Metropolitan Washington Council of Governments

One Region Moving Forward

United States Measurement Overview

Presentation to Recycling Committee Meeting

May 19, 2016

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EPA, Office of Resource Conservation and Recovery

Outline

- Advancing SMM Facts & Figures
- EPA Recycling Measurement Standard
- State Measurement Program metrics
- Sample Measurement Tools /Options
  - Recycling rates and Landfill diversion
  - Per capita and per household metrics (landfill and recycling)
  - Life Cycle – SMM efforts
  - WasteWise & Energy Star's Portfolio Manager new waste tracker
  - EPA's Managing and Transforming Waste Tool (Policy & Programs)
- SMM National Strategic Plan 2017-2022

Advancing SMM Facts & Figures

How is Waste Managed in 2013?

- **Recovery** (Recycling and Composting)

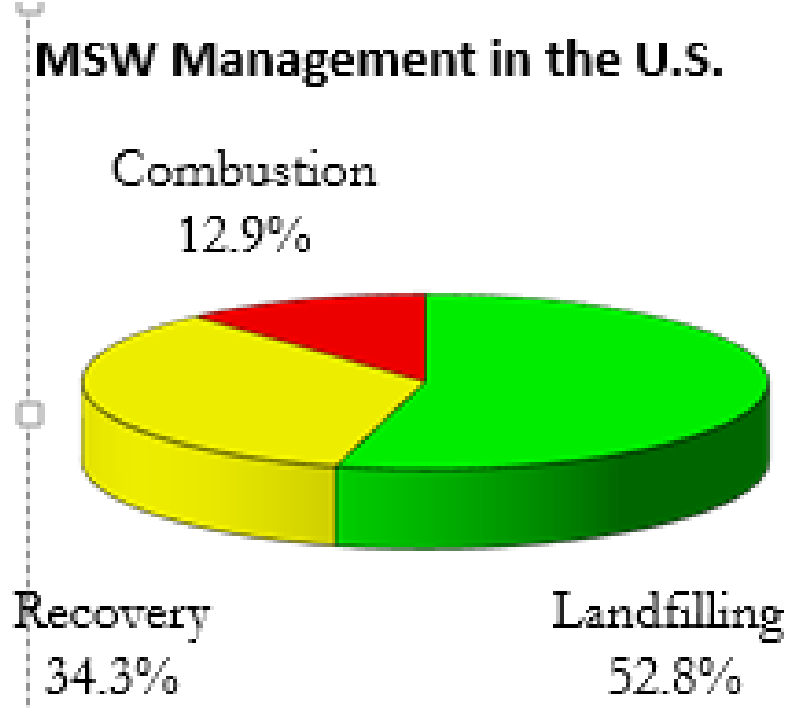
  34.3%

- **Landfilling**

  52.8%

- **Combustion**

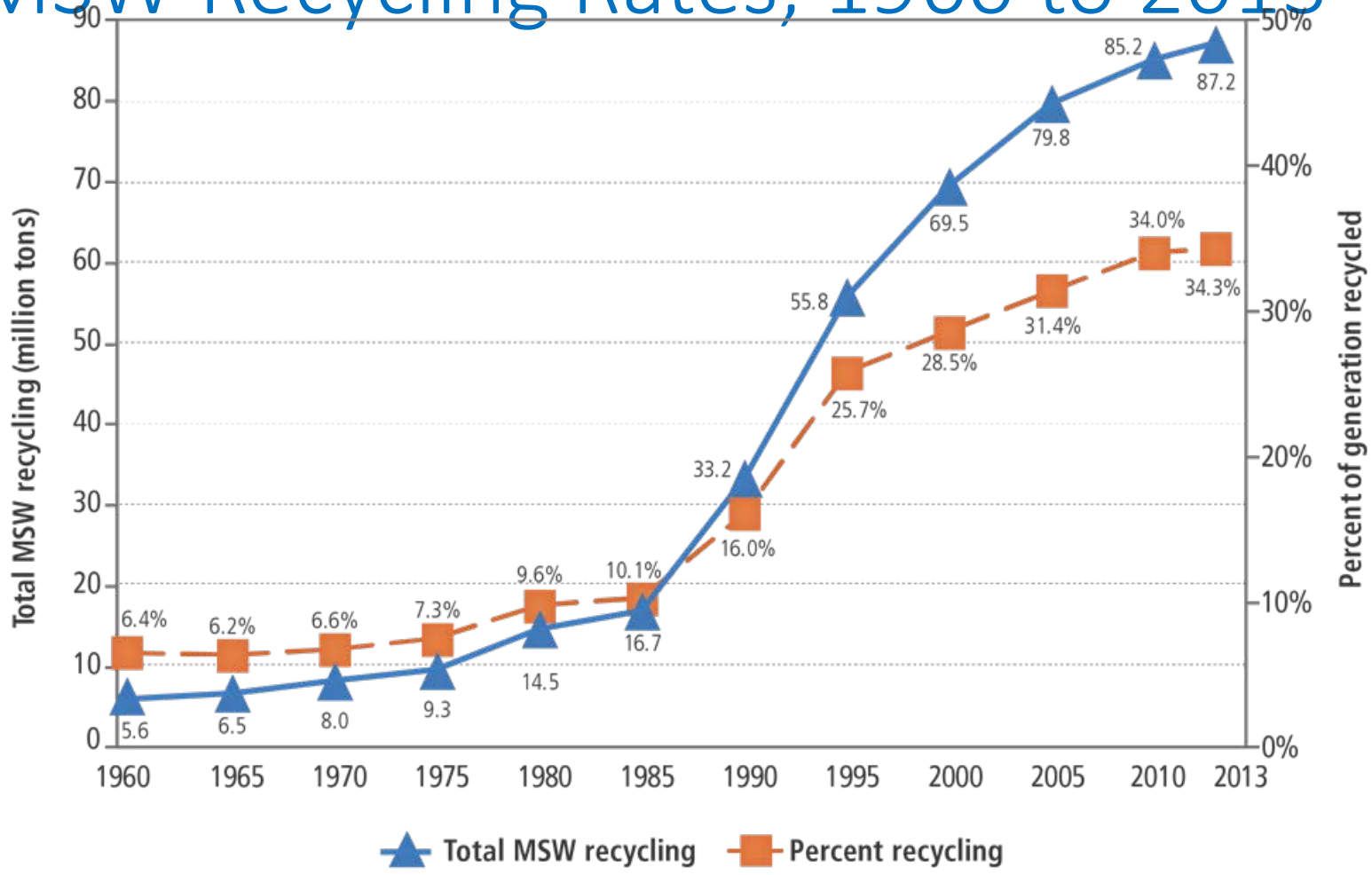
  12.9%



EPA 2013 Facts and Figures

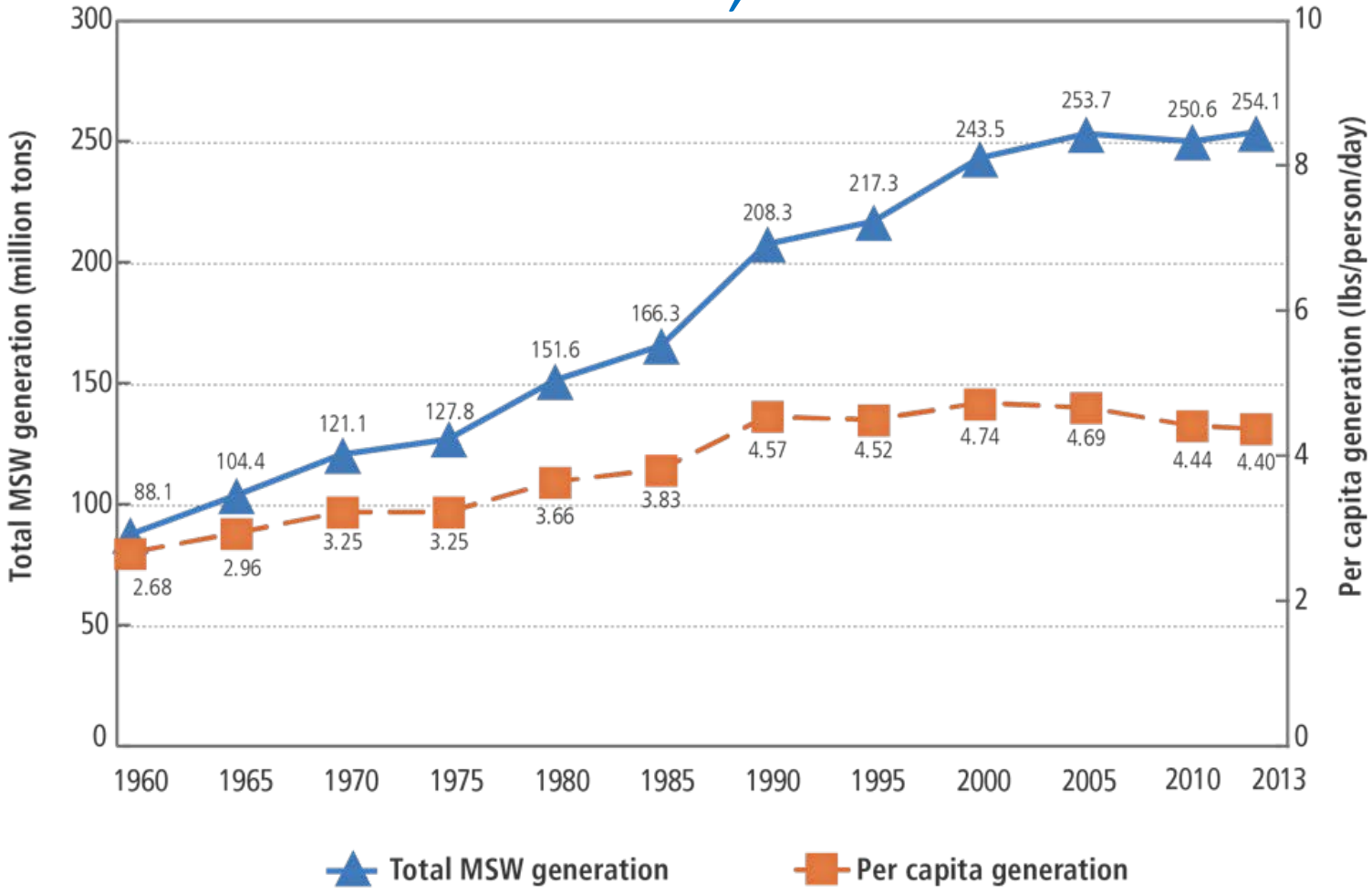
Advancing SMM Facts & Figures

US MSW Recycling Rates, 1960 to 2013



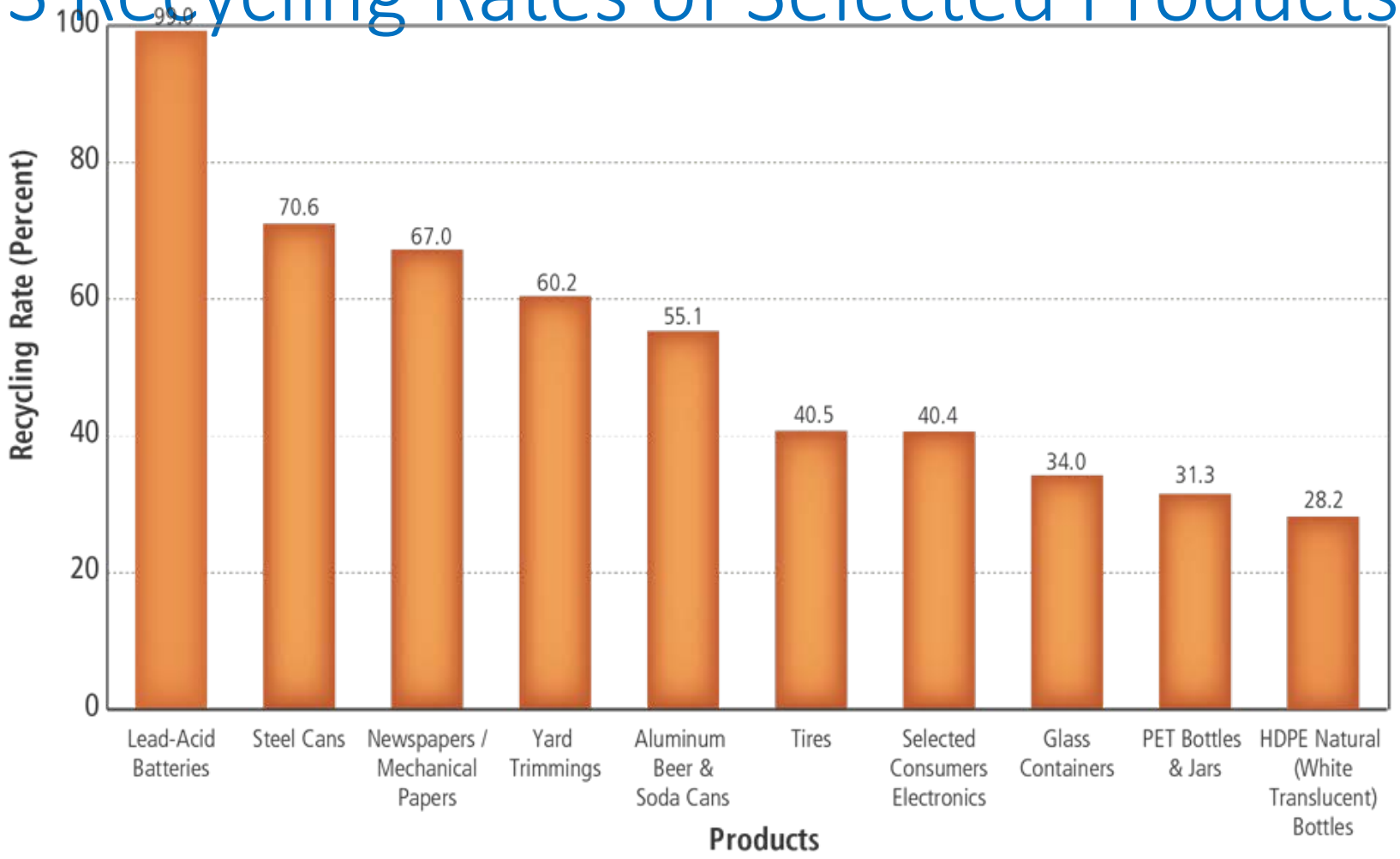
Advancing SMM Facts & Figures

MSW Generation Rates, 1960 to 2013



Advancing SMM Facts & Figures

US Recycling Rates of Selected Products, 2013

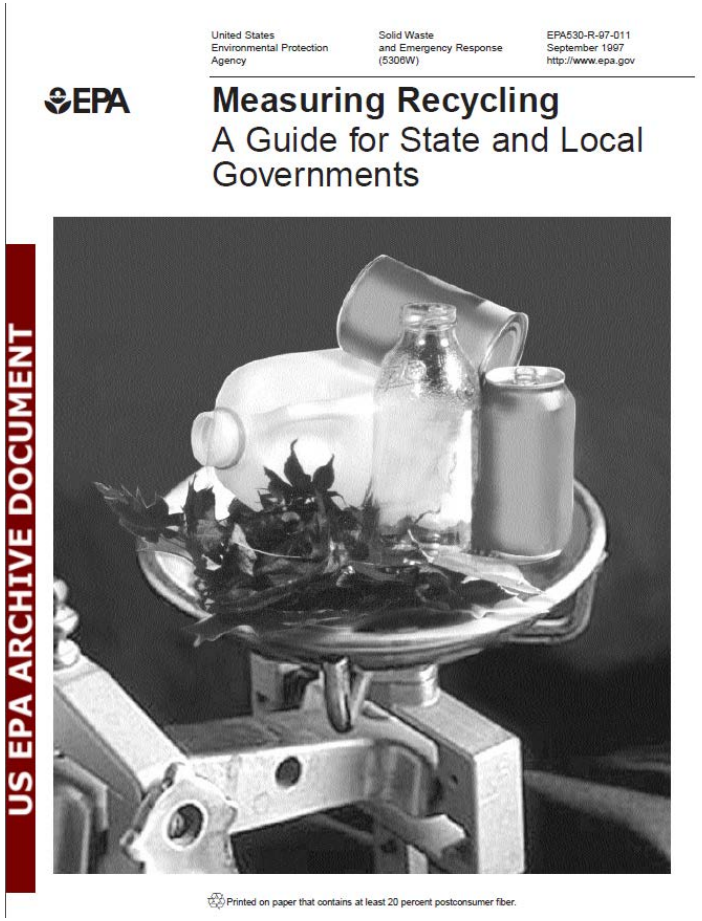


Advancing SMM Facts & Figures

Commodity Recycling Trends

	1970	1980	1990	2000	2013
Paper and paperboard	15%	21%	28%	43%	63%
Glass	1%	5%	20%	23%	27%
Metals	4%	8%	24%	35%	34%
Plastics	Neg.	<1%	2%	6%	9%
Yard trimmings	Neg.	Neg.	12%	52%	60%
Rubber tires	13%	6%	12%	26%	41%
Lead-acid batteries	76%	70%	97%	93%	99%

EPA Recycling Measurement Standard



State & Local Waste Characterizations

State and local waste characterizations studies

- Need for standardization
- Technological improvements to data collection

Minnesota collection of studies:
https://www.pca.state.mn.us/waste/other-msw-composition-studies

State Data Collection

- Range from little to no data collection to comprehensive community and facility level data on disposal and recycling
- Nearly all have disposal data
- No formal standardization
  - Definitions, material specific distinctions, programmatic and statutory differences

