

The U.S. EPA's Strategic Outlook on Sustainable Materials Management

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Solid Waste Forum
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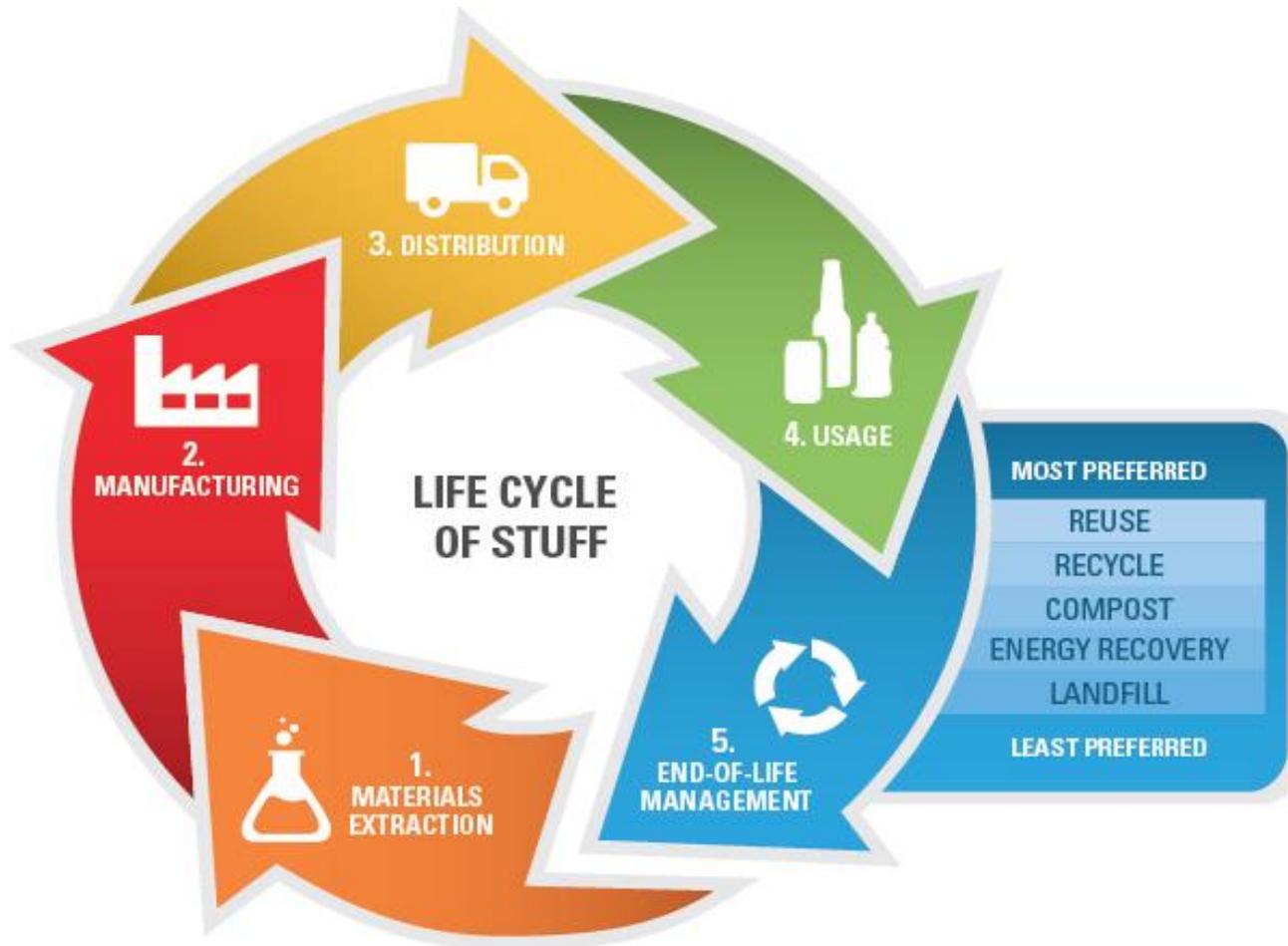


Overview



- Overview of Sustainable Materials Management.
- New 5-year Strategic Plan for EPA's Sustainable Materials Management Program.
- Developments in Sustainable Management of Food.
- Update on Materials Measurement.

