



Key Drivers and Challenges in Implementing MSW Recycling Programs

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Materials
Management
State of Oregon

Factors influencing the development of programs

- Public demand
- Perceived environmental benefits
- Disposal costs, capacity concerns
- Profit motive



Factors influencing the implementation of programs

- Disposal costs
- Stable and accessible end markets
- Secure, dedicated funding
- Support from local elected officials
- Recycling as collection, or recycling as an integrated set of activities



Roles of government

- Federal: research, limited financial support
- States: funding, mandates, technical support, and/or nothing
- Locals: primary actor, but focus often limited to collection



Changes in collection (Oregon)

- 1983 – 1997: Intensive material separation



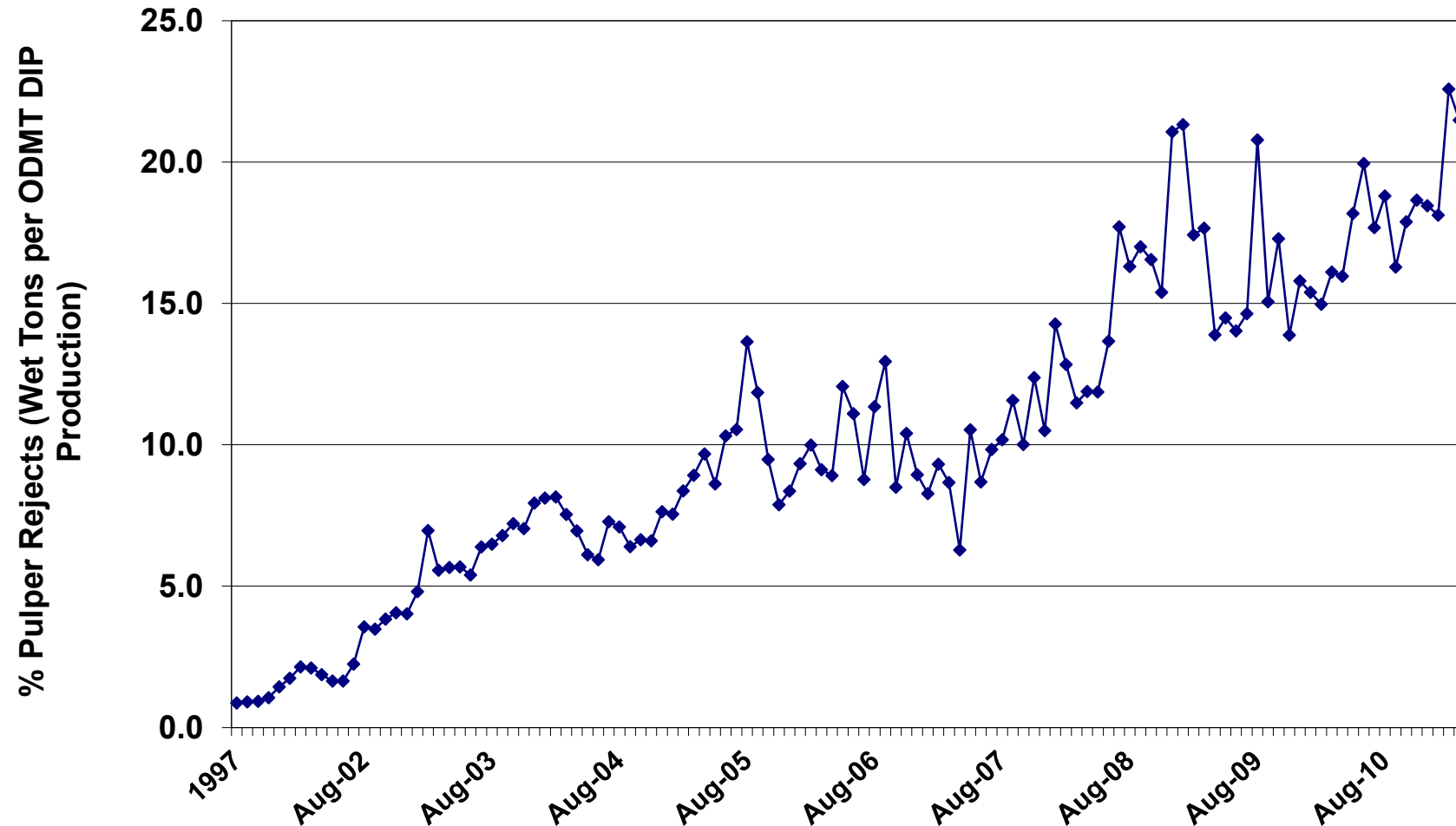
Changes in collection (Oregon)

- 1983 – 1997: Intensive material separation
- ~1997: Shift to “commingling”



NORPAC pulper rejects as suppliers switched to commingled and single-stream collection

% Pulper Rejects through March 2011



China stepped in . . . for a while



East Java, 2019



Photos: Megan Ponder

Oregon's Plastic Pollution and Recycling Modernization Act (2021)



81st OREGON LEGISLATIVE ASSEMBLY--2021 Regular Session

Enrolled Senate Bill 582

Sponsored by Senator DEMBROW, Representative SOLLMAN; Senators MANNING JR, TAYLOR, Representatives ALONSO LEON, CAMPOS, DEXTER, GRAYBER, HELM, HOLVEY, HUDSON, KOTEK, MARSH, MCCLAIN, NERON, NOSSE, POWER, PRUSAK, REYNOLDS, SALINAS, SANCHEZ, SCHOUTEN, SMITH, WARNER (Presession filed.)

