

County of Santa Clara

Recycling and Waste Reduction Commission
Integrated Waste Management Division

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AGENDA ITEM #4

DATE: June 27, 2011
TO: Recycling and Waste Reduction Commission of Santa Clara County
FROM: Source Reduction and Recycling Subcommittee of the Technical Advisory Committee
RE: Managing Expanded Polystyrene Foam Food and Beverage Containers in Santa Clara County

Introduction and Drivers

For purposes in this report, all references to polystyrene, polystyrene foam, expanded polystyrene foam or foam food and beverage containers are all considered foam food and beverage containers, except when specifically referenced differently. Expanded polystyrene (EPS) foam (commonly referred to as Styrofoam^{TM1}) is pervasive in today's society; it is a great insulator – keeping beverages hot and ice cream cold. It keeps computers and furniture safe from damage during shipping. It has also become problematic to manage at the end of its life. The more rigid, block foam is an international commerce issue and might be best addressed at the state or national level. Polystyrene foam food and beverage containers are more challenging to manage than block foam, but can be controlled at the local level.

In Santa Clara County, there is a lack of *viable*, local recycling markets for post consumer polystyrene foam food and beverage containers. Newby Island Sanitary Landfill in Milpitas (run by Allied Waste Management) is currently collecting clean foam block only from commercial businesses if it is bagged. Since Dart Container Corporation donated a densifier to the site, Allied has put out a drop-off container for Milpitas residents who may drive to the site and drop off wiped-clean foam food packaging and block foam. They are not collecting at curbside at this time. With the exception of the drop off box located at Newby Island, the County of Santa Clara County does not have polystyrene foam recycling programs for food service products. According to a 2004 study by the California Integrated Waste Management Board, of the 377,580 tons of polystyrene produced in the state, only 0.8% (3,020 ton) is recycled. Of that 0.8%, 0.2% (310 tons) is comprised of polystyrene foam food service packaging.² Because it is not currently recycled in Santa Clara County, polystyrene foam food and beverage containers take up landfill space.

Foam comprises 15% of storm drain litter, according to California Department of Transportation.³ It is the second most common type of beach litter, according to a beach debris study conducted in Orange County.⁴

¹ "Styrofoam" is a trademark of The Dow Chemical Company for extruded foam products used as building materials and craft supplies. Although foam cups, bowls, clamshells, and trays made from expanded polystyrene foam beads (EPS) or from extruded polystyrene foam sheets (XPS) are commonly referred to as "Styrofoam" by the public and in the media, Dow's Styrofoam products are not used to make foam cups or any other food service products.

² California Integrated Waste Management Board (December 2004), "Use and Disposal of Polystyrene in California: A Report to the California Legislature," Table 4, Page 14.

³ California Integrated Waste Management Board (December 2004), "Use and Disposal of Polystyrene in California: A Report to the California Legislature Page 3.

⁴ S. Moore *et al.*, (2001) "Composition and Distribution of Beach Debris in Orange County, California," Marine Pollution Bulletin 42.3: 241-245. Plastic pellets used to manufacture plastic products were the most abundant type of debris.

Commissioners: Jamie McLeod, Chair; Ronit Bryant, Kansen Chu, Susan Garner, Jim Griffith, Linda J. LeZotte, Evan Low, Cat Tucker, Kris Wang, Mike Wasserman

Expanded polystyrene foam is a major pollutant in creeks and waterways that flow to the Bay and beyond. Unlike other items that litter the waterways, polystyrene easily breaks into tiny pieces that can be mistaken for food and ingested by aquatic animals.

Because expanded polystyrene breaks down into smaller lightweight pieces, these small pieces contribute to roadside litter. CalTrans spends \$60 million annually on litter clean up costs. 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.⁵ While the overall amount of polystyrene foam as a percentage of litter is small, the environmental impact of this product is disproportionately deleterious on aquatic life.

This report presents background; key considerations; a snapshot of alternative products; summaries of strategies used in other jurisdictions to reduce expanded polystyrene; current actions; current legislation; tiers for consideration; a suggested timeline; and steps for implementing a ban.

