



# Phthalates Action Plan

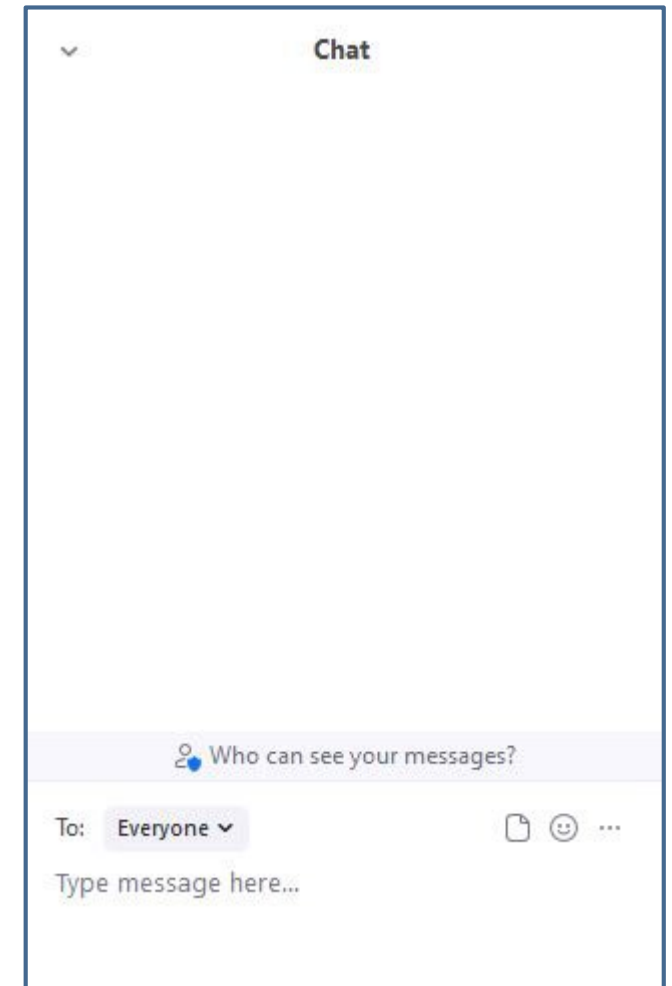
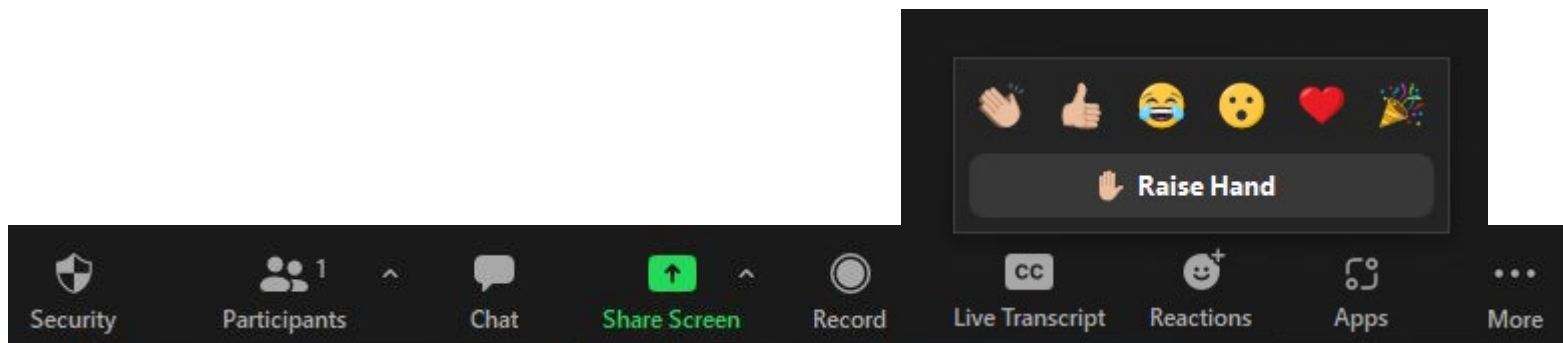
Advisory Committee Meeting – March 17, 2022

Phthalates in Waste Systems



# Zoom meeting logistics

- Technical issues send to **host** in chat
- Questions or comments send to **everyone** in chat
  - We will address along the way and during discussion.
- During discussion, raise hand to share verbal input or questions.
- We will reschedule in event of a crash.



