



Cycle 1.5 Draft Regulatory Determinations

Safer Products for Washington
December 13 and 14, 2023

Safer Products for Washington Team

Staff working on Safer Products for Washington
Cycle 1.5 PFAS Chemical Action Plan
Implementation Cycle:

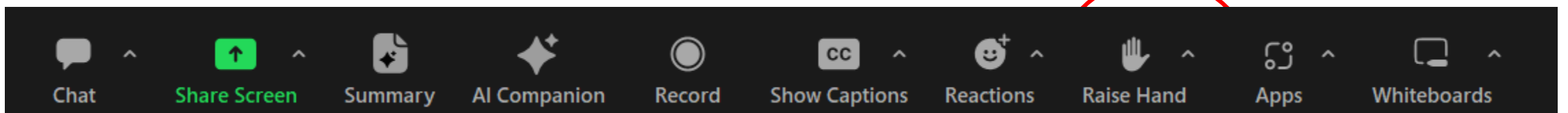
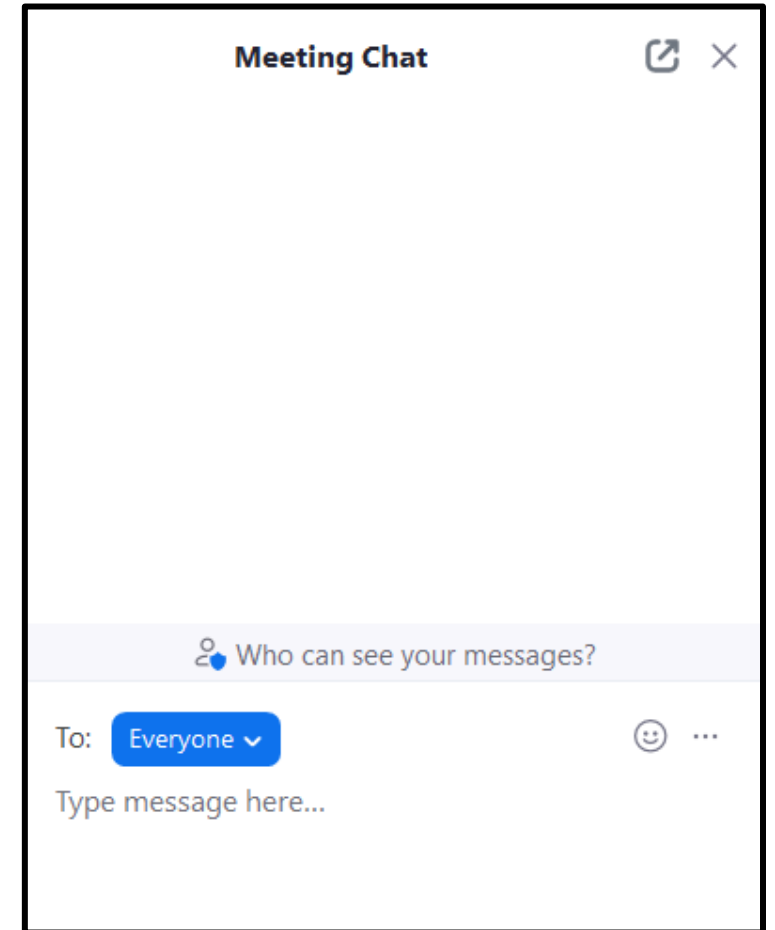
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Zoom Logistics



- To raise your hand, find the Raise Hand button on the tool bar at the bottom of the screen.
- To participate in the chat, make sure your responses are sent to Everyone.

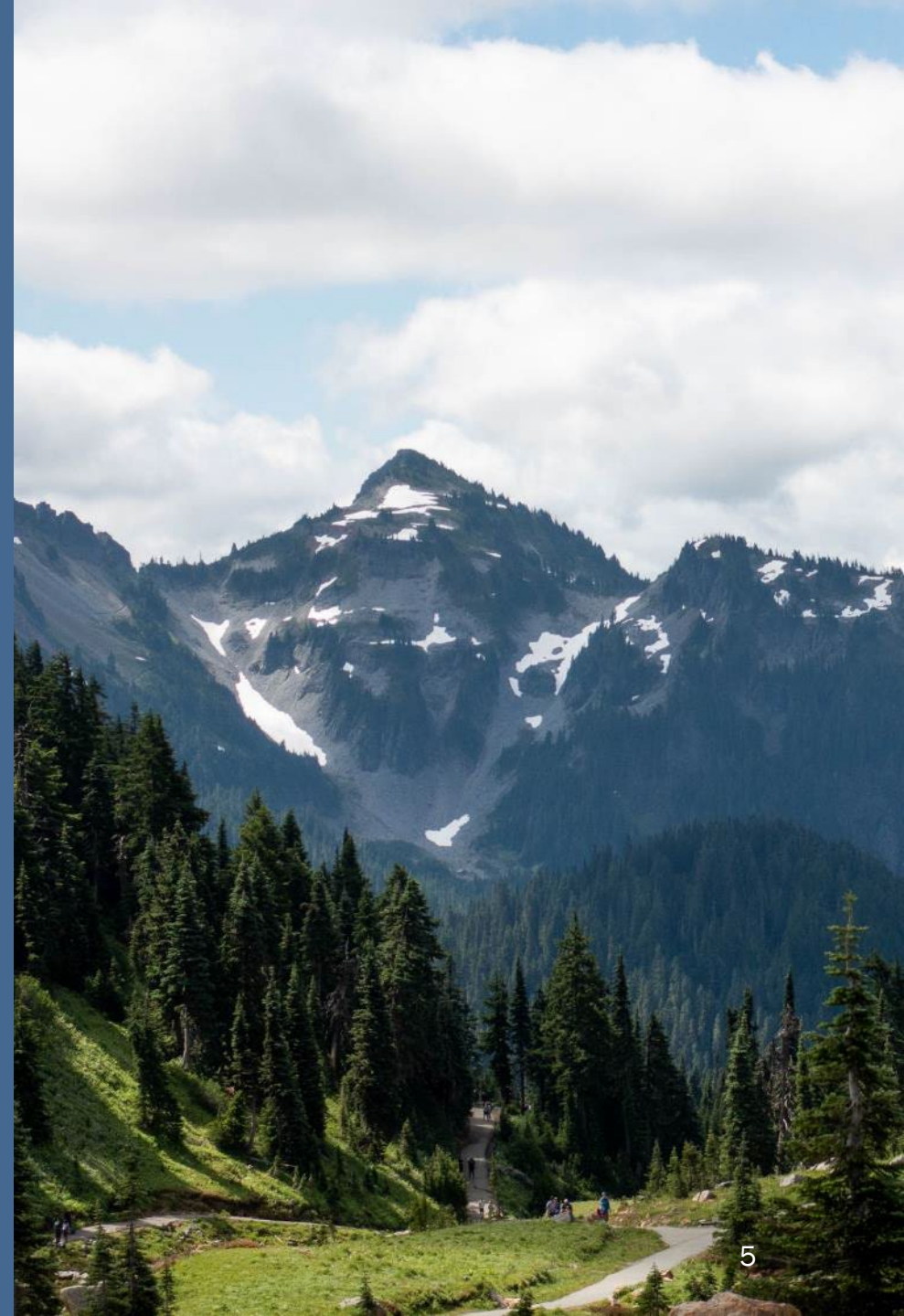


Agenda

- Overview of Safer Products for Washington
- Draft Regulatory Determinations
- Summary and Market Analysis
- Timeline and Feedback Opportunities
- Next Steps for Cycle 1.5- Rulemaking
- Q & A



