



Response to Comments

New Standard for Plastic Trash Bags and Can Liners (GS-60)

April 6, 2023

Overview

Plastic trash bags and can liners are a daily necessity in our homes, offices, schools, and other indoor spaces. No alternatives currently perform as well as plastic liners for strength, odor control, and sanitation. Unfortunately, single-use plastic liners have large environmental impacts: they require high amounts of energy to produce, create greenhouse gas emissions, and contribute to the problem of plastic waste pollution.

During 2021 and 2022, Green Seal studied the product category of trash bags and can liners to identify opportunities to support the acceleration of this industry toward greener product design. Green Seal conducted a feasibility assessment including a review of the North American market for household and industrial and institutional liners, a life-cycle review of liner production, use, and disposal, a review of product materials, outreach to stakeholders, and development of a new measure for sustainability recognition in this product category. Through this work it became clear that the largest impact of plastic liners comes from the use of virgin plastic. In our research we found that the amount of virgin plastic varies substantially from product to product even when controlling for size and use category and is often independent of functional performance. Liners can be made with less virgin plastic, relative to their size and use category, without sacrificing performance. This can be accomplished either by incorporating high levels of recycled content, by producing a thinner liner during manufacturing, or a combination of both. This creates an excellent opportunity to recognize products that have reduced environmental impacts thanks to a greener product design. Therefore, Green Seal's proposed standard criteria included functional performance requirements, reductions in virgin plastic use, a minimum threshold of post-consumer recycled content, prohibitions on hazardous materials, and sustainability improvements in product packaging.

From November 30, 2022, to January 29, 2023, Green Seal held a public comment period and solicited responses from manufacturers, advocacy groups, industry associations, testing laboratories, and consumers on the proposed criteria of the new standard. Listed below are the names of organizations and individuals (collectively referred to as stakeholders) who provided feedback throughout the standard development process, as well as the formal comments received during the public comment period. Green Seal's responses to stakeholder feedback can be found in the sections below.

Stakeholder Participants

The following organizations and individuals provided recommendations, shared technical and market expertise, or submitted statements of approval or substantive objections. Green Seal greatly appreciates the time and expertise volunteered by these stakeholders during this initiative.

American Chemistry Council
American Forest & Paper Association
Association of Plastic Recyclers
Berry Global
Building Management Services
Chaz Miller
ChemForward
EFS Plastics
Gateway Liners
Northeast Recycling Council
Novolex
Petosky Plastics
Responsible Purchasing Network
Revolution Bags
Sandra Cannon
State of Oregon, Department of Environmental Quality
STINA
The Commonwealth of Massachusetts Operational Services Division
The Plastics Industry Association
University of Virginia
Waxie Sanitary Supply

Document Guide

This document contains the comments that were submitted by stakeholders during the public comment period: November 2022 – January 2023 and contains Green Seal’s responses to those comments. To review the proposals and other revision documentation, visit Green Seal’s website.

Section 1. Summary of Stakeholder Input

Section 2. Comments Submitted During the Public Comment Period

Section 3. Green Seal’s Response to Comments

Section 1. Summary of Stakeholder Input

Stakeholder Support

The majority of participating stakeholders expressed strong support for the following features of Green Seal's new standard for trash bags and can liners:

- Reducing the amount of virgin plastic in products
- Verifying the amount of recycled content in products
- Recognizing bags based on plastic efficiency, as opposed to using only post-consumer material as a measure of sustainability
- Requiring that products demonstrate functional performance
- Measuring energy use in manufacturing

Plastic Use: All stakeholders supported reducing the amount of virgin plastic used in trash bags and can liners because of their high impact as single-use plastic items that are not inherently recyclable. Most stakeholders also supported verifying the amount of recycled content in liners and recognized it as important for purchasers and consumers.

Performance: All stakeholders supported including performance requirements for the standard to ensure that sustainable products perform effectively and to help drive standardization in the industry.

Manufacturing: A majority of stakeholders expressed support for requiring manufacturers to measure and report the energy use associated with product production.

Summary of Stakeholder Concern and/or Opposition

A minority of stakeholders expressed concern about the packaging requirements. Two stakeholders expressed concern that the requirements for post-consumer content in packaging criteria were too stringent.

A minority of stakeholders were concerned about the levels of required post-consumer material. One stakeholder noted the requirements were too high and that a minimum requirement should not be included in the standard at all. Two other stakeholders expressed concern about the minimum requirements being too low to be a useful tool for purchasers given the availability of products with high amounts of post-consumer material on the market.

A minority of stakeholders expressed concern on how Green Seal's requirements align with existing state and federal requirements for both packaging and the product.

One stakeholder expressed concern over the list of prohibited components in the product and packaging as being too broad and not relevant to the production of trash bags. Another stakeholder expressed concern that the prohibited components list was not broad enough to account for chemicals of similar function.

Green Seal's Full Response to stakeholders can be found in Section 3, herein.

Other Input

One stakeholder expressed support for Green Seal's plastic efficiency metric to recognize the bags that use the least amount of plastic for their gallon size while still performing effectively. However, the stakeholder also provided feedback that the inclusion of any varying amount of post-consumer recycled (PCR) content requirement for bags above 0.7 mil does not achieve the desired environmental benefits for can liners, even in conjunction with the plastic efficiency metric. The stakeholder stated that incorporating the high levels of non-virgin materials necessary to meet the proposed criteria for PCR content for bags above 0.7 mil would either severely hinder the trash liners performance and negatively impact the end user or require users to substantially increase the gauge of the liners used, ultimately increasing the overall amount of virgin plastic being sent to the landfill. The stakeholder also expressed concern about the limited availability of film

grade PCR material, citing the 2022 Greenpeace report “Circular Claims Fall Flat Again” for additional information about recycling challenges in the United States and the related impacts on PCR availability.

The stakeholder also claims that PCR content used in liners is inherently destined for landfills, and that including requirements for PCR content is only extending the life of that material for approximately 120 days. They believe that PCR material would be better utilized in a long-term durable good or a more easily reclaimable product. Due to trash liners being predetermined for the landfill, they believe PCR materials should be prioritized for durable goods that have a longer life cycle.

This stakeholder also expressed support for Green Seal’s alternative testing requirements that provide flexibility for the exact testing method that measures puncture and tear resistance as long as the test is an objective, scientifically validated method conducted under controlled and reproducible laboratory conditions. In regard to performance testing, the stakeholder wanted to impress the importance of ongoing audits of the performance of the liners and confirm that the liners will meet the specified performance, size, gauge, and PCR levels per the label and the Green Seal requirements.

