

Sustainable Materials Management: Oregon's *2050 Vision and Framework for Action*

David Allaway
Oregon Department of Environmental Quality

**Metropolitan Washington Council of
Governments**

January 25, 2018

Overview of Today's Webinar

- Introduction:
 - What is “sustainable materials management” (SMM)?
 - Why is Oregon transitioning away from “discards management” and into SMM?
- *Materials Management in Oregon: 2050 Vision and Framework for Action*
- What is DEQ doing that is new or different as a result?

Sustainable Materials Management: A “Life Cycle” View of Impacts and Actions



Sustainable Materials Management: A “Life Cycle” View of Impacts and Actions

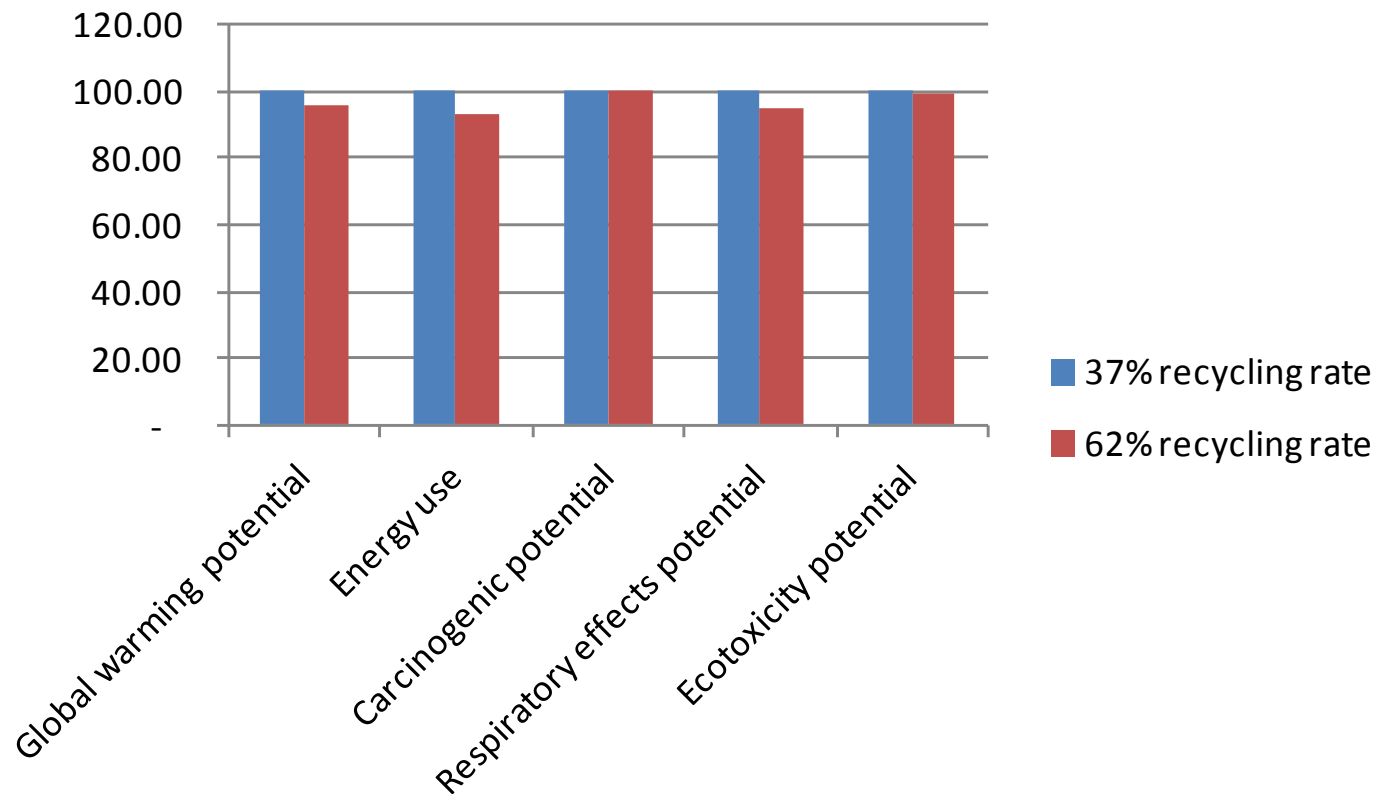


Sustainable Materials Management: A “Life Cycle” View of Impacts and Actions



Example of *Actions* Across the Life Cycle: Drinking Water

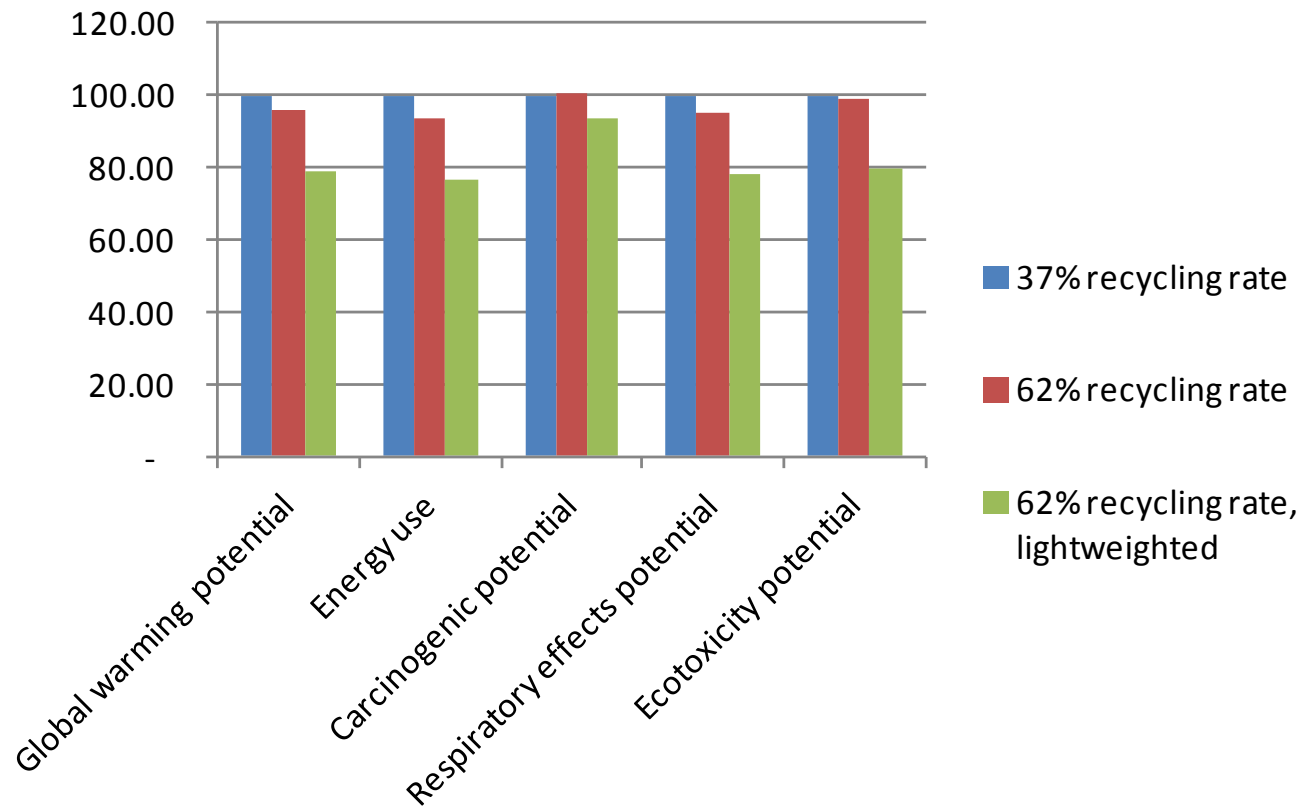
Relative Impact Potential, Baseline = 100



“Baseline” = PET, half-liter, 13.3 grams, 0% post-consumer recycled content (PCR), on-site molding, purified municipal water (reverse osmosis, ozone and uv), 50 miles to retail, 5 miles home-to-retail, co-purchase w/24 other products, no chilling.