Overview of Safer Products for Washington

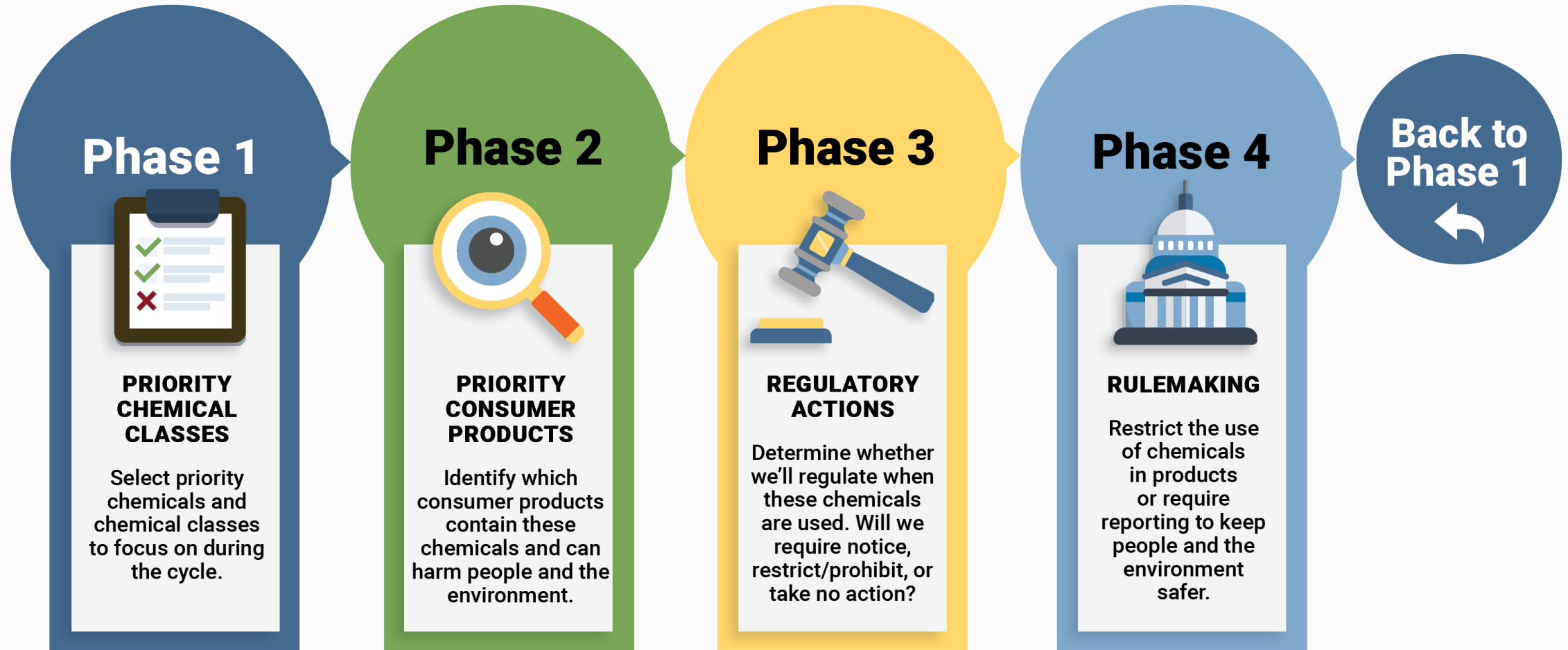


Safer Products for Washington

- Implementation program
- Law signed in May 2019
- Equitably reduce exposure to toxic chemicals from consumer products
- Prevent releases of toxic chemicals into the environment



Safer Products for Washington Implementation Process



Current Safer Products for Washington Phases



- Cycle 1: Rule adopted May 2023
 - Chapter 173-337 WAC
- Cycle 2 Phase 1: Draft Priority Chemical Report Released June 2023
- Cycle “1.5” Phase 3: Regulatory Determinations on PFAS in Products

Cycle 1.5: Focus on PFAS

In 2022, the Legislature amended 70A.350 RCW to add specific requirements to reduce PFAS in products.

- Allows us to consider products identified in the final PFAS Chemical Action Plan as priority products without additional actions.
- Identifies firefighting personal protective equipment as a priority product.
- Requires us to make an initial set of regulatory determinations by June 2024 and adopt rules by December 2025.
- Allows us to potentially adopt rules three years earlier than the next regularly scheduled Cycle.

Why PFAS?

- RCW 70A.350.010 defines PFAS as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.
- Carbon-fluorine bond makes PFAS persistent in the environment.
- Many are mobile in the environment or bioaccumulate.
- Pervasive environmental contaminants detected in nearly everyone.
- Toxic to people and the environment.

Priority products from the CAP recommendations

- Apparel and gear
- Firefighting personal protective equipment (PPE)
- Cleaning products including automotive washes
- Automotive waxes and polishes
- Floor waxes and polishes
- Ski waxes
- Hard surface sealants
- Cookware and kitchen supplies

Safer Products for Washington Phase 3

Phase 3



REGULATORY ACTIONS

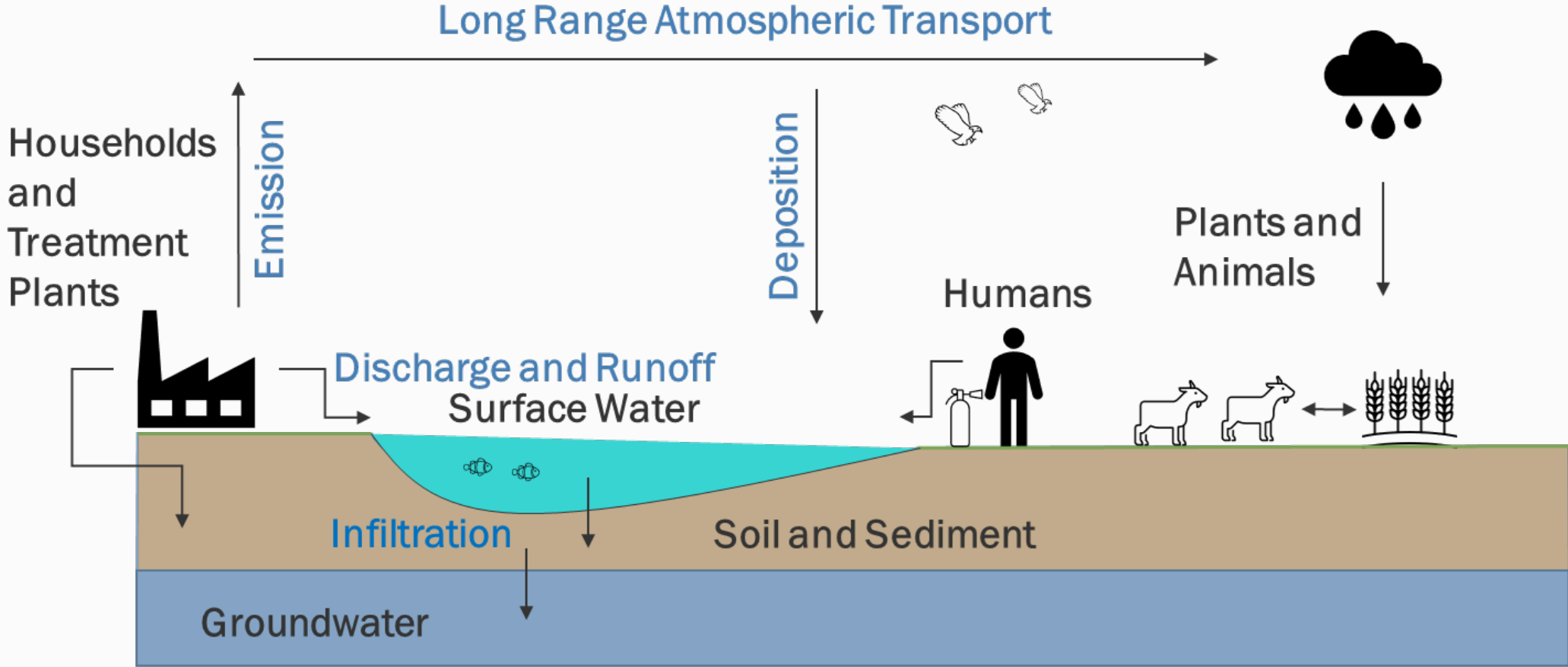
Determine whether we'll regulate when these chemicals are used. Will we require notice, restrict/prohibit, or take no action?