# Today's agenda

- 1 9:00 AM: Agenda and introductions
- 2 9:10 AM: March 3 meeting recap and parking lot
- 3 9:20 AM: Discussion—phthalates in waste systems  
9:50 AM: Break
- 4 10:00 AM: Discussion—phthalates in waste systems (continued)
- 5 10:45 AM: Public input
- 6 10:55 AM: Closing and next meeting

# Housekeeping

Project webpage: <https://bit.ly/phthalates-AP>

- Agenda
- Agenda attachments
- Meeting slides
- Input compilation

This project has been funded wholly or in part by the U.S. Environmental Protection Agency (EPA) under assistance agreement PC-01J18101 to the Washington Department of Ecology. The contents of this document do not necessarily reflect the views and policies of the EPA, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.



# Part One: Introductions

# Introductions

- Committee members
- Agency staff
  - Health
  - Ecology
  - Fish and Wildlife
  - Natural Resources

## Participant updates

- Advisory committee
  - Domenic DeCaria, Vinyl Institute

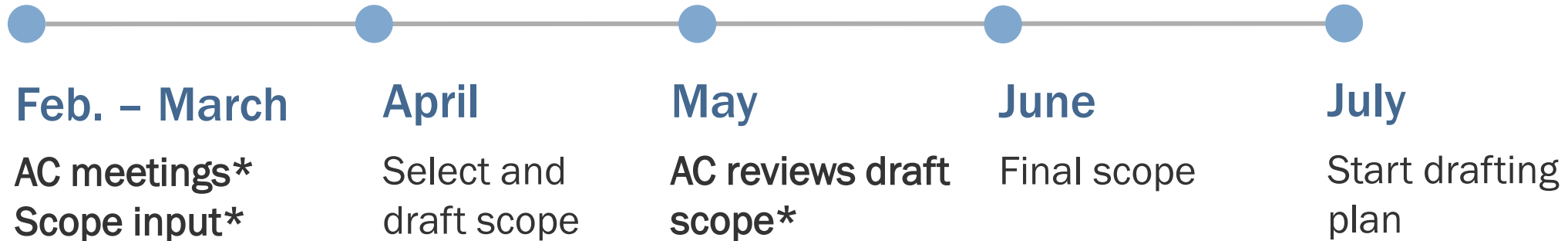
# Our focus

- Working toward recommendations that will reduce:
  - Human exposure to phthalates
  - Environmental contamination
- Statewide, big picture view
- Paying attention to:
  - Sensitive species and habitats
  - Sensitive or overburdened populations



# Action plan scoping

● Scoping  
1st Half 2022



\*Advisory committee participation



# Scoping input

Participation in advisory committee meetings:

- Verbal input and discussion
- Input compilation available on the project webpage
- Review and provide corrections
- Updated throughout scope input meetings



Input Compilation  
Phthalates Action Plan

## Overview

The Washington Departments of Ecology and Health are collaborating to complete an action plan focused on reducing sources, uses, and releases of phthalates. This document compiles the input we've received throughout the process of developing the action plan.

We received this input from members of the advisory committee as well as other stakeholders and the public. This document includes input we received via all methods, including during meetings and webinars, through our [online comment form](#),<sup>1</sup> and via email or other direct communication. This document will be regularly updated as we develop the action plan.

# Scoping input

- Submit input in writing between meetings
- Online comment form (on project webpage)  
<https://hwtr.ecology.com/commentinput.com/?id=haD3V>

## Public Comment Form

### Ecology's Phthalates Action Plan

We want to hear from you!

## Your Comment

### Next steps

Our Phthalates Action Plan team will consider your feedback as we scope the action plan, as we determine the appropriate recommendations to reduce phthalate use and exposure, and throughout the process of writing the plan.

 View Comments

 Learn More About The Plan

# Meetings by topic area

- Focus meeting input on scheduled topics
- Stay flexible to overlap
- Written input on **any** topic



# “Parking lot” topics

- Deferred discussion topics?
- Presentations by committee members?
- More discussion on certain topics?
- Option: Follow-up meeting or longer workshop?
  
