



Final Regulatory Analyses

Including the:

- **Final Cost-Benefit Analysis**
- **Least-Burdensome Alternative Analysis**
- **Administrative Procedure Act Determinations**
- **Regulatory Fairness Act Compliance**

Chapter 173-925 WAC, Postconsumer Recycled Content in Plastic Containers

By

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For the

Solid Waste Management Program

Washington State Department of Ecology

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Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
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DEPARTMENT OF
ECOLOGY
State of Washington

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Abbreviations and Acronyms

APA	Administrative Procedure Act
CBA	Cost-Benefit Analysis
CO ₂ e	Carbon dioxide equivalent
CY	Calendar year
EPA	US Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FY	Fiscal year
GHG	Greenhouse gas
ISO	International Organization for Standardization
LBA	Least-Burdensome Alternative
MMT	Million metric tons
MSW	Municipal solid waste
NAICS	North American Industry Classification System
PCRC	Postconsumer recycled content
RCW	Revised Code of Washington
RFA	Regulatory Fairness Act
SBEIS	Small Business Economic Impact Statement
TIN	Taxpayer identification number
WAC	Washington Administrative Code
WARM	EPA Waste Reduction Model

Executive Summary

This report presents the determinations made by the Washington State Department of Ecology as required under Chapters 34.05 RCW and 19.85 RCW for the Postconsumer Recycled Content in Plastic Containers rule (Chapter 173-925 WAC; the “rule”). This report includes:

- Final Cost-Benefit Analysis (CBA)
- Least-Burdensome Alternative Analysis (LBA)
- Administrative Procedure Act Determinations
- Regulatory Fairness Act Compliance

The Washington Administrative Procedure Act (APA; RCW 34.05.328(1)(d)) requires Ecology to evaluate significant legislative rules to “determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the law being implemented.” Chapters 1 – 5 of this document describe that determination.

The APA also requires Ecology to “determine, after considering alternative versions of the rule...that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives” of the governing and authorizing statutes. Chapter 6 of this document describes that determination.

The APA also requires Ecology to make several other determinations (RCW 34.05.328(1)(a) – (c) and (f) – (h)) about the rule, including authorization, need, context, and coordination. Appendix A of this document provides the documentation for these determinations.

The Washington Regulatory Fairness Act (RFA; Chapter 19.85 RCW) requires Ecology to evaluate the relative impact of rules that impose costs on businesses in an industry. It compares the relative compliance costs for small businesses to those of the largest businesses affected. Chapter 7 of this document documents that analysis, when applicable.

Background

The purpose of the rule is to implement the requirements in RCW 70A.245 – Recycling, Waste, and Litter Reduction, which requires Ecology to establish a Postconsumer Recycled Content (PCRC) program for producers of covered products (plastic beverage containers, trash bags, and household cleaning and personal care product containers) and require them to annually:

- Register covered products.
- Pay fees to cover agency oversight costs.
- Report PCRC and virgin plastic resin data.
- Meet minimum PCRC percentage requirements.

Many producers have committed to voluntary recycled content standards for their plastic containers, but how well they comply with those recycled content standards is unknown because it is not tracked. Requiring producers to comply with the PCRC requirements in the law, for covered products, is intended to motivate producers to increase the amount of plastic

packaging they recover so producers have enough recyclable feedstock to meet the minimum PCRC requirements.

Increasing the use of recycled content plastic will reduce the demand for virgin plastic to manufacture plastic containers. Use of recycled plastics lowers energy use and greenhouse gas emissions. The demand to meet the new requirements may raise the value of PCRC as an end-market product. This could incentivize ongoing improvements to the statewide recycling system.

In 2021, the Legislature passed Chapter 70A.245 RCW to:

- Increase recycled content in specific categories of plastic packaging.
- Reduce new plastic production.
- Promote material circularity.
- Improve plastic packaging collection, processing, and markets.

Under certain conditions, the law gives Ecology the authority to:

- Temporarily adjust the PCRC targets.
- Approve exclusions from meeting the targets.
- Establish corrective action plans in lieu of penalties.
- Offer penalty reductions.

Summary of the adopted rule

The rule establishes the processes Ecology and producers of covered products must follow to ensure compliance with the law, including calculation of annual fees. The rule:

- Adds or clarifies definitions needed to comply with the law.
- Sets requirements for registration and reporting.
- Establishes a process to ensure fee allocation methods are equitable.
- Establishes the annual producer fee billing process.
- Clarifies requirements for PCRC weight calculations.
- Clarifies requirements for temporary exclusion requests.
- Limits timing for providing necessary audit documentation.
- Details the process for warnings and penalties for noncompliance.

Costs

Table 1. Cost summary.

Type of cost	Range of estimated total annual costs	Average annual cost per producer	Range of estimated cost over 20 years in present value
Registration and reporting	\$14,823 – \$31,115	\$123	\$272,873 – \$572,808
De minimis notifications	\$5,391 – \$11,302	\$31	\$99,243 – \$208,072
Fees	Total fees the same as baseline (\$578,000 – \$664,944) allocated based on resin weight rather than equally	-\$5,956 (cost-savings for smallest producers) – \$74,200 (cost increase for the largest producers)	Total present value the same as baseline (\$11.9 million) allocated based on resin weight rather than equally divided
75% of producers request for exclusion.	\$22,019 – \$45,838	\$245	\$378,232 – \$778,663
50% of producers request for exclusion.	\$15,000 – \$30,644	\$245	\$252,154 – \$519,109
25% of producers request for exclusion.	\$7,260 – \$15,200	\$245	\$126,077 – \$214,998
Adjustment requests	Up to \$6,309	\$25 – \$52	\$116,140

Benefits

Registration and reporting

- Complete and accurate producer information through the annual reporting and registration process giving Ecology the ability to communicate with producers as needed.
- Early identification of the producer information that may need to change (de minimis status, contact address, etc.) to inform decision making.
- Prevention of duplicate reporting by assigning unique identifiers to all reporters. This could potentially reduce program costs and producer fees because we would not need to hire more staff to review and approve reports.
- Data transparency and assurance of equitable fee distribution.

De minimis notifications

- Simplified identification of producers required to comply with the authorizing law.
- Reduced likelihood of pursuing de minimis producers for non-compliance.
- Data transparency and assurance of equitable fee distribution

Fee allocations

- Producers are confident all producers are held accountable for compliance and the fees are equitably allocated.

- Quick, accurate, and equitable fee distribution, by reducing the need to correct fees after producers receive their invoice.
- Equitable distribution of fees, reflecting the projected workload for oversight of PCRC requirements.

Temporary exclusions and adjustments

While temporary exclusions and adjustments are established under the baseline, the rule adds specificity to the process for each. This facilitates the overall benefits of temporary exclusions and adjustments, including:

- Balance between the compliance requirements and economic conditions or federal laws that may limit the ability of producers to comply with the rule.
- In the absence of temporary exclusions and adjustments, difficulty or inability to comply (e.g., a shortage of postconsumer recycled resin²) could result in upward pressure on prices of affected consumer goods, or in shortages of those goods. We note that prices could also remain unaffected, due to internal business decisions and factors like maintaining market share in specific market segments.³
- Providing producers with leniency where their noncompliance is due to factors not under their control.
- Time for impacted industries to develop compliance ability to adjust with a need to source more recycled content to meet the new requirements which may also incentivize investments in improved recycling technologies that reduce contamination, result in cleaner recycled feedstock, and restore confidence in the recycling system.

Timing of audit documents

- Clarity that facilitates producers providing documentation promptly and avoiding potential delays. This improved efficiency (note that under the baseline law or under the rule, all necessary documents would eventually be provided, though at different times) will reduce time costs associated with audits, and reduce minor potential impacts to business planning.

Noncompliance notifications

- Clarity about how many notices Ecology will send before taking further enforcement action.
- Potential earlier compliance than under the baseline requirement for at least two warnings. Earlier compliance would improve the ability to meet the goals of the authorizing statute in increasing the use of recycled plastics in the supply chain, creating demand for recycled plastic resin, and supporting a circular plastics economy.

² Recycling Today, Retrieved from: <https://www.recyclingtoday.com/news/recycled-plastic-supply-demand-mismatched/>.

³ [The Recycling Partnership and Columbia University, 2022](#)

The APA requires Ecology to, “Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.” We conclude, based on a reasonable understanding of the quantified and qualitative costs and benefits likely to arise from the rule, as compared to the baseline, that the benefits of the rule are likely greater than the costs.

Least-Burdensome Alternative Analysis

The authorizing law for this rule is Chapter 70A.245 RCW, Recycling, Waste, and Litter Reduction. Its goals and objectives are:

- Establish postconsumer recycled content requirement for applicable products under 70A.245.020 and producer’s reporting requirement under 70A.245.030.
- Require Ecology to identify the annual costs to incur to implement, administer, and enforce and RCW 70A.245.020 RCW and 70A.245.030 through 70A.245.060 and 70A.245.090 (1), (2), and (4), including rule making, in the next fiscal year for each category of covered products.
- Establish equitable producer fees to fully recover and not to exceed expenses incurred by the department.
- Apply non-compliance penalties for postconsumer recycled content requirements under 70A.245.040 and penalties for registration, labeling, and reporting 70A.245.040.
- Define Ecology’s rule making duty under 70A.245.090.

The legislature finds that minimum recycled content requirements for plastic beverage containers, trash bags, and household cleaning and personal care product containers are needed to improve the state's recycling system and reduce litter.

By implementing a minimum recycled content requirement for plastic beverage containers, trash bags, and household cleaning and personal care product containers, the legislature intends to improve the state's recycling system by ensuring plastic packaging materials are reduced, recycled, and reused.

We considered the following alternative rule content and did not include it in the adopted rule because it did not meet the goals and objectives of the law, or because it would have imposed more burden on those required to comply with it.

- Excluding FIFRA-regulated and aerosol containers from all requirements.
- Exempting all federally regulated packaging in the exclusions section of the definition of household cleaning product.
- Providing different definitions of producer:
 - The manufacturer who is contracted to produce a covered product for a brand owner.
 - The person who has the decision-making authority for the plastic resin makeup of the covered product.
 - The definition included in our proposed rule language: The producer of a covered product is the entity that affixes its brand, or specifies that its brand be affixed, to the covered product container or retail packaging, except:

- If an entity is a “brand licensor,” meaning it has licensed its brand to be used on a covered product that is to be sold by the licensee, then the licensee is the producer.
 - If the covered product lacks identification of a brand, the entity that specified the material composition of the covered product packaging is the producer.
 - If there is no identifiable person described above, the entity who imports or distributes the covered product in or into the state, including through online sales, is the producer.
- Removing coffee creamers from items listed as beverages.
 - Adding "offered for sale to individual consumers" to exclude sales to businesses, to the definition of covered product.
 - Removing "multi-resin" from the definition of plastic beverage containers.
 - Removing items that are not readily or easily recycled from the list of covered products.
 - Using the California definition of household cleaning products.
 - Adding surface polishes, air cleaners, and other products to the definition of household cleaning products.
 - Using the dictionary definition of “household” for the purpose of defining “household cleaning product.”
 - Extending PCRC requirements to include caps, labels, trigger sprayers, and attachments on covered products.
 - Structuring fees such that producers are only required to pay fees once their category has been phased into the PCRC requirements.
 - Not requiring de minimis producer notification.
 - Defining manufacturer.
 - Adding language that states that the covered product refers to the product contained, not the container itself.
 - Adding an opportunity to add a step to ensure that disagreements over confidential data will be handled before being published.
 - Requiring third-party verification of PCRC.
 - Distributing fees differently, using a tiered system based on resin weight or annual revenue.

After considering alternatives to the rule contents, within the context of the goals and objectives of the authorizing statute, we determined that the rule represents the least-burdensome alternative of possible rule contents meeting the goals and objectives.

Regulatory Fairness Act compliance

We conclude that the rule is likely to have disproportionate impacts on small businesses. Therefore Ecology must include elements in the rule to mitigate this disproportion, where legal (including the stated objectives of the law on which the rule is based) and feasible.

The RFA (19.85.030(2) RCW) states that:

“Based upon the extent of disproportionate impact on small business identified in the statement prepared under RCW 19.85.040, the agency shall, where legal and feasible in meeting the stated objectives of the statutes upon which the rule is based, reduce the costs imposed by the rule on small businesses. The agency must consider, without limitation, each of the following methods of reducing the impact of the proposed rule on small businesses:

- a) Reducing, modifying, or eliminating substantive regulatory requirements;
- b) Simplifying, reducing, or eliminating recordkeeping and reporting requirements;
- c) Reducing the frequency of inspections;
- d) Delaying compliance timetables;
- e) Reducing or modifying fine schedules for noncompliance; or
- f) Any other mitigation techniques, including those suggested by small businesses or small business advocates.”

We considered all the above options, the goals and objectives of the authorizing law (see Chapter 6), and the scope of this rulemaking. We limited compliance cost-reduction methods to those that:

- Are legal and feasible.
- Meet the goals and objectives of the authorizing statute.
- Are within the scope of this rulemaking.

Modifying regulatory requirements, changing reporting requirements, reducing the frequency of inspections, or delaying compliance timetables would not meet the objectives of the law or are not feasible and within the scope of this rulemaking.

Finally, in the rule, we included the following elements of the law to reduce costs to small businesses. Businesses are not required to meet annual reporting, PCRC, or fee requirements of covered products if they are below the de minimis threshold. The de minimis threshold considers sales, distribution, or import in or into Washington that:

- Generates less than \$1,000,000 in gross revenue in a single category of a covered product annually.
- Sells or distributes less than one ton of a single category of a covered product annually.

The rule is not likely to significantly impact the statewide value of output, revenues, or employment.

