



Agenda Item #: 8  
Cost Center: Contingency  
Staff Contact: Smith  
Agenda Date: 8/16/2017  
Approved By:

## **ITEM: Request for Direction on a Polystyrene Waste Reduction Model Ordinance**

### **I. RECOMMENDED ACTION / ALTERNATIVES TO RECOMMENDATION**

Staff recommends the Board provide direction on whether staff should develop a model ordinance to reduce polystyrene waste.

### **II. BACKGROUND**

In February 2017, the Board of Directors approved the Sonoma County Waste Management Agency's work plan that included research of a model ordinance to reduce polystyrene waste. Polystyrene bans have been implemented in over one hundred cities and counties in California as a result of its adverse effects to human health and costly environmental impacts. Although polystyrene makes up a small fraction of Sonoma County's waste stream, as with carryout bag waste, polystyrene often becomes litter where its long term environmental impacts are pervasive and perpetual.

Polystyrene is a petrochemical manufactured from non-renewable fossil fuels and synthetic chemicals. Styrene and benzene are two common chemicals used to manufacture polystyrene. Styrene is listed as a hazardous air pollutant in an amendment of the Clean Air Act of 1990. Findings by the National Toxicity Program state Styrene is "reasonably anticipated to be a human carcinogen" in their Report on Carcinogens published in 2011.

Polystyrene has a wide variety of uses and is most often seen in two forms, solid polystyrene and expanded polystyrene. Solid polystyrene is a hard, rigid plastic that is used to produce various automobile body parts, electrical devices, corrosion-resistant tanks and pipes, construction items and printer cartridges among other items. In addition, coffee cup lids and disposable cutlery can be made from polystyrene. Foamy expanded polystyrene (EPS) is used to make food containers such as cups, plates, and clamshell packaging. EPS is also used as insulation and packaging material such as shipping peanuts.

There are two ordinances in effect in Sonoma County related to polystyrene waste reduction. In 1989, under Title 19-6.1, the County of Sonoma passed a ban on polystyrene foam at all government facilities. That same year, the City of Sonoma passed a similar ordinance to be implemented at all government facilities in Chapter 7.30 of the municipal code. There have been several attempts to establish a statewide ban, including SB 705 in the current legislative session and SB 568 in 2011. It is unclear whether statewide legislation will be enacted, so staff recommends local action if the Board wishes to reduce polystyrene waste.

## **ATTACHMENT 9**

### III. DISCUSSION

The San Diego Coastkeepers reported California produces 165,000 tons of EPS food containers annually, and less than one percent is recycled. According to Californians Against Waste, there are 110 city and county ordinances in California that restrict or ban EPS food packaging, with some varying details. The overarching impetus of these ordinances are related to environmental impacts of the non-biodegradable material.

#### *Litter and Disposal*

Polystyrene, particularly EPS, continues to be environmentally problematic with regard to marine litter and disposal. Polystyrene, and plastic in general, is not biodegradable. Instead, plastic photodegrades which means it breaks into smaller pieces when exposed to sunlight and persists in the environment for hundreds of years<sup>1</sup>. Lightweight polystyrene is easily blown or washed into creeks, is an observable waste stream in storm drains and eventually makes its way into the ocean becoming marine debris. Since EPS is brittle, this material breaks down easily in small pieces making cleanup difficult. When it enters the waterways and ocean, it becomes a threat to marine life often being mistaken for food according to the National Oceanic and Atmospheric Administration's report on marine debris in 2014.

SCWMA staff reached out to local organizations that assist in litter cleanup such as the Sonoma County's Surfrider Foundation chapter and Clean River Alliance. Both organizations verified the prevalence of EPS during their litter cleanup events, and emphasized the difficulty of collection since it breaks into small pieces. The Clean River Alliance also stressed the widespread presence of polystyrene coolers and ice chests purchased from retail stores.

In conjunction with litter issues, polystyrene food service containers are harmful to the environment since it is frequently used for single-use purposes and is not recyclable. In Sonoma County, solid polystyrene and EPS are not accepted in the residential curbside recycling program. The driving factors include commodity pricing, high shipping costs due to low weight/high volume, storage capacity needs, and a lack of viable markets for recycled EPS. Furthermore, food containers are typically food soiled and therefore require an additional step to clean the material. Given the barriers around recycling polystyrene foam, it is not accepted in most curbside programs throughout California, and the United States. According to research conducted by California's Against Waste, less than 1% of all the expanded polystyrene is recycled in California. Proper disposal of polystyrene foam is landfill, and there is still no conclusive evidence on how long it takes EPS to fully degrade according to the Environmental Protection Agency.

#### *Polystyrene Bans in California*

Although the polystyrene bans in California vary slightly in detail, the primary function is to ban the distribution or sale of EPS food packaging. The ordinances specifically target food service establishments from distributing EPS takeout containers. In a recent trend, ordinances are also banning the sale of polystyrene ice chests, meat and fish trays, pool toys, and packaging material at retail establishments. County-wide ordinances exist in Alameda County, Marin County, Mendocino County, Monterey County, and San Mateo County.

<sup>1</sup> PELAGIC PLASTIC, Paper Prepared For AB 259 (Kreorian), AB 820 (Kamette), & AB 904 (Feuer), Algalita Marine Research, Apr 9, 2007.

## *Potential Effects of a Polystyrene Ban in Sonoma County*

SCWMA staff received a 2017 report from the County's Environmental Health Department that listed 2,300 businesses with food-handling permits. These businesses and entities included restaurants, schools, caterers, bed and breakfast establishments, hotels, and food trucks. All 2,300 entities would potentially fall under the scope of an ordinance, some of which may have already converted to a recyclable or compostable alternative on a voluntary basis.

## *Alternatives to Polystyrene Foam Food Containers*

Alternatives to polystyrene foam containers are abundant for either recyclable or compostable options. Products made from alternative materials cost more than polystyrene containers, which is likely why some local businesses have not voluntarily switched. According to pricing provided by WebstaurantStore in February 2017, on average, per unit costs for alternative packaging are twice the price of EPS packaging prices. For example, an 8 oz. EPS coffee cup is approximately \$0.015/cup where a paper alternative is \$0.025/cup. A detailed pricing comparison for alternatives can be provided at the Board's request.

Most ordinances allow either recyclable or compostable alternatives to polystyrene foam. However, food contaminated recyclable plastics are problematic for recycling. Some jurisdictions suggested requiring compostable alternatives only as a best practice. Compostable alternatives are substantially more expensive compared to polystyrene foam. Furthermore, many composting facilities, including those to which the SCWMA currently directs organics materials do not accept compostable serviceware due to its potential to be mistaken for non-compostable serviceware, its incompatibility with organic finished product standards, and the material's inability to fully degrade during the facility's timeframe.

## **IV. FUNDING IMPACT**

The only funding impact to date has been a minimal amount of staff time to research other jurisdiction's ordinances. If the Board gives direction to continue development of a model ordinance, the funding impacts are expected to be limited to staff and SCWMA Counsel time; staff does not anticipate requiring consultant assistance. However, staff time could be significant if SCWMA staff presents a model ordinance for each Council's and Board's consideration.

## **V. ATTACHMENTS**

Clean Water Action Facts about Styrofoam Litter (Expanded Polystyrene Foam)  
Center for Sustainable Energy's Recommendations for Reducing or Banning Foam Food Service Containers  
Appendix A: List of California cities with EPS bans