- Please contact us with suggestions
- Revisit at March 24 meeting



# Productive, fair meetings

- Open minds
- Collaboration and not confrontation
- Recognize that people are not always going to agree
- Everyone has a chance to be heard
- Respect each others' opinions
- Keep on task
- Direct and straightforward communication
- Transparency





Questions?

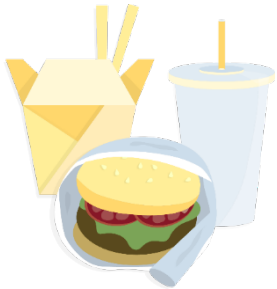




# Part Two: March 3, 2022 Meeting Recap

# March 3 recap: Key areas of input

- Food



- Is animal feed a possible source of phthalates in food?
- Caution in interpreting FCM sampling data—migration rates are important
- Several members interested in dairy operations
- Non-FCMs in food processing facilities could be sources

- Medical devices



- Federal preemption on medical devices (FDA)
- Clinicians often not aware of which products contain DEHP—work with environmental managers
- Some uses are still not well served by alternatives—performance is critical for clinical products
- Consider developing information initiatives for small/regional hospitals and non-hospital clinicians



# March 3 recap: Key areas of input

- Building materials



- Support expressed for keeping roofing membranes, adhesives and sealants, and metal coatings in scope
- Rigid pipe not a source of phthalates
- Support for collaborating on product testing with Zero Waste Washington
- Suggestion to work with Dept. of Commerce on low-income housing building standards and other programs



