012 (Seattle ordinance 123307). According to city staff the City decided not to include an economic/undue hardship exemption in the ordinance; however, it is part of the ordinance to work with small businesses. City staff also did not observe any establishments going out of business due to the food service ware ordinance (Lilly, 2011 March 23).



The success of Seattle's extensive outreach effort can be contributed to working with stakeholder groups, as well as outside assistance from hired consultants. The city's comprehensive outreach program includes quarterly stakeholder meetings and events with foodservice businesses, waste service providers, and food packaging manufacturers, and a print, television, radio, and social media campaign in addition to direct targeted outreach. According to city staff, stakeholder groups were created after the passage of the ordinance that included neighborhood associations, all types of food establishments, The Seattle Chapter Restaurant Association, and current suppliers of food ware (Lilly, 2011 March 23). The City had stakeholders submit reports on the prices, performance, and availability of alternative products; in return, the City helped develop an approach to bring the prices down and increase availability of the alternative products (SPU, 2008 June 16). Resource Venture is the outreach consultant Seattle hired for its food ware policy; it acts as the City's interface with businesses for all their resources on conservation programs including solid waste and water conservation. Resource Venture conducts on-site outreach, which include visits to restaurants and stores to educate them on cost savings programs. These outreach personnel visit businesses affected by the ban to help them transition to alternative take-out containers and to ensure that the takeout food container system they transition to reduces land-filled waste (Cascadia Consulting Group, 2011 April 26). City staff also attended at least two trade shows every year in Seattle to interact with the distributors of alternative products. The City included four handouts available in multiple languages to ensure compliance. Outreach material is also available in various languages that include: English, Amharic, Cambodian, Chinese, Korean, Laotian, Oromo, and Russian. Outreach handouts include (in Appendix D): "Food Packaging Requirements and Resource Flyer"; "Site Checklist"; "Food Compostable letter"; and "Foam Ban Flyer". A Seattle public

opinions survey was also conducted in 2007 regarding the matter of disposable food ware and plastic bags to gauge public opinion (SPU, 2007 December).

The city of Seattle took steps to ensure the success of both phases of the ordinance which included managing the waste stream of the materials that were mandated by the ordinance (compostable and recyclable food ware products). City staff anticipated the second phase of the ordinance and worked with waste haulers to ensure success by accepting more materials for recycling. The City signed a new collection contract that went into effect three months after the first phase of the ordinance on EPS, in which the haulers would now accept all plastic and coated paper for recycling as well as extending the composting program. Initially the city's composting program was also very limited and would not be able to manage the anticipated waste stream from the second phase of the ordinance that included compostable/biodegradable items. The City initially had a yard waste composting program in place in 1989 and afterward added vegetative food curbside composting in 2005. Later in April of 2009 (three months after first phase) the City's haulers accepted all food composting for commercial and residential. The City has successfully been able to sign over 1,000 businesses up for their composting program, where businesses not only are able to divert much of their food waste from landfill but also have access to the potential of lots of cost savings (Lilly, 2012 April 4). The City had an advantage that the new curbside contract with haulers was willing to take items that were not accepted prior and enabled the City to better implement the second phase of the ordinance. Enforcement is also a key component of ensuring compliance of any ordinance. Seattle's enforcement measures include hiring inspectors;

who both randomly and on a complaint basis will check stores and restaurants for compliance and assist the division of Licenses and Consumer Affairs (LCA) with follow up where businesses fail to collect or remit the required amount to the City (SPU, 2008 April 2).

According to city staff less than five percent of businesses are out of compliance; only six establishments have been fined (Lilly, 2011 March 23).

## *Analysis*

All three cities reflect different strategies on the prohibition of expanded polystyrene food ware. The City of Portland was one of the nation's first municipalities to pass an ordinance regulating food ware. Portland's ordinance reflects a growing environmental movement as well as some lessons to be learned. Their outreach effort was short and concise; conducted by a task force for the duration of three months. Outreach material is not offered in any language other than English and there is no list of vendors that offer alternative products available. As a recourse food establishment may apply for an economic hardship exemption (up to one year) if they are having difficulty with compliance. The case of San Francisco's food service ordinance is quite a contrast from Portland's efforts in the 1990s; reflecting the need to be more responsive to the community to ensure compliance. While Portland's ordinance was fairly vague only regulating EPS food ware, San Francisco's ordinance is more extensive not only restricting the use of foam products but also specifying what products are acceptable. San Francisco's economic hardship exemption is also more restrictive on the terms that applicants may apply for the exemption. The success of San Francisco's outreach effort can be contributed to the working relationship with partners/stakeholders to ensure a diverse and comprehensive campaign. Not only did the outreach campaign include common notices by mail and media, but also direct contact with food vendors at community meetings held at various targeted neighborhoods as well as site visits to all 4,000+ establishments over the course of four years with the assistance of volunteers. The presence of a composting program in place before the passage of the ordinance was another great means for encouraging compliance and establishing a method to manage compostable products. Seattle's efforts emphasize a very important element for the success of any ordinance, by being responsive to the community as well as the market for

available products that will be mandated in an ordinance (second phase). Taking precautions to encourage compliance by making the transition to compliance for businesses as easy as possible was the key to the success of Seattle's ordinance. The City's efforts to be responsive to the community were reflected by its extensive outreach effort. Not only did the city include outreach material available in several languages explaining the ordinance and list of locations to purchase alternative products, but also hired outside consultants to address the needs of affected businesses. Stakeholder groups were organized and public opinion surveys were also conducted to determine the thoughts of the community. The City phased in the ordinance in two phases, initially banning EPS and later mandating the use of compostable and recyclable food service ware. The City even went as far as to put in a temporary ban for products that it noticed would not be available by the time of the ordinance to ensure compliance. According to city staff, there were successful strategies that were implemented that included responding to waste management issues prior to the ordinance's effective date; it is important to establish where alternative waste is going to be placed when creating an ordinance. In 2010, Seattle had to add a section to the ordinance setting aside bins specifically for compostable items. It was also an innovative concept to ask that haulers be part of stakeholder group (Lilly, 2011 March 23). Seattle went one step further than San Francisco's efforts by not only separating the ordinance into two phases, but also hiring outside consultants to assist in the outreach effort, to be more responsive to affected businesses. The extent of how significant the impact resulting from a citywide ban on EPS food ware depends on many factors, including the extent to which alternative food ware can be utilized, support of the community, as well as the cost differential between EPS and alternative products.

## ***Recommendations***

Several factors contribute to the success of a municipality's polystyrene food ware ban ordinance. Looking back at the efforts of Portland, San Francisco, and Seattle, San José can learn a lot of what has and has not worked to ensure the success of a food ware policy. There is a lot to consider when implementing a product ban, to ensure success. Implementing an EPS food ware ban in stages may offer the needed transition time for small local businesses to adjust. In 2009, the Recycling and Waste Reduction Commission (RWRC) of Santa Clara County directed staff to report back with policy recommendations for decreasing the amount of EPS foam food and beverage containers in the county. The County recommends cities in Santa Clara County to adopt EPS food ware bans in the following stages: 1) education and outreach- engages in discussions with the public and stakeholders at some level; 2) adopt a policy banning polystyrene foam at all City/County facilities and/or City/County-hosted events; 3) ban EPS foam food and beverage containers at all food vendors within the jurisdiction; 4) City/Countywide Ordinance requiring that all food vendors within the jurisdiction use only containers that are accepted and processed through the City's/County's landfill diversion program (County of Santa Clara, 2011 June 27). San José should follow Santa Clara County's recommendations to implement a food ware ordinance in stages to ensure enough time for businesses to anticipate and adjust to the ordinance. Not only is education and outreach to the community important, but setting an example to the community by banning EPS at city facilities also indicates a commitment. Portland chose only to ban EPS food ware products and not mandate any types of food ware. While San Francisco's ordinance banned EPS and mandated certain products, it implemented the ordinance in one phase. Seattle chose to implement its food ware policy in two phases, by banning EPS initially and mandating certain products later. Not only is the implementation of an

ordinance important, but the research/studies, and planning of the outreach effort can be just as or more significant.

To alleviate concerns from the community background research and studies should be conducted as an indication that an investigation has been performed (due diligence) to justify a prohibition on any product. The cities of San Francisco and Seattle conducted litter assessments to justify their food ware ordinances. San Francisco also conducted several annual litter assessments after passage of their ordinance and results showed a clear reduction in EPS litter, indicating a successful ordinance. San José should perform litter assessments before and after passage of ordinance to have comparable results, as well as to justify prohibition of EPS food ware. According to the Bureau of Labor Statistics, “food preparation and serving related” employment in San José makes up 7.4% of the total population.” The proportion of take-out food packaging costs relative to total operating costs is generally considered to be 1-4% (City of San José, 2011 November 17). Given the packaging costs differentials and volume of businesses potentially affected, the impact of a ban could be significant to businesses. A Los Angeles County study (2011 November) found that there is limited information regarding the potential financial impacts on businesses in regards to a food ware policy. With the lack of data, San José should consider conducting an economic report on the economic implications of such a food ware policy. San José would also have to determine what level of review is necessary for compliance with CEQA, if any. The city of Seattle decided to commission an environmental study on the implications of a bag and EPS food ware ban. According to a Los Angeles County study (2011 November), many jurisdictions have adopted local ordinances without legal challenges. San José may consider conducting at least a negative declaration (initial study, rather than a full EIR) in anticipation of possible legal challenges that may come up from industry

groups (Monahan et al, 1997). San José should also carefully consider the impact on smaller local businesses that may be struggling in a down economy, because of the increased costs of alternative products to EPS. Since small businesses may have limited access to bulk suppliers, a purchasing co-op could help small businesses purchase alternative products in bulk. For instance Green Town Los Altos, a grassroots environmental group in the City of Los Altos, has established a co-op through which businesses that purchase alternatives from a certain supplier receive a 25-percent discount on their purchase (Cascadia Consulting group 2011). Encouraging businesses to enroll in a food ware co-op or managing one would be a significant help to smaller businesses that may have a more difficult time with compliance. According to a study conducted by Cascadia Consulting (2011 April), it is important to include an economic undue hardship exemption clause for businesses, as a recourse for businesses that are having a difficult time complying. The language of the exemption clause should be kept general in order to be responsive to affected businesses (especially smaller establishment), also indicating the length of time (up to one year). The language in Portland's hardship clause was general, in order to be responsive to business by allowing the authority (City Manager) more flexibility. On the other hand, San Francisco's hardship clause is more restrictive, prescribing what businesses must prove to apply for the waiver. Contact with stakeholders on an outreach effort is also critical to the success of any campaign.

The success of a product ban depends on working with the community as a whole, from the waste haulers (MRFs), businesses affected as well as consumers/residents. San José should carefully plan an extensive outreach plan similar to San Francisco and Seattle's to include several stakeholders, such as establishments that will be affected, MRFs, residents/consumer and vendors of alternative food ware. Inviting vendors (of alternative food ware products) to



community meetings will be an effective method to introduce food establishments to the products as well as the businesses that supply the products which will be mandated by the ordinance. Conducting outreach at various locations (other than City Hall), such as at various neighborhoods, retail stores and trade shows (selling food ware) will make the outreach effort that much more comprehensive. This method proved successful with San Francisco and Seattle, because city staff visited locations that food establishments and vendors of food ware already congregate, making it easy to communicate and inform (outreach) in a casual setting regarding the ordinance. To ensure compliance outreach materials should be provided in multiple languages to be responsive to all affected businesses, especially smaller ethnic businesses that may need more assistance. Various handouts (refer to Appendix B, C and D) should include a fact sheet, acceptable food ware list, and list of vendors that provide acceptable food service ware. San Francisco and Seattle provided adequate handouts and materials to its diverse community to ensure compliance, while Portland only provided a fact sheet only available in English. San José should conduct direct outreach to all affected businesses to ensure compliance. San Francisco (with assistance of volunteers) and Seattle (with assistance of consultants) conducted outreach to all affected food establishments with direct visits to all locations to educate them on their ordinances and ensure compliance. Ensuring that the appropriate infrastructure is needed before implementing a policy is an important component of a successful product ban. Contact with MRFs to understand what is acceptable in the waste diversion program (recycling) and whether certain items will be “compostable” is subjective to every hauler. According to a study by Cascadia Consulting (2011 April), the success of a ban is affected by the availability of alternative products as well as the needed infrastructure for processing alternative materials of EPS. According to Snavely (2007), the best way to offset the

higher cost of alternative food ware is to improve efficiency and reduce waste overall. This often includes improving recycling programs and integrating a composting system to ensure proper disposal of these products. Even when products are considered recyclable or compostable, municipalities and businesses should confirm whether they are accepted by available collection programs (MRFs). The terms compostable and recyclable are subjective, because it depends on whether local haulers accept the products; whether they are labeled (#1-7) has little meaning if the product is only to be deposited in the landfill and is not recovered. Seattle contacted its haulers prior to the passage of their ordinance to ensure compliance, by signing a new contract where the haulers would accept more products in their waste diversion program (recycling or composting) compared to what they had accepted prior. San Francisco waited till after the passage of their ordinance to consult with its hauler on what types of products would be accepted. San Francisco noticed (after passage of the ordinance) that its ordinance was too restrictive on regulating what products would be acceptable, as a response staff consulted haulers on what products could be accepted in their waste diversion program. San José should take a proactive approach as did Seattle and contact haulers (prior to passage of an ordinance) to understand what products would be acceptable in their waste diversion programs. Considering offering financial incentives for businesses to enroll in a composting program would also encourage compliance and use of biodegradable/composting products. The cities of Seattle and San Francisco had composting programs in place before biodegradable/recyclable products were mandated in their ordinances, while Portland waited till after. If the city of San José decides to implement an expanded polystyrene food ware ban, it should offer food scrap and food-soiled container composting for both businesses and residents so that compostable products are properly recovered and not deposited in the landfill. Education and outreach with businesses as

well as the community at large is a key component of achieving success and compliance on a product ban. To ensure compliance it is important to provide staff/inspectors to enforce the ordinance, in addition to including a method for residents/customers to file a complaint against non compliant businesses. All three cities provided inspectors to enforce the ordinance, as well as information for customers/residents to send in complaints. Many ordinances are also complaint based, so it is equally important to educate the public about the ordinance to ensure compliance. Online forms or hotlines should be provided to allow customers/residents to call in complaints about non compliant businesses.

