

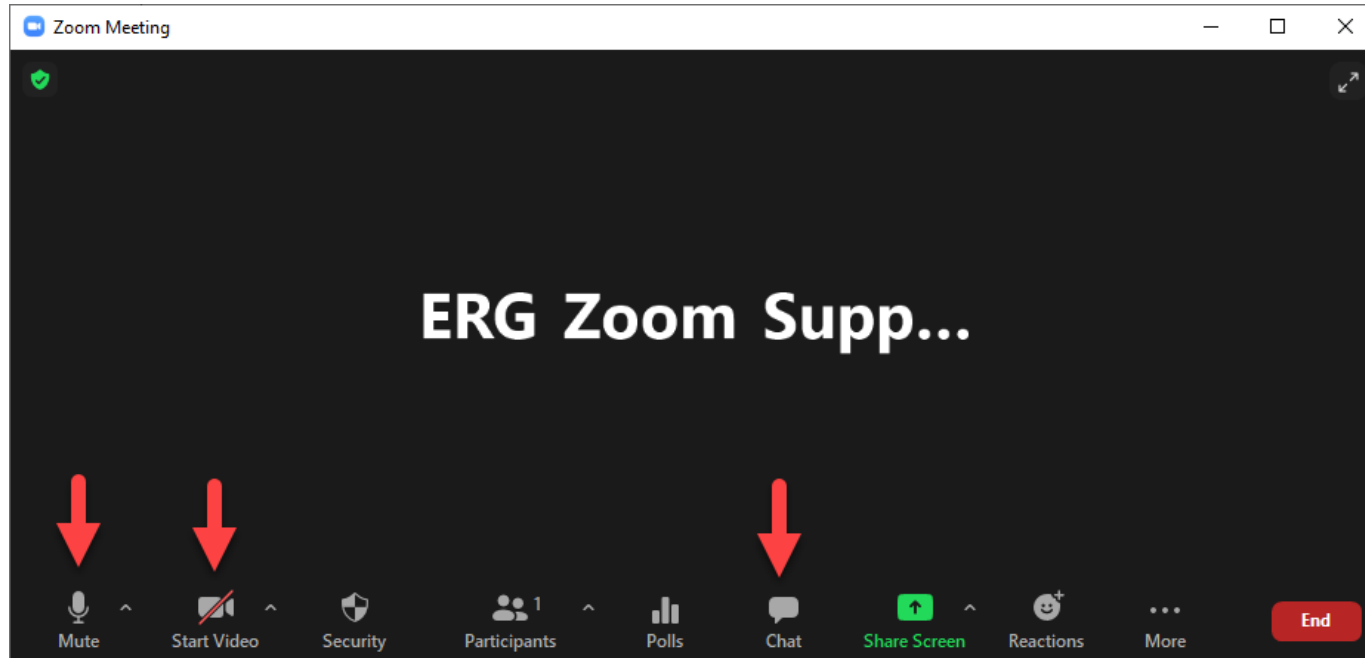


West Coast Climate & Materials Management Forum

June 14, 2022

WCCMMF Spring Meeting

ERG Housekeeping Slide



Please keep yourself **muted** and **without video** unless you are called upon to ask a question

This meeting session is being **recorded**; however, the **breakout sessions** will not be.

Use **Chat** function to contact ERG Zoom Host with technical issues.

Closed captions are available by clicking the "CC" in your control bar.

Today's Agenda

- ❑ Greetings and Introductions
- ❑ Overview of the West Coast Climate & Materials Management Forum
- ❑ Introduction to Selected Topics
 - ▣ Justice, Equity, Diversity & Inclusion
 - ▣ Consumption
 - ▣ Extended Producer Responsibility (EPR) and Packaging
 - ▣ Build Environment
- ❑ Breakout Groups
- ❑ Discussion
- ❑ Next Steps
- ❑ Exit poll

West Coast Climate Forum

Disclaimer

The Forum is a collaboration of state, local, and tribal governments. We invite guest speakers to share their views on climate change topics to get participants thinking and talking about new strategies for achieving our environmental goals. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

Please note the opinions, ideas, or data presented by speakers in this series do not represent West Coast Climate and Materials Management Forum members policy or constitute endorsement by the forum.

www.westcoastclimateforum.com



West Coast Climate
& Materials Management Forum

Poll #1

Where are you located?

- ☐ Washington
- ☐ Oregon
- ☐ California
- ☐ Other location (please put the answer in the chat)



Poll #2

What areas do you work in?

- ☐ Climate
- ☐ Sustainability
- ☐ Materials management (indicate what sector in the chat)
- ☐ Green building
- ☐ Other (please indicate in the chat)



Poll #3

How have you engaged with the WCCMM Forum in the past?

- ☐ Developed a previous Forum product/resource/webinar
- ☐ Attended a Forum webinar
- ☐ Used a Forum product or toolkit
- ☐ First timer
- ☐ Other (indicate in chat)



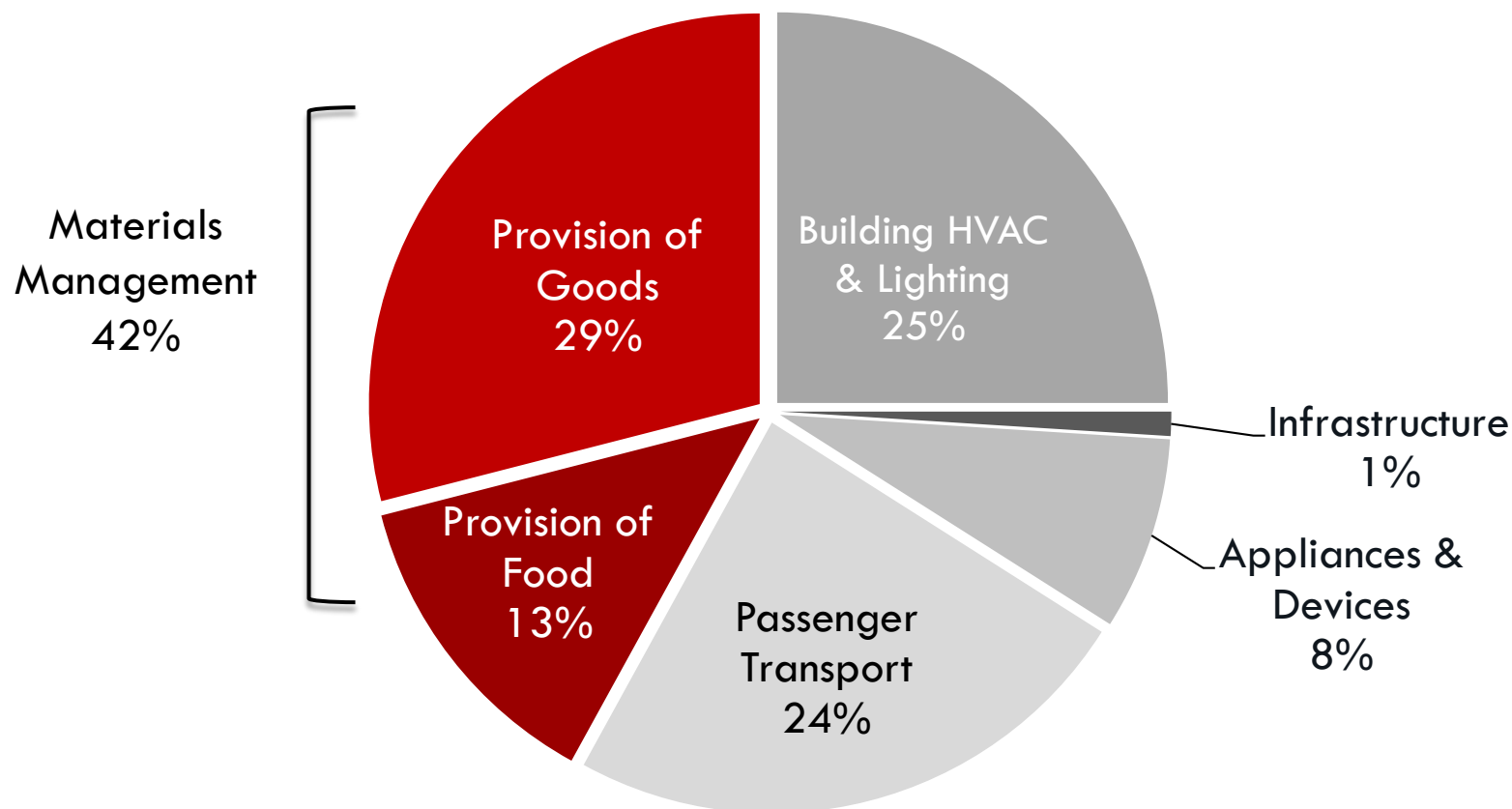
West Coast Climate and Materials Management Forum

The West Coast Climate and Materials Management Forum is a collaboration of state, local, and tribal governments

- ▣ Develop ways to institutionalize sustainable materials management practices.
- ▣ Develop tools to help jurisdictions reduce the GHGs associated with materials