CHAPTER

AN ACT

Relating to modernizing Oregon's recycling system; creating new provisions; amending ORS 90.318, 459.005, 459.015, 459.035, 459.772, 459.995, 459A.005, 459A.007, 459A.008, 459A.025 and 459A.080 and section 3, chapter 534, Oregon Laws 2015; and repealing ORS 459A.675, 459A.680 and 459A.685.

Be It Enacted by the People of the State of Oregon:

MODERNIZING OREGON'S RECYCLING SYSTEM (Legislative Findings; Definitions)

SECTION 1. Legislative findings. The Legislative Assembly finds and declares that:

(1) Oregon's statewide recovery rate, which seeks to preserve public health, safety and welfare and conserve energy and natural resources, has declined each year between 2013 and 2018, and that Oregon is not on track to meet the statewide waste recovery and generation goals pursuant to the measurement methodology that the Legislative Assembly established in 2015.

(2) The way Oregon's residents use and consume materials and products, and the way residents manage them when no longer wanted, has changed significantly in the 35 years since Oregon's first recycling programs were established, that the state's recycling policies were not designed to address such changes, and that these factors have created unintended consequences, such as the deterioration of natural systems regionally and worldwide, as well as increased levels of pollution, greenhouse gas emissions that contribute to global climate change and reductions in human well-being, especially for the most vulnerable populations.

(3) It is necessary to adopt a policy that will minimize such unintended consequences across the entire life cycle of products and that will require producers of packaging and printed paper sold or distributed in Oregon to help finance the management of, and ensure an environmentally sound stewardship program for, their products.

(4) It is the State of Oregon's policy to prioritize practices that prevent and reduce the negative environmental, social, economic and health impacts of production, consumption and end-of-use management of products and packaging across their life cycle, and that it is the obligation of producers to share in the responsibility to reduce those impacts.

SECTION 2. Definitions. As used in sections 1 to 43 of this 2021 Act:

Enrolled Senate Bill 582 (SB 582-B)

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Analysis



Overview of Scenario Modeling: Oregon Plastic Pollution and Recycling Modernization Act

Prepared for the Oregon Department of Environmental Quality

by Cascadia Consulting Group
with Bell & Associates and Circular Matters
March 14, 2023



<https://www.oregon.gov/deq/recycling/Pages/Material-Lists.aspx>

Top-line results

- Oregon's current garbage and recycling services (excluding compost) cost ratepayers nearly \$1 billion annually in direct costs
- Discontinuing recycling would *reduce* direct costs by approximately \$105 million annually . . .
- . . . and *increase* indirect (social) costs by approximately \$1.1 billion annually.

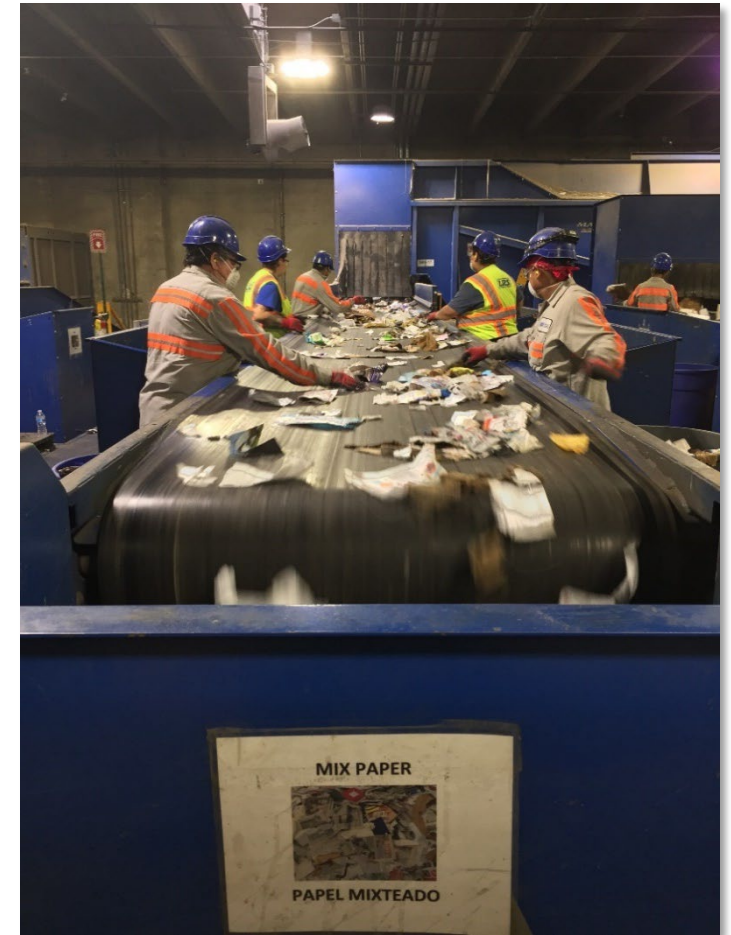
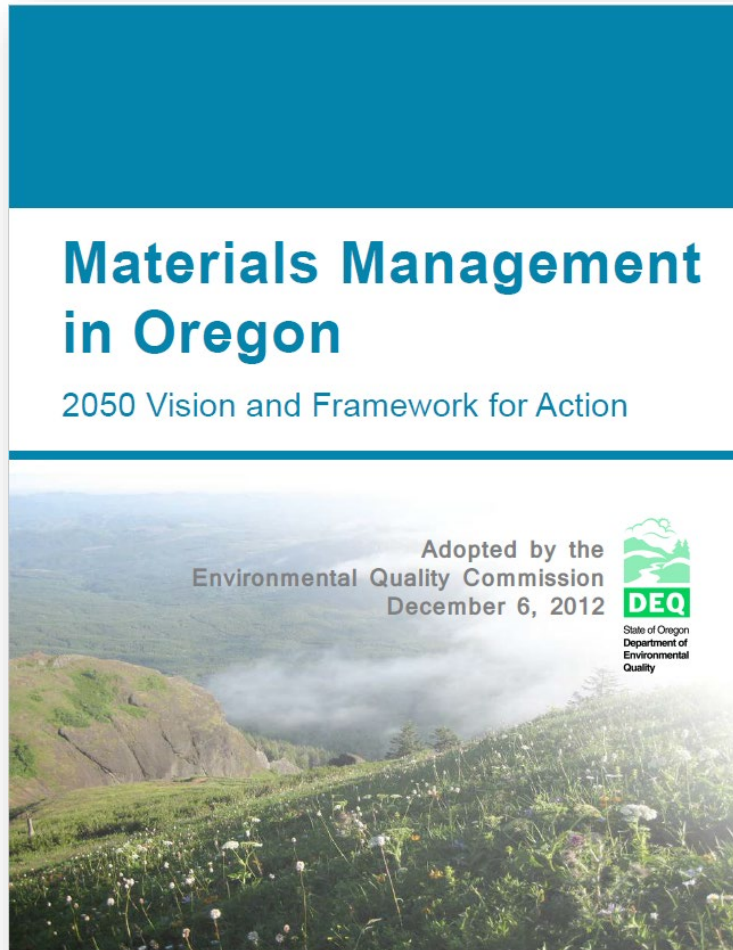