- Consumer products: Discussion deferred



# Recap Questions?



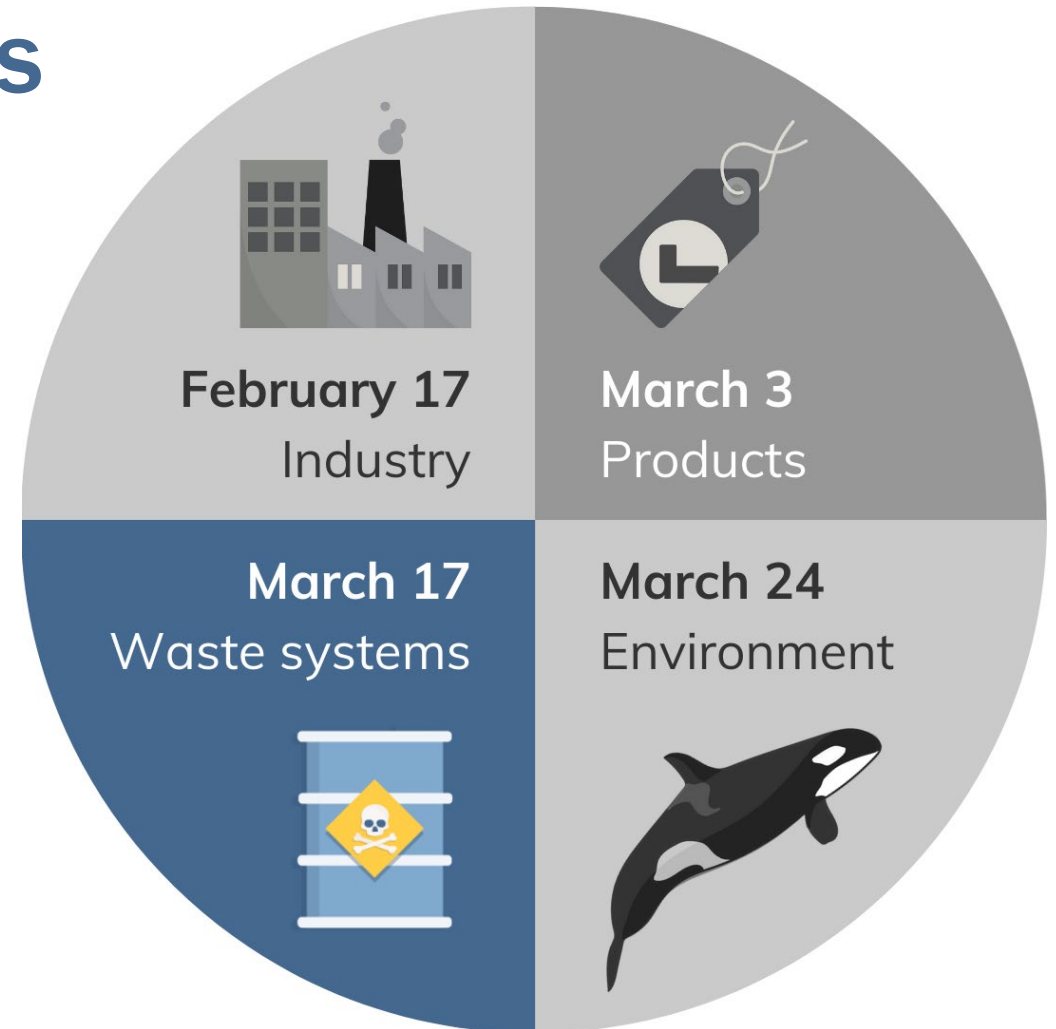


# Part Three: Discussion

## Phthalates in Waste Systems

# Today's topic area: Phthalates in waste systems

- Discuss the current state of phthalates in Washington **waste and recycling processes**
- Identify opportunities for **reducing phthalate exposures and releases**
- Hear **ideas and input from stakeholders** relating to this sector



# Discussion areas

- Wastewater
  - Treatment strategies
  - Monitoring
  - Microplastics
- Solid waste and biosolids
- Recycling
  - Mechanical and chemical recycling input and output
  - Management of waste from recycling
  - Best management practices (BMPs) to reduce workplace exposures

# General feedback on discussion topics

- Are we asking the right **questions to get your input?**
- Do you agree with the subtopics we prioritized?
- Do you have information or resources you think we should consider?
- Are there areas of expertise or perspectives that we are missing in our discussion?

# Wastewater background

- Phthalates removal rates vary across wastewater treatment processes and can be influenced by seasonal variations.<sup>1,2</sup>
- Phthalates are detected in the influent and effluent of wastewater treatment facilities<sup>2,3</sup>

# Wastewater—discussion questions

- Industrial wastewater—what industrial facilities in Washington produce wastewater that could contain phthalates?
- Are there ways wastewater monitoring and testing methods for phthalates should be improved?
- Does Washington use wastewater treatment processes that remove phthalates effectively? Can these be improved?
- What is known about how phthalates break down in septic systems?
- How should we consider microplastics in wastewater as a potential source of phthalates?



# Wastewater scope input

- Hundreds of facilities in Puget Sound. A past report identified phthalates in effluent.
- Additional study by Toxic-Free Future (TFF) looks at consumer products in 6 – 8 homes.
- Consider sludge and stormwater.
- Environment and Climate Change Canada report contains recent monitoring data.
- Generally wastewater and biosolids are “pass throughs” rather than sources. Should look at sources upstream.
- Combined sewer overflows are an important source. Larger concentrations are found in sediment.
- No current biosolids sampling requirements specific to phthalates.
- Follow up on sampling requirements for wastewater influent and effluent. EPA priority pollutants are monitored quarterly—some phthalates included but not all. Others may be measured but not reported.

# Wastewater scope input

- Plants in Washington are secondary and tertiary treatment plants. Anaerobic digestion process occurs prior to producing biosolids.
- Consider grouping biosolids with wastewater rather than solid waste for scoping.
- Sources going into wastewater are very important pieces to consider. The most effective solution—reduce amount in influent to treatment plants.
- Reference suggested: Phthalate Esters (The Handbook of Environmental Chemistry), Staples, 2003.