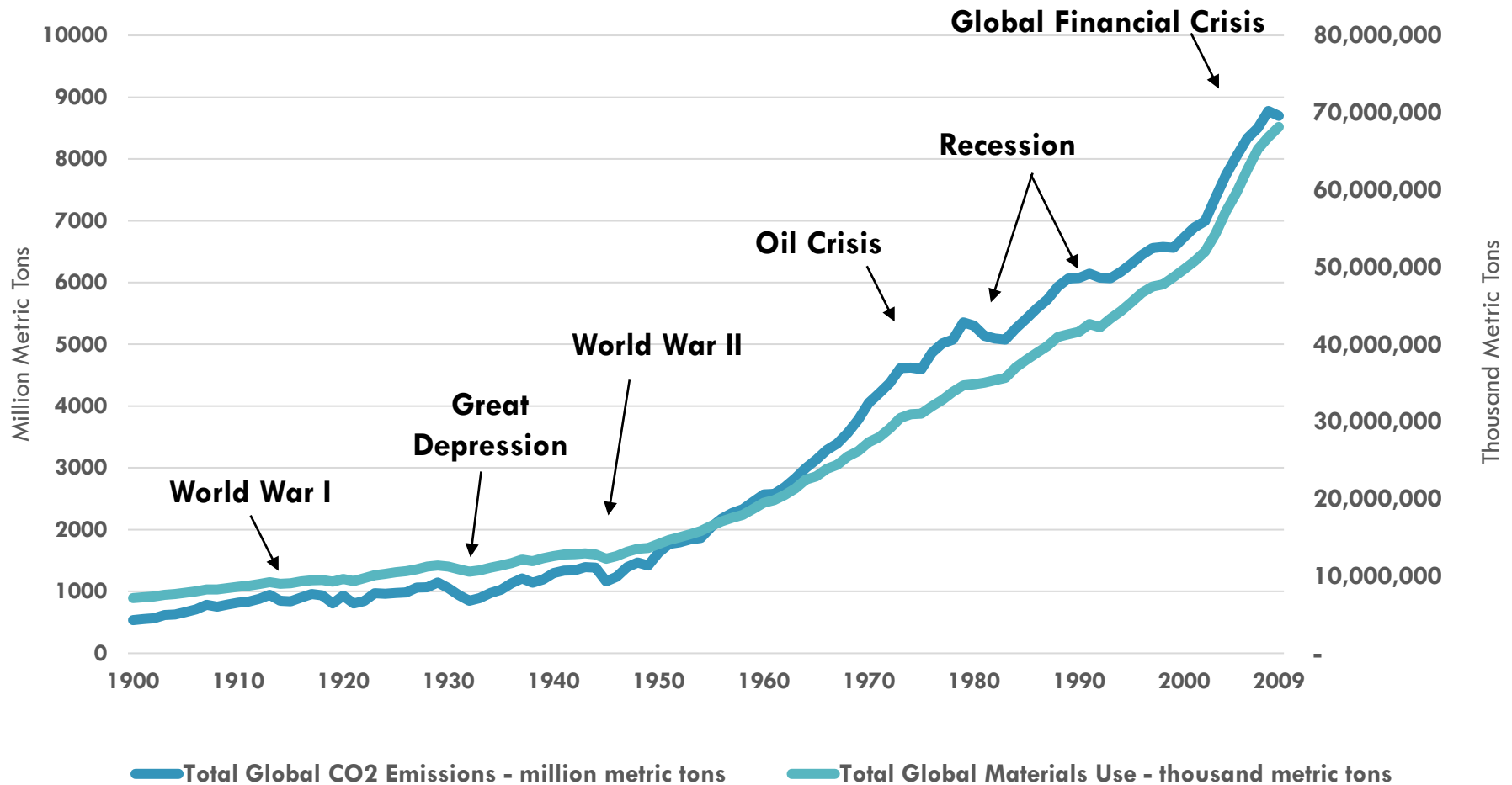
US Greenhouse Gas Emissions (2006)



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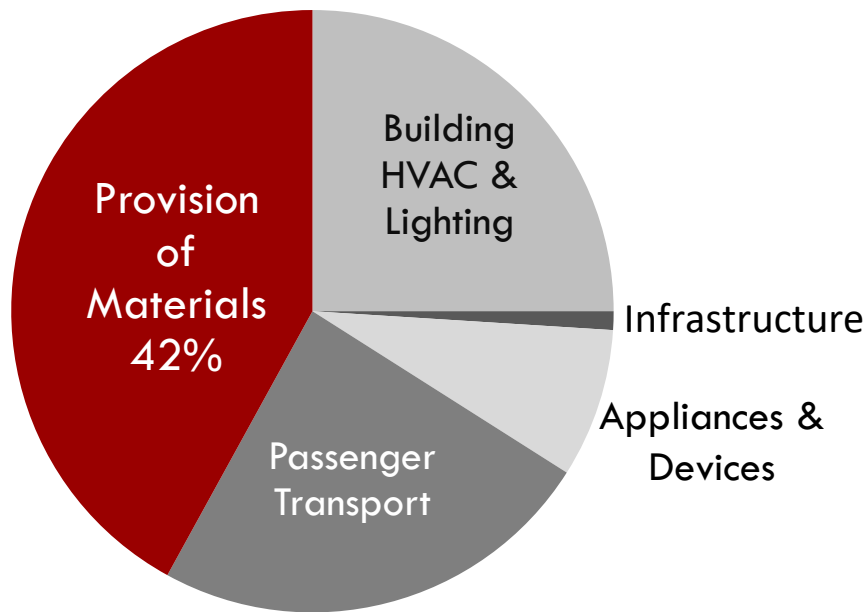
Source: *Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices*. U.S. EPA.

Global Material Consumption and Carbon Emissions

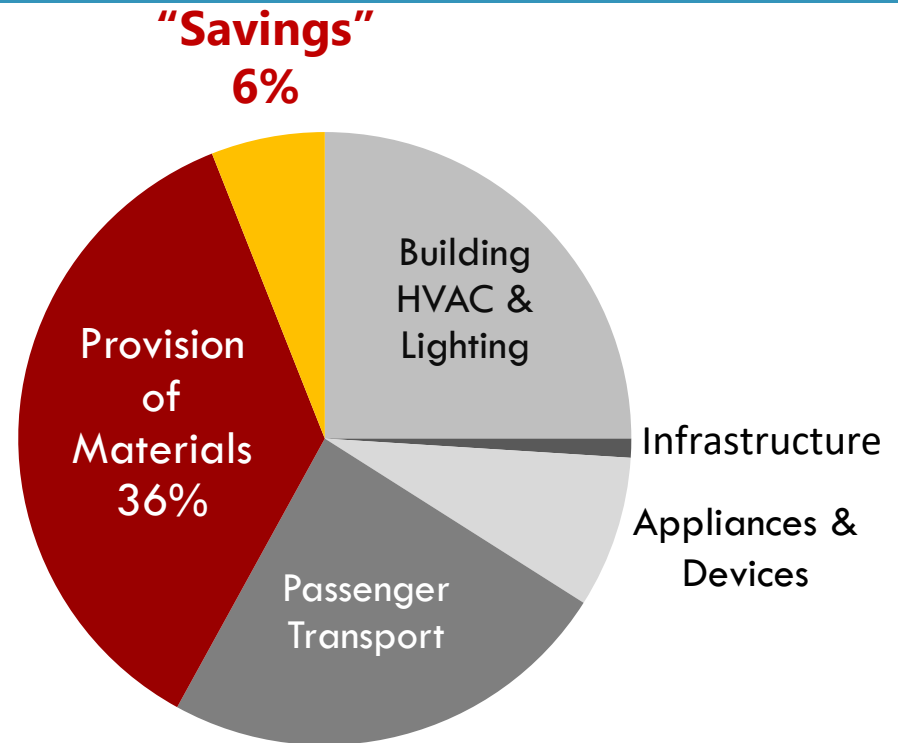


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Limits of Recycling and Composting 1



