Reusable Transport Packaging
What it Can Do for Your Business

A 30-minute presentation
Facilitated by:

Justin Lehrer
Sr. Program Manager, StopWaste
What we’ll cover:

1. Reusable Transport Packaging
2. Benefits of Reusable Transport Packaging
3. What Makes a Good Candidate for Reusables?
4. Technical Assistance Available
Top 5 Materials Businesses throw away…

1. Food waste
2. Other paper
3. Cardboard boxes
4. Wood pallets
5. Film plastics, e.g. *stretch wrap*

…and they’re paying for each piece.
Disposable containers & packaging are 30% of North America’s Municipal Solid Waste (MSW)

30% Containers and Packaging

Total MSW Generation (by category), 2008 250 million tons (before recycling)
Transport Packaging is used to move components, finished products or raw materials.

Traditional pallets & boxes

- ~1-5 uses

Reusable alternatives

- ~5-10 years
Transport Packaging is used to move components, finished products or raw materials.

Traditional drums and gaylords:
- 1-5 uses

Reusable alternatives:
- 5-10 years
Transport Packaging is used to move components, finished products or raw materials.

Other transport packaging
- Uses: 1-5

Reusable alternatives
- Uses: 5-10 years
Reusable Transport Packaging

- Durable construction
- Typically never disposed of by the recipient
- Repeated use - lifetime is measured in years
- Can include special features
Benefits of Reusables

- Cost savings
- Better efficiency
- Better worker safety/ergonomics
- Better product protection
- Improved environmental performance & corporate responsibility
SUCCESS STORY

Safeway

https://www.youtube.com/watch?v=CrCLRssWQtx0
SUCCESS STORY
Ghirardelli Chocolate

Industry:
Food Manufacturing

Location:
San Leandro, CA

Reusables Used:
Reusable Handhelds & Totes

Company Snapshot:
Premium chocolate manufacturing facility with 360 employees, a rich heritage and $400 million annual revenue. Ghirardelli controls entire process, from cocoa bean to finished product.
SUCCESS STORY

Ghirardelli Chocolate

Before: Recurring purchase of 4,500 fiber drums/year for delivery of one liquid ingredient. Drums are landfilled. Not recyclable or compostable.

After: Trip lease program developed for delivery of ingredients in reusable totes.
SUCCESS STORY

Ghirardelli Chocolate

Results:

- Eliminating 46 tons/yr of fiber drum waste
- Preventing 59 tons/yr of food from going to landfill
- Eliminating use of 1,100 wooden pallets/yr
- Reduce stretch wrap use by 54,000 ft/yr
- GHGs estimated to eliminate 294 MTCO$_2$E/yr
SUCCESS STORY

PepsiCo

Industry:
Food & Beverage

Location:
Oakland, CA

Reusables Used:
Plastic Pallets

Company Snapshot:
Pepsico bottles Gatorade in this 157,000-square-foot facility. Gatorade is the best selling sports drink in the U.S.
SUCCESS STORY
PepsiCo

Before:
• Pallets jamming the production line
• Wasted labor
• Equipment downtime
• Product losses

After:
• Leasing reusable plastic
• Plastic pallets uniform in dimensions
• Virtually eliminated production line jams

Adjustments made: Installed $1,000 worth of photo sensors so the system could read the new pallets.
SUCCESS STORY

PepsiCo

Results:

- Significant cost savings from reduced product damage and equipment downtime
- Minimizes labor needed to sort out bad pallets
- Improves worker safety
- Conserves forest resources and lowers CO₂ emissions
SUCCESS STORY

Veritable Vegetable

Industry:  
Food & Beverage

Location:  
San Francisco

Reusables Used:  
Plastic Pallets and mesh wraps

Company Snapshot:  
120 employees, distributes high quality organic fruits and vegetables, active base of 500 customers and 220 vendors.
SUCCESS STORY

Veritable Vegetable

Before:
• Wooden pallets required 700 miles of plastic wrap per year.
• Used worker time to collect and bale discarded wrap.

After:
• Reusable mesh wraps and plastic pallets.
• The pallets and wraps are easier to use and produce less waste.
SUCCESS STORY

Veritable Vegetable

Results:

✓ 20 annual tons of GHG avoided, equal to taking 4 cars off the road/year
✓ Improved ergonomics for staff
✓ Practice in line with company’s philosophy
✓ Significant cost savings from avoided shrink wrap purchases
Are reusables right for your organization?
The Use Reusables Campaign

- Helping businesses convert to reusable packaging.
- Reducing GHG emissions and solid waste from limited-use transport packaging materials.

