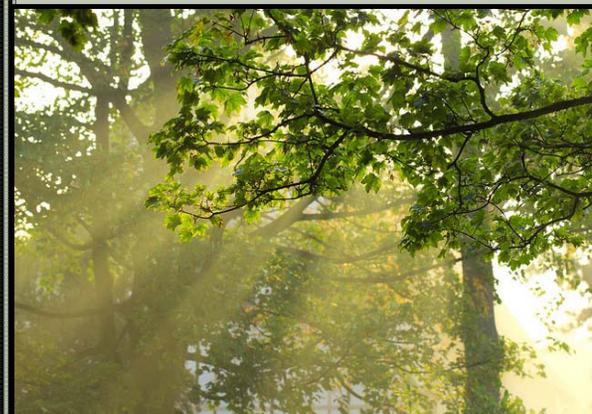


The Path Forward

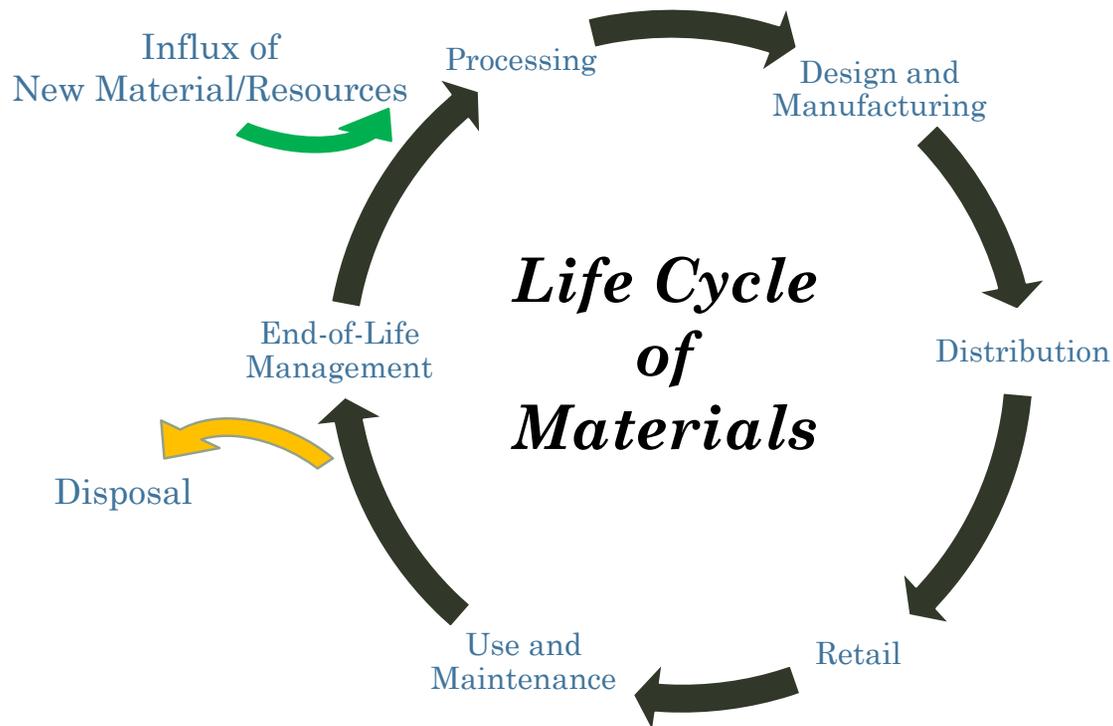
Actions to advance to Circular Economy

*National Zero Waste
Business Conference
June 3, 2016*

Mathy Stanislaus, Assistant Administrator
U.S. EPA, Office of Land and Emergency Management
Follow us on Twitter: [@EPAland](https://twitter.com/EPAland)