Green Seal’s General Response to All Stakeholder Input

We appreciate the input and recommendations provided by all participating stakeholders. The technical and market expertise and insight have been critical to carrying out evidence-based decision-making. Green Seal standards are designed to reflect today’s environmental leadership on the North American market. Green Seal remains vigilant to address any new or emerging health and environmental risks determined by scientific studies and occupational health reports. And as new information arises and as products are designed to be safer, healthier, and greener, Green Seal moves to update our standards to continue to encourage market transformation that is increasingly protective of human health and our environment.

Section 2. Comments Received During Public Comment Period

During the November 2022 to January 2023 Comment Period, Green Seal received three written comments from the following organizations or individuals.

- Sandra Cannon
- Novolex
- American Forest & Paper Association

Any formatting in the comments below such as highlighting, text changes, etc. was submitted by the commenter.

Comment, Sandra Cannon

Great to see performance is addressed in the standard. We are wondering why bags with biobased content are not in scope for this standard. The U.S. Department of Agriculture has designated plastic bags purchased by Federal purchasers to have a minimum of 22% biobased content. This, of course, takes second place to recycled content per the Farm Security and Rural Investment Act. Have you found on the market that product performance and biobased content are mutually exclusive?

We are pleased to see recycled content is required although at the very low percent designated by the U.S. Environmental Protection Agency—10%. Much higher percents are available on the market

Would the chart on page 7 be more informative if it also showed the percent of virgin material allowed?

Good to see the standard reaches into the manufacturing process at least concerning energy use, which, of course, helps address greenhouse gas emissions.

Is there a conflict between criterion 4.1 (“Packaging made from paper, paperboard, cardboard, or other nonplastic material”) and Appendix 1 where “Product made from fiber material” is excluded from the standard?

Side note: It might be of interest for you to look at the Department of Energy findings related to trash bags on the market that meet the DOE Priority Products goals (<https://www.fedcenter.gov/Documents/index.cfm?id=39683>)

Comment, Novolex

Proposed Change 1

Add, Page 5

ISO. International Organization for Standardization

Justification

Standard acronym needed for proposed change

Proposed Change 2

Edit page 8

Current

Packaging made from paper, paperboard, cardboard, or other nonplastic material shall be recyclable and contain at least 50% post-consumer material, or demonstrate that efforts were made to use the maximum available post-consumer material.

Edited—need best number

Packaging made from paper, paperboard, cardboard, or other nonplastic material shall be recyclable and contain at least 40% post-consumer material, or demonstrate that efforts were made to use the maximum available post-consumer material.

Justification

We need American Forest and Paper Association and the Fiber Box Association to weigh in on this. For Kraft paper used in paper bag we know that mills are engineered to use 40% PCR. Unlike plastic you can dial up or down by changing recipes it is an engineering and facility issue design. Since it is this low for Kraft paper it is likely similar for cartons but just need experts to weigh in on it as it may be unachieved able as written

Proposed Change 3

Edit page 7

Current

3.3 Prohibited Components. The product shall not contain any of the following components; an exception shall be made for products that would not contain these components but for the addition of post-consumer material.

- Carcinogens, mutagens, and reproductive toxins

Edited

3.3 Prohibited Components. The product shall not contain any of the following components; an exception shall be made for products that would not contain these components but for the addition of post-consumer material.

- ~~Carcinogens, mutagens, and reproductive toxins~~

Justification

These are vague and interpretive term with many groups having different lists positions on what would meet these standards. The bullet should be replaced with a known regulated list that is updated regularly

Proposed Change 4

Edit Page 8

Current

3.3 Prohibited Components. The product shall not contain any of the following components; an exception shall be made for products that would not contain these components but for the addition of post-consumer material.

- Carcinogens, mutagens, and reproductive toxins
- Toxic Release Inventory Persistent, Bioaccumulative, and Toxic (TRI PBT) Chemicals
- Phthalates
- The heavy metals lead, cadmium, mercury, hexavalent chromium, or selenium; either in the elemental form or compounds
- Per- and Polyfluorinated Alkyl Substances (PFAS)
- Bisphenol A, Bisphenol S, Bisphenol F
- Ozone-depleting compounds
- Fragrances
- Chlorinated compounds
- Biocides and antimicrobial agents

Edited

3.3 Prohibited Components. The product shall not contain any of the following components intentionally added; ~~an exception shall be made for products that would not contain these components but for the addition of post-consumer material.~~

- ~~Carcinogens, mutagens, and reproductive toxins~~ (*see proposed change 2*)
- Toxic Release Inventory Persistent, Bioaccumulative, and Toxic (TRI PBT) Chemicals
- ~~Phthalates~~
- The heavy metals lead, cadmium, mercury, hexavalent chromium, or selenium; either in the elemental form or compounds
- ~~Per- and Polyfluorinated Alkyl Substances (PFAS)~~
- ~~Bisphenol A, Bisphenol S, Bisphenol F~~
- ~~Ozone-depleting compounds~~
- Fragrances
- ~~Chlorinated compounds~~
- Biocides and antimicrobial agents

Justification

Comment on exceptions for recycled content needs to be deleted as toxins in packaging laws govern several of these compounds so even recycled content is prohibited from having mercury, cadmium, lead and chromium exceeding 100 PPM. Recycled content should be tested and ensure source material doesn't introduce to bags as the purpose of the Toxins in Packaging Law is to prevent introduction of hazardous material in to landfills.

Several of the compounds are unrelated to polyethylene and can liner production such as PFAS, BPA, BPS, BPF, Chlorinated compounds, Phthalates and others. Have a list of banned items that would never be used in production and would fowl production would make the standard greenwashing per the FTC green guides part 260.8 Free-of claims section (b) (2) as shown below:

(b) A truthful claim that a product, package, or service is free of, or does not contain or use, a substance may nevertheless be deceptive if:

(2) the substance has not been associated with the product category

Recommend review and rewrite of section to align with current legislation and FTC green guides

Proposed Change 5

Edit Page 8

Current

4.2 Colorants. Primary and secondary packaging may be printed using colorants, provided that these colorants contain a sum concentration of less than 100 ppm by weight of lead, mercury, cadmium, and hexavalent chromium.

Proposed

~~**4.2 Colorants.** Primary and secondary packaging may be printed using colorants, provided that these colorants contain a sum concentration of less than 100 ppm by weight of lead, mercury, cadmium, and hexavalent chromium.~~

Justification

This is already a legal standard in Toxins in Packaging laws and would not occur.

