

A photograph of a residential neighborhood. In the foreground, there are tall sunflowers and a paved path. In the background, there are several houses with different siding colors (brown, grey, and light blue). A group of people is gathered in a grassy area on the left side of the image. The scene is bright and sunny, with shadows cast by the trees and buildings.

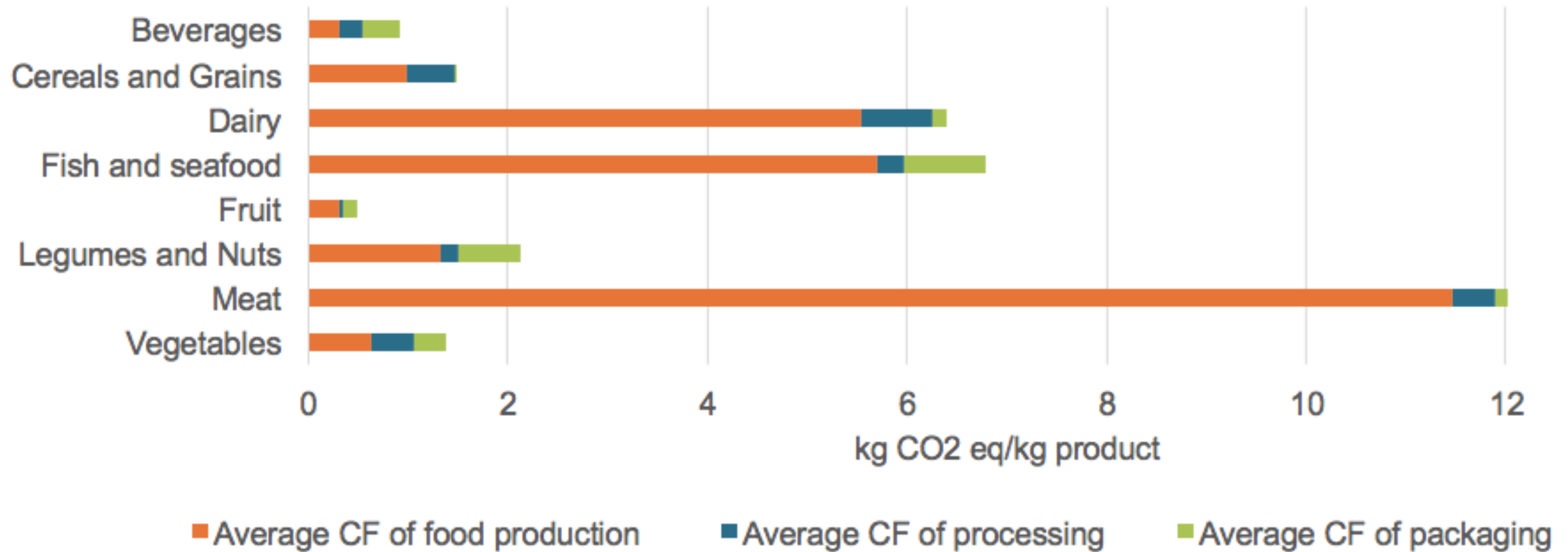
Implementing Consumption-Based Emissions Strategies in Oregon

Northeast Recycling Council

October 7, 2025

Packaging vs. product?

