

Plastic Waste Prevention Advisory Council
September 29, 2021 Meeting
10:00 am – 4:00 pm
Meeting Minutes

Advisory Council Members Present:

Sharon Baxter, Department of Environmental Quality (DEQ) (Attending on behalf of DEQ Director, David Paylor)
Joe Hilbert, Virginia Department of Health (Attending on behalf of the State Health Commissioner)
Dr. Rob Alexander, James Madison University
Jennifer Cole, Clean Fairfax
Anne Johnson, Resource Recycling Systems, Inc.
Dr. Jennifer Russell, Virginia Tech
Adam Peer, American Chemistry Council (Attending on behalf of Virginia Manufacturers Association President, Vice Chair Brett Vassey)
Morgan Guthridge, Lindl Corp (Attending on behalf of Virginia Chamber of Commerce President, Keith Martin)

Advisory Council Members Absent:

Delegate Kenneth Plum
Senator Chapman Petersen

Meeting Participants:

Meryem Karad, Assistant Secretary of Natural and Historic Resources
Katie Sallee, Special Assistant to the Secretary of Natural and Historic Resources for Policy and Communications
Meghann Quinn, DEQ
Morgan Goodman, DEQ
Keith Boisvert, DEQ
Rebekah Flick, DEQ

Welcome and Call to Order

Council Chair Anne Johnson called the meeting to order and welcomed Council members. Chair Johnson reviewed the agenda (Attachment 1) and reviewed the scope for the November 2021 report. Chair Johnson highlighted that today's meeting will focus on topics covered by the upcoming report, which is small compared to the council's broader legislative scope.

Administrative Reminders

Meghann Quinn with DEQ provided brief administrative reminders, including thanking all attendees for wearing masks, sharing the locations of the bathrooms, and reminding Council members where reimbursement requests should be sent.

Governor's Office Update

Meryem Karad provided an update from the Governor's administration. Ms. Karad noted Secretary Matthew Strickler recently stepped down to pursue other opportunities. Ann Jennings, who previously served as Deputy Secretary of Natural and Historic Resources for the Chesapeake Bay, has been appointed Secretary of Natural and Historic Resources. Over the next few months, the Office will continue to focus on Governor Northam's priorities, including the distribution of Regional Greenhouse Gas Initiative funding, coastal resilience and the outgoing budget.

Check-In and Shared Expectations Reminders

Council member Dr. Rob Alexander, who is serving as a facilitator, led the council through a check-in. Dr. Alexander asked council members and staff what each person was looking forward to with regard to the council's work today. Responses on what each person is looking forward to is captured below:

- Meghann Quinn: seeing the outline for the report due November 1 develop
- Dr. Rob Alexander: discussion on the decision rule
- Dr. Jennifer Russell: discussing the decision making process
- Chair Anne Johnson: confirming the outline and recommendations for the report
- Jennifer Cole: determining the process for deciding what goes into the report
- Morgan Guthridge: learning about the circular economy and Dr. Russell's presentation
- Katie Sallee: learning more
- Meryem Karad: learning more
- Adam Peer: discussing how minority opinions will be captured
- Sharon Baxter: seeing how things come together
- Morgan Goodman: hearing the group's various perspectives during the discussion

The council then discussed shared expectations and operating norms. When the council met in August, it generated a set of values to inform how the council members talk and interact with one another. Below is the shared expectations statement, as revised and agreed upon during the meeting:

As a Council, we aspire to authentically listen to one another while responding honestly and directly, particularly when we have a conflict of ideas or values. We will practice systems thinking as we identify effective solutions pertaining to our charge with meaningful consensus. We create broad participation in our work through transparency and authentic stakeholder engagement.

After agreeing on a statement of shared expectations, Dr. Alexander reviewed the guidelines for discussion covered during the August meeting: listen to understand, practice inquiry, check assumptions and ensure completion of speaking and listening.

Approving a Decision-rule

Chair Johnson reviewed that during this meeting some key decisions would be made regarding the outline and content for the report due November 1, 2021, which needs to address plastic bags and polystyrene. Chair Johnson highlighted that she would like the council to be 'consensus seeking,' meaning that the council will strive for consensus, but allow sufficient space for dialogue and deliberation. Dr. Alexander presented a draft of the decision rule for discussion. There was clarification on the intent to create a majority rule, while documenting the minority opinions in the minutes. Per the request of Ms. Cole, it was agreed upon that the full council have the opportunity to review the minutes prior to approval to ensure objections are properly captured. Ms. Karad mentioned that minutes must be posted within 10 days after the meeting. She also said it was unlikely that the legislative members would attend to participate in votes.