### ***Conclusion***

Local governments have shouldered the burden of toxic chemicals released into the environment through the substantial costs of health care, environmental cleanup, and infrastructure to manage drinking and waste water, as well as to manage solid waste. Cities can no longer afford to wait for federal regulation to prevent toxic chemicals from appearing in products used locally. The Precautionary Principle Policy (adopted by San Francisco and other cities) calls on municipalities to act on early warning signs of harm and to use the best available science to identify safer alternatives. “A wide array of policy tools have been utilized including financial incentives through procurement contracts, certification and promotion of safer business practices, requirements for information disclosure, and bans and restrictions on the sale of products when safer alternatives are readily available” (Raphael and Greiger, 2011). According to Raphael and Greiger (2011), these policies can often become the models for regional, state, and national change. The government’s duty is to protect the health and well being of its residents, by protecting its people from harm (i.e. precautionary principle). Polystyrene as litter negatively contributes to our water ways and marine life, as well as to our diminishing landfills as a

persistent non-biodegradable substance. Polystyrene is a known carcinogen; not only are consumers of the product exposed to the harmful products when they leach toxins in their food, but workers who manufacture the products are also exposed to the dangerous chemicals used to produce the products. The main reason that is cited against a food ware policy include additional cost to businesses, sounding like a concession to business at the expense of the health of the community; considering the minor costs that businesses would have to incur compared to the harm that EPS can potentially cause its residents, workers, the marine life and water ways. According to Herrera (2008 Vol. 2, Appendix H) and Cascadia Consultings' (2011 April) public opinion surveys, many residents/consumers have shared their concern over these dangerous products and typically favor alternative environmentally friendly products that will not impact the environment as well as to their health. To date, 53 California local governments have passed bans on EPS food ware in some fashion; 43 of these local ordinances apply to retail food vendors in their jurisdiction. As more and more local governments pass polystyrene food ware bans the demand for alternative food packaging has increased and as a response vendors are filling that need for eco-friendly food packaging (Cascadia Consulting. 2011 April). Since the State of California is unable to enact a statewide ban (SB568) or legislation to ensure producers take responsibility for their products (extended producer responsibility), local municipalities must take the lead to ensure the health and well-being of its residents.

## ***Glossary***

Bagasse: is biodegradable and compostable disposable tableware that is made from sugarcane fiber leftover after juice extraction

Biodegradable: a material that can degrade outside of specific composting conditions, but that still requires the enzymatic action of microorganisms to mineralize

Compostable: a material that can achieve total mineralization (degrade) under specific composting conditions involving the coordinated action of microorganisms

Crystalline polystyrene/rigid plastic (#6) are clear petroleum-based products.

General-purpose polystyrene (GPPS) is a clear, hard, usually colorless thermoplastic resin

Polylactic acid (PLA): a biodegradable and recyclable commercial-grade plastic resin which is produced by fermenting and distilling corn sugar

Polyethylene (PET) Terephthalate: a thermoplastic material used to manufacture plastic soft drink containers and rigid containers, can be re-used or recycled

Polystyrene: a plastic polymer used to make a variety of products including plastic cutlery and food containers; it is often used in its foamed state, expanded polystyrene (EPS)

Polypropylene (PP) a plastic polymer that has good resistance to heat is used in flexible and rigid packaging, film, and textiles

(Cascadia Consulting Group, 2011 April 26)

Non-biodegradable Coated Paper Products: paper products coated with a non-biodegradable petroleum-based liner (PET or PP).

Paper Products/ Paperboard: paper products are made from tree fibers (virgin or recycled), can be lined with biodegradable or oil based liner.

Reusable Products: reusable products include glass, ceramic, wood, metal, hard plastic, stoneware, or other durable products designed to be reused.

Recyclable Products: single-use products made entirely from plastic, aluminum tin, and other materials that can be readily recycled; this includes non-foamed polystyrene products.

(County of Los Angeles, 2008 October)

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[http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab\\_2101-2150/ab\\_2138\\_bill\\_20100414\\_amended\\_asm\\_v97.pdf](http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_2101-2150/ab_2138_bill_20100414_amended_asm_v97.pdf)

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## APPENDIX A: OF ALTERNATIVES PRODUCTS

Table 1: types of alternatives  
(County of Los Angeles, 2008 October)

	Product Category	Average Cost/Item	Visual
Reusable	Durable Goods (Reusable)	Various	
Recyclable Products	Recyclable Products	\$0.05 - \$0.10	
Biodegradable	Biodegradable polymers, including Bagasse and Polylactic Acid (PLA)*	\$0.05	
		\$0.25	
		\$0.12	
		\$0.20	
	Paper	\$0.06	
Other	Coated Paper Products (cups with non-biodegradable petroleum based coating look the same but cost less, about \$0.08)	\$0.05 - \$0.10	

\* Defined on page 26.

- In comparison to EPS food containers, comparable alternative products may be significantly more expensive to purchase, depending on the nature of the

Table 2: Symbols used to identify types of recyclable materials.  
(County of Los Angeles, 2008 October)








Symbol	Acronym	Full name and uses
	PET	Polyethylene terephthalate - Fizzy drink bottles and frozen ready meal packages.
	HDPE	High-density polyethylene - Milk and washing-up liquid bottles
	PVC	Polyvinyl chloride - Food trays, cling film, bottles for squash, mineral water and shampoo.
	LDPE	Low density polyethylene - Carrier bags and bin liners.
	PP	Polypropylene - Margarine tubs, microwaveable meal trays.
	PS	Polystyrene - Yoghurt pots, foam meat or fish trays, hamburger boxes and egg cartons, vending cups, plastic cutlery, protective packaging for electronic goods and toys.
	Other	Any other plastics that do not fall into any of the above categories. For example melamine, often used in plastic plates and cups.

Table 3: Environmental Properties of food-ware  
(County of Los Angeles, 2008 October)

PRODUCT TYPE	ENVIRONMENTAL PROPERTIES			
	RENEWABLE	COMPOSTABLE OR BIODEGRADES IN NATURAL ENVIRONMENT	RECYCLABLE	TENDENCY TO BECOME LITTER
Reusable	Varies	N/A	Varies	Unlikely
Polylactic Acid (PLA)	Yes	Yes	No	Somewhat
Other Compostable Polymers	Yes	Yes	No	Somewhat
Paper	Yes	Yes	Yes, but challenging	Somewhat
Coated Paper (petroleum-based coating)	No	No	No	Somewhat
Plastic #1&2	No	No	Yes	Somewhat
Plastic #3-7 (incl. non-EPS #6)	No	No	Yes, but challenging	Somewhat
EPS	No	No	Yes, under limited circumstances	Highly

Product Types

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Table 4: Cost comparison of food-ware  
(Cascadia Consulting Group, 2011 April 26)

	Cups	Plates	Clamshell
Compostable			
	Corn-Based Cold Cup	9" Biodegradable Plate	8" Compostable Hinged Clamshell (PLA)
	\$0.13	\$0.15	\$0.72
Recyclable			
	Plastic Cold Drink Cups	8 1/2" Paper Plate	Easy-Lock
	\$0.11	\$0.06	\$0.25
Expanded Polystyrene			
	Insulated Foam Cups	9" Foam Plate	Foam Container
	\$0.04	\$0.05	\$0.11

Source: Stephanie Terrell, Cascadia Consulting Group.



Table 5: Characteristics of food-ware  
(Cascadia Consulting Group, 2011 April 26)

Material Type	Heat Tolerance	Sterile	Compostable or Recyclable	Microwave and Freezer Safe
Bagasse	Up to 200 degrees Fahrenheit; moisture forms at the bottom of the container for hot items. (World Centric )	Sterile according to US FDA guidelines (World Centric )	Compostable (World Centric )	Both freezer and microwave safe (World Centric)

Material Type	Heat Tolerance	Sterile	Compostable or Recyclable	Microwave and Freezer Safe
Bioplastics (PLA)	Dependent on resin but can generally hold food up to 200 degrees Fahrenheit (World Centric )	Yes, approved for use in containers in contact with food by the FDA (Chemistry Research and Environmental Review, 2001)	Compostable (World Centric )	Freezer safe; not microwave safe (World Centric )
Paper-based (paperboard, etc.)	Up to 200 degrees Fahrenheit. (Moisture may form at bottom of the container for hot items.) (World Centric )	Sterile according to US FDA guidelines. (World Centric )	Compostable. (World Centric )	Both freezer and microwave safe (World Centric )
Crystalline Polystyrene	For cold service only	Approved as sterile by the FDA.	Recyclable if food contamination is minimal	Freezer safe; not microwave safe.
Expanded Polystyrene	Up to 216 degrees Fahrenheit. (Styron , 2010)	Approved as sterile by the FDA. (Paper Mart)	Recyclable, but not accepted if contaminated by food. (Dow Chemical Company , 2006)	Freezer safe; not microwave safe.

**Table 6: Food ware comparison of availability, waste diversion and costs**  
(City of San Jose, 2012 January 3)

**Table 3: Alternative Food Ware Packaging: Availability and Waste Diversion Potential**

MATERIAL	ALTERNATIVE PRODUCT AVAILABILITY					WASTE DIVERSION POTENTIAL	
	Hot Cup	Cold Cup	Plates	Hinged Container	Soup Bowl	Recyclable in San José	Compostable in San José
EPS	Yes	Yes	Yes	Yes	Yes	No*	No
Rigid Plastic	No	Yes	Yes	Yes	Yes	Yes	No
Paper	Yes	Yes	Yes	Yes	Yes	No	Yes
Molded Natural Fiber	No	No	Yes	Yes	Yes	No	Yes
Compostable Plastic	No	Yes	Yes	Yes	No	No	Yes**

\*EPS is not recyclable locally once it is soiled by food.

\*\*Compostable Plastic is under review by the City and local composting operators.

**Table 4: Per Unit Cost Comparison of Food Ware Alternatives**

MATERIAL	CUPS	PLATES	CLAMSHELL
EPS	\$0.035	\$0.056	\$0.09
Rigid Plastic	\$0.026	\$0.083	\$0.25
Paper	\$0.055	\$0.02	\$0.28
Molded Natural Fiber	n/a	\$0.064	\$0.22
Compostable Plastic	\$0.07	\$0.15	\$0.33

## APPENDIX B: Portland, OR

Phone interview/email correspondence (responses in green)

### Polystyrene “Best Practice”

#### Outreach Questions

#### City of Portland

Phone conversation with Bruce Walker (503-823-7772) email:

[bruce.walker@portlandoregon.gov](mailto:bruce.walker@portlandoregon.gov) . April 5, 2011 conducted by City of San Jose (ESD) staff Zuhayl Lambert.

1. Audience
  - Quantity – around 1000 establishments and growing.
  - Type, i.e. small, chains, etc – All food vendors
2. Baseline Data; i.e. what stats do you have? Source? Do you have a public opinion survey  
No baseline. A definite change in litter has been noted.
3. Partners
  - Addressed primarily at City Council level.
  - No partners. Establishments were changing their practices prior to the ordinance, mainly to uphold an image with their customers.
4. Success  
The passage of the ordinance
5. Lessons Learned  
Alternative products still found in landfill. Be sure to establish a method of disposing of the compostable/biodegradable waste.
6. Environmental impact report (EIR)  
No EIR. Investigated city policies, verified that the new ordinance did not conflict with existing state and city regulations.

Email correspondence February 28, 2011 from Portland city staff to Linda Nguyen :

Ms. Nguyen, My manager Bruce Walker asked me to follow up with you regarding your inquiry. You can find much of the information we have available about our polystyrene ban online here: <http://www.portlandonline.com/bps/index.cfm?c=41472&a=109474> Our enforcement is complaint based. When we receive complaints our staff investigates. Generally we can reach compliance just by information sharing and a follow-up site visit. Most complaints are about new food carts; restaurants and grocery stores are usually very good about following the rules. If after reading the information online you still have more questions, please feel free to send them to me in an e-mail and I can see what I can do to get you the answers. Good luck with your project! Have a great day,

Amanda Romero  
Solid Waste & Recycling Assistant Program Specialist  
City of Portland  
Bureau of Planning and Sustainability  
1900 SW 4th Ave, 7th Floor, Suite 7100  
Portland, OR 97201  
Phone: 503.823.7069  
Email: [Amanda.Romero@portlandoregon.gov](mailto:Amanda.Romero@portlandoregon.gov)  
Please consider the environment before printing this e-mail

Email correspondence March 8, 2011 from Portland city staff to Linda Nguyen :

Linda,  
Please see my responses below. Attached are our PSF ban brochure and a background document about the ordinance. Hopefully this helps.

Amanda Romero  
Solid Waste & Recycling Assistant Program Specialist  
City of Portland

*(Response from email, city staff response in green)*

Hello Amanda,  
Thank you for responding to my email. I understand that you are very busy and I appreciate any assistance and information you can provide for my graduate project regarding polystyrene food ware bans.

I have the following follow-up questions from a previous phone interview conducted by my co-worker from April 5, 2011 with Bruce Walker:

- . Was there any type of litter/environmental reports or staff reports that were conducted for this ordinance?

- . How long has your residential and/or commercial composting program been in place?

We have had residential yard debris composting since 1992. In 2011 we started weekly collection for residential food scrap with yard debris. Some businesses have been voluntarily composting food scraps for a number of years. In 2008 the Portland Recycles! Plan set forth requirements for food composting by the largest food-producing businesses.

- . I understand that there was no Environmental impact report conducted, but that city policies were investigated, can you supply me with what policies were observed?

- . Was there any specific local food-ware ordinances examples that your city referred to while drafting this ordinance?

The Portland City Council first became involved with the polystyrene foam issue in July, 1988, when they unanimously approved an ordinance imposing an immediate ban on city purchase of any polystyrene foam products manufactured with CFC's and any foam products of a readily disposable nature.

## OUTREACH

What was the outreach strategy? Tactics, mailers, meetings, etc.

Was there stakeholder involvement in the outreach process? If so, who?

A task force was formed by City Council and reviewed possible actions regarding polystyrene foam for three months. The task force's recommendations were amended by City Council to enact the ban on foam food containers.

- . What was the timeline the outreach process started and when the ordinance was passed?

- . Was there much opposition regarding the ordinance?

## ENFORCEMENT

- . Do you have any statistical figures on compliance and violations?

. Other notes or innovative ideas to share?

The process of following up on PSF complaints consists of a site visit to educate the business on the PSF ban and to give them some literature. Our enforcement staff follow-ups the site visit with a formal letter citing the Polystyrene Ban ordinance and fines that could be imposed. A re-inspection date is set approximately 20 days after the date of the initial letter.

Email correspondence March 13, 2011 from Portland city staff to Linda Nguyen :

Hello Amanda,

Thank you for your response. I understand that you mentioned most businesses that are not complying are new ones; do you provide any assistance to them or a list of vendors?

Linda,

When our enforcement person follows up on PSF complaints she provides information about the ordinance and gives them suggestions for other materials that are acceptable food containers. She revisits the restaurant or food cart about 20 days later to confirm that they are no longer using PSF. Amanda Romero

Solid Waste & Recycling Assistant Program Specialist

Portland Outreach fliers:

***Ban Explanation***



CITY OF PORTLAND  
OFFICE OF SUSTAINABLE DEVELOPMENT  
A BETTER FUTURE. A BETTER NOW.

**City of Portland, Oregon  
Polystyrene Foam Food Container Ban**

The Portland City Council has adopted an ordinance that restricts the use of polystyrene foam containers for prepared food. The approved ordinance prohibits restaurants and retail food vendors from using foam food containers and became effective on January 1, 1990. Other uses of foam, such as packing materials, florist supplies and construction materials are not regulated by the ordinance. Specifically, the ordinance provides that:

Effective January 1, 1990, restaurants and retail food vendors are prohibited from serving prepared food in any polystyrene foam products. This includes food served on the premises as well as takeout food. Washable ware or readily available biodegradable paper products will be substituted. Non-profit organizations are exempted from this restriction.

