

US EPA ARCHIVE DOCUMENT

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# Use Reusables: Fundamentals of Reusable Transport Packaging

EPA Sustainable Materials Management Webinar  
August 16<sup>th</sup>, 2012



# Let's Begin



## What are Reusables?

Merriam Webster defines Reusable as:

**re·us·able** *adj* \rē-`yü-zə-bəl/: capable of being used again or repeatedly

Reusable Packaging is comprised of pallets, containers, wraps, bands and dunnage designed for reuse within a supply chain

# Reusable Packaging is Not:

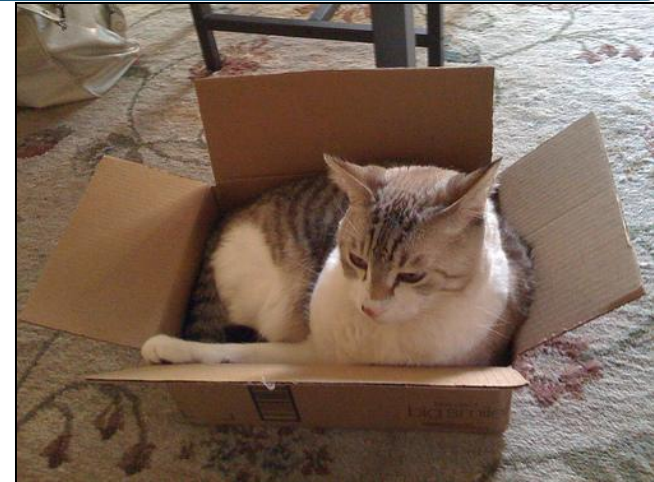


- Single use
- Limited use





# Opportunistic vs. Planned Reuse



# Everyday Reusables





# Let's look at some Reusables in action...





# Reusables in Action



## Reusable Totes



## Closed Loop Distribution



Peerless Coffee & Tea Company in Oakland, California replaced single use cardboard boxes with reusable totes for three of their Bay Area delivery routes.

- Saving 1.5 tons of cardboard per year
- Equals 18 tons of CO2 emissions avoided

# Reusables in Action



## Reusable Totes



## Work-In-Process



Ghirardelli Chocolate purchased reusable totes to move products in “work-in-process” for one of their production lines. This switch saves costs and environmental impacts of impacts of 228 tons/yr of cardboard boxes that were previously purchased, assembled, handled and recycled.



# Reusables in Action



## Reusable Bands and Pallets

## Closed Loop Distribution



Food distributor US Foods traded single-use stretch wrap for reusable bands to secure pallet loads. They've reduced plastic film waste by 50 tons/yr and they save \$19,200 per year in avoided purchasing costs. *They also use reusable plastic pallets.*

# Reusables in Action



## Reusable Pallet Wrap



## Closed Loop Distribution



Food manufacturer Premier Organics replaced disposable stretch wrap with reusable pallet wraps. Workers benefit from reduced stress and strain from wrapping dozens of pallets a day by hand, and the company and their supply chain partners avoid the time and cost required to dispose of the stretch wrap.



# Reusables in Action



## Reusable Totes



## Office Relocation

Government agency  
StopWaste.Org used totes to  
pack and transport items during  
their office move.

- Rigid totes offered better protection of contents
- Dollies eliminated the need for heavy lifting.
- Elimination of cardboard boxes and tape saved set-up and clean-up time.

