



Session 6 - Influencing Packaging Design Through Eco-Modulation July 2023

5 KEY TAKEAWAYS

Eco-modulation is a financial tool within extended producer responsibility (EPR) programs that is intended to incentivize design to align with the program's key objectives. Eco-modulation typically incentivizes environmental or recyclable design aspects while penalizing aspects that are seen as less environmental or more difficult for the recycling system. In the U.S., states are still implementing their packaging EPR laws and so guidance for eco-modulation hasn't yet to be established. We therefore pulled insights from others.

- Geneviève Dionne is the director of Ecodesign and Circular Economy at Éco Entreprises Québec (EEQ) where she has introduced numerous fees or incentives for eco-design over the past decade. She has also helped create design workshops and guidance tools for packaging designers.
- Reid Lifset is a professor of industrial ecology at the Yale School of the Environment. He is recognized globally for his pioneering work on EPR, including assessments of global eco-modulation fees and their impact on design. Professor Lifset serves as an advisor to the Organization for Economic Co-operation and Development (OECD) and the U.S. Environmental Protection Agency (EPA), amongst others.

1 Eco-modulation is a relatively recent addition to EPR programs.
Early EPR programs assumed that design would be influenced naturally as producers became more involved in recycling, but since fees and direct engagement with the recycling system were done through collective producer responsibility organizations (PROs), that direct feedback was lost. Over the last decade, PROs or new laws and regulations have introduced incentives or penalties on EPR fees to encourage producers to shift design towards models that better address the EPR program's objectives.

Historically, eco-modulation has focused on increasing recyclability and/or recycling rates. But more recently, the conversation has become more holistic about environmental impact at large. Oregon is an example of this shift, where they are exploring the potential of eco-design to inform best strategies to reduce greenhouse gases and/or other lifecycle impacts.





2 **Eco-modulation is most effective when accompanied with education and resources.**

Fees and penalties are not sufficient to shift design. Rather, we need to provide additional design guidance and education to help designers understand the why and how to make shifts. Education accompanied with financial incentive helps drive deeper change.

We also need to keep in mind that packaging design occurs within a system – evaluating and understanding impacts across the lifecycle of a packaging system is important to balance. Environmental design is much more holistic than a focus on a few attributes, thus eco-modulation needs to be multi-faceted and this complexity must be explained and explored.

3 **Packaging design must be more than just attributes.**

Eco-modulation is typically designed to promote certain packaging attributes with a focus on increasing recycling rates, but recycling is simply a proxy for environmental impact. Rather, we need to ensure our objectives don't create unintended consequences and look towards environmental impact at large.

For example, shifting from one material to another, or single-use to reusable, does not always ensure better environmental impact. Incentives that create these shifts can inadvertently increase environmental impact. Eco-modulation needs to incorporate multiple variables such as:

- Recyclability
- Recycling Rate
- Problematic Substances
- Recycled/Sustainable Content
- Lifespan Increase (durability, reuse, etc.)

Packaging designers are also encouraged to look at lifecycle analysis as they shift design and use those insights to dialogue with those who set eco-modulation fees.



4 **We need more data to help assess and amend for impact.**

There is a lack of data on impact. It is hard to measure the impact of eco-design and very few programs do so. EEQ has attempted to gather quantifiable data by documenting design changes as well as qualitative data by surveying their producers. The variability between programs makes it even harder to compare and assess and at times can even create conflicts in design between the programs within different jurisdictions.

We need to find ways to make it more acceptable and less competitive for producers to share data on design impacts.

5 **Harmonization is needed.**

When different programs create different incentives for eco-design, they can create unintended consequences and counter the potential impact of one another. Variable programs and objectives send a weak market signal to producers, and when this happens the impact of fees and incentives can be lost. Recently, there has been a dialogue about trying to harmonize eco-design across multiple programs. EEQ has recently signed an MOU with Circular Materials, the PRO for Ontario and possibility other Canadian provinces to collectively set eco-design fees. European countries are in similar discussions. The presenters encouraged the U.S. to seek ways to harmonize design through PROs, inter-state collaboration and/ or industry trade influence and education.

Did You Know?

AMERIPEN established packaging producer responsibility financing principles in 2020. In this conceptual document, we outlined how we wanted funding to help shift recycling to match environmental design with improved recovery. Learn more at: www.ameripen.org/page/publication-financing-2020