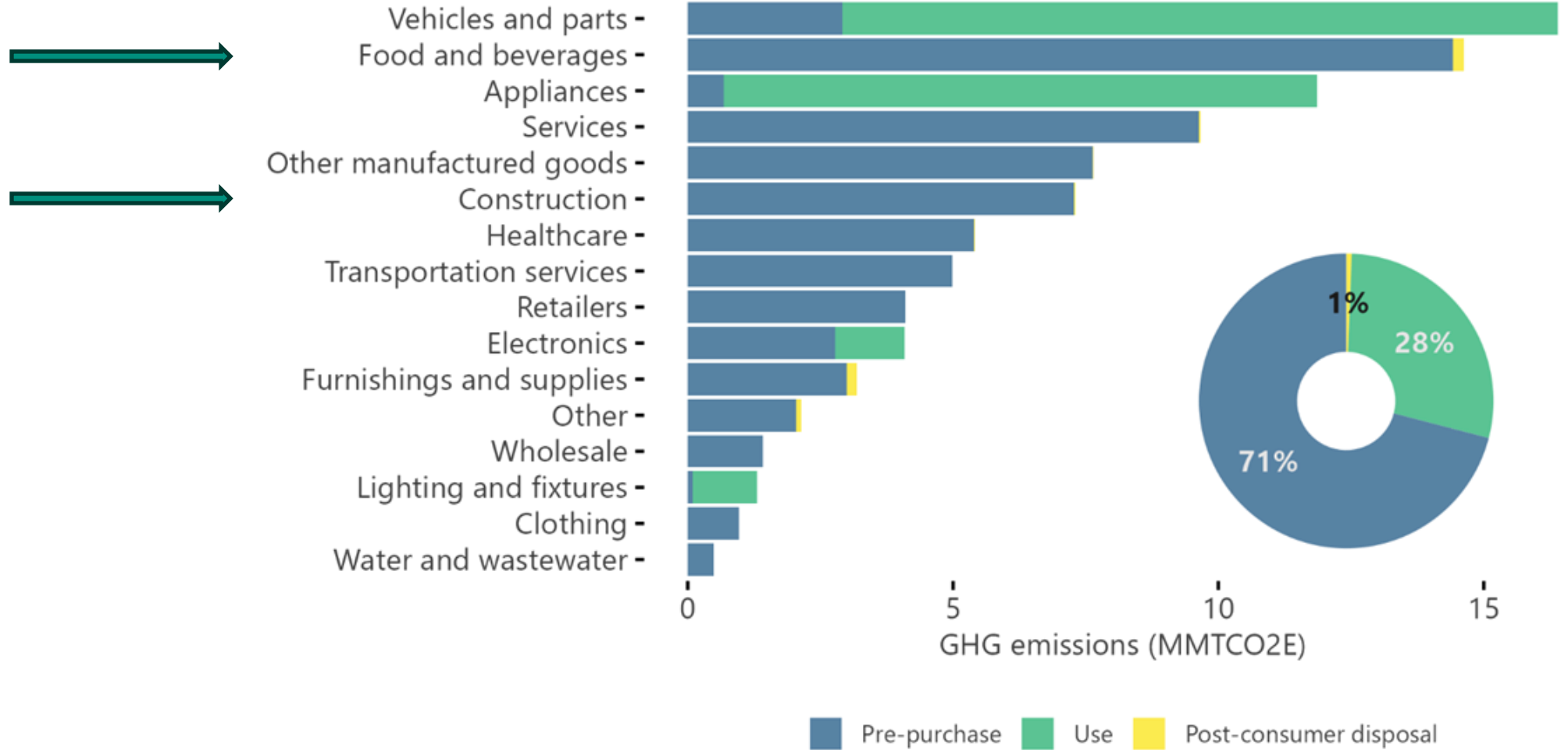
Carbon footprints of foods



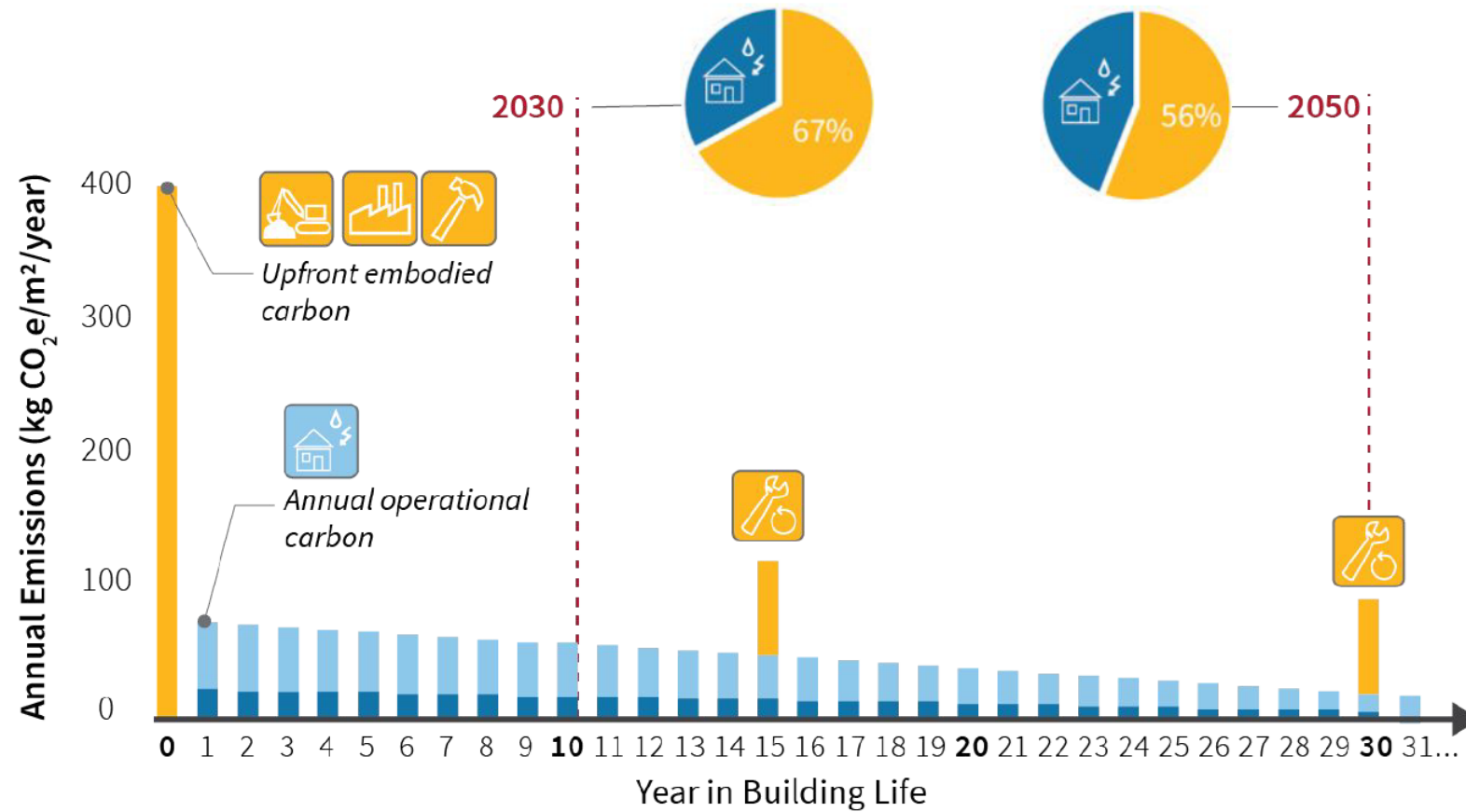
[Source: Oregon DEQ / University of Michigan \(2017\)](#)

