

## Making the Switch: The Business Case for Reusable Packaging

Over the last decade, many businesses have found ways to reduce consumer-facing (i.e. sales) packaging by using less and different materials. By reducing the packaging surrounding their products, companies have reduced raw material use, saved energy, and cut costs.



With growing environmental awareness worldwide and ever rising shipping costs, an increasing number of businesses are now also considering ways to reduce their transport packaging; that is, the packaging used to protect and transport products during transit, for example, the pallet and shrink wrap used to transport a number of cardboard boxes containing consumer goods. One solution for achieving this objective is to make the switch to reusable transport packaging.

Reusable transport packaging replaces one-time (or limited-use) pallets and boxes with reusable containers (totes, boxes, and bins), reusable pallets, and pallet/container pooling (i.e. rental) systems. Unlike conventional packaging materials, these pallets and containers are made of durable materials and are designed to be reused again and again in closed-loop transport systems, where packaging is reused by a company or a co-operating group of companies, or in open-loop transport systems, where packaging is reused amongst unspecified companies.<sup>i</sup>

Whether constructed of plastic or of other materials, such as corrugated cardboard, wood, or steel, the environmental benefits of reusable transport packaging over one-time packaging are significant, even when that packaging is recycled at end of life. The more trips a reusable container or pallet makes, the more these benefits are compounded. This is because each time a reusable alternative is used, the manufacture of a one-time packaging is prevented.

Despite the environmental benefits, many companies are hesitant to make the switch to reusables because of the initial higher investment. What many don't realize, however, are that these costs are offset by the long-term cost savings resulting from the elimination of the purchase and disposal costs of one-time or limited-use packaging. What's more is that the greater the frequency of reuse, the greater the savings over the extended useful life of the packaging. These kinds of savings can be quite significant when one considers that the average lifespan of a typical plastic pallet is 15 years, compared to a one-way alternative package that is manufactured once and then discarded as waste.



We wanted to learn more about how companies in Europe and beyond are benefitting from reusable transport packaging, and so we set off on a task to compile a list of case studies of businesses that have replaced limited-use transport packaging with reusables. The following presents a summary of this research. It is noteworthy that, although different in terms of industry and location, each case study shows significant net savings to companies after making the switch.

Company, Industry Sector, Reusables Used	Summary of Findings
<b>Ghirardelli Chocolate<sup>ii</sup>, Food &amp; Beverage, Totes &amp; Crates</b>	<ul style="list-style-type: none"> <li>Ghirardelli had been spending \$520,000/year on 580,000 cardboard boxes. These boxes would get soiled with use and so were thrown in the trash—resulting in an additional \$2,700 spent on disposal.</li> <li>Purchased 150,000 reusable totes to replace the cardboard boxes. Based on a 5-year life of the reusable totes, Ghirardelli will realize \$1.95M in net packaging reduction savings and prevent 350 tons of soiled cardboard a year, resulting in additional savings from avoided disposal.</li> </ul>
<b>New United Motors Manufacturing (Fremont)<sup>iv</sup></b>	<ul style="list-style-type: none"> <li>Uses reusable plastic shipping containers to ship almost all of their car and truck parts, saving them \$2.5M/year.</li> </ul>
<b>Kaiser Permanente<sup>v</sup>, Healthcare, Totes &amp; Crates</b>	<ul style="list-style-type: none"> <li>In 1990, Kaiser began using reusable totes in place of disposable cardboard boxes for distribution. Since then, it has saved approx. \$40,000/year by reducing the cardboard boxes, tape, and filler purchased.</li> <li>Because Kaiser had previously recycled the cardboard at no cost, most of it was already being diverted from the landfill and does not represent a significant savings in avoided disposal costs.</li> <li>Unlike cardboard boxes, the totes do not require assembly for use and resulted in a significant increase in productivity, saving approx. 500 labor hours or \$12,100 in wages annually.</li> </ul>
<b>Peerless Coffee &amp; Tea, Food &amp; Beverage, Totes &amp; Crates<sup>vi</sup></b>	<ul style="list-style-type: none"> <li>Before: Recurring purchase of 3,000 cardboard boxes each year for route delivery system. Boxes discarded after several uses.</li> <li>After: One time purchase of reusable plastic totes. The totes are used for three delivery routes and returned to the facility for reuse.</li> <li>Results: \$10,000-\$15,000 annual savings from avoided cardboard purchases</li> </ul>
<b>Toyota Logistics Services, Manufacturing, Totes &amp; Crates<sup>vii</sup></b>	<ul style="list-style-type: none"> <li>Before: Carpet was shipped in one-time-use cardboard boxes on pallets.</li> <li>After: Carpet is shipped in large reusable plastic containers that collapse, stack, and don't require a pallet.</li> <li>Saves \$3.5M/year for all six facilities that made the switch to reusable containers.</li> </ul>
<b>Fiddlehead Farm, Food &amp; Beverage, Totes &amp; Crates<sup>viii</sup></b>	<ul style="list-style-type: none"> <li>Before: Recurring purchase of 4,000 waxed cardboard boxes (non-recyclable) each year for transporting produce</li> <li>After: One time purchase of 300 stackable plastic totes</li> <li>Saves \$7,000/year in avoided waxed cardboard box purchases</li> </ul>
<b>Bay Area News Group, Manufacturing, Pallets<sup>ix</sup></b>	<ul style="list-style-type: none"> <li>Before: Utilized wooden pallets for distribution. The wooden pallets were damaged with use and employees had to spend time repairing them.</li> <li>After: One time purchase of 1,700 reusable plastic pallets. The plastic pallets are more durable, freeing up workers from making repairs.</li> <li>Resulted in \$46,000 annual savings from reduced labor costs (125% return on investment)</li> </ul>
<b>PepsiCo, Food &amp; Beverage, Pallets<sup>x, xi</sup></b>	<ul style="list-style-type: none"> <li>Before: Out-of-spec wooden pallets would get jammed in the production line, wasting labor and causing equipment downtime and product losses.</li> <li>After: Switched to leasing reusable plastic pallets for the same cost as wooden pallets.</li> <li>Cuts costs by \$380,000/year <ul style="list-style-type: none"> <li>Prevents \$320,000/year in damaged product</li> <li>Minimizes equipment downtime, saving \$40,000/year</li> <li>Reduces the labour needed to sort out bad pallets by \$20,000/year</li> </ul> </li> </ul>
<b>Full Belly Farms, Food &amp; Beverage, Totes &amp; Crates<sup>xii</sup></b>	<ul style="list-style-type: none"> <li>Before: Recurring purchase of 8,330 waxed cardboard boxes each year. Discarded after several uses.</li> <li>After: One-time purchase of 2,000 reusable plastic totes</li> <li>Results: \$14,161 annual savings from avoided cardboard purchases</li> <li>Net labor savings (undetermined), as washing totes takes less time than assembling and lining cardboard boxes</li> </ul>
<b>Finelite, Manufacturing<sup>xiii</sup></b>	<ul style="list-style-type: none"> <li>Replaced single use stretch wrap with reusable tarps</li> <li>Annual cost savings: <ul style="list-style-type: none"> <li>53% (\$9,100) cost savings by replacing shrink-wrap with reusable tarps</li> <li>40% (\$8,400) material cost savings and 130 hours of labor by replacing corrugated boxes with reusable/collapsible bulk containers and straight-wall crates.</li> <li>\$10,800 cost savings in LED packaging material and 350 hours of labor saved by eliminating un-wrapping the packaging material.</li> </ul> </li> </ul>