Photo: Justin Gast

Oregon's policy framework



- Take *actions* across the full life cycle of materials, to *reduce impacts* across that full life cycle.
- Recycling is necessary, and insufficient:
 - Overall environmental potential is modest
 - Optimizing recycling is not the same as maximizing recycling
 - Must consider higher-order goals (e.g., climate, toxicity impacts)
 - Not all recycling is the same
 - Eventually, marginal costs exceed marginal benefits
 - “Recycling” and “recyclable” are not the same! (see supplemental slides)
 - Be careful to avoid burden shifting

Thank you

Join me to learn more
about the RMA and
RecyclingAct.Oregon

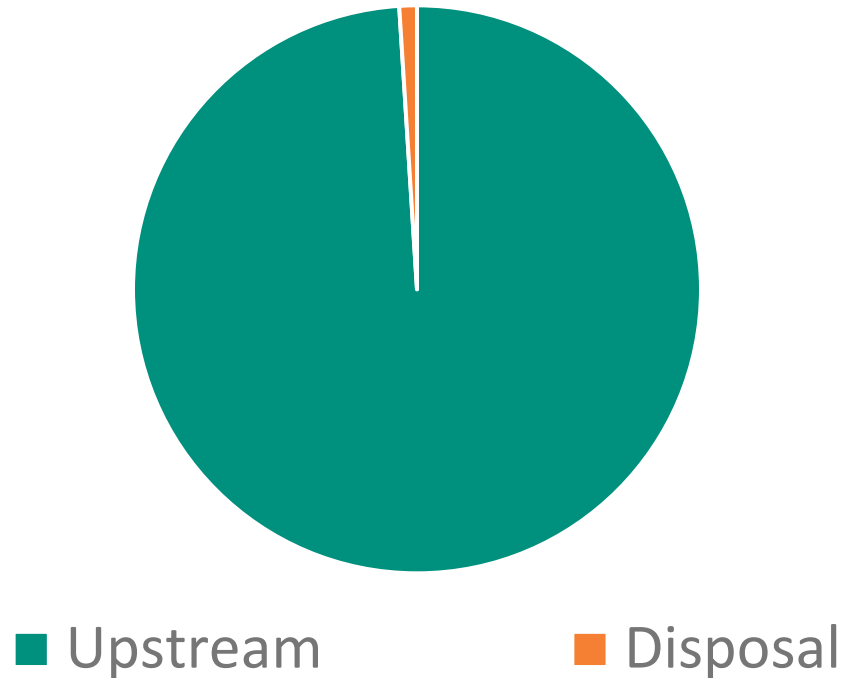
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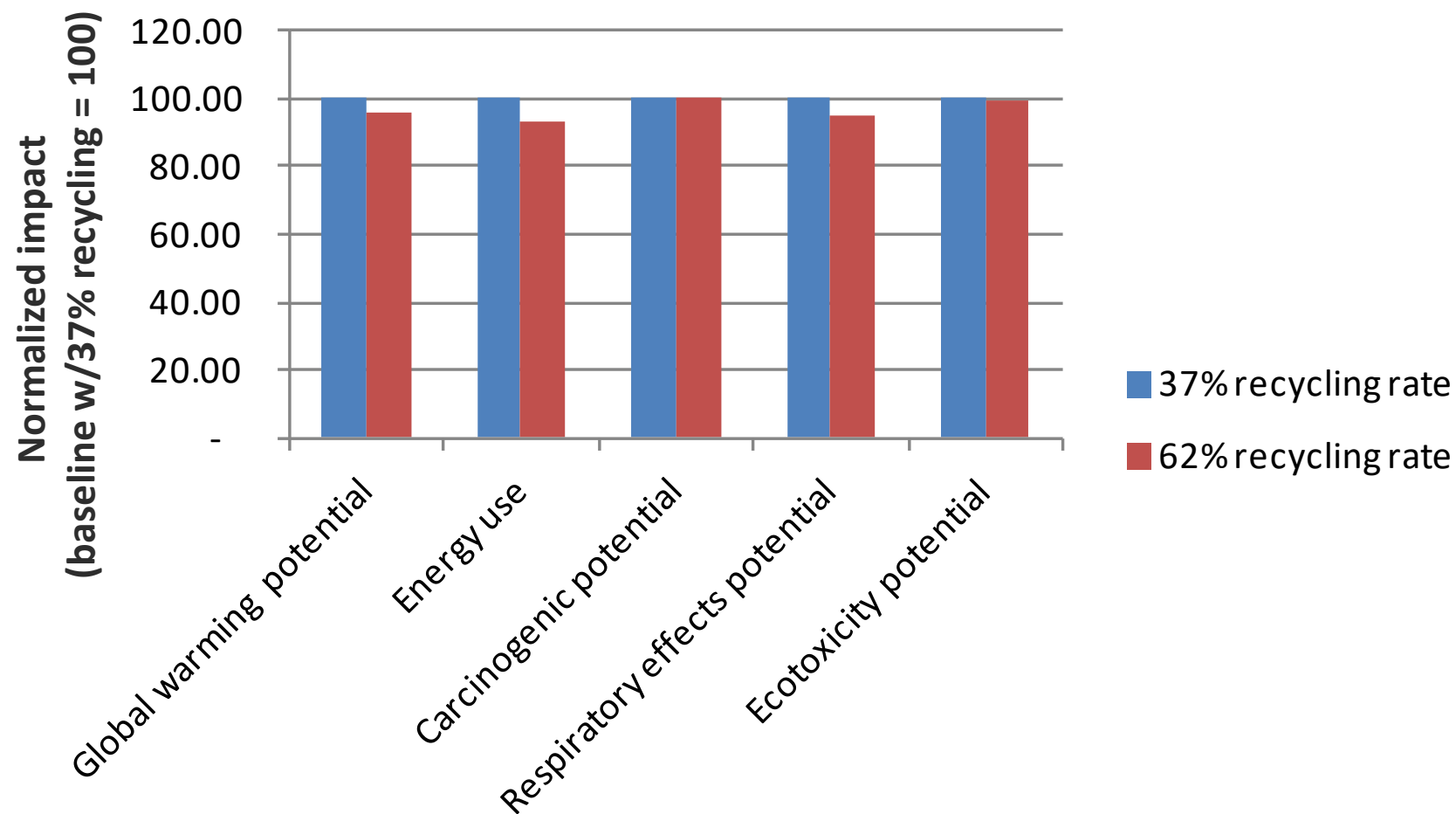
Supplemental Materials