Oregon CBEI

Emissions by Category (2021)



Urgency of embodied carbon



In a high performance building, **embodied carbon** is

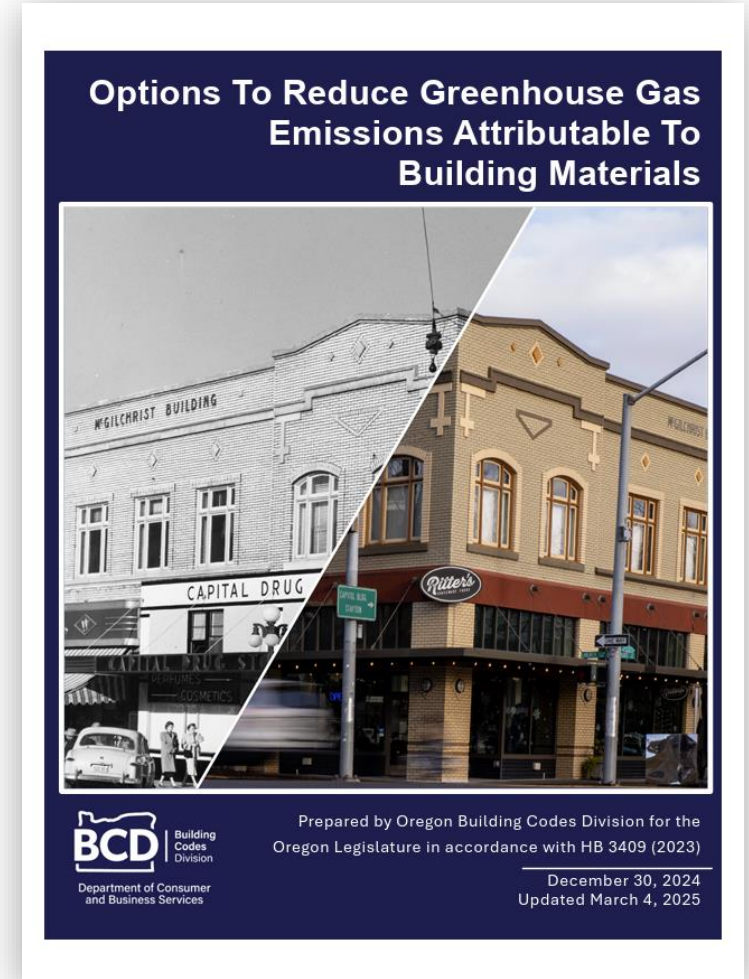
2/3 of total emissions in the first 10 years

1/2 of total emissions in the first 30 years

Image Source: [AIA-CLF Embodied Carbon Toolkit for Architects](#), 2021

Opportunities to reduce embodied carbon

- Using lower carbon materials
 - Within the same material class (e.g., lower carbon concrete vs. average concrete)
 - By material substitution
- Using fewer materials overall
 - Adaptive reuse of existing buildings
 - Design



DEQ Low-Embodied Carbon Housing Program

\$25.6 million Climate Pollution Reduction Grant from the U.S. EPA



Strategy 1: Reuse

Conversion of an existing vacant or underutilized non-residential building to new housing