- Regulatory determinations
 - No action
 - Require reporting
 - Restrict
- Considerations
 - Reducing significant source or use of PFAS
 - Safer, feasible, and available alternatives
 - Other regulations
 - Market analysis
- Must identify safer, feasible, and available alternatives to restrict PFAS in products

Reducing significant sources or uses of PFAS

- All priority products under review are significant sources or uses of PFAS.
- Restricting PFAS in priority products would reduce a significant source or use of PFAS.
- Supporting examples:
 - Intervention studies replacing PFAS-containing products significantly reduce PFAS concentrations in dust.
 - Workers using floor and ski wax have orders of magnitude higher exposure to PFAS.
 - Intersections of race and occupation may contribute to disproportionate exposures.
 - Direct release products, such as car wash may release PFAS directly to the environment.

Reducing a significant source or use of PFAS



Safer Alternatives

- Leveraged our Cycle 1 regulatory determinations report (2022)
 - Developed a “criteria for safer alternatives.”
 - Demonstrated PFAS did not meet the minimum criteria for safer.
- Identifying safer alternatives
 - Defined as less hazardous than the existing chemical or process.
 - Alternative chemicals must meet the minimum criteria for safer.
 - Alternative products or processes cannot contain known carcinogens, mutagens, reproductive or developmental toxicants or endocrine disruptors.

Feasible and Available Alternatives

- Leveraged methods from our Cycle 1 regulatory determinations report (2022)
- Identifying feasible and available alternatives
 - Consider whether the chemical is providing a function that is necessary in the product.
 - **Alternatives are used in products that meet the relevant performance requirements.**
 - Feasible alternatives are offered for sale at a price that is close to the current.



Evaluating alternatives to PFAS in priority products

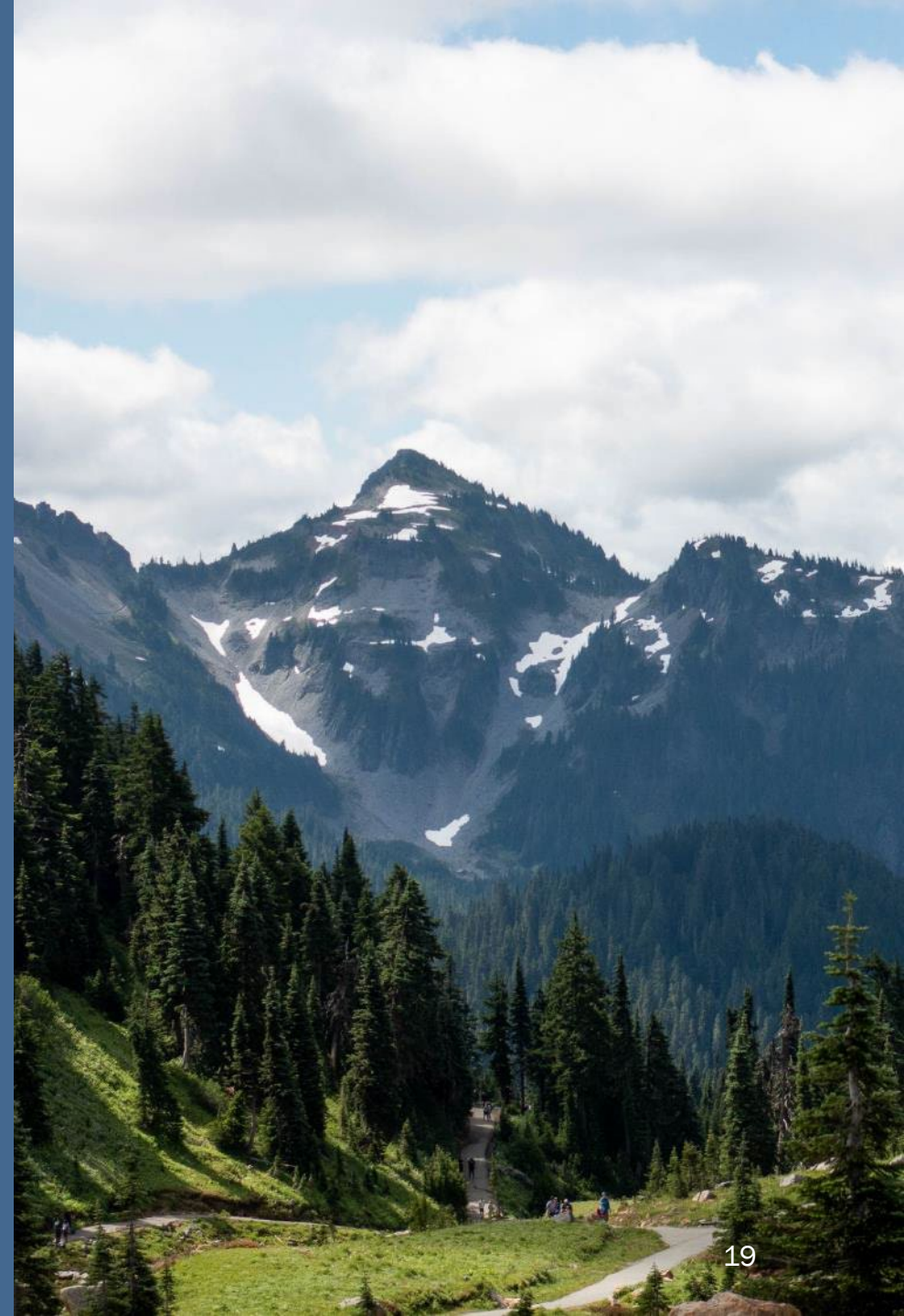
Evaluated alternatives to PFAS	Did not evaluate alternatives PFAS
<ul style="list-style-type: none">• Apparel and gear• Firefighting PPE• Cleaning products• Automotive washes• Automotive wax• Floor wax• Ski wax	<ul style="list-style-type: none">• Hard surface sealants• Cookware and kitchen supplies

Why did we prioritize some products over others?

- PFAS functions in some products were similar.
 - Apparel and gear and firefighting PPE
 - Waxes and polishes
- We had previously evaluated alternative surfactants.
- Expected formulated products like cleaning products and waxes and polishes to have better ingredient transparency.
- We plan to evaluate alternatives to PFAS in cookware and hard surface sealants in future cycles.



Draft Regulatory Determinations



Apparel and gear product scope

Examples of apparel:

- Athleticwear
- Rain wear
- Reusable diapers
- Menstrual underwear
- School uniforms
- Dresses
- Hats
- Scarves
- Gloves
- Shoes
- Extended use products

Examples of gear:

- Backpacks
- Sleeping bags
- Umbrellas
- Camping furniture
- Climbing rope



Extended use products

“Designed for outdoor sports experts for applications that provide protection against extended exposure to extreme rain conditions or against extended immersion in water or wet conditions, such as from snow, to protect the health and safety of the user and that are not marketed for general consumer use.”

- Examples include outerwear for offshore fishing, offshore sailing, whitewater kayaking, and mountaineering.
- Aligns with the definition of "outdoor apparel for severe wet conditions" in California Health and Safety Code Section 108970.



Alternatives to PFAS in apparel and gear

Safer and feasible alternatives to PFAS in most types of apparel are available.

- Alternative weaves
 - Polypropylene-based knit and polyurethane-based knit textiles
- Laminated textiles
 - Polypropylene and polyurethane laminated fabric
- Untreated apparel and safer cleaning methods
- Protective garments

Alternatives avoided the use of PFAS or replacement chemicals.