2006 U.S. GHG inventory
with 32% recovery
(municipal solid waste)

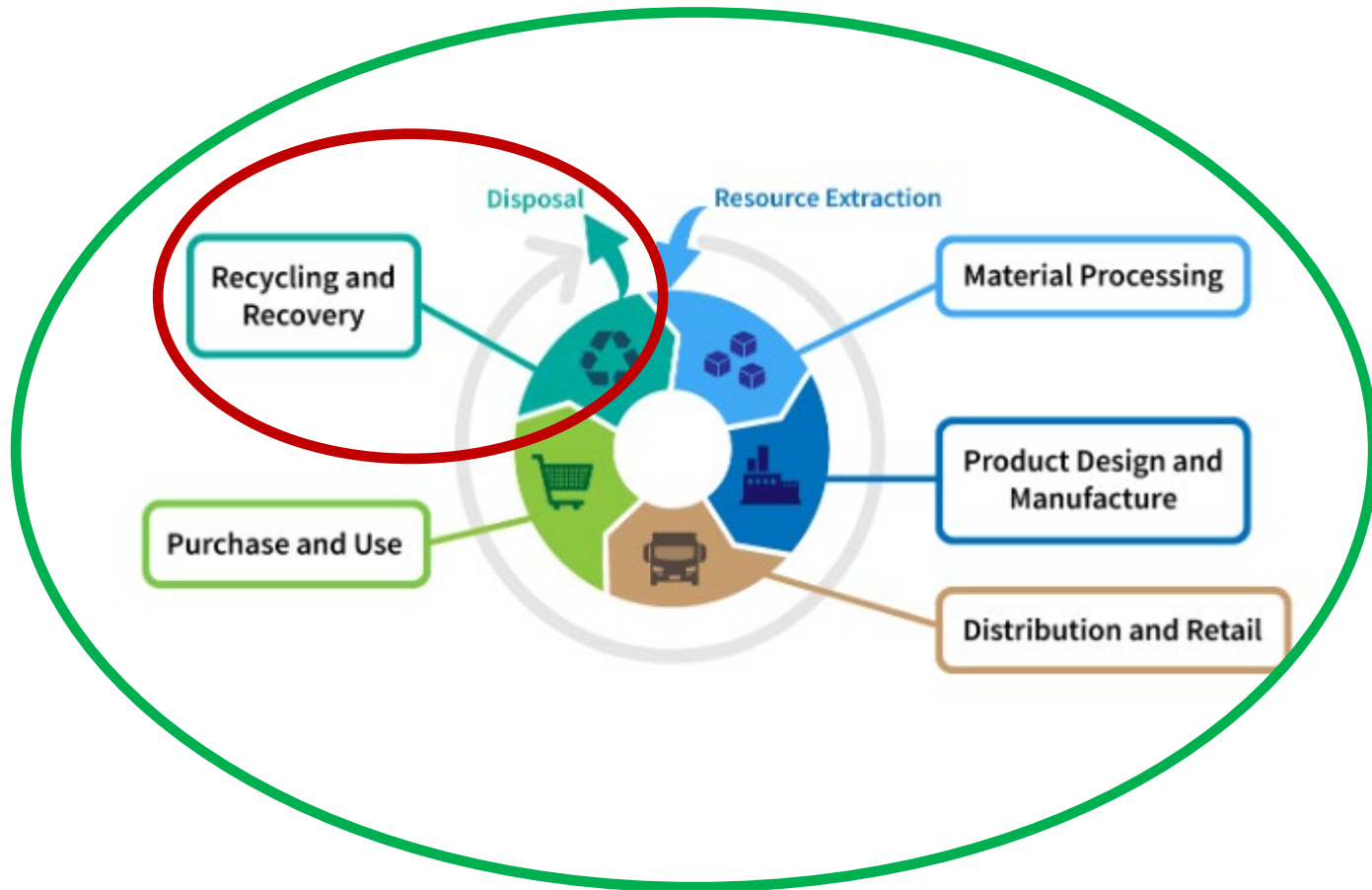


2006 U.S. GHG inventory with
hypothetical recovery rate
(~100% municipal solid waste + construction and
demolition debris)



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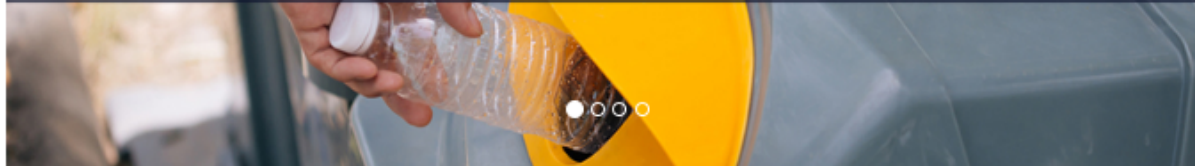
Materials Management Framework





Why Materials Matter

More than 40% of U.S. emissions are a result of producing, transporting, and disposing of materials.



Use Our Tools & Resources



[Climate Action Toolkit](#)



[Food: Too Good To Waste](#)



[Climate Friendly Purchasing Toolkit](#)



[Forum Resources](#)



[The Materials Message](#)

Sustainable Materials Management – Making the Climate-Materials Connection

More than 40% of U.S. greenhouse gas emissions result from production, transportation, use and disposal of material goods. Sustainable materials management focuses on using and reusing resources efficiently and sustainably from extraction to end-of-life. It aims to reduce materials use and its associated environmental impacts.

The West Coast Climate and Materials Management Forum seeks to inspire and inform communities on how to significantly reduce greenhouse gas emissions by improving the way they source, use, and recover materials. View the [Materials Message](#) for more details on the Materials-Climate connection.



Latest Content

Title	Date
About Supplementary Cementitious Materials	Jun 2022
Strategy #2: Use of Supplementary Cementitious Materials	Jun 2022
Forum Webinar Series	May 2022
Strategy #2: Menu Planning and Low-Carbon Purchasing	May 2022
Food and Food Service Strategies	May 2022

WCCMM Forum Leadership Team



State of Oregon
Department of
Environmental
Quality



West Coast Climate
& Materials Management Forum



Join Us!

- ❑ Justice, Equity, Diversity, and Inclusion (JEDI)
- ❑ Consumption
- ❑ Extended Producer Responsibility (EPR) and Packaging
- ❑ Built Environment



Justice, Equity, Diversity and Inclusion (JEDI) Working Group

Marie Diodati

Oregon Department of Environmental Quality



West Coast Climate
& Materials Management Forum

Other Workgroup Members:

- Steven Sander, CalRecycle
- Miya Kitahara, Stop Waste
- Kendra Tyler, US EPA
- Theresa Blaine, US EPA

Acknowledgements through our work

Through this recognition we seek to acknowledge the past, while honoring the present and future visions of the people and communities who have been most impacted within the work the West Coast Climate and Materials Management Forum wants to continue doing.

□ **Land Recognition**

We acknowledge that where we live, work, learn, practice spirituality, play, create, and build rests on stolen lands, the ancestral lands of the many tribes and bands in what we now call **Oregon**, including: Burns Paiute, Confederated Tribes of Coos, Lower Umpqua and Siuslaw, Confederated Tribes of Cow Creek Lower Band of Umpqua, Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, Confederated Tribes of Warm Springs, Confederated Tribes of Umatilla Indian Reservation, Coquille Tribe, and Klamath Tribes. We recognize and honor the continued sovereignty, cultural traditions, and knowledge of the tribes and descendants of the Indigenous communities who have cared for and been in relationship with this land and its beings since time immemorial (<https://native-land.ca/>.)

□ **Labor Recognition**

We acknowledge the stolen and enslaved Africans and exploited and incarcerated Black and Brown workers whose labor built and continues to build this country. We recognize that there are continued inequities which must be righted in order to arrive at equitable access for Black and Brown people to workforce and economic opportunities within the multitude of industries which support sustainable materials management.

□ **Recognition of Inequitable Burden**

We acknowledge the harm inflicted upon Black, Indigenous, and People of Color (BIPOC) communities across the country in the context of housing, land, development, sustainable materials management and infrastructure. We recognize the disproportionate and compounding impacts these systems have had on BIPOC communities including vulnerability to the impacts of the climate crisis and extreme weather events, health, displacement, and the wealth-building opportunities of home ownership.

These recognitions ground our work, however, we understand that acknowledgements alone are insufficient. We must also understand the underlying systems and processes which have enabled these inequities to perpetuate and try to base our work in alternate forms of practice.

Agenda

- Introduction
- Purpose
- Definitions
- Equity and the Forum

- Intersection
- Equity and your work
- Equity and other work groups
- What to think about next and together?



Purpose

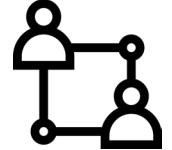
Why are we doing this work?



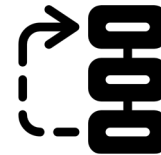
Shared common language DEI language and concepts



Include equity learning in our work



Reflect on our Forum priorities



Explore our past work



Definitions

Social Justice: All aspects of justice—including legal, political, economic and environmental—and requires the fair distribution of and access to public goods, institutional resources and life opportunities for all people.

Equity: Acknowledges that not all people, or all communities, are starting from the same place due to historic and current systems of oppression. Equity is the effort to provide different levels of support based on an individual's or group's needs in order to achieve fairness in outcomes. Equity actionably empowers communities most impacted by systemic oppression and requires the redistribution of resources, power, and opportunity to those communities.

Racial Equity: Closing the gaps so that race can no longer predict any person's success, which simultaneously improves outcomes for all. To achieve racial equity, we must transform our institutions and structures to create systems that provide the infrastructure for communities to thrive equally. This commitment requires a paradigm shift on our path to recovery through the intentional integration of racial equity in every decision.

Diversity: Honoring and including people of different backgrounds, identities, and experiences, collectively and as individuals. It emphasizes the need for sharing power and increasing representation of communities that are systemically underrepresented and under-resourced. These differences are strengths that maximize the state's competitive advantage through innovation, effectiveness, and adaptability.

Inclusion: A state of belonging when persons of different backgrounds, experiences, and identities are valued, integrated, and welcomed equitably as decision makers, collaborators, and colleagues. Ultimately, inclusion is the environment that organizations create to allow these differences to thrive.

Definitions

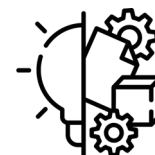
Frontline communities: Also known as “Climate Vulnerable Communities.” Those that experience “first and worst” the consequences of climate change. These are often communities of color, immigrants, rural communities, low-income communities, Tribal and indigenous people who have long been excluded from the policy and funding decisions and processes used to address climate change.

Environmental Justice: Equal protection from environmental and health hazards, and meaningful participation in decisions that affect the environment in which people live, work, learn, practice spirituality, and play. EJ communities include minority and low income communities, tribal communities, and other communities traditionally underrepresented in public process. Underrepresented communities may include those with significant populations of youth, the elderly, or those with physical or mental disabilities.

Intersectionality: The concept of intersectionality describes the ways in which systems of inequality based on gender, race, ethnicity, sexual orientation, gender identity, disability, class and other forms of discrimination “intersect” to create unique dynamics and effects. All forms of inequality are mutually reinforcing and must therefore be analysed and addressed simultaneously to prevent one form of inequality from reinforcing another. Intersectionality brings our understanding of systemic injustice and social inequality to the next level by attempting to untangle the lines that create the complex web of inequalities.

Equity Learning with WCCMMF

How to incorporate JEDI in our work?



& DEI workshop January 2021



& Priority for WCCMMF leadership team identified in 2021



+ Development of a JEDI workgroup for the Forum

Intersection of Climate, Equity and Materials Management

- **Systems perspective**
 - Beyond our regional boundaries
- **Well-being**
- **Relationship and trust**
- **Access**
 - Decision making within public processes or projects
 - Resources needed for self-determination and healthy lives

How do our materials management choices impact the intersection of climate and equity?