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Chapter 1: Background and Introduction

1.1 Introduction

This report presents the determinations made by the Washington State Department of Ecology as required under Chapters 34.05 RCW and 19.85 RCW, for the Postconsumer Recycled Content in Plastic Containers rule (Chapter 173-925 WAC; the “rule”). This includes the:

- Final Cost-Benefit Analysis (CBA)
- Least-Burdensome Alternative Analysis (LBA)
- Administrative Procedure Act Determinations
- Regulatory Fairness Act Compliance

The Washington Administrative Procedure Act (APA; RCW 34.05.328(1)(d)) requires Ecology to evaluate significant legislative rules to “determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the law being implemented.” Chapters 1 – 5 of this document describe that determination.

The APA also requires Ecology to “determine, after considering alternative versions of the rule...that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives” of the governing and authorizing statutes. Chapter 6 of this document describes that determination.

The APA also requires Ecology to make several other determinations (RCW 34.05.328(1)(a) – (c) and (f) – (h)) about the rule, including authorization, need, context, and coordination. Appendix A of this document provides the documentation for these determinations.

The Washington Regulatory Fairness Act (RFA; Chapter 19.85 RCW) requires Ecology to evaluate the relative impact of rules that impose costs on businesses in an industry. It compares the relative compliance costs for small businesses to those of the largest businesses affected. Chapter 7 of this document documents that analysis, when applicable.

1.1.1 Background

The purpose of this rule is to implement the requirements in RCW 70A.245 – Recycling, Waste, and Litter Reduction - that requires Ecology to establish a Postconsumer Recycled Content (PCRC) program for producers of covered products (plastic beverage containers, trash bags, and household cleaning and personal care product containers) and require them to annually:

- Register covered products.
- Pay fees to cover agency oversight costs.
- Report PCRC and virgin plastic resin data.
- Meet minimum PCRC percentage requirements.

Many producers have committed to voluntary recycled content standards for their plastic containers, but how well they comply with those recycled content standards is unknown

because it is not tracked. Requiring producers to comply with the PCRC requirements in the law, for covered products, is intended to motivate producers to increase the amount of plastic packaging they recover so producers have enough recyclable feedstock to meet the minimum PCRC requirements.

Increasing the use of recycled content plastic will reduce the demand for virgin plastic to manufacture plastic containers. Use of recycled plastics lowers energy use and greenhouse gas emissions. The demand to meet the new requirements may raise the value of PCRC as an end-market product. This could incentivize ongoing improvements to the statewide recycling system.

1.2 Summary of the rule

The rule establishes the processes Ecology and producers of covered products must follow to ensure compliance with the law, including calculation of annual fees. The rule specifically:

- Adds or clarifies definitions needed to comply with the law.
- Sets requirements for registration and reporting.
- Establishes a process to ensure fee allocation methods are equitable.
- Establishes the annual producer fee billing process.
- Clarifies requirements for PCRC weight calculations.
- Clarifies requirements for temporary exclusion requests.
- Limits timing for providing necessary audit documentation.
- Details the process for warnings and penalties for noncompliance.

1.3 Reasons for the rule

In 2021, the Legislature passed Chapter 70A.245 RCW to:

- Increase recycled content in specific categories of plastic packaging.
- Reduce new plastic production.
- Promote material circularity.
- Improve plastic packaging collection, processing, and markets.

Under certain conditions, the law gives Ecology the authority to:

- Temporarily adjust the PCRC targets.
- Approve exclusions from meeting the targets.
- Establish corrective action plans in lieu of penalties.
- Offer penalty reductions.

1.4 Document organization

The remainder of this document is organized in the following chapters:

- **Baseline and the rule (Chapter 2):** Description and comparison of the baseline (what would occur in the absence of the rule) and the adopted rule requirements.

- **Likely costs of the rule (Chapter 3):** Analysis of the types and sizes of costs we expect impacted entities to incur as a result of the rule.
- **Likely benefits of the rule (Chapter 4):** Analysis of the types and sizes of benefits we expect to result from the rule.
- **Cost-benefit comparison and conclusions (Chapter 5):** Discussion of the complete implications of the CBA.
- **Least-Burdensome Alternative Analysis (Chapter 6):** Analysis of considered alternatives to the contents of the rule.
- **Regulatory Fairness Act Compliance (Chapter 7):** When applicable. Comparison of compliance costs for small and large businesses; mitigation; impact on jobs.
- **APA Determinations (Appendix A):** RCW 34.05.328 determinations not discussed in chapters 5 and 6.

Chapter 2: Baseline and Rule Requirements

2.1 Introduction

We analyzed the rule's impacts within the context of all existing requirements (federal and state laws and rules). This context for comparison is called the baseline and reflects the most likely regulatory circumstances entities would face if Ecology did not adopt the rule. It is discussed in Section 2.2, below.

2.2 Baseline

The baseline for our analyses generally consists of existing rules and laws, and their requirements. This is what allows us to make a consistent comparison between the state of the world with and without the rule.

For this rulemaking, the baseline includes Chapter 70A.245 RCW, which consists of the following sections:

- RCW 70A.245.010 – Definitions
- RCW 70A.245.020 – Postconsumer recycled content
- RCW 70A.245.030 – Producer reporting requirements
- RCW 70A.245.040 – Penalties for postconsumer recycled content requirements—Penalty
- RCW 70A.245.050 – Penalties for registration, labeling, and reporting
- RCW 70A.245.090 – Department duties—Rulemaking

2.3 Rule requirements

The rule establishes the processes Ecology and producers of covered products must follow to ensure compliance with the law, including calculation of annual fees. The rule specifically:

- Adds or clarifies definitions needed to comply with the law.
- Sets requirements for registration and reporting.
- Establishes a process to ensure fee allocation methods are equitable.
- Establishes the annual producer fee billing process.
- Clarifies requirements for PCRC weight calculations.
- Clarifies requirements for temporary exclusion requests.
- Limits timing for providing necessary audit documentation.
- Details the process for warnings and penalties for noncompliance.

2.3.1 Adding or Clarifying Definitions Necessary for Implementation of the Rule

Baseline

The baseline RCW 70A.245.010 includes definitions of associated technical terms needed to implement the authorizing law.

Adopted rule

The adopted rule retains the statutory definition of producer (RCW 70A.245.010(19)):⁴

"Producer" means the following person responsible for compliance with minimum postconsumer recycled content requirements under this chapter for a covered product sold, offered for sale, or distributed in or into this state:

- (i) If the covered product is sold under the manufacturer's own brand or lacks identification of a brand, the producer is the person who manufactures the covered product;
- (ii) If the covered product is manufactured by a person other than the brand owner, the producer is the person who is the licensee of a brand or trademark under which a covered product is sold, offered for sale, or distributed in or into this state, whether or not the trademark is registered in this state, unless the manufacturer or brand owner of the covered product has agreed to accept responsibility under this chapter; or
- (iii) If there is no person described in (a)(i) and (ii) of this subsection over whom the state can constitutionally exercise jurisdiction, the producer is the person who imports or distributes the covered product in or into the state.

It also adds definitions needed to implement rule, or to clarify authorizing law, including:

- Brand
- Dietary supplement
- PCRC products
- Resin
- Third party representative
- Ton
- Workload analysis

The rule also clarifies and specifies the definition of household cleaning product, to clarify what is meant by "household" by including, "products labeled, marketed, or otherwise indicating that the purpose of the product is to clean, freshen, or remove unwanted substances, such as dirt, stains, and other impurities from possessions, objects, surfaces, interior or exterior structures, textiles, and environments associated with a household."

Expected impact

We don't expect the definitions to result in significant impacts in the aggregate. The definition of a household cleaning product provides more clarity on the scope of covered products depending on baseline interpretation:

- The baseline includes "household cleaning product" as a subset of its definition of "household cleaning and personal care product" but does not offer any specificity.

⁴ Ecology included a different definition of producer in the rule language we initially proposed during this rulemaking. See Chapter 6 for discussion of this alternative considered.

- The adopted definition clarifies what “household” means in this context. It potentially expands the coverage of the program, depending on the interpretation of the baseline statutory language. Associated costs or benefits are reflected in estimates that are based on ranges of the number and types of producers.

The impact of the definitions depends on the context of how they are used in the rest of the rule, and their resulting costs or benefits (see sections below). Other definitions add or clarify technical terms needed to implement the rule.

2.3.2 Setting requirements for registration and reporting

Baseline

The baseline RCW 70A.245.030 establishes registration and reporting requirements for producers. De minimis producers are not required to meet annual registration, reporting, PCRC, or fee requirements of covered products. De minimis producers are defined as those below thresholds of \$1 million in annual revenue in Washington, or 1 ton in resin weight sold or imported in one category of covered product in Washington. However, the baseline does not establish a means of de minimis status verification. Also, the baseline does not specify a full list of identifying information that producers include in registrations or the reporting manner established by the department.

Adopted rule

The rule establishes various requirements for registration and reporting including:

- Requiring de minimis producers to verify their status as meeting the de minimis threshold.
- Clarifying applicability of “de minimis” in the context of a single reporter representing multiple manufacturers.
- Specifying general information that producers must include in registrations, including but not limited to additional specifics of producer location, tax identification number (TIN), contact information.
- Requiring producer attestation of reporting accuracy.
- Specifying options and requirements for scaling data from a national or regional scale, including but not limited to documentation of scaling methods.

Expected impact

We expect this section of the rule to result in costs of additional producer effort during registration and reporting, and benefits of full information about producers to facilitate accurate data and any needed interactions related to implementation and enforcement. The rule does not require all producers to certify their reports beyond attestation as to their accuracy – this will be a decision made by the producer – and this flexibility also impacts Ecology oversight costs by affecting the need for data checking, audits, and other quality assurance activities.

2.3.3 Establishing fee allocation methods and billing procedures

Baseline

The baseline RCW 70A.245.020 requires Ecology to prepare a workload analysis and determine a total annual fee payment by producers for each category of covered products. The fee must be adequate to cover, but not exceed, the estimated workload.

Adopted rule

The rule establishes fee allocation methods and billing procedures, including:

- Calculation and allocation of a Program Administration Fee (for agency oversight of all registering producers regardless of the PCRC requirement effective during the given fiscal year).
- Calculation and allocation of an Oversight Fee (for agency oversight of reporting producers actively required to meet minimum PCRC requirements in a given fiscal year).
- Calculation of the Total Producer Fee (the sum of the Program Administration Fee and Oversight Fee).
- Requirements and procedures for adjusting annual billing in the event of delinquent or late registrations.
- Due dates for annual fees.

Expected impact

This section of the rule establishes the methods and procedures required for rule implementation regarding fee calculation, allocation, billing adjustments, and due date setting for the payments. We expect this section of the rule to result in costs of producer fees, benefits of meeting the statutory requirement to fully fund program costs, and the added value the program provides to producers in meeting the baseline law. Transparency in the fee process also potentially improves the ability of producers to plan ahead.

Division of fees into the Program Administration and Oversight Fee categories gives producers confidence that they are only paying into the portion of oversight that actively applies to them within a given reporting year (meaning producers not yet required to meet PCRC minimum requirements only have to pay the overall Program Administration fee and not the PCRC Oversight Fee).

2.3.4 Adding specific requirements for PCRC weight calculations

Baseline

The baseline RCW 70A.245.020 requires producers to annually meet minimum PCRC percentages in their respective PCRC product categories, beginning on the dates below:

Table 2. Postconsumer recycled content requirement and phases.

Minimum Recycled Content	Beverage container producers	Household cleaner and personal care container producers	Plastic wine container (187 milliliters) producers	Dairy container producers	Plastic trash bag producers
10 percent	n/a	n/a	n/a	n/a	1/1/2023
15 percent	1/1/2023	1/1/2025	1/1/2028	1/1/2028	1/1/2025
20 percent	n/a	n/a	n/a	n/a	1/1/2027
25 percent	1/1/2026	1/1/2028	1/1/2031	1/1/2031	n/a
50 percent	1/1/2031	1/1/2031	1/1/2036	1/1/2036	n/a

In addition, RCW 70A.245.030 requires producers to annually report PCRC percentages for PCRC products beginning on specified dates in the previous year.

Adopted rule

The rule provides multiple options for calculating PCRC weight and percentages for reporting purposes. Producers will be able to calculate resin weight and PCRC percentage from the following sources:

- PCRC derived from mechanical recycling using postconsumer materials,
- PCRC from non-mechanical processing of postconsumer materials calculated using an existing and recognized international or multi-national third-party certification system which incorporates chain of custody, and certified mass balance attribution as identified in ISO 22095:2020, or
- Other sources or methods that the producer demonstrates to the department to have a comparable degree of accuracy.

Plastic sold or marketed for use as fuel feedstock may not be included in PCRC reports to the department.

Expected impact

This section of the rule establishes standard options for PCRC weight and percentage calculation for reporting. We do not expect these additional specifications to result in costs as compared to the baseline, as:

- The statute requires reporting itself, with the implicit expectation that it be accurate.
- The rule facilitates compliance by specifying data calculation methods that meet accuracy requirements, but also allows producers to use alternative methods if they are accurate.

We do not expect this section of the rule to result in benefits beyond reducing potential time it might take under the baseline for producers and Ecology to align data and expectations (which would result in additional interactions and potentially delay verification of compliance or identification of issues with compliance).

2.3.5 Establishing requirements for temporary exclusion and adjustment requests

Baseline

The baseline RCW 70A.245.020 establishes temporary exclusions and adjustments of PCRC requirements for producers under specified circumstances.

