



Oregon Department of Environmental Quality

Background Document: Guidance on Ecomodulated Fees

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

Rulemaking Advisory Committee Meeting 5, Rulemaking 2

Feb. 1, 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. DEQ provided this information on [its website](#) on Jan. 18, 2024. The same information is included as a supplemental document for the Feb. 14, 2024, meeting of the Rulemaking Advisory Committee.

This information does not override the statutory requirements for ecomodulation laid out in 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 producer responsibility organization 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). Concerning impacts related to packaging include climate change, toxicity, and microplastic pollution. These factors contribute to two of six “planetary boundaries” for climate and novel entities (i.e., toxic and long-lived substances released to the environment) system processes 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 percent reduction is needed¹ on a very aggressive timeline to prevent irreversible damage. The Intergovernmental Panel on Climate Change is targeting net zero by 2050.

To reverse this situation, many industries, including the packaging and consumer goods industries, need to implement system change quickly. For the packaging sector, recycling alone is insufficient to deliver the needed magnitude of change. Even if recycling was conducted flawlessly throughout the nation (i.e., every

¹ Per-capita GHG planetary boundary of 1.61 tons of CO₂ per year is drawn from [O'Neil et al. 2018](#). Current per-capita GHG emissions in the United States of 16.5 tons of CO₂ per year are from [Our World in Data 2023](#) $(16.5 - 1.61) / 16.5 = 0.9$ (90 percent reduction needed).

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single American recycles and materials are perfectly segregated from one another), it could only deliver 31 percent of the needed 90 percent greenhouse gas reduction from that sector².

Strategies to reduce impacts of packaging

Proven impact reduction solutions by the packaging sector include:

- transitioning to clean-energy production and reuse systems,
- reducing 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 ecomodulation is applied within the context of recycling laws, how recyclability intersects with reduction of environmental impacts is important to consider. Well-designed recycling yields 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. When comparing 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, ecomodulation should encourage these design changes. This could be the case with small changes to packaging that improve sortability and processing.

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. Ecomodulation should not reward such a shift.

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,

² 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 percent reduction in greenhouse warming potential achieved through optimal recycling in the United States).

“life cycle environmental impacts,” which is closely aligned with the overall 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.

Discussion prompts:

- DEQ recommends that PROs emphasize life cycle environmental impacts over the other four factors that PROs are required to consider in developing their ecomodulation approach. Do you support this recommendation? Can the other factors be accounted for through a focus on life cycle environmental impacts?

References

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