Strategy 2: Space-efficient

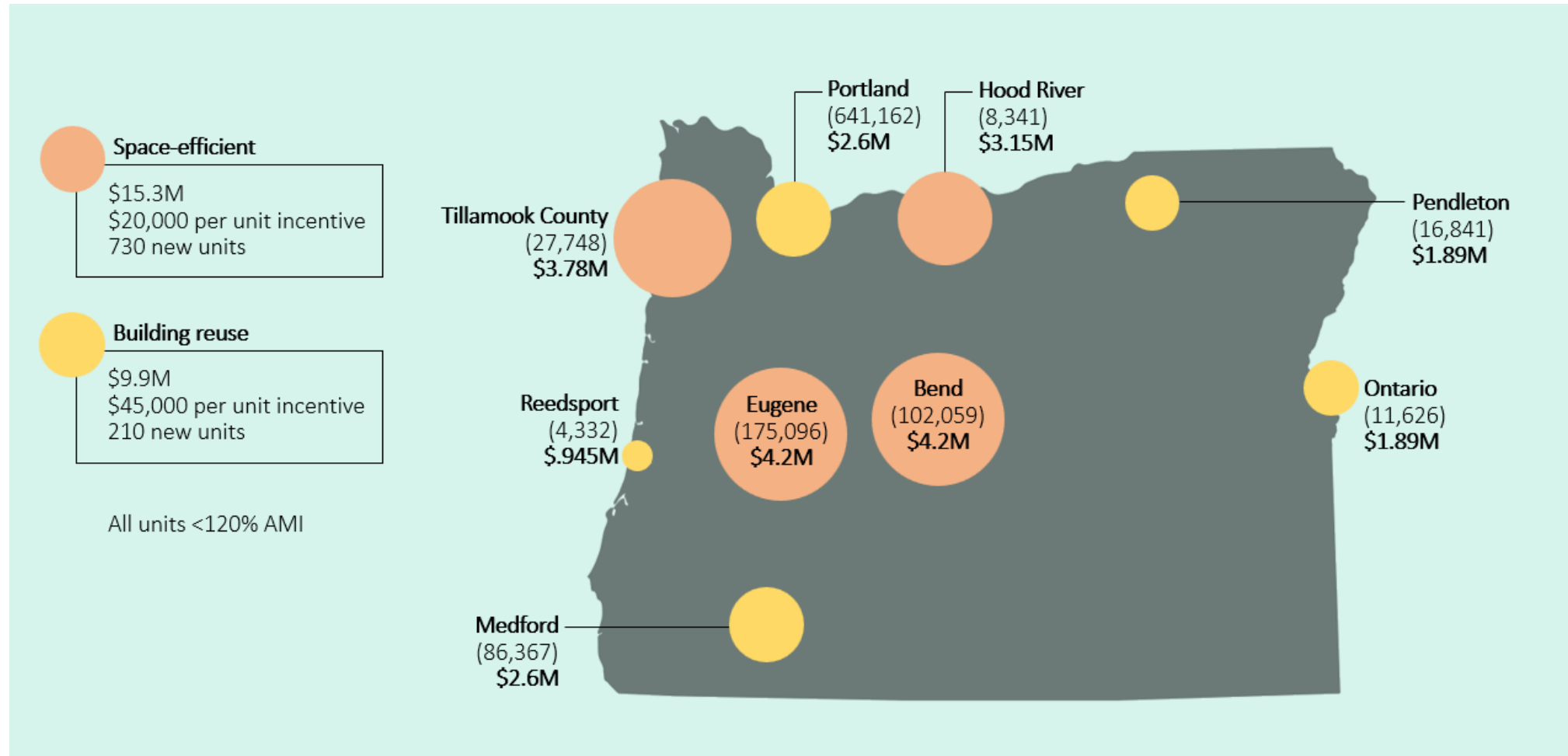
Housing units that do not exceed a specified area as determined by number of bedrooms



All projects

Reduce embodied carbon of new materials by 10%

Low-Embodied Carbon Housing Program



Low-embodied carbon housing technical assistance

Environmental Product Declaration

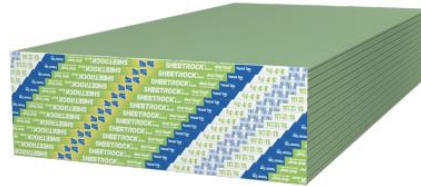
5/8 in. (15.9 mm) Sheetrock® Brand Mold Tough® Panels Firecode® X

Aliquippa, PA, Baltimore, MD, Bridgeport, AL, Hagersville, ON (Canada),
Plaster City, CA, Rainier, OR, Shoals, IN, Sperry, IA, Sweetwater, TX,
Washingtonville, PA



5/8 in. (15.9 mm) Type X panels with moisture and mold resistance for wall and ceiling applications

- Feature a noncombustible, moisture-resistant gypsum core encased in moisture- and mold-resistant, 100% recycled green face and brown back papers
- Comply with ASTM C1396, *Standard Specification for Gypsum Board*, for 5/8 in. (15.9 mm), Type X, water-resistant gypsum wallboard and exterior gypsum soffit board
- Underwriters Laboratories Inc. (UL) Classification as to fire resistance, surface-burning characteristics and noncombustibility
- Achieved GREENGUARD Gold Certification and qualifies as a low VOC emitting material (meets CA 01350)



TRACI V2.1 ENVIRONMENTAL IMPACTS (CRADLE-TO-GRAVE)

Functional Unit – 1,000 sf (92.9 m²)

Global Warming Potential (kg CO ₂ eq.)	4.76E+02
Ozone Depletion Potential (kg CFC-11 eq.)	6.13E-09
Acidification Potential (kg SO ₂ eq.)	1.04E+00
Eutrophication Potential (kg N eq.)	8.89E-02
Photochemical Ozone Creation Potential (kg O ₃ eq.)	2.34E+01
Abiotic Resource Depletion Potential Fossil Fuels (MJ, LHV)	1.02E+03