State Data Measurement Sharing Program

State Data
Measurement
Sharing Program

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

State Data Measurement Sharing Program Timeline

2007

- Started in Tennessee and eight Region 4 States

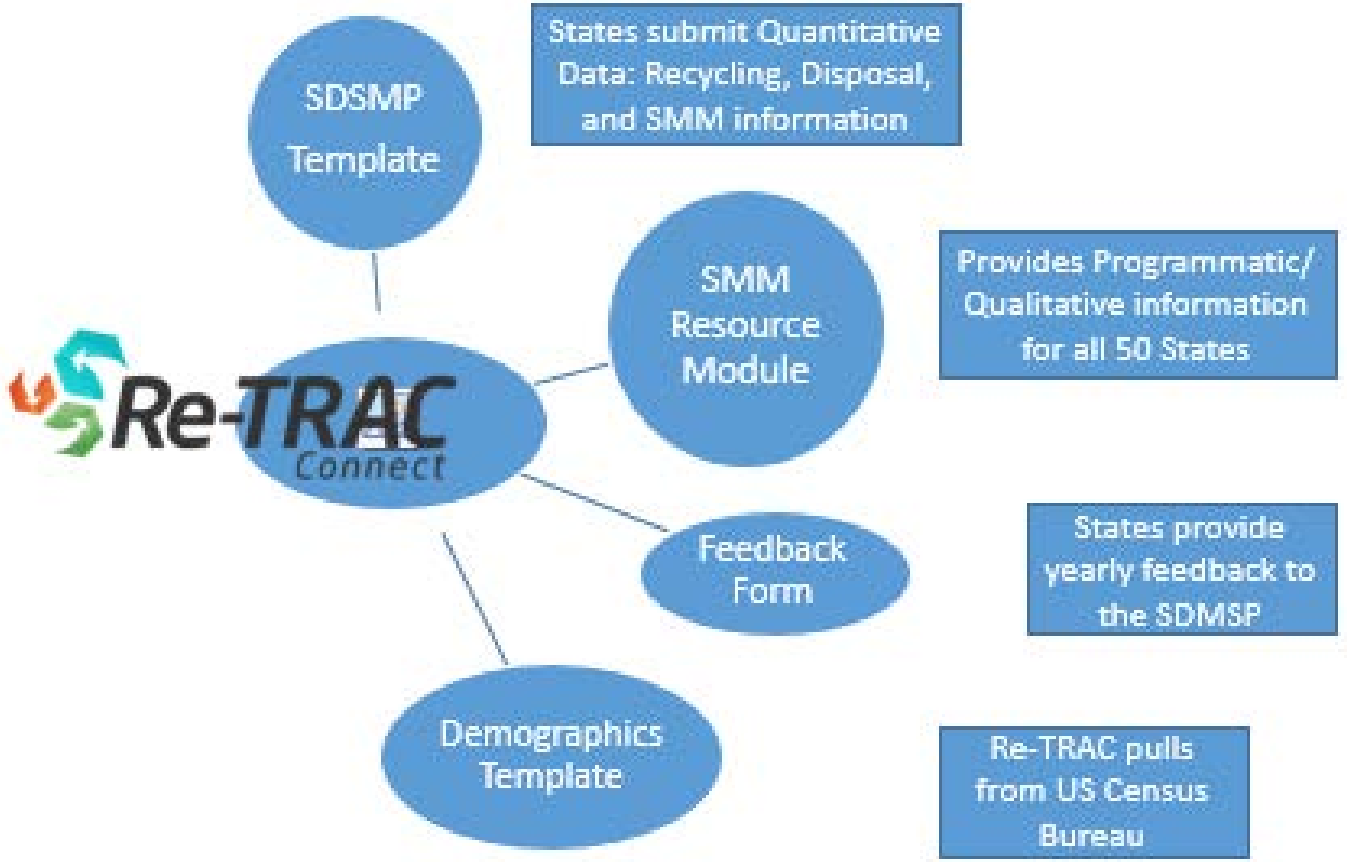
2009-2011

- State sharing template development and data input by Region 4 States

2012-2016

- 20 States fully participated in 2012 template
- 32 States plus DC participated in the 2013 Template
- SMM Resource Module with Programmatic Information Added in 2013 for all 50 states
- 31 States participated in the 2014 preliminary results
- 2015 Template will launch Fall 2016