The decision making rule outlined below was proposed:

- We are 'consensus seeking', meaning that we will allow sufficient space for dialogue and deliberation.
- A quorum (6 of 10) must be present in the room for a vote to occur
- The Chair has the discretion for indicating when the decision rule will be applied
- The Chair will use straw polling as needing to assess the temperature of the room
- At the appointed time for making a decision, we will make decisions by simple majority of the full Council of 10, meaning that Y = 6 makes a decision.
- Voting will be transparent (no secret ballot)
- Post vote, those with objections and their reasoning will be recorded in the minutes.

Jennifer Cole suggested that it should be 100 percent agreements of people in the room in order to go into the report. Adam Peer mentioned wanting a way to distribute different opinions after the meeting. Chair Johnson said that objections would be recorded in the meeting minutes and should not be written and submitted after the meeting. Jennifer Cole expressed concern that environmental protections would be rolled back in the report. She does not want DEQ writing the recommendations and have the council just vote on them. Ms. Cole said that the council should discuss recommendations and then vote on it.

The council conducted a voice vote on the proposed decision making rule:

- Dr. Rob Alexander: yes
- Dr. Jennifer Russell: yes
- Chair Anne Johnson: yes
- Jennifer Cole: yes
- Morgan Guthridge: yes
- Adam Peer: yes
- Sharon Baxter: yes

The decision making rule was approved.

Reviewing Last Month's Work

Chair Johnson provided an overview of the topics covered during the August meeting. The charge for this November's report is to provide recommendations on legislation to accelerate the elimination of plastic bags and polystyrene packaging used or sold in the Commonwealth. Presentations covered topics from plastic pollution, plastic waste management, and recycling in Virginia to litter enforcement at the local level.

Data needs

Dr. Alexander distributed a list of data needs that was developed based on discussion during the August meeting. The list is attached (Attachment 2).

Introducing Presentations

The handout with the data needs also included five questions:

1. What part of 'polystyrene packaging' do we want to address in our recommendations?
2. What part of 'plastic bags' do we want to address in our recommendations?
3. What data needs do we want to try to address with this report, if any?
4. How do we elevate the positive outcomes of the bag tax and EPS ban while reducing their negative ones?
5. In this briefing, in addition to responding to the question above, are we also making recommendations that go beyond plastic bags and EPS that will help us do our longer-term circular economy work?

The questions were reviewed and Chair Johnson asked Council members to consider these questions during the two presentations planned.

Presentations

Dr. Russell presented a broad overview of the performance and implications of existing plastic bag and expanded polystyrene (EPS) container polices. The presentation was based on a literature review of studies, both positive and negative, on single-use plastic program implementation. Slides from the presentation are attached (Attachment 3).

Following the presentation, clarifying questions were answered. Dr. Russell clarified that the reference to a system not being economically feasible referred to the cost of the collection and processing system being greater than the profit from selling the commodity. It was also pointed out that on the slides referring to implications of the strategies, the reported improvements included improvements in implementation strategies.

The next presentation was delivered by DEQ Deputy Director Chris Bast on the recent plastics-related legislation in Virginia. The presentation focused on the plastic bag tax authorization (2020 HB 534 Carr / SB 11 Ebbin) and the expanded polystyrene (EPS) food container ban (2021 HB 1902 Carr). Slides from

the presentation are attached (Attachment 4). When asked if there is parallel legislation, Mr. Bast noted that there has been a number of related legislative actions, like those on advanced recycling, the balloon release ban, in addition to state programs, like those focusing on marine debris. Mr. Bast could not speak to what improvements Governor Northam would suggest. When asked if there was any planned education and outreach around this legislation, Mr. Bast noted that up to 5 percent of litter fund monies can be used for education and outreach around the EPS ban. Dr. Russell brought up the importance of the state leading by example and asked if there is a plan to communicate the efforts of Executive Order Seventy-Seven, Virginia Leading by Example to Reduce Plastic Pollution and Solid Waste (EO 77). Mr. Bast noted that the EO 77 had a number of near-term goals for state agencies, which has been DEQ's current focus. The second phase is gathering all the plans and looking for good stories to tell and getting agencies together to share. The administration is taking an aggressive stance. Mr. Bast highlighted that EO 77 sets specific data goals.

Chair Johnson asked for confirmation that the current legislation covers EPS and bags, but does not include all single-use plastics. Mr. Bast confirmed this understanding. A follow-up question on if local governments could implement something similar to EO 77 was asked. Mr. Bast confirmed that local governments could ask their employees to follow something similar and noted that we have seen laws build on other executive orders like Executive Order Forty-Three and the Clean Economy Act.

Lunch

The Council broke for lunch.

