Reusable Transport Packaging
What it Can Do for Your Business

A 30-minute presentation
Facilitated by:

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Project Manager, Leidos
On behalf of StopWaste

Offered in conjunction with:
Norcal Sustainable Healthcare Group
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)

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

Reusable alternatives

1-5 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
<table>
<thead>
<tr>
<th>Benefits of Reusables</th>
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<tbody>
<tr>
<td>✓ Cost savings</td>
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<tr>
<td>✓ Better efficiency</td>
</tr>
<tr>
<td>✓ Better worker safety/ergonomics</td>
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<tr>
<td>✓ Better product protection</td>
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<tr>
<td>✓ Improved environmental performance &amp; corporate responsibility</td>
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SUCCESS STORY
Mills-Peninsula Health Services

Industry:
Health Services

Location:
Burlingame, CA

Reusables Used:
Steel hard cases

Company Snapshot:
Mills-Peninsula Health Services is a general medical and surgical hospital in Burlingame, CA. This location has 393 beds. Staff performed 3,444 annual inpatient and 7,235 outpatient surgeries and its emergency room had 46,911 visits.
SUCCESS STORY

Mills-Peninsula Health Services

**Before:** Recurring purchase of 14,475 pounds/year of Blue Wrap. The Wrap was only used once then disposed of.

**After:** One time purchase of reusable steel hard cases. Reduced Blue Wrap purchase use by 70%.
SUCCESS STORY

Mills-Peninsula Health Services

Blue wrap is responsible for 19% of the waste generated from surgical services nation-wide.

Results:

- $25,173 annual savings from avoided Blue Wrap purchases
- Reduced waste (and associated waste bills) by 5.07 tons/year
- No damaged wrapped equipment and supplies requiring re-wrapping and re-sterilization
- Return on Investment (ROI) of 8.2 months
SUCCESS STORY

Kaiser Permanente

Industry: Healthcare

Location: Livermore, CA

Reusables Used: Plastic totes

Company Snapshot:
Distributes medical supplies, documents, and pharmaceuticals to facilities within Northern California. It is one of three supply warehouses operated by Kaiser in the USA.
SUCCESS STORY
Kaiser Permanente

Before: Recurring purchase of 591,000 cardboard boxes, plus tape and packaging filler. Cost of labor to put boxes together and later flatten for recycling.

After: Purchased reusable, durable plastic totes, no assembly required. Four different color coded sizes are used depending on volume to be distributed.
SUCCESS STORY

Kaiser Permanente

Results:

✓ $530,000 annual savings from avoided packaging purchases
✓ 500 hours annual labor savings
✓ 591,000 boxes saved/year
✓ Color coded totes improve distribution system
SUCCESS STORY
Stanford University Medical Center and Owens & Minor, Inc.

Industry:
Healthcare/Hospital

Location:
Palo Alto, CA

Reusables Used:
Reusable plastic totes

Company Snapshot:
Stanford medical complex that spreads over 3.0 million square feet and employs over 10,000 staff.

O&M is a national distributor of medical and surgical supplies.
SUCCESS STORY
Stanford University Medical Center and Owens & Minor, Inc.

Before:
Use of one-time use cardboard boxes shipped directly to the hospital.

After:
Just in time delivery in reusable totes from O&M’s Distribution Center in Tracy, CA.
SUCCESS STORY

Stanford University Medical Center and Owens & Minor, Inc.

Results:

- 70% of supplies are delivered in reusable totes
- Cardboard is virtually eliminated from clinical areas, decreasing risk of infection
- Deliveries are limited to two trucks per day, reducing traffic and emissions throughout the medical complex
- Clinicians spend less time on handling supplies and more on patient care
SUCCESS STORY

Washington Hospital

Industry: Healthcare
Location: Fremont, CA
Reusables Used: Sharps containers

Company Snapshot:
For more than 50 years, we've been serving Alameda County with some of the area's finest medical care.
SUCCESS STORY

Washington Hospital

Before:

After:
SUCCESS STORY

Washington Hospital

Results:

- 33.7 tons of waste diverted from the landfill over 15 months
Are reusables right for your organization?
Healthcare Reusables

- Distribution
- Low Unit of Measure
- Hardcase Replacement of Blue Wrap
- Reusable Sharps Containers
- Office Moves
- Incoming Supplies
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>“Use Reusables” Resources</th>
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<tbody>
<tr>
<td>✓ Technical Assistance</td>
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<tr>
<td>✓ Cost Benefit Analysis</td>
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<tr>
<td>✓ Vendor Facilitation &amp; Referral</td>
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<tr>
<td>✓ Implementation Support</td>
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## Financial Analysis Tools

**Net Present Value (NPV)**

NPV = sum of the discounted net cash flows

### Company: ABC Roasting Company

**Assumptions**
- Equipment purchased: 66 straight wall plastic containers, 2 hoppers
- Purchases avoided: $85/week of cardboard boxes or $4,250/year
- Labor savings: $15/hour * 8 hours/week or $6,000/year

**Included in financial analysis:**
- Equipment costs
- Purchases avoided
- Labor savings

**Not included in financial analysis:**
- Large customer's purchases avoided: $160/week on poly bags or $8,000/year
- Large customer's labor savings: $15/hour * 8 hours/week or $6,000/year

### NPV Calculation

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

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

### Table: Benefits and Costs

<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>
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<tr>
<td>0</td>
<td></td>
<td></td>
<td>Equipment costs</td>
<td>$4,135</td>
<td>$(4,134)</td>
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<tr>
<td>1</td>
<td>Purchases avoided</td>
<td>$4,250</td>
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<td><strong>Year 1 Total</strong></td>
<td><strong>10,250</strong></td>
<td><strong>10% replacement</strong></td>
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### 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 carton: $1.00
- Reusable handheld container: $7.50

**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. Leave these 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>
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</tbody>
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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)
- Provide implementation support
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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