

- AN OVERVIEW OF REUSE -

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Metropolitan Washington
Council of Governments (COG)



Your Presenter



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Agenda

- Concepts of reduce and reuse
- The drivers - challenges & opportunities
- Overview of the reuse industry
- Triple bottom line benefits of reuse
- Tracking diversion impacts
- Greening procurement
- Examples of applied best practice
- Resources to learn more



Reduce and Reuse Defined



Reduce Defined

REDUCE (also known as 'Source Reduction' or 'Waste Prevention') is any change in the design, manufacture, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they are discarded and become solid waste.



Reuse Defined

REUSE is extending the life of an item by using it more than once, for the same or a new function. By taking a useful product and exchanging it without reprocessing (i.e. recycling), reuse retains the embedded energy and natural resources used in the product's manufacturing process.



Clarifications

Reuse always reduces waste, Reduce doesn't always include Reuse

- E.g. Manufacturer retools equipment to reduce the production of by-products before they become “waste” – a source reduction activity (doesn't entail reuse)
- E.g. Retailer sells/donates surplus to a reuse outlet – a reuse activity (waste reduction is the outcome)



Clarifications

Reduce and Reuse are NOT Recycling

- Recycling (or down-cycling) is the process of breaking down a used item into its raw materials/components which are used to make new items
- E.g. Wood: Reuse turns excess wood/lumber into flooring or furniture, where recycling turns the same wood into sawdust or mulch