State Data Measurement Sharing Program



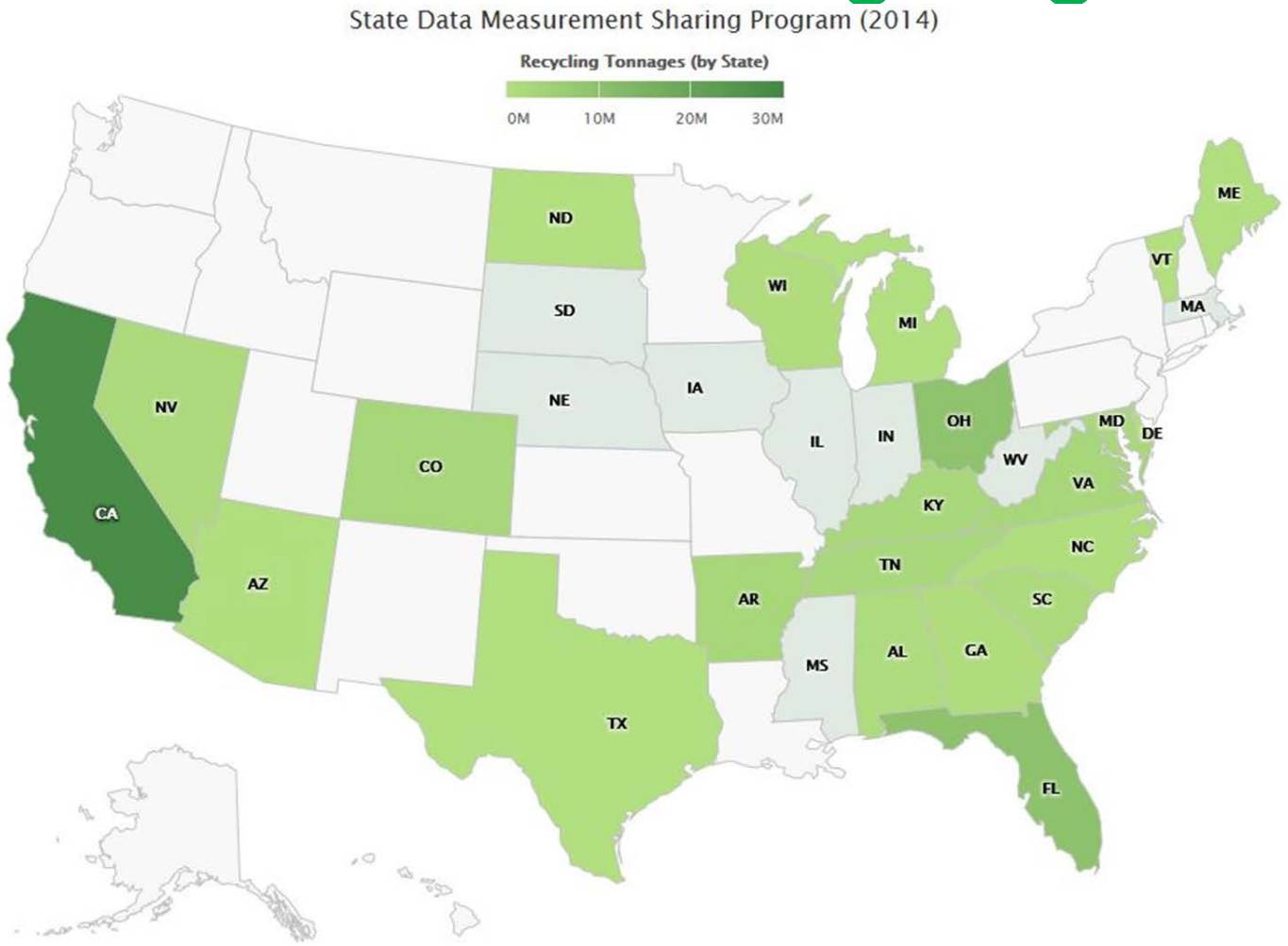
State Data Measurement Sharing Program

SMM Resource Module Highlights

Programs	# 0f States
Recycling Market Development	37
Statewide Plans	36
Environmental Preferable Procurement (EPP)	35
Local planning in state plans	34
Local planning requirements	30
Source Reduction	27
Climate Action Plans	22
Product Stewardship	19
Pay As You Throw	14
Life Cycle Approach	3

Policy Drivers	# 0f States
Waste Diversion goals	22
Mandatory recycling efforts	22