November 2021 Report Outline

Chair Johnson framed the report as a 3-4 page legislative brief. The overarching question for the November 1, 2021 briefing is how we accelerate the elimination of plastic bags and polystyrene packaging used or sold in the Commonwealth. Chair Johnson set the expectation that this discussion would lead to the basic framework of the report and what recommendations would be included. Dr. Alexander directed the council back to the five questions reviewed earlier and asked if there was anything else that needed to be addressed. An additional question was added by Jennifer Cole (6.) What additional questions would you like to see answered? Dr. Russell clarified that the answers provided to these questions now are very specific recommendations based on the scope of this report, but not comprehensive of the plastic issues the council will tackle. All council members were given post-it notes to answer each of the five questions on as well as write down additional questions. Once completed council members posted their responses, sorted by question, on the wall. Once all responses were posted, Chair Johnson reviewed the replies with the council. A full list of the responses is available in Attachment 5. An additional section was added to capture topics to cover in the future.

The council discussed the scope of 'polystyrene packaging', the scope of the EPS ban and potential recommendations/concerns. Discussion included if meat trays and egg cartons should be included, if K-12 schools should be covered, if the trays at K-12 would fall under the current EPS ban scope since those items are not necessarily containers, how to account for stakeholders not present and not relying on EO

77 as the next governor could rescind it. A straw poll was conducted to see how many people wanted to expand the EPS ban to K-12 schools. It did not receive majority support.

Based on the discussion, Chair Johnson called a vote on recommending no change to the existing scope of the EPS ban. A voice vote was conducted:

- Dr. Rob Alexander: yes
- Jennifer Cole: no
- Chair Anne Johnson: yes
- Dr. Jennifer Russell: no
- Sharon Baxter: yes
- Joe Hilbert: yes
- Morgan Guthridge: yes
- Adam Peer: yes

The recommendation to propose no changes to the existing EPS ban passed (6 to 2).

- Dr. Alexander agreed and noted that he would like to opportunity to revisit in the future when the council discusses circular economy.
- Mr. Peer agreed and noted that his association opposed the original legislation.
- Ms. Cole disagreed and noted that unprepared food packaging should be included and that the current EPS ban doesn't go far enough.
- Dr. Russell disagreed and noted that unprepared food packaging should be included.

The council then discussed the scope of the existing plastic bag tax legislation. There was general agreement in the scope of the bags covered. Dr. Russell pointed out that if the bag tax becomes a revenue generator and does not reduce the use of plastic bags, it is not getting the desired outcome. It was noted that a higher tax could be more effective. Jennifer Cole mentioned that asking localities to report is an unfunded mandate. Localities also need the tools, capacity, and authority to gather and distribute that information. Chair Johnson mentioned the desire to make sure that these recommendations and legislation do what they set out to do by measuring efficacy. Dr. Alexander mentioned increasing buy-in and possibly giving localities a range for the price of the bag tax. Chair Johnson mentioned that environmental justice and equity should be considered with regard to the price of the bag tax. Dr. Russell said that fees are the most effective method of behavior change as long as there are alternatives. It's important to find out if the \$0.05 is a good price point to create the desired effect or if it should be increased.

The council then broke into workgroups. One workgroup discussed recommendations on monitoring and measuring progress. The other discussed recommendations for education and outreach.

When the group reconvened, Chair Johnson recapped the output of the workgroups.

- The monitoring and measuring progress group recommended:

- That DEQ be tasked with designing and implementing a system to measure and monitor the annual environmental and economic impacts, and performance of EPS ban and plastic bag tax, and report to the public on metrics that include, but are not limited to:
 - Revenues [bag tax] and allocation
 - Volume of units sold/distributed [bag]
 - Participation (and non-compliance) [EPS] &[bag]
 - Some measure of env. impacts [EPS] &[bag]
- The education and guidance group recommended:
 - DEQ and Dept. of Health craft EPS volume purchasing and substitution guidance for food retail with guidance delivery system TBD
 - DEQ craft bag tax expenditure guidance that includes specific ideas on bag collection plus consumer education programming including guidance for localities
 - DEQ craft model ordinance language for a range of local governments types, delivery system TDB

Chair Johnson reviewed an outline for the November 2021 report as detailed below.

- Recommendations: EPS Ban
 - No change in scope (*council voted on below - passed*)
 - Expectation for improvement over time (not numeric goal)
 - Provide tools/resources to support identification and sourcing support of alternatives (beyond state agencies)
 - Share EO 77 lessons learned
 - Facilitate volume purchasing for alternatives/ promote initiatives that support small businesses
 - Use EPS ban fines to offset cost of new packaging (*hold for future discussion*)
 - Offer model education/awareness education for impacted entities
- Recommendation: Bag Tax
 - Policy change offer range in tax (e.g., 5-10 cents) (*council voted on below – failed, move to future discussion*)
 - Expand scope to include farmer’s markets (*not enough council support to vote*)
 - Expectation to increase uptake across local authorities (x localities/year)
 - Bag tax enabling actions
 - Model ordinance language
 - Model outreach/education to support implementation
- Other Recommendations
 - Notable lack of data on plastic waste and pollution
 - Establish baseline for plastic waste and litter
 - Statewide litter study- where/why/how much litter is generated in Virginia and economic impact (*hold for future discussion*)
 - Statewide waste audit to gain insight on total plastic waste generated by resin and foam

- Could dovetail on the waste reduction task force - Ask DEQ staff to help coordinate recommendations between council and task force
- More DEQ staff to support
- Baseline of current use of EPS
- Quantify cost to comply

Based on the review of the outline, Chair Johnson called a vote asking if there was support to recommend a statewide bag ban in the report. A voice vote was taken.