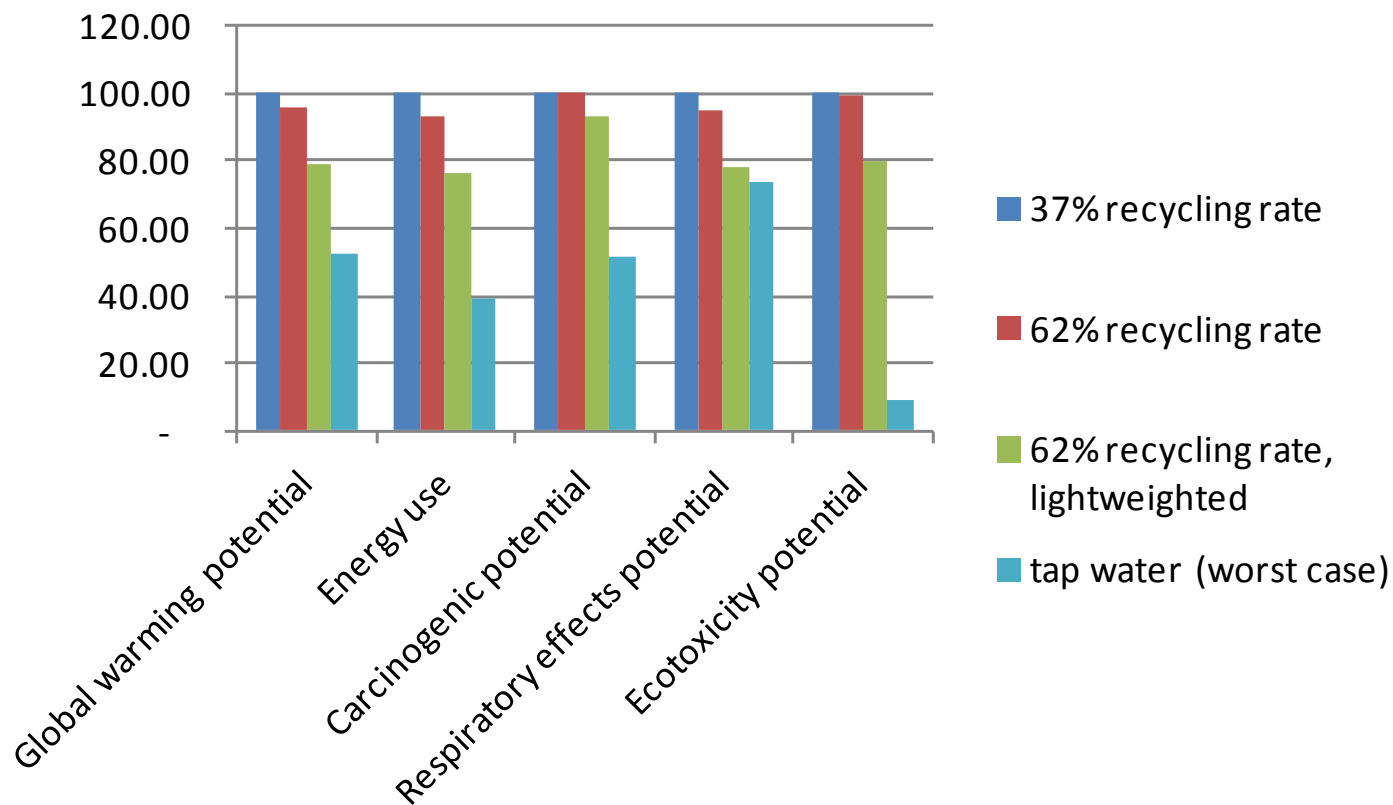
Example of *Actions* Across the Life Cycle: Drinking Water

Relative Impact Potential, Baseline = 100



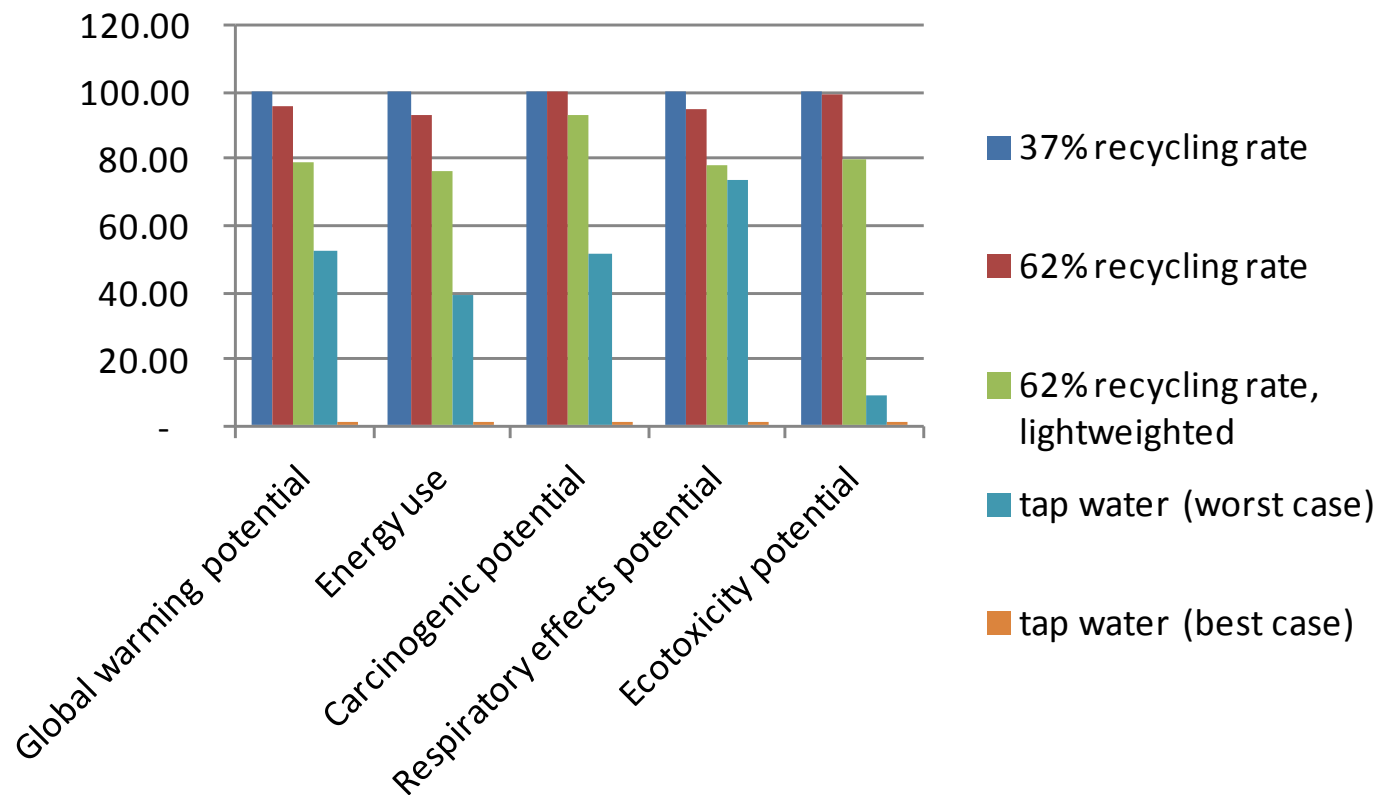
Example of *Actions* Across the Life Cycle: Drinking Water