In taking action, the Council indicated its concern with the following impacts of polystyrene foam:

1. Foam products are not biodegradable and projections indicate significant growth in the use of this material, particularly in readily disposable food containers and wrappers.
2. Because foam products are not biodegradable, they are a major contribution to litter and will take up more and more valuable landfill space. Paper products are biodegradable and can also be composted.
3. There is general agreement that certain chlorofluorocarbons are very damaging to the earth's ozone layer. The effect on the atmosphere of alternative gases now being substituted by the industry is unknown.
4. Recycling of foam food containers is not practical because the product is hard to clean and its low density makes transportation costs uneconomical. Recycling programs other than a few expensive industry-sponsored demonstration projects, have not been developed.
5. Foam products, when littered, can break into small pieces and when eaten by birds and other wildlife can cause death by starvation.

The Portland City Council first became involved with the polystyrene foam issue in July, 1988, when they unanimously approved an ordinance imposing an immediate ban on city purchase of any polystyrene foam products manufactured with CFC's and any foam products of a readily disposable nature. The ban also applied to vendors who renew a lease or initially lease city space (effective immediately) and activities that require a city permit (effective January 1, 1990). A task force was formed by City Council and reviewed possible actions regarding polystyrene foam for three months. The task force's recommendations were amended by City Council to enact the ban on foam food containers.

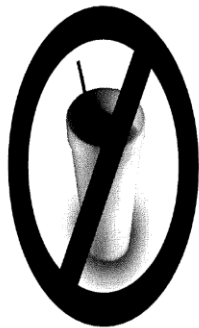
For more information contact: Solid Waste & Recycling Program  
721 NW 9<sup>th</sup> Ave., Suite 350  
Portland, OR 97209-3447  
503-823-7202

DAN SALTZMAN - Commissioner      SUSAN ANDERSON - Director  
P: 503 823 7222    F: 503 823 5311    721 NW 9th Ave., Suite 350    Portland, OR 97209-3447    [www.sustainableportland.org](http://www.sustainableportland.org)

AN EQUAL OPPORTUNITY EMPLOYER      PRINTED ON RECYCLED PAPER      TDD 503 823 3520

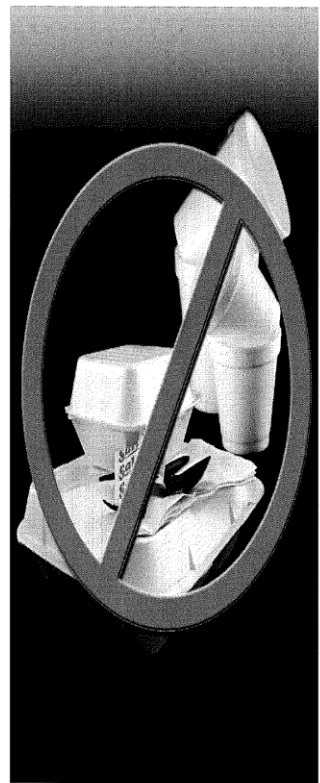
## No Foam Brochure

To protect the  
environment,  
Portland restaurants  
and retail  
food vendors  
are prohibited  
from serving  
beverages and  
prepared food in  
polystyrene foam  
containers.



printed on 100% post-consumer recycled paper

# NO FOAM



Bureau of Planning and Sustainability  
Innovation. Collaboration. Practical Solutions.

City of Portland, Oregon  
Sam Adams, Mayor • Sarah Anderson, Director





# NO FOAM

## What is Polystyrene Foam?

Polystyrene foam, also sometimes referred to as Styrofoam™, is a material frequently used to manufacture food and beverage containers.



Some of the most common uses are coffee cups, bowls, clam-shell containers, and meat trays.

## Why the Ban?

In January 1990, Portland City Council banned the use of polystyrene foam containers for takeout food as well as food served on restaurant or retail food vendor premises, including grocery stores. (Ordinance No. 161573)



This action came in response to growing concerns about these disposable, non-biodegradable food and beverage containers. In addition to the litter problems, broken pieces of foam containers are a potential hazard to birds and other wildlife if ingested.

There was also a concern about the lack of recycling programs available in our area for polystyrene foam containers.

## Enforcement of the Ban

Citizen complaints and Multnomah County sanitarian restaurant inspection reports provide the City with information on alleged violations of the ordinance.

First, the City sends a warning notice regarding the possible violation of this ban. Included with this notice is a copy of the ordinance.

Then, the City makes a follow up visit to inspect the restaurant or store.

## You May Be Fined

Approximately 20 days following the mailing of the warning notice, the City makes an inspection at the premises of the restaurant or retail food vendor.

This visit is conducted by a staff member of the Bureau of Planning and Sustainability.

If it is found that there is a violation of the ordinance, the restaurant or food vendor may be fined up to \$250.00 for the first violation, or \$500.00 for the second and each subsequent violation in a one year period.

## Alternatives to Foam

Portland City Council encourages the use of non-plastic items that may be reused or that are biodegradable.

### Some acceptable alternatives for in restaurant dining include:

- washable ceramic or glass
- wicker plates covered with thin paper

### Some acceptable alternatives for carry-out include:

- serveware made from paper (uncoated or thinly coated)
- plastic clamshells
- wrap in aluminum foil

Contact your supplier to request alternative products.



## For More Information

Call: 503-823-5016

E-mail: [wasteinfo@portlandoregon.gov](mailto:wasteinfo@portlandoregon.gov)

Write to us at: The City of Portland  
Bureau of Planning and Sustainability  
1900 SW 4th Avenue, Suite 7100  
Portland OR 97201

You can also find information on this ban by visiting our Web site at:

[www.portlandonline.com/bps](http://www.portlandonline.com/bps)  
and search foam.

## APPENDIX C: San Francisco, CA

### Phone interviews with SF city staff Alex Dmitriew

#### **Polystyrene “Best Practice”**

#### **Outreach Questions**

#### **City of San Francisco**

**Phone conversation with Alex Dmitriew on March 22, 2011 with City of San Jose (ESD) staff member Zuhayl Lambert**

1. Audience

- Quantity – 4500 restaurants were affected
- Type, i.e. small, chains, etc – All food vendors and providers.
- Language

2. Baseline Data; i.e. what stats do you have? Source? Do you have a public opinion survey

A number of restaurants had switched to alternative food ware prior to the passage of the ordinance.

SF conducted litter audits of City streets and sidewalks (we did not study creek or watershed litter) in 2007, 08 and 09.

3. Tactics; mailers, knock/talk, meetings, etc.

1 letter was sent out directly to the restaurant, and 1 letter to the registered owner. Once ordinance was passed 1 noticed was put out through popular channels, such as newspapers.

**6 meetings were held at different neighborhoods.**

Very successful meetings. Neighborhood associations assisted in the organization of the meetings. The single meeting that did not have neighborhood association involvement had a turnout of 1 person.

4. If meetings, what format

- The city administrator ran the meetings. Public could state their opinion, but it was mainly to educate the affected audiences.
- Invited food establishments
- Invited vendors to show their products & to compare prices.
- Public Participation
- CSF staff present to answer any technical questions.

5. Partners

- Restaurant Depot
- Neighborhood Associations
- Golden Gate Restaurant Association

6. Success

Had an informational table at Restaurant Depot (large wholesale restaurant supplier). It proved to be very successful, because it was an opportunity to speak with decision makers (e.g. restaurant managers & owners). This tactic proved to be **very successful**.

Used volunteers to help with the outreach.

7. Innovative

Table at Restaurant Depot (chain of restaurant supplier)

8. Lessons Learned

The language in the ordinance created some confusion. “Affordable means purchasable for not more than 15% more than the purchase cost of the non-biodegradable non-compostable or non-recyclable alternative(s).”

Informational table at Costco, but it was not a successful strategy. It was hectic and not a lot of restaurant owners outreached.

9. EIR

No EIR. Issues have not come up.

10. Other Notes

- 98% compliance rate.
- 4200 restaurants have been inspected since ordinance was passed.
- 150 citations; 400-500 warning letters.

**Phone conversation with SF city staff Alex Dmitriew on 3/16/12 at 3pm with Linda Nguyen**

Can I obtain the 2009 study and any staff reports on matter?

Will send on Monday maybe

What kind of response did you receive from community?

Only push back from restaurant association a little, many had already switched from EPS, more issue from fast food or to go customers- not as organized push back from them.

How long was outreach for? From time adopted the ordinance? How many meetings were held?

3-4 months before the ordinance was passed, mostly after ordinance was passed- then did outreach for 4-5 months, city administrator (now mayor), headed up series of hearings (7)- in each geographic areas, also couple with vendor show alt products, already knew of what is acceptable and have vendors show the alts, productive only when worked with neighborhood association made it more productive- only disappoint was in mission district when didn't work with neighborhood association ( most connect with local assoc)

What was extremely effective- going to Restaurant Depot- big restaurants already deal with large distributors like Cisco and united food etc (already did not outreach with them), most mom and pops go to restaurant depot (brick and mortar store)

-did 7 or 8 tablings there, spoke with owners and got message out pretty clear there

-also created area in store to concentrate alternatives in store and showcase info of ordinance

-that was best brick and mortar place, costco and smart and final not so successful because hard to distinguish restaurant owners

-then went to every single restaurant (took 4 years to go to over 4,400 restaurants )

Trained the volunteers on the ordinance and confirmed what they were using, if using EPS gave plenty of time to switch ( 6 months)- then issued warnings , people switched over pretty quickly

Can you speak more about the volunteers used? How many and from where?

- moving target, we had jobs creation program (jobs now) and so stimulus money funding in our dept, at that time maybe 20-30 people and volunteers that came in and explained ordinance with training center and educate people, very fluid, after a year less volunteers became involved, 10-15 from volunteers (went away pretty quickly), someone who coordinates volunteers with us and they later got sucked up in other outreach efforts

Violators mainly Businesses that change hands and new business may be out of compliance, very few customer complaints.

How long have you had a (residential/commercial) composting program in place?

In place before ordinance for both, by 2003-04. 1997 pilot for residential. That was another thing took advantage of composting program... we also looked to see if businesses were signed up for composting program or not, tried to get them in program voluntarily , If implemented composting program saved quite a bit of money, can also talk about composting program at site visits, language changed , the site visits helped talking about composting program.

- Trash/recycling/composting- same rate sheet... 1 yard container each \$100 each , volume of composting and recycling, customer will see recycling rate, diversion discount % taken off of bill, (5% taken off whole costs, discount applies to 95% of diversion rate.)
- Diversion rate goes towards total, composting largest part of waste stream- diversion discount, once lowered trash .
- -% from diversion (trash) of recycling or composting will be taken off final bill, so a large cost savings.

How about your work with the haulers?

- originally the ordinance was more restrictive, compostable was already defined, then make the recyclables more flexible , acceptable more recycling- initially only take # 2,4, 5- but then accept any rigid plastic, and clear #6 now was compliant (all rigid plastic), #1 and #6 rigid plastic now acceptable
- many switched from 1 and 6 now compostable, any rigid plastic, unless it is compostable #7.

Any inquiries from other communities and organizations- look at any specific local ordinances as ex?

Berkeley and Oakland reference a little , not big part of it. SF unique with our city/county dual, it is pretty easy to streamline here, not need a year study as much as other municipalities.

Compliance rate? 1<sup>st</sup> year 98%? Other stats for other years?

right now, always pretty high about 80s% first year and getting progressively better

San Francisco outreach fliers:

***FAQ on the Food Service Waste Reduction Ordinance***



OFFICE OF THE  
CITY ADMINISTRATOR



SF Environment

## Requirements of San Francisco's Food Service Ware Ordinance

**Effective June 1, 2007, food vendors and restaurants in San Francisco must use compostable or recyclable to-go containers. Polystyrene foam (Styrofoam™) disposable food service ware can no longer be used for food prepared in San Francisco.**



There are many food service ware alternatives that can be composted or recycled by businesses or residents that can help reduce their trash volumes and service costs. Thousands of San Francisco restaurants and other businesses are recycling and participating in the food scrap and compostables collection program and as a result are getting discounts of up to 75% off their garbage service costs. Residents also have access to composting

and recycling collection services and can put compostable or recyclable food service ware in their green or blue carts.

San Francisco Department of the Environment (SF Environment) is available to assist businesses with finding suitable food service ware and can provide free on-site training and assistance to participate in the recycling and food scrap and compostables collection programs.

**Examples of Acceptable Food Service Ware:**

**Compostable**



**Recyclable**



For more information or to request assistance, visit [SFEnvironment.org/foodservice](http://SFEnvironment.org/foodservice) or call (415) 355-3700, or City's Customer Service 3-1-1

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## What You Need To Know About The Food Service Ware Law

### What are the requirements of the new food service ware law?

- San Francisco food vendors are prohibited from using polystyrene foam (otherwise known as Styrofoam™) food service ware for food prepared and served in San Francisco, with no exceptions.
- All other disposable food service ware for food prepared and served in San Francisco must be compostable or recyclable unless there is no suitable product that is within 15% of the cost of non-compostable or non-recyclable alternatives. (There is no cost exemption for Styrofoam™).

### Who has to follow the new food service ware law?

All San Francisco food vendors selling food prepared and served in San Francisco must use compostable or recyclable food service ware. Restaurants, delis, fast food establishments, vendors at fairs, food trucks, and all City facilities and contractors must follow this law.

### What are the penalties for non-compliance?

Violations may result in fines: 1st time = warning, 2nd time = \$100, 3rd time = \$200, 4th or more time = \$500. Enforcement is by the City administrator and will be in part complaint-driven, meaning your customers may notify the City of violations, by calling City Customer Service 3-1-1.

### What is wrong with polystyrene foam (Styrofoam™)?

Made from oil, polystyrene foam is non-renewable, non-biodegradable, and non-recyclable. Polystyrene foam food service ware ends up in landfills, waterways or the ocean. It can break into pieces, which are often mistaken for food and ingested by marine animals, birds, and fish. Medical studies suggest that chemicals in polystyrene foam can cause cancer and can leach into food or drinks.

### What products are acceptable?

#### Compostable products include:

- Paper or other plant fiber, such as from sugarcane. Polyethylene film coating on paper is currently accepted, but not any foam coating.
- Corn or other plant-based bio-plastics such as "PLA" must be labeled "compostable", meet compostability standards (ASTM D6400), and have a green band or green sticker to allow easy identification by the compostables collector, processor, and the public.

For a list of acceptable products visit [SFEnvironment.org/foodservice](http://SFEnvironment.org/foodservice) or call (415) 355-3700.

#### Recyclable products include:

- Aluminum foil or trays and plastic containers and lids.

#### Not acceptable:

- Plastic wrap, Styrofoam™ or foam products.

### What can you do to reduce food service ware waste?

Ask your current supplier about products that meet the City's new requirements. Suppliers for compostable and recyclable products can be found at [SFEnvironment.org/foodservice](http://SFEnvironment.org/foodservice) or call (415) 355-3700 to request list of suppliers.