- Rob Alexander: no
- Jennifer Cole: yes
- Anne Johnson: no
- Jennifer Russell: no
- Sharon Baxter: no
- Joseph Hilbert: no
- Morgan Guthridge: no
- Adam Peer: no

The recommendation failed 7 to 1.

- Ms. Cole voiced support for a statewide bag ban.

Chair Johnson called a vote asking if there was support to include offering a range in fees for the bag tax as a recommendation in the report. A voice vote was taken.

- Rob Alexander: yes
- Jennifer Cole: yes
- Anne Johnson: no
- Jennifer Russell: yes
- Sharon Baxter: abstain
- Joseph Hilbert: abstain
- Morgan Guthridge: no
- Adam Peer: no

The recommendation failed 3 to 3 with 2 abstaining.

Next Steps

Anne asked the council to send ideas for what they want to hear about in the future.

Public Comment

No public comments were made.

Adjourn

Attachment 1

Meeting Agenda

**Plastic Waste Prevention Advisory Council
AGENDA**

September 29, 2021
10:00am - 4:00pm
Virginia Department of Environmental Quality
1111 East Main St., Richmond, VA 23219

Timing	Activity
10:00 am	1. Welcome and Call to Order – Anne Johnson
10:05	2. Administrative Reminders – Meghann Quinn
10:07	3. Governor’s Office Update – Meryem Karad
10:12	4. Check-In and Shared Expectations – Rob Alexander
10:27	5. Forming a Decision Rule – Rob Alexander
10:47	6. August Meeting Recap – Anne Johnson
10:52	7. Data Needs Review – Rob Alexander
11:00	8. Presentations: <ul style="list-style-type: none">a. Broader Bag and EPS Policies – Dr. Jennifer Russellb. Bag tax and EPS Ban in Virginia – Chris Bastc. Discussion
12:00	LUNCH BREAK
12:45	9. Drafting the Report Outline – Anne Johnson
NLT 3:10	10. Approving Report Outline – Anne Johnson
3:20	11. Next Steps – Rob Alexander
3:30	12. Public Comment
4:00	13. Adjourn

Attachment 2

Data Needs

Data Needs

In our August meeting, we identified several needs for additional data that, if filled, would allow use to feel comfortable that we were crafting informed, systems-based recommendations. The primary data needs included:

- a. Materials science questions and needs
 - i. *What are the negative environmental externalities of the currently available plastic and plastics alternatives?*
 - ii. *How does life cycle and end of life data of currently available alternatives compare to EPS and plastic bags?*
- b. Waste management capacity and process questions and needs
 - i. *What are the procurement guidelines for state agencies by plastic type and use?*
 - ii. *What items could be reclaimed in VA under existing systems that currently are not?*
 - iii. *Pairing waste collection systems to litter data by municipality*
 - iv. *Data about business/resident/municipality access to waste management infrastructure*
 - v. *What systems exist in Virginia for EPS and plastic bag-specific waste management?*
 - vi. *What are Virginia's current (baseline) data for plastics recovery by type? (Need this to be able to measure policy effectiveness)*
 - vii. *What is the current ability/capacity to compost vegetable-based plastics?*
- c. Market dynamics questions and needs
 - i. *What is the capacity for post-consumer plastic use?*
 - ii. *What is the demand for post-consumer plastic?*
 - iii. *What is the extent of private sector MSW/recycling?*
- d. Extent of problem questions and needs
 - i. *Improved data on the pathways by which litter occurs*
 - ii. *What proportion of litter is EPS? Plastic bags?*
 - iii. *What is the extent of non-permitted solid waste?*
- e. Policy and policy evaluation questions and needs
 - i. *What do we know from existing bag tax and EPS ban evaluations in the U.S, Canada, and EU?*
 - ii. *What are all of the policy tools being used to address plastic bags and EPS?*
- f. What else? What other data needs?