Clarifications

Comparing Reduce & Reuse Strategies

Shipping / Logistics

Refuse to work with non-recyclable packaging

Require vendors to use reusable pallets

Office

Paperless office,
Duplex printing

Internal/External
materials exchange

Kitchen / Cafeteria

Reduce portion size
to reduce food waste

Reusable service ware,
Donate excess food

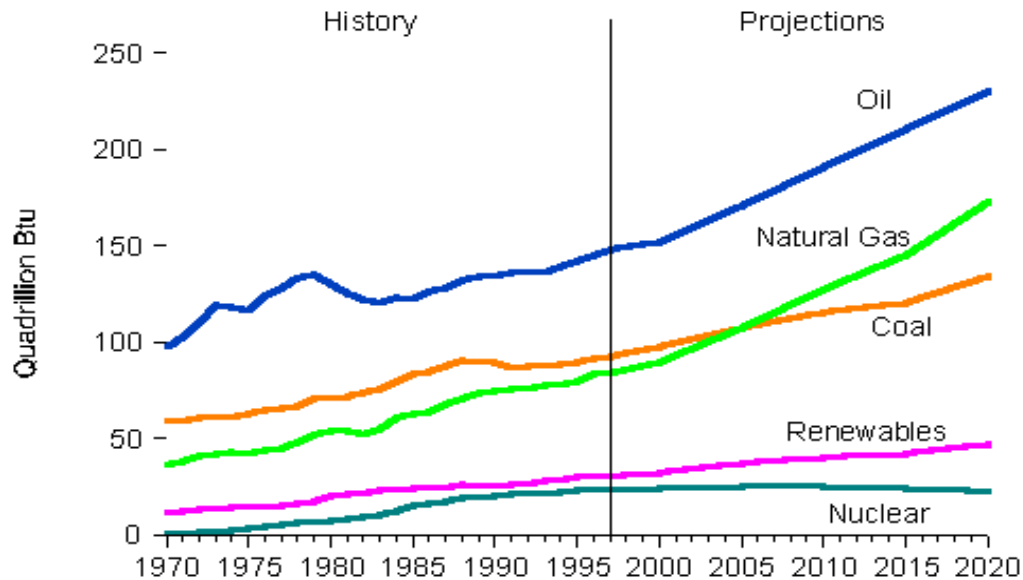


Drivers: The Challenges

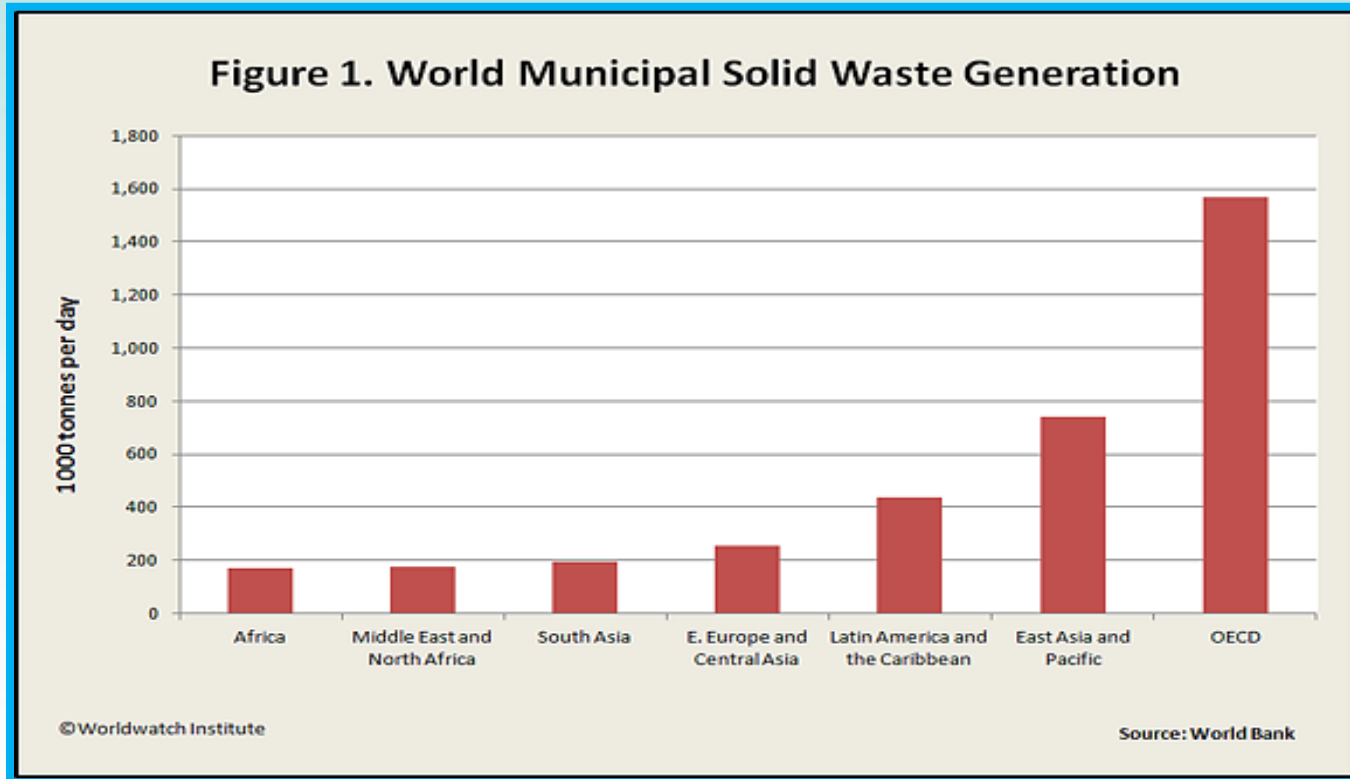


Resource Consumption

World Energy Consumption by Fuel Type, 1970-2020

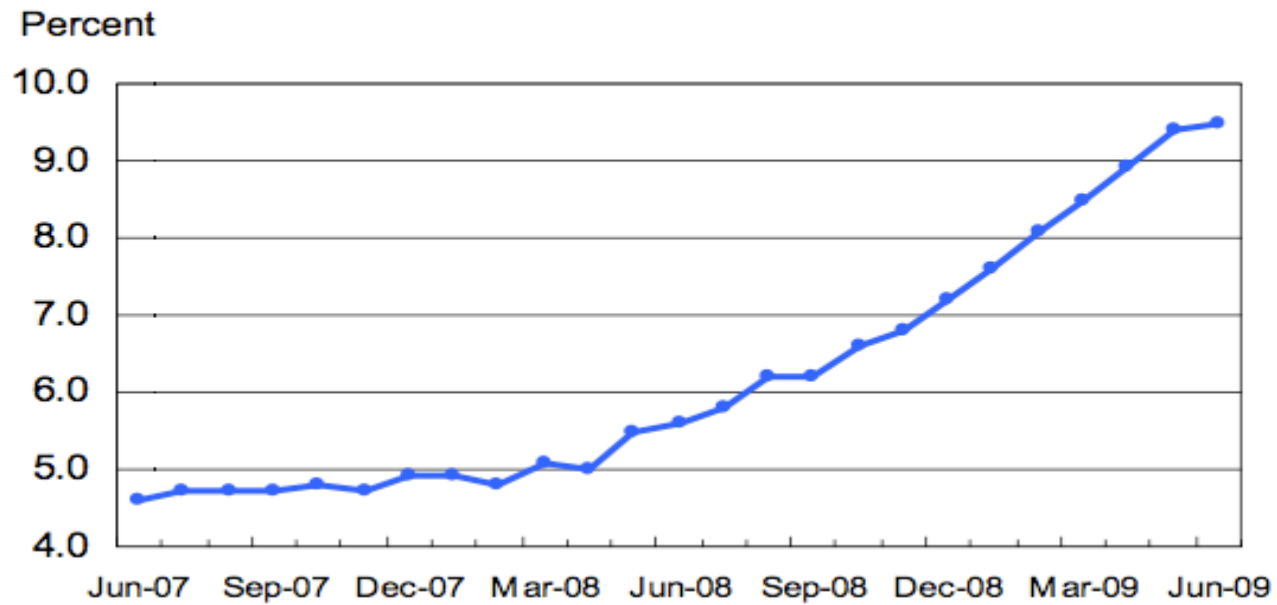


Municipal Solid Waste