Background

In 2009, the Recycling and Waste Reduction Commission (RWRC) directed staff to report back with policy recommendations for decreasing the amount of expanded polystyrene (EPS) foam food and beverage containers in Santa Clara County. While there was no direction to evaluate the health effects of polystyrene, there are conflicting views on the toxicity of this product. On June 10, 2011, the National Institute of Environmental Health Sciences (NIEHS) identified styrene as "reasonably anticipated" to be a human carcinogen, particularly to workers involved in the production of polystyrene and products manufactured with polystyrene. Therefore, recycling polystyrene raises concerns about exposing recycling facility workers to this cancer-causing substance.⁶ Representatives speaking for industry state otherwise.⁷

In addition to being directed by RWRC, reducing or eliminating the use of polystyrene foam food and beverage containers in Santa Clara County supports one of the *guiding principles* of the RWRC Zero Waste Policy which recommends redesign or elimination of products that cannot be reutilized after their intended use.

The Source Reduction and Recycling Subcommittee (SRR) of the Technical Advisory Committee has been meeting monthly to discuss this complex issue. The SRR Subcommittee has returned to the RWRC periodically with status reports and to seek clarification and further direction.

Key Considerations

There is no single solution for the management of expanded polystyrene, and no two jurisdictions in Santa Clara County that have *identical* collection services. Each hauler/collector handles materials differently per the jurisdiction agreements with their haulers. Thus, there are several ways to address this issue; each dependant on what material is collected curbside and the material's disposition post collection. For jurisdictions that offer curbside food waste collection alternative products may be composted in food waste collection systems. For jurisdictions that do not currently have curbside food waste collection, it will be important to review the current recycling options and identify what types of containers their haulers can process for recycling.

Alternatives to Expanded Polystyrene Foam Food and Beverage Containers

There are many different types of food and beverage containers that are more easily managed by commercial MRF's than ever before. Alternative containers are made from such materials as polylactic acid (PLA), bagasse (sugar cane fiber), wheat straw and fiber board. The advantage of using wheat straw and bagasse is that they

⁵ City of San Francisco Streets Litter Re-Audit 2008. Available at: http://sfenvironment.org/downloads/library/2008_litter_audit.pdf.

⁶ <http://www.niehs.nih.gov/news/releases/2011/roc/>

⁷ <http://www.styrene.org/news/pdfs/06-10-11-statement-ntp-listing.pdf>

are both byproducts of other useful products and are rapidly renewable within a year. Each material is managed differently in the waste stream and as such the benefits of one over the other is situational. Alternative products cost more than foam at this time. However, it is anticipated that as demand for these alternative products increases, the prices will decrease. Also, there are several opportunities for cooperative purchasing of these alternative products. For instance, GreenTown Los Altos offers a program for all Santa Clara County businesses to purchase alternative food ware at a 25% discount. Some restaurants in Santa Cruz charge a nominal fee for takeout containers in order to cover the cost of the alternative products and surveys indicate that the public is willing to pay a little extra for these products.

Current Actions

According to Clean Water Action, 50 jurisdictions in California have taken action to ban foam food containers⁸, including the cities of Millbrae, Palo Alto, San Bruno, San Francisco, Hayward, Fremont, Oakland and the County of San Mateo.

Laura Kasa from the environmental non-profit Save Our Shores reports that since implementing its ordinance to ban polystyrene, “the County of Santa Cruz has seen a 61% decrease in polystyrene foam take out containers in their river cleanups since 2007. The number of containers went from 18 items per cleanup to 7 items per cleanup in 2011.”

Reducing polystyrene foam is one of the three priority actions identified by the California Ocean Protection Council’s 2008 strategy to reduce marine litter.⁹

Current Legislation

On June 2, 2011, SB 568 (Lowenthal) passed out of the Senate on a 21-15 vote. On June 15, 2011 the bill was amended in the Assembly and would prohibit a food vendor, on and after January 1, 2016 (school districts 1/1/17), from dispensing prepared food to a customer in a polystyrene foam food container. It would also exempt a school district, city or county that adopts an EPS recycling program/ordinance that has a reasonable likelihood of achieving a 60% recycling rate. RWRC has not taken a position. Both the County of Santa Clara Board of Supervisors and the Santa Clara Valley Water District have sent support letters for this bill. The American Chemistry Council is on record as opposing this bill.