Brought to you by:
<table>
<thead>
<tr>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Technical assistance</td>
</tr>
<tr>
<td>✔ Cost Benefit Analysis</td>
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<tr>
<td>✔ Vendor facilitation &amp; referral</td>
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</tbody>
</table>
**Financial Analysis Tools**

![Net Present Value (NPV) Table]

**Company: ABC Roasting Company**

**NPV = sum of the discounted net cash flows**

<table>
<thead>
<tr>
<th>Year</th>
<th>Benefits Description</th>
<th>Benefits Value</th>
<th>Costs Description</th>
<th>Costs Value</th>
<th>Net Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Equipment costs</td>
<td>$ 4,135</td>
<td>$(54,134)</td>
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<tr>
<td>1</td>
<td>Purchases avoided</td>
<td>$ 4,250</td>
<td></td>
<td></td>
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<td></td>
<td>Labor savings</td>
<td>$ 6,000</td>
<td></td>
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<tr>
<td></td>
<td><strong>Year 1 Total</strong></td>
<td><strong>$10,250</strong></td>
<td><strong>10% replacement</strong></td>
<td><strong>$ 413</strong></td>
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<tr>
<td>2</td>
<td>Purchases avoided</td>
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<td><strong>Year 2 Total</strong></td>
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<tr>
<td>4</td>
<td>Purchases avoided</td>
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</tbody>
</table>

**NPV = \sum_{t=0}^{n} \frac{(Benefits - Costs)_t}{(1 + r)^t}**

where:
- \( r \) = discount rate
- \( t \) = year
- \( n \) = analytic horizon (in years)

**Reusables Cost Comparison Tool**

This model compares basic cost differences of one way corrugated packaging and reusable plastic packaging. The model uses basic assumptions and requires you to input various cost components. While the model uses factual inputs from prospective users, it is intended to offer guidance and not an absolute indication of exact cost benefits. More specific models are available to determine specific cost benefits once an overall feel for expected costs is understood.

**Purchase Price**

- **Corrugated**
  - Corrugated carton: $ 1.90
  - Container price: $ 7.50
- **Reusable Handheld Container**
  - *Average values; your cost will vary*
  - Tape per carton: 0.92
  - Total purchase cost: $ 1.02

**Dwell Time**

"Dwell time" is the amount of time in days that a reusable packaging container will be held at various stages in your supply or distribution chain. In addition to time at your facility, be sure to also enter time at any distribution centers, transit time, time at the destination, and time for preparing and returning the container for reuse. All times are in full days. It saves them blank for ones that do not apply to your situation.
Analyzing GHG impact

• EPA’s WARM model is used to determine GHG reductions
• Biggest factors affecting GHG reduction potential are: Project size, material replaced, and how materials were discarded

<table>
<thead>
<tr>
<th>Material</th>
<th>GHG Reductions (MTCO²E/ton)</th>
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<tbody>
<tr>
<td>Cardboard (boxes, drums)</td>
<td>5.5 (2.5 if recycled)</td>
</tr>
<tr>
<td>Plastic Wrap (pallet wrap)</td>
<td>1.8 (0.84 if recycled)</td>
</tr>
<tr>
<td>Wood (pallets)</td>
<td>1.3</td>
</tr>
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</table>
Join a community of industry leaders!
Interested?

Use Reusables representatives are available to help:

- Assess opportunities at your company & identify potential projects
- Estimate the cost savings
- Conduct an on-site assessment if needed (SF Bay area)
Website: UseReusables.org

- Reusables Basics
- Cost Analysis Tools
- Equipment & Service Providers
- Case Studies/Videos
Questions?

Visit our website www.UseReusables.Org or contact us:

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How do you use transport packaging?

Shipping

☐ Do you procure transport packaging, then pack & ship goods in TP using:

A. Closed loop shipping (local route “milk run”, producer > DC > producer or DC > stores > DC)
   OR

B. Open loop shipping (one-way full truckload shipping <500 miles)
   OR

C. Internal use (work-in-process)
How do you use transport packaging?

Receiving

☐ Do you receive & unpack goods in transport packaging:

A. From another division of the same company
   OR

B. From a supplier with RTPs as an available option
   OR

C. From a supplier for which you have sufficient buying power to influence the transport packaging toward RTPs)