Proposed Change 6

Edit Page 8

Current

4.3 Heavy Metal Restrictions. The heavy metals lead, mercury, cadmium, and hexavalent chromium shall not be intentionally introduced in primary and secondary packaging. Further, the sum of the concentration levels of these metals shall not exceed 100 ppm by weight (0.01%); an exception is allowed for packaging that would not exceed this maximum level but for the addition of post-consumer material.

Proposed

~~**4.3 Heavy Metal Restrictions.** The heavy metals lead, mercury, cadmium, and hexavalent chromium shall not be intentionally introduced in primary and secondary packaging. Further, the sum of the concentration levels of these metals shall not exceed 100 ppm by weight (0.01%); an exception is allowed for packaging that would not exceed this maximum level but for the addition of post-consumer material.~~

Justification

Remove entire section as it is already governed by Toxins in Packaging laws and is not allowed even in recycled content. Exception cant be allowed through this standard.

Proposed Change 7

Edit Page 9

Current

4.4 Other Restrictions. Phthalates, bisphenol A, and chlorinated packaging material are prohibited from being intentionally introduced to plastic primary or secondary packaging; an exception is allowed for packaging that would not have added phthalates, bisphenol A, or chlorinated packaging material but for the addition of post-consumer material.

Proposed

4.4 Plastic Primary and Secondary Packaging. ~~Phthalates, bisphenol A, and chlorinated packaging material are prohibited from being intentionally introduced to plastic primary or secondary packaging; an exception is allowed for packaging that would not have added phthalates, bisphenol A, or chlorinated packaging material but for the addition of post-consumer material.~~ Any plastic primary and secondary packaging will contain a minimum of 25% post consumer recycled content.

4.5 Paper Primary and Secondary Packaging. Any primary or secondary fiber packaging used to contain or transport the material should be certified by either the Forestry Stewardship Council (FSC), Sustainable Forestry Initiative (SFI), Programme for the Endorsement of Forest Certification (PEFC)

Justification

Rather than making a partial standard for primary or secondary packaging should require the use of an existing standard for that packaging type as this is a standard for can liners and not packaging. American Forest and Paper Association and Fiber Box Association should be consulted for standards.

Proposed Change 8

Edit Page 10

Current

Intentionally Introduced. The use of substances for their desired or deliberate presence in the primary package for the purpose of providing a specific characteristic or quality. It does not refer to the use of substances as processing aids or the use of an intermediate that imparts certain chemical or physical changes during manufacturing, as long as the substance or intermediate is present in the primary package at concentrations below 100 ppm

Proposed

Intentionally added Introduced. It does not refer to the use of substances as processing aids or the use of an intermediate that imparts certain chemical or physical changes during manufacturing, as long as the substance or intermediate is present in the primary package at concentrations below 100 ppm the deliberate use in the formulation of a packaging, product or subpart where its continued presence is desired in the final packaging, product, or subpart to provide a specific characteristic, appearance or quality

Justification

Standard term used in laws, regulations and industry is “intentionally added”.

Proposed Change 9

Edit Page 9

Current

4.1.1 Resin Identification Code. If plastic, the packaging shall be marked with the appropriate Resin Identification Code.

Propose

~~4.1.1 Resin Identification Code. If plastic, the packaging shall be marked with the appropriate Resin Identification Code.~~

Justification

Current packaging labeling laws in California and Oregon are undergoing rule making and may prohibit the use of Resin Identification Codes. Would recommend not requiring its use in any standard at this time as it could ban the use of Green Seal in those states if part of the standard.

Proposed Change 10

Edit Page 10

Current

Energy Intensity. The quantity of energy required per unit of output or activity

Proposed

TBD

Justification

Ensure definition in

Proposed Change 11

Edit Page 7

Current

3.1.1 Post-Consumer Material Certification. The manufacturer shall provide sufficient documentation that the post-consumer material in the product is certified as such by an organization endorsed by Association of Plastic Recyclers PCR Certification Program.

Proposed

3.1.1 Post-Consumer Material Certification. Use of post-consumer material should be audited by an ISO 17065 accredited organization and documentation provided at item of submission

Justification

Any organization that APR would choose would need to be 17065 certified. APR endorsement is not required unless seeking to use APR marks. Since this standard is for use of greenseal marks APR standard is in conflict.

Proposed Change 12

Edit Page 7

Current

3.1.2 Post-Consumer Material Calculations. The manufacturer shall demonstrate it purchases and uses sufficient supplies of post-consumer material to produce the amount of product reported. The percentage of post-consumer material shall be calculated using the following equation:

$$\% \text{ of post-consumer material} = \frac{\text{Mass of post-consumer material}}{\text{Mass of finished product}}$$

Proposed

~~**3.1.2 Post-Consumer Material Calculations.** The manufacturer shall demonstrate it purchases and uses sufficient supplies of post-consumer material to produce the amount of product reported. The percentage of post-consumer material shall be calculated using the following equation:~~

~~$$\% \text{ of post-consumer material} = \frac{\text{Mass of post-consumer material}}{\text{Mass of finished product}}$$~~

Justification

If ISO 17065 auditor is used they will ensure industry standard and documentation of percent PCR is used meets ISO 14000 series standards.

Proposed Change 13

Edit Page 7

Current

This calculation shall be based on a mass balance analysis over a period of time not to exceed the previous twelve months.

Proposed

~~This calculation shall be based on a mass balance analysis over a period of time not to exceed the previous twelve months.~~

Justification

Current ISO 14000 series and 17065 auditing practices already govern this so no need to include if use of 17065 auditor is used

Proposed Change 14

Edit Page 8

Current

3.4 Manufacturing Requirements - Energy Use Reporting. For each facility that manufactures the product, manufacturers shall disclose the annual energy intensity, in BTUs /year/ton of product produced.

Proposed

3.4 Manufacturing Requirements - Energy Use Reporting. For each facility that manufactures the product, manufacturers shall ~~disclose the annual energy intensity, in BTUs /year/ton of product produced.~~ document carbon disclosure / reporting with Carbon Disclosure Project or other recognized not-for-profit organization.

Justification

Carbon reporting should encourage public disclosure. Facility energy intensity is not relevant to can liner production as many facilities produce multiple products so other mix of products can influence energy intensity. Unless the manufacture was to measure at a per production line level it is not a metric of value. That said participation in a carbon disclosure / reporting program would achieve same goals.

Comment, American Forest & Paper Association

The American Forest & Paper Association (AF&PA) is pleased to submit these comments in response to the proposed Green Seal Certifications Standard for Trash Bags and Can Liners to recognize trash bags and can liners that use less virgin plastic while maintaining top performance.