# Many Benefits of Reusables



Financial



Environmental

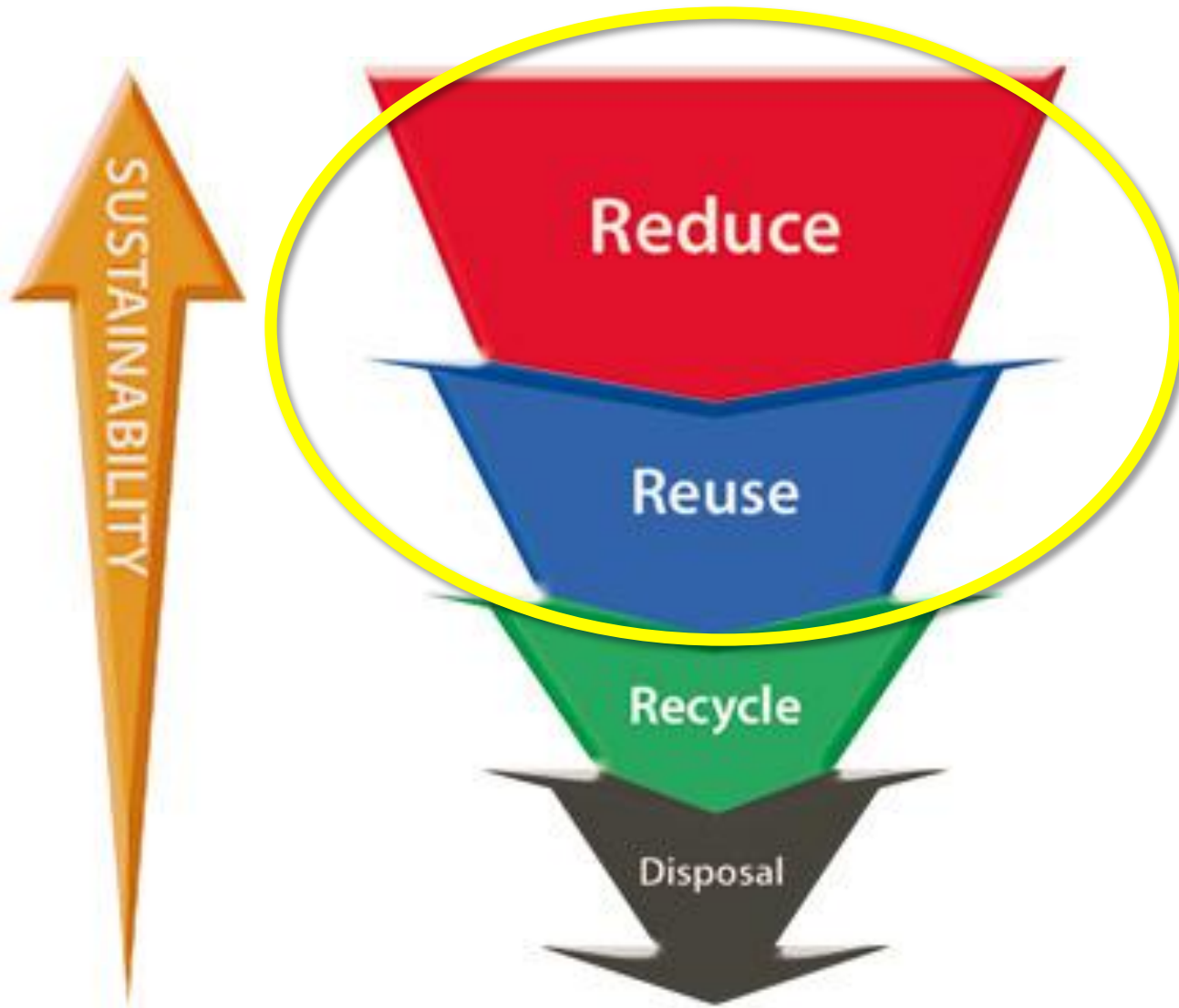


Health & Safety

# Environmental Benefits



# “Reduce & Reuse” are the Most Sustainable

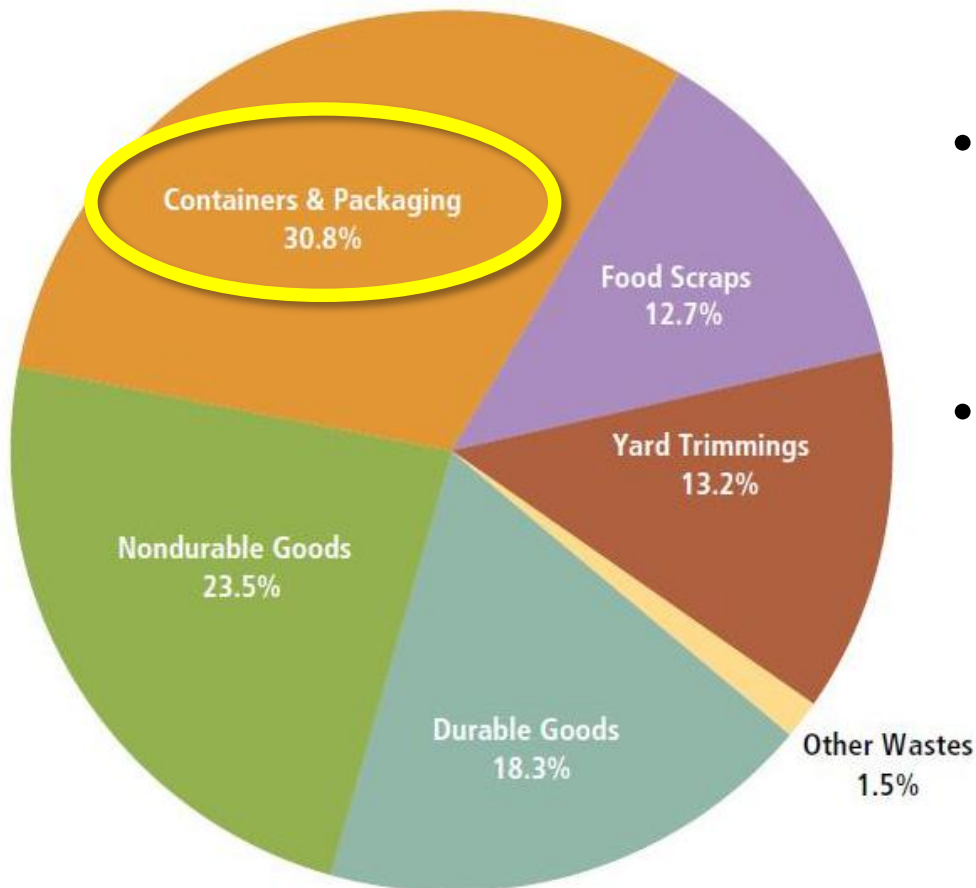




# U.S. Solid Waste



## ***Disposable Containers & Packaging are 30% of North America's Municipal Solid Waste***



- 56% of these valuable resources are wasted in landfills.
- The remaining 44% are recycled; often downcycled into less valuable products.

Total MSW Generation (by category), 2008  
250 million tons (before recycling)