Upstream impacts >> downstream impacts

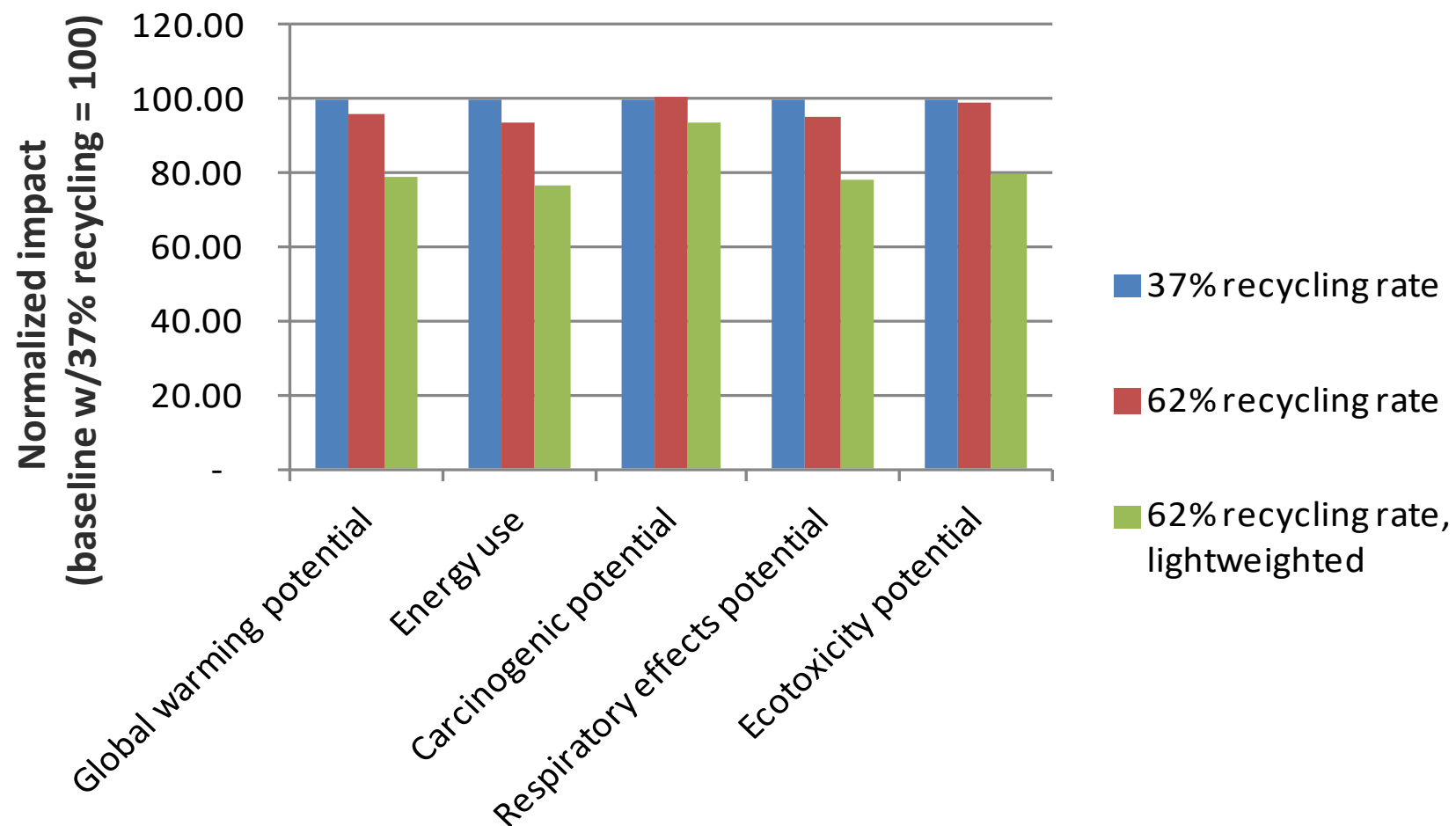


Oregon 2015 consumption-based GHG emissions – materials only

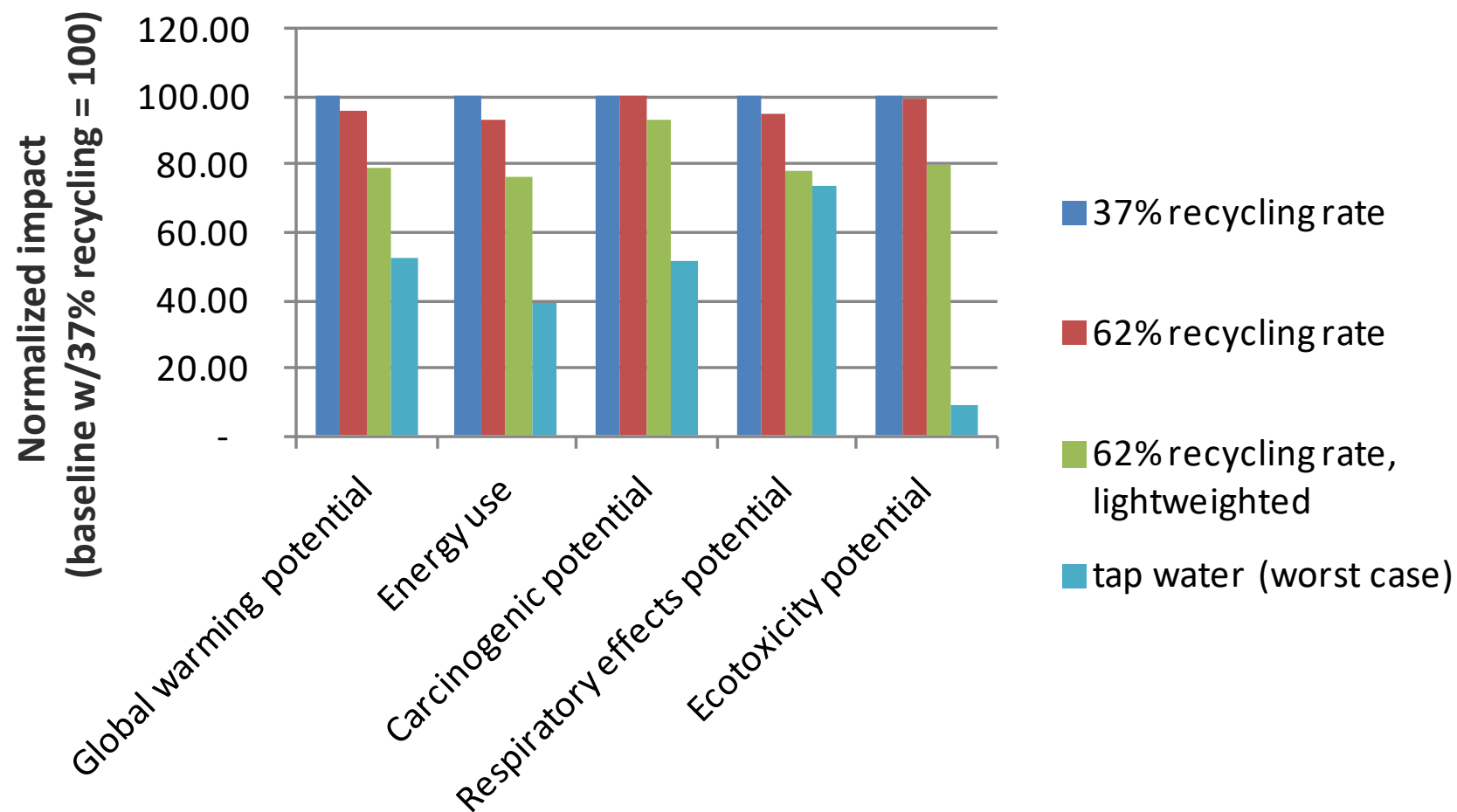
Limitations of recycling, importance of prevention