Attachment 3

Slides from Presentation by Dr. Jennifer Russell

Brief Review of Performance and Implications of Existing Plastic Bag and Expanded Polystyrene Container Bans

Summary

29 September 2021

J. D. Russell, 2020

1

Single-Use Plastics – Policy Tools & Tactics

- 172 countries (national-level) have a variation of single-use plastic regulations in place (as of Nov. 30, 2019) ⁽ⁱ⁾.
 - More have been enacted at sub-national levels since then, but no data on implications/performance has been formally consolidated and reported ⁽ⁱⁱ⁾
- ~68 studies on single-use plastic program implementation
 - Focused on systematic reviews and critical reviews ⁽ⁱⁱ⁾
 - Insights included pre-, post-, ex-ante, and ex-post measurement

J. D. Russell, 2020

2

Assessing Effectiveness: Complexity and Variability

- Effectiveness/results vary, depending on: (i)(ii)(iii)(iv)
 - Administration process
 - Who administers: Retailers vs. Government?
 - What data is collected and reported? Is improvement expected?
 - Implementation process
 - Who is responsible and engaged: Retailers, Producers, or Consumers?
 - Availability and access to substitutes/alternatives?
 - Enforcement
 - Conditions for compliance and extent of effort required by participants
 - Enforcement of consequences for non-compliance (if any), and consistency
 - Short- vs. long-term performance
 - Short-term improvements typically tied to compliance-based approaches (e.g., fees)
 - Long-term improvements dependent on whether behavior change is facilitated by the strategy (e.g., fee on a retailer does not change consumer use patterns)

Included in the Plastic Bag Review (i)(ii)

Most affected stakeholders (i)(ii):

- Typically **consumers**, who must adapt/find alternative retail bag option
- Nature of the bag is that it is *secondary packaging*

Tools/tactics (i)(ii)(iii)(iv)

- Bans (based by material type, design, and/or application)
- Voluntary initiatives (reliant on consumer education and opt-in)
- Fees/taxes/levies (varying amounts, varying payees)
- Combinations of bans and fees (e.g., ban 'free' items, and impose mandatory fee per item)

Countries with Plastic Bag Bans (included)⁽ⁱ⁾⁽ⁱⁱ⁾

- | | | |
|--------------------|----------------|------------------|
| 1. Argentina | 15. Ethiopia | 29. Senegal |
| 2. Australia | 16. Gambia | 30. South Africa |
| 3. Berlin, Germany | 17. India | 31. Taiwan |
| 4. Bangladesh | 18. Ireland | 32. Tanzania |
| 5. Bhutan | 19. Israel | 33. Tunisia |
| 6. Botswana | 20. Italy | 34. Uganda |
| 7. Burkina Faso | 21. Kenya | 35. USA |
| 8. Canada | 22. Malaysia | 36. Zimbabwe |
| 9. Cameroon | 23. Mali | |
| 10. Cape Verde | 24. Mauritania | |
| 11. Cote d'Ivoire | 25. Mozambique | |
| 12. China | 26. Niger | |
| 13. England | 27. Portugal | |
| 14. Eritrea | 28. Rwanda | |

J. D. Russell, 2020

5

Implications of Bag Bans⁽ⁱ⁾⁽ⁱⁱ⁾

Reported Improvements

Net decrease in single-use plastic bag use (20-90%)⁽ⁱⁱⁱ⁾

Retailers experience reduced costs⁽ⁱ⁾⁽ⁱⁱ⁾

Increased use of reusable bags⁽ⁱ⁾⁽ⁱⁱ⁾

Decreased blockage of drains and marine litter⁽ⁱⁱⁱ⁾

Reduced animal ingestion⁽ⁱⁱⁱ⁾

Unintended Consequences

Fast substitution with other plastic bags (non-banned)⁽ⁱ⁾⁽ⁱⁱ⁾

Job losses and decreased profits due to divestment⁽ⁱ⁾

Hygienic issues stemming from unwashed reusable bags⁽ⁱ⁾

Emergence of profiteering behaviors⁽ⁱⁱⁱ⁾

Emergence of black markets⁽ⁱⁱ⁾

Civil and industry disobedience (e.g., lobby, court challenges)⁽ⁱ⁾⁽ⁱⁱ⁾

J. D. Russell, 2020

6

Plastic Bag Bans⁽ⁱ⁾⁽ⁱⁱ⁾

- Partial bans are more prevalent/common policy tool versus full bans
 - Restrict 'disposal' of bags, but not the production or distribution
 - Restrict bags of certain 'thickness', but not all bags
 - Extensive exemptions are permitted
- Effectiveness is driven by specific details about 'what' is banned (e.g., bag thickness), 'where' it is banned (e.g., retail), etc.
 - Requires increasing specificity to get desired performance/compliance
- Long-term reduction most effective when consumer behavior is directly modified⁽ⁱⁱ⁾
 - Ireland (90% reduction) assessed a €0.15 tax per bag (levy only 8% WTP)
 - Consumption decreased by 94% within short term
 - 5% bag litter was reduced to 0.22% within 2 years

Lauded as among most-effective policy initiatives targeting single-use plastic reductions

J. D. Russell, 2020

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Single-Use Plastic Bags: Main take-aways / remaining questions

- Clarifying the realities of the long-term goal to reduce plastic waste
 - End-of-pipe vs. life-cycle?
- If the long-term goal is behavior change, evidence suggests that a ban will not be as effective as other policy tools (e.g., fees)
- Are the available/accessible alternatives environmentally preferable to the banned item?
 - E.g., ownership of reusable bags has increased significantly (% and absolute)
- Does normalized use of available/accessible alternatives lead to reduced plastic waste (generation and litter)?