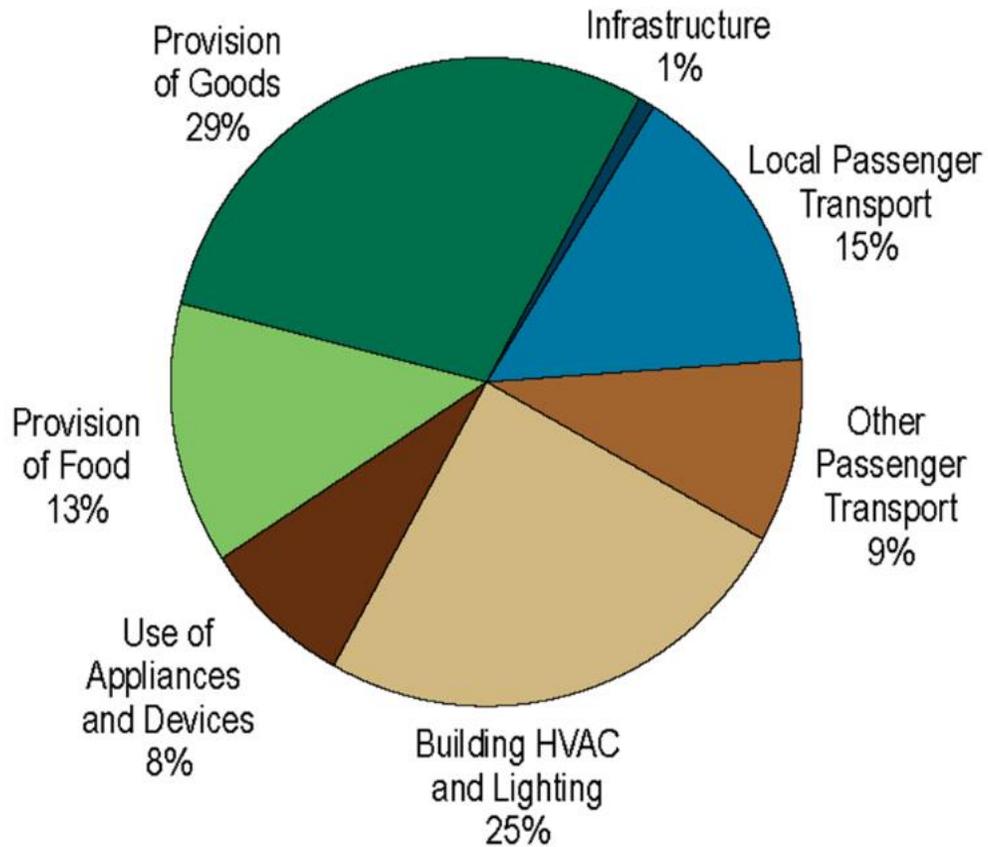
What is Sustainable Materials Management?



“An approach to serving human needs by using/reusing resources productively and sustainably throughout their life cycles, generally minimizing the amount of materials involved and all associated environmental impacts.”