Spectrum of Community Engagement

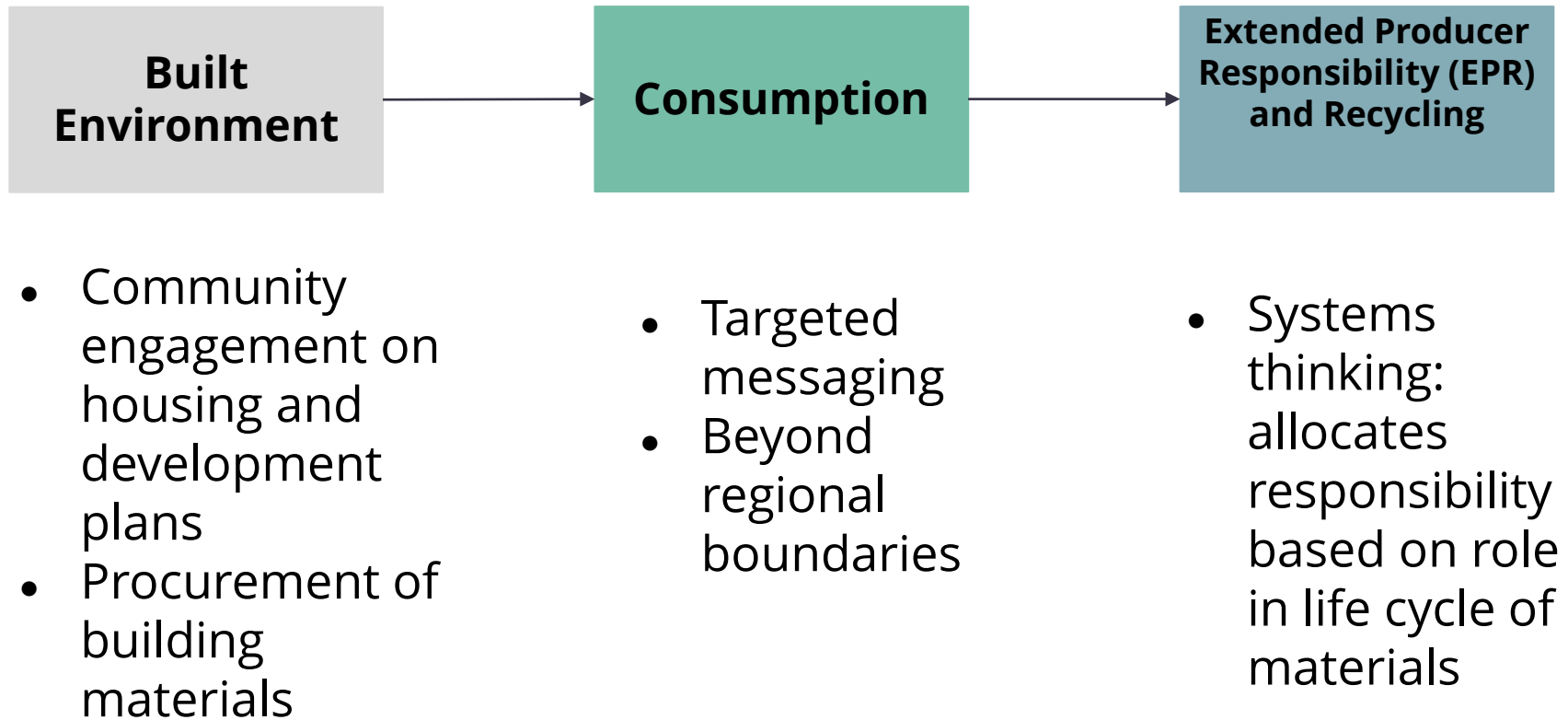
THE SPECTRUM OF COMMUNITY ENGAGEMENT TO OWNERSHIP



2



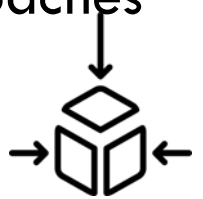
Equity in our Working Groups



Future Discussion Topics

We are working on:

- ❑ Acknowledging and identifying equity issues in current approaches and programs in our work
- ❑ Achieving a common understanding of definitions/concepts



What we can think about together:

- ⌘ How to operationalize JEDI in Materials Management ? How exactly does this affect *how* we do our work?
- ⌘ Can we crystalize the nexus of equity and materials management ?
 - And why do we need that? What's our goal/purpose ?
- ⌘ What projects/discussions might we collaborate on ?



Consumption Working Group

Andy Bray

Northeast Waste Management Officials' Association

Other Workgroup Members:

- Heather Church, WA Dept. of Ecology
- Janine Bogar, WA Dept of Ecology
- Miya Kitahara, Stop Waste
- Kendra Tyler, US EPA
- Theresa Blaine, US EPA

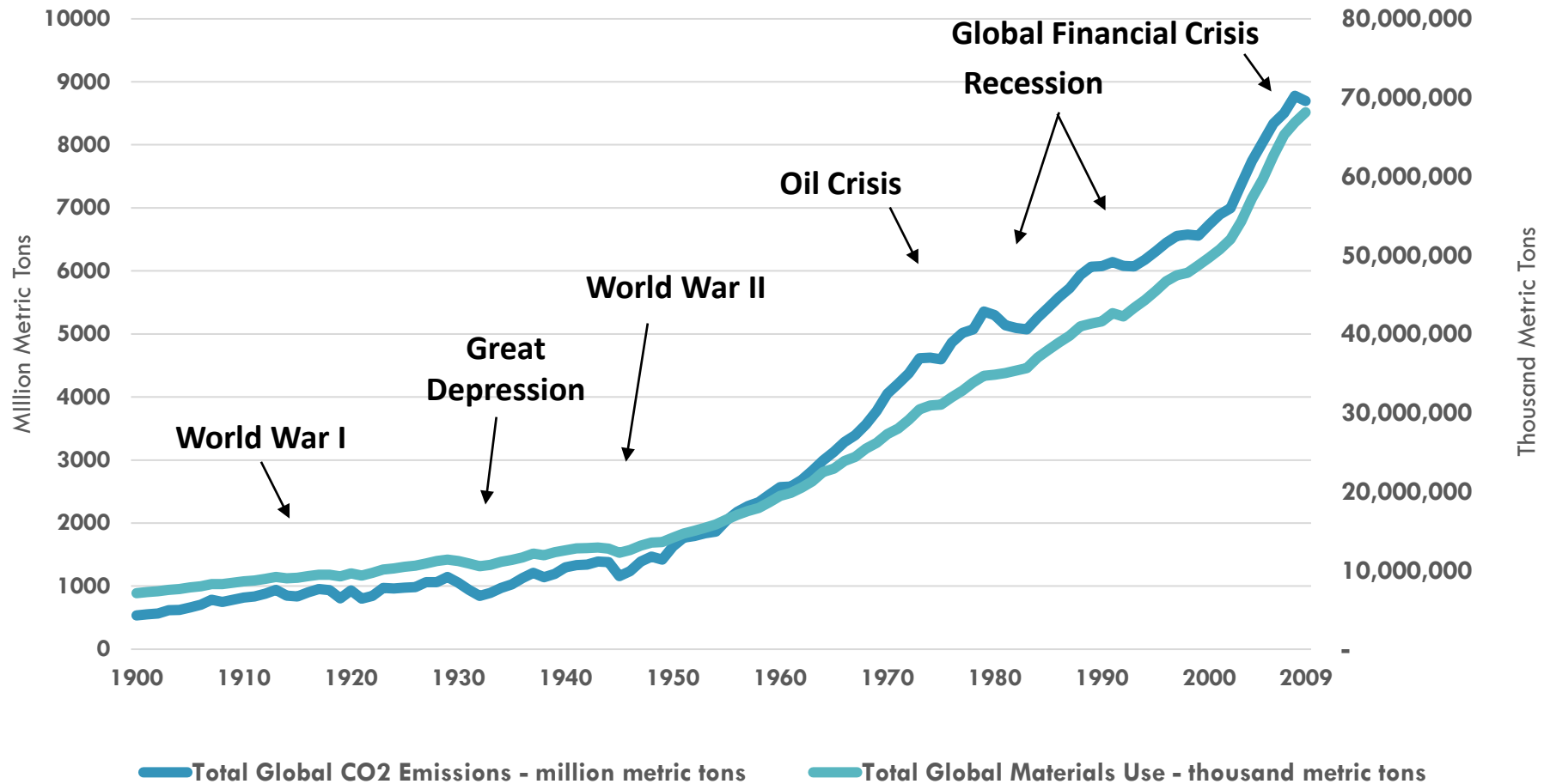


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Overview



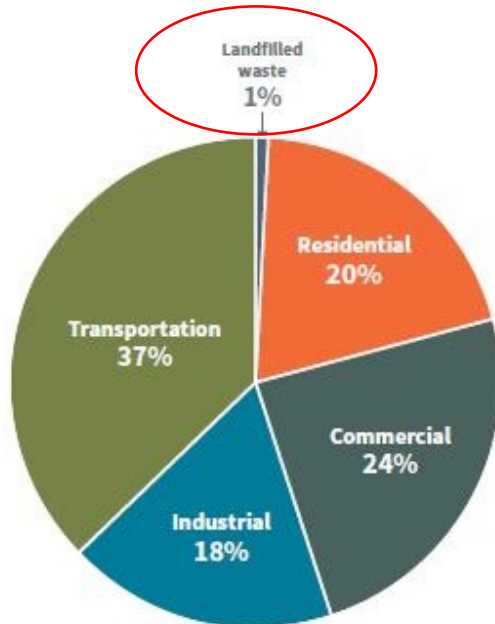
Global Material Consumption and Carbon Emissions



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Consumption-Climate Connection