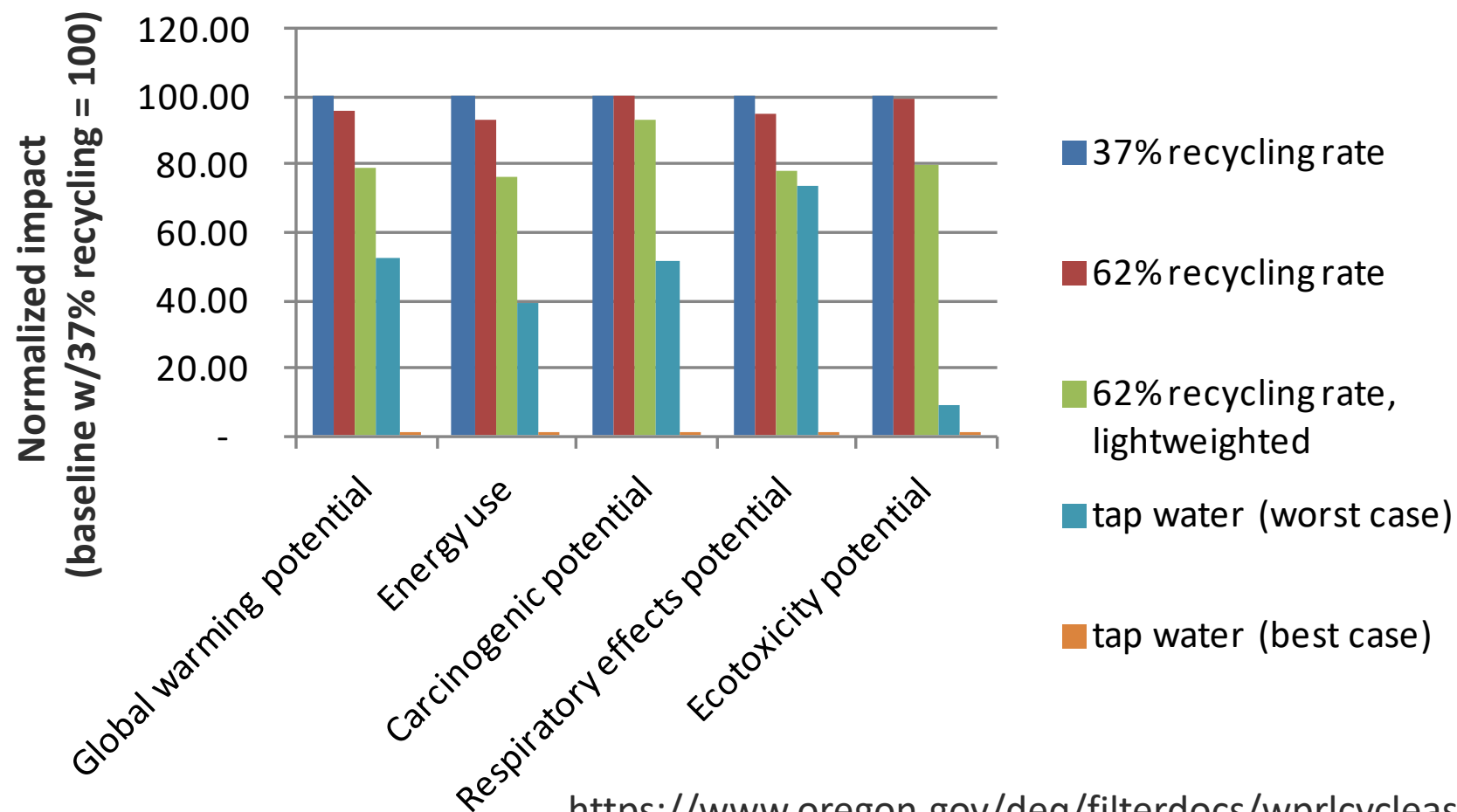
Limitations of recycling, importance of prevention