Relative Impact Potential, Baseline = 100

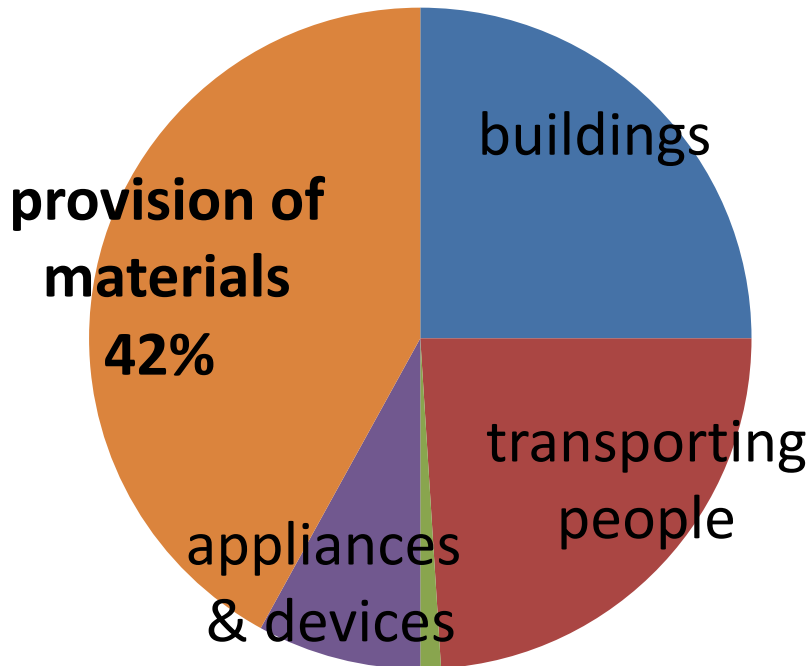


Example of *Actions* Across the Life Cycle: Drinking Water

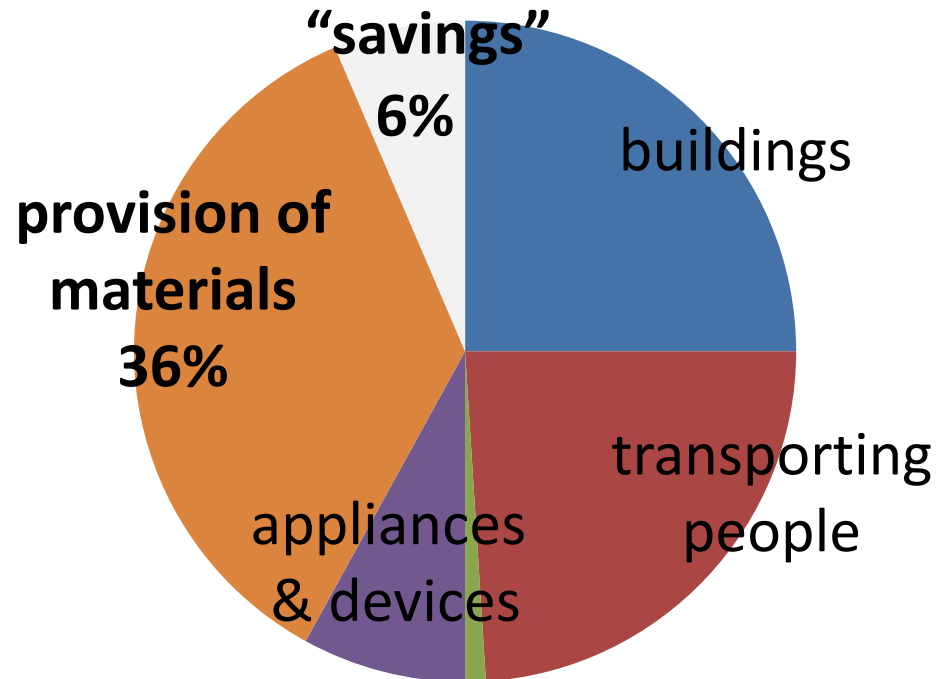
Relative Impact Potential, Baseline = 100