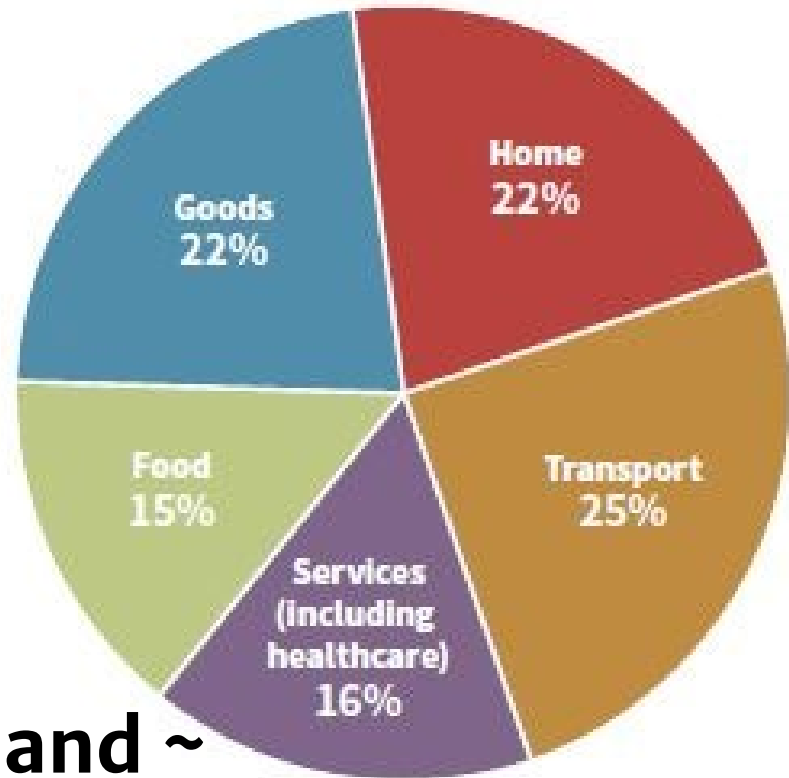
Sector-Based GHG Emissions Inventory



~ City of Portland ~

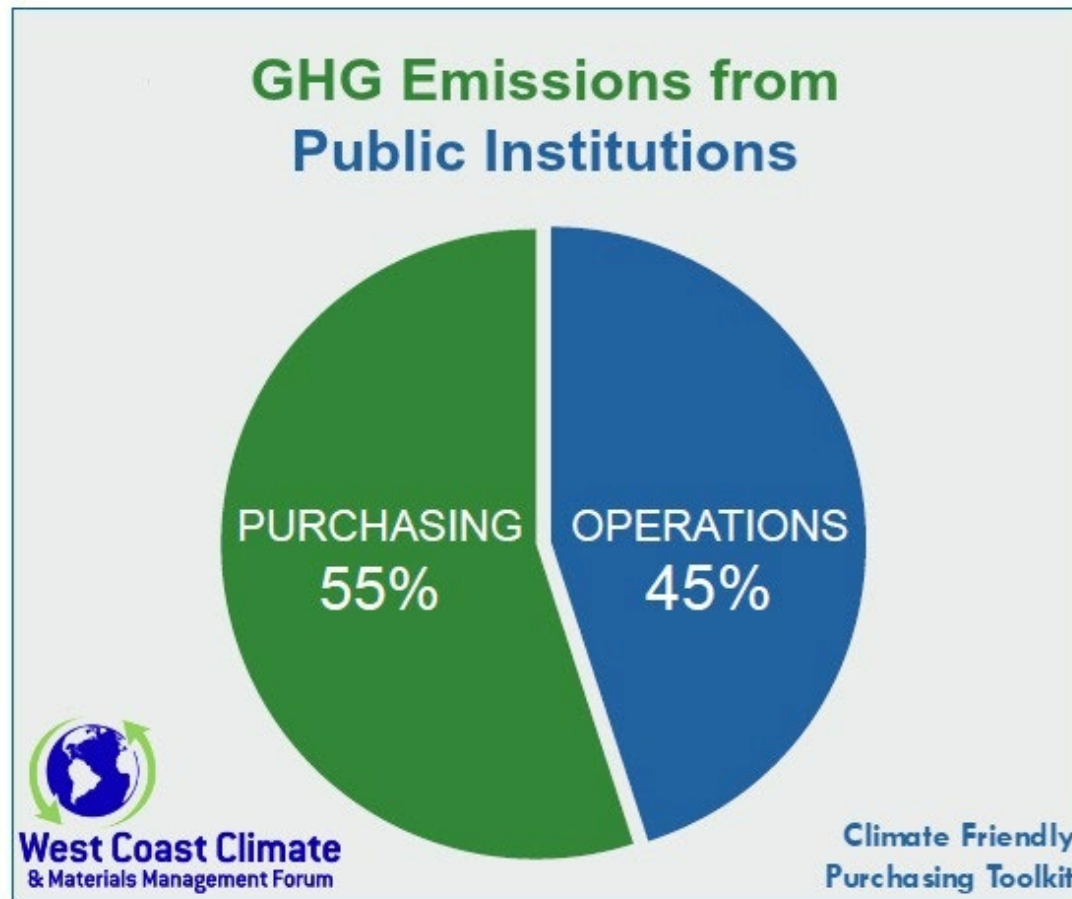
7.7 MMTCO₂e

Consumption-Based Emissions Inventory



17.1 MMTCO₂e

**Our purchases have big greenhouse gas impacts.
These can be reduced by wise purchasing decisions.**



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Rethink Our Consumption



**West Coast Climate
& Materials Management Forum**

Photo credit: flickr user jesusali, licensed under Creative Commons Attribution-Non-Commercial 2.0 license

Changing Consumption Patterns



BuyNothing



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& Materials Management Forum**

Decoupling Quality of Life from Mass Consumption: Government Program Opportunities to Explore

Alternative Recreation

Parks & rec, camps, classes,
libraries, Adult Education,



Community & Culture

Volunteerism, support arts
& entertainment



Economic Development

Enable micro-enterprises,
reuse, repair, etc.



GHG Benefits of Clean & Regionalized Supply Chains



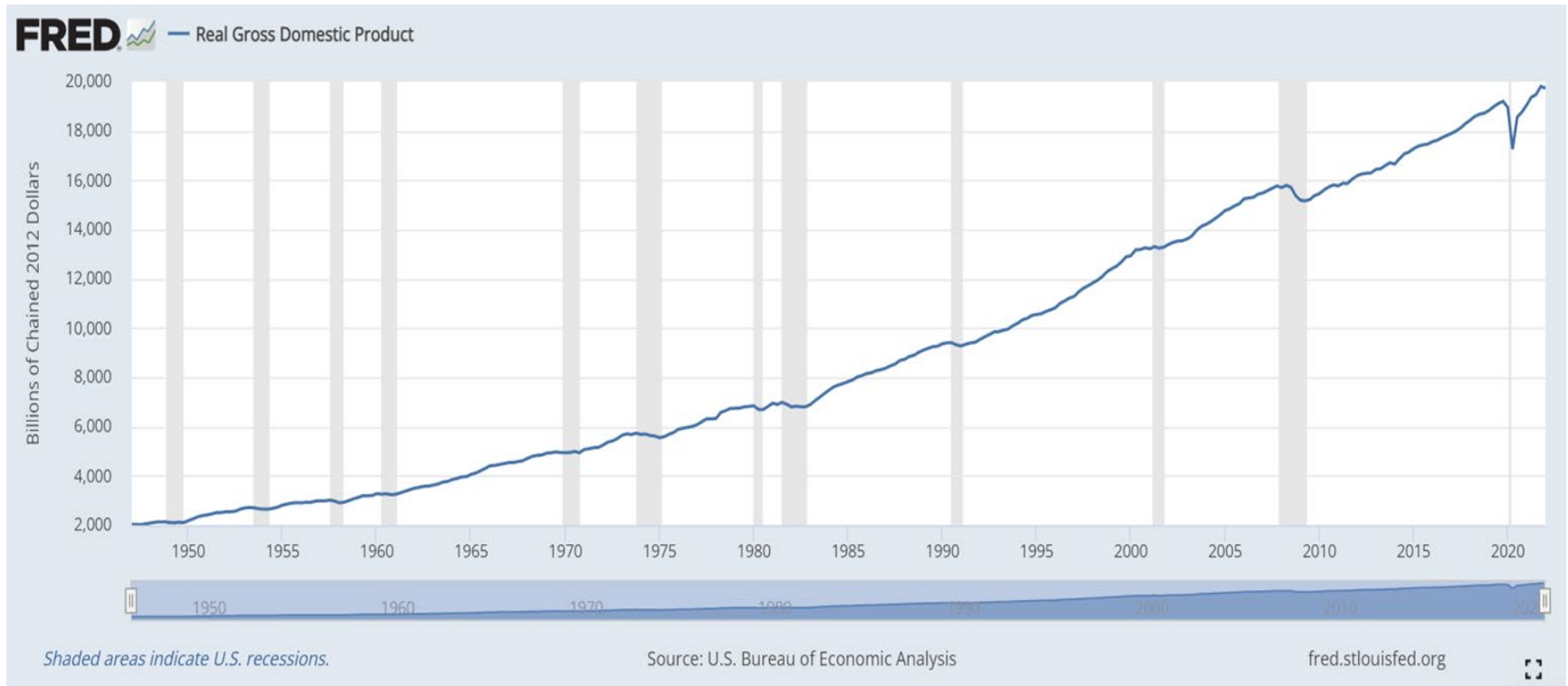
Economic Benefits of Local Reinvestment



Consumption as a Means to What End?