Adopted rule

The rule provides detailed requirements for the submittal of temporary exclusion requests and petitions to revise PCRC percentage requirements:

- For temporary exclusions from minimum percentage requirements for a type of PCRC product, producers must:
 - Identify the applicable federal health and safety standards that make the achievement of minimum PCRC requirements infeasible.
 - Document and convincingly support the producer's claim that it is technically infeasible to meet the minimum requirements during the following year while still meeting applicable federal health and safety standards.
 - Provide producer name, mailing address, and contact information.
 - Provide products and brand names for which the exclusion is requested.
 - Provide total resin weight of PCRC products estimated to be sold, offered for sale, or distributed in or into Washington for which the producer requests temporary exclusion.
- For temporary adjustments to the minimum percentage required for a type of container, PCRC product, or product category, producers must:
 - Provide producer name, mailing address, and contact information.
 - List the year(s) for which the temporary adjustment is requested.
 - Provide thorough explanation by qualified experts supporting the producer's or PCRC product manufacturing industry's claim that a temporary adjustment to the minimum PCRC percentage is needed.
 - Provide supporting documentation including changes in market conditions, recycling collection rates, product quality or shelf-life issues, production line issues, capacity of recycling and processing infrastructure, domestic and global PCRC resin bale availability, transportation barriers, public health emergencies, work stoppages, catastrophic events, or other relevant factors.
 - Explain progress made by the producers of PCRC products in achieving the requirements of this chapter.
 - Provide estimated dates the identified factors impacting PCRC minimum feasibility are expected to extend.
 - Provide any additional information the producer or Ecology deems necessary and relevant to support the basis for the request.

Expected impact

We expect this section of the rule to result in costs of providing necessary documentation supporting exclusions and adjustments. It is also likely to result in benefits of better balance between the compliance requirements and economic conditions that may limit the ability of producers to comply with the rule. Market or technical barriers to compliance could result in non-compliance and failure to achieve the law's goals. If companies comply with the rule despite significant market or technical barriers, it could result in upward pressure on product prices or even shortages (depending on the ability of consumer demand and prices to adjust to changes in the volumes of products supplied in Washington).

2.3.6 Limit timing for providing necessary audit documentation

Baseline

The baseline RCW 70A.245.090 allows Ecology to conduct audits and investigations to confirm producer compliance on meeting the registration, reporting, or PCRC minimum requirements.

Adopted rule

The rule adds specifics to timing of Ecology audits and clarifies information that producers will potentially need to provide to Ecology beforehand for audit purposes. Ecology may request documents and records including, but not limited to:

- Verification of reported PCRC percentage data.
- Confirmation of reported pounds of plastic resin by product type sold, offered for sale, or distributed in or into Washington State.
- Demonstration of producer de minimis status.
- Verification of the national or regional data used to determine reported plastic resin.
- Additional information requested by the department pertinent to verifying compliance.

Producers are limited to 30 days in which to provide requested information.

Expected impact

This section of the rule facilitates producers providing audit documents with enough information for Ecology to verify compliance status. Producers could incur costs associated with providing needed documentation for the audit, without delays that may have occurred under the baseline.

2.3.7 Specifying procedures for warnings and penalties for noncompliance

Baseline

The baseline RCW 70A.245.040 and RCW 70A.245.050 establish noncompliance warnings and penalties for PCRC requirements and registration, labeling, and reporting requirements respectively. This includes:

- Penalty amounts.
- Sending at least two notices of noncompliance prior to administering a penalty for violations of registration, labeling, and reporting requirements.

- Failure to comply with notices.
- Appeals to the Pollution Control Hearings Board (PCHB).

Adopted rule

The rule specifies that Ecology will send two notices, and that producers have 30 days to comply with each notice.

Expected impact

We expect this section of the rule to result in benefits of clear expectations of how many notices Ecology will send before taking further enforcement action. As a result, it potentially affects the timing of when producers incur the costs of coming into compliance, and benefits of earlier compliance.

Chapter 3: Likely Costs of the Rule

3.1 Introduction

We analyzed the likely costs associated with the rule compared to the baseline. The rule and the baseline are discussed in detail in Chapter 2 of this document.

3.2 Cost analysis

The rule establishes the processes Ecology and producers of covered products must follow to ensure compliance with the law, including calculation of annual fees. The rule specifically:

- Adds or clarifies definitions needed to comply with the law.
- Sets requirements for registration and reporting.
- Establishes a process to ensure fee allocation methods are equitable.
- Establishes the annual producer fee billing process.
- Clarifies requirements for PCRC weight calculations.
- Clarifies requirements for temporary exclusion requests.
- Limits timing for providing necessary audit documentation.
- Details the process for warnings and penalties for noncompliance.

3.2.1 Adding or Clarifying Definitions Necessary for Implementation of the Rule

We don't expect definitions to result in significant impacts, beyond adding definitions of additional technical terms needed to implement the rule. The impact of definitions is within the context of how they are used in the rest of the rule (the costs of which are discussed in sections below).⁵

The definition of a household cleaning product could affect the scope of covered products depending on baseline interpretation:

- The baseline includes "household cleaning product" as a subset of its definition of "household cleaning and personal care product" but does not offer any specificity.
- The adopted definition clarifies what "household" and "cleaning product" mean in this context, compared to potentially variable interpretation of the baseline statutory language. Associated potential costs are reflected in estimates that are based on the number and types of producers.

3.2.2 Setting requirements for registration, reporting, and de minimis notifications

We expect this section of the rule to result in costs of additional producer effort during registration and reporting. There will also be costs associated with de minimis notifications.

⁵ Ecology included a different definition of producer in the rule language we initially proposed during this rulemaking, and reverted to the statutory (baseline) definition in the adopted rule. See Chapter 6 for discussion of this alternative considered.

Range of impacted producers⁶

We estimated a range of producers potentially covered by the rule. To estimate a low-end number of likely producers of covered PCRC products, we identified 297 producers that have registered with Ecology as of January 2023 under the law. This included 262 producers who had already registered with Ecology in addition to 35 other producers that were identified by brands in retail stores and public engagement attendees.

- To estimate a high-end number of likely producers of covered PCRC products, we began by identifying industries that were most likely to have businesses covered by the rule. This resulted in a starting population of 8,107 businesses globally.⁷ Using the Dun & Bradstreet database, we filtered this population for:
 - 22 different industry North American Industry Classification System (NAICS) codes (see section 7.6).
 - Businesses making over \$1,000,000 annually in US sales.
 - A low financial stress marketing score: A proprietary multivariate index developed by Dun & Bradstreet, and an indicator of business vulnerability to increased costs, market pressures, and other disruptions. We filtered out high financial stress marketing scores as a proxy for small producers in other states or other countries that were not likely to export to Washington.⁸
- This number was then scaled down depending on how competitive the market for the product was and the Washington market share. For example, a small number of grocery stores own a large percentage of the products sold at these locations, so we estimated that only 1.2% of these businesses were likely to have covered products. This resulted in a high-end estimate of 623 producers of covered PCRC products including manufacturers, wholesalers, and retailers.
- Although wholesalers and retailers are not in the RCW definition of the producer, as manufacturers may not have a presence in Washington state, the effective obligation to comply or enforcement could occur further down the supply chain. We included wholesalers as well as retailers to ensure we are capturing all covered plastic packaging, regardless of where control exists in the supply chain.
- Retaining the PRA producer counts of 623 results in conservatively overestimated costs, as it captures potential costs passed down the supply chain either through market activity or through contractually agreed upon division of discretionary compliance activities around reporting, etc. Wholesalers and retailers share about 8% (52) and 33% (203) of PRA producer count of 623, respectively. The impacts based on producer counts

⁶ Ecology included a different definition of producer in the rule language we proposed during this rulemaking, and reverted to the statutory (baseline) definition in the adopted rule. The data used to estimate costs in our analyses were not able to discern which potential businesses would be classified as producers under the statutory definition versus the proposed rule definition (data could not identify contractual relationships between manufacturers and brand owners), so we included all identified potential producers of covered products, to avoid underestimating the scope of rule coverage, costs, or benefits. As a result, our cost estimates have not changed between the Preliminary Regulatory Analyses for this rulemaking and this Final Regulatory Analyses document.

⁷ Dun & Bradstreet, 2023. Market Insight database.

⁸ Filtering by this variable incidentally eliminated companies outside of the United States.

could be 41% (8% + 33%) lower if all compliance activity occurs at the manufacturer level (if there are full efficiencies to reflecting these packaging volumes at the top of the supply chain). If pushing these costs up the supply chain is additive (no efficiencies), total costs stay the same (they just all fall on the manufacturers).

According to Ecology records, of those, 262 registered with Ecology, 155 met de minimis status (only 40.8% required to comply). So, we estimate the high end and low end range of producer need to comply as 40.8% of 297 to 40.8% of 623 (i.e., 121 to 254).⁹

Correspondingly, we expect the remaining 176 (297 minus 120) or 369 (623 minus 254) businesses to meet de minimis status requirements or to simply not be covered by the rule. As we could not discern the two in our data, we chose to potentially overestimate these costs.

Registration and reporting costs

The table below illustrates the cost of multiple activities required of the producer for registration and reporting to Ecology.

Table 3. Annual cost of registration and reporting for each producer.

Activities	Hours	Hourly rate ¹⁰	Cost
Additional time required to include specified information (e.g., Location, TIN, contact, etc.) in registration.	1.00	\$61.25	\$61.25
Filing the annual report of data into the Ecology database (additional time to adhere to Ecology reporting form structure).	1.00	\$61.25	\$61.25
Total	2.00	\$61.25	\$122.50

We estimated an annual cost of registration and reporting of approximately \$123 for a single producer required to comply with PCRC requirements. Based on this per-producer cost, we estimate total annual costs of registration and reporting between approximately \$14,823 and \$31,115 for all producers. Ecology reflects streams of costs and benefits over time using present values, which adjust future impacts for inflation and the opportunity cost of having funds later instead of now.¹¹ The 20-year present value of the range of total annual costs is \$272,873 to \$572,808.

De minimis notifications

⁹ WA Department of Ecology, 2023. Plastic producer reports. Spring 2023.

¹⁰ US Bureau of Labor Statistics, 2021. May 2021 State Occupational Employment and Wage Estimates, Washington. https://www.bls.gov/oes/current/oes_wa.htm. Average median hourly wage for manager.

¹¹ The current long-run average real discount rate – also called the social rate of time preference – is 0.89 percent, based on historic inflation rates and rates of return on US Treasury I Bonds. US Treasury Department, 2022. I bond interest rates. Historic average September 1998 through November 2022. <https://treasurydirect.gov/savings-bonds/i-bonds/i-bonds-interest-rates/#:~:text=The%20composite%20rate%20for%20I,through%20April%202023%20is%206.89%25>

Ecology requires de minimis producers to annually notify Ecology of their de minimis status, however, they are exempted from annual reporting and registration requirements. The table below illustrates the annual cost of de minimis notification for a single producer.

Table 4. Annual cost of de minimis notification.

Activity	Hours	Hourly rate	Cost
De minimis notification	0.5	\$61.25¹²	\$30.63

We estimate annual cost of approximately \$31 (per producer) for de minimis notification. Based on the above ranges of de minimis producer (i.e., 176 to 369), we estimated total annual costs of de minimis notification between approximately \$5,391 and \$11,302 for all producers. The 20-year present value of the range of total annual costs for all producers is between approximately \$99,243 to \$208,072.

Total costs for registration, reporting, and de minimis notification

Across the full range of likely producers of covered PCRC products, we estimated a total annual cost of reporting, registration, and de minimis notification approximately \$20,213 to \$42,417. The corresponding 20-year present values are approximately \$372,116 to \$780,880.

3.2.3 Establishing fee allocation methods and billing procedures

This section of the rule establishes the methods and procedures required for rule implementation regarding fee calculation, allocation, billing adjustments, and due date setting for payments. We expect this section of the rule to result in costs of producer fees that match the value of the benefits they fund (since fees equal program costs, and wages are a way to approximate the value of services provided; see Chapter 4).

We estimated these costs based on Ecology’s current workload analysis required under statute (Fiscal Year (FY) 2024 – July 2023 through June 2024).¹³ Ecology estimated total workload costs of approximately \$578,000 during FY 2024. These total costs are the sum of \$299,000 in Program Administration costs (including the cost of rulemaking), and \$279,000 in PCRC Oversight costs.

For each producer, Ecology’s workload analysis used the producer reported total covered product plastic resin weight and weight of plastic resin subject to PCRC content requirements, and calculated the share of program costs incurred by producers belonging to each covered product category, based on producer registration data (pounds of plastic) submitted in calendar year 2022.¹⁴ The table below summarizes the initial estimated distribution of program costs by covered product category.

¹² Ibid.

¹³ Washington State Department of Ecology, 2023. “Plastics post-consumer recycled content Workload Analysis for fiscal year 2024.” <https://www.ecology.wa.gov>, January 2023, <https://apps.ecology.wa.gov/publications/SummaryPages/2307001.html>. Accessed 2023

¹⁴ Ibid.

Table 5. PCRC implementation cost by covered product category.

Product Category (PCRC Content Compliance Date)	Percent of Total Plastic Resin Weight	Category Share of Program Administration Costs	Percent of PCRC Total Plastic Resin Weight	Category Share of PCRC Oversight Costs	Total Estimated Costs by Product Category
Trash Bags (Jan 1, 2023)	28%	\$84,260	33%	\$92,457	\$176,717
Beverage Containers ² (Jan 1, 2023)	57%	\$169,814	67%	\$186,334	\$356,148
Household and Personal Care (Jan 1, 2025)	15%	\$45,410	0%	\$0	\$45,410
Delayed Beverage Containers (Jan 1, 2028)	n/a	n/a	n/a	n/a	n/a
Total	100%	\$299,484	100%	\$278,791	\$578,275

The workload analysis notes that, “At the time of registration during [calendar year] CY 2022, Ecology did not require beverage container producers to specify which portions of their plastic resin weight data were related to the subsets of beverage containers that wouldn't be required to meet PCRC requirements until CY 2028 (187 mL wine bottles and dairy milk containers). The amount of plastic resin attributed to dairy milk containers and 187 mL plastic wine bottles is unknown. When this plastic weight is provided separately during registration in CY 2023, it will reduce the amount of plastic resin in the beverage containers category, compared to the current data. Fees will be calculated based on the registration data submitted by April 1, 2023.”