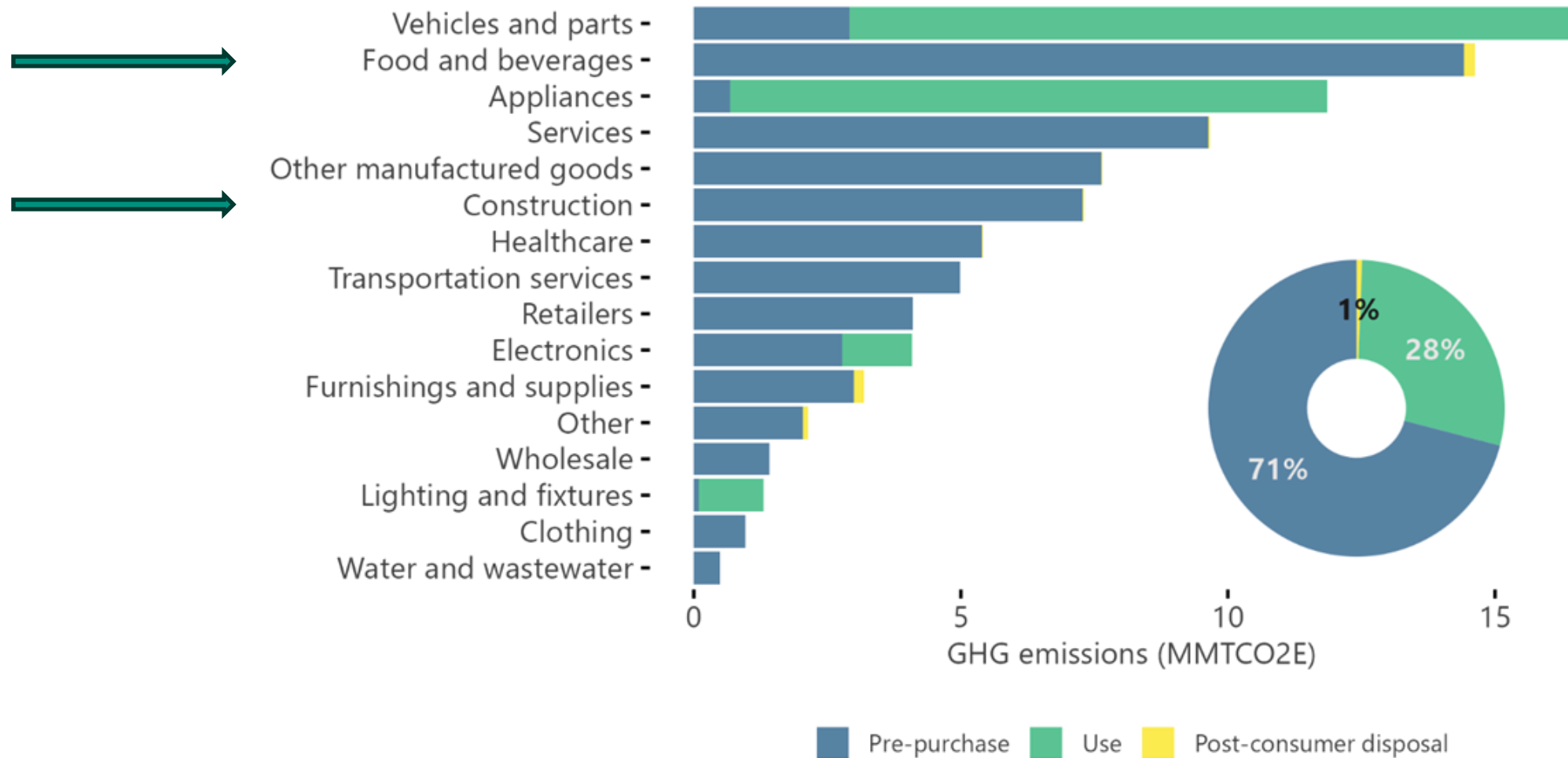
- Housing projects must also demonstrate a 10% reduction in embodied carbon
- Carbon Leadership Forum is developing a technical assistance suite
- Intent is for technical assistance resources to serve housing project teams – and beyond

GHG reductions compared to conventional new housing

	Adaptive reuse of existing building	Space-efficient housing
Construction materials/products	Requires less materials/products to build through reuse of existing structure, envelope, interiors, systems	Requires less materials/products to build
Energy to operate	Upgrades can reduce existing demand	Require less energy to heat/cool/ventilate
Storage space	If smaller, less space for “stuff”	Less space for “stuff”
Public infrastructure	Use existing streets, utilities	If infill, use existing streets, utilities
Other co-benefits	Reactivate downtowns, Walkability, Less vehicle dependence, miles driven	If infill, Walkability, Less vehicle dependence, miles driven
Possible carbon reductions	- 40% to -75%	- 20% to - 40%

Oregon CBEI

Emissions by Category (2021)



Pacific Coast Food Waste Commitment (PCFWC)



Jurisdiction Partners

California

Los Angeles
Oakland
San Francisco
Alameda County

Oregon

Portland

Washington State

Seattle
King County

British Columbia, Canada

Vancouver

Project Map

Foodservice Consumer Messaging

Tested the impact of messaging on post-consumer plate waste.

- Aramark | Asilomar, CA
- Aramark | Irvine, CA
- Aramark | Sacramento, CA
- Aramark | Beaverton, OR
- Sodexo | Portland, OR
- Sodexo | Irvine, CA
- Sodexo | San Diego, CA

Whole Chain

Analyzed waste hotspots for fresh strawberries and frozen potatoes along the supply chain and identified solutions.

- Distribution Center | Shafter, CA
- Retail Store | Bakersfield, CA
- Distribution Center | Tracy, CA
- Retail Store | Livermore, CA
- Distribution Center | Rialto, CA
- Farm | Watsonville, CA
- Farm | Pasco and Richland, WA

Oakland Chinatown

Engaged community-based organizations to support outreach on SB 1385 and local compost ordinances.

