



August 4, 2023

Commissioner Loyzim
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04330

RE: Maine Extended Producer Responsibility for Packaging Stakeholder Meetings

Dear Commissioner Loyzim,

Thank you for the opportunity to provide input on the development of the regulations that will implement Maine's Extended Producer Responsibility ("EPR") for packaging program. These comments are submitted on behalf of Just Zero.

Just Zero is a national non-profit environmental advocacy organization that works alongside communities, policy makers, scientists, educators, organizers, and others to implement just and equitable solutions to climate-damaging and toxic production, consumption, and waste disposal practices. We believe that all people deserve Zero Waste solutions with zero climate-damaging emissions and zero toxic exposures.

The way we think about and manage waste is flawed, inherently unsustainable, and deeply unjust. This unfortunately isn't surprising given that the companies that design, package, and market fast moving consumer goods are completely detached from the end-of-life management of these materials. Instead, residents, towns, and counties are stuck paying to collect and manage a waste stream they have little-to-no control over. Even worse, because these companies have no responsibility for the waste associated with their products and packaging, they are increasingly overpackaging products and using unrecyclable and toxic materials like plastics.

Maine's first-in-the-nation EPR for packaging program can help change this. If implemented properly, the program can reduce packaging waste, increase recycling rates, and incentivize and require companies to transition away from single-use packaging to reusable packaging. Moreover, the program can accomplish all of this while shifting the financial burden for managing packaging waste from Mainers to the companies that sell and market their products in wasteful single-use packaging. To accomplish this, the regulations that implement the law must be designed to ensure the program is designed to meet these important goals.

These comments focus on four important subjects that pertain to the development of the EPR for packaging program regulations. This includes, (1) determining what materials are considered "readily recyclable," (2) establishing a fee structure for producer payments (3) setting performance standards for the program, and (4) developing municipal reimbursements and infrastructure grants to support reusable packaging programs.



I. Readily Recyclable – Determining What Materials Are Actually Recyclable.

One of the primary goals of Maine’s EPR for packaging program is to increase the recyclability of packaging material. Therefore, a central part of the rulemaking is developing the criteria for determining what materials are “readily recyclable.”

Maine law requires that the Department of Environmental Protection (“Department”) establish a process for determining, on an annual basis, the types of packaging material that are “readily recyclable” in the state of Maine.¹ The list of readily recyclable materials will not only function as a de facto list of materials that are actually recyclable in the state, but it will also significantly impact various other aspects of the EPR for packaging program. This includes calculating producer payments², municipal reimbursements³, and education and infrastructure investments.⁴

Just Zero urges the Department to develop criteria that are clear and grounded in the reality of how recycling actually works. Therefore, the criteria should cover all aspects of the recycling process: collection, sortation, processing, and remanufacturing into a new product. Additionally, the criteria should make clear that false solutions, such as so-called “advanced recycling” or “chemical recycling” are not considered when determining the recyclability of packaging material.

A. Establishing Criteria to Determine What Materials Are Readily Recyclable.

The criteria used to determine whether a specific type of packaging material is “readily recyclable” should be similar to the requirements of California’s Truth in Labeling Law.⁵ In 2021, California passed legislation which establishes criteria that controls what products and packaging can be labeled as recyclable. The purpose of the law was to standardize product labeling to ensure that only products that are actually capable of being recycled can be labeled as such. Under the law, a product or packaging can only be labeled as recyclable if the following conditions are met:

- (1) It is designed to be recyclable and therefore does not include any components, inks, adhesives, or labels that prevent recyclability;
- (2) It does not contain perfluoroalkyl or polyfluoroalkyl substances (“PFAS”);
- (3) It is collected through curbside recycling programs that collectively encompass at least 60% of the state; and
- (4) It is sorted into defined streams by reprocessing facilities in a manner that is consistent with the requirements of the Basel Convention.⁶

¹ Me. Stat. tit. 38 § 2146(13)(A)(2).

² Me. Stat. tit. 38 § 2146(6).

³ Me. Stat. tit. 38 § 2146(10).

⁴ Me. Stat. tit. 38 § 2146(11)(C).

⁵ See, [California Senate Bill 343](#) (2021).

⁶ *Id.*



Alternatively, a product or packaging can be labeled as recyclable through a store drop off program if the company can prove that the program has a demonstrated recycling rate of at least 75%. This means that 75% of the product or packaging that is part of the program is collected, sorted and aggregated in the state and reprocessed into new products or packaging.⁷

Critically, both standards track actually recycling, not simply collection. This is important as most metrics currently used to track recyclability focus entirely on collection. While collection is an important part of recyclability, it is only the first step. Mere access to a recycling bin or drop-off site does not mean that the items collected will be recycled. A recent ABC New illustrates this point.