Based on the above note, we assumed that the distribution of fee burden would change each year an added category of products is required to meet PCRC content minimums. Household and personal care product industries would assume a share of the PCRC Oversight costs beginning with the FY 2026 workload analysis, and producers of dairy milk and 187 mL wine products would have a share of PCRC Oversight costs beginning with the FY 2029 workload analysis. Since the quantities of plastic resin and PCRC plastic resin are currently unknown for the dairy milk and 187 mL wine product category, we made a range of assumptions in Chapter 7 reflecting potential redistributions across the industries that would pay fees under the rule.

The costs illustrated in the workload analysis table represent total costs for each category of product. Each producer within a given product category will have a unique fee covering a portion of the category costs, based on each producer’s weight of plastic resin for the category. The workload analysis provides the estimated cost per total pound of plastic resin in Washington State. The estimated Program Administration cost is \$0.0015 per pound of total plastic resin (PCRC and virgin plastic), and the estimated PCRC Oversight cost is \$0.0016 per pound of total plastic resin for eligible product categories. FY 2023 actual fees ranged from

roughly \$11 for producers with the lowest plastic resin weights, to nearly \$90,000 for producers with the highest plastic resin weights in the registration data submitted in calendar year 2022.

Of the currently estimated costs of \$578,000 in fiscal year 2024 (FY 2024), approximately \$96,000 is attributed to the completion of rulemaking and the development of the PCRC content reporting portal. These costs would be removed from the workload analysis in future years. However, we also anticipate an increased workload beginning in FY 2026 related to increased need for compliance support and auditing, and enforcement actions, currently estimated to be \$66,000 per year. The fiscal note for the current law accounted for one-time and future costs and estimated ongoing annual costs of \$664,944 beginning in FY 2026.¹⁵ This estimate provides a high-cost basis for conservatively estimating future fee impacts for members of the regulated community.

We calculated 20-year present value costs of \$11.9 million for this element of the rule. Present values convert streams of costs or benefits over time to a single comparable current value, accounting for inflation as well as the opportunity cost of having funds later versus now. Ecology uses a long-run average real (inflation-adjusted) discount rate in present value calculations, which is currently 0.89 percent.¹⁶

Comparison of equity under the baseline and rule

Under both the baseline and rule, fees must be sufficient to fund program administration and oversight. This means total fees would be the same under the rule and the baseline. The difference in the rule is in how fees are allocated across producers – based on resin weight. While the baseline does not define an allocation structure, we assumed baseline requirements for equitable distribution could be interpreted as charging each producer an equal share of total fees.

The rule specifies the equations by which the two costs in the workload analysis are distributed among registered non de minimis producers based on their total weights of plastic resin for covered products sold or distributed in Washington State the previous calendar year, as submitted during annual registration or reporting. Each producer has a unique fee proportionate to the producer’s reported plastic resin weights.

In calendar year 2022, Ecology estimated total Program Administration costs of \$603,144 in the FY 2023 Workload Analysis, for which no PCRC Oversight costs were estimated.¹⁷ Of the total

¹⁵ Washington State Office of Financial Management, 2021. Multi-Agency Fiscal Note Summary. 5022 E2SSB AMH ENGR H1491.E, 2021 Legislative Session. Pages 23-38. Retrieved from <https://fnspublic.ofm.wa.gov/FNSPublicSearch/Search/bill/5022/67>

¹⁶ US Treasury Department, 2022. I bond interest rates. Historic average September 1998 through November 2022. <https://treasurydirect.gov/savings-bonds/i-bonds/i-bonds-interest-rates/#:~:text=The%20composite%20rate%20for%20I,through%20April%202023%20is%206.89%25>

¹⁷ Washington State Department of Ecology, 2023. “Plastics post-consumer recycled content Workload Analysis for fiscal year 2024.” <https://www.ecology.wa.gov>, January 2023, <https://apps.ecology.wa.gov/publications/SummaryPages/2307001.html>. Accessed 2023.

producers who registered in calendar year 2022, 108 exceeded the de minimis thresholds and were required under law to pay a fee to cover the total estimated costs. Fees were allocated using reported total plastic resin weight and ranged between roughly \$11 for the producers with the smallest plastic resin weights, to nearly \$90,000 for producers with the highest weights of plastic resin. If all fee-paying producers had been required to pay an equal fee, the fee for each producer to cover FY 2023 estimated costs would have been nearly \$5,585 for each producer. Assuming this would be the fee amount under baseline conditions, the rule’s method for distributing costs as a fee resulted in cost savings for 87 producers with plastic resin weights under the mean plastic resin weight value across all 108 fee-paying producers, and cost increases for 21 producers with plastic resin weights above the mean value. The tables below summarize average fee impacts for producers by weight range and total weight relative to the mean value.

Table 6. Fee impacts of rule cost distribution by registered plastic resin weight ranges, compared to an equal fee for each producer, based on FY 2023 fees.

Total Plastic Resin Weight Range	Number of Producers in Range	Average Fee (Rule-Based Calculation)	Average Fee based on Number of Producers only	Average Fee Cost impact of Rule
2,001 - 200,000 lbs.	50	\$181.84	\$5,584.67	-\$5,402.83
200,001 - 500,000 lbs.	16	\$1,007.27	\$5,584.67	-\$4,577.39
500,001 - 1,000,000 lbs.	13	\$2,185.88	\$5,584.67	-\$3,398.79
1,000,001 - 1,500,000 lbs.	5	\$4,166.96	\$5,584.67	-\$1,417.71
1,500,001 - 2,000,000 lbs.	3	\$4,807.69	\$5,584.67	-\$776.98
2,000,001 - 3,000,000 lbs.	5	\$7,467.01	\$5,584.67	\$1,882.35
3,000,001 - 10,000,000 lbs.	13	\$19,866.30	\$5,584.67	\$14,281.64
10,000,001 - 30,000,000 lbs.	3	\$72,888.15	\$5,584.67	\$67,303.48

Table 7. Fee impacts of rule cost distribution by plastic resin weights compared to the mean resin weight value among all producers, compared to an equal fee for each producer, based on FY 2023 fees.

Above/Below Mean Weight?	Number of Producers	Average Fee (Rule-Based Calculation)	Average Fee based on Number of Producers only	Average Fee Cost impact of Rule
Above	21	\$24,488.64	\$5,584.67	\$18,903.97
Below	87	\$1,021.64	\$5,584.67	-\$4,563.03

Based on total annual costs of approximately \$664,944 from the fiscal note, the following tables summarize the cost impacts of the rule-based fee distribution, assuming the same set of producers and resin weight from the FY 2023 fee calculations.

Table 8. Fee impacts of rule cost distribution by registered plastic resin weight ranges, compared to an equal fee for each producer, based on ongoing annual cost estimates from the fiscal note.

Total Plastic Resin Weight Range	Number of Producers in Range	Average Fee (Rule-Based Calculation)	Average Fee based on Number of Producers only	Average Fee Cost impact of Rule
2,001 - 200,000 lbs.	50	\$200.47	\$6,156.89	-\$5,956.42
200,001 - 500,000 lbs.	16	\$1,110.48	\$6,156.89	-\$5,046.41
500,001 - 1,000,000 lbs.	13	\$2,409.85	\$6,156.89	-\$3,747.04
1,000,001 - 1,500,000 lbs.	5	\$4,593.92	\$6,156.89	-\$1,562.97
1,500,001 - 2,000,000 lbs.	3	\$5,300.30	\$6,156.89	-\$856.59
2,000,001 - 3,000,000 lbs.	5	\$8,232.11	\$6,156.89	\$2,075.22
3,000,001 - 10,000,000 lbs.	13	\$21,901.87	\$6,156.89	\$15,744.98
10,000,001 - 30,000,000 lbs.	3	\$80,356.50	\$6,156.89	\$74,199.61

Table 9. Fee impacts of rule cost distribution by plastic resin weights compared to the mean resin weight value among all producers, compared to an equal fee for each producer, based on ongoing annual cost estimates from the fiscal note.

Above/Below Mean Weight?	Number of Producers	Average Fee (Rule-Based Calculation)	Average Fee based on Number of Producers only	Average Fee Cost impact of Rule
Above	21	\$26,997.82	\$6,156.89	\$20,840.93
Below	87	\$1,126.32	\$6,156.89	-\$5,030.57

3.2.4 Adding specific requirements for PCRC weight calculations

This section of the rule establishes standard options for PCRC weight and percentage calculation for reporting. We do not expect these additional specifications to result in costs as compared to the baseline, as:

- The statute requires the reporting itself, with the implicit expectation of accuracy.
- The rule facilitates compliance by specifying data calculation methods that meet accuracy requirements, but also allows producers to use alternative sources if they are accurate.

3.2.5 Establishing requirements for temporary exclusion and adjustment requests

We expect this section of the rule to result in costs for producers related to providing the necessary documentation in support of exclusions and adjustment requests. We note that businesses or industries would undertake these activities only if they expect a net benefit (a net cost-savings) of doing so, either due to avoiding noncompliance or avoiding lost sales due to necessary changes in products or business practices to comply.

Temporary exclusions

Producers may submit an annual temporary exclusion request (RCW 245.70A.20) to Ecology to get temporary exclusion from the minimum PCRC requirement for upcoming year any types of covered products in plastic containers for which a producer demonstrates that the achievement of PCRC requirement in the container material is not technically feasible to comply with federal health and safety requirements. However, we could not confidently assess how frequently exclusion requests would occur. We assumed that producers would file temporary exclusion requests in two situations; to avoid the noncompliance associated with technical infeasibility, or for very specific types of federally regulated products. As compared to the baseline, temporary exclusion requests would result in minimal additional costs. The table below illustrates the costs associated with submitting a temporary exclusion request.

Table 10. Annual cost of PCRC temporary exclusion request for producers (per producer).

Activities	Hours ¹⁸	Hourly rate ¹⁹	Cost
a. Identify and collect supporting information why producers are unable to meet minimum PCRC standard while still meeting applicable federal health and safety standards.	2.00	\$61.25	\$122.50
b. Submit written request.	2.00	\$61.25	\$122.50
Total	4.00	N/A	\$245.00

We estimate annual cost of approximately \$245 for filling temporary exclusion request for a single producer.

CalRecycle²⁰ indicates that, at a maximum, 74 percent of affected producers would file for reduction in noncompliance penalties based on producers' progress in meeting PCRC minimum requirements. However, currently, we do not have detailed information regarding technical barriers to achieving minimum PCRC rates. This results in uncertainty about the proportion of affected producers that would benefit from temporary exclusion request.

To address this uncertainty, we assumed three scenarios regarding the percentage of producers (75 percent, 50 percent, and 25 percent) that would submit exclusion requests. The table below presents the total annual costs and the corresponding 20-year present value of exclusion requests cost under assuming 75 percent, 50 percent, and 25 percent of the producers submit the exclusion request.

¹⁸ CA Government Department of Resources Recycling and Recovery, Division of Recycling, 2023. AB 793 Plastic Content Reporting and Compliance Permanent Regulations, Economic Impact Statement Supplemental Information. Retrieved from <https://calrecycle.ca.gov/laws/rulemaking/plasticcontent/>

¹⁹ US Bureau of Labor Statistics, 2021. May 2021 State Occupational Employment and Wage Estimates, Washington. https://www.bls.gov/oes/current/oes_wa.htm Average median hourly wage for management occupation.

²⁰ State of California Department of Resources Recycling and Recovery, Division of Recycling, 2023. AB 793 Plastic Content Reporting and Compliance Permanent Regulations, Economic Impact Statement Supplemental Information. Retrieved from <https://calrecycle.ca.gov/laws/rulemaking/plasticcontent/>

Table 11. 20-year present value cost estimation of exclusion request considering various proportion of producers.

Assumed percentage requesting exclusions:	75 percent		50 percent		25 percent	
	Low	High	Low	High	Low	High
Range endpoint:						
a. Trash bag	\$735.00	\$735.00	\$490.00	\$490.00	\$245.00	\$245.00
b. Beverage container	\$10,535.00	\$16,415.00	\$7,105.00	\$11,025.00	\$3,430.00	\$5,390.00
c. Household cleaning and personal care	\$7,702.29	\$21,421.99	\$5,295.32	\$14,421.79	\$2,647.66	\$7,220.90
d. Milk and wine	\$2,109.44	\$2,812.59	\$1,406.30	\$1,875.06	\$703.15	\$937.53
e. others	\$937.53	\$4,453.27	\$703.15	\$2,812.59	\$234.38	\$1,406.30
Total annual cost of all products (a-e)	\$22,109.26	\$45,837.85	\$14,999.77	\$30,644.45	\$7,260.19	\$15,199.72
20-year present value total cost	\$378,231.51	\$778,662.94	\$252,154.34	\$519,108.63	\$126,077.17	\$214,998.37

In addition, we conducted sensitivity analysis to estimate the increased (decreased) cost due to increase (decrease) in exclusion request over time. First, we assume that over 20 years, the exclusion request would drop from 75 percent to 5 percent (decreases annually by 5 percent and remains constant once it reaches 5 percent) and estimate 20-year present value cost of \$148,836 to \$298,215 for exclusion requests. Similarly, we estimate 20-year present value annual cost of \$471 to \$972,411 for exclusion request assuming if exclusion request increases from 75 percent up to 95 percent (increases annually by 5 percent and remains constant once it reached 95 percent) over 20 years.

Adjustments

Producers or PCRC product industry representatives may annually submit requests for consideration by the Ecology to temporarily adjust the annual PCRC minimum percentages for the following year. However, this adjustment request would occur no more frequently than annually, and the activity would start beginning January 1, 2024, or when rule making is complete, whichever is sooner. The table below presents the cost of activities necessary for optional temporary adjustment requests.

Table 12. Annual cost of PCRC adjustment request by PCRC industry.