### What can you do to reduce food service ware waste?

- Allow and encourage customers to bring their own mugs or reusable to-go containers for take-out by offering a discount.
- Charge customers a fee to cover any additional costs for disposable take-out containers.
- Use reusable service ware instead of disposable ones for eat-in customers.

6/08

For more information please visit [SFEnvironment.org](http://SFEnvironment.org) or call (415) 355-3700, or City's Customer Service 3-1-1  
SFEnvironment Our home. Our city. Our planet. SF Environment is a department of the City and County of San Francisco.



## SF Accepted product list

### Criteria for Accepted Compostable or Recyclable Food Service Ware in San Francisco



**SF Environment**  
Our home. Our city. Our planet.  
A Department of the City and County of San Francisco

#### Accepted for Compostables Collection

MATERIAL	PRODUCTS
Paper (brown, white, off-white)	bowls, boxes, cups, plates, napkins, paper straws
Plant fiber ie: sugarcane or rice (brown, white, offwhite)	hinged containers, trays, cup holders
Wood	stirrers, cutlery
Compostable plastic (offwhite, clear, and green)	cold cups, hinged & lidded containers, cutlery, bags

*NOTE: Compostable plastic products must be clearly labeled "Compostable" (sticker or printing) in a green color or within a green band in order to distinguish the product from conventional plastic. Cutlery must be embossed with the word "Compostable" on each piece. Compostable plastics must meet ASTM D6400 standards for compostable plastics. The Biodegradable Products Institute maintains a list of certified compostable products that meet the ASTM standard: [BPIworld.org](http://BPIworld.org)*

#### Accepted for Recyclables Collection

MATERIAL	PRODUCT
Aluminum foil	wraps
Aluminum (excluding paper with foil backing)	trays, lidded containers
Plastic: #1 (PET), #2 (HDPE), #4 (LDPE), #5 (PP) , or #6 plastics. No foam or Styrofoam™.	cups & lids, cutlery, hinged containers, lids, plates

Refer to the list of *Vendors of Compostable or Recyclable Food Service Ware and Bags* on our website to purchase accepted food service ware: [SFEnvironment.org/FoodService](http://SFEnvironment.org/FoodService)

Updated 7/29/2011



## SF vendor list

### Vendors of Compostable or Recyclable Food Service Ware and Bags

Compostable = Wood (W), Compostable Plastic (CP), Molded Fiber (F) and Paper (P)

Recyclable= Aluminum (A) and Recyclable Plastic (RP)



**SF Environment**  
Our home. Our city. Our planet.  
A Department of the City and County of San Francisco

	Vendor	Phone	Website	Boxes	Bowls	Cold cups & lids	Cutlery	Hinged & lidded containers	Hot cups & lids	Paper & compostable plastic bags	Plates	Straws	Trays and Cup Holders
1	Alliance	(312) 666 6424	<a href="http://www.alliab.com">www.alliab.com</a>	P	P, RP	P, CP, RP	RP	A, F, P	P, RP	P	P, RP	RP	P, RP
2	American Paper and Plastic Inc *	(626) 444 0000	<a href="http://www.applinc.com">www.applinc.com</a>	P	P, RP	CP, RP		CP	P, RP	P	P, RP	RP	
3	Anchor Packaging	(314) 822 7800	<a href="http://www.anchorpackaging.com">www.anchorpackaging.com</a>		RP			RP					
4	Arrow Tableware	(850) 871 6226	<a href="http://www.arrowtableware.com">www.arrowtableware.com</a>		F			F	F		F		F
5	Because We Care	(852 3) 711 3175	<a href="http://www.becausewecare.com.au">www.becausewecare.com.au</a>							CP			
6	Bio Smart *	(888) 310 2008	<a href="http://www.biosmartpackaging.com">www.biosmartpackaging.com</a>	P	F, P	CP		CP, F	F	CP	F		F
7	Bio-DC *	(480) 704 3273	<a href="http://www.bio-dc.com">www.bio-dc.com</a>							CP			CP
8	Biodegradable Foodservice*	(541) 583 2191	<a href="http://www.bdfb.net">www.bdfb.net</a>		CP, F			CP, F	P		F		
9	Biodegradable Store		<a href="http://www.biodegradablestore.com">www.biodegradablestore.com</a>		F	CP	CP	CP, F	P, RP	CP	F		
10	Birchware	(888) 246 6080	<a href="http://www.birchware.com">www.birchware.com</a>				W						
11	Branch	(415) 626 1012	<a href="http://www.branchhome.com">www.branchhome.com</a>		PF	CP, PF	CP		CP, P		PF		PF
12	BRite *	(800) 227 5373	<a href="http://www.brite.com">www.brite.com</a>	P	CP, F	CP			P, RP	CP	F, P		
13	Bridge-Gate Alliance	(925) 417 0638	<a href="http://www.bridge-gate.com">www.bridge-gate.com</a>		F			F			F		F
14	Cash and Carry *		<a href="http://www.smarthodaservice.com">www.smarthodaservice.com</a>		F, P	P, RP	RP	F	P, RP		F, P	RP	F
15	Costco	(800) 774 2678	<a href="http://www.costco.com">www.costco.com</a>		F, P	CP, P, RP	CP, RP		P, RP	CP	P	RP	
16	Disposable Food Service Products *	(818) 674 6112	<a href="http://www.safefly.com">www.safefly.com</a>		F	F		F		CP	F		F
17	Earth Cycle	(804) 869 0828	<a href="http://www.earthcycle.com">www.earthcycle.com</a>					F			F		F
18	EarthSmart LLC *	(310) 834 7336	<a href="http://www.earthsmartllc.com">www.earthsmartllc.com</a>		F			F			F		F
19	External Plates	(847) 877 5648	<a href="http://www.externalplates.com">www.externalplates.com</a>		F						F		F
20	EcNow Tech *	(541) 223 3385	<a href="http://www.ecnowtech.com">www.ecnowtech.com</a>		F, P			F, RP	P		F		
21	Eco-Gecko Products	(510) 230 5393	<a href="http://www.eco-gecko.com">www.eco-gecko.com</a>		F		W				F		
22	Eco Greenwares	(510) 666 9440	<a href="http://www.ecogreenware.com">www.ecogreenware.com</a>		F	CP	CP	F	P	CP	F		F
23	Ecoware Inc.	(804) 880 1148	<a href="http://www.ecowareproducts.com">www.ecowareproducts.com</a>				W						
24	Everything Eco-Store	(415) 337 8814	<a href="http://www.everythingecostore.com">www.everythingecostore.com</a>		F	CP		F	P	CP	F		
25	Excellent Packaging and Supply *	(800) 317 2737	<a href="http://www.excellentpackaging.com">www.excellentpackaging.com</a>	P	CP, F	CP	W	CP, F	F, P	CP	F	P	CP, F
26	Genpak *	(518) 798 9511	<a href="http://www.genpak.com">www.genpak.com</a>		F	F		F			F		
27	Go Earth *	(310) 371 0797	<a href="http://www.goearthcentral.com">www.goearthcentral.com</a>		F	F		F	F		F		
28	Go Mega Green.com *	(415) 933 8565	<a href="http://www.gomegagreen.com">www.gomegagreen.com</a>		F	CP			P	CP	F		F
29	Good Flag Biotechnology Corporation	(888) 328 3911	<a href="http://www.biodegradable-goodflag.com">www.biodegradable-goodflag.com</a>			CP, RP		CP, RP					
30	Goodwill Fair Trading Co.	(415) 263 7323			RP		RP	RP	P, RP				
31	Green Day Eco-friendly Material Co., Ltd	(86 502) 516 3363	<a href="http://www.greendaycn.com">www.greendaycn.com</a>				CP						
32	Green Duck	(804) 240 8757	<a href="http://www.abotorecycleduck.com">www.abotorecycleduck.com</a>		F, P	CP	CP, W	F	P, RP	CP	F		

References to any commercial business, organization, or product does not constitute endorsement.

\*Note that these vendors may carry non-compliant products in addition to those listed above.  
Please review the Accepted Recyclable or Compostable Food Service Ware list at [www.SFEnvironment.org/FoodService](http://www.SFEnvironment.org/FoodService).

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## Vendors of Compostable or Recyclable Food Service Ware and Bags

Compostable = Wood (W), Compostable Plastic (CP), Molded Fiber (F) and Paper (P)

Recyclable= Aluminum (A) and Recyclable Plastic (RP)



**SF Environment**  
Our home. Our city. Our planet.  
A Department of the City and County of San Francisco

	Vendor	Phone	Website	Boxes	Bowls	Cold cups & lids	Cutlery	Hinged & lidded containers	Hot cups & lids	Paper & compostable plastic bags	Plates	Straws	Trays and Cup Holders
33	Green Home *	(415) 282 6400	<a href="http://www.greenhome.com">www.greenhome.com</a>	P	F	CP	CP, W	CP, F	F	CP, P	F, W		F
34	Green Is Green, Inc.	(415) 215 8853	<a href="http://www.greenisgreeninc.com">www.greenisgreeninc.com</a>		CP, F	CP	CP	CP, F	F	CP	F		F
35	Green Paper Products	(215) 960 5484	<a href="http://www.greenpaperproducts.com">www.greenpaperproducts.com</a>		F, P	CP		F	P, RP	CP	F		F
36	Green Wave	(714) 854 8822	<a href="http://www.greenwaveusa.com">www.greenwaveusa.com</a>					F			F		F
37	Greeno Products	(800) 313 8566	<a href="http://www.greenoproducts.com">www.greenoproducts.com</a>		P			F	P, RP		F		
38	IFN Green *	(510) 868 2891	<a href="http://www.ifngreen.com">www.ifngreen.com</a>		F	CP	CP	W, F	P		F		F
39	Innoware	(800) 237 8270	<a href="http://www.innoware.com">www.innoware.com</a>				RP	CP, RP			P		
40	InstaWare	(800) 862 3692	<a href="http://www.instaware.com">www.instaware.com</a>	P	P	P, RP	RP	RP	P	P	P	RP	P, RP, A
41	Lets Go Green *	(878) 344 8834	<a href="http://www.letsogogreen.biz">www.letsogogreen.biz</a>		F, P	CP	CP, W	CP, F	P, RP	CP, P	F		F
42	Litin Eco	(612) 607 5700	<a href="http://www.litineco.com">www.litineco.com</a>		F	CP		CP	F	CP	F		F
43	Majestic Sales *	(877) 377 9023	<a href="http://www.majesticsales.net">www.majesticsales.net</a>		F, RP	CP		P, RP	F, P	CP	F, P		RP
44	Maple Trade Corporation	(415) 822 3888	<a href="http://www.mapletrade.com">www.mapletrade.com</a>		RP		RP	RP	P				
45	Nature Friendly Products *	(216) 464 5490	<a href="http://www.nfpo.com">www.nfpo.com</a>		CP, F	CP		CP	P	CP	F		F
46	Natur-Tec	(783) 404 8700	<a href="http://www.naturtec.com">www.naturtec.com</a>							CP			
47	Nexus Group *	(510) 567 1000	<a href="http://www.ecosagroupusa.com">www.ecosagroupusa.com</a>	P	F, RP	CP, F, RP		A, F, P, CP, RP	F, RP	P, CP	F	P, RP	CP, P, RP
48	Oliver	(800) 253 3893	<a href="http://www.oliverquality.com">www.oliverquality.com</a>										F
49	P & R Paper Supply	(909) 794 1237	<a href="http://www.prsupply.com">www.prsupply.com</a>	P	F, P, RP	CP, P	RP	F, RP	P	P	F, P, RP	RP	A
50	Pactiv *	(888) 828 2850	<a href="http://www.pactiv.com">www.pactiv.com</a>		RP	RP		RP	P		F		A, F, P, RP
51	Prime Link Solutions	(850) 375 1396	<a href="http://www.prime-linksolutions.com">www.prime-linksolutions.com</a>		F			F, P			F		F
52	Rainbow Grocery	(415) 863-0820	<a href="http://www.rainbowgrocery.com">www.rainbowgrocery.com</a>							CP	P		
53	Red Pod, Inc *	(850) 306 7590	<a href="http://www.sustainablepack.com">www.sustainablepack.com</a>						P, RP				
54	Restaurant Depot *	(714) 888 8211	<a href="http://www.restaurantdepot.com">www.restaurantdepot.com</a>	P	P	P	RP	P, F	P, RP	CP, P	P		F
55	RestockIt	(800) 680 0859	<a href="http://www.restockit.com">www.restockit.com</a>	P	P	P, RP	RP		P	P	P, RP		
56	S.F. Supply Master *	(415) 842 0700	<a href="http://www.sfsupplymaster.com">www.sfsupplymaster.com</a>	P	P, RP	CP, F, RP	RP	A, CP, F, RP	P	P, CP	P, RP	P	P, RP, A
57	Sabert	(800) 722 3781	<a href="http://www.sabert.com">www.sabert.com</a>		RP		RP	RP, CP					RP, F
58	Smart and Final	(800) 864 0511	<a href="http://www.smartandfinal.com">www.smartandfinal.com</a>			P	RP				P		
59	Stalkmarket	(503) 256 4877	<a href="http://www.stalkmarketproducts.com">www.stalkmarketproducts.com</a>		F	CP	CP	CP	P, CP		F	CP	P
60	Sysco Food Services *	(510) 226 3000	<a href="http://www.sysco.com">www.sysco.com</a>	P	F, P, RP	CP, F, RP	RP	P, RP	P, RP	P, CP	F, P, RP	RP, P	F, P, RP
61	Tahoe Green	(530) 580 9440	<a href="http://www.tahogreen.com">www.tahogreen.com</a>		F, P	CP, F	CP	F	F, P	CP	F		F
62	The Webstaurant Store		<a href="http://www.webstaurantstore.com">www.webstaurantstore.com</a>	P		CP		CP, P, RP		P			A, F, RP
63	UG Foodservice	(877) 563 9659	<a href="http://www.ugfoodservice.com">www.ugfoodservice.com</a>		F, P, RP	CP, P	RP	F, P, RP	P	P, CP	F, P, RP	RP	F, P
64	Vegware	(860) 779 7970	<a href="http://www.vegware.us">www.vegware.us</a>	P	F	CP	CP	F	CP, P	P, CP	F		
65	Verterra Ltd.	(718) 363 3333	<a href="http://www.verterra.com">www.verterra.com</a>		F						F		F
66	WorldCentric Store	(850) 283-3797	<a href="http://www.worldcentric.org">www.worldcentric.org</a>		F	CP	CP	CP, F	F	CP	F, P		F

References to any commercial business, organization, or product does not constitute endorsement.

\*Note that these vendors may carry non-compliant products in addition to those listed above.  
Please review the Accepted Recyclable or Compostable Food Service Ware list at [www.SFEnvironment.org/FoodService](http://www.SFEnvironment.org/FoodService).

