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Materials Management and Product Stewardship Workgroup

Workgroup Goal:

- engage in innovative and impactful materials management research and projects
- develop a framework, including tools and practices, that connects product stewardship with GHG emissions reductions and climate action



Current Project

“Identifying Priority Materials and Best Practices for Emissions Reduction through Sustainable Materials Management”

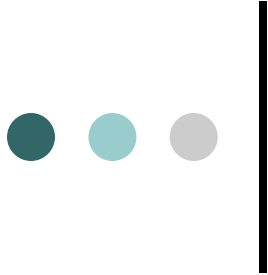
- Identifies top 10 materials with greatest GHG emissions reduction potential in waste stream of WA, OR and CA.
- Uses EPA’s WARM calculator to compare emissions to landfilling to recycling and composting.
- Highlights best practices for materials management to achieve state and local policy goals.



Materials with the Greatest Emissions Reduction Potential

Top 10 materials, broken into 4 categories:

- Food Scraps
- Dimensional Lumber
- Carpet
- Core Recyclables
 - Corrugated containers
 - Office paper
 - Aluminum cans
 - Newspaper
 - Magazines
 - Steel cans
 - PET, HDPE (or mixed plastics)



Materials with the Greatest Emissions Reduction Potential

CALIFORNIA		WASHINGTON		OREGON	
<u>Material Type</u>	<u>MTCO2E Reduced</u>	<u>Material Type</u>	<u>MTCO2E Reduced</u>	<u>Material Type</u>	<u>MTCO2E Reduced</u>
Carpet	-9,324,722	Carpet	-1,294,774	Carpet	-497,046
<i>Corrugated Containers</i>	<i>-6,061,275</i>	Food Scraps	-872,695	Food Scraps	-433,855
Food Scraps	-5,837,189	<i>Corrugated Containers</i>	<i>-601,724</i>	<i>Corrugated Containers</i>	<i>-239,367</i>
<i>Office Paper</i>	<i>-3,093,923</i>	<i>Aluminum Cans</i>	<i>-383,414</i>	Dimensional Lumber	-128,271
Dimensional Lumber	-2,123,138	<i>Office Paper</i>	<i>-210,128</i>	<i>Office Paper</i>	<i>-96,435</i>
<i>Newspaper</i>	<i>-913,942</i>	<i>Newspaper</i>	<i>-151,145</i>	<i>Mixed Plastics</i>	<i>-43,041</i>
<i>Magazines*</i>	<i>-750,902</i>	<i>Magazines*</i>	<i>-122,420</i>	<i>Aluminum Cans</i>	<i>-40,096</i>
<i>Aluminum Cans</i>	<i>-652,958</i>	Dimensional Lumber	-93,089	<i>Magazines*</i>	<i>-39,870</i>
<i>Steel Cans</i>	<i>-434,140</i>	<i>PET</i>	<i>-74,758</i>	<i>Newspaper</i>	<i>-34,074</i>
<i>PET</i>	<i>-310,425</i>	<i>HDPE</i>	<i>-72,819</i>	<i>Steel Cans</i>	<i>-33,346</i>
Core Recyclables	-12,217,564	Core Recyclables	-1,616,408	Core Recyclables	-526,229



Materials with the Greatest Emissions Reduction Potential

- **Food Scraps**
- **Dimensional Lumber**
- **Carpet**
- **Core Recyclables**



Materials with the Greatest Emissions Reduction Potential

- **Food Scraps**
- Dimensional Lumber
- Carpet
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Materials with the Greatest Emissions Reduction Potential

- Food Scraps
- **Dimensional Lumber**
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Materials with the Greatest Emissions Reduction Potential

- Food Scraps
- Dimensional Lumber
- **Carpet**
- Core Recyclables



Materials with the Greatest Emissions Reduction Potential

- Food Scraps
- Dimensional Lumber
- Carpet
- **Core Recyclables**



Upcoming Project

- Produce a white paper evaluating the potential for using product stewardship policies to achieve reductions in product lifecycle GHG emissions.
- This report will be completed in June 2011.
- We are looking for input and participation from Forum members on this and other projects.