# U.S. Greenhouse Gas Emissions



**Over 1/3 of U.S. Greenhouse Gas Emissions are Attributable to Producing & Transporting Goods**

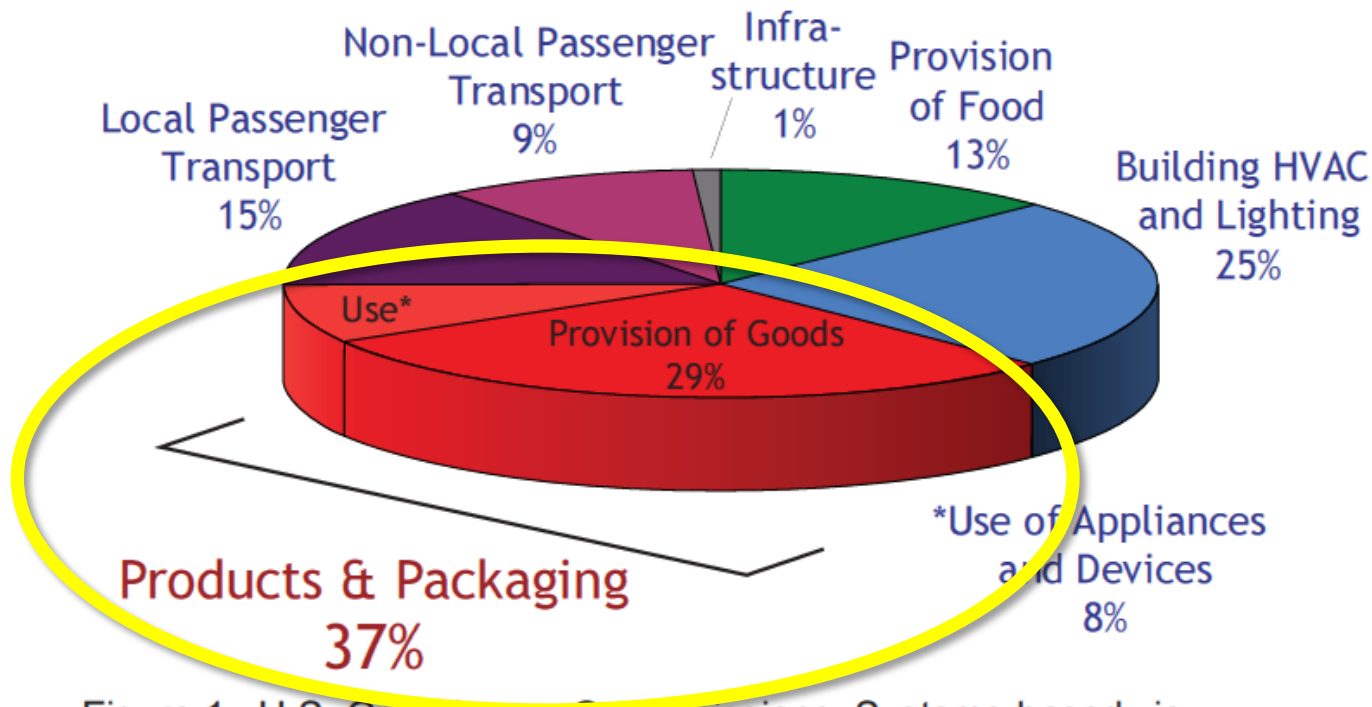


Figure 1: U.S. Greenhouse Gas Emissions: Systems-based view.  
Source: U.S. EPA, 2009.

*(Provision of Goods: all consumer goods including building components and vehicles.)*

# Top 5 Materials Landfilled from Commercial Sector



1. Food Waste

