




Contra Costa County  
**Public Works**  
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## Memo

November 8, 2018

**TO:** Transportation, Water, and Infrastructure Committee  
**FROM:** Brian M. Balbas, Director   
**SUBJECT:** Proposed Ban of Polystyrene Food and Beverage Containers

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### Recommendation

- Consider a proposed ban of polystyrene food and beverage containers
- Consider the policy implications and objectives of a ban
- Provide staff with direction to develop a draft ordinance for public review
- Forward to the Board for concurrence prior to drafting the ordinance, if necessary

### Background

The Regional Water Quality Control Board issues the County a Municipal Regional Permit (MRP), a stormwater permit requiring the County to improve stormwater quality in unincorporated County communities. Many of the permit provisions focus on reducing various pollutants in the County's waterways and storm drain system. Trash is considered a pollutant and the current permit (MRP 2.0) has a strong emphasis on reducing trash, with load reduction targets of 70% by 2017, 80% by 2019 and 100% by 2022. The County has developed a Trash Reduction Plan to meet these load reduction targets, and one element of the plan is to ban polystyrene food containers. Polystyrene (often referred to as styrofoam) is an especially troublesome form of litter as it tends to break down into smaller and smaller pieces in the environment, so that one initial piece of polystyrene trash over time becomes multiple pieces of trash. And, as the polystyrene breaks down into smaller pieces it becomes more and more difficult to pick out of or extract from the environment.

County staff began looking into a polystyrene ban in April of 2018, preparing an outline of the process to develop a County ordinance, a work plan to lay out the key steps, and a tentative schedule to complete each item. The Sustainability Commission was interested in the County's proposal to ban polystyrene containers and two members met with Public Works Department staff on April 17, 2018. The Commission members

reviewed the outline, discussed the process with staff, and offered their support as the process moved forward.

### **Proposed Ordinance**

**Setting.** There are several valid reasons for banning food and beverage containers made from polystyrene foam or expanded polystyrene:

- Polystyrene production uses hydrofluorocarbons, identified as a contributor to the hole in the ozone layer
- Polystyrene is not biodegradable, is not recyclable (economically), and breaks into micro-pieces in the environment
- Styrene, the main component of polystyrene, has been classified as a possible human carcinogen
- Polystyrene chemicals can leach into food stored in polystyrene containers
- Polystyrene is manufactured from petroleum, a nonrenewable resource
- Marine animals and birds often mistake polystyrene particles as food, leading to digestive problems and often death

**Objectives.** In adopting any sort of product or material ban, the County must consider the policy implications of such a ban and, in turn, consider the following policy objectives:

- Adopt a ban that is consistent with most of the surrounding city bans
- Follow an adoption process that maximizes outreach to stakeholders and parties of interest
- Reduce trash and solid waste, increase recyclables, improve water quality, and protect the environment

**Option One: Maximize Consistency.** The first step in developing a proposed ban is to identify the cities within the County that have already banned polystyrene and what items were included in their ban (see Exhibit 1). All city ordinances ban the use of polystyrene food and beverage containers. Three cities also ban the use of other polystyrene products like packing peanuts, packaging materials, and ice chests. For the ban to be consistent with most of the cities and to reduce the impact as much as possible on food businesses, the County could consider the following elements:

- Ban polystyrene food and beverage container use by any business that sells, or prepares and sells, food or beverages to the public
- Encourage the use of returnable or reusable foodware
- Include a six-month grace period, allowing businesses to exhaust existing supplies
- Compostable containers would not be required

- Replacement food and beverage containers would have to be recyclable
- Prohibit County Departments from using polystyrene food or beverage containers
- Exempt prepared foods packaged outside the County
- Include a take-out fee provision that allows businesses to add the incremental cost increase of the alternative packaging material as a separate line item on their customer's bill

**Option Two: Maximize Environmental Protection.** Rather than develop an ordinance where consistency with surrounding cities is a priority, another approach is to use environmental protection as a priority. That option would add more provisions to enhance environmental protection. Richmond and San Pablo, for example, have ordinances with the most provisions for environmental protection. In addition to the provisions included above in Option One, the following could be added:

- Ban the sale of polystyrene food and beverage containers at retail outlets, such as grocery stores
- Ban the sale of polystyrene ice chests
- Ban the sale of polystyrene packaging materials and packing peanuts

**Outreach.** The next key step in the process is to determine how to reach out to the public, stakeholders, interested parties, and impacted parties to describe the proposed ordinance and to receive comments. Staff developed a high level communication plan (see Exhibit 2) and an outreach list that includes all restaurants, stores, convenience markets, etc. that sell food or beverages or use food and beverage containers in unincorporated communities (about 200 entities). The outreach list, which is a work in progress and continues to grow, also includes representative associations and other parties of interest, like the Restaurant Association, chambers of commerce, and recyclers or recovery businesses. To assist in describing why the County is banning polystyrene and what the ban would include, staff developed a handout that describes the proposed ban and includes a tentative schedule of key milestone events (see Exhibit 3).

Outreach began in earnest the third week of August with a letter to all parties on the outreach list informing them of the proposed polystyrene ban. A copy of the handout was enclosed with the letter. In addition, the letter included a caption in both Spanish and Chinese that directed them to a website with more information (see Exhibit 4). The website includes text in English with a button that will take the reader to a translated version of the text into either Spanish or Chinese. The letter requested comments on the proposed ban. A second letter was mailed out in October that notified interested parties of the Transportation, Water, and Infrastructure Committee meeting (see Exhibit 5). This second letter also requested comments on the proposed ban.

## Climate Action Plan

The County adopted a Climate Action Plan in December 2015, which includes many measures to reduce greenhouse gas emissions while improving community health. The following are some of the measures included in the Climate Action Plan that a polystyrene ban would help move forward:

- **Government Operations.** Measure GO.4 "Government Operations – Waste Reduction" aims at reducing waste in government operations by, in part, increasing recycling. One of the problems with polystyrene is there are virtually no recycle/recovery businesses that will accept the material for recycling. It is too light and too difficult to handle to make it economically feasible to collect the material and recycle it for reuse. Banning polystyrene food and beverage containers in County offices will require County departments to use alternative materials that are recyclable.
- **Solid Waste.** Measure W.1 "Waste Reduction and Recycling" promotes increased diversion of waste to recycling and reuse. As noted above, polystyrene cannot be economically recycled and therefore ends up in the waste stream to landfills. Banning polystyrene will require replacing food and beverage containers with a recyclable material and reduce the waste stream to the County's landfills. However, this works well for recyclable alternative materials, but not compostable alternative materials. Compostable materials can increase generation of methane gas at landfills, countering the goal of Measure W.2 "Landfill Management", which strives to reduce landfill materials with high methane generation potential. Compostable materials should only be allowed with adequate separation and collection programs in place, which currently are not available.
- **Low Impact Development.** Measure EE.4 encourages the use of low impact development strategies for new development. This results in the construction of bio-retention basins, grassy swales, and other green infrastructure facilities. These facilities collect stormwater runoff from the development, treating the runoff and increasing infiltration rates as the stormwater drains through the facility. These facilities also collect litter that blows across the landscape, including polystyrene cups and food containers, or broken pieces of polystyrene cups and food containers. We are currently in the beginning of a long-term social effort to modify the built environment to treat stormwater through green infrastructure. It is always easier to convince people to change to a new system if the system looks good and is easy to maintain. Litter, such as polystyrene food and beverage containers, become trapped in these facilities and must be removed. This litter



diminishes the aesthetics of the facility and increases maintenance costs, making the social change more difficult.

- **Energy Efficiency.** Measure EE.1, 2, and 6 pertain to increasing energy efficiency of residential and commercial buildings. Polystyrene is used in the construction industry as a lightweight insulator. For example, blocks are used in road construction over unstable soil to reduce the weight of the road prism, sheets are used in buildings under the exterior sheathing as insulation, and spacers are used in concrete flooring systems to create voids between concrete beams. All these uses encapsulate the material and prevent it from breaking down in the environment, as opposed to disposable food and beverage containers.
- **Public Health.** The Climate Action Plan also seeks to improve public health and reduce health equity while reducing greenhouse gas emissions. There are increased health impacts to disadvantaged communities, assuming there is increased reuse of polystyrene food and beverage containers within that population. The longer food is stored in polystyrene containers and the more often the container is reused, there is more chance of polystyrene chemicals leaching from the container into the food. This can cause increased health concerns, especially as styrene, the main component of polystyrene, has been classified as a possible human carcinogen.