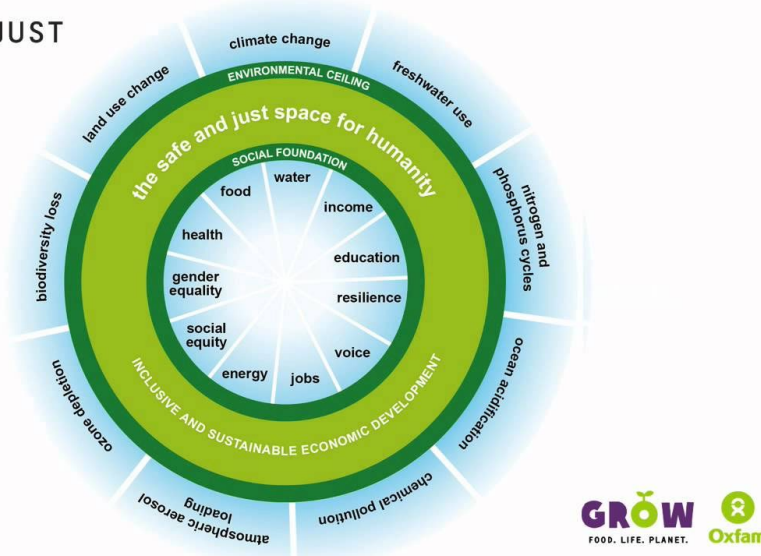
Evolving our requirements of the economy:

GDP requires endless consumption, and we see that simple GDP tracks the same trendline as material use and CO2



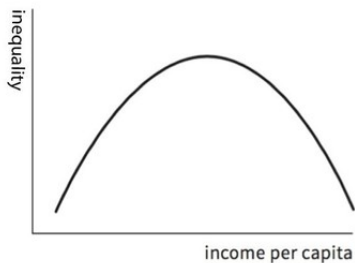
Evolving our requirements of the economy: More complete measures of progress are emerging

A SAFE AND JUST
SPACE FOR
HUMANITY



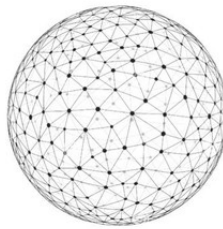
How to tackle inequality

20th century



It's got to get worse before it gets better
– and growth will make it better.

21st century



Don't wait for growth to even things up
because it won't. Be distributive by design.



**WELLBEING
ECONOMY
ALLIANCE**

Consumption Working Group

- ⑩ Scope of workgroup?
- ⑩ Purpose of this work?
- ⑩ Existing Programs/Lever
- ⑩ What next?



Extended Producer Responsibility (EPR) for Packaging and Opportunities to incorporate Climate Change Mitigation

Janine Bogar

Washington State Department of Ecology



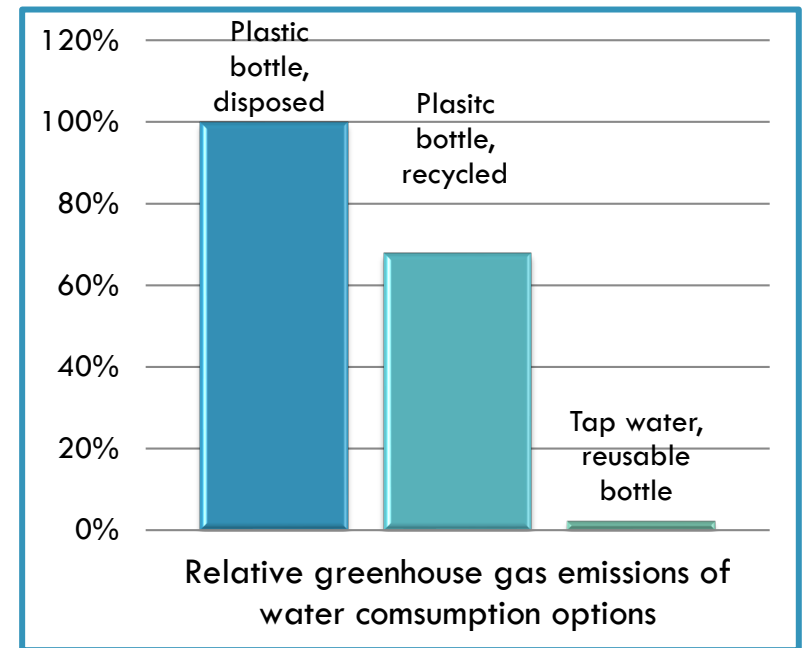
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Other Workgroup Members:

- David Allaway, OR DEQ
- Jeff Becerra, Stop Waste
- Terri Goldberg, NEWMOA

Packaging EPR and Climate Change Mitigation

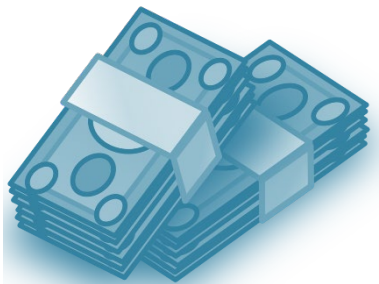
- Packaging EPR policies in the U.S. are increasing
- EPR will improve recycling, but we need to go beyond recycling
- **Why?**
 - Most climate impacts of materials occur “upstream”
 - Recycling should be done responsibly, reduce pollution and conserve resources
 - Recycling is necessary but not enough



Packaging EPR and Climate Change Mitigation

□ Four Concepts to Incorporate Climate Mitigation

1. Fund Waste Prevention and Reuse
2. Set Goals/Mandates for Waste Prevention and Reuse
3. Require Evaluation and Disclosure of Life Cycle Impacts
4. Optimize the Recycling System



Packaging EPR and Climate Change Mitigation

1. Fund Waste Prevention and Reuse

- Require PROs to fund waste prevention and reuse programs
- Fund pilot projects to help build out needed reuse infrastructure
- Provide waste prevention incentives



Packaging EPR and Climate Change Mitigation

2. Set Goals/Mandates for Waste Prevention and Reuse

- Include explicit waste reduction goals
- Use the Forum to share policy specifics and best practices
- Key details still to be determined....
 - Let's work together to figure these out!



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Packaging EPR and Climate Change Mitigation

3. Require Evaluation and Disclosure of Life Cycle Impacts

- Require some EPDs – for larger producers
- Provide incentives for products with smaller footprints



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Packaging EPR and Climate Change Mitigation

4. Optimize the Recycling System

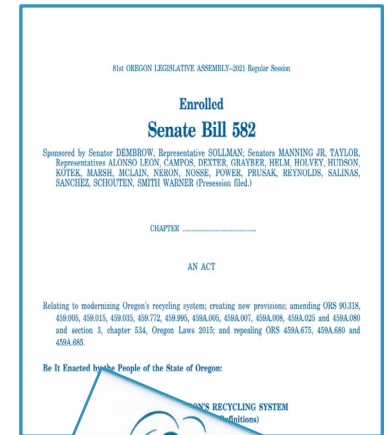
- Focus on materials with value and feedstock potential
- Require accurate labeling of accepted materials
- Require materials go to responsible end markets
- Promote reuse and repair, before recycling
- Increase demand for recycled content
- Build transparency on what's really recyclable and why



Packaging EPR and Climate Change Mitigation

□ Next Steps and How You Can Help?

- Consider incorporating climate mitigations into packaging EPR policies
- Help figure out implementation details
- Use the Forum to discuss and share proposed approaches



☐ Thank you!



Built Environment Working Group

Co-Presenting:

- Amanda Ingmire, OR DEQ
- Karen Cook, Alameda County, CA
 - Miya Kitahara, StopWaste
 - Timonie Hood, EPA Region 9

Additional Workgroup Members:

- Marie Diodati, OR DEQ
- Theresa Blaine, EPA Region 10



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Built Environment Working Group Overview

Sharing updates you can apply or tap into

We want to see you all do this work

- **Interested in learning your needs/priorities**
- **Grounding work in your community**
- **Share what you're doing (or thinking of doing)**