J. D. Russell, 2020

8

Included in Expanded Polystyrene (EPS) Review

- Largely sub-national (excluding EU Single-Use Plastics Directive, 2018)⁽ⁱⁱⁱ⁾
- USA - 249 municipal bans (partial, full, expanded, and narrow) across 20 States⁽ⁱⁱⁱ⁾:
 - AK, AR, CA, CT, DC, FL, HI, MA, MD, ME, MN, NH, NJ, NM, NY, OR, RI, SC, TX, WA
- **Most affected stakeholders:**
 - Typically food **retailers**, who must have alternative options on-hand^{(iii)(iv)}
 - Consumer expectation of service packaging when purchasing food (*primary packaging*)^{(iii)(iv)}

J. D. Russell, 2020

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EPS Bans in U.S. Municipalities

- Specific details regarding where, who, and what are subject critical^{(iii)(iv)}
 - Requires increasing specificity to get desired performance/compliance
 - Typically driven by the core motivation behind the policy⁽ⁱⁱⁱ⁾:
 - Chlorofluorocarbon (CFC) reduction from manufacturing vs. plastic litter
- **Format of ban changes affected populations and industries** (/249 municipalities)⁽ⁱⁱⁱ⁾:
 - **Narrow Ban** (target specific sector, e.g., sell or provide prepared food):
 - Implemented in 65.9% of participating municipalities; affects **21.43 million** (approx. population)
 - **Partial Ban** (include only Government-distributed/procured): 8.8%
 - Implemented in 8.8% of participating municipalities; affects **13.52 million** (approx. population)
 - **Expanded Ban** (target food-service related plastics alongside EPS):
 - Implemented in 15.7% of participating municipalities; affects 6.09 million (approx. population)
 - **Full Ban** (include Narrow ban, and include all grocery-related EPS):
 - Implemented in 9.6% of participating municipalities; affects 1.1 million (approx. population)

J. D. Russell, 2020

10

Implications of EPS Bans ^{(iii)(iv)}:

Reported Improvements

- Economic cost of packaging to food retailers <1% total revenue⁽ⁱⁱⁱ⁾
- Typically phased-in over time to allow for adaptation ^{(iii)(iv)}
- Often allow for temporary exemptions on grounds of economic hardship⁽ⁱⁱⁱ⁾
- Net reduction in EPS use, as specified by the details of each ban⁽ⁱⁱⁱ⁾
- Most clearly target 'provision of' EPS, allowing for fewer loopholes/unintended outcomes⁽ⁱⁱⁱ⁾

Unintended Consequences

- Targeted retailers must bear burden of provision of non-EPS alternatives^{(iii)(iv)}
- Cost of EPS substitutes ~85% greater⁽ⁱⁱⁱ⁾
- Reusable (non-single-use) options increase operating costs^{(iii)(iv)}
- Material-specific bans do not prevent other single-use plastics^{(iii)(iv)}

J. D. Russell, 2020

11

EPS Containers: Main take-aways / remaining questions

- EPS concerns span entire lifecycle of package ^{(iii)(iv)}
 - CFCs and other emissions associated with manufacture
 - Fragility makes unsuitable for reuse, or single-stream collection
 - Recovery/recycling systems have proven to be economically *nonviable*
- Are the available/accessible alternatives environmentally preferable to the banned item?
 - E.g., extruded PS vs. expanded PS in the litter and waste streams
 - E.g., compostable containers vs. expanded PS in the litter and waste streams
- Does normalized use of available/accessible alternatives lead to reduced plastic waste (generation and litter)?
- Recognition of impacts to retailers, via phased implementation and temporary exemptions, allows for viable transition and adjustment to new cost structures
- Not seen massive outcry/backlash from consumers or retailers for EPS bans, as have been observed for plastic bag bans.
 - Question of functionality, responsibility, and access to viable alternatives

J. D. Russell, 2020

12

References

- i. Muposhi, Asphat, Mercy Mpinganjira, and Marius Wait. "Considerations, benefits and unintended consequences of banning plastic shopping bags for environmental sustainability: A systematic literature review." *Waste Management & Research* (2021): 0734242X211003965.
- ii. Adeyanju, Gbadebo Collins, Teslin Maria Augustine, Stefan Volkmann, Usman Adetunji Oyebamiji, Sonia Ran, Oluyomi A. Osobajo, and Afolabi Otitoju. "Effectiveness of intervention on behaviour change against use of non-biodegradable plastic bags: a systematic review." *Discover sustainability* 2, no. 1 (2021): 1-15.
- iii. Wagner, Travis P. "Policy instruments to reduce consumption of expanded polystyrene food service ware in the USA." *Detritus* 9 (2020): 11-26.
- iv. Rucker, Randal R., Peter H. Nickerson, Melissa P. Haugen, and Northwest Economic Policy Seminar. "Analysis of the Seattle Bag Tax and Foam Ban Proposal." In *Northwest Economic Policy Seminar*. 2008.