Limitations of Optimizing “Solid Waste”



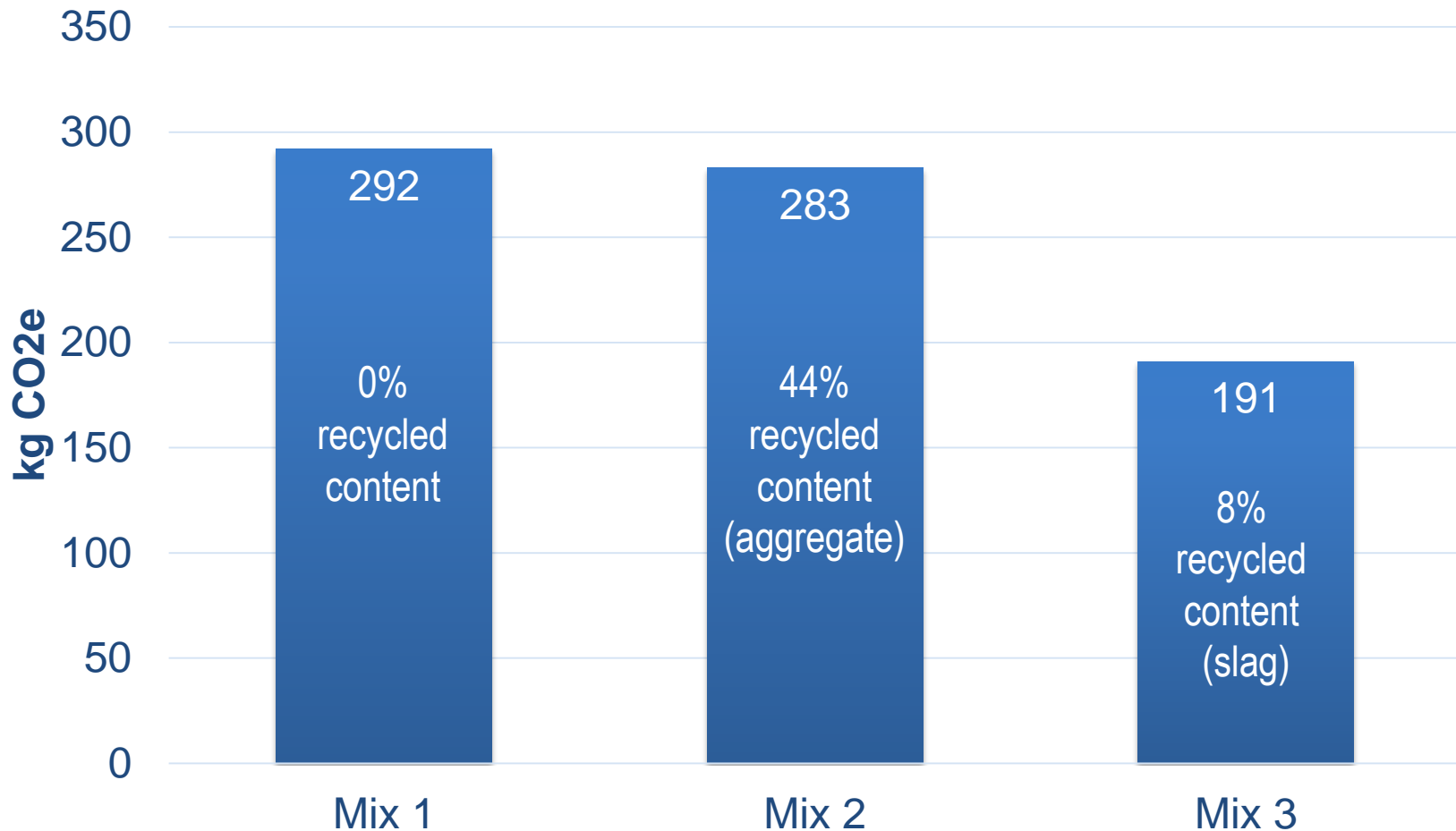
2006 U.S. GHG inventory with 32% recovery (MSW)



2006 U.S. GHG inventory with very high recovery rate (~95% MSW + >70% C&D)




Recycled Content Doesn't Consistently Predict Environmental "Goodness"

Example: Concrete



... And Neither Does Recyclability

EPA's Coffee Packaging Analysis

Coffee Packaging (11.5 oz product)	Recyclable postconsumer?	Energy Consumption (MJ/11.5 oz.)	CO2 eq Emissions (lbs/11.5 oz)	MSW Waste Generated (lbs./ 100,000 oz. of product)
	Steel can – yes Plastic lid – no	4.21	0.33	1,305
	Plastic container – yes Plastic lid - no	5.18	0.17	847
	Flexible pouch - no	1.14	0.04	176