Recycling Expanded Polystyrene Foam at Curbside

Industry has noted that some jurisdictions are recycling polystyrene foam food and beverage containers from curbside collections. Cities that have implemented curbside collection and recycling are primarily located in Southern California. Those materials are sorted at processing facilities and placed in a densifier located at the facility. The densified material is then transported and sold to companies that manufacture picture frames, molding and office supplies. The City of Rancho Cucamonga is currently piloting this process.

Some Santa Clara County jurisdictions have accepted polystyrene foam at the curb for many years. However, all but the Newby Island material recovery facility (MRF) are pulling both block and food and beverage polystyrene and landfilling it. By the time the food ware is taken off the sort line, it is too contaminated to be recycled. Block polystyrene foam takes up a lot of space before being densified, thus many MRFs in Santa Clara County do not have the space to store the collected block foam in addition to the densifier. In Santa Clara County, jurisdictions’ collection programs either do not accept any expanded polystyrene or collect it curbside and then landfill it.

⁸ <http://www.cleanwateraction.org/feature/ban-the-foam#bans>

⁹ http://www.opc.ca.gov/webmaster/ftp/pdf/opc_ocean_litter_final_strategy.pdf

School Lunch Tray Recycling

Another program was instituted at Westwood Elementary School in Lodi three years ago. This program has been ongoing for three years and was initiated by a teacher at that school. Students receive their meals on polystyrene foam trays. When finished, they go to a station where student monitors instruct them on cleaning their trays. Trays are stacked, placed back in the boxes they were received in and the teacher drops them off at the DART Container in Lodi for densifying. The densified blocks of foam are then sent to a facility to be remanufactured into picture frames and base board molding. The Lodi School District has expanded this program to include 47 sites and has added a part time driver (25 hours/week) to collect from all 47 sites every other day and deliver to DART Container.

Tiers

Tiers are progressive steps that local agencies and/or jurisdictions can take to reduce and eventually eliminate EPS food and beverage containers. Each higher tier includes all of the steps from previous tiers as each progressive tier builds upon the others.

Tier One – Education and Outreach

Jurisdiction engages in discussions with the public and stakeholders at some level.

This could include:

- Introducing the concept of alternative food and beverage containers at:
 - community meetings
 - Chambers of Commerce
 - Restaurant Associations
- Information in hauler and city newsletters
- Taking surveys at various events and polling the community about their level of awareness

Tier Two – Jurisdiction adopts a policy banning polystyrene foam at all City/County facilities and/or City/County-hosted events.

In addition to education and outreach to residents, the business community, etc., it is important that the City or County demonstrate their leadership by specifying what take-out containers can be used in their cafeterias, facilities and at their events. A policy can be drafted that requires food and beverage vendors in City/County facilities to use only containers that are accepted and processed by their jurisdiction's hauler. This can easily be added to facility use application forms and agreements. It is important that a jurisdiction work with its hauler to determine what they will and will not collect for processing and that any materials collected are not landfilled. For example, a hauler may only accept recyclable plastics numbered 1 and 2 or may collect aseptic containers only to landfill them once sorted.

The County of Santa Clara's hauler (Allied Waste) provides food waste collection at County facilities. This hauler will accept compostable containers and recyclable containers including, but not limited to, paper, glass, aluminum, cardboard and plastic bottles, jars and tubs. Therefore in County cafeterias and at County sponsored events, food and beverage containers made with any of those materials would be acceptable but those made from polystyrene foam would not.

For this to happen, these items should be considered:

- Support from Council/Board
- Existing policies in your City/County Environmental Purchasing Policy
- Procurement Policies and Open Contracts
- Garbage/Recycling Contracts
- Outreach to staff/employees to educate them on new policies and processes

A City/County may wish to follow in the steps of the City of Sunnyvale. They have a policy that prohibits the use of tax payer dollars to purchase expanded polystyrene foam food and beverage containers at their City/County facilities. They have also done this with single-use water bottles.

Tier Three – Ban expanded polystyrene foam food and beverage containers at all food vendors within the jurisdiction.