Limitations of recycling, importance of prevention



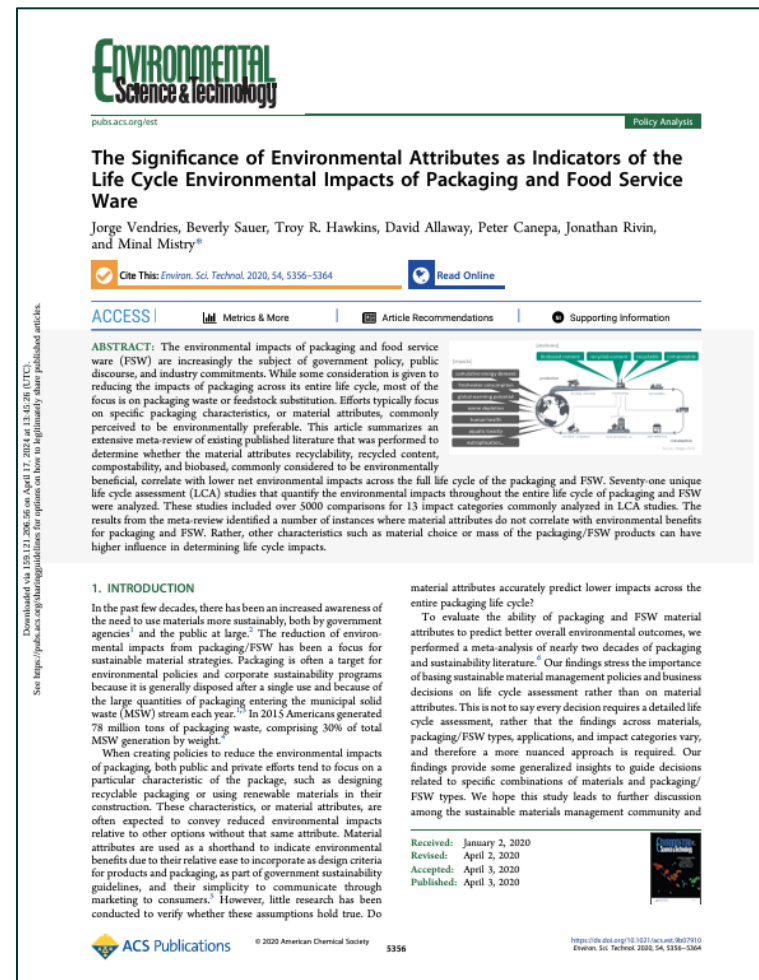
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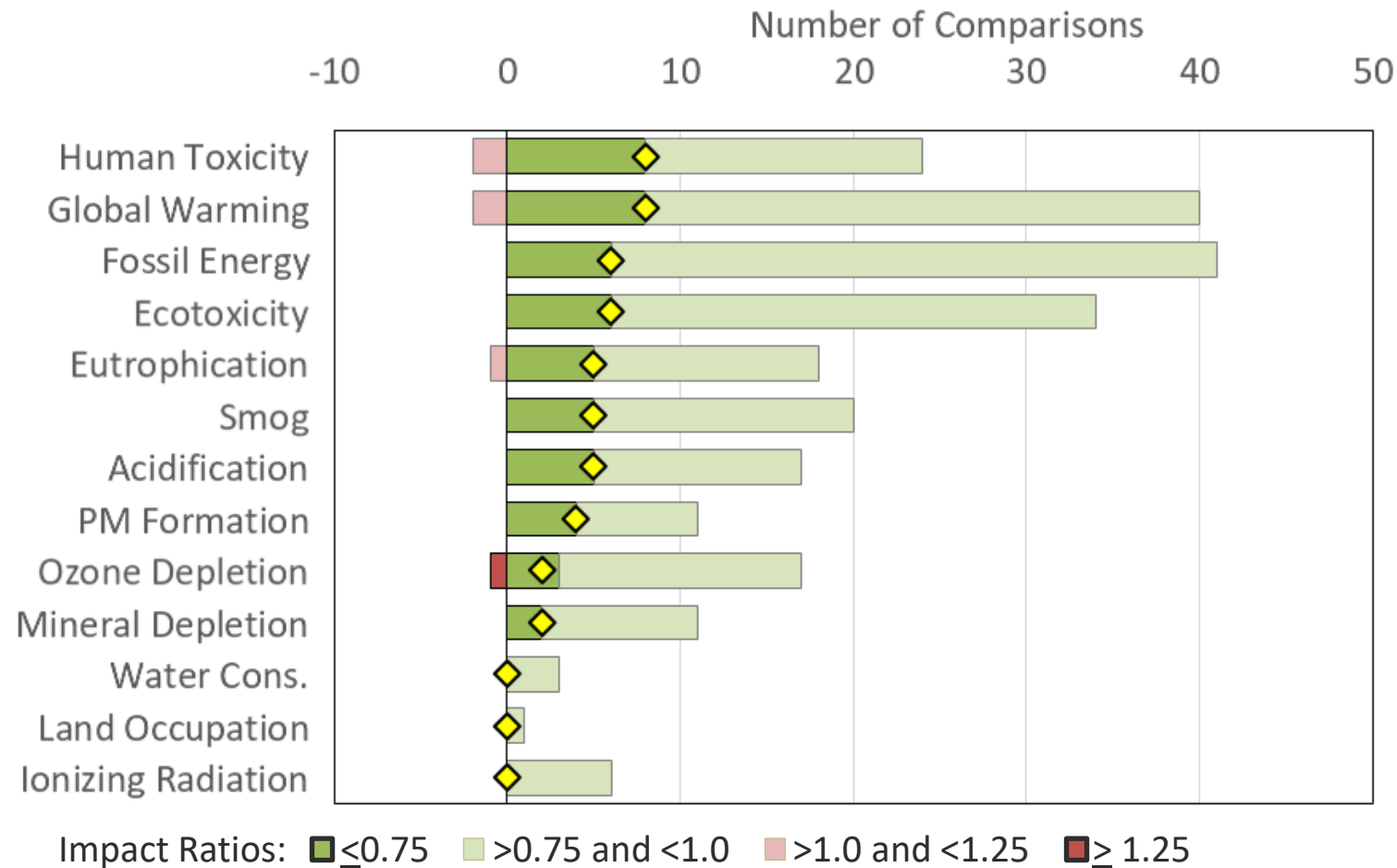
<https://www.oregon.gov/deq/filterdocs/wprlcycleassessdw.pdf>