The ABC investigative team assembled 46 bundles of plastic bags.⁸ Each bundle contained a tracking device.⁹ All of the bags were dropped off at Target and Walmart stores nationwide, which have hundreds of stores with plastic bag drop off bins. The team then tracked the location of the bags to determine if they were recycled. Twenty-three of the bags ended up at landfills or incinerators.¹⁰ Seven ended up at transfer stations that do not recycle or sort plastic bags.¹¹ Six remained at the store.¹² Three were untraceable.¹³ Three were shipped to the other side of the world.¹⁴ Only four ended up facilities that may recycle plastic bags.¹⁵

Utilizing California's Truth in Labeling Law as the basis for establishing what materials are readily recyclable will ensure that only packaging material types that are capable of being collected, sorted, processed, and ultimately reprocessed to create a new product are considered recyclable in the state of Maine. Additionally, similar criteria were also included in the laws of the three other states – California, Colorado, and Oregon – that have passed EPR for packaging legislation.¹⁶

⁷ *Id.*

⁸ Jason Knowles, [Does Plastic Bags Recycled From Stores Like Target, Walmart Work or Still End Up In a Landfill?](#) ABC News. (May 23, 2023).

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ California's EPR law states that materials are suitable for curbside recycling if "[t]he category of covered materials can be made suitable for curbside collection and can be effectively sorted by the facilities receiving the curbside collected material for recycling or composting." Cal. Pub. Res. Code § 42051.1 (l) (1) (A) (West 2023). The Colorado EPR law includes in its recyclability criteria, "availability of recycling services" and "recycling collection and processing infrastructure." H.B. 22-1355, 2022 Leg., Reg. Sess. (Colo. 2022). Lastly, the criteria in Oregon's EPR law for categorizing materials include, "[t]he material's compatibility with existing recycling infrastructure," and "[t]he practicalities of sorting and storing the material." Or. Rev. Stat. 459A.914 (2022).



B. The Department Should Not Allow Plastic Packaging That Is Only Recyclable Through So-Called “Advanced Recycling” Processes To Be Considered Readily Recyclable.

Additionally, the criteria the Department creates should clarify that “readily recyclable” plastic is confined to mechanical processing of plastic waste into a new product or plastic resin that is used as a feedstock for making a new plastic product. Facilities that convert plastic into fuels or other products that are combusted or used for energy generation should not qualify as a “readily recyclable.” Similarly, processes that only result in a minimal amount of the plastic waste being processed into a feedstock to create new packaging or products should not be considered recyclable. Readily recyclable should be limited to material types that are recycled with minimal yield loss during collection, processing and manufacturing.

In recent years, the plastic industry has been aggressively promoting “advanced recycling” or “chemical recycling” as a solution to managing plastic waste.¹⁷ In theory, advanced recycling refers to a category of technologies that use heat and/or solvents to break down plastics into monomers (the building blocks of plastic), hydrocarbons, fuels, chemicals, and waste byproducts.¹⁸ These technologies include gasification, pyrolysis, depolymerization, solvolysis, methanolysis, and hydrolysis.¹⁹

According to proponents like the American Chemistry Council, these materials can be used to manufacture new plastic products.²⁰ The reality of advanced recycling, however, dramatically contrasts with these statements. Advanced recycling isn’t an answer to our plastic woes. It’s an expensive, risky, toxic, and climate-damaging process that doesn’t improve recycling. And its only purpose is to convince us to deepen our dependence on single-use plastics.

In practice, advanced recycling means burning plastic derived fuels and toxic chemicals. The process results in plastics being boiled down into gases, chemicals, tars, oils, and toxic waste byproducts, which are subsequently burned.²¹ Little to no new plastics are manufactured.²² In fact, all six of the advanced recycling facilities operating at a commercial scale in the U.S. are using pyrolysis to create and burn plastic derived fuel.²³ Activities that convert plastic to fuel, fuel substitutes, toxic chemicals, or other materials

¹⁷ American Chemistry Council, *An Introduction to Advanced Recycling and the Circular Economy*.

¹⁸ Andrew Rollinson & Jumoke Oladejo, [Chemical Recycling: Status, Sustainability, and Environmental Impacts](#), Global Alliance for Incinerator Alternatives, p. 7–12. (2020).