Activities	Hours ²¹	Hourly rate ²²	Cost
a. Compile the list of producers.	1.00	\$61.25	\$61.25
b. A thorough explanation by qualified expert supporting producer/industry's claim that a temporary adjustment to the minimum PCRC for type of container, PCRC product, or PCRC product category is needed.	40.00	\$61.25	\$2,450.00
c. Supporting documentation including changes in market conditions, recycling collection rates, product quality or shelf life issues, capacity of recycling and processing infrastructure, domestic and global PCRC bale availability, public health emergencies, work stoppages, catastrophic events, and/or other relevant factors.	20.00	\$61.25	1,225.00
d. Progress made by the producers in achieving PCRC requirements	20.00	\$61.25	\$1,225.00
e. Estimate time period that the identified factors impacting PCRC minimum feasibility are expected to extend; and any additional information necessary and relevant to support the basis for the request.	20.00	\$61.25	\$1,225.00
f. Submit written request.	2.00	\$61.25	122.50
Total	103.00	N/A	\$6,308.75

The nature of actual adjustment requests is likely to vary by circumstance and producer or industry needs. As compared to the baseline, it is also difficult to fully discern between baseline requirements for adjustment requests and the requirements in the rule. The rule clarifies the requirements set out in the baseline law.

We estimate a total annual cost of approximately \$6,309 for submitting adjustment requests (submitted by an industry group), with an average annual cost of approximately \$25 to \$54 for a single producer. However, producers may ultimately submit one element of the activities listed in the above table, or a subset of these research activities (b-e in the table above), depending on the nature for their reason for submitting an adjustment request. This means our estimates are likely to be overestimates of actual costs of adjustment requests.

²¹ State of California Department of Resources Recycling and Recovery, Division of Recycling. AB 793 Plastic Content Reporting and Compliance Permanent Regulations, Economic Impact Statement Supplemental Information. Retrieved from <https://calrecycle.ca.gov/laws/rulemaking/plasticcontent/>

²² Average median hourly wage for manager, retrieved from https://www.bls.gov/oes/current/oes_wa.htm

We estimate the 20-year present value of adjustment request costs for industries with producers of covered products, across all product categories, as about \$116,140. Based on this we estimated the 20-year present value adjustment request costs per producer of about \$457 (low) to \$960 (high) on average.

3.2.6 Limit timing for providing necessary audit documentation.

This section of the rule facilitates producers providing audit documents with enough information for Ecology to efficiently verify compliance status without delays (within 30 days, compared to no time limit under the baseline). Producers could incur costs associated with provision of the needed documentation within the time limit, relative to when they might submit it under the baseline. We note that the rule does not add requirements regarding what information must be provided during audits, just that it must be provided by the time limit. If producers were to provide documentation within 30 days under the baseline, regardless, this section of the rule would not have any impacts.²³

We could not confidently assess how frequently this element of the rule will result in avoided delays in provision of audit information, or the degree to which delays will be reduced. We note, however, these would not be significant additional costs, as compared to the baseline, but rather opportunity costs of equivalent expenditures at different times. The table below illustrates the opportunity costs associated with spending a dollar at various times.²⁴

Table 13. Costs associated with spending a dollar at various times.

Delay (years)	Present Value	Difference
0	\$1.00	\$0.00
1	\$0.99	\$0.01
2	\$0.98	\$0.02
3	\$0.97	\$0.03
4	\$0.96	\$0.04

3.2.7 Specifying procedures for warnings and penalties for noncompliance

We expect this section of the rule to result in benefits of clear expectations of how many notices Ecology will send before taking further enforcement action. As a result, it potentially affects the timing of when producers incur the costs of coming into compliance.

We could not confidently assess how frequently noncompliance will occur and result in multiple warnings and/or penalties, or the degree of noncompliance (and associated costs of coming

²³ Even in the event of exceeding 30 days, Ecology would still likely work with the producers to get needed documentation.

²⁴ Relative costs are based on the difference in present value of each dollar, based on the current long-run average rate of risk-free return. US Treasury Department, 2022. 1 bond interest rates. Historic average September 1998 through November 2022. <https://treasurydirect.gov/savings-bonds/i-bonds/i-bonds-interest-rates/#:~:text=The%20composite%20rate%20for%20I,through%20April%202023%20is%206.89%25>

into compliance). We note, however, these would not be significant additional costs, as compared to the baseline, but rather opportunity costs of expenditures at different times, as producers would be expected to comply under the baseline regardless of the rule. The table above (Section 3.2.6) illustrates the opportunity costs associated with spending a dollar at various times.²⁵

²⁵ Relative costs are based on the difference in present value of each dollar, based on the current long-run average rate of risk-free return. US Treasury Department, 2022. I bond interest rates. Historic average September 1998 through November 2022. <https://treasurydirect.gov/savings-bonds/i-bonds/i-bonds-interest-rates/#:~:text=The%20composite%20rate%20for%20I,through%20April%202023%20is%206.89%25>

Chapter 4: Likely Benefits of the Rule

4.1 Introduction

We analyzed the likely benefits associated with the rule, as compared to the baseline. The rule and the baseline are discussed in detail in Chapter 2 of this document.

4.2 Benefits analysis

The rule establishes the processes Ecology and producers of covered products must follow to ensure compliance with the law, including calculation of annual fees. The rule specifically:

- Adds or clarifies definitions needed to comply with the law.
- Sets requirements for registration and reporting.
- Establishes a process to ensure fee allocation methods are equitable.
- Establishes the annual producer fee billing process.
- Clarifies requirements for PCRC weight calculations.
- Clarifies requirements for temporary exclusion requests.
- Limits timing for providing necessary audit documentation.
- Details the process for warnings and penalties for noncompliance.

4.2.1 Adding or Clarifying Definitions Necessary for Implementation of the Rule²⁶

The definition of a household cleaning product provides more clarity on the scope of covered products depending on baseline interpretation: The baseline includes “household cleaning product” as a subset of its definition of “household cleaning and personal care product” but does not offer any specificity. The definition clarifies what is meant by “household” in this context, and would potentially expand the coverage of the program, depending on the interpretation of the baseline statutory language. Associated costs and/or benefits are reflected in estimates that are based on ranges of the number and types of producers.

The impact of these definitions depends on the context of how they are used in the rest of the rule, and their resulting costs and/or benefits (see sections below). Other definitions add or clarify technical terms needed to implement the rule.

²⁶ Ecology included a different definition of producer in the rule language we proposed during this rulemaking, and reverted to the statutory (baseline) definition in the adopted rule. The data used to estimate costs in our analyses were not able to discern which potential businesses would be classified as producers under the statutory definition versus the proposed rule definition (data could not identify contractual relationships between manufacturers and brand owners), so we included all identified potential producers of covered products, to avoid underestimating the scope of rule coverage, costs, or benefits. As a result, our cost estimates have not changed between the Preliminary Regulatory Analyses for this rulemaking and this Final Regulatory Analyses document.

4.2.2 Setting requirements for registration, reporting, and de minimis notifications

We expect this section of the rule to result in benefits of having full information about producers to facilitate accurate data and any needed interactions between Ecology and the producers related to implementation and enforcement. The certification of reports will result in benefits of assuring the data reported is accurate and reliable for achieving the goals of the authorizing statute.

While we cannot confidently assume the frequency and nature of inaccurate or unreliable data reporting under the baseline, we note that avoiding rework or repeated interactions would result in avoided costs of labor. The size of these avoided costs will depend on the degree or direction of any inaccuracy, and how much follow up is necessary to correct it.

Similarly, we note that the benefit of confidence and timeliness in achieving the goals and objectives of the statute contributes to:

- Meeting statutory PCRC requirements.
- Reduced demand for virgin plastic for covered products.
- Incentives for increased plastic recovery and movement toward a cyclical plastics economy.

Annual registration and reporting

The regular and complete producer information updates during annual reporting and registration will help Ecology identify where changes may be needed (for changes in de minimis status, contact address, etc.) and support decisions to make those changes if necessary. In addition, registration and reporting increase the specificity of the information provided and help Ecology communicate with producers as needed.

This additional specificity in reporting will also prevent duplicate reporting, through unique identifiers such as Tax Identification Numbers (TINs). This will in turn reduce the need for additional Ecology effort evaluating and resolving duplicate reports, ultimately reducing program costs, eliminating duplicate producer registrations, and resulting in lower producer fees.

De minimis notifications

The de minimis status verification and reporting identifies those producers eligible for exemption simplifying identifying producers required to comply with authorizing statute. De minimis producer notifications reduce the chance of de minimis producers being pursued for non-compliance.

Confidence in the fee allocations

Annual registration and reporting provides confidence that producers are held accountable for compliance and that the fees are allocated equitably, since they can view a list of registered producers, including de minimis producers who notified Ecology of their status during registration.

We note also that accurate and confident information ensured during reporting results in accurate and equitable fee distribution, as it reduces the need for corrections or future adjustments to fees invoiced to producers.

4.2.3 Establishing fee allocation methods and billing procedures

This section of the rule establishes the methods and procedures required for rule implementation regarding fee calculation, allocation, billing adjustments, and setting payment due dates. The expected benefits include meeting the statutory requirement to fully fund program costs, and the equitable and transparent distribution of fees among producers based on the calculations required in the rule.

Overall, the rule implements the statutorily required fee program that has an equitable distribution of fees, reflecting the projected workload for administration and oversight of PCRC requirements. This means producers will be less likely to underpay relative to their share of costs of agency oversight of producer compliance, while also being less likely to overpay and subsidize work associated with oversight workload necessary for other producers.

See tables 6 – 8 in Chapter 3 for details on benefits (cost-savings) for producers that would otherwise likely pay more in fees than reflects their associated administrative and oversight workload.

4.2.4 Adding specific requirements for PCRC weight calculations

This section of the rule establishes standard options for PCRC resin weight and percentage calculation for reporting. We do not expect these additional specifications to result in benefits aside from potential time saved, as compared to the baseline, as:

- The statute requires the reporting itself, with the implicit expectation that it be accurate.
- The rule facilitates compliance by specifying data sources that meet accuracy requirements, but also allow producers to use alternative sources if they are accurate.

We do not expect this section of the rule to result in benefits beyond reducing potential time it might take under the baseline for producers and Ecology to align data and expectations (which would otherwise result in additional interactions and potentially delay verification of compliance or identification of issues with compliance).

4.2.5 Establishing requirements for temporary exclusion and adjustment requests

We expect this section of the rule to result in benefits of better balance between the compliance requirements and economic conditions or federal laws that may limit the ability of producers to comply with the rule. In the absence of temporary exclusions and adjustments, difficulty or inability to comply (e.g., a shortage of postconsumer recycled resin²⁷) could result in upward pressure on prices of affected consumer goods, or in shortages of those goods. In the event of a PCR resin shortage, the price of PCR resin would increase, thus putting upward pressure on overall packaging costs and the prices of consumer products. Also, producers would face incentives to reduce their production of PCRC products, shift to non-plastic packaging, or shift supply to other markets without PCRC requirements, which would result in upward pressure on consumer product prices in Washington. In such conditions, the exclusion and adjustment elements of the rule help to avoid possible price increases or reduced availability to consumers.

The temporary exclusion and adjustment request process creates flexibility and a balance between compliance requirements and the producer's compliance ability. This flexibility provides producers with leniency where their noncompliance is due to factors not under their control (available recycled resin), thereby alleviating the producer from the penalty provisions in the law. This provides some time for impacted industries to develop compliance ability to adjust with a need to source more recycled content to meet the new requirements which may also incentivize investments in improved recycling technologies that reduce contamination, result in cleaner recycled feedstock, and restore confidence in the recycling system.

4.2.6 Limit timing for providing necessary audit documentation

This section of the rule facilitates producers providing documentation in a timely manner and avoiding potential delays. This improved efficiency (note that under the baseline law or under the rule, all necessary documents would eventually be provided, though at different times) will reduce time costs associated with audits, and reduce potential resulting:

- Delays to verification of compliance.
- Impacts on business planning, marketing, or sales.

4.2.7 Specifying procedures for warnings and penalties for noncompliance

We expect this section of the rule to result in benefits of clear expectations of how many notices Ecology will send before taking further enforcement action. As a result, it potentially results in benefits of clearer communication and earlier compliance than under the baseline requirement for at least two warnings. Earlier compliance would improve the ability to meet the goals of the authorizing statute in increasing the use of recycled plastics in the supply chain, creating demand for recycled plastic resin, and supporting a circular plastics economy. In cases where external or market factors affect ability to comply, producers could also benefit from earlier identification of circumstances (first notice of noncompliance) for which an exclusion or adjustment request could be appropriate.

²⁷ Recycling Today, Retrieved from: <https://www.recyclingtoday.com/news/recycled-plastic-supply-demand-mismatched/>.

Chapter 5: Cost-Benefit Comparison and Conclusions

5.1 Summary of costs and benefits of the rule

Costs

Table 14. Cost summary.

Type of cost	Range of estimated total annual costs	Average annual cost per producer	Range of estimated cost over 20 years in present value
Registration and reporting	\$14,823 – \$31,115	\$123	\$272,873 – \$572,808
De minimis notifications	\$5,391 – \$11,302	\$31	\$99,243 – \$208,072
Fees	Total fees the same as baseline (\$578,000 – \$664,944) allocated based on resin weight rather than equally	-\$5,956 (cost-savings for smallest producers) – \$74,200 (cost increase for the largest producers)	Total present value the same as baseline (\$11.9 million) allocated based on resin weight rather than equally divided
75% of producers request for exclusion.	\$22,019 – \$45,838	\$245	\$378,232 – \$778,663
50% of producers request for exclusion.	\$15,000 – \$30,644	\$245	\$252,154 – \$519,109
25% of producers request for exclusion.	\$7,260 – \$15,200	\$245	\$126,077 – \$214,998
Adjustment requests	Up to \$6,309	\$25 – \$52	\$116,140

Benefits

Registration and reporting

- Complete and accurate producer information through the annual reporting and registration process giving Ecology the ability to communicate with producers as needed.
- Early identification of the producer information that may need to change (de minimis status, contact address, etc.) to inform decision making.
- Prevention of duplicate reporting, by assigning unique identifiers to all reporters. This could potentially reduce program costs and producer fees because we would not need to hire more staff to review and approve reports.
- Data transparency and assurance of equitable fee distribution.