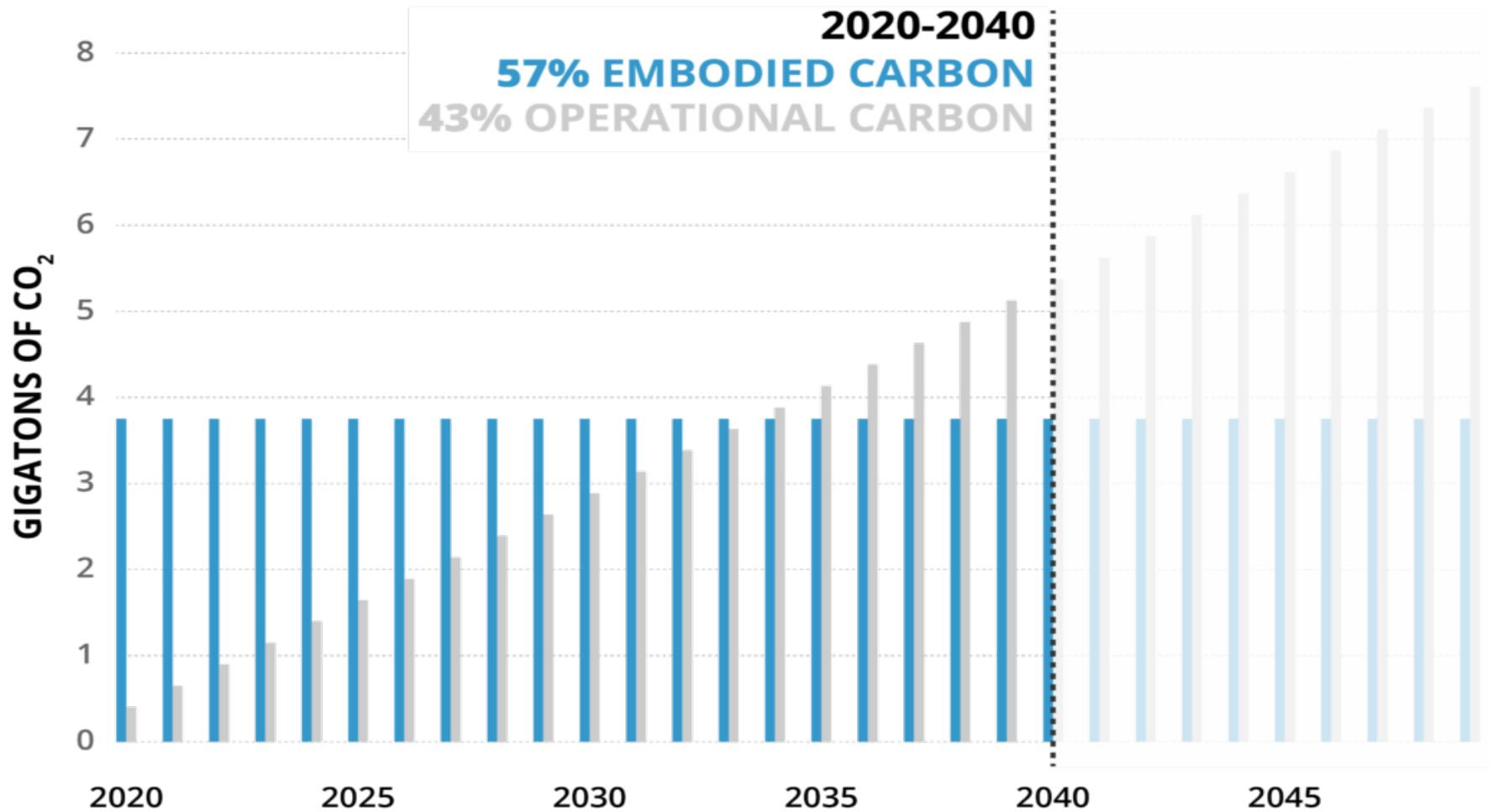
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Embodied Carbon vs. Operational Carbon



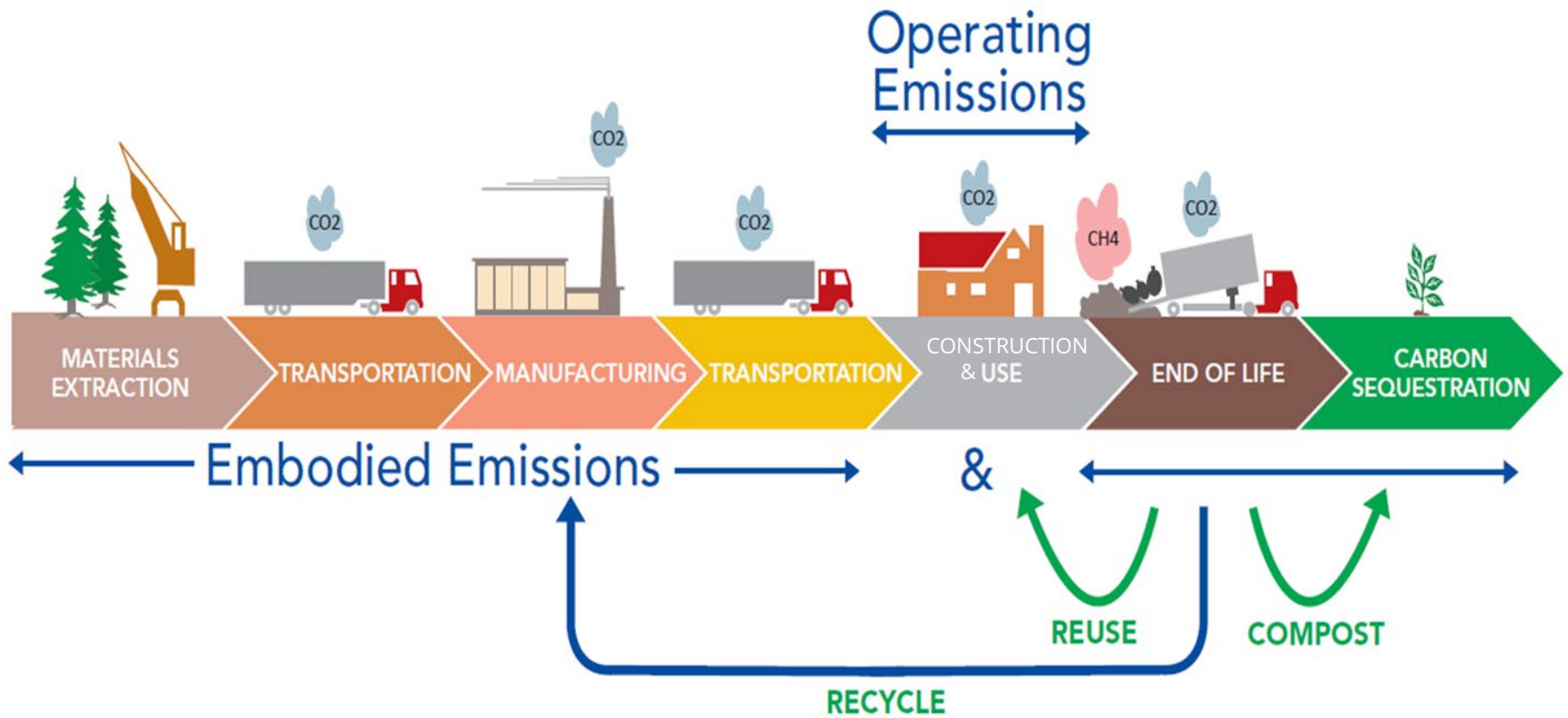
Operational Carbon: All of the energy used to keep buildings, warm, cool, ventilated, lighted and powered

Total Carbon Emissions of **Global New Construction** *with no building sector interventions*



© Architecture 2030. All Rights Reserved.

Data Sources: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017



Opportunities in the Built Environment

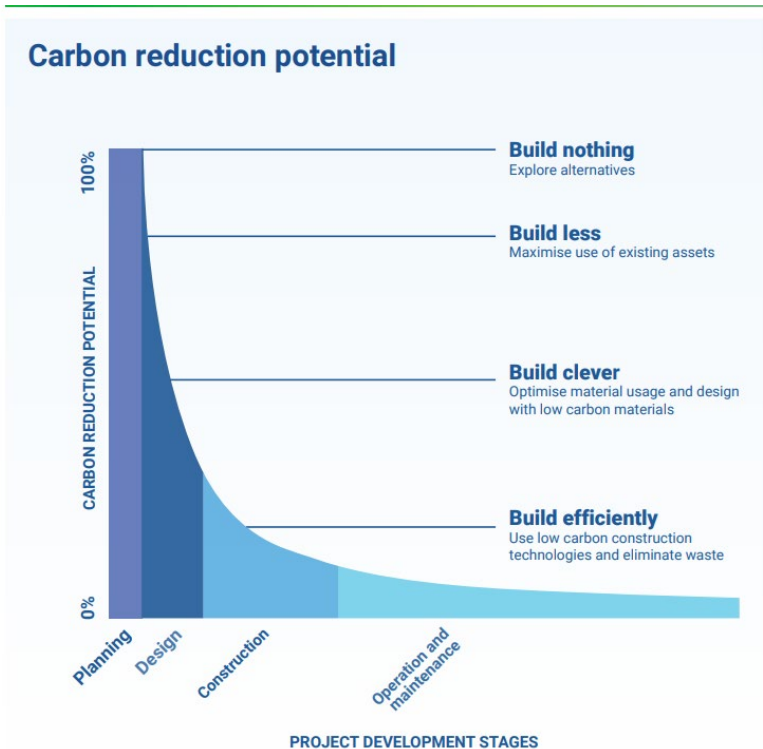

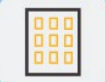




Figure 4: Opportunities to reduce embodied carbon from stage of design process.
Source: HM Treasury: Infrastructure Carbon Review, 2013

- 1 BUILD LESS, REUSE MORE** 
- 2 DESIGN LIGHTER AND SMARTER** 
- 3 USE LOW-CARBON ALTERNATIVES** 
- 4 PROCURE LOW(ER)-CARBON PRODUCTS** 



Materials Management & Embodied Carbon: The Power of Reuse

- ❑ Existing building adaptive reuse and retrofits
- ❑ Design for deconstruction and adaptation
- ❑ Deconstruction and salvage

Common Materials Recovered: Wood, Furniture, Appliances, Brick, Wood Floors, Fixtures, Stone, Cabinets, Windows, Doors, Mantels

- ❑ Building materials from waste streams
 - ▣ Recycled aggregates
 - ▣ Pozzolans, cementitious materials
 - ▣ Agricultural residues/byproducts
 - ▣ Forest thinning



EPA Region 1 was a former U.S. Post Office, Boston



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Deconstruction & Reuse Strategies

- **Join existing groups:** [Build Reuse, Bay Area \(& Beyond\) Deconstruction Workgroup](#), King County Regional Code Collaboration, Rheaply (SFE CNCA)
- **Add Actions to Climate Action Plans:** [Oakland](#), [San Francisco](#)
- **Mandatory Deconstruction Ordinances** (Portland, Palo Alto)
- **California:** Focus on Wood Recovery under SB 1383
- **Voluntary Support:** Deconstruction Job Training, Infrastructure/Warehouse Space, Vehicles (San Mateo County, CalRecycle)
- **Building Codes:**
Allow reuse of undamaged lumber without regrading (OR, WA)
- **All for Reuse:** Regional industry-led groups



Embodied Carbon Procurement & Policy Advocacy

Procurement Actions:

Portland, OR - set carbon emissions thresholds for concrete procured by the City for sidewalk construction