2. Other Paper

3. **Uncoated Cardboard** *Boxes*



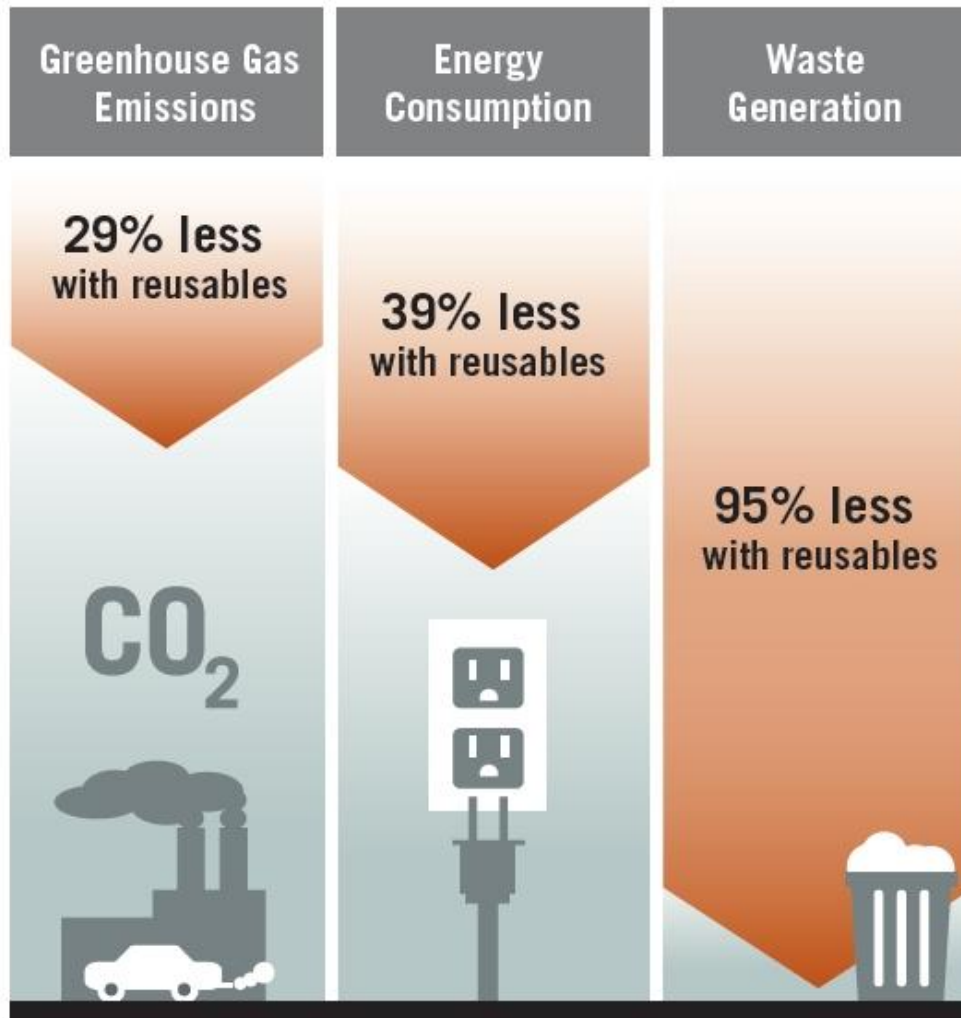
4. **Unpainted Wood** *Pallets*



5. **Film Plastics** *Stretch Wrap*



# Environmental Benefits of Reusables



## Reusable transport packaging containers

- generate 29% less total greenhouse gas emissions;
- require 39% less total energy; and
- produce 95% less total solid waste on average.