DEQ packaging attributes research

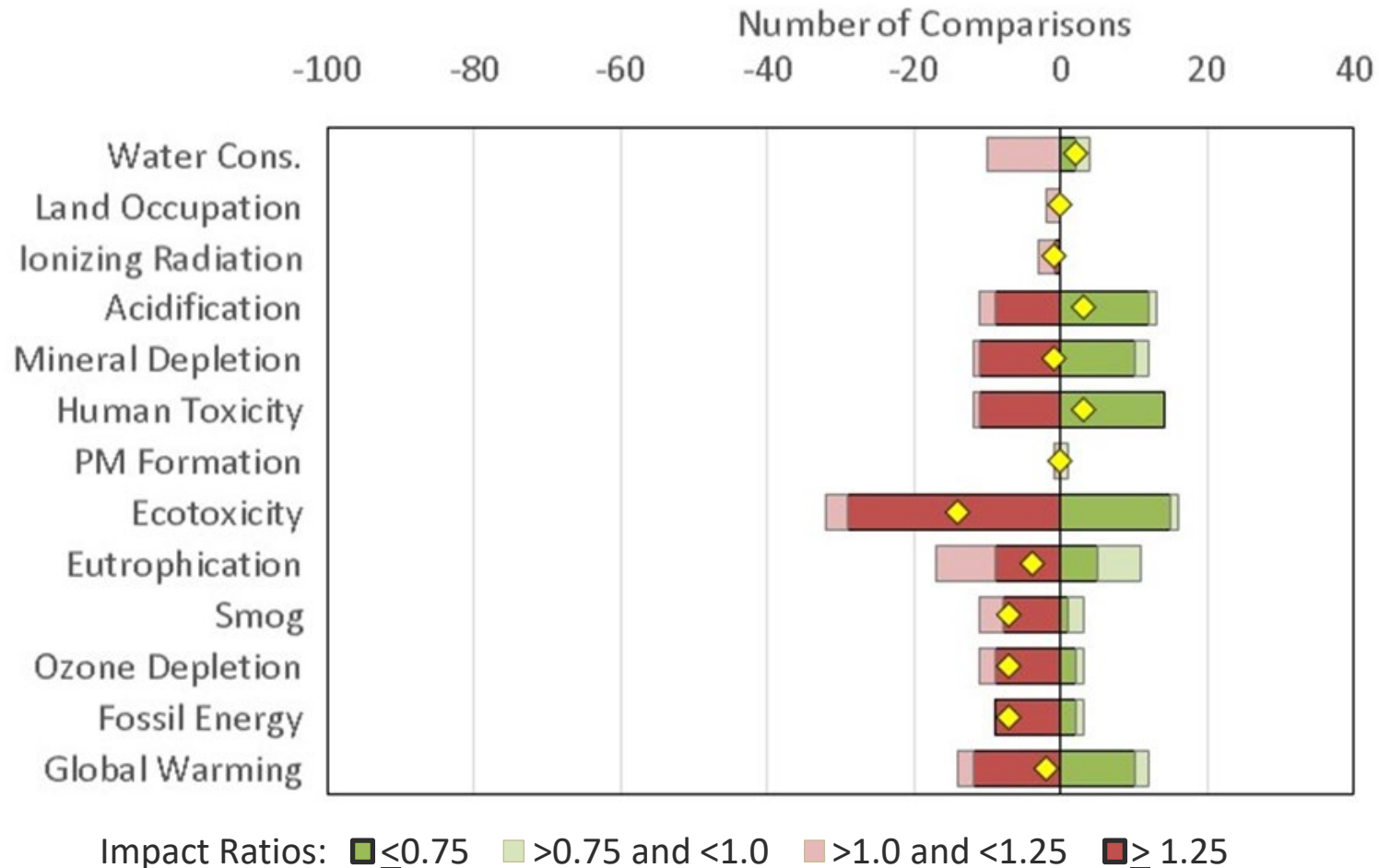
Research question: How well (and when) do popular material attributes correlate with reduced environmental impacts?