Unemployment

Chart 1. Unemployment rate, seasonally adjusted, June 2007 – June 2009



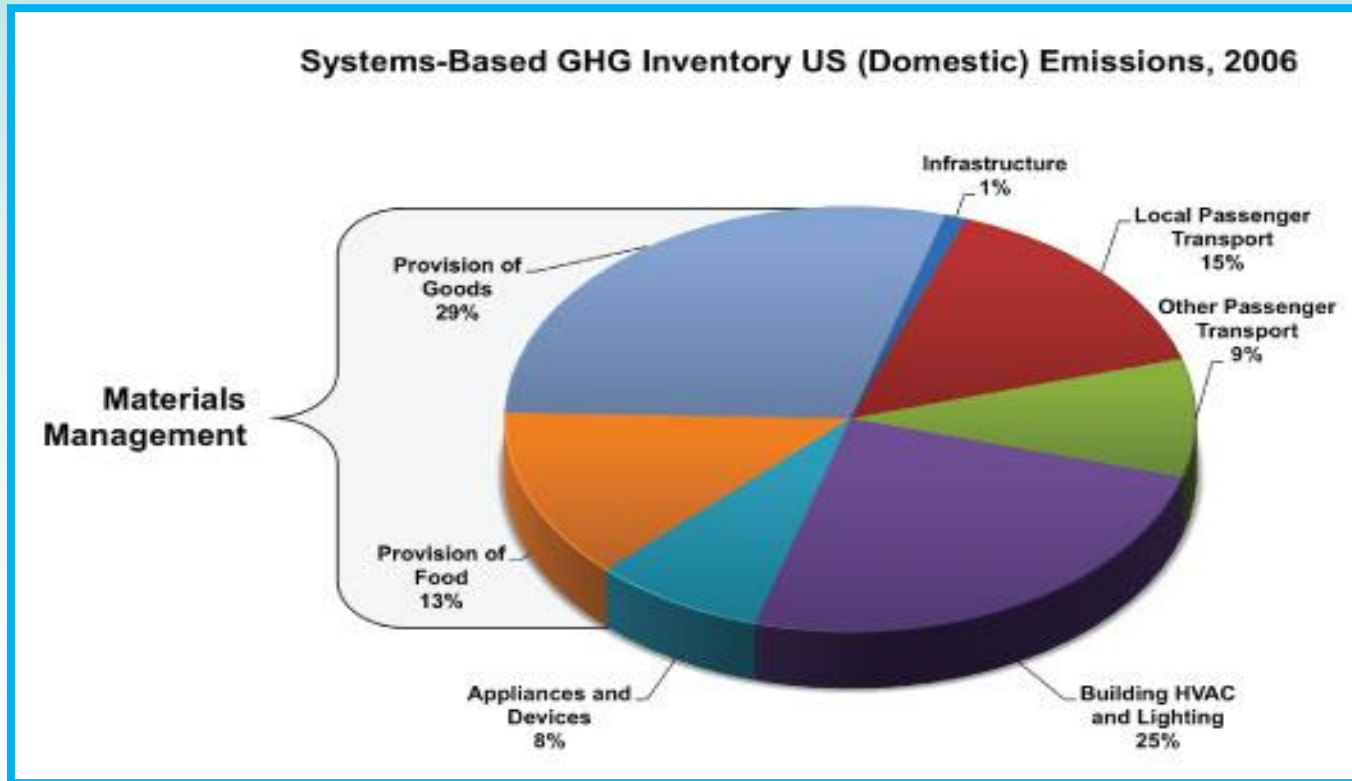
Lack of Awareness



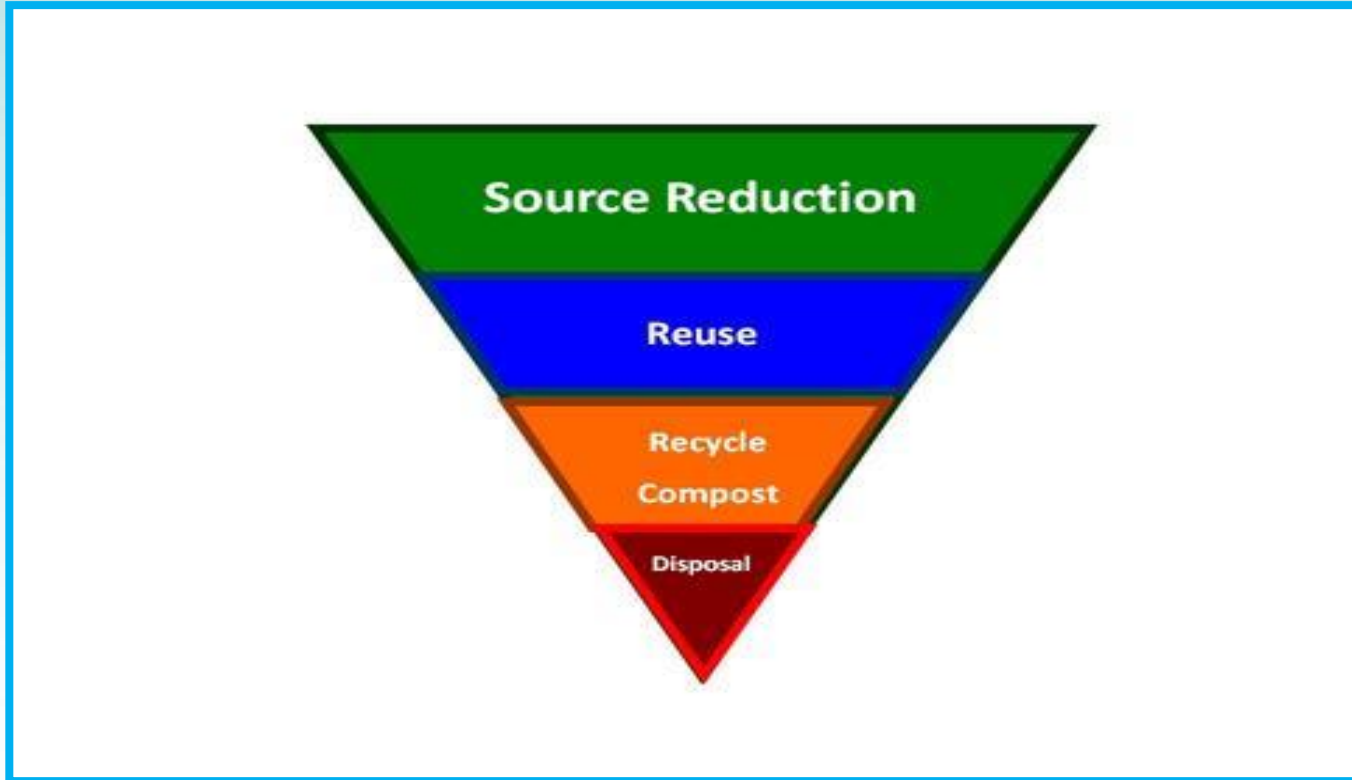
Drivers: The Opportunities



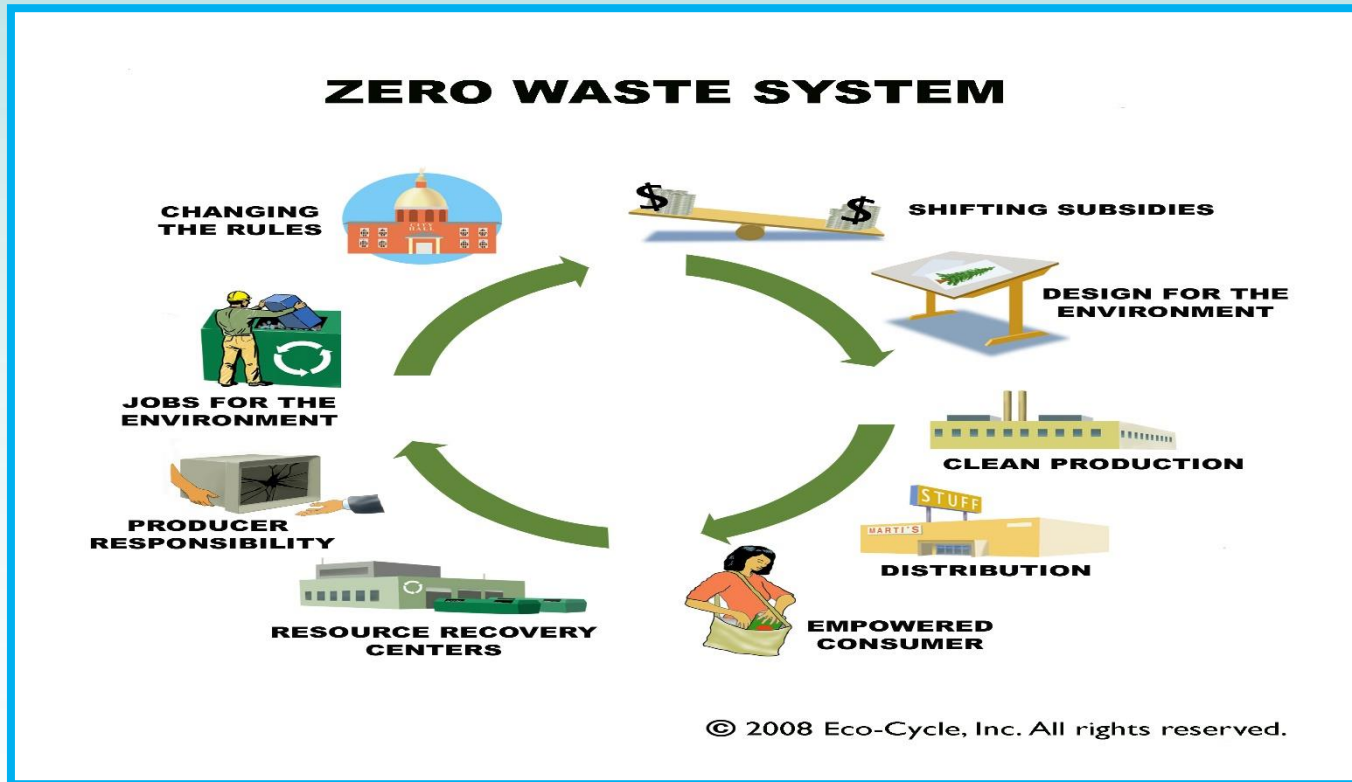
Systems Thinking Research



A Shift to SMM



Zero Waste Systems



Zero Waste Legislation

I

115TH CONGRESS
1ST SESSION

H. R. 1034

To authorize the Administrator of the Environmental Protection Agency to award grants for municipal solid waste prevention, reuse, and recycling program development, and for other purposes.