The County of San Mateo passed an ordinance that prohibits any food vendor in unincorporated San Mateo County from using polystyrene-based food service ware. Their ordinance was crafted so that cities within San Mateo County can easily adopt their own ordinances. There are more than 50 municipalities that have adopted bans on polystyrene in California and many good models to follow. A list of these cities and their ordinances is listed in Appendix 1 – Ancillary Documents and Web Links

Tier Four – 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.

This tier adds to the previous tiers by suggesting that a City or County can adopt an ordinance that includes those products that are diverted from landfill in their hauler's recycling infrastructure rather than excluding certain products. This approach manages the waste stream by identifying specifically what products can and are being recycled. For example, a hauler may only accept paper, glass, aluminum, cardboard and recycled plastic containers numbered 1 through 5.

Utilize ordinances (drafted and in many cases implemented) by other jurisdictions in the state to create a local ordinance. The City of Monterey's approach allows a city or county to be more inclusive rather than exclusive and manages the waste stream by identifying specifically what products can be received for processing in their jurisdiction.

Things to Consider Before Drafting an Ordinance

- All implications of enforcement
- Penalties consider how penalties will be assessed
- CEQA – Several municipalities around the state prepared a Negative Declaration prior to adopting their ordinances. Cost and time required to address CEQA should be taken into account when considering adoption of an ordinance to manage polystyrene foam.
- Future Franchise Agreements - When jurisdictions are extending existing franchise agreements or going out to bid for new services, it will be beneficial to consider what other jurisdictions in the region are doing in terms of waste diversion and food waste composting. Having uniform language in franchise agreements can lead to uniform policy recommendations that can be adopted regionally.

Timeline

The tiers above can be phased in over a period of time. It is recommended that jurisdictions initially begin no lower than Tier Two but certainly have the prerogative to go farther. This level provides education to residents, chambers of commerce, restaurants, employees, and the public. It also allows a municipality to showcase their environmental stewardship by taking action within their city or county.

For those jurisdictions that are prepared to move more aggressively, it may be more appropriate to start at a higher tier. It is dependent on several factors – environmental policies, priorities, political will of the Council or Board, fiscal climate and general acceptance of the community, etc.

January 1, 2012

Tier Two - Begin outreach at public events and in meetings with stakeholders and review current contracts for services with vendors and haulers

July 1, 2012

Phase into Tier Three or Four

January 1, 2013

Phase into Tier Four

January 1, 2014 - 2016

Implement SB 568, if it passes the Assembly and is signed by the Governor.

Key Resources

- American Chemistry Council
www.americanchemistry.com/
916-448-2581
- Californians Against Waste
<http://www.cawrecycles.org/>
www.cawrecycles.org/issues/polystyrene_ordinances_list
(916) 443-5422
- Clean Water Action
<http://cleanwateraction.org/>
415-369-9160
- Save Our Shores
<http://saveourshores.org/>
831-462-5660
- Save the Bay
www.savesfbay.org
510-452-9261

EXHIBIT A

STEPS FOR IMPLEMENTING A BAN ON POLYSTYRENE

The City of Millbrae used the following steps for implementing a ban on polystyrene food and beverage containers in January 2008. Their ordinance applied to all polystyrene products including rigid polystyrene (clamshells, cup lids and utensils) in addition to foam products. Staff had no real challenges because they were very thorough and methodical from the start, informing their City Council at every step in the process. They considered all potential impacts including a review of all businesses that deal with food – restaurants, grocery stores, food trucks, food processors, etc. so all the food businesses in the city are on a level playing field. Millbrae staff worked closely with their City Attorney while drafting the ordinance. Here are the steps they recommend for other jurisdictions:

1. Review different city ordinances and determine which options seem best for the City.
2. Work with your hauler to determine the food ware that is acceptable for recycling. Also discuss option of collecting food ware for composting.
3. Provide City Council with informational report listing options or present recommended option(s).
4. Conduct outreach to businesses early on in the process to gain input and describe elements of an ordinance.