AF&PA believes that Section 4, “Packaging Sustainability Requirements” is outside the proposed standards scope that specifies that “this standard establishes environmental, health, and social requirements for trash bags and can liners for both household and industrial and institutional use.” Beyond that, AF&PA also believes that recycled content minimums for packaging that is detailed in Section 4.1, “primary and secondary packaging” are unnecessary and do not align with market-based certification standards for recycled content.

The American Forest & Paper Association (AF&PA) serves to advance U.S. paper and wood products manufacturers through fact-based public policy and marketplace advocacy. The forest products industry is circular by nature. AF&PA member companies make essential products from renewable and recycle resources, generate renewable bioenergy and are committed to continuous improvement through the industry’s sustainability initiative — Better Practices, Better Planet 2030: Sustainable Products for a Sustainable Future. The forest products industry accounts for approximately 5% of the total U.S. manufacturing GDP, manufactures about \$350 billion in products annually and employs approximately 925,000 people. The industry meets a payroll of about \$65 billion annually and is among the top 10 manufacturing sector employers in 43 states.

Packaging sustainability requirements are beyond the scope of the proposed standard for trash bags and can liners. In section 4.1 on page 8, of the proposed standard, it identifies that paper and paper-based primary and secondary packaging must: be recyclable and contain at least 50% post-consumer material or demonstrate that efforts were made to use the maximum available post-consumer material.

AF&PA believes that the packaging sustainability requirements go beyond the scope of the proposed standard which specifies that “this standard establishes environmental, health, and social requirements for trash bags and can liners for both household and industrial and institutional use.” Nowhere in the scope does it mention that this standard is meant to establish requirements for the packaging for trash bags and can liners.

Singling out “post-consumer” fiber as presumably “better” or environmentally superior to other recovered fiber in the supply chain creates a distorted view of the advantages of using recycled fiber. This is a historical distinction that is no longer relevant, does not align with leading market-based fiber certification systems for recycled content such as the Sustainable Forest Initiative (SFI) and the Forest Stewardship Council (FSC).

Minimum recycled content policies may be appropriate or effective in products where the prevailing recovery rate is low, or where markets for that recovered material are in their infancy, but in mature, complex, robust and dynamic markets such as recovered paper, such policies are likely to result in negative economic and environmental consequences than intended. These consequences include:

- Forcing recovered fiber to uneconomic end uses, creating inefficiencies and potential increases in environmental impacts
- Increased virgin fiber use in some products that currently use recovered fiber
- Less paper recovery as a result of market disruption

Conclusion

AF&PA believes that the packaging requirements in the proposed standard goes beyond the scope of the standard which specifies that it is only for establishing requirements for trash bags and can liners for both household and industrial and institutional use.

If you have any questions, please contact Terry Webber, Terry_Webber@afandpa.org.

Section 3. Green Seal's Responses to Written Comments

Topic Categories

- [Standard Scope](#)
- [Product Performance](#)
- [Post-Consumer Recycled Content, Amount, and Validation](#)
- [Manufacturer Energy Use](#)
- [Prohibited Components](#)
- [Packaging Requirements](#)
- [Defined Terms](#)

In Green Seal's responses below, a ~~strickethrough~~ represents that standard text has been deleted, and **red** text notes standard text has been added. Comments have been summarized below by topic. The full comment may be seen in Section 2 above.

Standard Scope

Sandra Cannon questions why bags with biobased content are not in scope for this standard. The U.S. Department of Agriculture has designated plastic bags purchased by Federal purchasers to have a minimum of 22% biobased content. This, of course, takes second place to recycled content per the Farm Security and Rural Investment Act. Have you found on the market that product performance and biobased content are mutually exclusive?

Green Seal Response: We appreciate this request for clarification on the proposed scope of the standard and why biobased materials are not included. Through Green Seal's technical research as part of the standard development process, Green Seal did not identify performance issues that would disqualify bags with biobased content from demonstrating they work as intended. However, Green Seal did identify that bioplastics for plastic films have environmental impacts that make them unaligned with the main intended outcomes of the standard, which are to reduce greenhouse gas emissions and reduce plastic waste through investments in reducing virgin plastic use. For example, bioplastics can have high greenhouse gas emissions profiles because of land use change associated with using agricultural products as the main feedstock, and their disposal is associated with high amounts of methane emissions. In addition, the use of crop land to make plastics can contribute to biodiversity loss, deforestation,¹ high water use, ozone depletion,² and impacts on food security.³ There is also a lack of consumer communication and sufficient infrastructure, e.g. composting facilities, around these products that can result in contamination in recycling streams. As a result of these issues, Green Seal has not included bioplastics in this current version of the standard. Green Seal will continue to collect more information on this product type to understand if leadership criteria for bioplastics can be added to future editions of the standard.

Outcome: No actions were taken on the scoping of the currently proposed revision.

The American Forest & Paper Association asserts that the packaging criteria is beyond the stated scope of the standard.

¹ Checking Out on Plastics II: Breakthroughs and backtracking from supermarkets. <https://eia-international.org/wp-content/uploads/Checking-Out-on-Plastics-2-report.pdf>

² Sustainability assessment of bio-based polymers. <https://doi.org/10.1016/j.polymdegradstab.2013.06.016>

³ Do biofuel policies seek to cut emissions by cutting food? <https://www.science.org/doi/10.1126/science.1261221>

Green Seal Response: As a Type I ecolabel, Green Seal creates standards that are multi-attribute and look at the full life-cycle of a product when designing market leadership criteria. This includes raw material extraction, product manufacturing, use, and disposal. Because product packaging utilizes resources and contributes to the product's end-of-life, packaging criteria are also evaluated as part of Green Seal standards. It was determined through Green Seal's technical research as part of the standard development that the packaging of a trash bag or can liner both contributed to the product's impact, and that there were feasible improvements in packaging that could be made and recognized for health and environmental leadership. We will explore adding clarifications to all standards moving forward to make if clear product packaging is part of the standard scope.

Outcome: No actions were taken on the scoping of the proposed standard. Green Seal will clarify in all standards that packaging is in the scope of the standard in an upcoming Corrections and Clarifications Report.

Sandra Cannon questions if the criteria for fiber-based product packaging is in conflict with Appendix 1 where it is noted that products made from fiber material are excluded in the standard.