Recycling goals	20
Waste hierarchy	13
State Composting Goals	5
Zero Waste Goals	3
Other Policy Drivers	9

State Data Measurement Sharing Program: MAPS



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2014 Template Highlights

30 states plus District of Columbia **Landfilled**

2,126 lbs/person/year 5,139 lbs/HH/year

22 states **Recycled**

781 lbs/person/year 1,874 lbs per/HH/year

20 states **Composted**

150 lbs/person/year 363 lbs per/HH/year

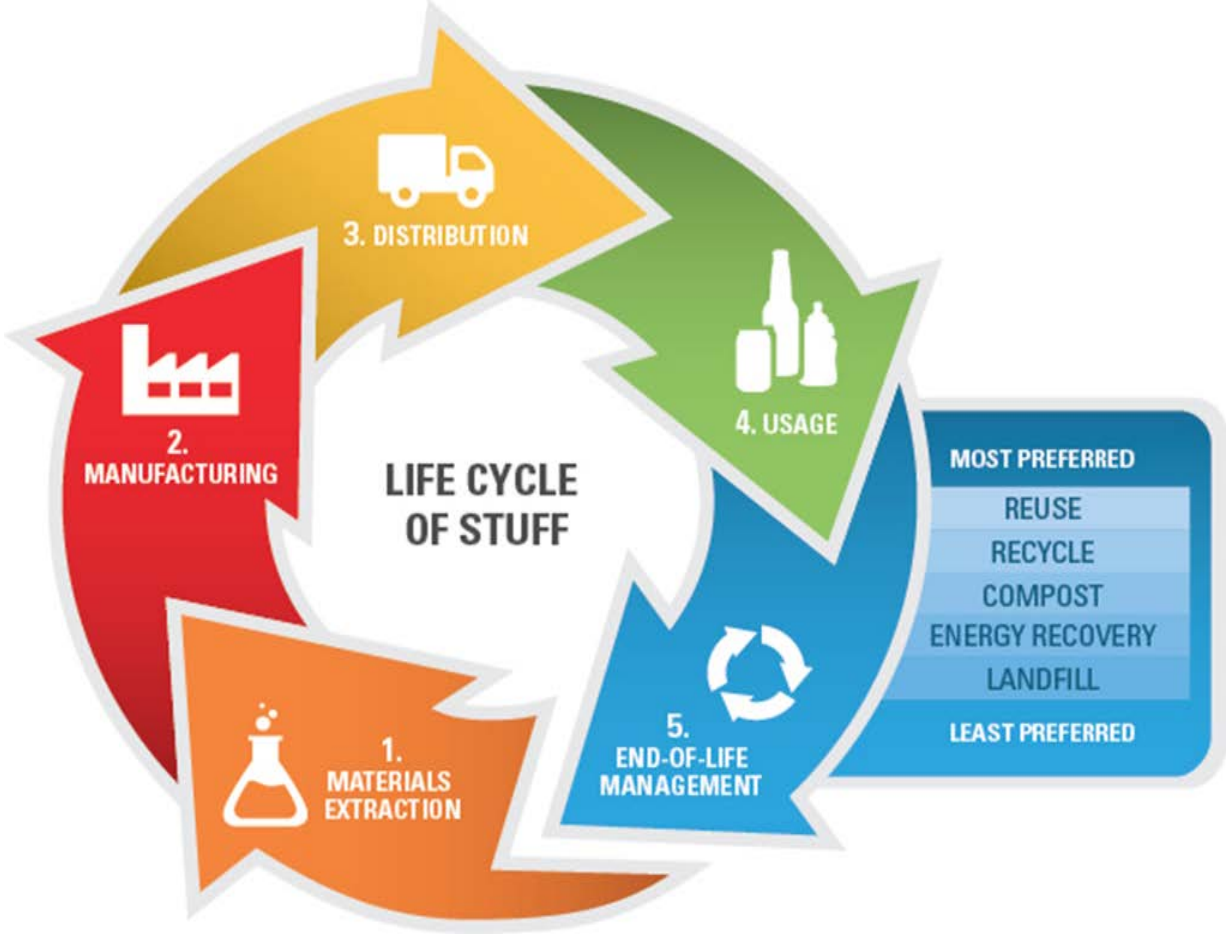
Concept: Do not use these figures.