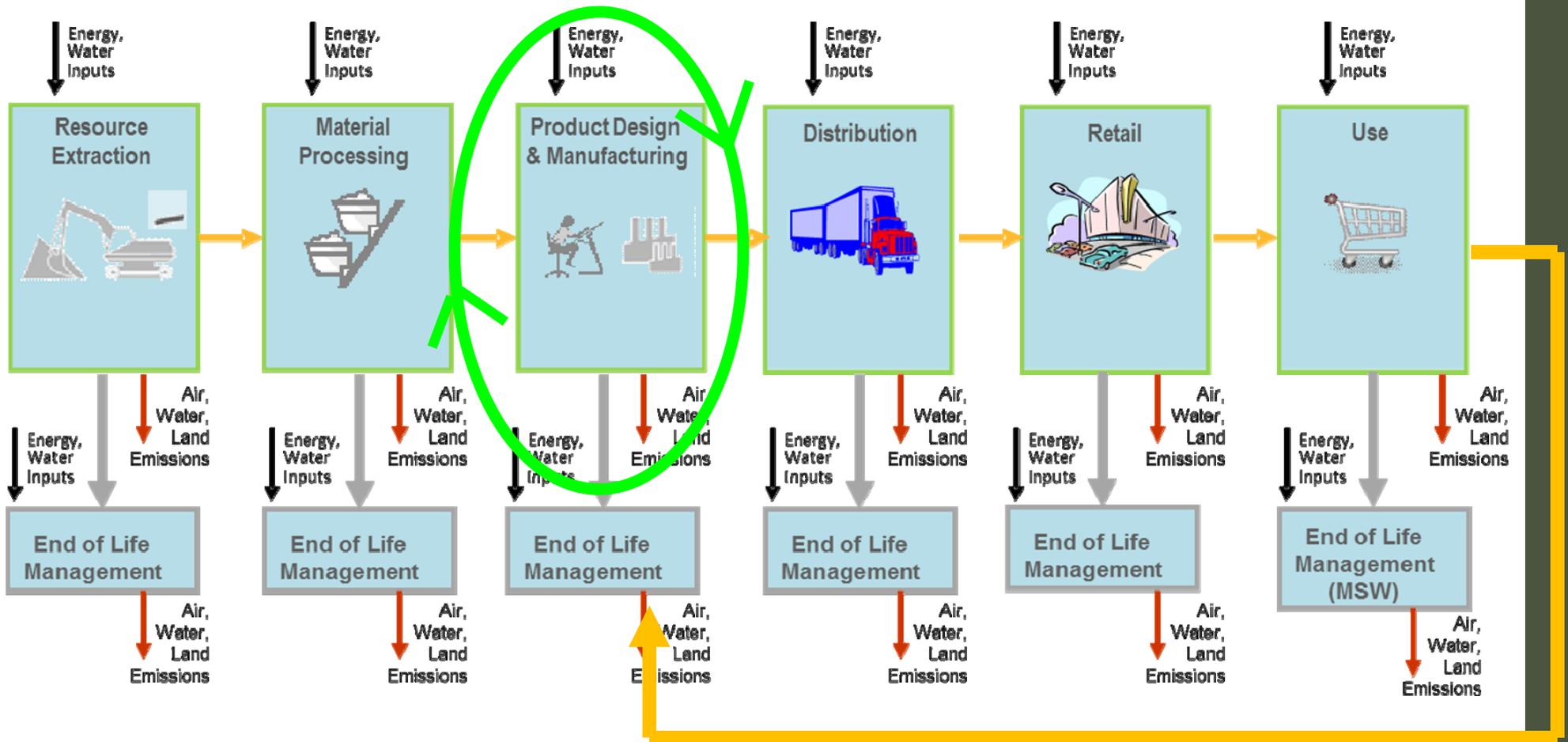
What is Sustainable Materials Management (SMM)?



“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 (2009)