### **Outreach and Equity**

Banning polystyrene food and beverage containers will be an impact on all businesses that use those products. And the impact will likely be larger for those businesses in disadvantaged communities, where the profit margin may be less than in other communities. Polystyrene food and beverage containers are currently less expensive than alternative recyclable containers, so switching to alternative containers will increase operational costs. For some small businesses this will be perceived as an overreach of government into how they do business and the choices they make in procuring their supplies. The following are some ways the County can reduce impacts on impacted businesses:

- Provide a six-month grace period so businesses can use up existing supplies
- Provide a comprehensive list of suppliers for alternative containers
- Identify all potential alternative container materials that would satisfy the ordinance
- Provide examples of alternative container materials and containers
- Provide information in multiple languages

Outreach to all impacted and interested parties will be key to the success of this ordinance. While sending letters to everyone initially is a good start, we will also need

to offer to attend group meetings and make presentations, for example, to chambers of commerce. We may also want to hold community workshops in certain areas to explain the ordinance. We should also be aware that this outreach effort is for the ordinance itself. There'll need to be a similar outreach effort once the ordinance is adopted and the focus turns to implementation.

## **Public Comments**

The following are some of the key comments received since mailing the initial outreach letter in late August.

- **California Restaurant Association:** In their letter dated September 24, 2018, the California Restaurant Association states that polystyrene food and beverage containers are top performers in keeping foods fresh and safe for eating and drinking. The Association believes a comprehensive program to reduce litter is better than focusing on a single product, and opposes the County adopting a polystyrene ban. (See Exhibit 6)
- **Howdy Goudey, Sustainability Commission member:** In an e-mail dated October 10, 2018, Mr. Goudey explained in detail why he believes compostable materials should be included as an alternative material to polystyrene food and beverage containers. (See Exhibit 7)

## **Policy Considerations**

The next step in the process to ban polystyrene is to develop a draft ordinance. The draft ordinance will define polystyrene, identify banned polystyrene products, describe who the ban will apply to, outline exemptions and enforcement, and identify acceptable alternative materials in place of polystyrene. The Committee should consider the following key policy questions and provide direction to staff so a draft ordinance can be prepared.

- **Grace Period.** Most cities with a ban provided a grace period before the ordinance went into effect to allow businesses time to use up their existing supplies of polystyrene containers. This seems like a fair and simple way to assist impacted businesses through the transition from polystyrene to alternative materials. Two cities allowed a two-year grace period, but these were ordinances adopted in 1993. All other ordinances have been adopted within the past 10 years and those with a grace period allowed a six-month transition. Staff recommends a six-month grace period.

- **Exemptions.** All city bans exempt food products prepackaged outside of the city, and most exempt packaging for raw meat, fish, and chicken, and exempt egg cartons. Staff recommends the County ordinance include similar exemptions.
- **Banned Items.** The most fundamental question in developing a draft ordinance is what items should be banned. All cities that ban polystyrene ban the use of food and beverage containers. Several cities also ban the sale of polystyrene food and beverage containers. Three cities go beyond that and ban other specific items such as packing peanuts, and ice chests. To be consistent with all these cities, the County could ban only the use of polystyrene food and beverage containers. The Sustainability Commission discussed the proposed ban on polystyrene at their August 27, 2018 meeting and advocated for a broader ban than just the use of food and beverage containers. Increasing the number of items banned furthers the County's goal of improving watershed health and protecting environmental resources. However, increasing the number of items banned also increases the complexity and cost of enforcement. There is a current enforcement model for stormwater inspections that can be modified fairly easily to include the use of polystyrene food and beverage containers. Expanding the ban to include the sale of food and beverage containers, for example, would require a new, separate enforcement program, adding complexity and cost to project implementation. It may be better to ban the sale of food and beverage containers later as a second phase, after the program has been successfully set up and running.