Draft Regulatory Determinations for PFAS in apparel and gear

- Reporting requirement for apparel intended for extended use.
- Reporting requirement for shoes.
- Reporting requirement for gear.
- Restriction for all other types of apparel.
- What changed?
 - We learned that the alternatives we already identified had broader uses than anticipated.
 - We decided to break the product category apart and restrict uses of PFAS with safer, feasible, and available alternatives.

Example alternatives to PFAS in use in apparel and gear

Functions	Altered weave alternatives	Laminated textile alternatives	Cleaning methods alternatives	Protective clothing alternatives
No function	No alternatives needed	No alternatives needed	No alternatives needed	No alternatives needed
Water repellency	Used for apparel. Examples include jackets, ski pants, shell pants, shoes, gloves.	Not applicable	Not applicable	Not applicable
Oil repellency and stain or soil resistance	Not applicable	Not applicable	Used in apparel. Examples include washing products with Safer Choice detergents, professional wet cleaning.	Used in apparel. Examples include Coveralls or Aprons- for painting, working with oil etc.
Barrier	Not applicable	Used in apparel. Example is menstrual underwear.	Not applicable	Not applicable

Firefighting PPE Scope

- RCW 70A.400.005 (4) defines firefighting PPE as “any clothing designed, intended, or marketed to be worn by firefighting personnel in the performance of their duties, designed with the intent for use in fire and rescue activities, including jackets, pants, shoes, gloves, helmets, and respiratory equipment.”
- WAC 296-305-01005, Safety Standards for Firefighters, divides protective clothing for firefighters into five types:
 1. Structural firefighting protective clothing
 2. Liquid splash-protective clothing
 3. Vapor-protective clothing
 4. High temperature-protective proximity clothing
 5. Wildland firefighting clothing



Alternatives to PFAS in firefighting PPE

- We have not yet identified safer, feasible, and available alternatives to PFAS in firefighting PPE.
- We have found:
 - Alternative durable water repellents for structural and proximity firefighting outer shells.
 - We were also able to identify a PFAS-free moisture barrier, marketed for use in structural and proximity firefighting protective clothing and compliant with the 1991, 1997, and 2018 editions of the NFPA 1971 standard.
 - While we were able to identify PFAS-free alternatives in vapor and liquid-splash protective clothing, we could not confirm they were safer.
 - We found that PFAS was not necessary for any required function for wildland firefighting clothing and thermal layers per the required NFPA standards.

Draft Regulatory Determination for PFAS in Firefighting PPE

Reporting requirement for PFAS in firefighting PPE.

- What changed?
 - Increasing transparency will help identify PFAS-free products.
- PFAS in firefighting PPE already must be disclosed to the purchaser (RCW 70A.400.030).
- We intend to continue work identifying safer, feasible, and available alternatives in future cycles.



Cleaning Products Scope

Cleaning products and cleaning agents intended for household and institutional uses.

- Examples: All-purpose cleaners, disinfectants, and cleaners for glass, bathrooms, dishes, tiles, **boats, trucks, and cars.**

PFAS used as **propellants** in cleaning products are excluded from the scope.

For cleaning products that have propellants, **PFAS used for other functions in cleaning products** are within scope.

- Propellants are used across a variety of product categories, not just cleaning products.
- Evaluating alternatives could be done more holistically in a future cycle when we can address the breadth of product use.



Alternatives to PFAS in Cleaning Products

We identified **safer, feasible, and available alternatives** to PFAS cleaning products.

PFAS function as **surfactants** in cleaning products.

We identified **13 surfactants** that meet our **minimum criteria for safer**.

- Safer surfactants were used in a wide diversity of cleaning products with many products are available that only use safer surfactants.

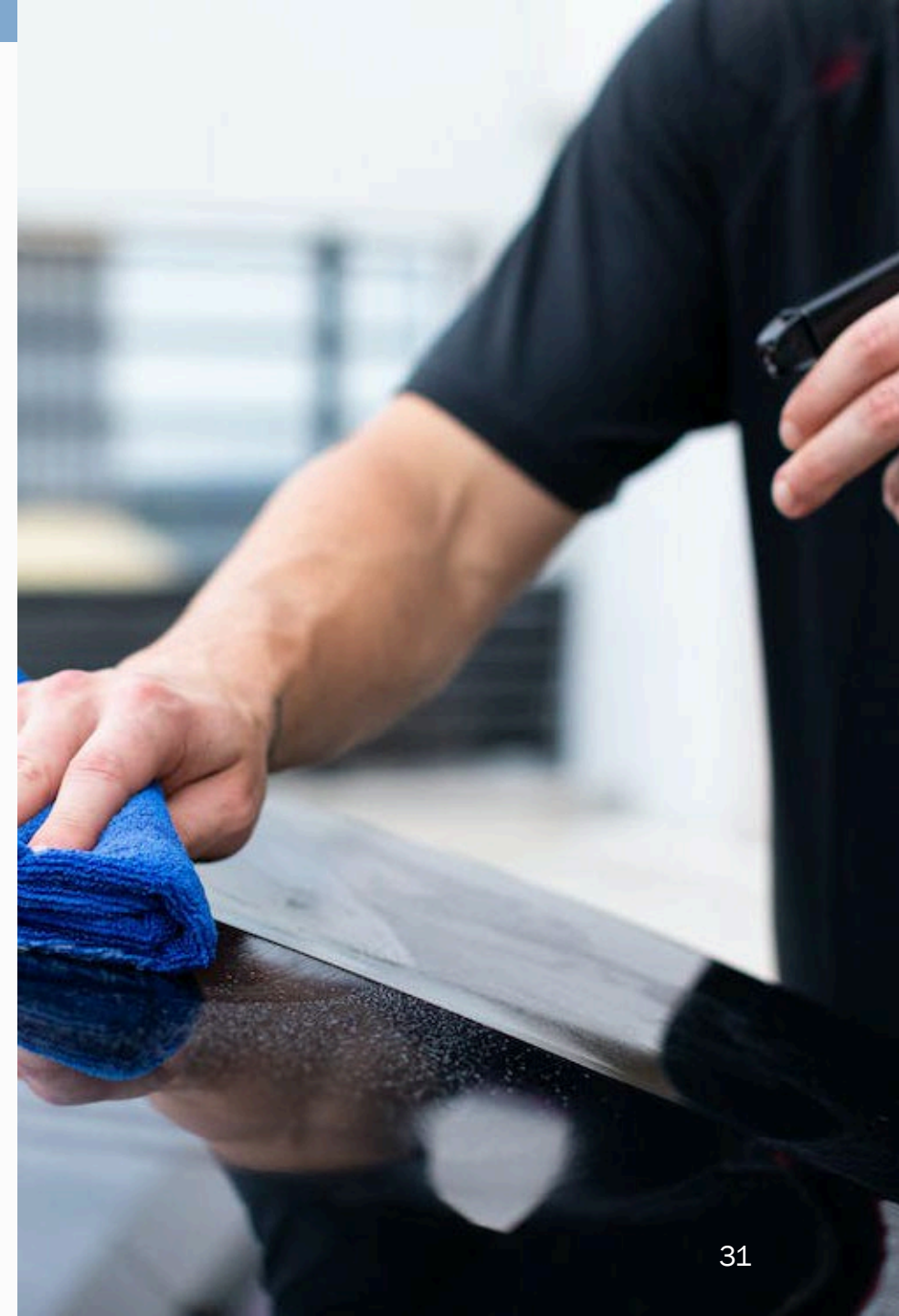
Draft Regulatory Determination for PFAS Cleaning Products

- **Restriction** on PFAS in cleaning products.
- **What changed?**
 - Several chemical hazard assessments (CHAs) were still in progress in August.
 - We completed relevant CHAs and were able to confirm that the alternatives are safer than PFAS.