# Break

- Stretch and get a refill!
- See you in 10 minutes



# Solid waste and biosolids background

- Sampling indicates widespread presence of phthalates in landfills.<sup>4</sup>
- Six phthalates are considered dangerous waste in cases of disposing unused single-ingredient chemical products.<sup>5</sup>
- Compost cannot contain greater than 0.25% film plastic by weight.<sup>6</sup>
- Ecology classifies biosolids as a beneficial resource and requires wastewater treatment facilities to keep biosolids out of landfills.
- Phthalates have been detected in biosolids—some studies suggest this could contribute to soil contamination and uptake by plants.<sup>7,8,9</sup>

# Solid waste and biosolids—discussion questions

- Can industrial and municipal solid waste processes be improved to reduce phthalate release?
- Are the current requirements on commercial compost operations adequate (WAC 173-350-220)?
- Where are phthalates detected in biosolids and at what levels?
- Do phthalates transfer from biosolids to soil when applied to land?

# Solid waste and biosolids scope input

- Consider facilities that treat industrial waste that cannot be made into biosolids.
- Biosolids that meet rigorous standards can be used in compost at landfills.
- Is sludge tested prior to being used in compost? Tested, but not for phthalates. Mostly focused on pathogen reduction, not organic analysis.
- Any data that treatment plants generate is publicly available.
- Are biosolids given directly to farms and agriculture? Biosolids are treated prior to this (Class B biosolids) and tested as described above, but not for phthalates. Suggestion that this testing should include phthalates.
- Emphasized again that source reduction is the best approach for removing phthalates in downstream wastewater and biosolids.
- Additional support for source reduction as an approach to reducing phthalates in these downstream types of media.

# Solid waste and biosolids scope input

- Leachate from landfills. Is this being sent back to wastewater treatment plants (WWTPs)?
- Old products leech phthalates. Items being stored will have phthalates at higher levels on their surfaces when handled.
- Insight on biosolids land application. Part of the reason phthalates are not currently tested for is the need for a validated method. Also, 90,000 tons of biosolids are applied to less than 1% of land in Washington. Based on this, there is further support for source reduction as the most efficient way to reduce release.
- Majority of WWTPs in Washington use secondary treatment. A minority use tertiary treatment, but this number will increase.
- Tertiary treatment refers to nutrient removal (phosphorus and nitrogen). It is not focused on removal of contaminants of emerging concern (CECs).
- Biosolids are not thought to contribute significantly to human exposure to phthalates.

# Solid waste and biosolids scope input

- Wastewater could still be an important exposure pathway for aquatic species.
- Agree that source reduction is key, but there is still concern expressed about land application of biosolids. Encourages testing of biosolids.
- Further discussion of method for testing biosolids—parking lot item.
- New technologies are expensive to implement in WWTPs and are passed on to customers. Need support and information from EPA to coordinate and inform actions, as they have larger capacity for research.
- Testing can help drive upstream solutions. The goal is to try to address downstream, as well as upstream, solutions.
- Landfills and WWTPs are receivers, not producers. This is an important clarification.



# Solid waste and biosolids scope input

- Need to understand sources that contribute to different types of media, such as soluble in water or insoluble in solid wastes.
- EPA Method 8270E: Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), 2014, should be able to pick up phthalates. Look into this.
- Also noted Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium (EPA SW-846)—phthalate esters in aqueous and solid matrices.

# Recycling background

- There are concerns about phthalate exposures to workers (from dust, particles) at material recovery facilities.
- Phthalates are generally not removed in recycling.<sup>10</sup>
- Pre- and post-consumer recycled content can contain phthalates.

# Recycling—discussion questions

- Are there recycling technologies for PVC and other materials that contain phthalates?
- Are there strategies for removing phthalates in recycling processes?
- What recommendations can we make for approaches to minimize phthalates in recycled products (such as testing recycled feedstock)?
- How should promotion of recycling be balanced with the potential for reintroduction of phthalates in products from recycled content?
- Are there best management practices (BMPs) to reduce exposures to workers at material recovery facilities?

# Recycling scope input

- Big picture: Circular economy. Need a clear approach that you cannot recycle toxic products. Support for this is being addressed in the action plan for phthalates.
- Chemical recycling (generally) and of polyvinyl chloride (PVC) is not always real recycling (incineration). It can involve recapture of components such as volatile compounds. Look into further. A comment that this also makes hazardous waste.
- PVC is recyclable and recycled. There is some disagreement on this point.
- Many major corporations have signed on to the Plastics Pact. Pact has a list of problematic materials, including PVC.
- Are additives required to make certain plastics recyclable? Not PVC specific, but additives like antioxidants may avoid degradation in the recycling processes. We can improve the quality of products coming out of the recycling process.
- Material does not generally undergo any change in chemical composition during mechanical recycling processes.