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RESEARCH WORK GROUP UPDATE

January 11, 2011

EPA West Coast Climate and Materials Management Forum

Mission of the Work Group

- Establish a shared research agenda and develop a strategy to communicate research results.
 - ▣ *Synthesize research results for local and state government practitioners*
 - ▣ *Communicate research/information needs to research community*

Work Group Members

- Babe O'Sullivan, City of Eugene
- Jeff Dhont, EPA Region 9
- David Allaway, Oregon DEQ
- Ethan Nelson, City of Eugene
- Meg Lynch, Metro

Quick Review

- *Building list of research priorities*
 - *Survey monkey*
 - *TAC – summer 2009*
- *Status as of last forum*
 - *Draft list of priority research topics/questions*
- *Developments since 2009 Forum*
 - *EPA Region 9 contract with ICF consultants*
 - *Refinement of priorities*

Challenges

- ❑ Divergent goals for research agenda
- ❑ Broad range of research priorities
- ❑ Breadth vs. depth
- ❑ Limited budget
- ❑ Product: one-off or build toward full research agenda
- ❑ Dynamic nature of research – it's a moving target

Key Questions

- What is most useful to forum participants? How do you anticipate using the research summary and ultimately the research agenda?
- Should we take a wide or deep approach? How will this affect the quality and usefulness of the work product?
- For the research summary, what format is most useful for synthesizing the research results?
- Should we focus the research summary at the topic level or the specific questions that were prioritized?

Contact Information

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West Coast Climate and Materials Management Forum

January 11, 2011



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Inventory Workgroup Update

Prepared for the West Coast Climate and Materials
Management Forum

David Allaway, Oregon DEQ

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Davis.Shannon@epa.gov

January 11, 2011



Workgroup Goal

- To work towards the development of state, community and city level GHG inventories and action plans that incorporate consumption- and/or systems-based approaches



Workgroup History

- CARB Community Inventory Protocol
 - Inventory Workgroup developed three framing recommendations:
 - Incorporate life-cycle emissions
 - Include trans-boundary emissions (disposal sites)
 - Include communications/reporting standards
 - Didn't launch



Workgroup History, continued

- New strategy (late 2009):
 - Develop toolkit to help local and state governments get materials management into inventories and climate action plans
 - Intended user: state or local staffer (“recycling coordinator”) with limited climate experience, invited (or not!) to participate in a community climate action planning project
 - Simultaneously wait for “someone else” to develop a community inventory protocol
- “Someone else” identified in 2010: ICLEI-Local Governments for Sustainability USA

West Coast Climate and Materials Management Forum

January 11, 2011



The Toolkit

- Great contributions by many Forum members
 - Special thanks to EPA

David Allaway, Oregon DEQ

Shannon Davis, EPA Region 9

Jennifer Brady, US EPA

Madalyn Cioci, Minnesota Pollution
Control Agency

John Davis, Mohave Desert and
Mountain Recycling Association

Mark Gagliardi, City of Oakland

Michelle Gaither, Pacific Northwest
Pollution Prevention Center

Brian Helmowski, CalRecycle

Timonie Hood, EPA Region 9

Shizuka Hsieh, US EPA

Tom Huetteman, EPA Region 9

Sego Jackson, Snohomish County

Chris Jones, University of California at
Berkeley

Evan Johnson, EPA Region 10, Intern
Extraordinaire

Debra Kaufman, StopWaste

Gary Liss, Zero Waste International
Alliance

Meg Lynch, Metro (Portland)

Josh Marx, King County

Calla Ostrander, City of San Francisco

Bill Sheehan, Product Policy Institute

Eileen Sheehan, EPA Region 9

Ted Sheldon, B.C. Ministry of
Environment

Jill Simmons, City of Seattle

Saskia Van Gendt, EPA Region 9

Materials Management Approaches for State and Local Climate Protection

★ home PAGE HISTORY NOTIFY ME

PROTECTED

- Discussion
- Recent Changes
- Manage Wiki
- Search
- Home Page
- We Want to Hear from You
- Background & Motivation
- Greenhouse Gas Inventories
- Setting Targets
- Climate Protection Actions
- Measuring Results
- Resources
- Glossary
- Acknowledgements

Our Purpose - Reducing Greenhouse Gases through Materials Management

Materials Management strategies reduce greenhouse gas (GHG) emissions associated with waste, materials and products through a lifecycle and systems approach.