Sustainable Materials Management: The Road Ahead, EPA

SMM Offers New Perspectives



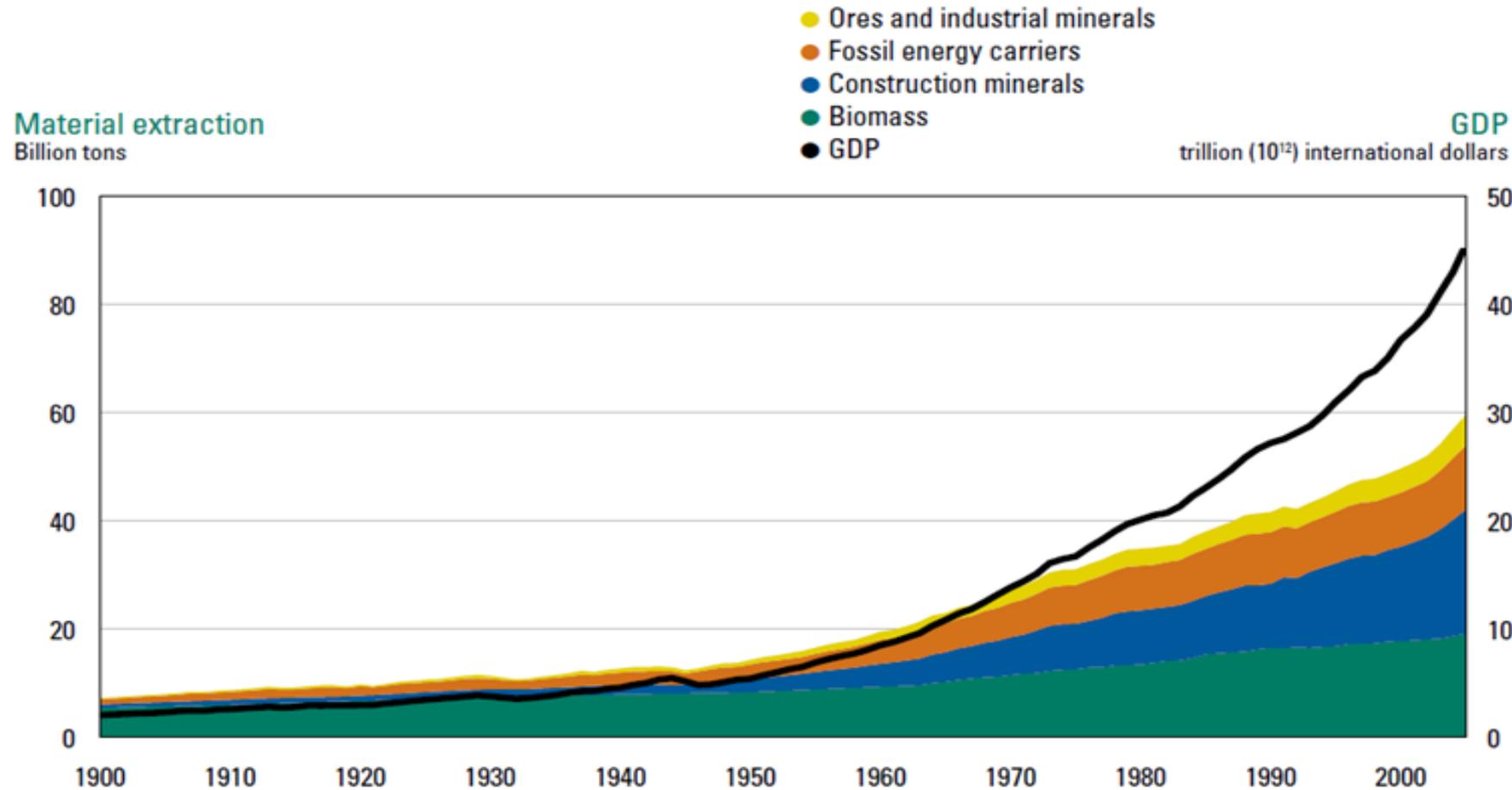
- **SMM offers new opportunities to address climate change:**
 - Materials Management is represented by the *Provision of Goods* and *Provision of Food*.
 - Accounting for 42% of U.S. GHG emissions.

U.S. Greenhouse Gas Emissions

(Source: Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices 2009)

Why is SMM so Critical? A Global Issue

Figure 2. Global material extraction in billion tons, 1900–2005



“One half to three quarters of annual resource inputs to industrial economies is returned to the environment as wastes within just one year.”

*Weight of Nations:
Material
Outflows from
Industrial
Economies, WRI*

EPA's SMM Program: Brief History

- RCRA provides the legislative basis for EPA's SMM Program efforts.
- 2002: EPA's report, *Beyond RCRA: Waste and Materials Management in 2020* made the argument for focusing efforts on materials management.
- 2009: *SMM: The Road Ahead* provided recommendations and an analytical framework for moving toward sustainable materials management.
- 2011: SMM Program launched with focus areas of federal government leading by example; sustainable electronics management; Sustainable Food Management, and beneficial use of industrial materials (e.g. coal ash, C&D materials).



New SMM Strategic Plan for 2017–2022

SMM Program Objectives

1. Decrease the disposal rate.

- Important to note that this encompasses source reduction, reuse, recycling and prevention. (Focus on disposal because it can be *measured*.)

2. Reduce the environmental impacts of materials.

- Reductions related to specific materials management activities; use of environmental impact measures including GHG, water use, and energy use.

3. Increase socio-economic benefits.

- Will evaluate how we will track and report material impacts on the economy along with social aspects.

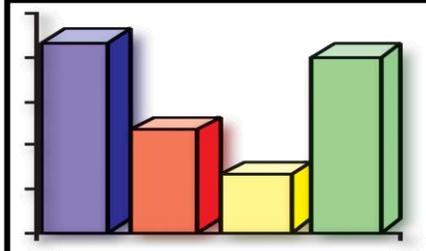
4. Increase capacity of state and local governments, communities and key stakeholders to adopt and implement SMM policies, practices and incentives.