*See Reusables 101 page 9*



# Financial Benefits



## Revenue Enhancement

- Merchandising at Store Level
- Elimination of White Space at the Plant Level allowing more units sold



## Capital Utilization

- Pooling/Rental of Reusables



## Operating Expense Reduction

- Reduced Labor back of the stores or line side
- Reduced Total Freight Cost
- Material Substitution

# Unitization and Cube Efficiencies



# Health & Safety Benefits



# Health & Safety Benefits



- Reusable totes can **reduce injury from overfilling** non-uniform boxes.
- Reusable pallets can **reduce injury from broken pallet debris** hazards such as splinters, nails and wood on the floor.
- Ergonomically designed reusable totes can reduce **bending, lifting and handling injuries**.
- Reusable intermediate containers can **reduce injuries from rolling drums and chime removal**





# Stability



# The Use Reusables Campaign



- Innovative and replicable approach
- Reducing greenhouse gas (GHG) emissions and solid waste associated with one-time and limited-use transport packaging materials:
  - Production;
  - Use; and
  - Disposal.
- Helping businesses convert to more sustainable reusable alternatives.



# Made Possible by...



## **EPA Climate Showcase Communities**

Grant funding supports the national expansion of the Use Reusables educational workshop events as well as free tools and online resources.

[www.epa.gov/statelocalclimate/local/showcase/](http://www.epa.gov/statelocalclimate/local/showcase/)

## **The Reusable Packaging Association (RPA)**

Promotes the value and expansion of reusable packaging systems. We are made up of 33 member companies encompassing all phases of the supply chain: Manufacturers, End Users, Technology Providers and Service Providers.

[www.reusables.org](http://www.reusables.org)

# How StopWaste can Help



- Training Opportunities
- Information Request Process
- Logistics Assistance
- Financial Assistance
- Become a model case study





# Example



## Reusable Intermediate Bulk Container (IBC)



# Case Study Example

**A large private flavoring company using fiber drums to transport their liquid product was faced with challenges:**

- Chime removal and rolling drums caused injuries →
- Limited volume capacity of drums was inefficient
- Limited truckload capacity = costly freight
- Required custom racking
- Large area of warehouse dedicated to storage
- Incurred costly disposal fees



***Fiber Drum Waste***

# Case Study Example



## **Solution: Reusable Intermediate Bulk Container (IBC)**

- Reusable
- Lower cost
- Environmentally friendly
- Efficient, less labor
- Truckload optimized
- Eliminates drum disposal
- Eliminates racking
- Eliminate drum related injuries
- Minimizes required storage



Full



Empty

# Case Study Example



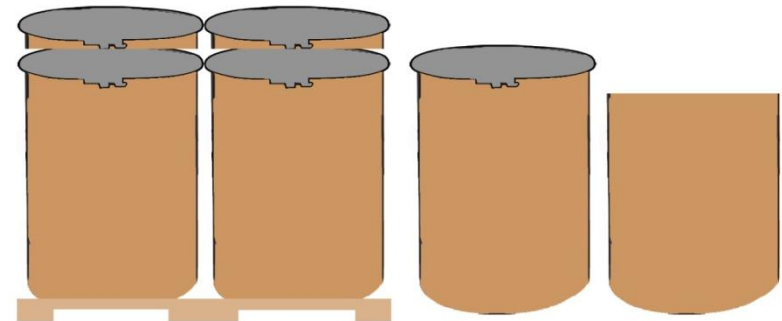
## Results: Operational Efficiency

Fill 1 IBC (315-gallon)