De minimis notifications

- Simplified identification of producers required to comply with the authorizing law.
- Reduced likelihood of pursuing de minimis producers for non-compliance.
- Data transparency and assurance of equitable fee distribution

Fee allocations

- Producers are confident all producers are held accountable for compliance and the fees are equitably allocated.
- Quick, accurate, and equitable fee distribution, by reducing the need to correct fees after producers receive their invoice.
- Equitable distribution of fees, reflecting the projected workload for oversight of PCRC requirements.

Temporary exclusions and adjustments

While temporary exclusions and adjustments are established under the baseline, the rule adds specificity to the process for each. This facilitates the overall benefits of temporary exclusions and adjustments, including:

- Balance between the compliance requirements and economic conditions or federal laws that may limit the ability of producers to comply with the rule.
- In the absence of temporary exclusions and adjustments, difficulty or inability to comply (e.g., a shortage of postconsumer recycled resin²⁸) could result in upward pressure on prices of affected consumer goods, or in shortages of those goods. We note that prices could also remain unaffected, due to internal business decisions and factors like maintaining market share in specific market segments.²⁹
- Providing producers with leniency where their noncompliance is due to factors not under their control.
- Time for impacted industries to develop compliance ability to adjust with a need to source more recycled content to meet the new requirements which may also incentivize investments in improved recycling technologies that reduce contamination, result in cleaner recycled feedstock, and restore confidence in the recycling system.

Timing of audit documents

- Clarity that facilitates producers providing documentation in a timely manner and avoiding potential delays. This improved efficiency (note that under the baseline law or under the rule, all necessary documents would eventually be provided, though at different times) will reduce time costs associated with audits, and reduce minor potential impacts to business planning.

Noncompliance notifications

- Clarity about how many notices Ecology will send before taking further enforcement action.
- Potential earlier compliance than under the baseline requirement for at least two warnings. Earlier compliance would improve the ability to meet the goals of the authorizing statute in increasing the use of recycled plastics in the supply chain, creating demand for recycled plastic resin, and supporting a circular plastics economy.

²⁸ Recycling Today, Retrieved from: <https://www.recyclingtoday.com/news/recycled-plastic-supply-demand-mismatched/>.

²⁹ [The Recycling Partnership and Columbia University, 2022](#)

5.2 Conclusion

The APA requires Ecology to, “Determine that the probable benefits of the rule are greater than its probable costs, **taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.**” We conclude, based on a reasonable understanding of the quantified and qualitative costs and benefits likely to arise from the rule (summarized in the previous section), as compared to the baseline, that the benefits of the rule are likely greater than the costs.

Chapter 6: Least-Burdensome Alternative Analysis

6.1 Introduction

RCW 34.05.328(1)(c) requires Ecology to “...[d]etermine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection.” The referenced subsections are:

- (a) Clearly state in detail the general goals and specific objectives of the statute that the rule implements;
- (b) Determine that the rule is needed to achieve the general goals and specific objectives stated under (a) of this subsection, and analyze alternatives to rule making and the consequences of not adopting the rule;
- (c) Provide notification in the notice of proposed rulemaking under RCW 34.05.320 that a preliminary cost-benefit analysis is available. The preliminary cost-benefit analysis must fulfill the requirements of the cost-benefit analysis under (d) of this subsection. If the agency files a supplemental notice under RCW 34.05.340, the supplemental notice must include notification that a revised preliminary cost-benefit analysis is available. A final cost-benefit analysis must be available when the rule is adopted under RCW 34.05.360;
- (d) Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.

In other words, to be able to adopt the rule, we are required to determine that the contents of the rule are the least burdensome set of requirements that achieve the goals and objectives of the authorizing statute(s).

We assessed alternative rule content and determined whether they met the goals and objectives of the authorizing statute(s). Of those that would meet the goals and objectives, we determined whether those chosen for inclusion in the rule were the least burdensome to those required to comply with them.

6.2 Goals and objectives of the authorizing statute

The authorizing statute for this rule is Chapter 70A.245 RCW, Recycling, Waste, and Litter Reduction. Its goals and objectives are:

- Establish postconsumer recycled content requirement for applicable products under 70A.245.020 and producer’s reporting requirement under 70A.245.030.
- Require Ecology to identify the annual costs to incur to implement, administer, and enforce and RCW 70A.245.020 RCW and 70A.245.030 through 70A.245.060 and

70A.245.090 (1), (2), and (4), including rule making, in the next fiscal year for each category of covered products.

- Establish equitable producer fees to fully recover and not to exceed expenses incurred by the department.
- Apply non-compliance penalties for postconsumer recycled content requirements under 70A.245.040 and penalties for registration, labeling, and reporting 70A.245.040.
- Define department's rule making duty under 70A.245.090.

The legislature finds that minimum recycled content requirements for plastic beverage containers, trash bags, and household cleaning and personal care product containers are among actions needed to improve the state's recycling system as well as reduce litter.

By implementing a minimum recycled content requirement for plastic beverage containers, trash bags, and household cleaning and personal care product containers, the legislature intends to take another step towards ensuring plastic packaging materials are reduced, recycled, and reused.

6.3 Alternatives considered and why they were excluded

We considered the following alternative rule content and did not include it in the rule for the reasons discussed in each subsection below.

- Excluding FIFRA-regulated and aerosol containers from all requirements.
- Exempting all federally regulated packaging in the exclusions section of the definition of household cleaning product.
- Providing different definitions of producer:
 - The manufacturer who is contracted to produce a covered product for a brand owner.
 - The person who has the decision-making authority for the plastic resin makeup of the covered product.
 - The definition included in our proposed rule language: The producer of a covered product is the entity that affixes its brand, or specifies that its brand be affixed, to the covered product container or retail packaging, except:
 - If an entity is a "brand licensor," meaning it has licensed its brand to be used on a covered product that is to be sold by the licensee, then the licensee is the producer.
 - If the covered product lacks identification of a brand, the entity that specified the material composition of the covered product packaging is the producer.
 - If there is no identifiable person described above, the entity who imports or distributes the covered product in or into the state, including through online sales, is the producer.
- Removing coffee creamers from items listed as beverages.
- Adding "offered for sale to individual consumers" to exclude sales to businesses, to the definition of covered product.

- Removing "multi-resin" from the definition of plastic beverage containers.
- Removing items that are not readily or easily recycled from the list of covered products.
- Using the California definition of household cleaning products.
- Adding surface polishes, air cleaners, and other products to the definition of household cleaning products.
- Using the dictionary definition of "household" for the purpose of defining "household cleaning product."
- Extending PCRC requirements to include caps, labels, trigger sprayers, and attachments on covered products.
- Structuring fees such that producers are only required to pay fees once their category has been phased into the PCRC requirements.
- Not requiring de minimis producer notification.
- Defining manufacturer.
- Adding language that states that the covered product refers to the product contained, not the container itself.
- Adding an opportunity to add a step to ensure that disagreements over confidential data will be handled before being published.
- Requiring third-party verification of PCRC.
- Distributing fees differently, using a tiered system based on resin weight or annual revenue.

6.3.1 Excluding FIFRA-regulated and aerosol containers from all requirements

We considered excluding FIFRA-regulated and aerosol containers from all requirements. This alternative would not have met the goals and objectives of the authorizing statute.

Ecology sought to ensure compliance with the statute and with federal law regarding this alternative. We reviewed precedential cases such as *Medtonic Inv v. Lohr*, *Jeffers v. Wal-Mart Stores, Inc*, *Lyall v. Leslie's Poolmart*, *Lucas v. Bio-Lab*, and *Bates v. Dow Agrosociences LLC*. We also reviewed FIFRA regulations to reconcile with RCW 70A.245.020(7)(b)(v).

We determined products excluded because of technical infeasibility may only be excluded from PCRC requirements, but must still comply with registration, reporting, and fee payment requirements. The determination of these PCRC exclusions will be granted based on information annually submitted that justifies the temporary annual exclusion. The rule language does establish exclusions for plastic aerosol containers regardless of whether temporary exclusion is requested.

6.3.2 Exempting all federally regulated packaging in the exclusions section of the definition of household cleaning product

We considered exempting all federally regulated packaging in the exclusions section of the definition of household cleaning product. This alternative would not have met the goals and objectives of the authorizing statute.

The language in the “annual adjustments and exclusions” section of the statute, RCW 70A.245.020(8), states that products can be temporarily excluded from PCRC requirements if a producer “annually demonstrates . . . that the achievement of postconsumer recycled content requirements in the container material is not technically feasible to comply with health or safety requirements of federal law.” This addresses situations in which current technological limitations might make it infeasible to meet federal regulatory requirements pertaining to a product packaging while also meeting PCRC percentages required in Washington.

In contrast, the definition of “covered product” in RCW 70A.245.010 states first that the term applies to “products subject to PCR content requirements” (without regard to the other reporting, registration, and fee requirements of the law). Further, the definition does not include “any type of container or bag for which the state is preempted from regulating content of the container material or bag material under federal law.”

We interpret this exemption from the definition of “covered product” to apply only to those federal laws that broadly and clearly preempt state PCRC requirements, without regard to any question of the technical feasibility of complying with the federal law while also meeting state PCRC requirements. At present, we are unaware of any such federal laws other than perhaps some of the laws that apply to the products automatically excluded from all the requirements of the chapter by exemption from the definition of “beverage container” and “plastic household cleaning product or personal care product container” (plastic bottles that are medical devices, medical products that are required to be sterile, and nonprescription and prescription drugs, dietary supplements as defined in RCW 82.08.0293, and packaging used for those products.)

Returning to the temporary exclusion afforded by RCW 70A.245.020(8), that section incorporates the list of federal laws—those set out in RCW 70A.245.020(7)(b)(v)—that the Washington State Legislature considered not to automatically preempt the PCRC requirement, but which might present technical difficulties for producers in regard to meeting federal regulatory requirements for durability, child safety features, and similar requirement, while at the same time meeting the new PCRC requirements. The statute therefore provides an opportunity for a producer to make this technical infeasibility demonstration to obtain a temporary, year-long exclusion. The law allows only the temporary exclusion of such products from the PCRC requirements. It does not provide for the exclusion of the producers of those products from the requirement to continue annually demonstrating the technical basis for that exclusion, or from registering, reporting, and paying fees.

FIFRA is among the laws cited in this section of the statute (7 U.S.C. Sec. 136), which means products to which FIFRA applies would be subject to PCRC requirements unless the producer annually demonstrates that the requirements imposed on the packaging of the product by EPA under FIFRA makes the achievement of PCRC minimums technically infeasible. Because EPA’s only requirements regarding pesticide packaging under FIFRA concern child resistance, not PCRC, a state PCRC requirement for such packaging is not automatically preempted on the grounds that it creates a requirement “different than and in addition to” FIFRA’s requirement. See *Lucas v. Bio-Lab, Inc.*, 108 F.Supp.2d 518, 524-525 (2000). It is likely that the process for this annual demonstration would be built into the registration and reporting database for the

department to review. If the producer does not cite the federal regulatory requirement and technical achievability rationale demonstrating that PCRC cannot feasibly be included in the packaging, then the PCRC minimums would still apply.

6.3.3 Alternative definitions of producer

We considered including alternative definitions of producer, including:

- Adding language defining the producer in cases of a covered product being produced under a contract.
- Adding language interpreting a producer as a person with “decision-making authority” over product packaging. This would exclude private label brands and store brands.
- The definition included in our proposed rule language: The producer of a covered product is the entity that affixes its brand, or specifies that its brand be affixed, to the covered product container or retail packaging, except:
 - If an entity is a “brand licensor,” meaning it has licensed its brand to be used on a covered product that is to be sold by the licensee, then the licensee is the producer.
 - If the covered product lacks identification of a brand, the entity that specified the material composition of the covered product packaging is the producer.
 - If there is no identifiable person described above, the entity who imports or distributes the covered product in or into the state, including through online sales, is the producer.

In the Preliminary Regulatory Analyses, we determined that additional burden could arise under the first two bullets above (compared to the proposed definition of producer) if private labels and retailers were allowed to transfer responsibility to their manufacturers, but then had to provide contractual evidence that they did not have decision making authority over the material content of the packaging. Ecology would also need to spend additional time reviewing these submissions.

The third bullet point, above, was included in the proposed rule language to remedy potential confusion about the accountable producer. During development of the adopted rule, however, we identified that the statutory definition was both detailed and left additional interpretation open. It did not allow for the specificity of identifying the brand owner as the producer. We therefore revised the rule to use the statutory definition of producer, despite this lack of clarity in defining the accountable producer.

We acknowledge that returning to the statutory definition does not allow us to resolve potential issues that may arise in holding producers accountable in the event of non-compliance. Again, however, we identified that an alternative definition (such as that proposed) would not have been within our scope.

6.3.4 Removing coffee creamers from items listed as beverages

We considered removing coffee creamers from items listed as beverages. We could not identify sufficient evidence that this inclusion is significantly burdensome, and this alternative would not have met the goals and objectives of the authorizing statute.

Reference to creamers in “condiment packaging” pertains to a part of the law that is not subject to rulemaking (.070, single-use serviceware requirements). Creamers in general do meet the definition of “beverage” for the purpose of PCRC requirements. The intent of the law is to reduce the production of virgin plastic material by requiring PCRC in as many rigid plastic containers as feasible. The guiding principle to dictate items covered under this category is whether the retail-ready product is sold in a quantity of 2 fluid oz and 1 gallon. Serving size is not relevant to that definition.

6.3.5 Adding "offered for sale to individual consumers" to exclude sales to businesses

We considered adding "offered for sale to individual consumers" to exclude sales to businesses from covered product categories. This would have failed to meet the goals and objectives of the authorizing statute. The statute applies throughout to “producers that offer for sale, sell, or distribute [covered products] in or into Washington,” and defines what is or is not a producer. It does not give Ecology discretion in paring down or further defining PCRC requirement coverage based on the purchaser of a covered product.