Updated 9/29/2011

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## *SF rules and regulations on food ware*



# OFFICE OF THE CITY ADMINISTRATOR

Gavin Newsom, Mayor  
Edwin M. Lee, City Administrator

### Rules and Regulations Food Service Waste Reduction Ordinance 295-06, SF Environment Code Chapter 16

San Francisco's Food Service Waste Reduction Ordinance, Ordinance No. 295-06, SF Environment Code Chapter 16 (Ordinance) requires restaurants, retail food vendors, City departments, City contractors and City lessees to use biodegradable/compostable or recyclable disposable food service ware when selling or distributing prepared foods, unless there is no "affordable" alternative, as defined below. The Ordinance also prohibits such businesses and the City from using disposable food service ware made from polystyrene (Styrofoam™). Violation of the Ordinance may result in contractual damages, a criminal fine, administrative penalty, or other civil enforcement action.

Under the Ordinance, the City Administrator is responsible for creating and updating lists of affordable biodegradable/compostable or recyclable disposable food service ware that comply with the Ordinance, determining when no affordable complying product is available, approving hardship waivers, promulgating rules, regulations and forms implementing the Ordinance, and for enforcing compliance by San Francisco restaurants and food vendors. The City Administrator may issue written warnings to non-compliant restaurants and food vendors, issue and enforce administrative citations, provide for administrative review, and refer violations to other enforcement agencies.

City departments are responsible for enforcing compliance with the Ordinance in their own operations and for enforcing the obligations of their City contractors and lessees to comply with the Ordinance, including assessing liquidated damages when warranted.

#### **I. Affordable Compliant Products and Acceptable Alternatives List and associated Rules and Regulations.**

##### **A. Approved List of Complying Biodegradable/Compostable or Recyclable Products and Distributors.**

Section 1604(a) requires the City Administrator to adopt, and periodically to update, a list of available Affordable Biodegradable/Compostable or Recyclable Products, by product type, that comply with the Ordinance ("Approved Products List"). For most product types, the Approved Products List includes, for public convenience, specific manufacturer or brand names as well as approved product content. The City does not endorse any specific manufacturer or brand of complying product, nor represent that the Approved Products List includes either all the products or the best products that comply with the Ordinance. The City Administrator's list is found at [www.sfgov.org/site/cao](http://www.sfgov.org/site/cao). The City Administrator will update this list as he or she identifies product categories or additional qualifying products. Any person or entity that wishes to propose Affordable Biodegradable/Compostable or Recyclable Products to be added to the Approved Products List should contact the Department of the Environment, 11 Grove Street, San Francisco, CA 94102, telephone (415) 355-3700, [www.sfenvironment.com/foodservice](http://www.sfenvironment.com/foodservice).

##### **B. Distributor List.** The City Administrator also has compiled a list of businesses that carry products on the Approved Products List for the convenience of the public ("Distributor List"). The Distributor List is found at [www.sfenvironment.com/foodservice](http://www.sfenvironment.com/foodservice). The City does not warrant the accuracy of information on the Distributor List and neither approves nor endorses any specific business on this List. The City does not represent that the Distributor List includes all businesses or the best businesses from which the public should purchase products on the Approved Products List. Any business that distributes products on the Approved Products List that is not included on the Distributor List that wishes to be added to the list should contact the Department of the Environment, 11 Grove Street, San Francisco, CA 94102, telephone (415) 355-3700, [www.sfenvironment.com/foodservice](http://www.sfenvironment.com/foodservice).

1 Dr. Carlton B. Goodlett Place, City Hall, Room 362, San Francisco, CA 94102  
Telephone (415) 554-4852; Fax (415) 554-4849

- C. City Administrator's Availability and Affordability Determinations. The City Administrator has concluded, based on a survey of available market pricing, that the products on the Approved List generally are "Affordable" under the Ordinance, which means that these products are "purchasable for not more than 15% more than the purchase cost of the non-Biodegradable, non-compostable or non-recyclable alternative(s)" under the Section 1602(a).

Any person or entity that believes, based on the circumstances of his or her business activities, (1) that there are no products on the Approved List to substitute for non-biodegradable, non-compostable and/or non-recyclable product(s) that the business requires, or (2) that the only suitable alternative products on the Approved List are, in fact, not affordable within the meaning of the Ordinance, may request the City Administrator, to issue a written determination that there is no suitable alternative product, or that the only suitable available product is not affordable ("Determination Request"). Any person or entity may combine a Determination Request under this Rule I.C. with a Hardship Waiver Request under Rule II. Where the circumstances so warrant, the City Administrator may approve the use of products that do not meet the standards for "Biodegradable, Compostable or Recyclable" under a Determination Request. However, the City Administrator may approve the continued use of products that contain Polystyrene Foam only under a Hardship Waiver Request.

Any person or entity seeking City Administrator's Determination must submit a written Determination Request, preferably on the form provided by the City Administrator, and shall set forth with specificity 1) the name, address, and license number of the restaurant or food vendor's most current business registration certificate (business license) on file with the City's Treasurer/Tax Collector, (2) the non-biodegradable, non-compostable and/or non-recyclable product(s) at issue, including why the business requires the products(s) and an estimate of the monthly quantity of the non-complying product used; and (3) the factual basis to support the requested determination that there is no suitable complying alternative or that all suitable complying alternatives cost more than 15% more than the non-complying products and (4) all Determinations previously issued to the requestor related to any business activity subject to the Ordinance. The Determination Request shall be served as provided in Rule VI.

The City Administrator shall acknowledge receipt of Determination Requests within 10 days of service of a completed request and shall issue his determination promptly thereafter. The City Administrator's decision on the Determination Request shall be final.

## **II. Hardship Waiver Rules and Regulations.**

The City Administrator may grant waivers to any person or entity subject to the Ordinance, including restaurants, retail food vendors, City departments, City contractors and City lessees from compliance with any requirement of the Ordinance for a period of up to one year where the City Administrator finds that "the specific requirement would create an undue hardship or practical difficulty not generally applicable to other persons in similar circumstances."

Any person or entity seeking such a waiver must submit a written request, preferably on the form provided by the City Administrator, served as provided in Rule VI, setting forth with specificity: (1) the name and address and license number of the restaurant or food vendor's most current business registration certificate (business license) on file with the City's Treasurer/Tax Collector, of the requestor, (2) the non-complying product(s) at issue, including why the business requires the products(s), an estimate of the monthly quantity of the non-complying product used, and the duration of the waiver requested; (3) the factual basis to support a finding of "undue hardship or practical difficulty not generally applicable to other persons in similar circumstances," and (4) all waivers previously granted to the requestor for any business activity subject to the Ordinance.

The City Administrator, or his or her designee, shall issue a written decision granting or denying the waiver within 10 days of service of a completed waiver request. The City Administrator's decision on the waiver request is final.

### **III. Enforcement.**

#### **A. Warning Letters to Non-Complying Businesses.**

1. **Issuance of Warning.** Whenever the City Administrator determines that a San Francisco restaurant or food vendor has violated or is violating the Ordinance, the City Administrator, or his or her designee, may, in his or her sole discretion, issue a written warning letter ("Warning"). The Warning shall be served as provided in Rule VI.
2. **Contents of Warning.** A Warning shall include the following information: (1) a description of the violation(s) including a reference to each provision of Ordinance violated, the corrective action required for compliance, and the various sanctions that may follow from continued non-compliance; (2) the address or a description of the location where the violation occurred; (3) the date(s) of the violation; (4) the name, address and signature of the City Administrator, or his or her designee; (5) how to request a hardship waiver from the Ordinance (as provided in Rule II); and (6) how to appeal the Warning (as provided in Rule IV).

#### **B. Imposition of Sanctions or Referral.**

Whenever the City Administrator determines that a San Francisco restaurant or food vendor that has received a Warning(s) has violate the Ordinance either by continuing the violation(s) for which the Warning was issued, or by other non-compliance, the City Administrator, or his or her designee, may, in his or her sole discretion, issue additional Warnings and otherwise continue informal efforts to obtain compliance; or may issue an Administrative Citation imposing the penalties and enforcement costs as provided by the Ordinance; or may refer the matter to the District Attorney or City Attorney. The City Administrator may also refer any violation by a City Contractor or lessee to the Contract awarding department for appropriate sanctions. An Administrative Citation shall be served as provided in Rule VI.

#### **C. Imposing Penalty by Administrative Citation.**

1. **Issuance of Administrative Citation.** Whenever the City Administrator determines that the circumstances warrant imposition of administrative penalties under the Ordinance, the City Administrator shall issue an Administrative Citation imposing administrative penalties as specified in the Ordinance, which may be up to \$500, depending upon the circumstances and enforcement costs.
2. **Contents of Administrative Citation.** An Administrative Citation shall include the following information: (1) a description of the violation(s) including a reference to each provision of Ordinance violated and the amount of the administrative penalty imposed for the violation(s); (2) the amount of any enforcement costs assessed; (3) the address or a description of the location where the violation occurred; (4) the date(s) of the violation; (5) the date by which the administrative penalty and any must be paid, the procedure for making such payment, and the consequences of failure to pay; (6) the name and signature of the City Administrator or his or her designee; and (7) how to appeal the Administrative Citation (as provided in Rule IV).
3. **Payment of Penalties.** If the cited party does not file an appeal within the 10-day period provided in Rule IV, the City Administrator's determination should become final. The cited party must pay all administrative penalty amounts no later than 90 days after service of the Administrative Citation, unless the cited party appeals the administrative citation as provided in Rule IV. Overdue administrative penalties shall be subject to the collection procedures set forth in Rule V.

### **IV. Appeal Process for Warning or Administrative Citation.**

#### **A. Requesting Administrative Hearing to Appeal Warning or Penalty.**

1. **Ten Days to Make Written Request.** Any person or entity that is cited in a Warning or Administrative Citation may appeal the Warning or Administrative Citation on the grounds that there was no violation of the Ordinance for which the Warning or Administrative Citation

was issued, or that the person or entity cited is not the responsible party. Such person (hereinafter "appellant") must appeal in writing, preferably on the form provided by the City Administrator, and serve the written appeal (as provided in Rule VI) on the City Administrator within 10 calendar days of the date the City Administrator served the Warning or Administrative Citation for which review is sought. At a minimum, such appeal shall include a copy of the Warning or Administrative Citation being appealed and a brief statement of the reason(s) for the appeal.

2. Request for Appeal Stays Enforcement. A timely appeal shall stay enforcement of any Administrative Penalties and enforcement costs imposed pending the hearing officer's final decision, but shall not stay enforcement of any new or different violations of the Ordinance.
3. Appointment of Hearing Officer. The City Administrator shall appoint a hearing officer and schedule a hearing within 15 calendar days of receipt of a timely appeal. The City Administrator shall promptly notify the appellant of the time and date of said hearing, and shall include with the notice a copy of the Ordinance and these Rules.

B. Hearing and Decision on Appeal.

1. Duties of the Hearing Officer. The hearing officer appointed by the City Administrator shall conduct all appeal hearings and shall be responsible for deciding all matters relating to the hearing procedures not otherwise specified in these Rules.
2. Conduct of the Hearing, Evidence.
  - a. Public Hearing. The appeal hearing is a public hearing and shall be audio recorded. Any party to the hearing may cause, at his or her own expense, the hearing to be recorded by a certified court reporter, but this will not be the official record of the proceeding unless the Hearing Officer agrees and a copy of the transcript is provided at no cost to the Hearing Officer and the opposing party.
  - b. Burden of Proof. The City Administrator shall have the burden of proof in the hearing.
  - c. Exchange of Documentary Evidence. Any written information in addition to that submitted with the Request for Administrative Hearing that either the City Administrator or appellant submits to the Hearing Officer for consideration at the hearing, shall also be served on the other party at least 5 days prior to the date of the hearing.
  - d. Admissible Evidence. The hearing officer may accept and rely on evidence that responsible persons commonly rely upon in the conduct of serious affairs. All parties shall have the right to offer testimonial, documentary, and tangible evidence bearing on the issues, to see and copy all documents and other information the City relies on in the proceeding, and to confront and cross-examine any witness against them.
  - e. Continuances. When all evidence has been presented, the hearing officer may, in his or her sole discretion, continue the hearing and request additional information from the appellant and/or City Administrator. The Hearing Officer may also continue the hearing at any time, for good cause shown as determined in the discretion of the Hearing Officer.
3. Written Decision by Hearing Officer. After considering all of the testimony and evidence submitted by the parties, the hearing officer shall issue a written decision to uphold or vacate the Warning or Administrative Citation and shall set forth the reasons for the Decision. The hearing officer shall issue his or her written Decision within 10 calendar days of the completed hearing. The hearing officer shall serve a copy of the Decision on the appellant. The hearing officer's decision shall be final.
4. Judicial Review. Any person aggrieved by the hearing officer's Decision on a Warning or Administrative Citation may obtain review of the decision by filing a petition for judicial review within 20 days after service (as provided in Rule VI) in accordance with the timelines and provisions set forth in California Government Code Section 53069.4.

#### **V. Collection of Fines and Costs**

If no appeal of the hearing officer's decision is filed as provided in Rule IV.B.4, and if required administrative penalties (and enforcement costs) are not paid in full to the Office of the City Administrator within 90 days after the mailing of the hearing officer's decision, the City Administrator shall file a statement of each unpaid administrative penalty (and enforcement cost) with the Bureau of Delinquent Revenue. The Bureau shall endeavor diligently to collect the same on behalf of the City and County.

#### **VI. Service**

- A. Any document required by these Rules to be served shall be accomplished either by personal (hand) delivery to the designated recipient or by deposit in the United States mail, in a sealed envelope postage prepaid, as follows:
- If to the City Administrator or the Hearing Officer, handed or addressed to the appropriate Official at the address stated on the Warning or Administrative Citation;
  - If to a San Francisco restaurant or food vendor, to the person or persons named on the restaurant or food vendor's most current business registration certificate (business license) on file with the City's Treasurer/Tax Collector at the address stated on such business license, except that, for Determination Requests or Hardship Waiver Requests, to the person or persons named as Requestor at the address stated in the written request.
- B. Service by mail shall be deemed to have been completed at the time of deposit with the U.S. Post Office.

#### **VII. Interpretive Regulations and Guidelines**

The City Administrator adopts the following regulations and guidelines under Section 1605(a) of the Ordinance, which authorizes the City Administrator "to promulgate regulations, guidelines and forms and to take any and all other actions reasonable and necessary to implement and enforce this Chapter."

Rule 1. Food that meets the definition of "prepared" set forth in Section 1602.(l) shall be considered to be prepared "within the City and County of San Francisco" if it is "prepared" (1) anywhere within the geographic boundaries of the City and County of San Francisco, or (2) in or at any City Facility as defined in Section 1602.(f), whether such City Facility is located inside or outside of the geographic boundaries of the City and County of San Francisco.

Rule 2. Disposable Food Service Ware that is accepted by San Francisco's composting program, such as compostable paper based products that have a polyethylene film coating, is "Compostable Disposable Food Service Ware," which is permitted under the Ordinance and is eligible to be included on the City Administrator's Approved Products List. Any Disposable Food Service Ware with polyethylene foam coating or any polystyrene content is Prohibited Disposable Food Service Ware under Section 1603 and is not allowed, whether or not such product is accepted by San Francisco's composting program.