Alameda County, CA - set performance requirements for municipal design-build projects



Buy Clean Act:

- ☐ CA: performance requirements for certain materials
- ☐ OR: directs ODOT to assess GHG emissions attributable to concrete, asphalt, and steel

State Building Codes

CA: CALGreen Carbon Reduction Collaborative

OR: Oregon Resilient Efficient Building Task Force

WA: Washington State Building Code

Local Building Codes

Marin & Denver: Reach Code

Vancouver: Step Code

JEDI Opportunities in the Built Environment

Community engagement on development and housing plans and policies

Missing middle housing (CA and OR legislation)

Deconstruction, reuse, and demolition best practices to reduce toxics from demolition dust (Portland)

Workforce development

Procurement of building materials with lower social, environmental, and human health impacts, in addition to lower climate impacts

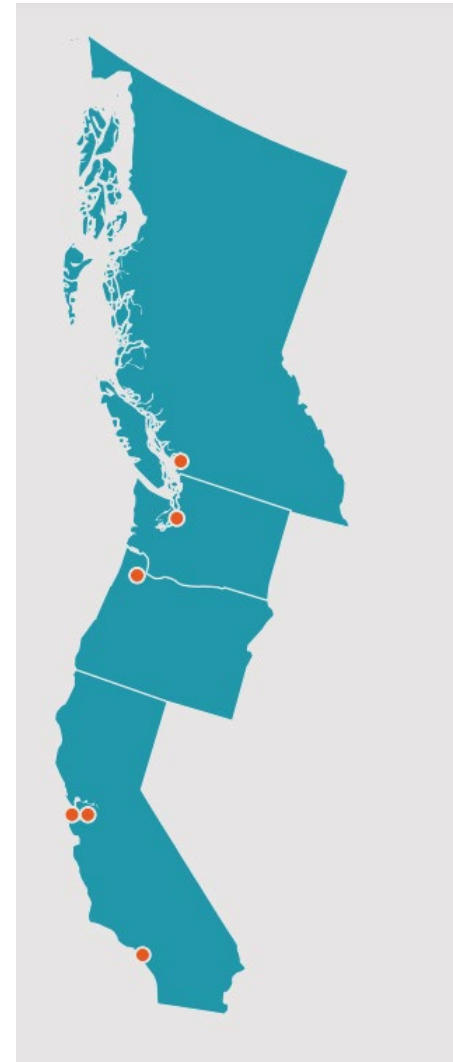
Pacific Coast Collaborative

Low Carbon Construction Task Force established at COP

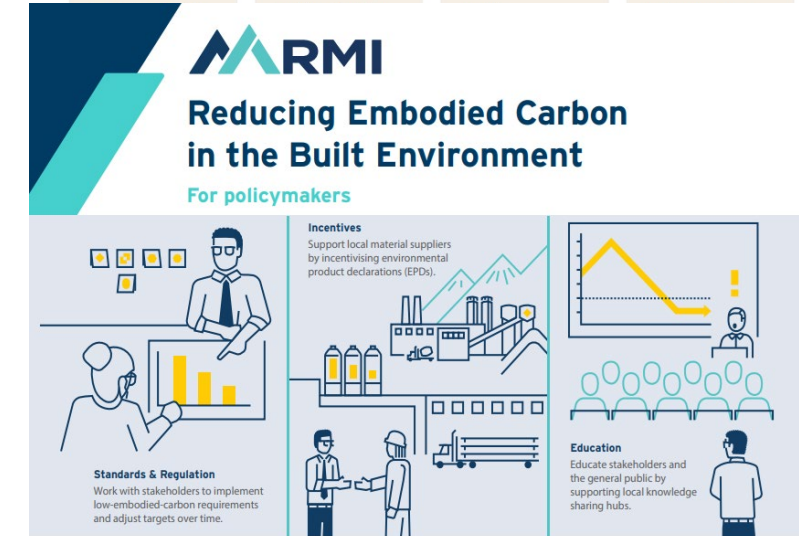
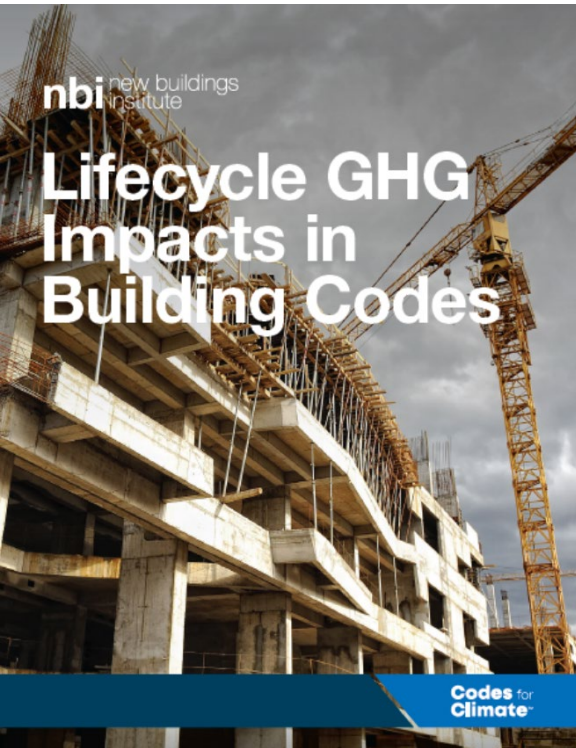
Goal to establish shared regional goals and roadmap

Focus areas:

- Procurement
- Codes & Zoning
- Deconstruction & Reuse
- Emerging Technologies



Existing Resources



State and Local Government Resources

CLF policy toolkit: <https://carbonleadershipforum.org/clf-policy-toolkit/>

CNCA: <https://carbonneutralcities.org/embodyed-carbon-policy-framework/>

NBI: <https://newbuildings.org/resource/lifecycle-ghg-impacts-in-codes/>

RMI: <https://rmi.org/our-work/buildings/embodyed-carbon-initiative/>

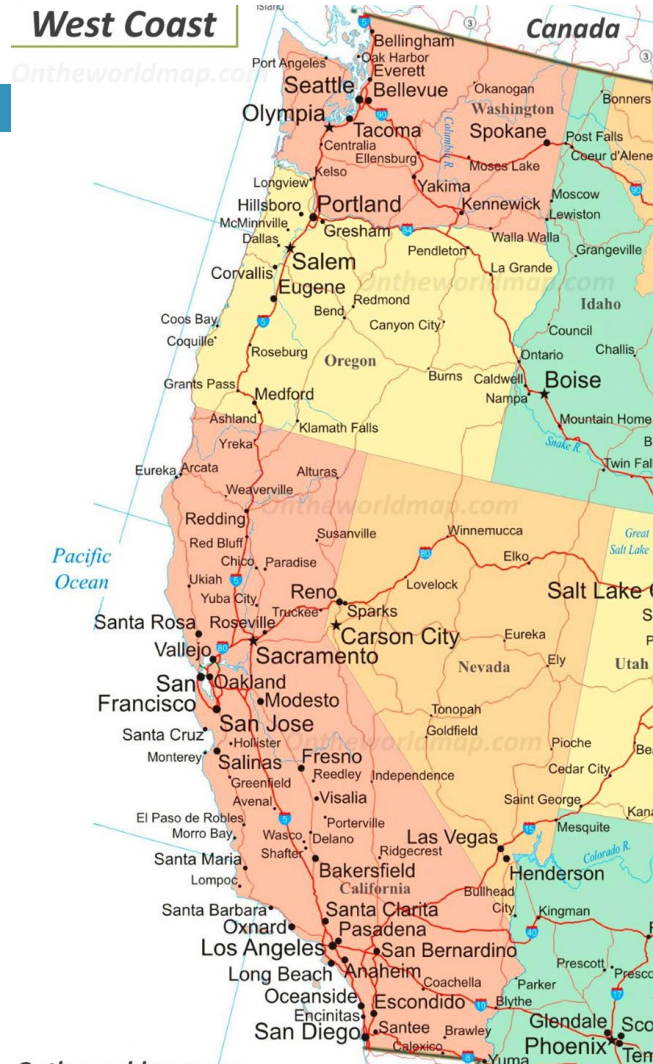
The West Coast Potential

Building on initiatives and momentum

- ▣ Pacific Coast Collaborative
- ▣ Buy Clean acts and bills
- ▣ Leading cities + climate action plan measures
- ▣ Academic/research institutions and industry organizations

Corridor of secondary material exchanges

Bioregional economic development of low-carbon supply + demand



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WCCMMF Built Environment Working Group Focus

What do you need to...

- ▣ Apply existing resources (CLF etc.) to your work?**
- ▣ Apply materials management strategies?**
- ▣ Integrate JEDI?**

Join Us!

- ▣ What do you think is possible?**
- ▣ What is needed?**

Poll #4

Which of these topics do you have an interest in learning more about?

- ☐ JEDI
- ☐ Consumption
- ☐ EPR and Packaging
- ☐ Built Environment



Breakout Session

June 14, 2022

WCCMMF Spring Meeting

Breakout Instructions

Questions for Break-outs:

What do you work on?

What topic are you most interested in?

What climate/materials related challenges are you working with in your jurisdiction?

What tools or resources need to help further your work?

How can the Forum support your work?



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Discussion

**Facilitators: Share one take-away
from your breakout discussion.**



Check out the Forum's Resources

- Original Report Connecting Materials/Climate
- Research Summaries
- Turn-key Materials Management Presentation
- Climate Action Toolkit
- Food: Too Good to Waste Toolkit
- Climate-Friendly Purchasing Toolkit

www.westcoastclimateforum.com



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THANK YOU!

Please stay on the webinar for
connection to the exit survey

For more information, visit

www.westcoastclimateforum.com



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