Other Drivers

Additional Drivers to Consider:

- Design for the Environment / Redesign
- Empowered Green Consumers
- Investments in Recovery Infrastructure
- Extended Producer Responsibility



Reuse Industry Overview



Conventional Reuse

Thrift Shops and Consignment Stores



Conventional Reuse

Building Materials Reuse Centers and Furniture Banks



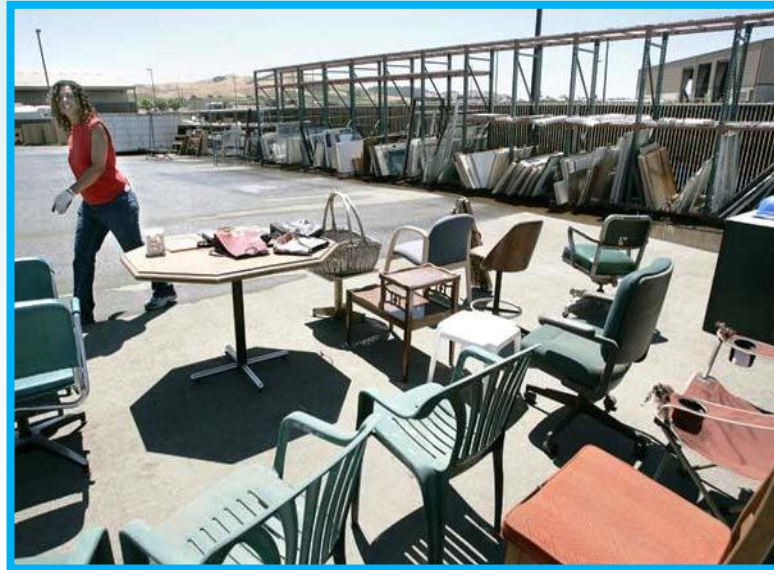
Conventional Reuse

Resale Websites and
Virtual Materials Exchanges



Conventional Reuse

“Last Chance” Reuse Sheds
at Municipal Landfills/MRFs



Conventional Reuse

Food Rescue Organizations and Food Pantries



Conventional Reuse

Flea Markets, Yard Sales and
Private/Public Swap Events



Creative Reuse

Creative Reuse Centers and Upcycling Designers



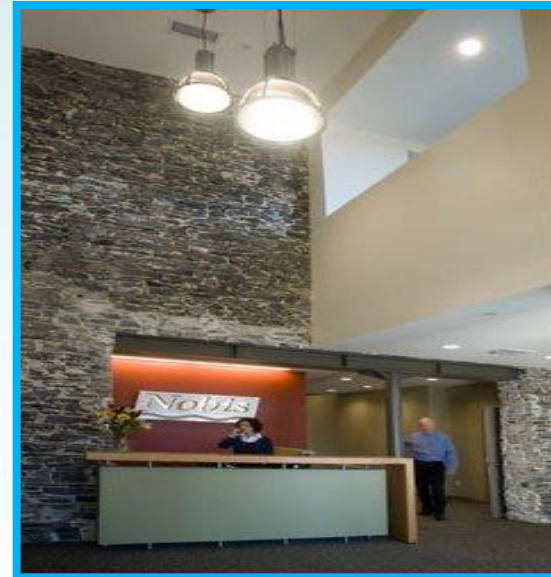
Reclamation & Salvage

Deconstructed structures transformed into building materials



Adaptive Reuse

Defunct buildings are transformed into residential and/or commercial properties



Refillables & Reusables

Consumer and/or commercial applications of durable, reusable products



Rental & Sharing

The “intense use” and reuse of products



Repair

Professional repair and self-repair options



Refurbish & Remanufacture

Refurbish is generally low-tech, and remanufacturing is high-tech



Triple Bottom Line Benefits



People, Planet, Profit



People

R&R Is Socially Responsible

- Low-cost, high-quality materials to individuals and organizations with limited means
- Meaningful, living-wage employment