Other Measurement Efforts

- EPA's WasteWise program
- ongoing web based data measurement tool & awards
- AMERIPEN 100 Cities Study
- The Recycling Partnership (State of Curbside Recycling)
- Keep America Beautiful (workplace, sports & on the go recycling)
- Sustainable Packaging Coalition (Recycling Access Study)
- Numerous community and state efforts

Sustainable Materials Management

Sustainable Material Management (SMM) is the use and reuse of materials in the most productive and sustainable way across their entire life cycle.



<u>SMM encourages organizations to make good decisions about:</u>

- Conserving resources
- Reducing, reusing and recycling materials
- Slowing climate change
- Minimizing the environmental impacts of the materials they use

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Sustainable Materials Management

Materials Management Program

Oregonians in 2050 Produce and Use Materials Responsibly

Conserving Resources · Protecting the Environment · Living Well

Many environmental challenges facing Oregon and the world, such as pollution and greenhouse gas emissions, relate to how we produce, use, and manage materials. To address these challenges, DEQ's Materials Management program has a long-term vision for Oregon.

In this vision:

- Producers make products sustainably, so every option is a sustainable option.
- People live well and consume sustainably.
- Materials have the most useful life possible before and after discard.

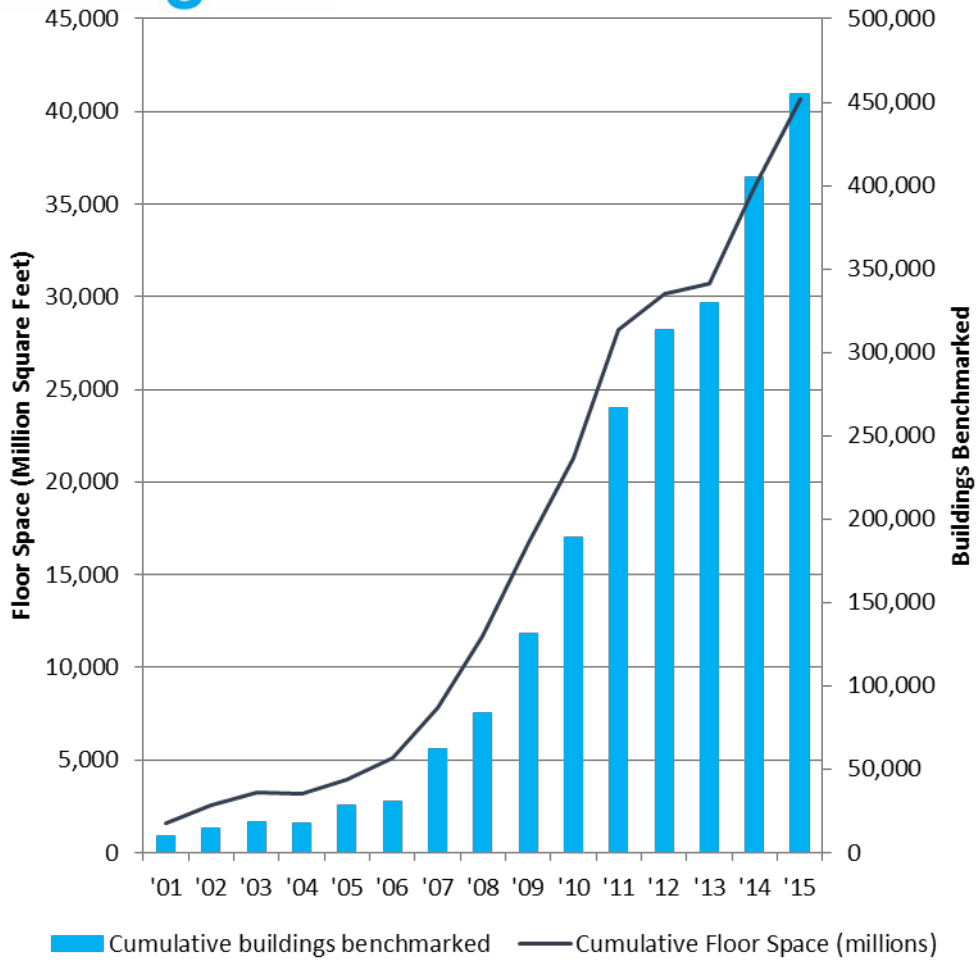
New Tools

ENERGY STAR® Portfolio Manager®

Over 45% of the U.S. commercial building market

450,000+ buildings

40 billion+ square feet



New Tools

ENERGY STAR® Portfolio Manager®

- **Management Tool** – Helps business and organizations by offering a platform to:
  - Assess whole building energy and water consumption
  - Track changes in energy, water, greenhouse gas emissions, and cost over time
  - Track green power purchases
  - Share/report data with others
  - Create custom reports
  - Apply for ENERGY STAR certification
- **Metrics Calculator** – Provides key performance metrics to integrate into a strategic management plan
  - Energy consumption (source, site, weather normalized)
  - Water consumption (municipally supplied potable and reclaimed, alternative)
  - Greenhouse gas emissions (indirect, direct, total, avoided)
  - ENERGY STAR 1-to-100 score (available for many building types)

→ ***Accessible in a free, online secure platform:*** **www.energystar.gov/PortfolioManager**

New Tools

ENERGY STAR® Portfolio Manager®

Materials Tracking

Waste/Materials	Disposed	Donated/ Reused	Recycled	Composted