- Oakland Chinatown Improvement Council | Oakland, CA

Manufacturer Employee Engagement and Culture Change

Ran an employee engagement campaign to collect and implement their ideas on how to reduce food waste in the manufacturing facility.

- Bob's Red Mill | Milwaukie, OR
- Land O' Lakes | Turlock, CA



Hospitality Low Waste Events

Trained hospitality teams and planners to reduce food waste at events.

- Hotel | Seattle, WA
- Hotel | Seattle, WA
- Event Center | Portland, OR
- Event Center | Vancouver, BC
- Hotel | San Francisco, CA
- Hotel | Seattle, WA
- Hotel | Berkeley, CA
- Hotel | Los Angeles, CA

Artificial Intelligence in Retail

Used inventory management systems Shelf Engine and Afresh to reduce shrink and grow sales.

- Two large chains | CA, OR, WA

Upcycling Initiatives at New Seasons

Investigated upcycling high value items within store food service.

- New Seasons Market | OR, WA

Upcycling Breadcrumbs

Engaged with food recovery organization Farestart to upcycle old bread into breadcrumbs for resale at PCC Community Markets.

- PCC Community Markets | Greater Seattle area, WA

Dairy Hotspots

Identified the top items and causes of dairy waste in grocery retail.

- New Seasons Market | OR, WA

Best Practice Studies

Strengthening Food Rescue Programs

Best practices in staff training protocols and food rescue partnerships.

Raley's | Northern California

Store Level Tracking and Support

Highlight innovative partnership between Sprouts and WM to produce store-level waste data and donation "scorecards."

Sprouts Farmers Market | California, Washington



Case Study: Bob's Red Mill

CASE STUDY

Institutionalizing a Waste Reduction Culture in Food Manufacturing

A three-pronged strategy of education, company-wide engagement, and quick-win implementation to achieve meaningful food waste reductions



PACIFIC COAST
Food Waste
Commitment

Fall 2022



Results

Pacific Coast Food Waste Commitment Regional Data

Retail

2023 KEY METRICS

3.12%

Unsold food rate

587,596

Tons of unsold food

\$3.92B

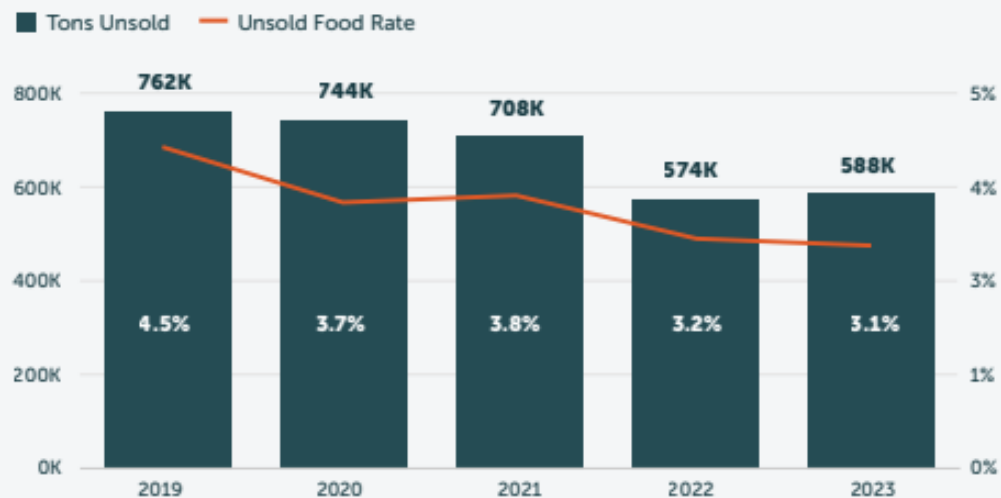
Lost sales

23 lbs

Per capita unsold

Since the first year of data collection in 2019, **unsold food rates have decreased by 30% for reporting PCFWC retailers.²**

Tons Unsold & Unsold Food Rate by Year



Case studies and more



Food Waste Reduction Commitment & Upcycling Initiatives



How E-Commerce Strategies Can Reduce Wasted Produce



PCC Community Markets' Upcycling Initiatives & Food Waste Reduction Commitment

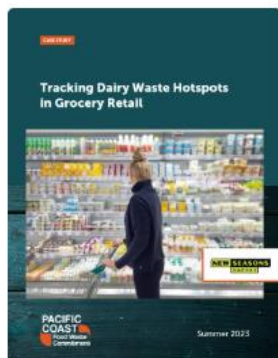


Preventing Problematic Event Waste



Food Waste Reduction Training

Individuals and business teams can be empowered to fight food waste at every node of the supply chain! Together with Triple Win Advisory and Bob's Red Mill Manufacturing, the PCFWC created this food waste education and training video. It covers why food waste is a concern, where it occurs along the food supply chain, and what companies and individuals can do about it. Filled with infographics and engaging visuals, the intended audience is for staff members in retail, manufacturing, and restaurants, and for individuals wanting to understand steps they can take to reduce food waste in their home.