¹⁹ *Id.*

²⁰ American Chemistry Council, [Advanced Recycling – Overview](#).

²¹ Dr. Veena Singla, [Recycling Lies: Chemical Recycling of Plastic is Just Greenwashing Incineration](#), Natural Resources Defense Council, p. 2. (2022).

²² *Id.* at 3.

²³ *Id.*



used for energy production are not considered recycling under international, national, and Maine’s existing standards.²⁴

While proponents will argue that some of the plastic processed at advanced recycling facilities is used to manufacture new plastic products, this is misleading. A report from the Department of Energy found that plastic processed through advanced recycling technologies – specifically pyrolysis and gasification – were rarely used to manufacture new plastic products.²⁵ In fact, only 1 – 14% of the plastic processed at advanced recycling facilities were retained and used to manufacture new plastics.²⁶ In addition to resulting in virtually no recycling, the report also found that these technologies had significant economic and environmental impacts.²⁷ The study found that the environmental and economic impacts of pyrolysis and gasification are 10 to 100 times worse than using virgin plastics.²⁸

Given the environmental impacts associated with “advanced recycling” and the lack of evidence that these processes result in actual plastic-to-plastic recycling, the Department should make clear that plastic that is only capable of being “recycled” through these processes are not considered readily recyclable.

II. Producer Fee Structure and Eco-Modulation.

To achieve the overall objectives of the new law, the Department must develop a strong producer fee structure that incentivizes companies to redesign their products and packaging in a manner that reduces waste, increases recyclability, lowers toxicity, and reduces litter. To accomplish this, the Department must ensure that base fee structure described in statute is eco-modulated in a way that is strong enough to punish bad behavior and support meaningful design changes.

The statute requires the base fee structure to be calculated based on the amount, whether by weight or by volume, of each type of packaging material sold, offered for sale, or distributed for sale in the state by a regulated producer.²⁹ This inherently favors plastic packaging. Plastics are significantly lighter and less voluminous than other forms of packaging material. When multiplied across a regulated producer’s entire packaging portfolio the differences in weight and volume across packaging materials will only be compounded. However, most forms of plastic packaging are not recyclable, are

²⁴ U.S. Environmental Protection Agency, [Measuring Recycling: A Guide for State and Local Government](#). Similarly, Maine’s definition of recycling already reflects this as it excludes “energy recovery or energy generation by means

²⁵ Taylor Uekert, et al, [Technical, Economic, and Environmental Comparison of Closed-Loop Recycling Technologies for Common Plastics](#), Department of Energy, ACS Sustainable Chem. Eng. 2023, 11, 3, 965–978.

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ Me. Stat. tit. 38 § 2146(6).



commonly littered, and contain toxic additives that are detrimental to human health, the environment, and the recycling process.

Therefore, when determining the producer fee structure, the Department must account for how the fee structure may inherently favor materials that the program is designed to be discouraging the use of. This can be addressed by ensuring that the fees are eco-modulated in a way that truly penalizes companies for failure to meet the underlying program goals. The base fee should be significantly adjusted for packaging materials that contain toxic additives, are not readily recyclable, and contribute to litter and marine debris. Additionally, the Department should not assess fees on reusable packaging. This will provide a strong incentive for regulated producers to replace single-use packaging with reusable and refillable packaging.

III. Establishing Performance Standards for the Program

The law requires the Department to establish a process for assessing program performance, which includes setting performance standards.³⁰ These performance standards, at a minimum, must include a reduction in the overall amount of packaging material used by producers, an increase in the amount of reusable packaging material, an increase in the amount of post-consumer recycled content in packaging material, a reduction in litter, and increased collection and recycling.³¹

In many ways, the performance standards will determine the success of the program. Therefore, the Department must establish clear enforceable standards that include numerical targets, clear timelines, robust reporting, and compelling penalties for failure to achieve the standards within the given timeframe. This will ensure that producers are working to redesign their packaging to increase reuse, decrease waste, and increase recycling.

A. Minimum Recycling Rates for Each Type of Packaging Material.

EPR for packaging programs have a demonstrated history of increasing recycling rates. Recycling rates have increased in every country that has implemented an EPR for packaging program.³² To maximize the benefits of its EPR for packaging program, Maine must set minimum recycling rates for each type of packaging material. These recycling rates must increase gradually over time. Failure to meet the requirements must result in a penalty that is assessed to the stewardship organization. This model has proven to be extremely effective for many EPR for packaging programs.