Green Seal Response: We appreciate this question and opportunity for clarification. Criterion 4.1 refers to the packaging of the product. For example, the cardboard container that trash bags and can liners are commonly sold in on the household market. The text in Appendix 1 – Scope notes that products themselves made of fiber material are not included in the scope of the standard. For example, if a paper bag was used to collect waste, this paper bag would not be eligible for certification. Green Seal's Standard for Trash Bags and Can Liners is intended to focus on liners made of plastic as they are the most commonly used on the market for reasons of performance and sanitation. We will continue to evaluate in future iterations of the program if there are opportunities to set leadership criteria for liners made from fiber material.

Outcome: The word plastic was added to the name of the standard to make it clear that the scope of the standard is for plastic bags and liners. Changes were made to the criteria for paper packaging under a separate comment.

Product Performance

Sandra Cannon notes support for including performance criteria in the standard.

Green Seal Response: We appreciate this feedback on the proposed standard.

An anonymous stakeholder expressed support for Green Seal's alternative testing requirements that provide flexibility for the exact testing method that measures puncture and tear resistance as long as the test is an objective, scientifically validated method conducted under controlled and reproducible laboratory conditions. In regards to performance testing the stakeholder wanted to impress the importance of ongoing audits of the performance of the liners and that the liners will meet the specified performance, size, gauge and PCR levels per the label and the Green Seal requirements.

Green Seal Response: We appreciate this feedback on the proposed standard. Green Seal agrees that verifying ongoing compliance to the standard criteria is essential to ensure the validity of the Green Seal mark. As part of our process, Green Seal conducts compliance monitoring of certified products in which manufacturers are reviewed on an ongoing basis to confirm they still comply with all criteria in the most current edition of the standard.

Outcome: No actions were taken on the proposed criteria for performance testing.

Post-Consumer Recycled Content, Amount, and Validation

An anonymous commenter recommends removing requirements for a minimum level of post-consumer material because using post-consumer material in trash bags and can liners will severely decrease product performance resulting in the need to increase liner gauge and subsequently the amount of plastic sent to a landfill.

They also note how there are limitations in supply for post-consumer film for manufacturers, and that using any post-consumer material in trash bags is only increasing the life of the material for an average of 120 days. They recommend that available post-consumer material be used in durable goods, which has a much longer life-span and can be recycled, and that trash bags should be the last considered use for post-consumer material.

Green Seal Response: We appreciate this recommendation and opportunity to clarify our position on requiring minimum levels of post-consumer material. The primary focus of this standard is recognize achievement in virgin plastic reduction. This is the reason for the virgin plastic efficiency requirements, which recognize plastic trash bags and can liners that achieve an efficient use of virgin plastic relative to the gallon size and use category. Given this standard requirement, only products that use the least amount of virgin plastic relative to their size and use category, which also meet the functional performance requirements, will achieve Green Seal certification.

The reason the standard also includes a minimum 10% post-consumer material requirement for trash bags and can liners with a thickness above 0.7 mil is to align with several public procurement requirements, which require a minimum amount of 10% post-consumer material in trash bags and can liners thicker than 0.7 mil such as California,⁴ New Jersey,⁵ and Washington.⁶ New York has similar requirements but has exemptions for bags under 13 gallons.⁷ Additionally, federal purchasing requirements note a 10% minimum for bags of all sizes.⁸ Other prominent sustainability programs, such as the LEED rating system, also align with the 10% post-consumer content requirement.⁹ One important consideration in developing Green Seal standards is whether or not a program is feasible and will meet a need for purchasers on the market. We view this alignment with prevailing public procurement requirements as an essential step towards meeting the need of both purchasers – to easily confirm compliance with their organization’s purchasing directives – as well the manufacturer – to easily demonstrate such compliance to prospective customers. However, we believe that the 10% post-consumer material minimum, while necessary to demonstrate alignment with public procurement programs, is not sufficient for the higher level of leadership a Green Seal designation signifies, which is why the primary focus of the standard is on virgin plastic efficiency (low virgin plastic use). Only those bags with a low amount of virgin plastic relative to their size and use category are truly minimizing greenhouse emissions and plastic waste by focusing on efficient design. Additionally, we agree that in theory durable goods would be a more beneficial use of post-consumer plastics from a life-cycle perspective. However, it is our understanding that in practice there is currently not a robust and well-functioning market for film recycling and the large majority of available material goes uncollected for re-use. Green Seal sees it as valuable to create a demand for these materials, particularly those that are of low-quality and would be able to be used in a product like trash bags more easily than in durable goods. Multiple end-uses for materials makes it easier for reclaimers to invest in the infrastructure necessary to continue collecting this resource long-term.

⁴ Recycled-Content Trash Bag Program. <https://www.calrecycle.ca.gov/buyrecycled/trashbags>

⁵ §§1-23 C.13:1E-99.135 to 13:1E-99.157. https://pub.njleg.state.nj.us/Bills/2020/AL21/391_.PDF

⁶ Department of Ecology State of Washington: Recycled content minimums. <https://ecology.wa.gov/Waste-Toxics/Reducing-recycling-waste/Waste-reduction-programs/Plastics/2021-plastic-pollution-laws/Recycled-content-minimums>.

⁷ GreenNY Specification: Trash Bags. <https://ogs.ny.gov/greenny/trash-bags>

⁸ EPA Comprehensive Procurement Guidelines for Non-Paper Office Products. <https://www.epa.gov/smm/comprehensive-procurement-guidelines-non-paper-office-products#06>

⁹ LEED O+M: Existing Buildings v4.1 Green Cleaning Indoor Environmental Quality. <https://www.usgbc.org/credits/existing-buildings-interiors-existing-buildings/v41/eq130?return=/credits/Existing%20Buildings/v4.1>

We also agree that performance is an important measure of whether or not a product should earn the Green Seal mark. One of Green Seal's principles is to combat greenwashing by confirming that sustainable products function as intended so the product is not thrown out. The final standard has performance requirements for tear and puncture resistance.

We are committed to continuous improvement in our standards and will monitor the market for post-consumer material to evaluate the minimum content requirements.

Outcome: The order of the plastic efficiency criteria and the 10% post-consumer minimum criteria have been switched in order to emphasize that the plastic efficiency requirement is the primary focus of this standard.

Novolex recommends amending the requirements for validating post-consumer material by requiring an audit to the relevant ISO 14000 series by an auditor with a valid ISO 17065 certification as opposed to requiring an auditor approved by the APR PCR Certification Program. They note that if this requirement is implemented, the requirements for calculating post-consumer material content and validating this amount through a mass balance analysis should also be removed.