6.3.6 Removing "multi-resin" from the definition of plastic beverage containers

We considered removing "multi-resin" from the definition of plastic beverage containers based on feedback that this may degrade the recyclability of certain covered products. This alternative would not have met the goals and objectives of the authorizing statute. This definition language was established in the statute, and we do not have enough evidence that PCRC cannot be incorporated into multi-resin plastics. Excluding them would limit the scope of covered products and decrease the effectiveness of the law.

6.3.7 Removing items that are not readily or easily recycled from the list of covered products

We considered removing items that are not readily or easily recycled from the list of covered products. This alternative would not have met the goals and objectives of the authorizing statute, as the statute does not address recyclability, only inclusion of PCRC in covered products for sale in Washington. There are inherent off-ramps for supply chain fluctuations, which will always be subject to change.

6.3.8 Using the California definition of household cleaning products

Ecology began rule development with California's definition of household cleaning products and asked for input from the rule advisory committee. This definition was: "household cleaning

products include soaps, detergents, softeners, and stain removers or other chemically formulated domestic consumer products labeled to indicate that the purpose of the product is to clean, or otherwise care for fabric, dishes, or other wares, surfaces including, floors, furniture, countertops, showers, and baths; or other hard surfaces, such as stovetops, microwaves, and other appliances." The rule advisory committee and other interested parties were divided on whether to include pet cleaners, air fresheners, polishes, and exterior cleaning products.

This alternative would have imposed additional burden if it expanded the overall scope of PCRC requirements or would have failed to meet statutory goals and objectives if the scope were narrowed beyond the statutory requirements.

Ecology ultimately determined that the definition in rule must center around the intended use of the products, i.e., whether they are they advertised or labeled to clean, purify, and similar purposes. We added a part (b) to the definition of "household cleaning products" to note that the scope of a "household" is all products that can be sold and marketed for individual customer or residential use.

6.3.9 Adding surface polishes, air cleaners, and other products to the definition of household cleaning products

We considered adding surface polishes, air cleaners, and other products to the definition of household cleaning products. While this alternative would have exceeded statutory goals and objectives of the scope of coverage, it would also have imposed additional burden by expanding the scope of covered products beyond what is in the authorizing statute, including a broad set of potential "other" products. Ecology accepted this interpretation for the most part except that we maintain the inclusion of air cleaners as an expressly marketed cleaner for household environments.

6.3.10 Using the dictionary definition of household

We considered including a dictionary definition of household (adjective) to state, "for use in maintaining a home, especially for use in cooking, cleaning, laundering, repairing, etc. in the home." This alternative would have failed to include exterior cleaning products and would therefore not have met the goals of the authorizing statute, which does not differentiate between locations of use for household products. Ecology built upon the definition of household by the US Census Bureau and clarified that we mean the space shared by all people who will utilize household cleaning products to clean any part of that space.

6.3.11 Extending PCRC requirements to include caps, labels, trigger sprayers, and attachments

We considered extending PCRC requirements to include caps, labels, trigger sprayers, and other attachments. This would have imposed additional burden on producers, particularly if these attachments were required to meet PCRC requirements for some product categories but not others. The rule language establishes consistency with the exclusion of these items in the

definition of beverage containers. These types of items are excluded from PCRC requirements in household cleaning and personal care product containers.

6.3.12 Structuring fees such that producers are only required to pay fees once their category has been phased into the requirement

We considered structuring fees such that producers are only required to pay fees once their category has been phased into the requirement. This alternative would not have met the statutory goals and objectives, or the budgetary needs of the program, and would have inequitably distributed the higher initial costs of rulemaking. Under the rule, all producers will cover some portion of the fee to cover Ecology costs, including the cost of rulemaking that will be complete before some PCRC rates apply. For later phased in categories, those without requirements yet still would need to register and pay the administration portion of the fee, but not the PCRC oversight costs.

6.3.13 Not requiring de minimis producer notification

We considered not requiring de minimis producer notification. This alternative would not have met the goals and objectives of the authorizing statute. Ecology needs this information to be able to implement the chapter using authority granted under RCW 70A.245.090. We would not be able to identify overall compliance if de minimis producers did not register. Moreover, de minimis status may change from one year to the next, and producers need to demonstrate annually that they still meet the de minimis threshold. Under the rule, there would not be penalties for failing to notify, but de minimis producers that do not register increase their likelihood of receiving inquiries from Ecology as to their status.

6.3.14 Defining manufacturer

We considered including a definition of manufacturer in the rule. This would not have met the goals and objectives of the authorizing statute. The rule language does not provide a definition for "manufacturer" because, for the purposes of implementation and enforcement of the statute, the responsible party must be the brand owner. Including a definition for manufacturer confuses this intent, since the manufacturer does not have responsibility as a producer unless they own the brand the product is sold under.

6.3.15 Adding an opportunity to add a step to ensure that disagreements over confidential data will be handled before being published

We considered adding an opportunity to ensure that disagreements over confidential data will be handled before being published, by adding a step to the process for confidential information. This would have added burden beyond existing requirements for confidential business information without necessarily better protecting that information. Ecology must follow the prescribed process and criteria for granting confidentiality under existing procedures and policies, under which the Director determines whether information is confidential. This

process does not prohibit additional information or investigation, depending on what is appropriate for the information in question.

6.3.16 Requiring third-party verification

We considered including the following language in the rule regarding verification:

For the purposes of meeting the postconsumer recycled content requirement by weight means plastics certified under an approved certification system and produced (i) from mechanical recycling using postconsumer materials, or (ii) from non-mechanical processing of postconsumer materials via mass balance attribution. Post-use plastic and intermediate feedstock sold or marketed as fuels does not count toward satisfying the recycled plastics standard set forth in Chapter 70A.245 RCW.

The Director shall annually certify that producers have met the standards for recycled content in the required products in Chapter 70A.245 RCW based on the producers' use of an existing international and multi-national third-party certification systems, which incorporates chain of custody, attribution, mass balance, and certified mass balance attribution. The Director shall:

(A) issue a list of "approved certification systems," each of which shall be an existing international and multi-national third-party certification system applying chain of custody, attribution, mass balance, and certified mass balance attribution that must recognize product certification from other approved bodies and that producers shall use to demonstrate annual compliance with the standards for recycled content in the required products, which shall:

- (i) include, but not be limited to, International Sustainability & Carbon Certification; Underwriter Laboratories, SCS Recycled Content, Roundtable on Sustainable Biomaterials, Ecoloop, Recycled Material Standard and REDcert2; and
- (ii) be annually updated to incorporate new certification systems applying chain of custody, attribution, mass balance, and certified mass balance attribution.

This alternative would have imposed significant additional compliance burden. Third party verification would provide Ecology with more certainty in oversight of this law, but it is not a requirement in the statute. We did not identify that it was necessary in all cases and for all producers to maintain data and compliance integrity. Producers may also benefit – through reduced likelihood of an audit, and possibly in terms of marketability of covered products – from third party verification, however, the rule offers flexibility by requiring producers to either self-attest the accuracy of their data when submitting their report (under penalty of perjury), or to verify their data through ISO-accredited third party verification.

6.3.17 Distributing fees differently

We considered distributing fees using a tiered structure, but this alternative would not have met the goals and objectives of the statute. Ecology was tasked with equitably distributing fees.

This means that fees should be proportional to the weight of plastic resin in covered products sold or distributed in Washington to ensure that small producers are not facing the same fees as large producers. This was required since Ecology workload associated with these differently sized and differently complex producers will differ.

We also considered a modulated fee structure that would create incentives for producers who exceed minimum PCRC requirements. The authorizing statute does not provide Ecology authority to require or encourage standards beyond those specified in law. Additionally, this alternative would potentially have failed to meet the statutory requirement for equitable distribution of fees. Total plastic resin weight in Washington was selected as the basis for fee determination because it is a measurable quantity and represents each producer's relative volume of plastic in each covered category. Assuming no significant weight difference between virgin plastic resin and recycled plastic resin, total plastic resin weight provides a fair, objective basis to represent each producer's share of the covered products driving Ecology's workload to administer the law within each product category. All producers, regardless of their PCRC content, are required to pay a fee and to report/register annually.

Fee discounts for producers able to exceed the PCRC requirement could also be inequitable, because all producers may not have equal access to the resources needed to exceed the PCRC minimums. Presuming insignificant differences between weights of PCRC and other plastic resins, total plastic weight also provides a data point that can represent a producer's relative market share within a covered product category without requiring producers to submit confidential business information to Ecology. Fee distribution based on market share provides a sliding-scale fee structure to support affordability for smaller businesses.

We note that the above discussion assumes comparable weights of virgin plastic resin and PCRC resin. Ecology has not identified evidence of a weight difference at this time.

6.4 Conclusion

After considering alternatives to the rule contents, within the context of the goals and objectives of the authorizing statute, we determined that the rule represents the least-burdensome alternative of possible rule contents meeting the goals and objectives.

Chapter 7: Regulatory Fairness Act Compliance

7.1 Introduction

The Regulatory Fairness Act (RFA; RCW 19.85.070) requires Ecology to perform a set of analyses and make certain determinations regarding the rule. This chapter presents the:

- Analysis of relative compliance cost burden.
- Consideration of lost sales or revenue.
- Cost-mitigating elements of the rule, if required.
- Small business and local government consultation.
- Industries likely impacted by the rule.
- Expected impact on jobs.

A small business is defined by the RFA as having 50 or fewer employees, at the highest ownership and operator level. Estimated compliance costs are determined as compared to the baseline (the regulatory environment in the absence of the rule, limited to existing federal and state requirements). Analyses under the RFA only apply to costs to “businesses in an industry” in Washington State. This means the direct impacts, for this part of our analyses, are not evaluated for government agencies.

We note that businesses impacted by the rule include:

- Businesses based or with physical operations in Washington, employing Washingtonians.
- Businesses that deliver product to Washington (directly or through intermediate distributors or wholesalers), with employees in other states or countries but not directly employed in producing or selling covered products in Washington.

While employment data used for identification of small businesses at the highest ownership level did not allow for identification of Washington-specific businesses across the entire set of high-end potentially impacted businesses, we observe the following about the producers that have registered with Ecology as of January 2023:

- 6% have physical operations in Washington. 33% of these are small businesses under the RFA.
- 84% have physical operations in the US. 28% of these are small businesses under the RFA.
- 16% have physical operations outside of the US. 27% of these are small businesses under the RFA.

7.2 Analysis of relative compliance cost burden

We calculated the estimated per-business costs to comply with the rule, based on the costs estimated in Chapter 3 of this document. In this section, we estimate compliance costs per employee.

Businesses that are most likely required to comply with the rule are larger businesses that own brands for beverages, household cleaners, personal care products, and trash bags. There are fewer small businesses (companies that have 50 or fewer employees) that have their own brand, sell more than \$1 million dollars or 1 ton of plastic resin in Washington State (exceeding the de minimis threshold) to be impacted by the rule.

The average affected small business likely to be covered by the rule employs approximately 17 people. The largest ten percent of affected businesses employ an average of 12,165 people. Based on cost estimates in Chapter 3, we estimated the following compliance costs per employee.

Table 15. Compliance costs per employee.

Type of cost (or total cost)	Low	High
Average small business employment	17	17
Average employment at largest ten percent of businesses	12,165	12,165
Small business cost per employee	\$2,136	\$6,113
Largest business cost per employee	\$2.99	\$8.54

We conclude that the rule is likely to have disproportionate impacts on small businesses, and therefore Ecology must include elements in the rule to mitigate this disproportion, where legal (including the stated objectives of the law on which the rule is based) and feasible.

7.3 Loss of sales or revenue

Businesses that incur costs could experience reduced sales or revenues if the rule significantly affect the prices of the goods they sell. The degree to which this could happen is strongly related to each business’s production and pricing model (whether additional lump-sum costs would significantly affect marginal costs), as well as the specific attributes of the markets in which they sell goods, including the degree of influence each firm has on market prices, as well as the relative responsiveness of market demand to price changes.

We used the REMI E3+ model for Washington State to estimate the impact of the rule on directly affected markets, accounting for dynamic adjustments (e.g., price levels and wages, employment, purchases of inputs and services, population, and labor force attributes) throughout the economy. The model accounts for: inter-industry impacts; price, wage, and population changes; and dynamic adjustment of all economic variables over time.

The results of the REMI E3+ model shows that the rule would minimally impact a variety of businesses producing covered products, and that it would initially increase statewide output by between \$0 and \$1,000,000 (total amount of goods and services produced by Washington businesses) across all sectors in the state. For context, the baseline forecast for the value of statewide output is over \$1 trillion from 2023 onward. This effect would persist for the entire 20 years we considered. This would be a minor annual impact to output from directly impacted

industries and would not significantly affect total statewide output across all industries.³⁰ While industries would incur direct costs of compliance, these impacts would not significantly alter their output as compared to the baseline. The table below lists the percentage impacts to output, as compared to the baseline, reflecting positive impacts between 0% and about 1/100th of one percent.

Table 16. Impact to the value of statewide and industry output.

Industry	Initial Output Impact	Output Impact in 10 years	Output Impact in 20 years
All industries	0.00%	0.00%	0.00%
Beverage manufacturing	0.001%	0.001%	0.001%

While it may seem counterintuitive that compliance costs would result in even a small increase in the value of output, we observe the following potential contributors underlying our forecast, related to relative changes in product prices and consumer purchasing behavior:

- Estimated compliance costs in a given year are relatively small. These costs may be more easily passed on to consumers without affecting the quantities of goods purchased. Modeling results indicate very small but positive impacts on beverage prices (i.e., positive but less than a fraction of a cent).
- Consumers may not be likely to differentiate between small price increases due to the rule, and general inflationary price increases due to other factors. They may also choose not to change their purchasing habits in response to small price changes, due to factors such as beverage brand loyalty and limited perceived substitutes.
- Modeling results did not show a similar small positive output impact for cleaning supplies or personal care products. They did, however, also show a similarly small but positive change in prices, but could not identify which was larger given the model’s level of precision. Consumers may have less brand loyalty in these product categories, and may also perceive more substitutes, including substitutes in different product categories (e.g., white vinegar for cleaning).