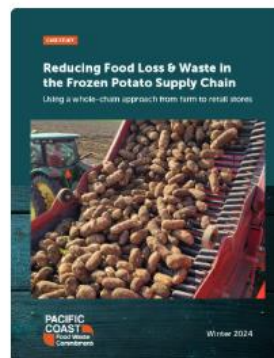
Tracking Dairy Waste Hotspots in Grocery Retail



Best Practices for Hospitality Teams to Reduce Food Waste at Events



Reducing Fresh Strawberry Loss & Waste in the Retail Supply Chain



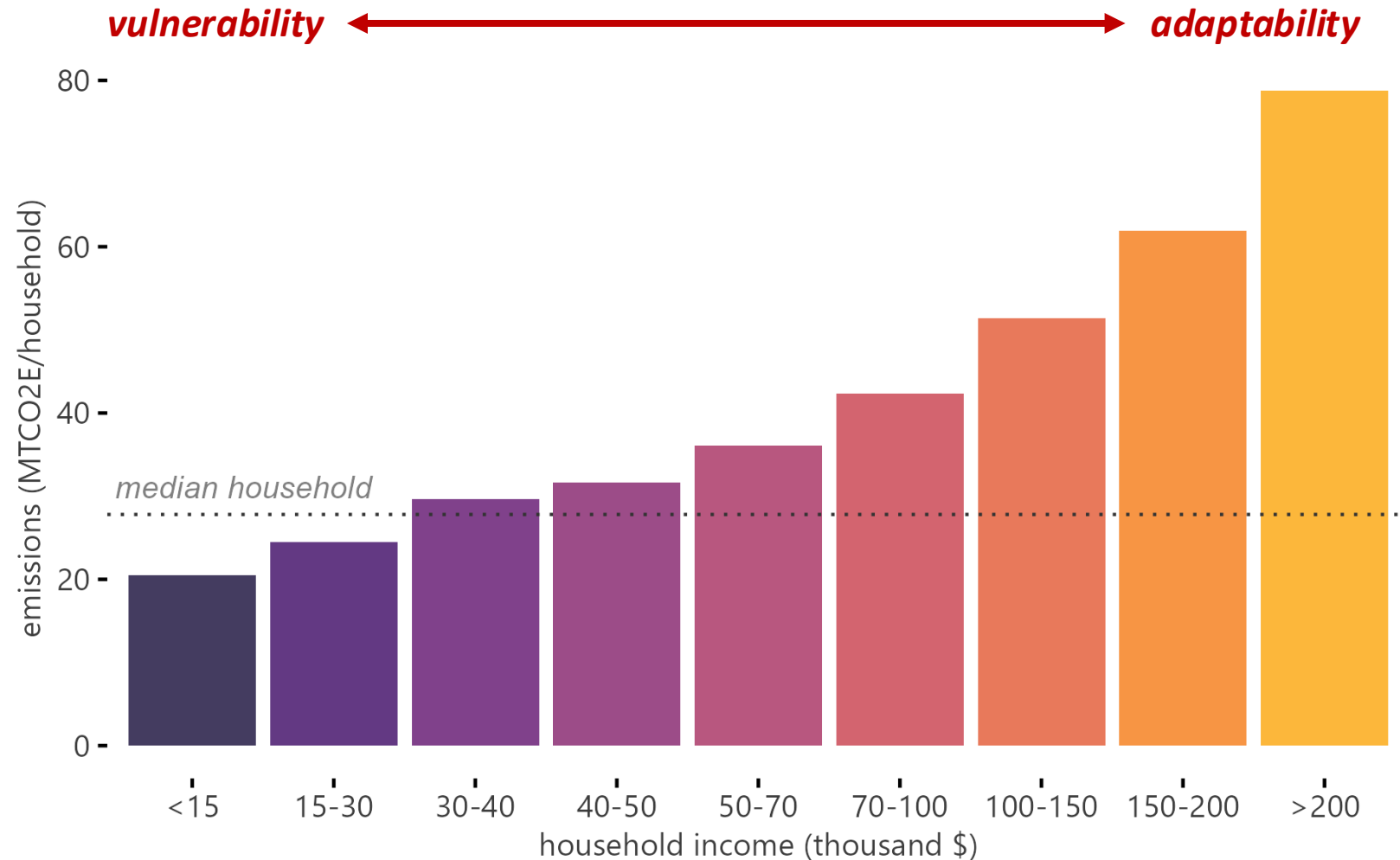
Reducing Food Loss & Waste in the Frozen Potato Supply Chain