³⁰ Me. Stat. tit. 38 § 2146(13)(5).

³¹ *Id.*

³² Eunomia, [Extended Producer Responsibility for Packaging – Elements and Outcomes](#), p. 5. (2021).



Germany was one of the first countries to enact an EPR for packaging program. Through the program, Germany achieved an overall packaging recycling rate increase from 37.7% in 1991, the year before EPR was introduced to 76.2% in 2016. Currently, Germany is on track to hit its 90% recycling rate target for most materials by 2025.³³ The material specific recycling rates were the primary driver of the recycling rate increases. This is especially evident because Germany’s program currently does not have eco-modulated fees.³⁴ Instead, the program simply set performance targets which must be met, or the stewardship organization was fined. Germany is currently promulgated eco-modulated fees as required by the European Union. However, the fee structure has not been finalized.³⁵

Table 2: Packaging Recycling Targets under VerpackG

Material	Target Packaging Ordinance (1990)	Target By January 1st 2022	Target By January 1st 2025
Glass	75%	80% ✓	90%
Paper/card	70%	85% ✓	90%
Ferrous metals	70%	80% ✓	90%
Aluminum	60%	80% ✓	90%
Beverage cartons	60%	75% ✓	80%
Other composites	60%	55%	70%
Plastics	60%	90%	90%
Mechanical recycling (plastic)	36% ✓	59%	63%

✓ = target achieved

[Source - Eunomia, Extended Producer Responsibility for Packaging – Elements and Outcomes](#)

Material specific recycling rates, especially for plastic packaging, are included in both Oregon and California’s EPR for Packaging Programs. California requires that all plastic

³³ *Id.* at 25.

³⁴ *Id.*

³⁵ *Id.* Germany was the first country to introduce EPR for packaging in 1991. The EPR legislation has been amended eight times since it was first introduced. The 8th amendment in 2019 created a new Packaging Act (‘VerpackG’) which incorporated the concepts of fee eco-modulation. The criteria for eco-modulation are yet to be determined.



packaging be recyclable or compostable by 2032.³⁶ The law also sets a 65% plastic packaging recycling rate which must also be met by 2032.³⁷ Oregon's law sets recycling targets for both plastics and single-use food service ware.³⁸ These rates are 25% by 2028, 50% by 2040, and 70% by 2050, respectively.³⁹

B. Reuse and Reduction Requirements

While increasing recycling rates is important, it cannot be the sole objective of the program. An effective and modern EPR for packaging program needs to set strong waste reduction requirements.

As a result of exclusively prioritizing producer funded recycling programs, existing producer responsibility for packaging laws have not achieved significant reductions in the amount of packaging waste generated. This is because the money continues to flow toward downstream resources such as the collection, sortation, and disposal or recycling. Even the programs that attempt to incentivize upstream changes in packaging use and design through eco-modulated fees have not resulted in significant waste reduction. While some of these eco-modulated fees have helped eliminate low-hanging fruit such as excess packaging, they have not deterred companies from increasingly packaging their products using unrecyclable plastic.

Despite being widely unrecyclable, most companies choose to package their products using plastics. Approximately, 40% of all plastic produced each year is used for packaging.⁴⁰ Virtually none of this material is recycled. In 2021, only 5% of all plastic waste generated by U.S. households was recycled.⁴¹ This is unlikely to change, even with producer funded recycling systems, because most of this plastic isn't technically or economically capable of being recycled. In fact, a recent report from Greenpeace which surveyed 370 material recovery facilities in the United States found that only PET #1 and HDPE #2 currently meet federal guidelines for recyclability.⁴² Therefore, all other forms of plastic do not even meet our weak federal requirements for recyclability, which primarily just focus on access to services.⁴³

³⁶ Cal. Pub. Res. Code § 42050 (West 2023).

³⁷ *Id.*

³⁸ Or. Rev. Stat. 459A.926 (2022).

³⁹ *Id.*

⁴⁰ Laura Parker, Fast Facts About Plastic Pollution, National Geographic. (Dec. 20, 2018)

⁴¹ Greenpeace, Circular Claims Fall Flat Again, p. 3. (Oct. 24, 2022).

⁴² *Id.*

⁴³ See, 16 C.F.R. §260.12 The Federal Trade Commission's Guides for the Use of Environmental Marketing Claim, commonly known as the "Green Guides" states that a company can only make unqualified claims about the recyclability of a product or packaging if recycling facilities that can manage the product or packaging are available to at least 60% of consumers. Importantly, the federal requirements do not look into whether the materials sent to these recycling facilities are actually used to make new consumer products.