# Recycling scope input

- Concern is that because PVC is difficult to recycle, pyrolysis will be used as the solution. Phasing out phthalates, PVC is a better approach to improve recycling.
- Highlights issues with legacy chemicals of concern. Points to need for transparency at every step of the process.
- Infrastructure challenges in recycling. Just because something can be recycled does not mean it is feasible. Many pieces need to be in place for this type of circular economy.
- Investing in alternative assessments—hazard assessments of alternatives can set up for future success.
- Is there a waste product from pyrolysis? Yes.
- Chemical recycling can include many technologies. Not appropriate to lump it into a general category of incineration.

# Recycling scope input

- On circular economy—Chelsea Center For Recycling and Economic Development looks at markets for materials that can be recycled. Some of these turn out to be inherently toxic products.
- Need to move toward circular economy that considers whether items that contain chemicals of concern should be recycled. Need to address this upstream in source products.



# Part 4: Public Input and Questions

# Public input

- With support from industry groups, states are increasingly adopting legislation that exempts pyrolysis and other advanced recycling techniques from tougher regulation. Raises the bar for EPA, as the agency considers tougher standards across the country.
- Is there an inventory of products that could contain phthalates that may enter the recycling stream? Not to our knowledge, but it would be helpful to determine key entry points.
- Are building materials such as paints recycled? Some leftover is, but not a large amount. Other plastic material from building materials is also low. Most end up in landfills.
- Building materials are generally the second largest use of plastic materials.
- Are there unlined tribal landfills? This occurs in Alaska.
  - Unlikely there are active unlined landfills as above. Will check into legacy landfills.
- Encapsulation could be used as part of the recycling/reuse path.



# Public input

- Also check out phthalates in greywater.
- Consideration of phthalates' fate in typical incinerators in Washington (such as in Spokane).
- Given construction materials in homes, air emissions of chemicals of concern should be considered further, with the increase in fires.
- Look at the Southern California studies on above.
- Understanding the difference between pyrolysis and incineration, and the impact on the environment, is important. In the case of Spokane, it is all energy recovery incineration.
- Recycling in Puget Sound also may end in energy recovery incineration for less desirable materials.
- Incineration of plastics releases dioxins, furans, etc. Important to consider.
- PaintCare in Washington takes unwanted leftover paint. A portion is recycled.
- Can we also talk about where phthalates are manufactured (U.S. or imported) and look at communities where they are going into products? Parking lot item.