Edwin M. Lee  
City Administrator

Date: May 29, 2007

## APPENDIX D: Seattle, WA

*Phone interviews and email correspondence with Seattle City Staff:*

### Polystyrene “Best Practice”

#### Outreach Questions

#### City of Seattle

Conversation with Dick Lilly (206-615-0706) on March 23, 2011 with City of San Jose (ESD) staff Zuhayl Lambert.

7. Audience

- Quantity – 4000 restaurants were affected
- Type, i.e. small, chains, etc – All food vendors

8. Baseline Data; i.e. what stats do you have? Source? Do you have a public opinion survey  
Life Cycle Analysis-  
Bag & Foam analysis.pdf-

9. Tactics; mailers, knock/talk, meetings, etc.

- Sent 3 to 4 letters to educate about polystyrene ban
- Fall of 2008, after ordinance was passed, mass mailing to all affected establishments.

10. If meetings, what format

- Workshops.
- Industry meetings with food vendors and product vendors.
- Meetings were held near the targeted audience establishments, in the afternoon.

11. Partners

- No stakeholders were formed. It was an ordinance passed by the direction from City Council. There was not a political fear, due to citizens’ support.
- Stakeholder groups were created later because the ordinance instructed the city to work with smaller restaurants
  - Neighborhood associations
  - All types of establishments, “from a taco truck to hospital cafeterias”
  - Restaurant Association- Seattle Chapter
  - Current Suppliers
  - Haulers



12. Success

<5% of businesses are out of compliance

13. Innovative

-Asking haulers to be part of the stakeholder group.

14. Lessons Learned

When creating the ordinance, establish where alternative waste is going to be placed. In 2010, Seattle had to add a section to the ordinance setting aside bins specifically for compostable items.

15. Other Notes

- Originally the ordinance was addressing both plastic bags and polystyrene. However, based on the results from the preliminary study, the plastic bag portion was not implemented.
- Banned polystyrene first. Eighteen months later all single use food service ware had to be compostable or recyclable. Except for cutlery, straws, small sample cups, and cocktail sticks.
- “no businesses that have gone out of business as a result of the EPS food service products ban or the broader requirement that single-use food service ware be compostable or recyclable. There has been grumbling about additional cost and some long-term non-compliance for which we are now beginning to issue citations. We have not been able so far to provide any program of direct help to small restaurateurs.”

**Phone interview with Dick Lilly on 4/4/12 with Linda Nguyen**

Audience 4, 0000 ( squishy number, never took time to analyze what the food service health, permits mean, use health dept mailing list), it may over-count, don't have staff time to think about it.

**What was the outreach timeline, started outreach to when ban effective?**

Started outreach on immediately, huge hit, knew many would not want to cooperate with becuz of price difference.

We did probably 1 or 2 mailings, tried to reach restaurants ( 1 mailing to all and also targeted 2<sup>nd</sup>) tried to reach small ethnic, local restaurants. We also did trade show thing, suppliers come in , in bldg right next to international businesses 75-100 came to this thing and many made good contact to suppliers trying to show alt projects

Jan 1, 2009, another 8 months before 2<sup>nd</sup> phase ( all single use food service must be recyclable and compostable), not perfect, but it is a big step. Basically told food service industry, must have this or that not anything else. Between the first and 2<sup>nd</sup> phase and worked with the restaurants and did 1 maybe 2 more mailings and some media.

In addition to the mailings, we have an outreach consultant, called **Resource venture**- our interface with businesses for all our resource conservation programs regarding solid waste, water conservation, have had them in place for 15 years- they do onsite outreach and walk to restaurants and stores and asked how would you like to talk to us about saving money on certain programs and also call them too.

**Pat Kaufman** -Hired in house works entirely on this issue EPS outreach, developing the kinds of communications, hand out bins and signage of the bins to deal with the food packaging ordinance- 3 bins for trash, recyclable and compostable and customized products for our market.

Disappeared quite quickly EPS – less than 5%, must have the appropriate bins, are all the products are either compostable or recyclable, give bins (3 different) to get in the door. Compliance is very high, only 6 restaurants, started fining last summer.

One of the things, go out and sell them on compost collection, signed 1,000+ on compost collection, think that most restaurants have compost collection. It is cheaper have a tipping fee of \$145 a ton, built into rates, commercial recycling is not regulated by City of Seattle, free market for commercial. Lets get the restaurant signed up for composting, with small restaurants, said have to have compost bin in front of restaurant so mine as well have one in the kitchen. Savings will cut down on garbage, did not happen right away. Some businesses were skeptical. Once had the experience, will see that their total cost goes down, as a result of having compost.

Yard waste- in 1989, added vegetative food (curbside 2005), April 2009 added all food-made from bi-weekly to weekly. Have online list of what is commercially acceptable in compost.

Have not found a good substitute for straws, and utensils and have exceptions

How many? How many? What format? What made it successful?

2 mailings before ban, 1 (2008 end) vendor fair

2009: 2 more mailings to everyone ,

2009-2010- did 3 large stake holder meetings, included restaurants and restaurant association, had 6, 7, 8 chains (McDonalds etc), had a few media events

2 in 2011, stake holder meetings, put together manufacturers and distributors with people who are going to use them

Ban on EPS meat trays- July 1, 2010, effective ( 18 months)

- Saw closely to see good alternatives , a lot of info exchange, do not lecture and then go to questions. We knew we were going to trap the compostable meat.
- Attended at least 2 trade shows every year in Seattle, to show what is required and then the distributors are all over the place.
- Really made friends with major manufacturers, created an environment to sell a more expensive products, all stake holder meetings very successful, industry came from everywhere in country.

How did you work with haulers? See what they accepted?

We had an advantage ( April 1<sup>st</sup> 2009), 3 months after EPS ban, signed new collection contracts went into effect, were accepting all plastic and all coated paper in recycling, as long as they were clean and dry , what that meant was as of that time the coffee cup became recyclable and the cold cup of PET was also recyclable, as long as not filled with left over recyclable more than a year before their use and effect was mandated, advantage that our curbside and processing were willing to take all coated paper, enabled us to do the 2<sup>nd</sup> phase.

Do you have any rate of compliance statistics or on EPS reduction?

Only fined 6 so far, give repeat calls and warnings

Portland- excellent because, that single city can change the national market, McDonalds lost their lawsuit in Portland. Made Mc Ds could not use EPS. Creating market for more expensive product. Everything I heard that they did not enforce and to this day.

Enforcement- makes lots of calls see 500 stores a year etc. (groceries and contacts) and also hear about complaints.

Other comments: If you ban EPS all the alternatives are worse and if you leave it at that that you have not done the world any good, and figure out heavier plastic out of landfill , must push those things out of market and compost is best. Can't just leave at ban on EPS.

June 29<sup>th</sup> follow up email with city staff Dick Lilly from Linda Nguyen:

Hello Dick,

I really appreciate you taking the time to speak with me regarding Seattle's food ware ordinance. I have a few follow up questions I was hoping you could answer:

- Are there any statistics available in regards to any litter reduction after the passage of the ordinance?
- Did the city use the "Analysis of the Seattle Bag Tax and Foam Ban Proposal" report by Northwest Economic Policy Seminar as a report/source to support the ordinance or did your city conduct any type of environmental report of your own?

Following City Council direction (Resolution 30990), Seattle conducted an extensive study published in January 2008 that dealt with both foam food containers (subsequently banned) and throwaway plastic shopping bags. Our initial proposal, supported by the mayor and council, was a 20 cent fee on both plastic and paper shopping bags in order to suppress the use of products mostly discarded after very short use. (Paper bags remain recycled at a very high rate, plastic bags not so.) This plan was reversed by referendum funded by the plastics industry.

Subsequently, last year, the council returned to its original request and chose to ban lightweight plastic bags. The study we conducted shows that their impact as marine litter and their permanent presence in the marine environment in large and small particles separates them from paper bags which, though they have a greater total life cycle impact largely due to weight and paper-making (offset by increased recycling), do not remain a pollutant over time. Here is the link to our study: [http://www.seattle.gov/util/about\\_spu/garbage\\_system/plans/solidwasteplans/aboutsolidwaste/proposedgreenfee/](http://www.seattle.gov/util/about_spu/garbage_system/plans/solidwasteplans/aboutsolidwaste/proposedgreenfee/) We did not refer to the Northwest Economic Policy Study you cite.

Usually parties that describe the proposal as a “tax” rather than a fee, which it is, have already made their position clear.

Follow up July 2<sup>nd</sup> email correspondence with staff Dick Lilly from Linda Nguyen :

- Are there any statistics available in regards to any litter reduction after the passage of the ordinance?
- Do you have any statistics on the rate of compliance for any years?

I have asked our economists if we have litter comparison data but I doubt it. Such data if it exists would most likely come from Ecology and be too broad brush to identify changes within Seattle. I'll let you know if we turn up anything. But the real issue with regard to food service packaging is not and was not litter, except for EPS which shows up as a significant marine litter problem, along with other lightweight plastics of all types. EPS food service packaging was banned Jan. 1, 2009. The packaging regulation (effective 18 months later) was designed to keep throwaway food service ware and packaging out of the landfill and so the regulation requires all such items to be either compostable or recyclable. Thus, theoretically, no material generated by QSRs and coffee shops should end up in the landfill. We are not there yet, but in the past several years the amount of organics diverted from restaurants and homes for compost has increased dramatically. The idea of serving at QSRs on compostable products means leftovers from the table go to compost, not landfill. The tonnage here far exceeds any effect on litter. As for compliance. We know that nearly all QSRs and coffee shops are working toward full compliance. Few are there. And we keep working with them to create better signage, switch them to compostables where that is better, etc.

*Food Packaging Requirements and Resource Flyer*

# Food Packaging Requirements

- All food service businesses in Seattle must provide compostable or recyclable service products and take-out packaging.
- All food service businesses in Seattle using compostable or recyclable service products for food consumed on the premises will need to provide bins for proper collection of these materials.



## Seattle Municipal Code (21.36.086)

Requires restaurants and other food service businesses selling or providing food for consumption on or off premises in one-time use service ware or packaging to use compostable or recyclable packaging.

**WHO:** All food service businesses including restaurants, cafés, grocery stores, delis, bakeries, bars, food courts, vending trucks, events, and all other categories of food service businesses.

**WHAT:** All food service businesses are prohibited from using plastic foam service products or packaging and, in order to reduce the amount of garbage sent to the landfill, may use other plastic or plastic-coated paper products only if they are collected for recycling. Businesses may use approved compostable food service products which are the City's preferred alternative to throw-away plastic items.

**WHEN:** Effective July 1, 2010. Early adopters may be eligible to receive discounts on products and rebates for collection services.

**WHY:** The use of disposable food packaging is a wasteful practice which results in negative environmental impacts including litter and increased landfill-bound waste. By switching to recyclable or compostable packaging, businesses can reduce their garbage service and save money. Using compostable products allows for an easy, one-step disposal of food waste and service ware into a Compostables Only collection bin.

**HOW:** Contact the Resource Venture, Seattle's free service with information, assistance, and referrals, for businesses who want to improve their environmental performance and save money.

For interpretation services please call 206-684-3000.

如需口譯服務,請撥電話號碼。

통역 서비스를 원하시면 206-684-3000으로 전화하세요.

Wol turubaaan afaa sin ku saabaan, fadlan la soo xafir taleefoonka.

Para servicios de interpretación por favor llame al:

Para sa serbisy ng tagapagpalitawag, tanawag sa:

Và dịch vụ phiên dịch xin gọi:

**Resource Venture**

[www.resourceventure.org](http://www.resourceventure.org)

206-343-8505

[www.ResourceVenture.org](http://www.ResourceVenture.org)

[info@resourceventure.org](mailto:info@resourceventure.org)

206-343-8505

# Resources

[www.resourceventure.org](http://www.resourceventure.org)

Free assistance for food service businesses to comply with food packaging requirements.

## Posters

Order FREE standard posters and bin labels or create your own custom posters at the Resource Venture website.



## Bin Labels



## Vendor Information

Contact Resource Venture for more packaging, bin, and service vendor information.



[www.ResourceVenture.org](http://www.ResourceVenture.org)

[info@resourceventure.org](mailto:info@resourceventure.org)

206-343-8505



## Site Checklist

# Audit Checklist

Create an action plan for reaching full compliance.

A simple checklist to provide you with tips and resources on how to comply with the City of Seattle's food packaging requirements.

### Packaging

Which packaging does your foodservice business currently use for items on your menu?

Product	Durables	Packaged Onsite				Packaged Offsite**
	Reusable	Compostable	Recyclable	Disposable		
<b>Cold Beverages</b> (Water, soda, iced teas and coffees, smoothies, shakes)	<input type="checkbox"/> Washable glasses <input type="checkbox"/> Washable plastic cups	<input type="checkbox"/> Approved compostable cups <input type="checkbox"/> Approved lids <input type="checkbox"/> Approved straws and stir sticks	<input type="checkbox"/> Empty plastic coated paper cups	<input type="checkbox"/> Styrofoam* cups <input type="checkbox"/> Plastic lids (under 3 inches)	<input type="checkbox"/> Glass bottles <input type="checkbox"/> Plastic bottles <input type="checkbox"/> Aluminum cans <input type="checkbox"/> Tin cans <input type="checkbox"/> Milk/juice cartons	
<b>Hot Beverages</b> (Coffee and tea)	<input type="checkbox"/> Washable cups and saucers	<input type="checkbox"/> Approved paper cups <input type="checkbox"/> Approved lids	<input type="checkbox"/> Empty plastic coated paper cups	<input type="checkbox"/> Styrofoam* cups <input type="checkbox"/> Plastic lids (under 3 inches)	<input type="checkbox"/> Paper sugar packets	
<b>Food</b> (Prepared and served hot or cold)	<input type="checkbox"/> Washable Plates <input type="checkbox"/> Washable Bowls <input type="checkbox"/> Baskets <input type="checkbox"/> Silverware <input type="checkbox"/> Cloth Napkins <input type="checkbox"/> Refillable condiment containers (salt and pepper, creamer, etc.)	<input type="checkbox"/> Approved clamshells <input type="checkbox"/> Approved plates and bowls <input type="checkbox"/> Approved paper wrappers <input type="checkbox"/> Approved paper boats <input type="checkbox"/> Approved utensils <input type="checkbox"/> Pizza boxes	<input type="checkbox"/> Clean plastic coated paper bowls and plates  Check with your recycling collection vendor regarding recycling of plastic containers, cups and lids.	<input type="checkbox"/> Plastic, plastic coated, and Styrofoam* plates <input type="checkbox"/> Styrofoam* clamshells <input type="checkbox"/> Small plastic condiment cups <input type="checkbox"/> Aluminum foil  <small>*Use of Styrofoam was banned January 1, 2009.</small>	<input type="checkbox"/> Snack bags <input type="checkbox"/> Candy wrappers <input type="checkbox"/> Frozen treat wrappers <input type="checkbox"/> Cracker wrappers <input type="checkbox"/> Various other wrappers <input type="checkbox"/> Condiment packets <input type="checkbox"/> Small plastic condiment containers	

Take action! Move towards full compliance: use only reusable, compostable, or recyclable food service ware items instead of packaging items you are currently using that fall into the disposable column.