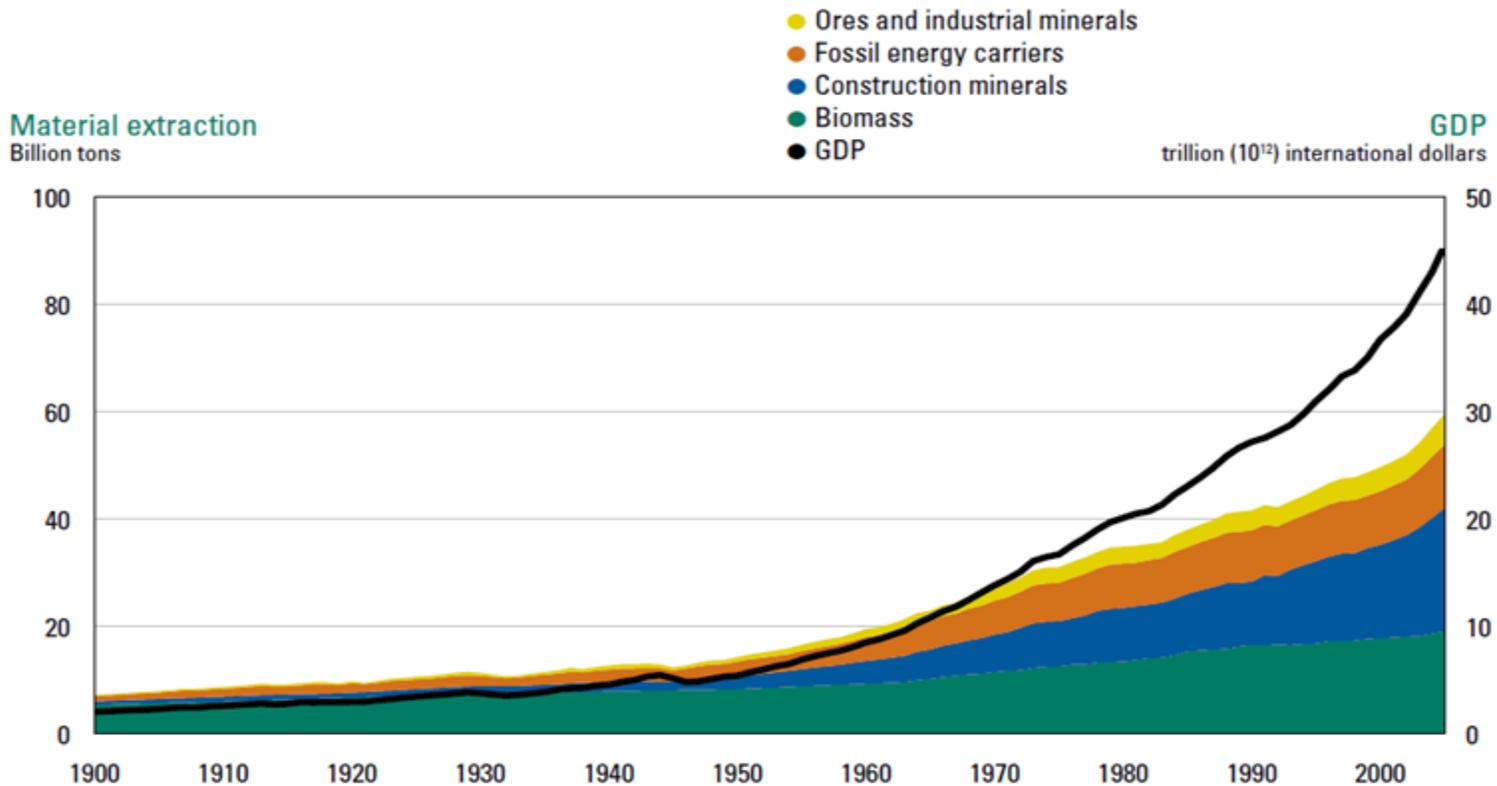
What is SMM: Material/Product Life Cycle



Hidden material flows (i.e., wastes) account for up to 75% of the total materials moved, but are not accounted for in the gross domestic product.

