



Oregon Department of Environmental Quality

# Guidance on Ecomodulated Fees

## Plastic Pollution and Recycling Modernization Act (SB 582, 2021)

Jan. 18, 2024

### Overview

This memo contains guidance regarding *ecomodulated fees* for producers and Producer Responsibility Organization(s) that are preparing to comply with the Recycling Modernization Act.

This information does not override the statutory requirements for ecomodulation laid out at ORS 459A.884(4).

### Background

Oregon's extended producer responsibility law for packaging, printing and writing paper, and food serviceware mandates that producers of covered products register with, and pay fees to, a PRO and report data about their product sold into the state. The law also mandates that PRO(s) adjust producer fees to incentivize producer actions to reduce the environmental and human health impacts of covered products, such as changes in the design, production, and distribution of products.

In program plans, PRO(s) will propose criteria for adjusting fees and the magnitude of the adjustments. This memo aims to assist any PRO currently devising that strategy.

### Purpose of fees

The overall purpose of ecomodulated fees is *to reduce the environmental and public health impacts* of covered products, per ORS 459A.884(4). Among impacts of concern related to packaging are climate change, toxicity, and microplastic pollution. These factors contribute to two of six “planetary boundaries” for climate and novel entities that are [currently beyond their limits](#) and threatening human health and the environment.

For example, per capita greenhouse gas emissions in the United States currently exceed their planetary boundary by more than tenfold, and therefore a 90% reduction is needed<sup>1</sup> on a very aggressive timeline to prevent irreversible damage, with the Intergovernmental Panel on Climate Change targeting net zero by 2050.

System change is needed quickly from many industries to reverse this situation, including from the packaging and consumer goods industries. For the packaging sector, recycling alone is

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<sup>1</sup> Per-capita GHG planetary boundary of 1.61 tons of CO<sub>2</sub> per year is drawn from [O'Neil et al. 2018](#). Current per-capita GHG emissions in the United States of 16.5 tons of CO<sub>2</sub> per year are from [Our World in Data 2023](#)  $(16.5 - 1.61) / 16.5 = 0.9$  (90% reduction needed).

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insufficient to deliver the needed magnitude of change. Even if recycling was conducted flawlessly throughout the nation (i.e., every single American recycles and materials are perfectly segregated from one another), it could only deliver 31% of the needed 90% greenhouse gas reduction from that sector<sup>2</sup>.

## Strategies to reduce impacts of packaging

It is primarily through other proven impact reduction solutions that the packaging sector will deliver the needed change, including:

- transitioning to clean-energy production and reuse systems,
- minimizing packaging to the minimum necessary to protect the product, and
- design changes to reduce toxicity and releases to the environment.

An ecomodulation formula should be designed to incentivize these types of solutions and point in the direction of the necessary system change overall.

## Recommendation

**DEQ recommends that PRO(s) develop ecomodulation formulas that:**

- **Incorporate DEQ's rules for life cycle evaluation.** The approach should verifiably deliver environmental benefits based on the normalized and weighted results calculated following DEQ's rules of life cycle evaluation.
- **Grant, at a minimum, as many malus fees (penalties) as bonus fees** rather than emphasizing bonuses over maluses, to communicate adequate urgency for system change.
- **Increase the magnitude of fee adjustments over time to maximize effect.**

## Rationale

Because eco-modulation is being applied within the context of laws focused on recycling, the question arises of how recyclability intersects with reduction of environmental impacts. Well-designed recycling does yield environmental benefits ([Anshassi and Townsend 2023](#)). However, "recyclability" and "recycling" are not the same thing, and evidence suggests that some recyclable items may be more impactful than non-recyclable alternatives, even when the benefit of recycling is accounted for, and even if recycling is maximized ([Mistry et al. 2019](#)). This is because the environmental impacts of production are often many times larger than the impacts of disposal, and because recycling can never fully mitigate the impacts of production. So when comparing competing materials against each other, variance in upstream impacts between those materials is often a more important factor than recycling, at least for materials that contribute a significant percentage of the overall package.

Where design of products for recyclability *does* coincide with reduction of environmental impact, eco-modulation should encourage these design changes. This could be the case with small changes to packaging that improve sortability and processing.

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<sup>2</sup> Data underlying this statement are derived from the [Waste Impact Calculator](#) 2018 USA dataset. 2018 US GHG emissions linked to packaging = 338 billion kg (GWP 100 including biogenic carbon flows). 2018 optimal (maximized recovery) US GHG emissions linked to packaging = 233 billion kg.  $(338-233)/338 = .31$  (31% reduction in greenhouse warming potential achieved through optimal recycling in the United States).

For example, consider the approach of replacing non-water-soluble labels with water-soluble labels. Even if the water-soluble labels are more impactful to produce, their relative weight compared with the entire package is typically minor. By contrast, one could imagine a shift from a non-recyclable material to a much heavier, recyclable one that would greatly increase impacts—putting all potato chips in glass containers, for example. Eco-modulation should not reward such a shift.

## Summary

In summary, ORS 459A.884(4) requires PRO(s) to offer a fee schedule that incentivizes producers to continually reduce the environmental and human health impacts of covered products. In establishing that schedule, the law requires PRO(s) to *consider* at a minimum five factors listed in the statute. The law does not require any of those factors to be *included* in the fee schedule. DEQ recommends that PRO(s) particularly emphasize one of those factors, “life cycle environmental impacts”, which is closely aligned with the overarching policy objective of reducing impacts. There is [evidence](#) that the act of evaluating and disclosing impacts is associated with actual environmentally-beneficial action. The other four factors listed in statute correlate with the overarching policy objectives to varying degrees, and on a case-by-case basis.

In evaluating PRO program plans and proposed ecomodulation approaches, DEQ expects PROs to propose fee adjustments that are likely to reduce actual impacts, as opposed to merely advancing popular packaging attributes.

## References

Anshassi, M., Townsend, T.G. [The hidden economic and environmental costs of eliminating kerb-side recycling](#). Nat Sustain 6, 919–928 (2023).

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O’Neill, D.W., Fanning, A.L., Lamb, W.F. et al. [A good life for all within planetary boundaries](#). Nat Sustain 1, 88–95 (2018).

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