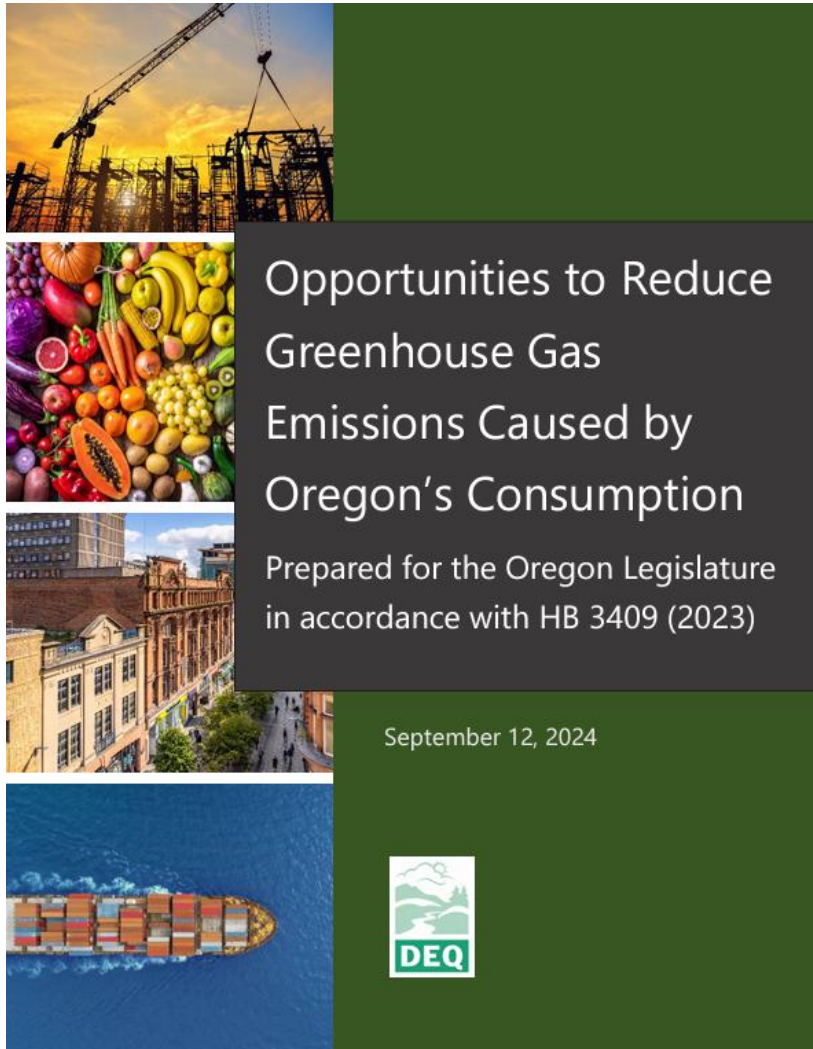
Employee Engagement Toolkit

After three successful employee engagement pilots that resulted in food waste reductions between 50-75%, the U.S. Food Waste Pact has put together a toolkit for any food business to successfully pilot an employee engagement intervention project. This toolkit has video tutorials, step-by-step guides, idea trackers, and more to help any business engage its staff and reduce food waste in its operations.

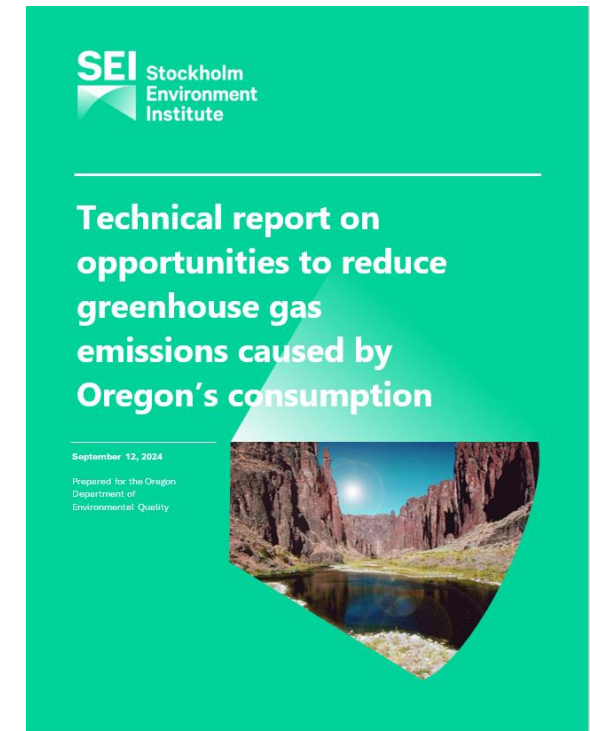
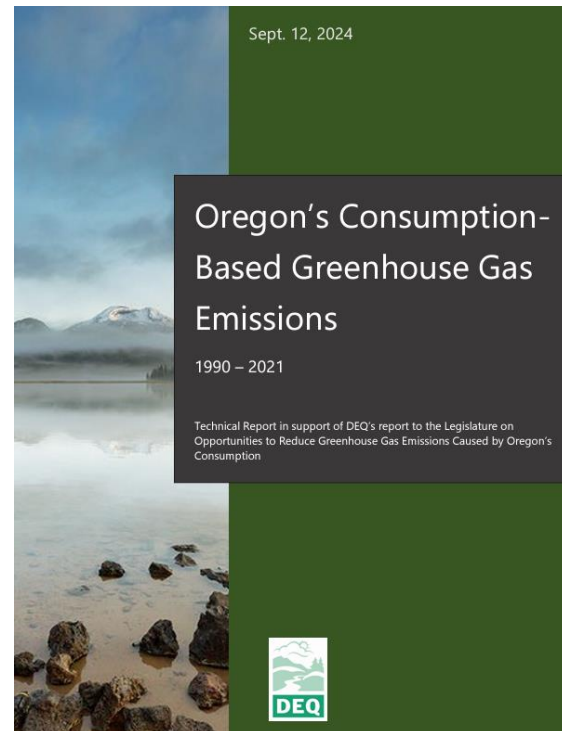
Wealthier households cause more emissions



2024 Reports



Companion Technical Reports



All available at:

www.oregon.gov/deq/mm/pages/consumption-based-ghg.aspx

Thank You!

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