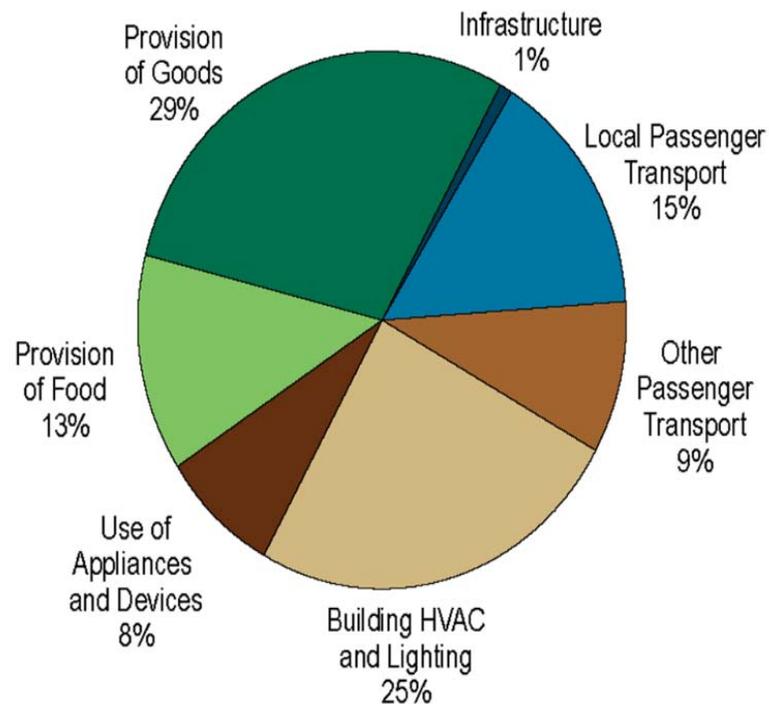
Why is SMM so Critical? A Global Issue

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



Source: Krausmann *et al.*, 2009

SMM Offers New Perspectives

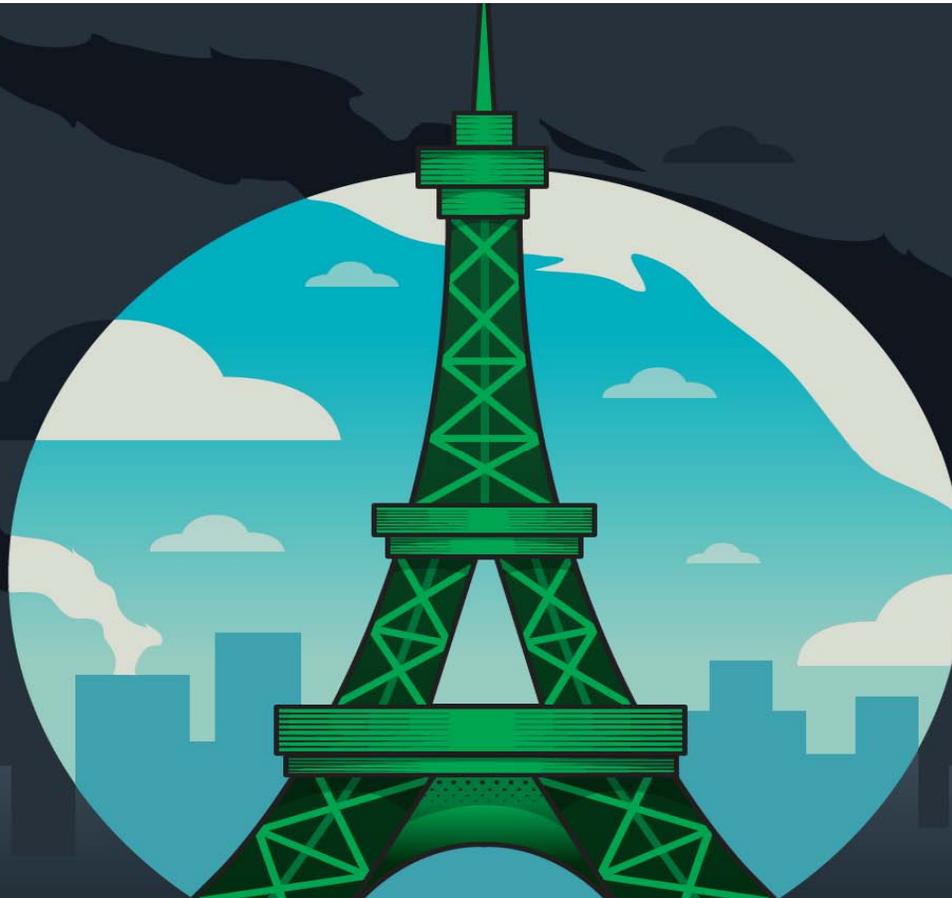


- **SMM offers new opportunities to address climate change:**
 - Materials Management is represented by the *Provision of Goods* and *Provision of Food*.
 - Accounting for 42% of U.S. GHG emissions.