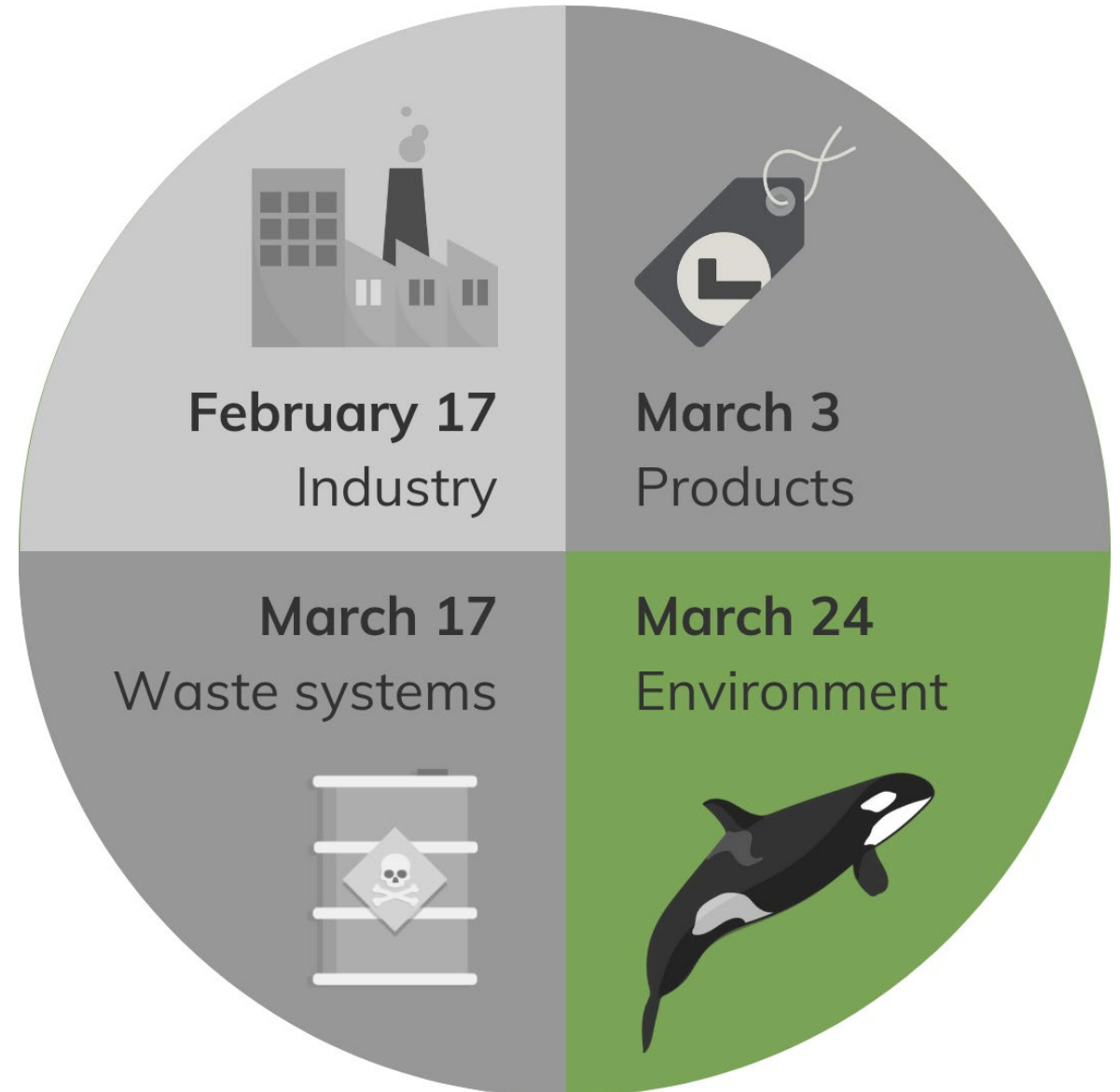
# Part 5: Closing

Next meeting March 24, 2022

# Next meeting

## March 24: Environment

- Agenda and packet shared prior to meeting
- Submit written input via comment form
- Check project webpage for documents
- Contact us if you have questions
  - [ChemActionPlans@ecy.wa.gov](mailto:ChemActionPlans@ecy.wa.gov)
  - Irina's cell: 360-584-3456



# Project links

- EZ view project webpage: <https://bit.ly/phthalates-AP>
- Online comment form:  
<https://hwtr.ecology.commentinput.com/?id=haD3V>
- Washington Administrative Code 137-333-340:  
<https://app.leg.wa.gov/WAC/default.aspx?cite=173-333-340>

# Footnote links

1. <https://doi.org/10.1016/j.scitotenv.2016.06.182>
2. <https://doi.org/10.1080/10643389.2016.1245552>
3. <https://apps.ecology.wa.gov/publications/documents/1103024.pdf>
4. <https://doi.org/10.1371/journal.pone.0174986>
5. <https://app.leg.wa.gov/WAC/default.aspx?cite=173-303>
6. <https://apps.leg.wa.gov/wac/default.aspx?cite=173-350-220>
7. <https://kingcounty.gov/~media/services/environment/wastewater/resource-recovery/docs/biosolids/2020-Loop-Biosolids-Quality-Data.ashx?la=en>
8. [https://www.epa.ie/publications/research/environment--health/Research\\_Report\\_370.pdf](https://www.epa.ie/publications/research/environment--health/Research_Report_370.pdf)
9. <https://pubs.acs.org/doi/10.1021/acs.est.5b01233>
10. <https://doi.org/10.1016/j.wasman.2016.05.014>