Automotive Waxes and Polishes Scope

- Automotive polishes and waxed-based products are formulated products marketed for use on an **automotive exterior** as either a **wax, polish, or finish**.
 - Examples **include but are not limited to** polish, wash and wax, all-in-one wax, spray wax, and wet wax for cars, RVs, and boats.
- Waxes and polishes that are applied during automotive manufacturing are **excluded** from this product scope.



Ski Waxes Scope

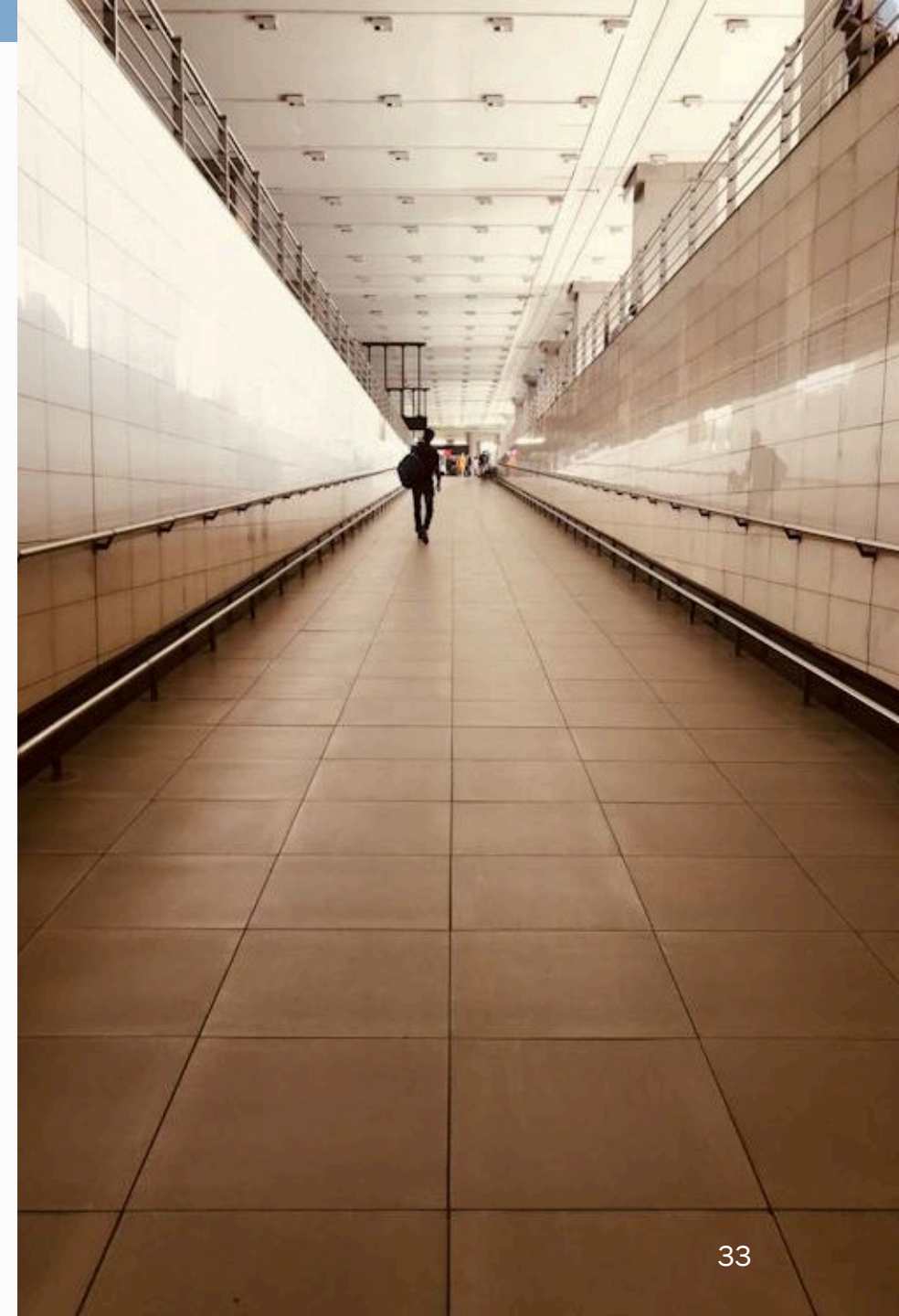
- Ski wax products are formulated products intended for use on snow equipment, **including but not limited to** skis and snowboards, with the intent of **modifying friction properties**.
- Example products **include but are not limited to** hot wax, spray wax, and rub-on wax for Nordic skis, alpine skis, and snowboards.



Floor Waxes and Polishes

Scope

- Floor polishes and waxed-based products are formulated products designed to **polish, protect, or enhance a floor's surface.**
- Examples include but are not limited to multi-surface floor finishes, low-gloss, semi-gloss, and high-gloss polishes.



PFAS in Waxes and Polishes

Product Categories	Functions of PFAS
Automotive Wax and Polish	Provides aqueous repellency for a surface; provides protection from environmental elements
Floor Wax and Polish	Provides aqueous and oil repellency of a surface; increases the spreading abilities of other components in a wax formulation
Ski Wax and Polish	Alters friction properties (wet friction coefficient) for skis and other similar snow sporting equipment

PFAS in Waxes and Polishes (continued)

- Chemical alternatives to PFAS in waxes and polishes are often used in **mixtures**.
 - More than one chemical alternative may be necessary to replace PFAS.
- Chemical alternatives are often proprietary or not listed on safety data sheets.

Safer Chemicals in Waxes and Polishes

Alternatives	Chemical Hazard Assessment
Carnauba wax (CAS: 8015-86-9)	EPA Safer Chemical Ingredients List; Yellow in a verified SciveraLENS® GHS+ assessment
Beeswax (CAS: 8012-89-3)	EPA Safer Chemical Ingredients List
Paraffin waxes (CAS: 8002-74-2)	Yellow in a verified SciveraLENS® GHS+ assessment; GreenScreen® Benchmark 3
Sodium lauryl sulfate (CAS: 151-21-3)	EPA Safer Chemical Ingredients List (surfactant criteria); GreenScreen® Benchmark 2
Dimethicone (CAS: 63148-62-9/9006-65-9/9016-00-6)	Greenscreen® Benchmark 2