This wiki is a materials management toolkit of:

- Climate Protection Actions
- Example Climate Action Plans
- New approaches to GHG Inventories
- Measurement Tools
- Links to resources
- And more...see links at left

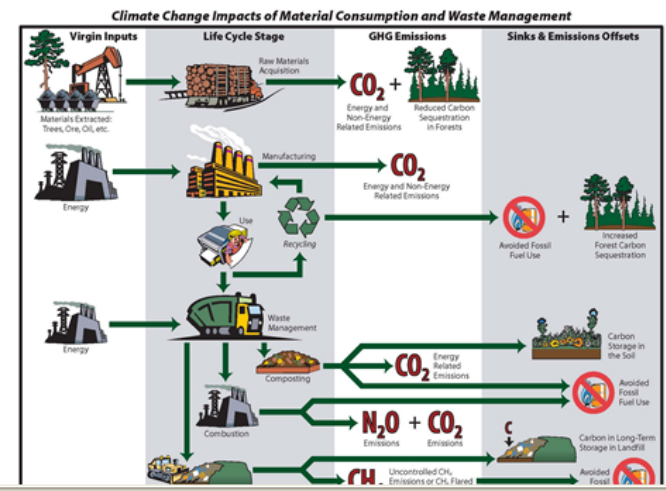
[We want to hear from you.](#) This beta version toolkit was launched on 9/8/10. Help us improve it with your feedback and let us know what materials management approaches you are adding to your Climate Action Plan.

Who Should Use This Toolkit

- State and Local Government Climate Change Staff
- Recycling, Composting and Solid Waste Professionals
- Sustainability and Pollution Prevention Coordinators
- Climate Action Plan Coordinators
- Greenhouse Gas Inventory Staff
- Public Outreach Staff

Click here for [How to Use This Toolkit](#)

This toolkit is a product of the West Coast Climate and Materials Management Forum. The Forum was convened in 2008 by U.S. Environmental Protection Agency Regions 9 and 10, and is a partnership of federal, state and local government stakeholders from the western states committed to advancing materials





The Toolkit

- Sections:
 - Home page (<http://captopoolkit.wikispaces.com/>)
 - Background and motivation
 - GHG inventories
 - Setting targets
 - Climate action plans
 - Measuring results
 - Resources
 - Glossary



The Toolkit, continued

- Released in draft form September 2010
- Review by Forum members and others
 - Reviewers included small, under-resourced jurisdictions, academia, even EU staff
 - Many useful suggestions on format and substance
 - General comments very supportive
- Many revisions have been made (a few not)



Toolkit Next Steps

- Immediate:
 - Finish edits from recent comments
 - Add examples from smaller and non-West Coast communities
 - Seek feedback on usefulness from people actually developing inventories, climate action plans
- Next phase:
 - Establish a permanent “home” for the toolkit
 - Secure resources and process for ongoing maintenance, revisions, updates (continue as a wiki?)
 - Promote toolkit
 - Update as needed
 - Add “best practices”?



Community Inventory Protocol

- A project of ICLEI-Local Governments for Sustainability USA
 - ICLEI: a membership association of local governments committed to advancing climate protection and sustainable development
 - 600 members in US, 1100 worldwide
 - Developer of software tools (CACCP, CAPP) to help local governments conduct inventories, develop climate action plans
 - Provider of technical assistance through network of regional offices



ICLEI's Process

- Steering Committee and 6 Technical Advisory Committees:
 - Built Environment
 - Transportation
 - Agriculture
 - Solid Waste
 - Wastewater
 - Life Cycle
- Inventory Workgroup well represented in Steering Committee, Solid Waste TAC, and Life Cycle TAC
- Develop a Framework, then a Protocol
- Original expected completion: ~September, 2011



ICLEI's Process: Early Indications

- Draft Framework still under development
- “Inventory Protocol” has changed to “Accounting Protocol and Reporting Standards”
 - Separate sections devoted to accounting, reporting
 - Explicit recognition that different communities will use inventory in different ways, e.g.:
 - Focus on emissions related to local government policies/programs
 - Communicate community-wide impacts
 - Compare with other communities
 - Different uses will require inclusion of different emissions
- Strong willingness to consider life-cycle and even full consumption-based emissions



ICLEI's Process: Early Indications (continued)

- Recognition that “Life Cycle” is not a sector

TACs

- Agriculture
- Built Environment
- Transportation
- Solid Waste
- Wastewater
- Life Cycle

DRAFT Sectors

- Ag, land use and forestry
- Built environment
- Transportation energy use
- Materials & waste
- Wastewater

+ Consumption-based
accounting?