U.S. Greenhouse Gas Emissions

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

Paris Climate Agreement



Paris Goal: Limit global warming to below 2°C

U.S. Contribution: Reduce GHG by 26-28% below its 2005 level in 2025 and reduce its emissions by 28%

Actions to mitigate climate change are not enough

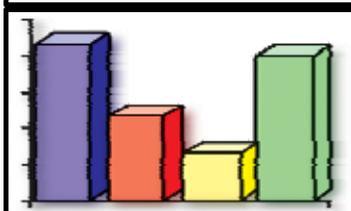
United States contributions leave a **gap of approximately 6% to 13%**

EPA's SMM Strategic Plan 2017–2022

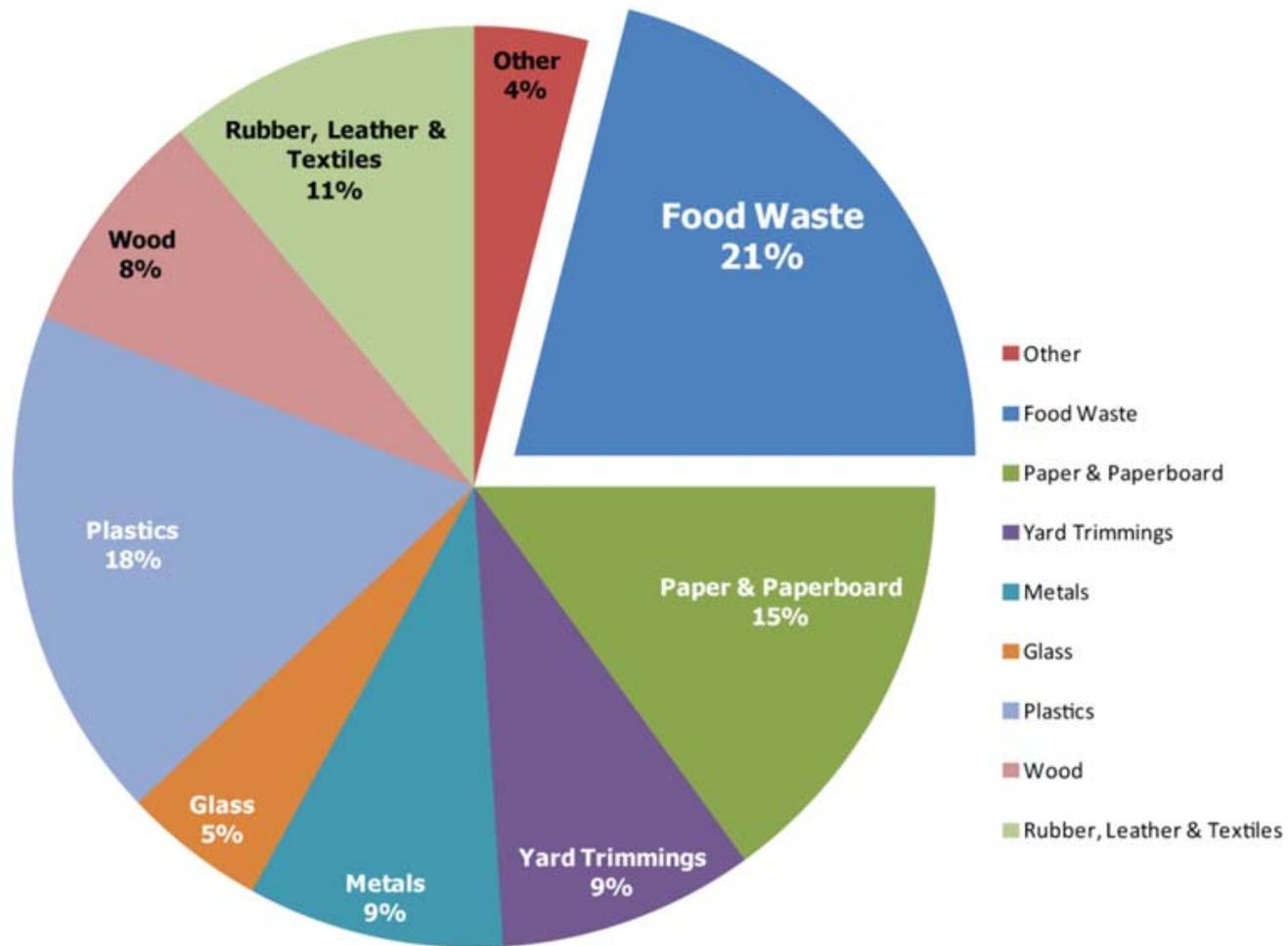
Strategic Priority Areas

	The Built Environment
	Sustainable Food Management
	Sustainable Packaging

Additional Emphasis Areas

	Sustainable Electronics Management
	Lifecycle Assessment
	International Efforts
	Measurement

Sustainable Management of Food: U.S. Waste



2015 Food Recovery Summit: Emerging Themes

- Public Awareness
- Improving Data
- New Partnerships
- Date labeling
- Building Infrastructure
- Seek Prevention Strategies



Call to Action:

opportunities and necessary steps toward reducing wasted food and meeting the national goal



Definition of Solid Waste Rule

- Published on January 13, 2015 and federally effective on July 13, 2015
- Modifies EPA's 2008 Definition of Solid Waste (DSW) rule
- **Improves accountability and oversight** of hazardous materials recycling
- Encourages remanufacturing of higher-value solvents, as a way of conserving resources and **encouraging sustainable materials management**.
- EPA is currently **working with the authorized states** to facilitate adoption and implementation of the new rule.



Economic & Environmental Impacts

\$59M/yr

future cost savings.

344K metric tons

CO2 equivalents/yr (GHG reduction).

G7 Alliance on Resource Efficiency



“We [G7] will work with business and other stakeholders to improve resource efficiency with the aim of also fostering innovation, competitiveness, economic growth and job creation. We encourage all countries to join us in these efforts”.

– G7 Leaders Declaration, May 2016

- G7 Leaders’ Summit June 2015 established the Alliance on Resource Efficiency
- Series of international workshops hosted by G7 member countries
- **U.S. Workshop March 2016 on Sustainable Supply Chains**
- G7 Ise-Shima Leaders Summit May 2016