Sustainable Materials Management: Not Just Solid Waste



Oregon's *2050 Vision*

Materials Management in Oregon

2050 Vision and Framework for Action

Adopted by the
Environmental Quality Commission
December 6, 2012



Oregon's *2050 Vision*

*Oregonians in 2050 produce and use materials responsibly
conserving resources • protecting the environment • living well*



Framework for Action

- Not an implementation plan

Recovery (Recycling, Composting)

- Reducing contamination
- Multi-tenant
- High-priority materials:
 - Plastics
 - Food
- “Outcome-based” recovery rates



Reuse, Repair and Product Lifespan Extension

Strategic Plan for Reuse, Repair, and Extending the Lifespan of Products in Oregon

December 2016



Environmental Solutions
Division, Materials
Management Program
700 NE Multnomah St
Portland, OR 97232
Phone: 503-229-5696
800-452-4011
Fax: 503-229-4762
Contact: Simone Love
www.oregon.gov/DEQ

*DEQ is a leader in restoring,
maintaining and enhancing
the quality of Oregon's air,
land and water.*



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Quality

Reuse, Repair and Product Lifespan Extension



Reuse, Repair and Product Lifespan Extension

- Projects recently completed or currently under way
 - Deconstruction workforce training with City of Portland
 - Materials management grants program (building materials)
 - Workforce development “micro-grants”
 - Best management practices for dust controls in demolition
- Upcoming projects
 - Textile system research – where, when, how textiles are disposed
 - Whole building reuse vs replacement

Preventing the Wasting of Food

Oregon DEQ Strategic Plan for Preventing the Wasting of Food



Materials Management

700 NE Multnomah
Portland, OR 97232
Phone: 503-229-5090
800-452-4011
Fax: 503-229-6702
Contact: Elaine Blatt
www.oregon.gov/DEQ



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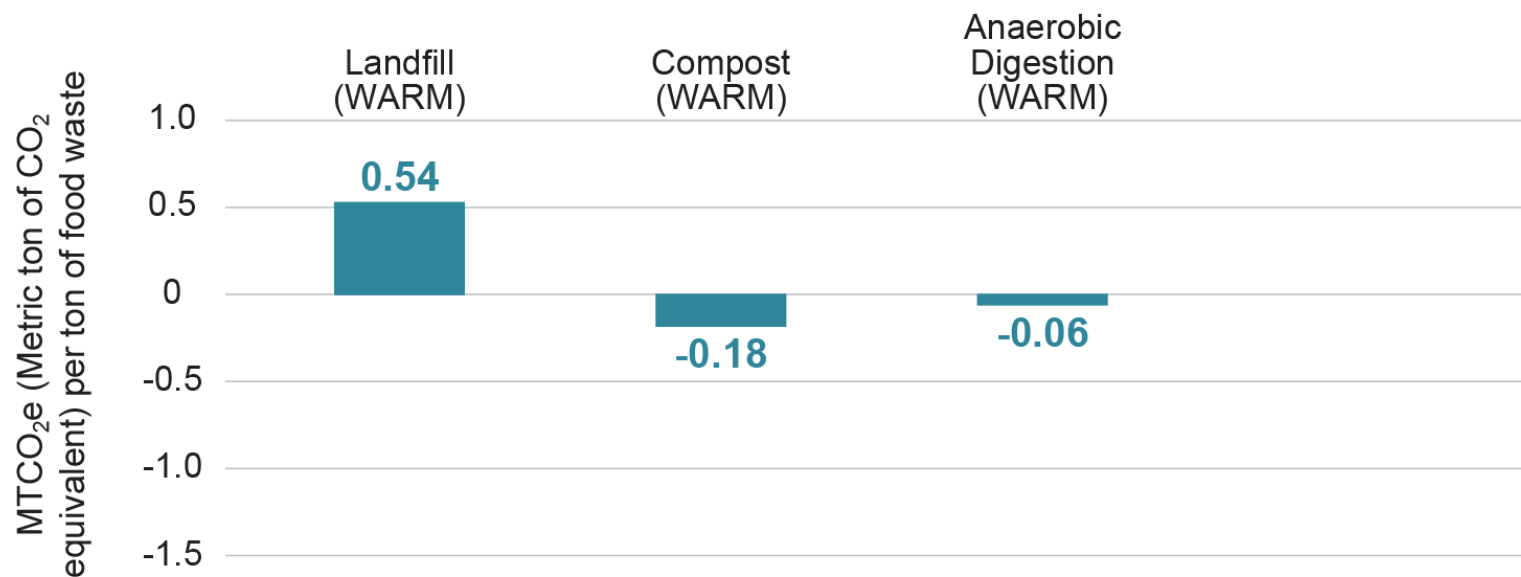
Relative GHG Impacts