ICLEI's Process: Early Indications (continued)

- May offer several levels of complexity, e.g.:
 - Basic/traditional (in-boundary + electricity, garbage)
 - “Hybrid” approach
 - Basic/traditional with extras (e.g., embodied emissions in fuels, water, food)
 - Basic/traditional or hybrid and a separate, full-consumption based inventory
- Unclear exactly where/how community-scale recycling might fit



ICLEI: Next Steps

- Stay tuned! Some issues to watch for:
 - Recycling “not important”
 - Materials management not “policy relevant”
 - Too hard to do the accounting
 - “Don’t change (accounting) horses mid-stream”
- Inventory Group not a “member” of the ICLEI process, but lots of overlap in membership
- Draft framework expected in mid-January
- Inventory Group may provide a forum to discuss, generate and vet ideas; involve more people in review; and/or coordinate joint response
- Toolkit may serve to inform the ICLEI protocol by acting as a resource that reviewers – and perhaps the protocol itself – can reference

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Communications Workgroup

Climate and Materials Forum

January 11, 2011

(Presentation)

(Outreach)

(Action)



Communications Workgroup

Presentation

The presentation consists of 20 slides, each with a number in the bottom right corner:

- Slide 1:** CLIMATE CHANGE: A Materials Management Perspective
- Slide 2:** Introduction: Define materials management, explain its relation to climate change, and identify policies.
- Slide 3:** Introduction: Provide information to make program and purchasing choices that reduce climate change impacts.
- Slide 4:** Materials Management: Define materials management, full life cycle analysis, and effective and comprehensive approaches.
- Slide 5:** Beyond Recycling: Environmentally Responsible Purchasing (ERP), Extended Producer Responsibility (EPR), and Zero Waste.
- Slide 6:** Conventional Accounting: Scatter Based U.S. GHG Emissions (2004). Includes a pie chart showing emissions by sector.
- Slide 7:** A New Approach to Accounting: A new accounting system is needed to reflect the large amounts of energy and associated greenhouse gases involved in producing goods and materials.
- Slide 8:** Systems Based View: U.S. GHG Emissions (2004). Includes a pie chart showing emissions by sector.
- Slide 9:** GHG Emissions Across the Waste and Materials Lifecycle. Includes a flow diagram showing the lifecycle from production to disposal.
- Slide 10:** Lifecycle of a PET Plastic Bottle. Includes a flow diagram showing the lifecycle from production to recycling.
- Slide 11:** Lifecycle of a PET Plastic Bottle. Includes a bar chart showing the lifecycle of a PET plastic bottle.
- Slide 12:** Why Recycling Matters. Includes a bar chart showing the benefits of recycling.
- Slide 13:** Opportunity Knocks: In 2007, the U.S. recycled over 65 million tons, or 33% of its municipal solid waste. Includes a bar chart showing recycling rates.
- Slide 14:** Limitations to Recycling: Limited cycles of products and materials, does not reduce sum total of material, and additional carbon/energy foot.
- Slide 15:** Technical Potential Reductions from Materials Management. Includes a table with data on potential reductions.
- Slide 16:** Zero Waste: What is zero waste? Includes a definition and a list of goals.
- Slide 17:** Zero Waste: Includes a definition and a list of goals.
- Slide 18:** Business Case for Zero Waste: Hewlett Packard reduced waste by 25% and saved \$270,564. Includes the HP logo.
- Slide 19:** Environmentally Preferable Purchasing: Also known as green or responsible purchasing. Includes a list of benefits.
- Slide 20:** Environmentally Preferable Purchasing: Also known as green or responsible purchasing. Includes a list of benefits.

Communications Workgroup

Presentation



Download from Forum website:

www.epa.gov/region10/westcoastclimate.htm

Use widely! to promote local actions

Send feedback to gglenn@spokanecity.org

Communications Workgroup

Outreach



WIKIPEDIA
The Free Encyclopedia

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4:47 PM Jan 3rd via HootSuite

RT [@practicallygrm](#) San Jose bans plastic bags! <http://bit.ly/gzri3r>
9:06 AM Dec 17th, 2010 via HootSuite

Name **climaterials**

Bio Did you know that creating materials accounts for over a third of greenhouse gas emissions? Reduce reuse recycle & compost to zero waste!

455 following 167 followers 16 listed

Tweets 98

Favorites

Following



Communications Workgroup

(Outreach)



WIKIPEDIA
The Free Encyclopedia

Build a **social media presence**.

Share conclusions from other workgroups.

Create **resources for the public** to use.

Communications Workgroup

(Action)

Participate!



Contact Vangendt.Saskia@epa.gov to join us