Attachment 4

Slides from Presentation by DEQ Deputy Director Chris Bast



Recent Plastics-related Legislation

Plastic Waste Prevention Advisory Council

Chris Bast | Chief Deputy

September 29, 2021

Plastic Bag Tax Authorization – 2020

HB 534 (Carr) | SB 11 (Ebbin)

Authorizes any county or city, beginning no earlier than January 1, 2021, to impose a tax of five cents per bag on disposable plastic bags provided to consumers by certain retailers, with certain bags being exempt from the tax.

The bill allows every retailer that collects the tax to retain a portion of the five-cent tax and provides that the revenue accruing to the county or city shall be used for certain purposes including environmental cleanup and the provision of reusable bags.

DEQ

Plastic Bag Tax Authorization – 2020

- Several attempts over the years to adopt similar legislation.
 - Bans v. taxes; statewide v. local; where does the money go?
- 2020 saw several related bills with various approaches:
 - State imposed tax within Bay Watershed
 - Local option to ban
- Legislation passed with very narrow bipartisan support.
 - 51-46; 22-18

3

DEQ

Plastic Bag Tax Authorization – 2020

- Any locality may adopt a 5 cent tax on plastic bags – exemptions apply.
- Local revenue directed to: environmental cleanup, waste reduction education, litter mitigation, providing reusable bags for SNAP/WIC.
- Includes a retailer discount for affected retailers - .02 until 2023; .01 starting in 2023

4

DEQ

Plastic Bag Tax Authorization – 2020

- Roanoke first to adopt tax in May, 2021
- Taxation issued final guidelines on September 1, 2021
- Coordinated adoption by northern Virginia localities earlier this month: Fairfax, Arlington, Alexandria
- Prince William, Fredericksburg, Loudoun – various stages of active consideration

5

DEQ

Expanded polystyrene food container ban – 2021

HB 1902 (Carr)

Prohibits the dispensing by a food vendor of prepared food to a customer in a single-use expanded polystyrene food service container by 2023 for certain chain restaurants and 2025 for all food vendors. The bill includes a process for hardship exemptions and for penalties. The penalties collected are to be deposited in the Litter Control and Recycling Fund or to the treasury of the relevant locality, as appropriate.

A portion of the penalties deposited in the Fund are to be used for public information campaigns to discourage the sale and use of expanded polystyrene products.

6

DEQ

Expanded polystyrene food container ban – 2021

- Initially passed in 2020 with a reenactment clause
 - 2020 had several versions of this legislation with different dates
 - Previous attempts in 2019 for local option bans
- Final passage had bipartisan support – narrowly passed out of Senate committee
 - 57-39; 24-15
- Delayed enactment and differentiated treatment of certain food vendors critical for passage

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DEQ

Expanded polystyrene food container ban – 2021

- Prohibits dispensing of food in single-use EPS containers
 - By July 1, 2023 for certain chain restaurants
 - By July 1, 2025 for all food vendors
- Civil Penalty of \$50/day for violation – penalty money to Litter Fund
- Localities may grant up to one year exemption based on undue hardship (as defined in statute)
- Updates Litter Fund – adds EPS public awareness campaigns

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DEQ

Building on legislation – Virginia Leading By Example

Executive Order 77

- Includes ban on state agency procurement/use of single use plastic bags *and* EPS and plastic food service containers – among other single-use plastics.
- DEQ providing support, resources, best practices, information about alternatives, etc.
- Virginia state agencies and universities are leading by example, building a supply chain for alternatives, and providing proof of concept.
- Charts potential additional pathways to single-use plastic reduction