7.4 Action taken to reduce small business impacts

The RFA (19.85.030(2) RCW) states that:

“Based upon the extent of disproportionate impact on small business identified in the statement prepared under RCW 19.85.040, the agency shall, where legal and feasible in meeting the stated objectives of the statutes upon which the rule is based, reduce the costs imposed by the rule on small businesses. The agency must consider, without limitation, each of the following methods of reducing the impact of the rule on small businesses:

³⁰ REMI E3+ baseline forecast, model version 3.0.0.

- a) Reducing, modifying, or eliminating substantive regulatory requirements;
- b) Simplifying, reducing, or eliminating recordkeeping and reporting requirements;
- c) Reducing the frequency of inspections;
- d) Delaying compliance timetables;
- e) Reducing or modifying fine schedules for noncompliance; or
- f) Any other mitigation techniques including those suggested by small businesses or small business advocates.”

We considered all the above options, the goals and objectives of the authorizing statutes (see Chapter 6), and the scope of this rulemaking. We limited compliance cost-reduction methods to those that:

- Are legal and feasible.
- Meet the goals and objectives of the authorizing statute.
- Are within the scope of this rulemaking.

Modifying regulatory requirements, changing reporting requirements, reducing the frequency of inspections, or delaying compliance timetables would not meet statutory objectives or are not feasible and within the scope of this rulemaking.

Finally, we included the following elements of the law, in the rule, to reduce costs to small businesses. Businesses are not required to meet annual reporting, PCRC, or fee requirements of covered products if they are below the de minimis threshold. The de minimis threshold considers sales, distribution, or import in or into Washington that:

- Generates less than \$1,000,000 in gross revenue in a single category of a covered product annually.
- Sells or distributes less than one ton of a single category of a covered product annually.

We note also that to the extent that small producers (in terms of resin weight) are owned by small businesses, their costs would also be smaller than our analysis assumes. This is particularly the case for fees, which the rule will reduce for small producers, compared to an assumed equal baseline allocation of fees across all producers.

7.5 Small business and government involvement

We involved small businesses and local governments in our development of the rule, using:

- Four informational webinars in February and March 2022.
- Seven rule advisory committee meetings that were open to all interested parties and provided opportunities for comments in April, June, July, and September 2022.
- More than 15 individual meetings requested by stakeholders.
- 17 e-mails to subscriber list and listserv, which had 1,134 subscribers at the time of this analysis.

- Online access to each revised version of the draft rule language with opportunities to provide comments.

7.6 North American Industry Classification System (NAICS) codes of impacted industries

The rule likely impacts the following industries, with associated NAICS codes. NAICS definitions and industry hierarchies are discussed at <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2017>.

Table 17. NAICS categories of likely impacted businesses.

NAICS Code	Description
311411	Frozen Fruit, Juice, and Vegetable Manufacturing
311421	Fruit and Vegetable Canning
311930	Flavoring Syrup and Concentrate Manufacturing
312111	Soft Drink Manufacturing
312112	Bottled Water Manufacturing
722513	Limited-Service Restaurants
311351	Chocolate and Confectionery Manufacturing from Cacao Beans
311920	Coffee and Tea Manufacturing
445298	All Other Specialty Food Retailers
424490	Other Grocery and Related Products Merchant Wholesalers
311511	Fluid Milk Manufacturing
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers
312130	Wineries
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers
325611	Soap and Other Detergent Manufacturing
325612	Polish and Other Sanitation Good Manufacturing
325620	Toilet Preparation Manufacturing
456120	Cosmetics, Beauty Supplies, and Perfume Retailers
326111	Plastics Bag and Pouch Manufacturing
445110	Supermarkets and Other Grocery Retailers (except Convenience Retailers)
455110	Department Stores

7.7 Impact on jobs

We used the REMI E3+ model for Washington State to estimate the impact of the rule on jobs in the state, accounting for dynamic adjustments throughout the economy.

The rule will result in transfers of money within and between industries, as compared to the baseline. The modeled impacts on employment are the result of multiple small increases and

decreases in employment, prices, and other economic variables across all industries in the state.

The results of the model show no job loss annually across all industries in Washington from the implementation of this rule. It should be noted that the REMI E3+ model does not account for jobs that may be created because of the overall implementation of the statutory and rule requirements and estimates employment impacts of only the elements of the rule in which Ecology had discretion. Industries outside of those with covered products may be impacted, as the REMI model is a model of the entire state economy. Industries that are typically highly impacted include those with higher sensitivity to changes in prices and market activity, such as construction and local government revenues. As shown in the table below, most of the industries in Washington are minimally impacted (or not at all) by the rule and were modeled to experience job impacts that are (due to the level of precision in the REMI model) slightly positive, but not differentiable from zero.

Table 18. High-cost impact on jobs.

Industry	Initial Jobs Impact	Jobs Impact in 10 years	Jobs Impact in 20 years
Whole state	0	0	0

We note that the employment impacts above are modeled based only on compliance costs, and do not reflect any broader or systemic changes that result from the law or the rule.³¹

Improvements in local economic activity related to a circular plastics economy would augment positive impacts, through employment and economic activity resulting from:

- Plastics recycling and processing.
- Production and marketing of PCR resin.
- PCRC or plastic-alternative packaging.
- Market adjustments to consumer products and their packaging.

³¹ We also observe based on REMI modeling that the rule would have limited impacts on consumer purchasing behavior, which would mitigate any potential employment or output impacts. For discussion of these underlying factors, see Section 7.3.

References

Dun & Bradstreet, 2023. Market Insight database.

Recycling Today, Retrieved from: <https://www.recyclingtoday.com/news/recycled-plastic-supply-demand-mismatched/>.

REMI E3+ baseline forecast, 2023. Model version 3.0.0.

State of California Department of Resources Recycling and Recovery, Division of Recycling, 2023. AB 793 Plastic Content Reporting and Compliance Permanent Regulations, Economic Impact Statement Supplemental Information. Retrieved from <https://calrecycle.ca.gov/laws/rulemaking/plasticcontent/>.

US Bureau of Labor Statistics, 2021. May 2021 State Occupational Employment and Wage Estimates, Washington. https://www.bls.gov/oes/current/oes_wa.htm. Average median hourly wage for management occupation.

US Treasury Department, 2022. I bond interest rates. Historic average September 1998 through November 2022. <https://treasurydirect.gov/savings-bonds/i-bonds/i-bonds-interest-rates/#:~:text=The%20composite%20rate%20for%20I,through%20April%202023%20is%206.89%25>.

Washington State Department of Ecology, 2022. "Plastics recycled content (PCR) Workload Analysis fiscal year (FY) 2023." <https://www.ecology.wa.gov>, January 2022, <https://fortress.wa.gov/ecy/publications/SummaryPages/2207004.html>. Accessed 2023

Washington State Department of Ecology, 2023. "Plastics post-consumer recycled content Workload Analysis for fiscal year 2024." <https://www.ecology.wa.gov>, January 2023, <https://apps.ecology.wa.gov/publications/SummaryPages/2307001.html>. Accessed 2023.

WA Department of Ecology, 2023. Plastic producer reports. Spring 2023.

Washington State Office of Financial Management, 2021. Multi-Agency Fiscal Note Summary. 5022 E2SSB AMH ENGR H1491.E, 2021 Legislative Session. Pages 23-38. Retrieved from <https://fnspublic.ofm.wa.gov/FNSPublicSearch/Search/bill/5022/67>.

Appendix A: Administrative Procedure Act (RCW 34.05.328) Determinations

A. RCW 34.05.328(1)(a) – Clearly state in detail the general goals and specific objectives of the statute that this rule implements.

This rule implements RCW 70A.245.090(4) by revising definitions that establish the clarity “necessary for Ecology to administer, implement, and enforce this chapter,” including scope of covered product categories included in the requirements.

This rule implements RCW 70A.245(3)(a)(iv), which states: (iv) By 2024, adopt rules to equitably determine annual fee payments by producers or their third-party representatives within each category of covered product.

See goals and objectives listed in Chapter 6.

B. RCW 34.05.328(1)(b) –

1. Determine that the rule is needed to achieve the general goals and specific objectives of the statute.

See chapters 1 and 2.

2. Analyze alternatives to rulemaking and the consequences of not adopting this rule.

If Ecology does not adopt this rule by 2024, then we would be out of compliance with the law and would need to annually issue general orders to equitably determine individual producer or third-party fee amounts. If this rule is not adopted, the covered product categories remain unclear and there will be ongoing producer confusion as to who must take responsibility for compliance and for what kinds of products.

See the Least Burdensome Alternative Analysis, Chapter 6 of this document, for discussion of alternative rule content considered.

C. RCW 34.05.328(1)(c) - A preliminary cost-benefit analysis was made available.

When filing a rule proposal (CR-102) under RCW 34.05.320, Ecology provides notice that a preliminary cost-benefit analysis is available. At adoption (CR-103 filing) under RCW 34.05.360, Ecology provides notice of the availability of the final cost-benefit analysis.

D. RCW 34.05.328(1)(d) – Determine that probable benefits of this rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.

See Chapters 1 – 5.

E. RCW 34.05.328 (1)(e) - Determine, after considering alternative versions of the analysis required under RCW 34.05.328 (b), (c) and (d) that the rule being adopted is the least

burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated in Chapter 6.

See Chapter 6.

F. RCW 34.05.328(1)(f) - Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

The rule maintains the original RCW's exclusion of rigid plastic containers used for prescription and non-prescription drugs (and adds language clarifying that that includes all FDA regulated drugs), dietary supplements, and FDA regulated sterile medical devices or products. The rule also establishes an exclusion for aerosols sold in plastic containers upon research into 49 CFR Sec. 178.33b-6, states: "No used material other than production residues or regrind from the same manufacturing process may be used." Washington's PCRC requirements are "different than" this specific FIFRA regulatory "requirement" adopted for plastic aerosol containers, and therefore are expressly preempted by 7 U.S.C. § 136v(b) as to such containers. This exclusion is reflected in the rule language. The rule language also excluded federally regulated biomedical waste bags based upon stakeholder input.

The rule maintains the original RCW requirement for producers to annually request temporary exclusions for any other type of product that may fall under conflicting state and federal packaging regulations. The RCW names 21 C.F.R., chapter I, subchapter G, 7 U.S.C. Sec. 136, 15 U.S.C. Sec. 1471-1477, 49 C.F.R. Sec. 178.33b, 49 C.F.R. Sec. 173, 40 C.F.R. Sec. 152.10, 15 U.S.C. Sec. 1261-1278, 49 U.S.C. 5101 et seq., 49 C.F.R. Sec. 178.509, 49 C.F.R. Sec. 179.522, 49 C.F.R. Sec. 178.600-609, and other federal laws as potential justifications for requesting exclusions from PCRC requirements.

G. RCW 34.05.328 (1)(g) - Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.

No. The rule does not impose more stringent performance requirements on private entities since public entities do not brand and sell plastic packaging or trash bags as regulated under this chapter.

H. RCW 34.05.328 (1)(h) Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter.

Relevant to some of the products regulated under the RCW and rule definition of "household cleaning products" [7 U.S. Code § 136v](#) says, for Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) products, any state "shall not impose or continue in effect any requirements for labeling or packaging in addition to or different from those required" under federal law. However, there are two general ways that state law can be preempted by federal law pursuant to the Supremacy Clause of the U.S. Constitution: express preemption and implied preemption. "Express preemption" occurs when congress has clearly expressed its intent to preempt state law, the only question remaining for the courts

is the extent of preemption. “Implied preemption” occurs when state law conflicts with a federal law, and therefore is displaced by operation of the Supremacy clause, even when the federal law does not have a specific, express preemption provision. One type of implied preemption occurs when compliance with both federal and state regulations is a physical impossibility or technical infeasibility. When a party asserts impossibility preemption, the issue is whether it is really impossible to comply with both. An express preemption provision does not foreclose the possibility of implied preemption. Our interpretation reflected in the rule language is that FIFRA expressly preempts Washington’s PCRC law (pursuant to 7 USC Sec. 136v(b)) *only* regarding aerosol packaging, where 49 CFR Sec. 178.33b-6, states: “No used material other than production residues or regrind from the same manufacturing process may be used.” In this case, Washington’s PCRC requirements are “different than” this specific FIFRA regulatory “requirement” adopted for plastic aerosol containers, and therefore are expressly preempted by 7 U.S.C. § 136v(b) as to such containers.

The original RCW anticipates that at least some FIFRA regulated products would be in this category, as they listed FIFRA as one of the federal laws in subsection (7)(b)(v) of RCW 70A.245.020 under which producers can annually request a temporary exclusion. However, these products are clearly intended to remain in the definition of “covered products” in that producers must continue to register and report for such products, even when they qualify for temporary exclusion from the required PCRC content minimum percentages based on a showing of technical infeasibility of meeting Washington’s and the federal regulatory requirements.

This is the only area in which the question of whether the rule differs from any federal regulation applicable to the same activity was disputed.

- (i) A state statute explicitly allows Ecology to differ from federal standards.
- (ii) Substantial evidence that the difference is necessary to achieve the general goals and specific objectives stated in Chapter 6.

I. RCW 34.05.328 (1)(i) – Coordinate the rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same subject matter.

As discussed above, the law and rule coordinate with federal laws that apply to plastic packaging. There are no other state or local laws applicable to the plastic packaging products required to comply with this law and rule.

Ecology used some of the same research and rationale used in rulemaking for the Children’s Safe Products Act, which similarly sets registration and reporting requirements for producers of certain types of products.