Safer Alternatives in Products

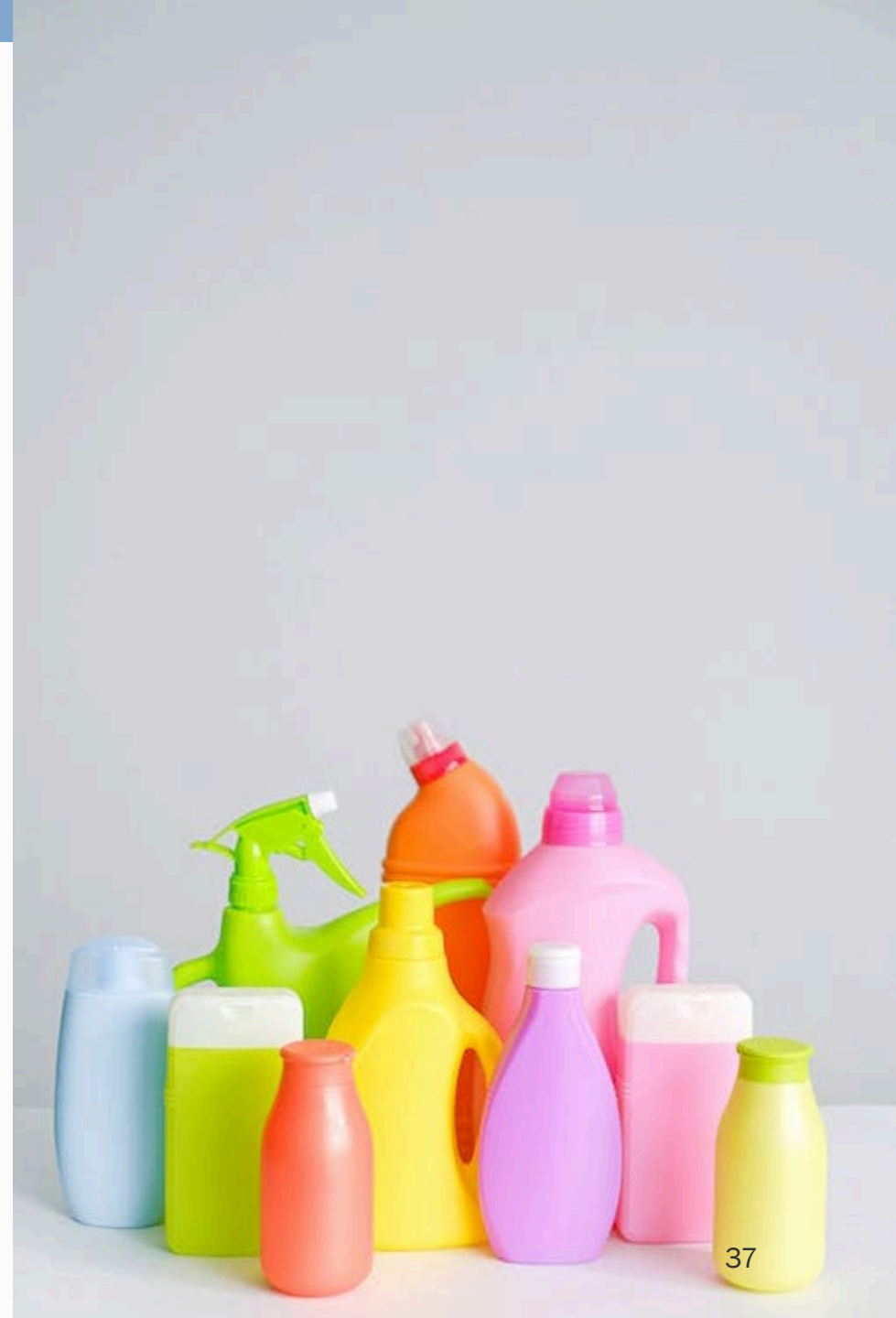
Safer chemicals are widely used in products.

- Often in mixtures along with other chemicals to provide the function of PFAS.

We need **detailed ingredient information to identify products that only use safer alternatives** for the function of PFAS.

- Example: A product may use carnauba wax and other proprietary ingredients to provide the function of PFAS.

Because **we did not identify products only using safer alternatives**, we could not conclude that they are feasible alone.



Safer, Feasible, and Available Alternatives to PFAS in Waxes and Polishes

Nikwax Ski Skin Proof is a safer product alternative.

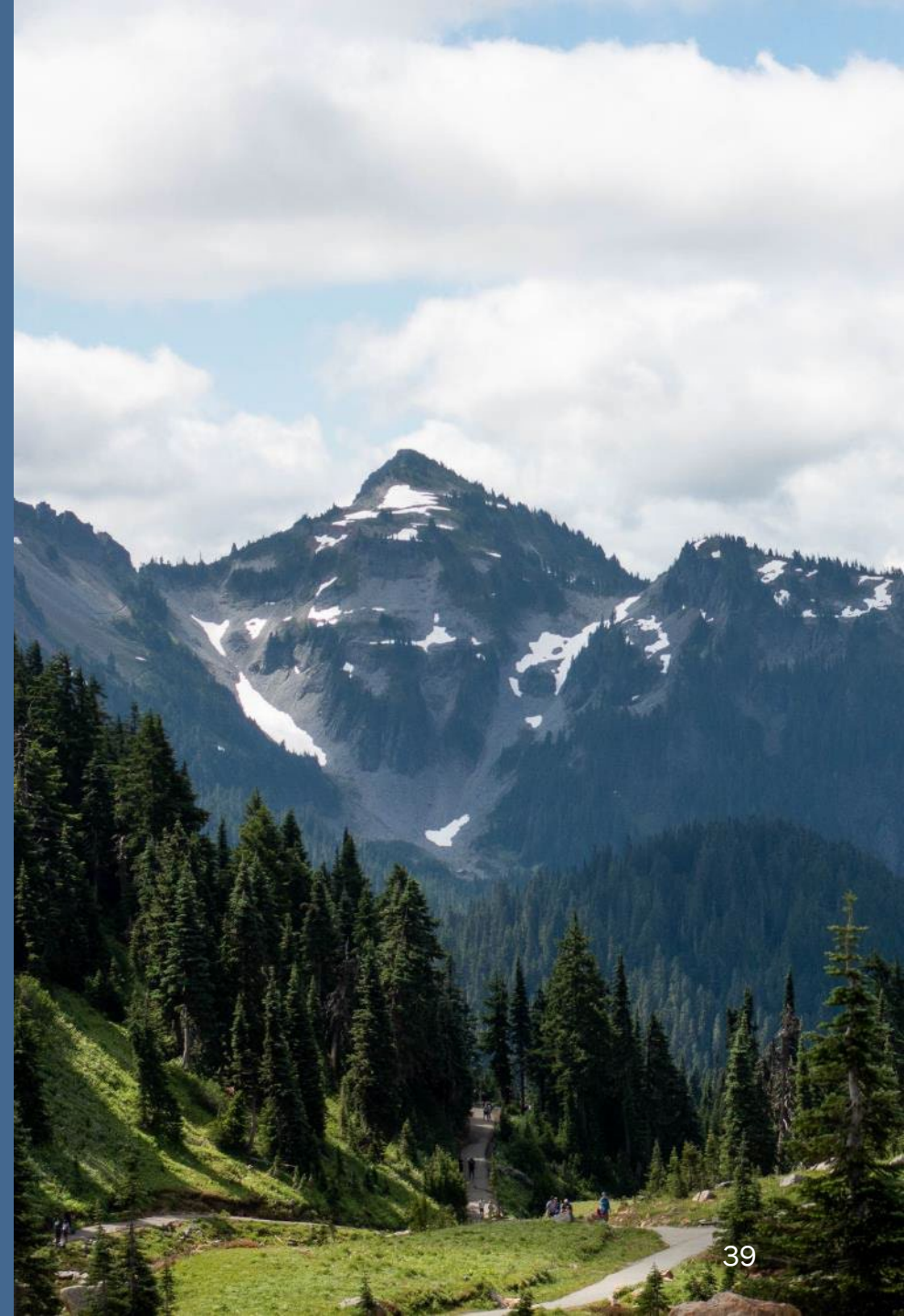
- We received formulation disclosure from Nikwax through a confidential business information agreement.
- A SciveraLENS® GHS+ verified assessment of all intentionally added ingredients, impurities, and residual monomers was conducted.
- We conclude that Nikwax Ski Skin Proof meets our minimum criteria for safer.

Do you know of other products using only safer chemical ingredients to serve the function of PFAS?