Staff recommends banning the items shown on Exhibit 1 under Option One. This option produces a ban consistent with most surrounding cities. Alternatively, the Committee could approve Option Two, or some combination of both. Option Two would reduce the amount of disposal waste being landfilled, resulting in a more environmentally protective ordinance. This would be consistent with two cities in West County, but not consistent with most other cities. Enforcement of Option One would be straightforward with a fairly simple expansion of our existing inspection program of restaurants and similar food facilities. Option Two would add many more retail outlets to inspect that we currently don't inspect and would require a new inspection program, increasing program costs. If the Committee chooses Option Two, staff recommends the ban of additional polystyrene items become effective 12 months after adoption of the ordinance, and the additional retail outlets be part of an outreach effort to explain the ban requirements but enforcement would be on a complaint basis. This would allow staff to get the program up and running and address food and beverage containers before having to address the retail outlets.

- **Compostable Materials.** Initially staff recommended the alternative materials allowed would not include compostable products. This was due to concerns

expressed by County staff knowledgeable about the recycling industry and the services and facilities available locally to manage compostable materials. At their August 27, 2018 meeting, the Sustainability Commission advocated for including compostable materials as an alternative to polystyrene. They felt it would still be better to have compostable materials in the landfill than alternative plastic materials. In fact, it is worse to have compostable materials end up in the landfill because compostable materials would generate more greenhouse gas emissions than landfilling recyclable plastic. Staff continues to recommend not including compostable materials as an alternative to polystyrene at this time, for several reasons:

- Only some of the incorporated and unincorporated areas of the County currently have separate collection service for food waste or food contaminated compostable materials, so it is premature to require businesses in unincorporated areas to package food in compostable "To Go" containers.
- The County only has authority over the Franchise Agreements that govern collection provided to approximately 53% of the population living in unincorporated areas, so the County can't require consistent recycle and compostable collection services. For consistent service, the County will need cooperation from the special districts or Joined Powers Authority having authority over the collection franchises governing services provided to the remaining unincorporated areas (47%).
- New regulations are being developed in response to recent changes in State law which will impose substantial new requirements related to recovery and composting of organics in the waste stream. It is critical that the County not take an action mandating increased generation of compostable waste without first ensuring there is sufficient composting capacity to manage food waste and other compostable items already present in our waste stream.
- Some compostable products look very similar to plastic and cannot be distinguished by the public, making proper sorting at the customer level problematic. This same challenge is also problematic for composting facility operators, and when in doubt the material will be disposed of and not composted. At a minimum, it makes the sorting process more complex and time-consuming. If sorting costs increase, recyclers are likely to either raise rates or refuse to accept compostable food waste materials. Refusal to accept compostable materials would result in an increase in the waste stream to and methane emissions from our landfills.



Our goal is to roll out an easy to understand and easy to implement program. Adding compostable materials at this time would create confusion and increase complexity. Senate Bill 1383 (2016) requires a 50% reduction in organic waste going to landfills by 2020 and a 75% reduction by 2025. The objective of these reduction targets is to reduce methane emissions from landfills. Including compostable products as an alternative material for food and beverage containers would increase the amount of organic waste generated, making it harder to achieve these reduction targets as some of this waste would likely end up in landfills.

Not all compostable products are the same. Plastic-based compostable products don't break down fast enough for commercial composting and can get confused with other non-compostable plastics that then contaminate the composting operation. Paper based products are compatible with commercial composting operations. Compostable grade plastic and paper food-ware both go in green waste containers as compostable products. Recyclable plastic food-ware goes into recycle containers.

The real challenge to recovering these materials is food remnants that contaminate food-ware materials. Wholesale buyers of recycled materials have been requiring a much higher quality product. This in turn means that food residue on recyclable plastic food-ware products must be washed off to be accepted at recycling facilities. Unwashed recyclable plastic food-ware is diverted to the landfill. So, it is ultimately up to consumers to clean their food laden recyclable plastic food-ware if the County is to reach its goal of reducing landfill disposal.