Even with increased funding for recycling and eco-modulated fees designed to punish toxic and unrecyclable, plastic recycling will not significantly improve. Additionally, as mentioned above, most fee structures inherently favor plastic by being based on weight or volume. Without an emphasis on reduction, Maine’s program may simply become a funding mechanism rather than a method for packaging reduction and redesign.

Therefore, the Department must develop a packaging reduction performance standard. The reduction required by the regulations should be met by a combination of elimination, optimization through methods such as rightsizing and lightweighting, as well as through switching from single-use packaging to reusable and refillable packaging. Importantly, the reduction performance standard cannot be met through switching from a type of packaging material that is readily recyclable to another type of material that is unrecyclable.

While traditional EPR for packaging programs do not include packaging reduction requirements, these requirements are becoming common in newer programs. California’s program requires a 10% reduction in plastic packaging by 2027, 20% by 2030, and 25% by 2032.⁴⁴ The European Union is requiring member countries to either adopt new laws that require companies to reduce their packaging.⁴⁵ Alternatively, countries with EPR for packaging programs can incorporate the reduction requirements into their programs.⁴⁶ The European Union is requiring a 5% reduction in packaging by 2030, 10% by 2035, and 15% by 2040.⁴⁷ Additionally, while Oregon’s EPR for packaging program does not include packaging reduction requirements, the state is tackling the issue with separate legislation. This year, the Oregon legislature passed Senate Bill 544, which directs the Department of Environmental Quality Commission to establish a program for the source reduction of single-use plastic food ware and single-use packaging.⁴⁸ Specifically, the law requires a 25% reduction in these forms of plastic packaging by 2030.⁴⁹

IV. Funding Reuse Through Municipal Reimbursement and Infrastructure and Education.

A portion of the producer fees collected through the program will be used to reimburse participating municipalities for the costs associated with the collection, transportation, and processing of packaging material, whether readily recyclable or not.⁵⁰ The program also authorizes the Department to facilitate investments in education and infrastructure.⁵¹ Importantly, both the municipal reimbursements and the education and infrastructure

⁴⁴ Cal. Pub. Res. Code § 42057 (a) (1) (West 2023).

⁴⁵ Upstream, [Reuse Policy Wins in 2022](#). (Jan. 19, 2023).

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ 2023 Oregon Senate Bill No. 544

⁴⁹ *Id.*

⁵⁰ Me. Stat. tit. 38 § 2146(10).

⁵¹ Me. Stat. tit. 38 § 2146(11).



investments must be designed to incentivize activities that support the State’s solid waste management hierarchy.⁵²

Reuse is the second-highest waste management activity on the hierarchy, after reduction.⁵³ However, in many ways these two levels of the hierarchy are interconnected. Thus, the fees collected from producers should be used to support the infrastructure, programs, and education needed to foster reusable packaging systems in Maine. While the producer fee structure and performance requirements will incentivize and require companies to transition away from single-use packaging to reusable and refillable packaging. The fact of the matter is that reusable and refillable packaging will not provide environmental or economic benefits unless there are collection, cleaning, repackaging/refilling, and redistributions systems in place.

The primary funding for these systems should come directly from the producers. However, the program should also supplement this funding by allowing both the municipal reimbursements and the education and infrastructure investments to be used to develop reusable packaging programs and systems. The municipal reimbursements can help develop necessary infrastructure at the local level which will help the systems easily integrate into Maine’s solid waste management system. Additionally using the education and infrastructure investments to also fund reusable packaging programs will provide options to fund a wide array of public and private programs at the local, state, and regional level.

V. Conclusion

Maine’s first-in-the-nation EPR for packaging program represents a significant opportunity. If implemented correctly, the program can reduce packaging waste and address stagnant recycling rates. The program has the potential to fix Maine’s broken and disjointed approach to managing packaging waste by creating a fairer and more sustainable approach that is funded by the companies that generate this waste in the first place. Just Zero looks forward to working with the Department on the development of regulations that will make this possible.

Thank you for your time and consideration of these comments.

Respectfully submitted,

Peter Blair
Policy Director
Just Zero

⁵² See, Me. Stat. tit. 38 § 2146(11)(C) and Me. Stat. tit. 38 § 2146(13)(A)(4).

⁵³ Me. Stat. tit. 38 § 2101(1).