Planet

R&R is Environmental Friendly

- Serves consumers who want options for environmentally preferable purchasing
- Diverts valuable resources from landfill
- Promotes resource conservation
- Reduces need for energy & raw materials, thus mitigates GHG
- Reduces plastic pollution by eliminating single-use materials



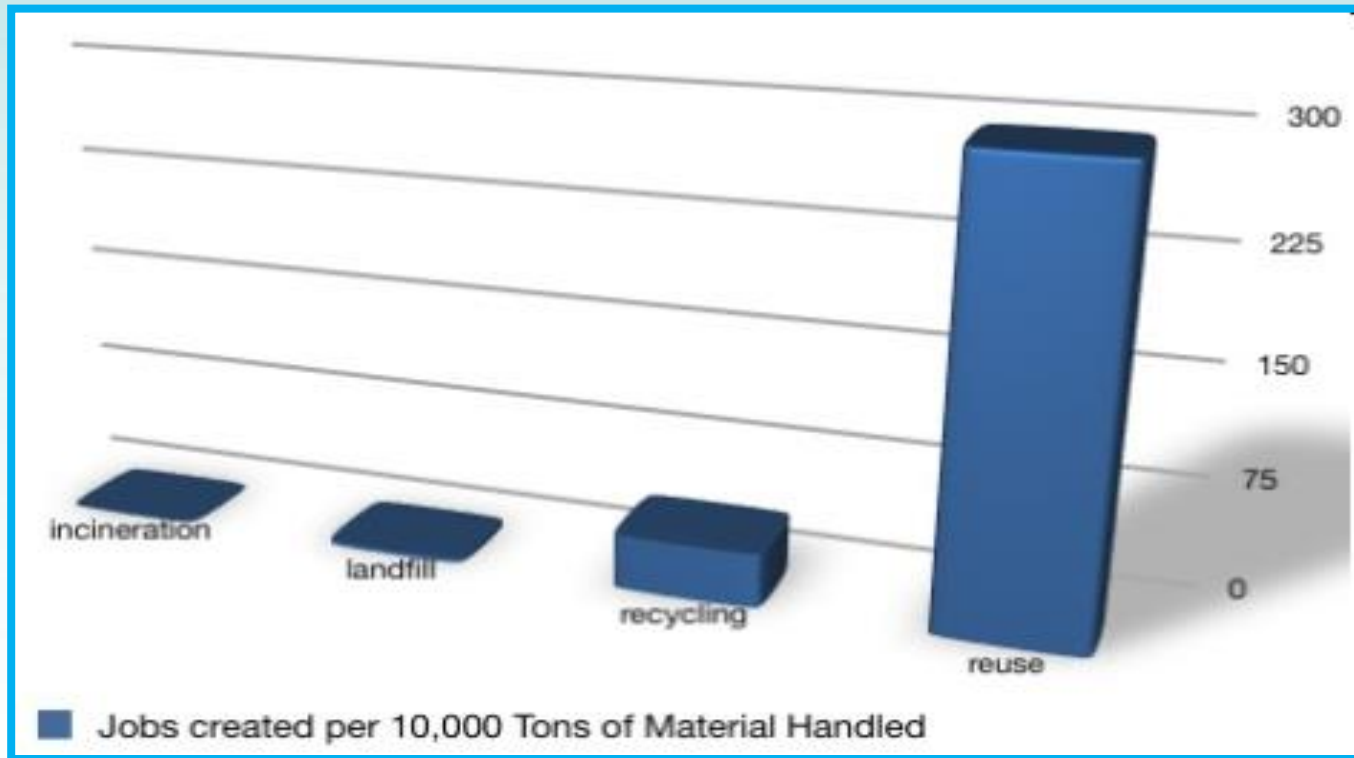
Profit

R&R is Economically Beneficial

- Provides savings to donors (tax benefits, avoided/reduced disposal & purchase)
- Provides savings recipients (reduced/avoided purchase costs)
- Generates revenues for individuals, entrepreneurs and nonprofits
- Creates green-collar jobs