Green Seal Response: We appreciate this recommendation. We agree that validation of post-consumer material by an accredited auditor is necessary when certifying the post-consumer content of a liner to provide third-party assurance that product claims are valid. As prices rise for PCR materials and more regulations require minimum amounts of PCR content, verification of the sourcing of plastic materials becomes increasingly important. In the proposed standard, Green Seal referenced the PCR Certification Program from the Association of Plastic Recyclers (APR) as a rigorous and valid assessment of PCR content in raw materials. All auditors who perform audits of suppliers in the APR Program must have a valid ISO 17065 accreditation. The intent in the standard criteria was to make it easy for manufacturers of all sizes to comply with the criteria by showing they buy certified PCR from a supplier who has undergone a valid audit. With an average cost of \$5,000, auditing PCR content in their product is not a feasible cost for all manufacturers. However, we recognize that manufacturers may decide to incur this cost and conduct their own audit of PCR content with a certified auditor independent of the APR program. As a result, we have updated the standard language to add an option for manufacturers to show compliance with the standard criterion by providing documentation of an audit of the product's PCR content from an auditor with a valid ISO 17065 accreditation.

As a result of this flexibility, Green Seal also will not remove the requirements to verify post-consumer material content through a calculation and mass balance to ensure that if manufacturers opt for the APR PCR Certification Program that they must still provide the necessary documentation to ensure the amount of post-consumer material in their product.

Outcome: Green Seal has updated the following text in the standard criterion of post-consumer material certification:

3.1.1 Post-Consumer Material Certification. The manufacturer shall provide sufficient documentation that the *post-consumer material* in the product is certified as such ~~by an organization endorsed by Association of Plastic Recyclers PCR Certification Program~~, **via one of the following methods:**

- **The *post-consumer material* shall be certified by the Association of Plastic Recyclers' PCR Certification Program.**
- **The manufacturer shall demonstrate the *post-consumer material* has been evaluated against all relevant attributes for determining validity of PCR content by an independent third-party certifier that conducted an audit and has a valid ISO 17065 accreditation.**

Sandra Cannon notes approval for requiring recycled content in the standard, but that the minimum requirement of 10% is low, and products with much higher percentages are available on the market. She also notes that the table in the criterion for plastic efficiency may be clearer if it showed the percent of virgin material allowed.

Green Seal Response: We appreciate this recommendation and opportunity for clarification. The standard includes criteria for both a minimum amount of post-consumer material if the bag is over 0.7 mil in thickness, and that the bag must meet Green Seal’s plastic efficiency requirements for its size and use category. These requirements combined result in a product that makes the most efficient use of virgin content possible. Market research conducted during the standard development process shows that bags that can meet the requirements for plastic efficiency almost always have a much higher level of recycled content than 10%. For example, market data notes bags above 50 gallons that can meet certification requirements have a range of approximately 70 – 100% recycled content.

For the recommendation that the percentage of virgin material be included in the table, the percentage of virgin material in the product will not be consistent enough to warrant including that information in the table itself. This is because of the differences in dimensions, gauge, and gallon size of each product, as well as the certification pathway; some products may achieve the reduction in virgin plastic by employing technology to be thinner yet perform well without including high levels of post-consumer material. As a result, a bag may have a higher percentage of virgin plastic in the product and still be able to show reduction in overall virgin plastic use – particularly for bags made of high-density polyethylene.

Outcome: No actions were taken on the proposed standard criteria for post-consumer material.

Manufacturing Energy Use

Sandra Cannon supports the standard addressing the manufacturing process through energy use, which helps address greenhouse gas emissions.

Green Seal Response: We appreciate this feedback on the proposed standard.

Novolex recommends that carbon reporting should be used to encourage public disclosure of energy use in manufacturing such as through the Carbon Disclosure Project. They note facility energy intensity is not relevant to can liner production as many facilities produce multiple products, and this mix of products can influence energy intensity. Unless the manufacture was to measure at a per production line level it is not a metric of value.

Green Seal Response: We appreciate this recommendation. We agree that carbon disclosure would be a valid evaluation of a manufacturer’s energy use to create products as greenhouse gas emissions are the ultimate impact of using energy to manufacture a liner. We plan to accept the documentation a manufacturer submits for carbon disclosure to a valid third-party certifier as compliant for this criterion. We also acknowledge that developing criteria that can support manufacturers in their energy reduction goals warrants further collaboration and we plan to convene more discussions on this in future phases of the program.

At this time, we plan to still collect general energy use information to help us build the foundation for future leadership energy use requirements in this standard as we have in other Green Seal standards. We appreciate your point about how it could be difficult for a manufacturer to provide the exact energy use of a certified product when multiple product lines and types are made at one facility. As a result, the criterion has been updated as noted below to make it clear that percentages are acceptable for compliance.

Outcome: Green Seal has updated the following language in the standard criterion for manufacturing requirements to clarify that, for compliance, the manufacturer shall provide estimates of the certified product produced at the facility:

3.4 Manufacturing Requirements - Energy Use Reporting. For each facility that manufactures the product, manufacturers shall disclose the annual *energy intensity*, in BTUs¹⁰/year/ton of **all products produced at the facility**. **The estimated percentage of the certified product produced at the facility shall also be provided.**

Prohibited Components

Novolex recommends that the terms carcinogens, mutagens, and reproductive toxins are removed from the standard. They assert these are vague and interpretive term with many groups having different lists and positions on what would meet these standards, and that the bullet should be replaced with a known regulated list that is updated regularly.

Green Seal Response: We appreciate this opportunity for clarification. The terms for “carcinogens,” “mutagens,” and “reproductive toxins,” are defined terms in the standard. Within the definitions of these terms in Annex A – Definitions, Green Seal notes the specific authoritative lists that determine what compounds fall under these terms. These lists are widely used and updated regularly. Additionally, Green Seal does quarterly checks of these lists against existing products to ensure that any updates are being captured in certified products. To maintain brevity and clarity in the standard, Green Seal maintains these lists in definitions as opposed to the standard criteria.

Outcome: No actions were taken to the proposed standard.

Novolex recommends removing any exemptions for recycled content from the criteria on prohibited components because the Toxins in Packaging Law requires both virgin and recycled content to be free of several heavy metals above 100ppm, and that recycled content should be tested to ensure source material does not introduce hazardous materials to landfills. Additionally, they claim that several of the compounds listed in the prohibited compounds criteria are unrelated to polyethylene production and to list them would be in conflict with the FTC Green Guides because these substances are not associated with the product category.