Filling 6 Drums

**VS.**



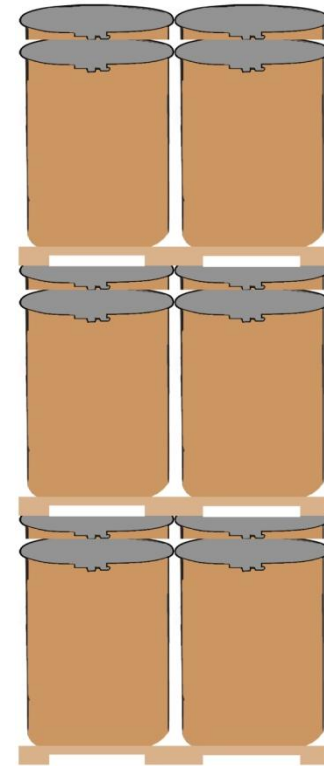


# Case Study Example

## Results: Reduce Required Storage Space



**VS.**



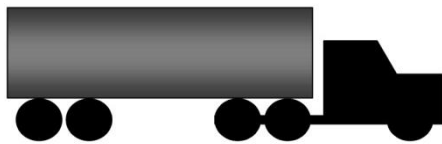
3,780 Gallons Empty  
**or** 1,575 Gallons Full

660 Gallons Full or  
Empty in Same Space

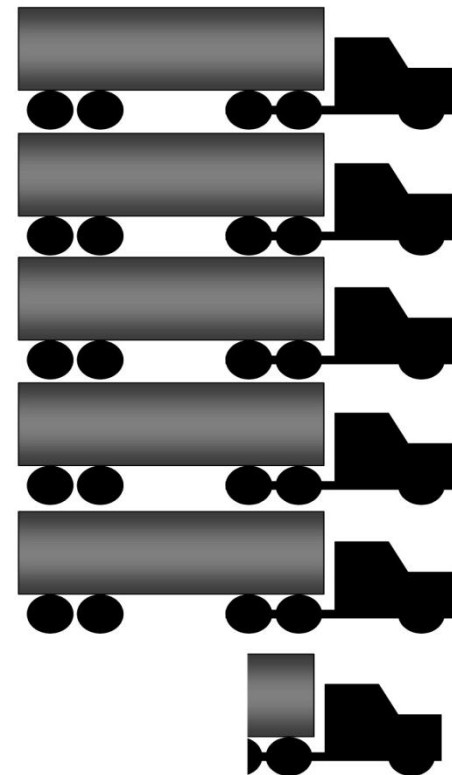
# Case Study Example



## Results: Truckload optimization



VS.



1 Truckload  
of 315-gallon collapsed  
reusable totes (52,920 gallons)

5.25 Truckloads  
of drums (52,910 gallons)

# Case Study Example



## Utilizing reusable transport packaging allowed this customer to:

- Increase operational efficiency
- Reduce waste & improve environmental impact
- Cut costs
- Simplify supply chain
- Improve worker safety



# Attributes of Good Reusables Opportunities

- Within One Facility, Closed Loop, or Managed Open Loop
- Flow of Consistent Products in Large Volumes
- High Turn Rate
- Large and/or Bulky Products, or Easily Damaged Products
- Suppliers or Customers Grouped Near One Another
- High Waste Disposal or Recycling Costs
- Sustainability Goals or Mandates



# For More Information



## Use Reusables

Reusable Transport Packaging Saves Your Company Money and Resources

Home About Us Reusables Basics Cost Comparison **Case Studies** Resources Events & Workshops Contact

### Case Studies

Many companies are realizing the benefits of reusable transport packaging already. Here are some case studies highlighting different applications for reusables.



#### Savoy Spinach: Driving down costs with returnables

Switching from wooden bushel baskets to returnable, nestable and stackable HDPE containers has helped drive costs out of the supply chain for the Savoy Spinach industry. [View case study](#)



#### StopWaste.Org: Reusable Moving Crates

When StopWaste.Org moved to a new office, staff wanted to avoid generating the mountain of cardboard waste typical of a traditional move. By choosing reusable moving crates they reduced waste, cut back on labor, and improved the efficiency of the move. [Download case study \(pdf\)](#)  
[View a video](#)



#### ANG Newspapers: Efficiencies from plastic pallets

ANG Newspapers worked with the StopWaste Partnership to identify how they might further improve their environmental performance. StopWaste assessed the situation and determined that ANG had the ideal distribution system for reusable plastic pallets. [Download case study \(pdf\)](#)

### Send Us Your Stories

We are looking for more success stories and case studies to add to this site. Send us your case study!  
[Reusables@stopwaste.org](mailto:Reusables@stopwaste.org)



Visit the Use Reusables StopWaste.Org educational website at [UseReusables.com](http://UseReusables.com)

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