Food Waste Management Activities



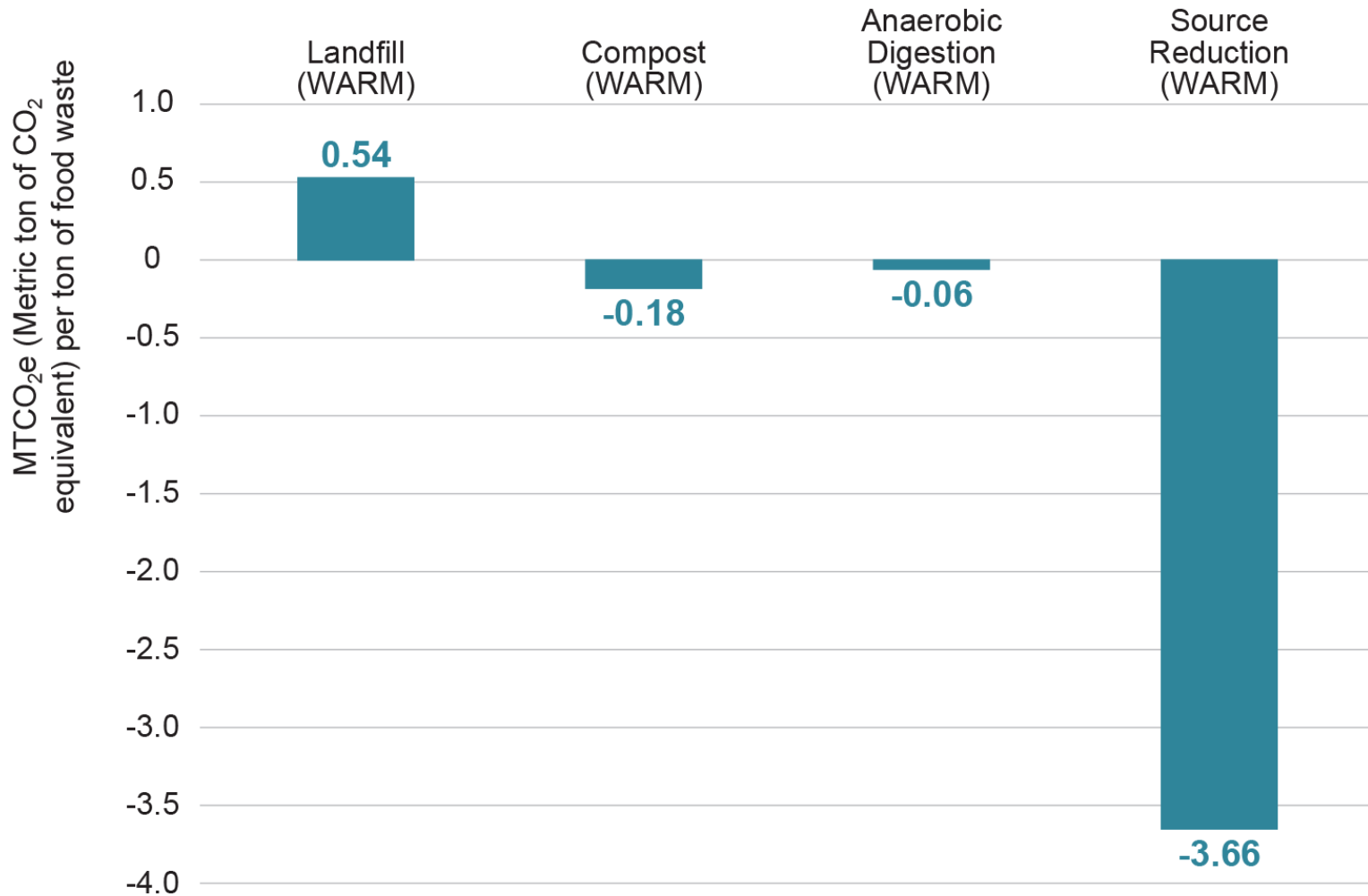
Relative GHG Impacts

Food Waste Management Activities



Relative GHG Impacts

Food Waste Management Activities



Oregon Wasted Food Measurement Study



Composting and Prevention



Conahan for Oregon Business The Wastrel

Role of Composting

- ✓ Composting alleviates guilt associated with trashing food, which may result in an increased generation of wasted food.
- ✓ Composting seen as separate from trash, so amount discarded may be “hidden”, resulting in inability to identify opportunities to prevent wasted food.

Commercial Campaign (SB 263)

- Toolkit for use by local governments:
www.oregon.gov/deq/mm/wpcampaigns
- Target audience: Consumer-facing food businesses – grocery, full and limited service restaurants, food service.
- Messaging focuses on making the “business case” for preventing the wasting of food:
 - ✓ Lost food is lost profit.
 - ✓ Simple steps can pay off.