Summary and Market Analysis



Draft Regulatory Determinations for Textile Products

Priority Products	Product Examples	Draft Regulatory Determinations
Apparel and gear	<p>Examples of apparel include athleticwear, reusable diapers, menstrual underwear, rain wear, school uniforms, dresses, hats, scarves, gloves, and shoes.</p> <p>Gear includes non-clothing items that are used for a particular purpose, such as backpacks, sleeping bags, umbrellas, camping furniture, and climbing rope.</p>	<p>Reporting requirement for apparel intended for extended use by experts or professionals that are not marketed to the general public</p> <p>Reporting requirement for shoes</p> <p>Restriction for all other types of apparel</p> <p>Reporting requirement for gear</p>
Firefighting PPE	<p>Examples include jackets, pants, shoes, gloves, helmets, and respiratory equipment designed with the intent for use in fire and rescue activities.</p>	<p>Reporting requirement</p>

Draft Regulatory Determinations for Cleaning Products

Priority Products	Product Examples	Draft Regulatory Determinations
Cleaning products	<p>Examples include all-purpose cleaners, disinfectants, and cleaners for glass, bathrooms, dishes, tiles, boats, and cars.</p> <p>In cleaning products that contain propellants, the propellant function of PFAS is out of scope; however, PFAS added for other uses are included.</p>	Restriction
Automotive washes	<p>Examples include boat, car, and truck washes.</p>	Restriction

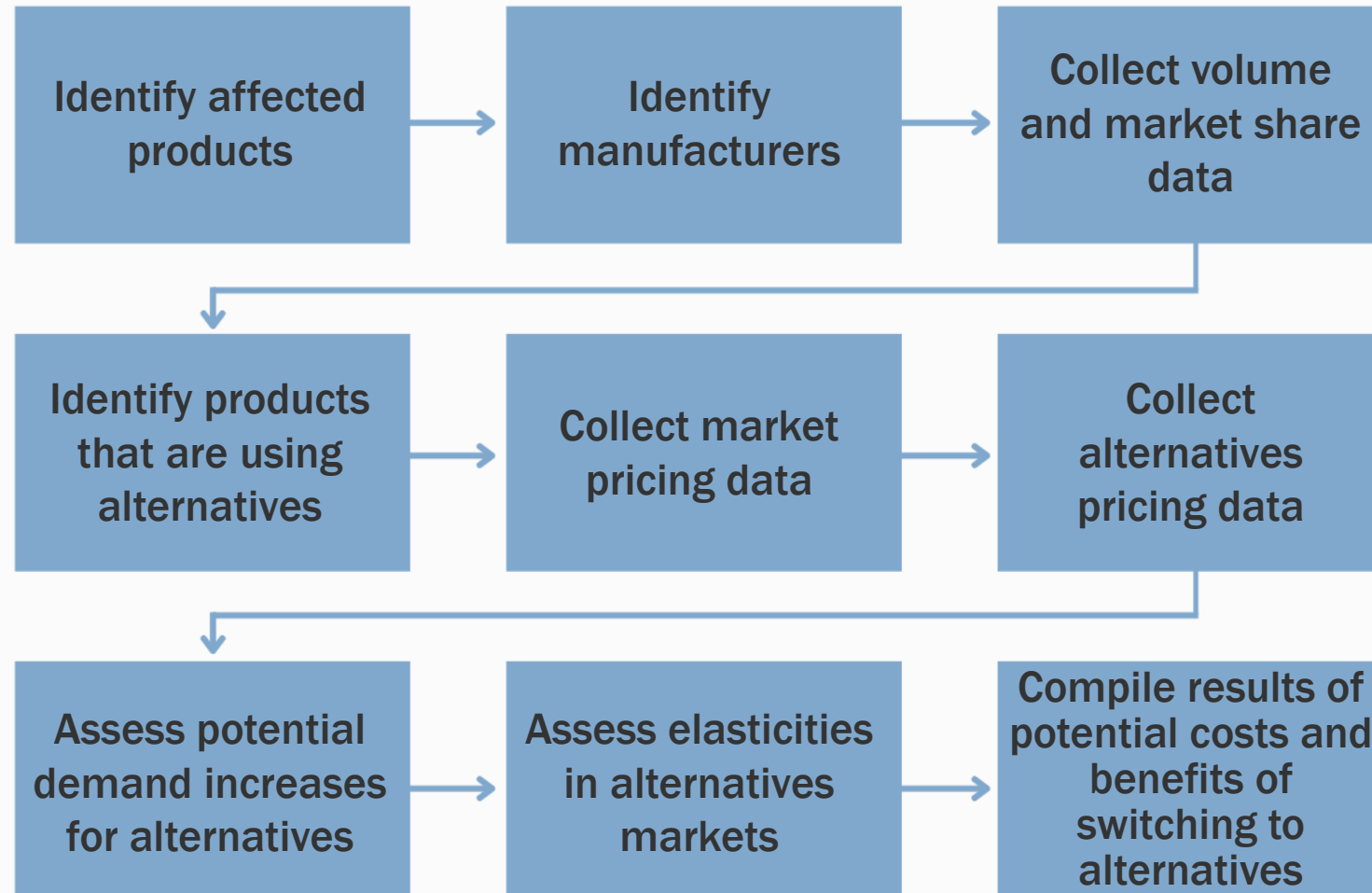
Draft Regulatory Determinations for Waxes and Polishes

Priority Products	Product Examples	Draft Regulatory Determinations
Automotive waxes	Examples include polish, wash and wax, all-in-one wax, spray wax, and wet wax for cars, RVs, and boats. When waxes and polishes are applied during automotive manufacturing, they are excluded from this product scope.	Reporting requirement
Floor waxes and polishes	Examples include multi-surface floor finishes, low-gloss, semi-gloss, and high-gloss polishes.	Reporting requirement
Ski waxes	Example products include hot wax, spray wax, and rub-on wax for Nordic skis, alpine skis, and snowboards.	Reporting requirement

Draft Regulatory Determinations for Other CAP Products

Priority Products	Product Examples	Draft Regulatory Determinations
Hard surface sealants	Examples include products used to seal stone, unglazed tile, concrete, and wood.	Reporting requirement
Cookware and kitchen supplies	Examples include frying pans, cooking pots, rice cookers, waffle makers, griddles, bakeware, and reusable baking liners.	Reporting requirement

Market Analysis Overview



Apparel Company Commitments to PFAS Removal

Product Categories	Already Removed	Timeline for Future Removal	Partial Removal	Any PFAS commitment
Indoor apparel	48%	35%	0%	83%
Outdoor apparel/gear	0%	7%	26%	32%
Apparel retailer	0%	0%	33%	33%
Shoes	5%	0%	75%	80%

*Among companies surveyed by the NRDC and weighted by sales volume.

Market Pricing

Product	Mean Non PFAS-free Price	Mean PFAS-free Price	PFAS-free Premium (adjusted)
Shorts	\$49.44	\$55.78	14.2%
Casual Pants	\$84.68	\$72.81	-6.0%
Active Shirts	\$56.92	\$52.20	-2.2%
Rain Jackets	\$196.64	\$246.66	49.9%

Product	Mean Non PFAS-free Price	Mean PFAS-free Price	PFAS-free Premium
Liquid Laundry Detergent	\$3.61	\$4.90	36%
Liquid Carpet Cleaners	\$13.60	\$11.20	-18%