EPA's SMM Strategic Plan 2017 – 2022

Strategic Priority Areas

	The Built Environment
	Sustainable Food Management
	Sustainable Packaging

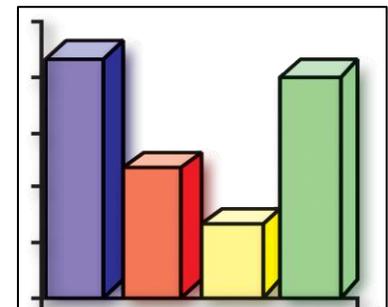
Additional Emphasis Areas

	Sustainable Electronics Management
	Lifecycle Assessment
	International Efforts
	Measurement

SMM Strategic Priority: The Built Environment

Critical Action Areas

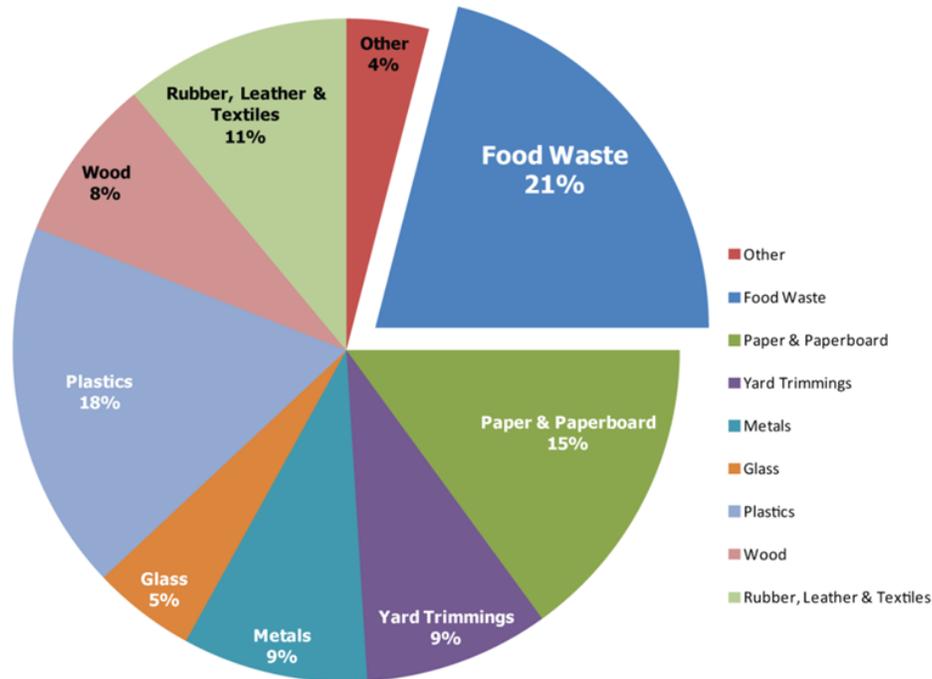
1. Incorporate life cycle SMM concepts into the built environment marketplace.
2. Support & advance climate adaptation and community resilience efforts.
3. Improve and enhance data and measurement of C&D and industrial byproduct materials.



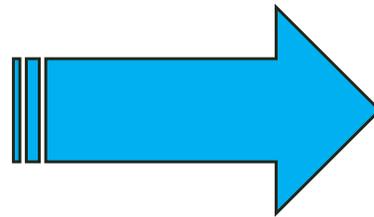
SMM Strategic Priority: Sustainable Management of Food