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DEQ



Recent Plastics-related Legislation

Plastic Waste Prevention Advisory Council

Chris Bast | Chief Deputy

September 29, 2021

Attachment 5

Council Responses to Questions Posed

1. What part of 'polystyrene packaging' do we want to address in our recommendations?
 - a. ALL Polystyrene food packaging. Phase out meat trays maybe?
 - b. Stick with restaurants
 - c. Narrow ban (target specific sector – sell or provide prepared food)
 - d. Focus on food (vs. protective/transport)
 - e. EPS single-use foodservice ware (cups, clamshells, trays) retail and institutional
 - f. Expand to include EPS for unprepared food – e.g. meat trays and egg cartons
 - g. Packaging more used and littered, which tends to be those materials used for food preparation
 - h. Minimum recycled content, data, create/support end market
 - i. Schools use a lot of EPS (K-12) – should they become part of the ban/expansion of EO 77?
 - j. How will implementation be tracked? Fines, non-compliance vs compliance
 - k. Models for effective outreach/best practices from other places
2. What part of 'plastic bags' do we want to address in our recommendations?
 - a. Use in asphalt, min. recycled content, collection, data, fee support recycling
 - b. Those plastic bags used in the retail landscape that are most littered
 - c. Stay with 'secondary packaging'
 - d. Single-use lightweight retail bags
 - e. Incentivize/support dedicated collection of bags that are distributed, education, containers, communication of collection points
 - f. Use tax-revenues to address end-of-life of bags that are used
 - g. Statewide Bag Ban or raise tax to 25¢ and make statewide, include farmers markets
 - h. Combine partial ban and fees, include specific details about what is banned and where, specify administration, implementation, enforcement (withdrawn)
 - i. How will implementation be tracked (just via the tax)?
 - j. DEQ does not seem to have a role in outreach – should they?
3. What data needs do we want to try to address with this report, if any?
 - a. What are the acceptable alternatives available (readily) for EPS?
 - b. Is \$0.05/bag enough to incentivize behavior change vs just generating revenue?
 - c. Environmental data of entire lifecycle especially GHG, triple bottom line
 - d. Current composting/recycling infrastructure information – what are the existing options?
 - e. Mandated statewide reporting on volumes of plastics collected for recycling – communities and recycling centers
 - f. Something about municipal reporting
 - g. Baseline numbers on current use of EPS and plastic bags in Virginia
 - h. Number of schools using 'pink trays' and other EPS
 - i. Something about baseline data of pollution now
 - j. Something about increasing staff capacity for data collection
 - k. Waste audits with more detail to drive actions

- l. State wide litter study that answers where litter is generated, why is litter occurring, and how much by material
 - m. Data addressed should focus on litter and recycling impact and the economic impact on those businesses forced to comply with these bonds
 - n. Cost benefit analysis
4. How do we elevate the positive outcomes of the bag tax and EPS ban while reducing their negative ones?
- a. Provide tools and resources to support identification and sourcing of alternatives (beyond state agencies)
 - b. Recycled Content, data, flex compliance pathways
 - c. Model ordinance language that complies with state regulations to enable faster adoption of bag tax. Provide alternatives as outlined in legislation.
 - d. Support bag tax implementation in communities with a consumer behavior change with information education/awareness campaign
 - e. Bag tax-revenues need to be dedicated to bag-related initiatives (e.g. education, promotion)
 - f. Communicate 'leadership' and vision to Virginia population to create a "pull" system to lower bag/EPS issues
 - g. Request data from counties/municipalities for before and after measurement to document impact
 - h. Clean goal of increased uptake of bag tax and EPS ban for: municipalities, non-state entities
 - i. Facilitate a volume purchasing group for alternatives to EPS
 - j. Use EPS ban and money from fines to offset cost of new packaging for first year or two
 - k. Metrics (ideas): Number of bags distributed annually (should decrease) and percent of Virginia food retailers effectively at 0% EPS packaging
 - l. Allow/enable feedback on the performance of alternatives to EPS
 - m. Support EPS ban with outreach/education campaign
 - n. Collection of some performance metrics (EPS ban, Bag tax, EO 77) AND transparent reporting of progress
 - o. Create better guidance for food retail on EPS substitutions
 - p. Educate/build on strengths
 - q. Develop a statewide list of alternatives to EPS foodservice ware
5. In this briefing, in addition to responding to the question above, are we also making recommendations that go beyond plastic bags and EPS that will help us do our longer-term circular economy work?
- a. My preference is to keep the first report very focused on the specific items requested to build credibility and in recognition of our time frame
 - b. Support federal 'Break Free from Plastic Pollution Act' Bill
 - c. Education on most effective bottle bill structure
 - d. Education on virgin plastic tax
 - e. Education on EPR for PPP

- f. Minimum recycled content, encourage new recycling technology, recycling standards, develop markets (PA,WA), environmental impact – GHG
- g. Bottle bill statewide

6. Future needs, topics, thoughts, ideas, questions, etc.

- a. Use 'EGS' and 'D&I' as a frame work
- b. How to keep this an on-going discussion
- c. Bring value chain and recycling community in a long-term group to work on this
- d. Can we reframe the issue around behavior change? Individual bears the responsibility – not corporations/industry
- e. Need to clarify who is responsible for provision of alternatives, making these accessible
- f. The EO is only as valid as the governor who keeps it
- g. Additional Policies: public procurement, green bonds, asphalt as end-use for plastics, create market development center
- h. Can we find examples of less plastic waste in countries where Industry thrives (because of government involvement)? Spoiler: Scandinavian countries
- i. Should DEQ have role in education/outreach?