Business outreach consisted of:

- Postcard/letter mailers
 - Meetings
 - Food ware demonstration/display
 - On-site visits
 - After implementation outreach listed below
5. Determine which legislation is best for the City and begin crafting it with the help of the City Attorney. Consider inclusion of CEQA Determination.
 6. Introduce at City Council meeting for first reading/vote.
 7. Conduct outreach to businesses as to when ordinance will go into effect and provide fact sheet, list of acceptable food ware and list of food service ware distributors

Staff Resources needed for implementation – staff felt this was approximately the equivalent of .25 - .50 FTE plus the time for City Attorney’s review/input and Planner’s time to draft the Negative Declaration

- Draft initial ordinance
- Draft staff reports
- Research food ware
- Work with hauler
- Outreach to businesses (before, during and after)
- Develop handouts: fact sheet, acceptable food ware, food service ware vendors list, etc.
- Site visits after implementation
- Before and after survey to business (food ware used before and food ware used after)
- Manage inquiries from other communities and organizations

Millbrae staff surveyed businesses throughout the first year asking how things were going, what products they had switched to and found no real issues from businesses. While no technical or formal evaluations were conducted beyond the surveys, it should be noted that Public Works staff noticed a dramatic drop in polystyrene foam at storm drain outfalls and during clean up events. Almost all polystyrene bans reviewed by staff include a provision for hardship. In the City of Millbrae’s case, only one business applied for an “undue hardship” provision. Millbrae’s ordinance requires that a business must reapply for undue hardship annually.

EXHIBIT B

SAMPLE RESOLUTION FOR TIER TWO

RESOLUTION OF THE CITY/COUNTY OF _____ REQUIRING ALL FOOD VENDORS USE RECYCLABLE OR COMPOSTABLE FOOD SERVICE WARE IN CITY/COUNTY FACILITIES AND AT EVENTS HELD ON PUBLIC PROPERTY

WHEREAS, the (Jurisdiction) has a duty to protect the environment, the economy, and the health of its citizens; and

WHEREAS, effective ways to reduce the negative environmental impacts of food service ware include reusing or recycling food service ware and using “recyclable or compostable” take-out materials made from renewable resources such as paper, wheat straw, and sugarcane; and

WHEREAS, polystyrene is a common environmental pollutant as well as a non-biodegradable, non-compostable, non-recyclable or non-reusable substance used as food service ware by food vendors and contractors operating within the City/County facilities; and

WHEREAS, there continues to be no substantial local recycling of polystyrene food service ware; and

WHEREAS, affordable compostable food service ware products are becoming increasingly available for most food service applications such as cups, plates, and hinged containers and these products can be turned into a compost product; and

WHEREAS, polystyrene foam fragments into smaller pieces that are ingested by aquatic life and other wildlife; and

WHEREAS, There is a prevalence of polystyrene foam packaging littering City/County parks and public places, streets and roads, waterways, storm drains and wetlands. Management of this litter places a financial burden on the City/County.

WHEREAS, local businesses and several national corporations have successfully replaced polystyrene and other non-biodegradable food service ware with affordable products; and

NOW, THEREFORE BE IT RESOLVED THAT

1. Food vendors and contractors shall provide only recyclable or compostable food ware that is accepted and processed in the City/County’s contracted waste collection system.
2. No expanded polystyrene foam food service ware shall be used in any City/County Facilities. No City/County department or agency will purchase or acquire foam polystyrene foam food service ware for use at City/County facilities.
3. All individuals, entities or organizations using City/County facilities for public or private events shall comply with the requirements in this chapter.

EXHIBIT C

SAMPLE RESOLUTION FOR TIER THREE

RESOLUTION OF THE CITY/COUNTY OF PROHIBITING FOOD VENDORS FROM USING EXPANDED POLYSTYRENE BASED FOOD SERVICE WARE

WHEREAS, the (Jurisdiction) has a duty to protect the environment, the economy, and the health of its citizens; and

WHEREAS, effective ways to reduce the negative environmental impacts of food service ware include reusing or recycling food service ware and using “recyclable or compostable” take-out materials made from renewable resources such as paper, wheat straw, and sugarcane; and

WHEREAS, polystyrene is a common environmental pollutant as well as a non-biodegradable, non-compostable, non-recyclable or non-reusable substance used as food service ware by food vendors and contractors operating within the City/County facilities; and

WHEREAS, there continues to be no substantial local recycling of polystyrene food service ware; and

WHEREAS, affordable compostable food service ware products are becoming increasingly available for most food service applications such as cups, plates, and hinged containers and these products can be turned into a compost product; and

WHEREAS, polystyrene foam fragments into smaller pieces that are ingested by aquatic life and other wildlife; and

WHEREAS, There is a prevalence of polystyrene foam packaging littering City/County parks and public places, streets and roads, waterways, storm drains and wetlands. Management of this litter places a financial burden on the City/County.