Green Seal Response: We appreciate this recommendation and opportunity for clarification. The Model Toxics in Packaging Legislation exempts recycled content. Due to the variability among states in implementing the model legislation, Green Seal has chosen to align with the requirements in the model legislation itself. Green Seal has also received feedback that it is extremely difficult for manufacturers to both test recycled content for hazardous materials and ensure quality from batch to batch of product due to the contamination in the recycled content stream.

In response to the comment that the hazardous criteria in the proposed standard were unrelated to polyethylene product, it is Green Seal’s understanding that additives used in the production of plastic products can contain hazardous chemicals for functional uses that could be applicable to trash bags. For example, an additive advertised as a processing aid for liner low density polyethylene (LLDPE) film is noted to contain “fluoroelastomer,” which is a fluorinated substance that could contain at least one fully fluorinated carbon atom and meet Green Seal’s definition of a per-or polyfluoroalkyl substance (PFAS). Additionally, Green Seal always screens for foundational criteria such as carcinogens, mutagens, and reproductive toxins both to protect the consumer, but also the workers who are handling the material. However, after further review it was determined that it was unlikely ozone-depleting compounds and Bisphenol A, Bisphenol S, and Bisphenol F would be used in

¹⁰ Millions of British Thermal Units (BTUs)/T = 1.16 Gigajoules/MT = 323.2 kilowatt-hour /MT

any plastic additives due to the functional profile of these ingredients. As a result, these chemicals were removed from the standard criteria.

Outcome: Green Seal has updated the standard language below:

3.3 Prohibited Components. The product shall not contain any of the following *components*; an exception shall be made for products that would not contain these *components* but for the addition of *post-consumer material*.

- *Carcinogens, mutagens, and reproductive toxins*
- Toxic Release Inventory Persistent, Bioaccumulative, and Toxic (TRI PBT) Chemicals
- Phthalates
- The heavy metals lead, cadmium, mercury, or hexavalent chromium, ~~or selenium~~; either in the elemental form or compounds
- *Per- and Polyfluoroalkyl Substances (PFAS)*
- ~~Bisphenol A, Bisphenol S, Bisphenol F~~
- ~~Ozone-depleting compounds~~
- *Fragrances*
- Chlorinated compounds
- Biocides and antimicrobial agents

Packaging Requirements

Novolex recommends removing the requirement that plastic packaging contains a Resin Identification Code because rulemaking for current packaging laws in California and Oregon may move forward to restrict use of the code.

Green Seal Response: We appreciate this opportunity for clarification. The Resin Identification Code (RIC) is currently managed by ASTM International, and consists of an equilateral triangle that contains a number referencing the base resin used in the material, and the abbreviated name of the resin, e.g. HDPE.¹¹ This has been the structure of the code since 2013. It is our understanding that recent issues identified with the RIC in legislation include when instead of a triangle, the code contains chasing arrows that may imply recyclability when that is not the case in the consumer's local area. As of May 2022, 29 states require the RIC that includes chasing arrows, on some combination of plastic bottles and rigid plastic containers.¹² California's recent law SB 343 still requires that rigid plastic bottles and containers sold in the state use the RIC with the triangle, but that the code cannot use the chasing arrows.¹³ Oregon has removed its requirement that materials use the RIC, but they do not prohibit its use.¹⁴

Green Seal's position is that appropriate recycling of product packaging will increase the amount of available recycled content and prevent contamination of recycled feedstock. Without the RIC, consumers have few tools to determine whether a material is recyclable in their local area. RICs are not in and of themselves determinations of recyclability but are an aid to determine if the resin type is accepted by a local system. As no states currently

¹¹ Resin Identification Codes (RICs), as Specified by ASTM D7611. <https://blog.ansi.org/2019/02/resin-identification-codes-rics-astm-d7611/#gref>

¹² State Resin Identification Regulation Survey. <https://www.oregon.gov/deq/recycling/Documents/PLASTICS-StatePlasticResinIdSurveyMay22.pdf>

¹³ Public Resources Code section 18000 et seq. https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=12.7.&title=&part=&chapter=2.&article=

¹⁴ Plastic Pollution and Recycling Modernization Act. <https://www.oregon.gov/deq/recycling/Documents/recSB582Bsectsum.pdf>

prohibit the use of the RIC in its current form with the triangle, Green Seal will align with other existing Green Seal standards and maintain a requirement for a RIC on plastic packaging.

Additionally, this language is present in the standard foreword:

“This standard neither modifies nor supersedes laws and regulations. Any conformity assessment to this standard requires compliance with all applicable laws and regulations for the manufacturing and marketing of the products.”

Because of the varying requirements among states, Green Seal will maintain a reference to require a RIC, and each product will then comply with its state requirements.

Outcome: No actions were taken on the criteria for Resin Identification Codes.

Novolex recommends removing criteria 4.2 for colorants and 4.3 for heavy metals restrictions in packaging because Toxins in Packaging laws already cover restricting these compounds in packaging. Novolex also claims that Toxins in Packaging laws cover recycled content and the standard should not allow an exemption for heavy metals in recycled content.

Green Seal Response: We appreciate this opportunity for clarification. The requirements for colorants and heavy metals are intended to align with the Model Toxins in Packaging Legislation which “prohibit the intentional use of any amount of four metals — lead, mercury, cadmium, and hexavalent chromium in any packaging and packaging component. In addition, the sum of the concentration levels of incidentally introduced lead, mercury, cadmium, and hexavalent chromium present in any package or individual packaging component cannot exceed 100 parts per million by weight.” The model legislation also exempts recycled content. As of 2021, 19 U.S. states have adopted some form of this legislation,¹⁵ and these requirements have also been used as the basis for the packaging requirements by the European Chemicals Agency.¹⁶ However, even among the states that have adopted the legislation, there are differing exceptions and additions. One of Green Seal’s principles is to adopt best practices in the industry, even if there is not universal uptake by state and federal government. As a result, Green Seal will continue to align with the Model Toxins in Packaging Legislation, where possible, to continue to drive adoption of best practices among manufacturers for packaging.

Outcome: No actions were taken on the requirements for heavy metals or colorants restrictions in packaging.

Novolex recommends removing requirements for hazardous chemicals in plastic packaging and only requiring the plastic package contain 25% post-consumer material. They also recommend adding a requirement for paper packaging to be certified by another sustainability program to align with existing standards in the industry.

Green Seal Response: We appreciate this recommendation. The requirements for packaging materials are covered under criterion 4.1 in the proposed standard where one of the pathways for compliance is for the plastic packaging to include 25% post-consumer material. As a result, Green Seal will maintain those requirements in that section. While Green Seal agrees there is value in harmonization among sustainability programs, the intent of our packaging criterion in 4.1 is to provide flexibility for manufacturers to achieve the intended impacts and to not be as prescriptive in how manufacturers demonstrate they reduce their product’s impact. More information can be found in the response to the two comments below.