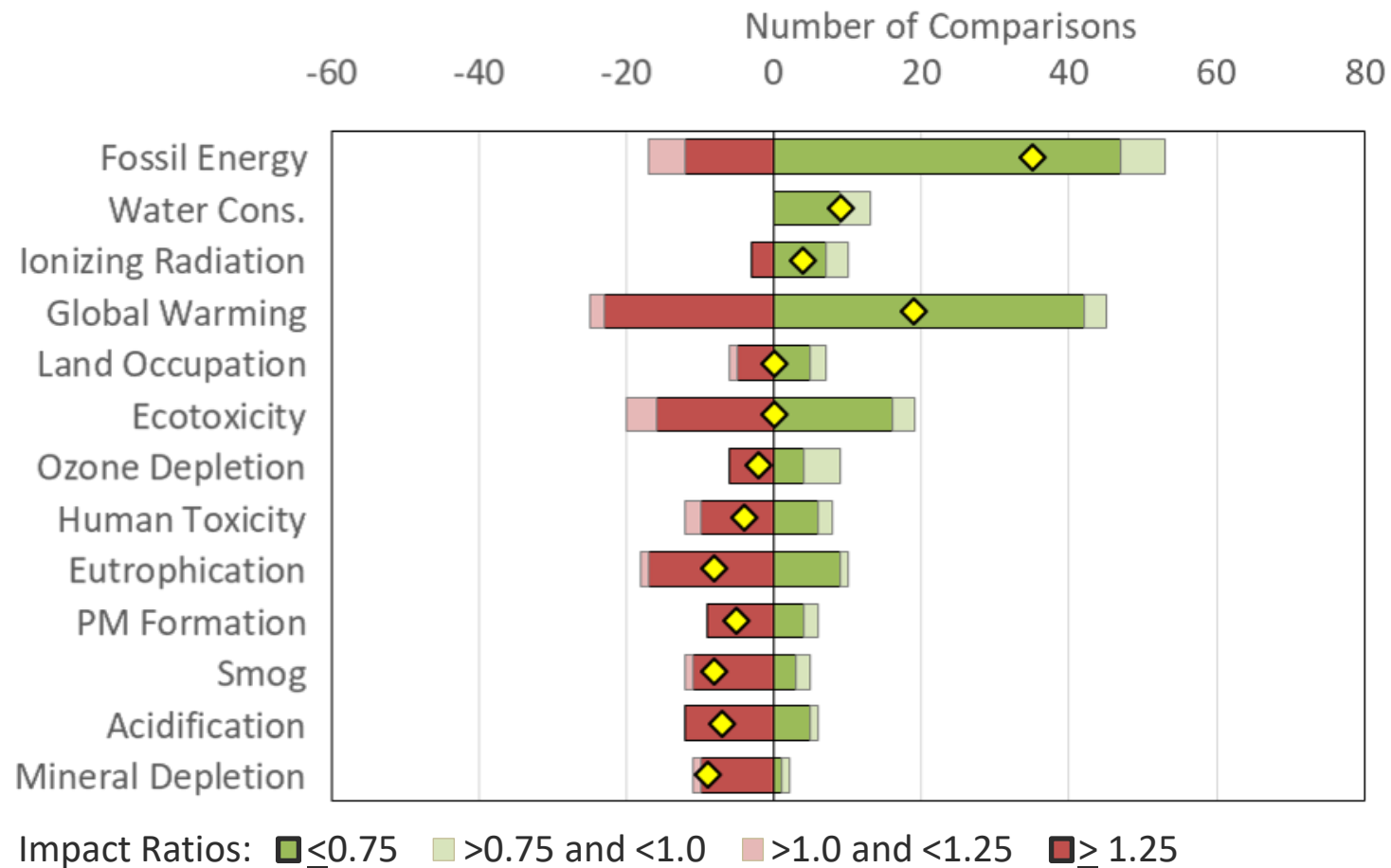
comparing *same* material packaging with higher recycled content vs. lower recycled content



comparing *different* material packaging with higher recycled content vs. lower recycled content



comparing more recyclable and less recyclable packaging



comparing compostable and non-compostable packaging