Appliances	x	x	x	
Batteries	x		x	
Beverage Containers (aluminum, glass, plastic)	x		x	
Building Materials - Carpet/Carpet Padding	x	x	x	
Building Materials - Cement/Concrete	x	x	x	
Building Materials - Mixed/Other	x	x	x	
Building Materials - Steel	x	x	x	
Building Materials - Wood	x	x	x	
Cardboard/Corrugated Containers	x	x	x	x
Compostable - Mixed/Other	x			x
Electronics	x	x	x	
Fats/Oils/Grease	x		x	
Food/Food Scraps	x	x		x
Furniture	x	x		
Glass	x	x	x	
Grass/Yard Trimmings	x			x
Lamps/Light Bulbs	x			
Mixed Recyclables	x		x	
Office Supplies	x	x		
Pallets	x	x	x	
Paper - Books/Textbooks	x	x	x	
Paper - Copy Paper	x		x	x
Paper - Mixed	x		x	
Plastics - Mixed	x		x	
Plastics - Wrap/Film	x		x	
Regulated Medical Waste	x			
Textiles/Clothing	x	x	x	
Trash	x			
Other	x	x	x	x
Count of materials within each type	***29***	***16***	***21***	***6***

- 29 Material Types and 4 Methods of Management
- ***72 Unique Combinations***
- 26 Summary Metrics, including:
  - Total Waste
  - Diverted Materials/Rate
  - Disposed Waste (and by destination)
  - Recycled Materials
  - Donated/Reused Materials
  - Composted Materials

New Tools

Managing and Transforming Waste Stream Tool

- 100 Policy or Programs
  - Can be broken down into Sectors or Material and Product Groups

Diversion Potential	Upstream Impacts	Local Authority	Receptivity	Staff Knowledge	Community Led Initiatives
All	All	All	All	All	All
Med	Med	Med	Med	Med	Easy

- https://www.epa.gov/transforming-waste-tool/managing-and-transforming-waste-streams-tool

New Tools

Recycling Economic Impact (REI) Jobs Study

Updated US Recycling Jobs Study

will be released later this year

New SMM Strategic Plan

SMM Program Vision & Objectives

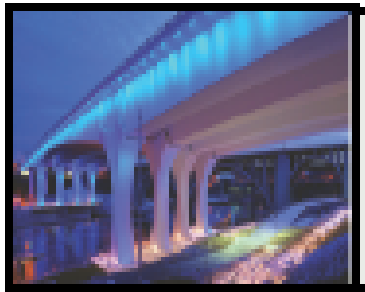
Program Vision: Protect human health and the environment by advancing the sustainable use of materials throughout their lifecycle to minimize waste and environmental impacts.

Program Objectives:

1. Decrease the landfill rate.
2. Reduce the environmental impacts of materials.
3. Increase socio-economic benefits.
4. Increase capacity of state and local governments, communities and key stakeholders to adopt and implement SMM policies, practices and incentives.

New SMM Strategic Plan

Strategic Priority Areas



The Built Environment

Sustainable Food Management

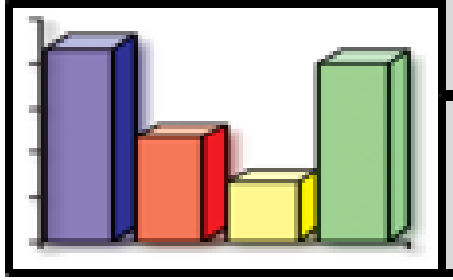
Sustainable Packaging

Additional Emphasis Areas

Sustainable Electronics Management

Lifecycle Assessment

International Efforts



Measurement

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Recap

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