“Reuse is the Original Green Collar Job”



Quote: MaryEllen Etienne | Stats: Institute for Local Self Reliance



Economic Impact of Reuse

Economics of MN's Reuse Industry's

- Reuse (used, rental, repair) directly employs ~46k people in the state
- Creates 4.6k jobs in supporting sectors
- It generates at least \$4 billion in gross sales annually
- Companies are mostly locally-owned & operated - increases capital retention

Source: Minnesota Pollution Control Agency



Greening Your Procurement



Reduce & Reuse is EPP

It's Not Just About Outputs, It's EPP

- Logistics Solutions: durable/reusable pallets, used cardboard boxes
- Furniture: refurbished workstations
- Office: remanufactured toner cartridges, refillable pens/pencils
- Kitchen/Cafeteria: reusable service ware, reusable to-go boxes, divert food
- Swap & Repair: online or in-person



Tracking Your Impacts



Assessing the Situation

Determine the Waste Stream Baseline

- Manufacturing process by-products
- Transport packaging / logistics
- General packaging waste
- Paper & other office supplies
- Kitchen service ware & food
- Bathroom products
- Other areas/products



Measuring Diversion

Figure Out How to Measure Diversion

- # of tons diverted from the landfill
- \$ avoided disposal cost (donor/seller)
- \$ avoided purchase cost (receiver/buyer)
- \$ value of materials donated (donor)
- \$ revenues earned (donor/seller)
- # of job created or retained
- # of individuals/organizations assisted



Examples of Applied Best Practice



Leading by Example

Three entities leading the way

- Business leader: Toyota Manufacturing North America (Erlanger, Kentucky)
- Nonprofit leader: The Scrap Exchange (Durham, North Carolina)
- Community leader: Austin Resource Recover (Austin, Texas)



Toyota Manufacturing N.A.

Critical Decision: To determine if replacing wooden & cardboard packaging with reusables saves money & lessens footprint.

- Facilitates a network of 65,000 reusable containers for over 2000 dealers/suppliers
- Saved 308 million pounds of wood, 185 millions pounds of cardboard
- Saved \$445 million dollars in packaging



The Scrap Exchange

Critical Decision: To create a model center of creative reuse.

- Created/maintained green-collar 32 jobs
- Diverts nearly 150 tons annually
- Purchased over 105,000 sqft of commercial space to create 1st Reuse Arts District
- Launched bootcamp, and is developing a national center to support reuse initiatives



Austin Resource Recovery

Critical Decision: To establish a goal to work towards Zero Waste by 2050

- Developed their “Zero Waste Master Plan”
- Co-Hosted ReuseConex 2014
- Supported expansion of Austin ReBlend
- Launched the Austin Materials Marketplace
- Developing the Austin remanufacturing Hub



Keys to Success

Implementing a successful R&R “action plan”

- Know your basics – Figure out the baseline
- Work the hierarchy – Highest & best use
- Scope it out – Who can help you
- Get buy-in – Pitch it and get feedback
- Integrate R&R – Help meet overall goals
- Learn – Track, analyze, improve



Recap and Resources



Free Resources

Check out the online “Reuse Library”

- Background Material
 - *The Reuse Primer*
 - *The Reuse Movement Toolkit*
- Reports & Articles
- Industry Research
- Samples of Operational Documents



References

Links references in this session

- EPA LifeCycle Study: bit.ly/EPALCStudy
- MPCA's Study: bit.ly/MPCAStudy
- ISLR Job Stats: bit.ly/ILSRReuseStats
- Reuse Library: bit.ly/ReuseLibrary
- ReuseConex: reuseconex.org



Follow-Up

Please keep in touch:

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