U.S. Waste

Wasted Food



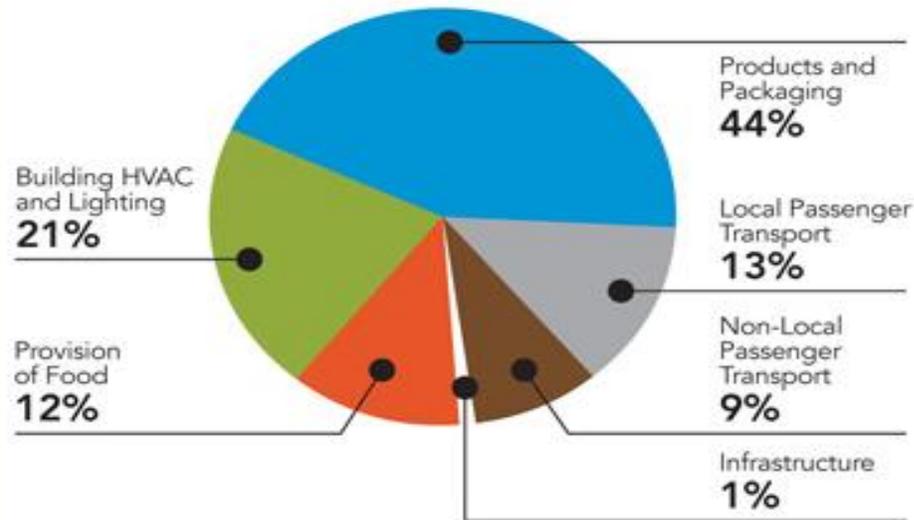
Next Steps: Commitments Moving to Action



SMM Strategic Priority: Sustainable Packaging

Packaging Link to Carbon Pollution

44% of the U.S. greenhouse gas emissions come from products and packaging in a systems-based analysis.



Source: Joshua Stolaroff, "Products, Packaging, and U.S. Greenhouse Gas Emissions," Product Policy Institute, 2009.

Value of Wasted Packaging Materials in the U.S.

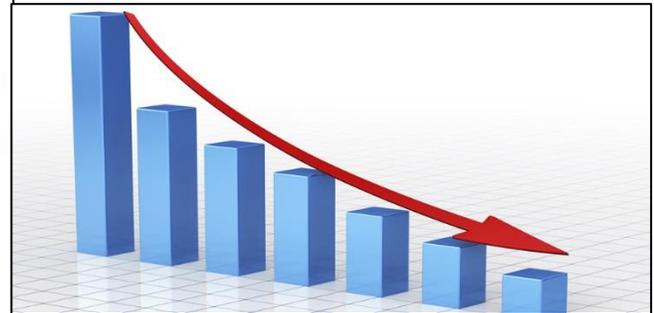


Total: **\$11,402,020,357**

Source: See Appendix 1 for methodology and plastic material definitions.

SMM Strategic Plan: Additional Emphasis Areas

- Sustainable Electronics Management
- Lifecycle Assessment efforts
- SMM International efforts
- Overarching measurement and analysis



SMM Emphasis Area: Measurement and Analysis

1. *Advancing Sustainable Materials Management: Facts and Figures.*
Annual report on generation, recycling, composting, and disposal of MSW.
2. Improvements to Facts and Figures Report.
3. State Data Measurement Sharing Project – to integrate bottom-up measurement and data.



Measurement and Analysis

U.S. Recycling Economic Information (REI) Study

- **Updating seminal 2001 REI analysis of recycling economic impacts**
 - Examining the impact of recycling on jobs, wages, and tax revenue
 - Reproducible data with transparent methodologies
 - Comparable to previous REI Study, but more accurate
 - Direct and indirect impacts -- broad spectrum, multi-sector, including entire life cycle of recycled materials
 - Transportation, storage, reclamation, resale, etc.
 - Refining waste input-output (WIO) methodology of material flows within economic sectors
 - Addressing key areas of uncertainty
 - Results: Mid-2016



SMM Strategic Plan: Transition Year Ahead & Opportunities for Engagement

- SMM Strategic Plan for 2017 – FY2022.
- Our transition year ahead will focus on obtaining stakeholder input on implementation of the Strategic Plan.
- We welcome your input on specific activities and areas where you see alignment and shared goals between your organizations and the EPA.

Join Us!



- **Food Recovery Challenge**

<http://www.epa.gov/sustainable-management-food/food-recovery-challenge-frc>

Organizations pledge to improve their sustainable food management practices and report their results

- **Federal Green Challenge**

<http://www.epa.gov/fgc>

Challenges EPA and other federal agencies throughout the country to lead by example in reducing the federal government's environmental impact

- **Electronics Challenge**

<http://www3.epa.gov/epawaste/consERVE/smm/electronics/>

Original equipment manufacturers and retailers promote responsible electronics recycling

Thank you!

- **Contact: Jim Callier**

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- **Please visit:**

- <http://www.epa.gov/smm>

- <http://www.epa.gov/sustainable-management-food>

- <http://www.epa.gov/recycle>

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