\*\*Items packaged offsite are not included in the ordinance requirements but the City urges restaurant owners and managers to recycle or compost them to the greatest degree possible.

[www.ResourceVenture.org](http://www.ResourceVenture.org)

[info@resourceventure.org](mailto:info@resourceventure.org)

206-343-8505



## Current Collection Bins

What types of garbage and recycling receptacles are you using inside your business?

### Collection Bin Locations

### Customer Areas

- ☐ Compostables
- ☐ Recyclables
- ☐ Garbage

### Staff Areas

- ☐ Compostables
- ☐ Recyclables
- ☐ Garbage



Provide convenient collection containers for compostable and recyclable materials. You may need to add additional bins, or repurpose existing garbage receptacles. Free bin labels are available at [www.resourceventure.org/foodpluscompostables](http://www.resourceventure.org/foodpluscompostables) or 206-343-8505.

## Current Collection Services

What is your current level of collection service? This information can be obtained from disposal bills or your property manager.

### Container



Tote Cart



Dumpster



Bags  
Clear Alleys  
Program  
Participant

### Food + Compostables

Size:  City:   
Service Frequency:  / week

Size:  City:   
Service Frequency:  / week

City:  / day

### Recycling

Size:  City:   
Service Frequency:  / week

Size:  City:   
Service Frequency:  / week

City:  / day

### Garbage

Size:  City:   
Service Frequency:  / week

Size:  City:   
Service Frequency:  / week

City:  / day

Arrange for collection service for all compostable and recyclable materials. Commercial compost and recycling services are less costly than garbage service. More information and contact information for collection vendors is available at [www.resourceventure.org/foodpluscompostables](http://www.resourceventure.org/foodpluscompostables) or 206-343-8505.

For more information on how you can make changes toward full compliance with the City of Seattle's new disposable packaging ordinance, contact the Resource Venture.

[www.ResourceVenture.org](http://www.ResourceVenture.org)

[Info@resourceventure.org](mailto:Info@resourceventure.org)

206-343-8505

## Food Compostable letter



City of Seattle

Gregory J. Nickels, Mayor

Seattle Public Utilities  
Ray Hoffman, Acting Director

### New Food Service Ordinance to Take Effect

October 19, 2009

Dear Business Owner or Manager:

Thank you! The City of Seattle's ban on the use of expanded polystyrene (EPS, "Styrofoam") disposable food service ware has been well received, with nearly all food service businesses in compliance.

Now it's time for the next step. Ordinance 122751, approved by Seattle City Council and signed by the Mayor a year ago, also requires all food service businesses – restaurants, grocery stores, coffee shops and institutional cafeterias – to switch from disposable one-time-use food service products to compostable or recyclable alternatives by July 1, 2010. For a link to the ordinance, visit [www.resourceventure.org/foodpluscompostables](http://www.resourceventure.org/foodpluscompostables). By making this change, Seattle will reduce litter and keep 6,000 tons of garbage per year from being shipped to the landfill.

**Questions to ask.** As you plan how to convert your throwaways to compostable or recyclable alternatives – everything from take-out "clamshells" to plates and cups, there are some important questions to ask. . What will be the best choices for you and your customers? What will be the best for your bottom line? For example, having your food waste and other compostable service items collected for composting could save you several hundred dollars a month compared to garbage collection, depending on the size of your restaurant.

**Check before you order.** To be in compliance by July, you'll need to order compostable and recyclable service ware and set up recycling and composting collection services for them. To prevent wasted effort or money, confirm with your recycling collector, before purchase, that the plastic or plastic coated paper service ware you may wish to use is accepted.

The City recommends that you choose compostable service products. Compostable products are usually made of uncoated paper or corn, rice or wheat starch that break down easily into compost and become a valuable soil amendment for gardens and landscaping. These products are increasingly easy to find and prices are dropping. There is a good chance that your regular supplier already carries quite a few of them. For an illustrated list of approved products and more information, see the web page for Seattle Public Utilities' outreach program, Resource Venture, [www.resourceventure.org/foodpluscompostables](http://www.resourceventure.org/foodpluscompostables). They provide free technical assistance and can be reached directly at (206) 343-8505 or [help@resourceventure.org](mailto:help@resourceventure.org).

The City can also provide interpretation services for you and your staff. If you require an interpreter, call (206) 684-3000.

**Help is available.** Be sure to take a look at the enclosed flyers for more information and resources. Among them is an invitation to a free workshop taking place on November 17<sup>th</sup> at Seattle Center that will cover regulations, alternative products, compost and recycling collection and other issues of interest to restaurant operators. This will be a good place to find resources to support you taking the next steps towards reducing waste.

By taking part in this program you'll help Seattle keep food waste and service ware out of the landfill, and help slow global warming as well as reduce garbage costs for your business and the city. Thank you.

Sincerely,

Ray Hoffman  
Acting Director

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Seattle Municipal Tower, 700 5th Ave, Suite 4900, PO Box 34018, Seattle, WA 98124-0118  
Tel: (206) 684-5831, TTY/TDD: (206) 233-7241, Fax: (206) 684-4631, Internet Address: <http://www.seattle.gov/util/>  
An equal employment opportunity, affirmative action employer. Accommodations for people with disabilities provided upon request.

## Summary of the City's Food Packaging Rules

Food service businesses have stopped using expanded polystyrene (EPS or "Styrofoam") which was banned from food service use in Seattle in January 2009. The next deadline is July 1, 2010, when all food service businesses must use approved compostable products, recyclable plastic, or recyclable plastic-coated paper products for all one-time-use food service ware.

**What should my business do?** Now's the time to sign up to have your food waste collected for composting and plan ahead for the mandatory switch from throwaway food service ware to compostable or recyclable alternatives on July 1, 2010.

**Why?** Disposables, including plastic foam (EPS), non-recyclable and non-compostable products result in more garbage and have negative environmental impacts, particularly when litter reaches Puget Sound and the oceans. In addition, compared to landfill disposal, composting food waste and compostable food service products cuts down on green house gas generation.

**What food service products are available in recyclable and compostable alternatives?** Plates, bowls, "clamshells," cup lids, and condiment containers are typical products.

**Where can I find substitute products?** You will find information and recyclable and compostable alternatives wherever you buy food service products. If you choose to compost, you must use products that are approved compostable by the City of Seattle and Cedar Grove Composting. Information on approved products is available online at [www.resourceventure.org/foodpluscompostables](http://www.resourceventure.org/foodpluscompostables).



Examples of approved compostable foodservice ware

### Additional Resources

Resource Venture: [www.resourceventure.org/foodpluscompostables](http://www.resourceventure.org/foodpluscompostables)

Contact Resource Venture directly at (206) 343-8505 or [help@resourceventure.org](mailto:help@resourceventure.org)

Seattle Public Utilities:

<http://www.seattle.gov/util/Services/Yard/Commercial/CompostCollection/PlasticFoamFoodwareBan>

Contact SPU directly at (206) 684-3000

Cedar Grove Composting: <http://cedar-grove.com/SPU.asp>

Contact Cedar Grove directly at 1-877-SOILS-4U or [info@cedar-grove.com](mailto:info@cedar-grove.com)

### Enclosures

- A flyer to explain the program to your employees
- Resources such as FREE posters and stickers you can order for your business
- A checklist to audit your use of disposables and create a plan for compliance
- Information about upcoming events, educational opportunities

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Seattle Municipal Tower, 300 5th Avenue, Suite 4900, PO Box 34018, Seattle, WA 98124-8018  
Tel: (206) 684-5831, TTY/TDD: (206) 233-7241, Fax: (206) 684-8631, Internet Address: <http://www.seattle.gov/util/>  
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## Food Container Fact Sheet

The City of Seattle has banned the use of expanded polystyrene (EPS, sometimes called "Styrofoam") food service containers and cups in all restaurants.

**When does the ban take effect?**

January 1, 2009

**What are typical products made out of EPS?**

"Clamshells," bowls, plates, and beverage cups are typical products.

**What should my business do?**

You must stop using EPS food service products by January 1, 2009.

You may change to any alternative products, but the City recommends switching to compostable materials. You must change to recyclable plastic or compostable food service products, including lids and utensils, by July 1, 2010.

**Why switch to compostable products?**

In addition to the negative environmental impacts of EPS, Seattle wants to compost as much food waste as possible. Compostable products allow easy one-step disposal of food waste and service ware into your compost bin.

**Where can I find substitute products?**

You will find information and compostable alternatives wherever you buy food service products. If you choose to compost, you must use products that are approved compostable by the City of Seattle and Cedar Grove Composting.



Seattle  
Public  
Utilities

Learn more at [www.resourceventure.org/plasticfoamaban](http://www.resourceventure.org/plasticfoamaban) or (206) 343-8505

Seattle Climate Action  
**NOW**



# Food Container Fact Sheet

La Ciudad de Seattle prohibió en todos los restaurantes el uso de los recipientes para alimentos y vasos que contengan poliestireno expandido (EPS), a veces llamado "espuma de poliestireno".

¿Cuándo entra en efecto la medida? El 1ro de enero de 2009.

¿Por lo general, cuáles productos se fabrican con EPS? Los productos comúnmente fabricados con EPS son los recipientes tipo "Añejo" además de tazones, platos y vasos.

¿Qué debo hacer en mi establecimiento? Usted debe dejar de utilizar los productos para servir alimentos que contengan EPS antes del 1ro de enero de 2009. Puede cambiarse a cualquiera de los productos alternativos, aunque la Ciudad recomienda hacerlo a materiales que sean compostables/biodegradables. Usted tiene la opción de utilizar productos para servir alimentos hechos de plástico reciclable o compostables/biodegradables, incluyendo tapas y utensilios, antes del 1ro de julio de 2010.

¿Por qué debo cambiar a productos compostables/biodegradables? Además del impacto ambiental negativo que posee el EPS, Seattle desea comenzar el composteo de abono orgánico con la mayor cantidad de desechos alimenticios posibles. Gracias a los productos compostables/biodegradables, la eliminación de desechos de alimentos y utensilios de servicio se hace con mayor facilidad en un solo paso dentro de su contenedor para abono.

¿Dónde puedo comprar los productos sustitutos? Usted encontrará información y alternativas para el abono orgánico (compost) en cualquier establecimiento donde acostumbre comprar productos para servir alimentos. Compre sólo productos garantizados para compost y aprobados por la Ciudad de Seattle y por Cedar Grove Composting.

Maamulka Dawladda Hoose ee Seattle waxay marmuuqeen in la istimaalo waxaaba ka saameyn polystyrene (EPS, oo mararka qaarkood loo yaqaan "Styrofoam") iyo kooxaha kuwada lagu shubo ee madaaxaydaha laga istimaalo.

Gooma ayey bilaabmayaan in la marmuuqo? Janayo 1, 2009

Waa maxay noocada alaabta ka saameyn EPS? "Qaybaha badeedka qoorta leh," baqalyaha, xawaaraha, kooxaha wax lagu cabo ayaa alaabta ka mid ah.

Gaariigayga marmuuq doonaa? Waa in aad kama dambeysti Janayo 1, 2009 jooga in aad istimaalo alaabta kuwada lagu qaybiyo. Alaab kale aad istimaali kartaa, waxayna dawladu hoose dalka kula talyaan alaabta kuwada lagu nafaqeyso. Waa in aad u beddelo in aad istimaalo badeedka dho loo warshadeyn karo ama alaabta kuwada lagu shubo ee kuwada lagu nafaqeyso oo ay ku jiraan badeedka iyo madaaxda, weli ka horreya Luulyo 1, 2010.

Waa maxay sababta loo istimaalayo alaabta kuwada lagu nafaqeyso? Waxay alaabta xan ee ay alaabta EPS u geyaan kamaan baf'adka waxaa dheer in Seattle ay doonayso in lagu badiyo alaabta xawaaraha. Alaabta loo adeegsan karo in kama lagu nafaqeyso waa mid si fudud loo kula kuwada lagu shubi karo hawo qariinka.

Haddaan ka heli karna alaab aan ku beddelo? Waxaa madaaxda iyo alaabta kuwada lagu nafaqeyn karo mid kasta ee aad ka hesho alaabta adeega kuwada lagu shubo. Waa in aad istimaalo alaabta kuwada lagu nafaqeyn karo ee ay Dawladda Hoose ee Seattle iyo hay'adda Cedar Grove Composting ay oggii yihiin.

Thành Phố Seattle nghiêm cấm sử dụng các loại hộp đựng thực phẩm và ly đựng nước làm bằng polystyrene giãn nở (EPS, đôi khi còn được gọi là "Styrofoam") tại tất cả các nhà hàng.

Khi nào lệnh cấm này bắt đầu có hiệu lực? Ngày 1 tháng Giêng, 2009

Các loại sản phẩm nào thường được làm bằng EPS? "Hộp đựng đồ", chén, đĩa, và ly đựng đồ uống là các sản phẩm thường được làm bằng chất liệu này.

Tại sao tôi nên làm gì? Quý vị phải ngừng dùng các sản phẩm dùng đồ ăn làm bằng EPS từ nay tới hết ngày 1 tháng Giêng, 2009.

Quý vị có thể chuyển sang dùng bất kỳ sản phẩm thay thế nào khác, nhưng Thành Phố chuyển các sản phẩm chuyển sang sử dụng các loại vật liệu có thể làm phân ủ được. Quý vị phải chuyển sang dùng các sản phẩm dùng đồ ăn bằng nhựa có thể tái chế hoặc có thể làm phân ủ được, kể cả nắp đậy và dao muỗng nĩa, từ nay tới hết ngày 1 tháng Bảy, 2010.

Tại sao cần phải chuyển sang dùng các sản phẩm có thể làm phân ủ? Ngoài các ảnh hưởng bất lợi cho môi trường của EPS, thành phố Seattle cũng muốn làm phân ủ từ các thực phẩm cũng như các đồ dùng. Các sản phẩm có thể làm phân ủ giúp quý vị vứt bỏ rác và đồ đựng thực phẩm vào thùng phân ủ dễ dàng.

Tôi có thể tìm mua các sản phẩm thay thế ở đâu? Quý vị sẽ tìm thấy thông tin về các sản phẩm có thể sử dụng làm phân ủ ở bất kỳ nơi nào quý vị mua các sản phẩm phục vụ ăn uống. Quý vị phải sử dụng các sản phẩm đã được Thành Phố Seattle và Cedar Grove Composting chấp thuận.

Ipinagbabawal ng Lungood ng Seattle ang paggamit ng expanded polystyrene (EPS, o ang tinatawag na "Styrofoam") na siyang lalagyan ng paglala at isumin sa mga restaurant o lugar kalmat.