Grants

- 2017 focus on source reduction of wasted food:
 - ✓ Extra “focus points” in scoring
 - ✓ Broader eligibility (colleges, universities, schools)
- 7 applications for wasted food source reduction



Food LCA Literature Summaries

- Wine
 - Tomatoes
 - Freshwater aquaculture
 - Pork
 - Beer
 - Coffee
 - Citrus and citrus juices
-
- Contribution of transportation to life cycle impacts
 - Food waste and packaging use/waste trade-offs



<http://www.oregon.gov/deq/mm/food/Pages/Product-Category-Level-Footprints.aspx>

Attributes Research

Recyclable

Compostable

Bio-degradable



Bio-based

Planet Friendly

Product Environmental Footprinting: Concrete



EPD “Nutrition” Label

Your Building Product

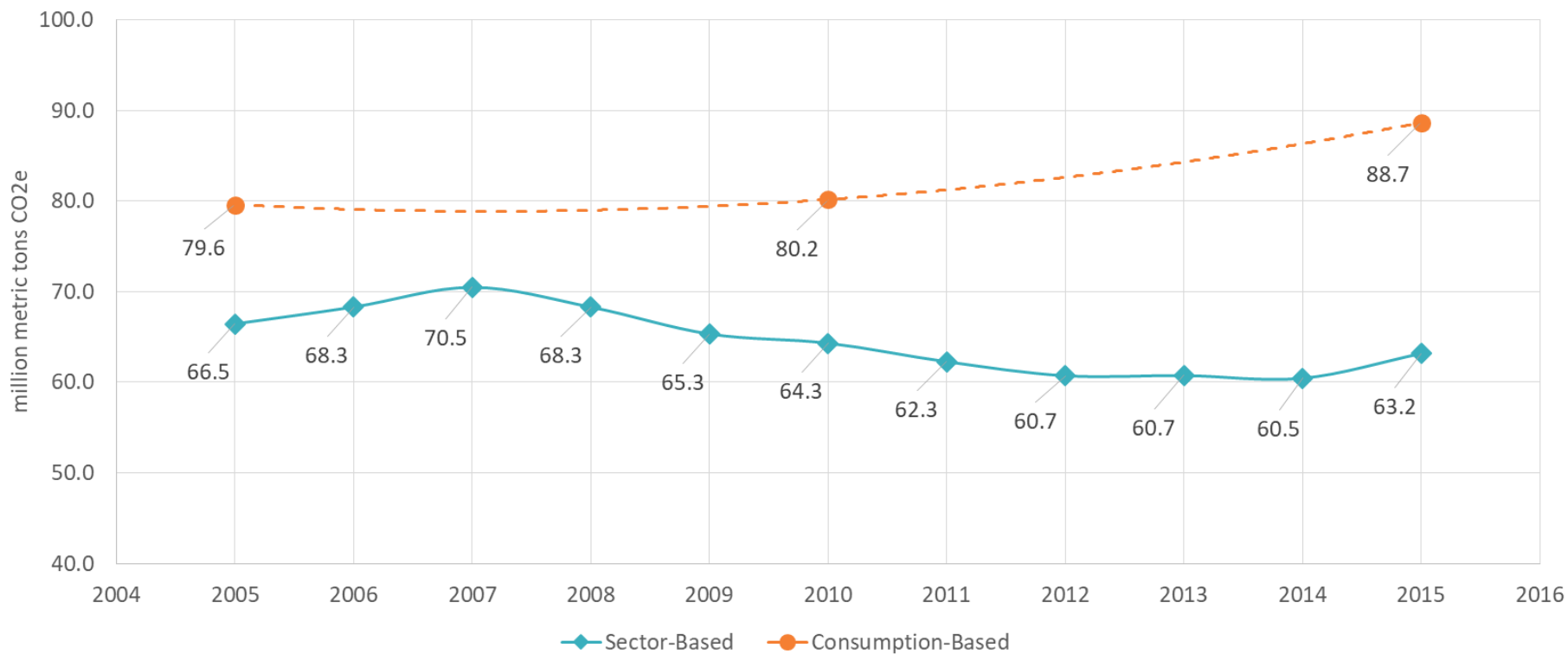
Amount per Unit

LCA IMACT MEASURES	TOTAL
Primary Energy (MJ)	12.4
Global Warming Potential (kg CO ² eq)	0.96
Ozone Depletion (kg CFC-11 eq)	1.80E-08
Acidification Potential (mol H ⁺ eq)	0.93
Eutrophication Potential (kg N ⁻ eq)	6.43E-04
Photo-Oxidant Creation Potential (kg O ₃ eq)	0.121

Your Product's Ingredients: Listed Here

Consumption-Based Greenhouse Gas Emissions Inventory

Trends in Oregon Sector-Based and Consumption-Based Greenhouse Gas Emissions, 2005 - 2015



Thank you

David Allaway

Oregon Department of Environmental Quality

allaway.david@deq.state.or.us