Composting has numerous benefits, including water conservation, improved soil health, and carbon sequestration. Staff recommends the ordinance be amended in the future to include compostable materials, once the County and local cities have compostable material collection programs in place. It will also be important for the County to verify there is adequate composting facility capacity to manage the additional material and obtain confirmation from the operator that the alternative compostable materials that would be required will actually be composted locally.

Another potential option for the proposed ban of polystyrene food and beverage containers, not recommended by staff, is to include a compostable provision that only allows paper-based products. At a minimum, the County should consult with the composting facility operator to confirm the facility would in fact compost the paper-based products that would be required by the ordinance. If the Committee chooses to include compostable products as an alternative material, then staff recommends the ordinance not specify the inclusion of compostable materials but also not preclude the use of compostable materials. Instead, businesses will be informed of what alternative materials are acceptable by County staff during the implementation phase of the polystyrene ban project. Initially, compostable

products will not be listed as an acceptable material. In the board order approving the ordinance, staff would suggest specific prerequisite actions/milestones that would trigger when to include compostable products as an acceptable material. Suggested prerequisite actions/milestones would include determination that introduction of compostables would not negatively impact the County's compliance with SB 1383 regulations currently being developed by the State, assurance from local operators there is adequate capacity to handle the additional compostable materials, and there is uniform collection service throughout unincorporated communities accepting compostable food-ware materials (with food residue) in green waste containers.

- **County Departments.** Many of the cities with bans also ban the use of polystyrene containers by their city departments. In the spirit of showing unity with all impacted parties, staff recommends that the ban would also apply to all County departments. Two memos were sent to all departments informing them of the proposed ban and requesting any exemptions due to operational concerns. So far, there have been no requested exemptions to the ban. Staff recommends the ban include County departments.
- **Public and Service Providers.** Another key question is to what extent the ban would apply. Initially, staff is proposing the ban apply only to packaging containers used by businesses that sell, or prepare and sell, food or beverages. This would include restaurants, convenience stores, markets, and other similar businesses. However, there are other entities that provide food and beverages and use food and beverage containers, but the food and beverages are not for sale. This would include such entities as schools, hospitals, clinics, and childcare and other care facilities. Should these other entities also be included in the ban? It should be noted the County has no authority over school districts to dictate what products they can use. Staff recommends these types of facilities not be included in the ban at this time.

### **Fiscal Impact**

The cost to develop a polystyrene ban is estimated to be \$75,000. The annual cost to enforce a polystyrene ban is estimated to be \$25,000 for Option One. Option Two will cost more than Option One to administer and enforce, how much more is hard to determine given the variety of possible permutations of Option Two and the additional research required depending on the permutation.

### **Summary of Staff Recommendations**

- **Grace Period.** Grant a six month grace period.

- **Exemptions.** Exempt food products prepackaged outside of the County, and packaging for raw meat, fish, chicken, and eggs.
- **Banned Items.** Ban the items outlined in Option One.
  - o **Option Two:** If this option is considered then specify additional items to be banned beyond Option One.
  - o **Option Two:** If this option is considered, staff recommends the ban of additional items become effective 12 months after the ordinance is adopted, and enforcement is on a complaint basis.
- **Compostables.** Do not include compostable products at this time.
  - o **Conditional Adoption.** If adding compostable products to the ordinance is considered, staff recommends the introduction of compostable products as an acceptable alternative material would occur after certain conditions are met, to be outlined in the board order adopting the ordinance.
- **County Departments.** Apply the ban to all County Departments.
- **Public and Service Providers.** Do not include these types of facilities at this time.

## Attachments

- Exhibit 1: Comparison of city ordinances
- Exhibit 2: Communication Plan
- Exhibit 3: Project handout
- Exhibit 4: August outreach letter
- Exhibit 5: October outreach letter
- Exhibit 6: Letter from the California Restaurant Association
- Exhibit 7: E-mail from Mr. Howdy Goudey

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