Kailan sisimulan ang pagbabawal nito? Enero 1, 2009

Ano ang mga tipikal na produktong gawa sa EPS? "Clamshells" mangkok o tapayan, plato o pinggan, baso at iba pang lalagyan ng isumin ay ang mga tipikal na produkto.

Ano ang dapat gawin ng akong negosyo? Dapat ihinto ang paggamit ng mga produktong EPS sa paglala simula Enero 1, 2009.

Maaari kayong lumipat sa paggamit sa mga alternatibong produkto ngunit inirerekomenda ng Lungood ng Seattle na lumipat sa mga materyal na maaaring i-compost (compost = nabubuklat na bagay upang gumiting pataba ng lupa).

Simula sa 1-Hulyo-01, 2010, upalaging gamitin ng mga produkto na maaaring gumiting muli o i-recycle mula sa mga paglala na maaaring i-compost karama ang nakip at kutsara, dinakot at kumilya.

Bakit kailangang lumipat sa produktong maaaring i-compost? Halitan sa negatibong epekto sa kapaligiran ng EPS, ngiti ninanala nang Lungood ng Seattle na i-compost ang basur mula sa paglala. Ang mga produktong maaaring i-compost ay maaaring gawin nang mayroong nakabang curling lalagyan para dito. Saan ko maaaring makakuha ang kapalit na mga produkto? Maaari kayong makakuha ng impormasyon o malapitan sa pagpapali sa pagpapali ng mga basurang paglala o compost kung saan layo namimili ng mga produktong paglala. Dapat gamitin ang mga produktong may pahintulot ng Lungood na Seattle at ng Cedar Grove Composting na maaaring i-compost.

**서울시는 모든 식당에서 확장형 폴리스티렌(EPS) 용기 "스티로폼"이라고 부름) 사용 종기와 용 사용을 금지시켰습니다.**

**언제부터 유효한가?** 2009년 1월 1일

**EPS를 주로 어떤 제품들을 만드는데가?** 흰 폴리스티렌으로 만든 투명 일회 용기, 그릇, 접시, 물보수 한 용기입니다.

**금지하는 시합을 어떻게 해야 하나?** 2009년 1월 1일까지 EPS 용기 사용을 중단해야 합니다. 다른 제품으로 바꾸고 있지만

서울시는 가능한 최단 가능 재료로 만들 것을 권장합니다. 2010년 7월 1일까지 재용 가능 폴리스티렌이나 최단 가능 재료로 만든 제품으로 바꾸어 합니다. 투명과 스푼 또는 포크에 어귀에 포함됩니다.

**왜 최단 가능 제품으로 바꾸는가?** EPS는 환경에 부정적 영향을 끼칠 뿐 아니라, 서울시는 가능한 많은 폴리스티렌

쓰레기를 최단화하기 원합니다. 최단 가능 제품들은 폴리스티렌과 폴리스티렌 용기보다 용이 용이 할 수 있는 경질한 용이 있습니다.

**어떤 다른 제품들을 어디서 구입하나?** 서울 용기를 구입해 용이 용이에 들어보면 이러한 제품들에 대한 정보를 알 수 있습니다. 반드시 서울시는 시와 시다 그로브 컴포스팅(Cedar Grove Composting)이 승인한 제품물 사용해야 합니다.

**서울시에서 지정된 모든 식당에서 확장형 폴리스티렌(EPS) 용기 "스티로폼"이라고 부름) 사용 종기와 용 사용을 금지시켰습니다.**

**언제부터 유효한가?** 2009년 1월 1일

**확장형 폴리스티렌(EPS) 용기** - 일반적인 EPS 용기는 다양한 식품용, 컵, 접시, 음료수 용기 등입니다.

**금지하는 시합을 어떻게 해야 하나?** 2009년 1월 1일, 반드시 EPS 용기 사용이 중단되어야 합니다. 다른 제품으로 바꾸고 있지만

서울시는 가능한 최단 가능 재료로 만들 것을 권장합니다. 2010년 7월 1일까지 재용 가능 폴리스티렌이나 최단 가능 재료로 만든 제품으로 바꾸어 합니다. 투명과 스푼 또는 포크에 어귀에 포함됩니다.

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Learn more at [www.resourceventure.org/plasticfoamban](http://www.resourceventure.org/plasticfoamban) or (206) 343-8505

## APPENDIX E: Findings

### Background research of all 3 cities, from City of San Jose data base

Municipality	Date Enacted	Law/Resol ution	Purpose of Ordinance	CEQA	Exemptions	Exempted Products	Products Banned	Who's affected?	Notes
<a href="#">City of Portland</a>	1-Jan-90	Law	Environmental impacts on wildlife and humans. Recycling the material is expensive and not practical.	Oregon does not have the same regulations as CA. An investigation was carried out to ensure that the new ordinance wouldn't conflict with existing ones.	Exemptions are granted if extreme economic hardship is proven. Exemption is good for only two years. They can be renewed after a re-evaluation of eligibility. Once two year exemption expires, property or food vendor are subject to the ordinance. Exemptions are unique to the property or business owner, and may not be assignable, transferable, or otherwise be	Foods that have been prepackaged outside the store. Raw eggs. Raw meat. Unprepared fresh fruits & vegetables packaged in store for sale in units (eg box of mushrooms). Beverages packaged outside of the store.	Any food ware made of polystyrene. Having closed cell air capacity of 25% or greater, or a density of less than .78 g per cubic cm based on one polystyrene density of 1.05g per cubic cm.	Any establishments selling prepared food, including sidewalk food vendors, store, shop, sales outlet, grocery store, and delicatessens within the city limits. City facilities and sponsored events, including the use of parks.	Enforcement procedures and fines have been established. Ordinance covers all non-reusable waste, not including sewage sludge, septic tank, cesspool pumpings, discarded or abandoned vehicles.
<a href="#">City of San Francisco</a>	1-Jun-07	Law	Waste Reduction Ordinance, goal is to have zero waste by 2020. To protect the public health and safety of city residents, and the city's natural environment, waterways, and	Exempt	If a suitable affordable biodegradable/compostable or recyclable product is not available, it is determined by the city Administrator whether this applies. They have to demonstrate that the product that they choose to replace beat least 15% higher than any compostable	Aluminum products, polystyrene foam coolers and ice chest intended for reuse. Economic hardship waiver can be waived for up to a year.	containers, bowls, plates, trays, cartons, cups, lids, straws, forks, spoons, knives, napkins, and any item designed for one-time use for prepared foods, such as takeout and/or leftovers.	City contractors and facilities. City Departments. Restaurants or retail food vendor within the city and County of San Francisco.	City Administrator is required to compile and maintain a list of affordable biodegradable/compostable or recycle alternatives for each product. Affordable stands for a product that is no more than 15% than the cost of a non-biodegradable non-compostable or non-recyclable product. Contractors have to sign a contract stating they will comply with the Food Service Waste Reduction Ordinance. Enforcement and
<a href="#">City of Seattle</a>	Two different dates	Law	Litter reduction due the financial cost of disposing of it. Part of their green house gas reduction goal, and to have compostable food containers.	<u>Environmental Impact study done.</u> <u>plastic bags and polystyrene.</u>	There are no exemptions. However, it is part of the ordinance to work with small businesses. No businesses have gone out because of the ordinance.	Prepackaged foods in expanded polystyrene that "have been filled and sealed prior to receipt by the food service businesses." Cutlery, straws, small portion cups, and cocktail sticks.	food containers, plates, clamshells, hot & cold beverage cups, meat and vegetable trays, egg cartons, utensils, and any item made from polystyrene.	full-service restaurants, fast food restaurants, cafes, delicatessens, coffee shops, grocery stores, vending trucks or carts, business or institutional cafeterias, or other businesses selling or providing food within the city.	Prohibition on food service businesses affected on January 1, 2009; prohibition for food service businesses providing raw meats affected July 1, 2010. They had stakeholders submit reports on the prices, performance, and availability of alternative products. In return, the City helped develop an approach to bring the prices down, and increase availability of the alternative products. Legislation had financial implications. No Political fear due to citizen support.

*Interview responses of all 3 cities: Best management practices*

1. Audience: Quantity Municipality & type	2. Baseline Data: i.e. what stats do you have? Source? Do you have a public opinion survey	3. Partners	Tactics, mailers, knock/talk, meetings, etc.	If meetings, what format	4. Success	5. Lessons learned	6. EIR
around 1000 establishments and Portland, OR growing,	No baseline. A definite change in litter has been noted.	Addressed primarily at City Council level. No partners. Establishments were changing their practices prior to the ordinance, mainly to uphold an image with their customers.			The passage of the ordinance	Alternative products still found in landfill. Be sure to establish a method of disposing of the compostable/biodegradable waste.	No EIR. Investigated city policies, verified that the new ordinance did not conflict with existing state and city regulations.
SF, CA	<ul style="list-style-type: none"><li>Quantity - 4500 restaurants were affected</li><li>Type, i.e. small, chains, etc - All food vendors and providers.</li><li>Language</li></ul>	<ul style="list-style-type: none"><li>Restaurant Depot</li><li>Neighborhood associations</li><li>Golden Gate Restaurant Association</li></ul>	<p>Never was sent out directly to the restaurant, and later to the registered owner. Once ordinance was passed I noticed was put out through popular channels, such as newspapers.</p> <p>6 meetings were held at different neighborhoods. Very successful meetings. Neighborhood associations assisted in the organization of the meetings. The single meeting that did not have neighborhood association involvement had a turnout of 1 person.</p>	<ul style="list-style-type: none"><li>The city administrator ran the meetings. Public could state their opinion, but it was mainly to educate the affected audiences.</li><li>Invited food establishments</li><li>Invited vendors to show their products &amp; to compare prices.</li><li>Public Participation</li><li>CSP staff present to answer any technical questions.</li></ul>	<p>Had an informational table at Restaurant Depot (large wholesale restaurant supplier). It proved to be very successful, because it was an opportunity to speak with decision makers (e.g. restaurant managers &amp; owners). This table proved to be very successful.</p> <p>Used volunteers to help with the outreach</p>	<p>The language in the ordinance created some confusion. "Affordable means purchasable for not more than \$10 more than the purchase cost of the non-biodegradable non-compostable or non-recyclable alternative(s)." Informational table at Costco, but it was not a successful strategy. It was hectic and not a lot of restaurant owners overheard.</p>	No EIR. Issues have not come up.
Seattle, WA	<ul style="list-style-type: none"><li>Quantity - 4000 restaurants were affected</li><li>Type, i.e. small, chains, etc - All food vendors</li></ul>	<p>Life Cycle Analysis</p> <p>Bag &amp; Foam analysis.pdf</p>	<ul style="list-style-type: none"><li>No stakeholders were formed. It was an ordinance passed by the direction from City Council. There was not a political fear due to citizens' support.</li><li>Stakeholder groups were created later because the ordinance instructed the city to work with smaller restaurants</li><li>Neighborhood associations</li><li>All types of establishments, "from a taco truck to hospital cafeterias"</li><li>Restaurant Association - Seattle Chapter</li><li>Current Suppliers</li><li>Handlers</li></ul>	<ul style="list-style-type: none"><li>Sent 3 to 4 letters to educate about polystyrene ban</li><li>Fall of 2008, after ordinance was passed, mass mailing to all affected establishments.</li></ul>	<p>&lt;5% of businesses are out of compliance</p>	<p>When creating the ordinance, establish where alternative waste is going to be placed. In 2010, Seattle had to add a section to the ordinance setting aside bins specifically for compostable items.</p>	Environmental impact study done: plastic bags and polystyrene.



## Measures/indicators of all 3 cities

Municipality	Ordinance passage	staff reports/Environmental reports	Contact with hauler/composting program	Outreach to stakeholders: before/after and during - Before and after survey to business	Handouts: fact sheet, acceptable food ware, food service ware vendors list, etc.	Enforcement mechanisms: Site visits after implementation	Rate of compliance/ Reduction in EPS litter	Inquiries from other communities and organizations
Portland, OR	Ordinance: 17.102.300, passage January 1, 1990	1) Commercial food composting policy analysis: Portland, Oregon 2) Paper waste: Why Portland's Ban on Polystyrene foam products has been a costly failure	We have had residential yard debris composting since 1992. In 2011 we started weekly collection for residential food scrap with yard debris. Some businesses have been voluntarily composting food scraps for a number of years. In 2008 the Portland Recycles Plan set forth requirements for food composting by the largest food-producing businesses.	A task force was formed by City Council and reviewed possible actions regarding polystyrene foam for three months. The task force's recommendations were amended by City Council to enact the ban on foam food containers.	When our enforcement person follows up on PSF complaints she provides information about the ordinance and gives them suggestions for other materials that are acceptable food containers.	based. When we receive complaints our staff investigates. Generally we can reach compliance just by information sharing and a follow-up site visit. Most complaints are about new food carts, restaurants and grocery stores are usually very good	No baseline. A definite change in litter has been noted.	Council first became involved with the polystyrene foam issue in July, 1988, when they unanimously approved an ordinance imposing an immediate ban on city purchase of any
San Francisco, CA	Passed Nov 21, 2006 and implemented June 1, 2007	1) 2007 litter audit, 2) 2008 litter re-audit 3) 2009 litter audit	worked with hauler. Once we open up the plastic issue what qualified to be recyclable, we widened what is compostable or recyclable. Initially was just numbers 2, 4 and 5 were ok at first, then allowed 1 and 6 (clean) and now were now compliant.	Outreach mainly after passage of ordinance (3-4 before and 4-5 months after): combination of hearings at various communities with help from neighborhood associations to inform of ordinance as well as tabling at Restaurant Depot and going out to over 4,000 of the affected businesses to inform of ordinance (4 years)	Outreach material available in various languages: English, Chinese and Spanish; handouts include FAQs on the Food Service Waste Reduction Ordinance, Accepted Compostable or Recyclable Food Service Ware in San Francisco, Vendors of Compostable or Recyclable Food Service Ware and Bags, Compostable Bags and Other Products	• 4200 restaurants have been inspected since ordinance was passed (4 years). • 150 citations; 400-500 warning letters.	Briefly reference Berkeley and Oakland, but ordinance was motivated by based off of any studies etc.	
Seattle, WA	EPS food ware ban 1, 2009 & Mandatory conversion of food ware to compostable and recyclable alternatives July 1, 2010.	1) Alternatives to Disposable Shopping Bags & Food Service Items Volume 1 & 2, "Herrera report" 2) Analysis of the Seattle Bag Tax & Foam Ban Proposal 3) 2006 Residential Waste Stream Composition Study 3) Summary Report of the 2001 Survey of Washington State's Recycling Industry 4) 2000/01 Litter Composition Study 5) 2005 Residential Recycling Composition Study 6) 2006 Residential Waste Stream Composition Study	1) Public Opinion on Disposable Plastics December 2007 2) Focus group (see Appendix I)	Outreach material available in various languages: English, Amharic, Cambodian, Chinese, Korean, Laotian, Oromo, Russian; Handouts include: Food Packaging Requirements and Resource Flyer, Site Checklist, Food Compostables letter, Foam Ban Flyer		less than 5% out of compliance, only cited 6 businesses		