WHEREAS, local businesses and several national corporations have successfully replaced polystyrene and other non-biodegradable food service ware with affordable products; and

NOW, THEREFORE BE IT RESOLVED THAT

1. All vendor, business, organization, entity, group or individual, including a licensed retail food establishment that provides prepared food at a retail level are prohibited from using expanded polystyrene foam food and beverage containers.

EXHIBIT D

SAMPLE RESOLUTION FOR TIER FOUR

RESOLUTION OF THE CITY/COUNTY OF REQUIRING ALL FOOD VENDORS USE RECYCLABLE OR COMPOSTABLE FOOD SERVICE WARE THAT IS CONSISTENT WITH FRANCHISED COLLECTION SERVICES

WHEREAS, the (Jurisdiction) has a duty to protect the environment, the economy, and the health of its citizens; and

WHEREAS, effective ways to reduce the negative environmental impacts of food service ware include reusing or recycling food service ware and using “recyclable or compostable” take-out materials made from renewable resources such as paper, wheat straw, and sugarcane; and

WHEREAS, polystyrene is a common environmental pollutant as well as a non-biodegradable, non-compostable, non-recyclable or non-reusable substance used as food service ware by food vendors and contractors operating within the City/County facilities; and

Whereas, the National Institute of Environmental Health Sciences (NIEHS) identified styrene (a component in polystyrene foam food containers) as "reasonably anticipated" to be a human carcinogen, particularly to workers involved in the production of polystyrene and products manufactured with polystyrene.

WHEREAS, there continues to be no substantial local recycling of polystyrene food service ware; and

WHEREAS, affordable compostable food service ware products are becoming increasingly available for most food service applications such as cups, plates, and hinged containers and these products can be turned into a compost product; and

WHEREAS, polystyrene foam fragments into smaller pieces that are ingested by aquatic life and other wildlife; and

WHEREAS, There is a prevalence of polystyrene foam packaging littering City/County parks and public places, streets and roads, waterways, storm drains and wetlands. Management of this litter places a financial burden on the City/County.

WHEREAS, local businesses and several national corporations have successfully replaced polystyrene and other non-biodegradable food service ware with affordable products; and

NOW, THEREFORE BE IT RESOLVED THAT

1. All vendor, business, organization, entity, group or individual, including a licensed retail food establishment that provides prepared food at a retail level shall provide only recyclable or compostable food ware that is accepted and processed in the Franchised Hauler’s waste collection system.

Appendix 1

Ancillary Documents and Web Links

Californians Against Waste and Clean Water Action not only list those jurisdictions that have passed bans, the link here also links to those Cities and Counties ordinances and other related documents that can be used as templates for others moving forward with similar plans.

Californians Against Waste - http://www.cawrecycles.org/issues/plastic_campaign/polystyrene/local

Clean Water Action - <http://www.cleanwateraction.org/feature/ban-the-foam#bans>

Adverse Health Effects of Polystyrene - <http://www.ecologycenter.org/factsheets/plastichealtheffects.html>

Expanded Polystyrene Health Effects Harvard and FDA Study Letter from American Chemistry Council
The referenced letter was posted to ReduceWaste.org on Friday, June 24 with other materials and is titled
“Correspondence Received After June 20 Agenda Posting Relating to EPS”

San Francisco Department of the Environment – List of Approved Recyclable and Compostable Products
<http://www.cawrecycles.org/files/Approved%20food%20ware%20product%20list%206-11-07.pdf>

Cost Comparison between Expanded Polystyrene Foam and Compostable Recyclable Products
http://www.cleanwateraction.org/files/publications/ca/Cost%20Comparison%20of%20Polystyrene%20and%20other%20Take%20Out%20Containers-%20C_0