 - Reaffirms G7 nations’ commitment to improve resource efficiency

G7 Alliance on Resource Efficiency

U.S. Workshop: Preliminary Themes

Closing the loop in manufacturing and in supply chain:

- Pre competitive sharing of information without triggering anti-trust or proprietary issues
- Labeling/disclosure to drive market
- Institutional mechanism for sharing best practices and technical assistance to small and medium size business in supply chain
- Technology transfer

Secondary materials market:

- RCRA Subtitle D and aligning state requirements, (e.g., Extended Producer Responsibility/take back)
- Reorienting municipal/state waste mgmt programs towards materials reuse
- Flexibility in financing local programs
- Rigorous and transparent data collection

G7 U.S. Workshop Observations



- Business cases play critical role in demonstrating value of resource efficiency and to promote best practices
- Think more broadly about where we might draw “best practices”
- Industry needs “safe spaces” to advance innovative ideas
 - Pre-competitive environments with suppliers and flexible policy frameworks from government
- Availability/transparency of data are key to promoting/tracking resource efficiency efforts across supply chains
 - Consistent data is needed across organizations to understand cumulative impacts. Data must be transparent across the supply chain to get the full picture of resource efficiency opportunities and progress.

Workshop Observations

- Metrics/measures are important tools for making progress.
 - Internally, they drive action; externally, they convey priority and direction
- New models of ownership are shaping sustainable practices and can do much to promote resource efficiency
 - More service/sharing-based models promote a “value of reuse” mindset that helps promote acceptance of other reuse efforts
 - Models shape design, durability and other features of products that influence resource efficiency
- End of use is not the end of life
 - Encourage holistic-thinking about product design – beyond recycling/reuse
 - Address an array of “next life” issues to maximize resource efficiency



Thank you!

- **Contact: Stanislaus.Mathy@epa.gov**
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