Potential Demand and Opportunities

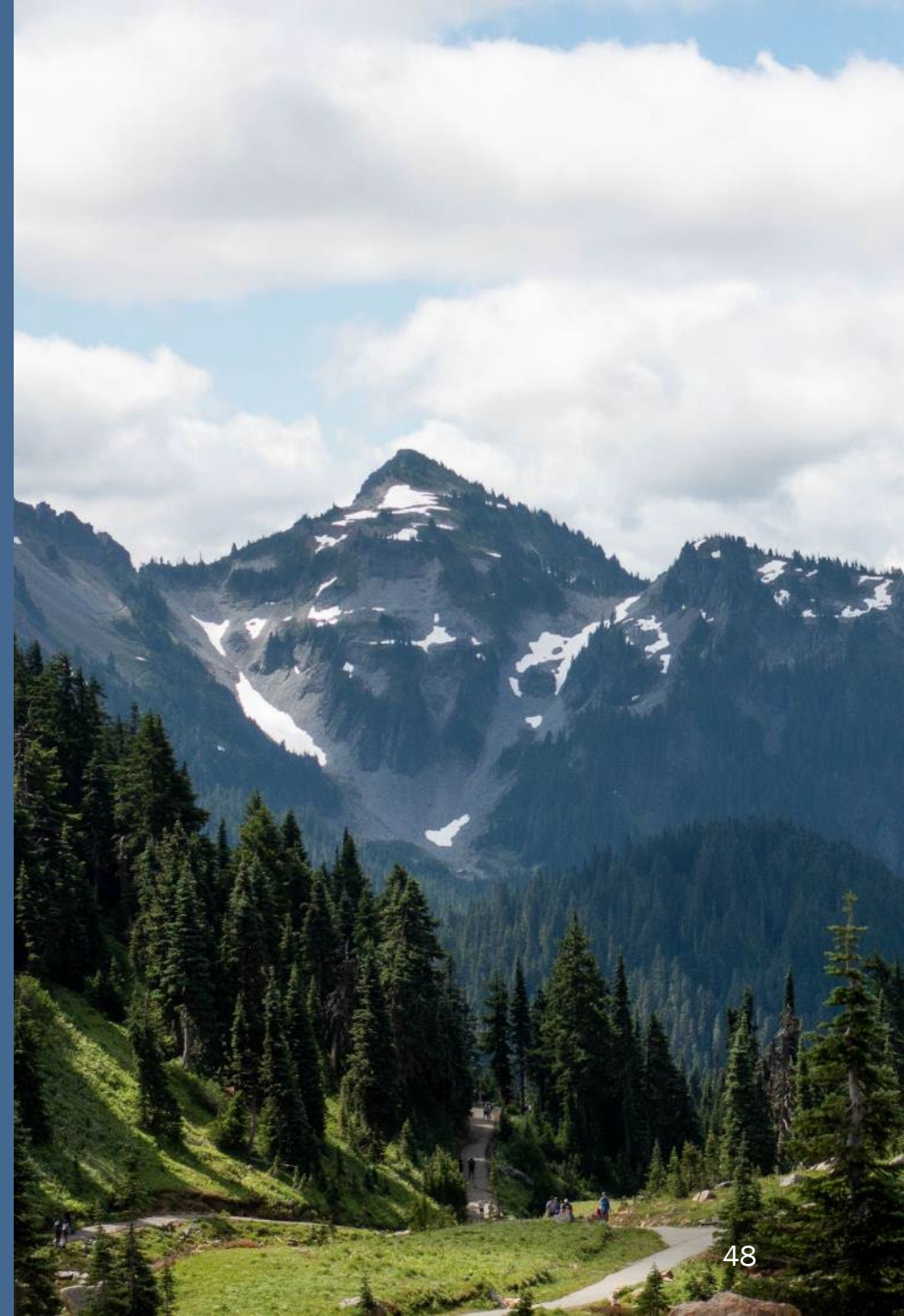
Change in consumer demand requires that:

- (1) Consumers are knowledgeable about the risks posed by PFAS exposure and have some preferences for avoiding those risks and/or
- (2) There is some observable quality difference between products made with PFAS and PFAS-free products.

- One survey reported that consumers may be willing to pay up to 50% more for PFAS-free products when they are fully knowledgeable about the risks.
- Consumers are generally not widely informed about PFAS and the market does not currently reflect what could be preferences for PFAS-free products.



Next Steps



Future Work

- We plan to continue alternatives research in cycle 2 for:
 - Firefighting PPE
 - Floor Waxes and Polishes
- Based on reporting data we may revisit:
 - Ski wax
 - Automotive waxes and polishes
- We plan to begin researching alternatives in cycle 2:
 - Cookware and kitchen supplies
 - Hard surface sealants



Jan. 12, 2024

Last day to
submit
comments on
the draft report

Jan. - Jun. 2024

Finalize report

June 1, 2024

Submit
Regulatory
Determinations
Report to
Legislature

Jul. - Dec. 2024

Work with
interested
parties to
develop draft
rule
requirements

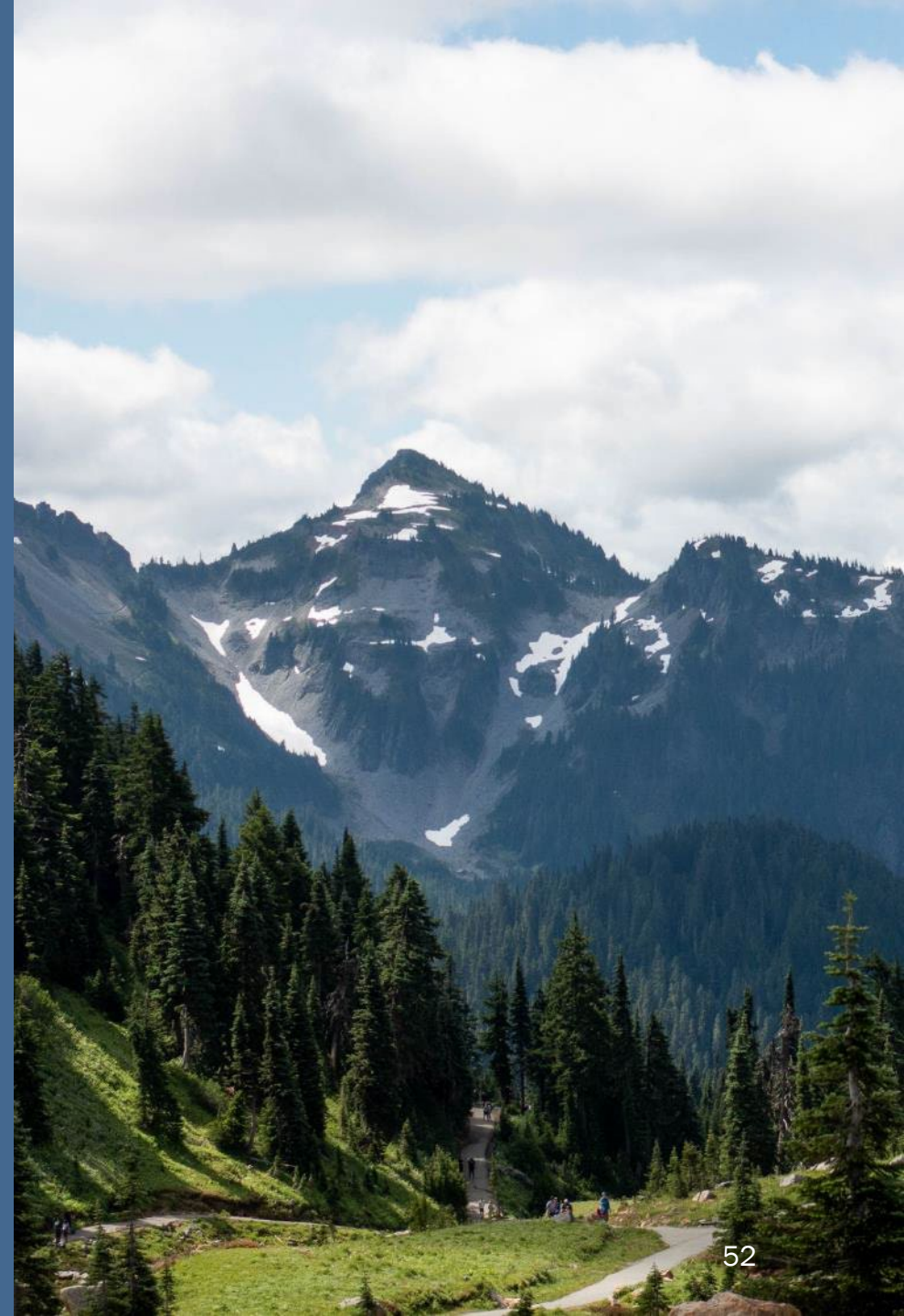
What about the details
like timelines or
concentration limits?

That's for rulemaking!
Coming soon...





Q & A



Your feedback matters!

- Opportunity to ask clarifying questions now.
- Comment period through January 12!
- Feedback that is particularly helpful:
 - Specific examples where the alternatives we identified might not work.
 - Products using only the safer alternatives we identified for the function of PFAS.
 - Manufacturers interested in CBI agreements!
 - Questions, clarifications, or wording suggestions on product scope.





Thank you for joining us!



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ecology.wa.gov/Safer-Products-WA



Chapter 70A.350 RCW