¹⁵ Toxins in Packaging Clearinghouse Model Legislation. <https://toxicsinpackaging.org/model-legislation/>

¹⁶ Packaging Waste Directive – Heavy Metals Concentration Level. <https://echa.europa.eu/heavy-metals-packaging-waste>

For hazardous materials, bisphenol A, phthalates, and chlorinated materials are potential plastic additives that have documented human health and environmental impacts.^{17, 18, 19} These requirements are in alignment with other Green Seal standards where Green Seal has seen product packaging able to comply with these protective criteria. Prohibiting these chemicals from being intentionally added to product packaging ensures less human exposure, as well as contamination in the recycling stream.

Outcome: No actions were taken on the criteria for heavy metals and other hazardous materials in packaging.

Novolex recommends a maximum requirement of 40% post-consumer material in paper packaging as this is the amount that can be produced by mills for kraft paper.

The American Forest & Paper Association recommends the recycled content minimum for primary and secondary fiber packaging be removed. They claim that the market for recovered paper is mature and does not benefit from recycled content minimums, and results in negative consequences for the overall market. They also claim that post-consumer fiber material is not environmentally superior to other recovered fiber in the supply chain.

Green Seal Response: We appreciate these recommendations from both stakeholders. During the standard development process Green Seal received feedback from a manufacturer that 50% post-consumer material was a feasible level for paper packaging used for trash bags and can liners. This was a level of post-consumer material higher than in paper packaging criteria in other Green Seal standards. In response to this feedback that 50% post-consumer material is higher than the feasible maximum for paper mills, Green Seal has decided to align with the requirements for paper packaging in the GS-1 Standard for Sanitary Paper given the similarity of products that may have a fiber-based core roll and are often sold in cardboard boxes when the packaging is fiber material. The amount of post-consumer material required in paper packaging under one of the compliance pathways will be revised to 30%.

The intent of the packaging criteria in the standard is to reduce the amount of materials used to make product packaging, and subsequently the amount of waste packaging introduces into the environment. Recycled fiber has been shown to have lower impacts on greenhouse gas emissions, land-use, and biodiversity than virgin tree fiber.²⁰ However, Green Seal agrees that it is not aligned with the intent of the standard to require a recycled content minimum if it does not result in life cycle benefits. As a result, we have aligned with other Green Seal standards by offering an alternative compliance pathway: if a product can demonstrate their packaging solution has the same lifecycle benefits as the other pathways, it will be considered compliant for this standard criterion. We also acknowledge that the environmental benefits of post-consumer material vs. recycled material (i.e. post-industrial material) warrant further study. As several Green Seal standards have post-consumer material as a compliance option for packaging requirements, we will evaluate whether or not specifying only post-consumer material continues to be environmental leadership for packaging. This will be done through a separate initiative to evaluate these criteria across all Green Seal standards.

Outcome: Green Seal has updated the language in the criterion for primary and secondary packaging to reflect the change in total required post-consumer material and the additional life-cycle assessment option:

¹⁷ Microplastics negatively affect soil fauna but stimulate microbial activity: insights from a field-based microplastic addition experiment. <https://royalsocietypublishing.org/doi/10.1098/rspb.2020.1268>

¹⁸ European Chemicals Agency Substance Infocard: 4,4'-isopropylidenediphenol. <https://echa.europa.eu/substance-information/-/substanceinfo/100.001.133>

¹⁹ European Chemicals Agency: Phthalates. <https://echa.europa.eu/hot-topics/phthalates>

²⁰ Taking the pressure off irreplaceable forests: Climate-smart solutions for paper, packaging, and textile fibres. https://canopyplanet.org/wp-content/uploads/2023/01/NextGen_BenefitsBrief.pdf

4.1 Primary and Secondary Packaging. *Primary and secondary packaging* shall meet the following requirements, based on the packaging material type:

- Packaging made from paper, paperboard, cardboard, or other nonplastic material shall be *recyclable* and contain at least ~~30%~~ *50% post-consumer material*, or demonstrate that efforts were made to use the maximum available *post-consumer material*.
- Packaging made from plastic shall be *recyclable*, be a *source-reduced package*, contain at least 25% *post-consumer material*, or shall be a *refillable package* with an effective *take-back program*.

Alternatively, the *primary and secondary packaging* may use an alternative approach that has been independently proven to have a similar life cycle benefit as one of the options listed above for the packaging type.

Defined Terms

Novolex recommends changing the definition for the term “Intentionally Introduced” to align with the industry standard, which is “Intentionally added,” as well as to expand the definition to include the product as opposed to the packaging.

Green Seal Response: We appreciate this recommendation. The definition in this standard is in alignment with other Green Seal standards where the same term is used. In practice, the intent of using “introduced” is in line with the noted use of “added.” Green Seal will evaluate whether or not it makes sense to systematically update this terminology across all standards through either a future standard revision, or an upcoming Corrections and Clarifications Report.

Outcome: No actions were taken on the defined terms in the standard.

Novolex recommends adding the International Organization for Standardization as an acronym to the standard.

Green Seal Response: We appreciate this recommendation for clarification of acronyms used in the standard.

Outcome: The criteria for post-consumer material were updated to include a reference to the International Organization for Standardization, and as a result, the acronym “ISO” and its explanation were added to the List of Acronyms and Abbreviations in the standard.

LIST OF ACRONYMS AND ABBREVIATIONS

APR. Association of Plastic Recyclers
ASTM. ASTM International (formerly American Society of Testing and Materials)
BTU. British Thermal Unit
CFC. Chlorofluorocarbon
EPA. U.S. Environmental Protection Agency
GHS. Globally Harmonized Systems for Classification and Labelling of Chemicals
ISO. International Organization for Standardization
PCR. Post-Consumer Recycled Content
PFAS. Per- and Polyfluoroalkyl Substances
TRI PBT. Toxic Release Inventory Persistent, Bioaccumulative, and Toxic

Final Note Acknowledging Participating Stakeholders

Green Seal appreciates our stakeholders' time, expertise, and commitment to constructive collaboration as we pursue common goals: to decrease the health and environmental impacts of single-use plastic liners. We pledge to remain vigilant regarding newly defined hazards or stronger evidence of environmental impacts noted for any product eligible for Green Seal certification and to continuously raise the bar to reflect today's sustainable product leaders on the North American market.