Company, Industry Sector, Reusables Used	Summary of Findings
Svenska Retursystem <sup>xiv</sup>	<ul style="list-style-type: none"> <li>• About 25% savings vs. equivalent disposable packaging. Annual savings industry-wide are \$18.7M.</li> <li>• Savings of 725,000 hours in retail store labor/\$22 million dollars annually.</li> <li>• Additional savings from reduced product damage</li> </ul>
Herman Miller <sup>xv</sup>	<p>-In 2012, Herman Miller's Holland operation organized a team to develop a returnable package design for a "Y"-shaped plastic part, called a "spine," that is assembled on its SAYL® office chair.</p> <p>-Until that time, the part had been shipped to Herman Miller in corrugated boxes that were sometimes bundled or stretch-wrapped with additional film. Boxes were reused several times before being recycled, while other materials were disposed of. The solution required considerable handling by operators both stocking the line and assembling the chairs.</p> <p>- By switching to the reusable solution, the company has gained the following outcomes:</p> <ul style="list-style-type: none"> <li>• Saved 63 min/day in handling of the parts; this equates to 266 hr/year</li> <li>• Achieved a combined material and labor savings of \$46,000</li> </ul>

## Conclusion

When considering the switch to reusable transport packaging, it is important that organizations look at the costs and benefits holistically. While it is true that reusable packaging has a higher initial cost than one-time or limited-use transport packaging, it is also true that the long-term savings far outweigh the initial investment. Also worth noting is that the more times a reusable package is used, the faster the return on investment.

*Note:* For a longer version of this analysis, click [here](#) or contact Clarissa Morawski (Principal of CM Consulting and Managing Director of Reloop) at [clarissa@reloopplatform.eu](mailto:clarissa@reloopplatform.eu).

*Want to learn more about Reloop and keep up-to-date with our latest work?  
Follow us on Twitter @reloop\_platform or visit our website at [www.reloopplatform.eu](http://www.reloopplatform.eu).  
Also visit: [www.cmconsultinginc.com](http://www.cmconsultinginc.com)*



## Endnotes

<sup>i</sup> These definitions are the same as those in our position paper, which we took from the CEN standard.

<sup>ii</sup> <https://www3.epa.gov/region9/waste/features/pkg-reuse/ReusablePackaging.pdf>

<sup>iii</sup> <http://usereusables.org/ghirardelli-chocolate>

<sup>iv</sup> <http://usereusables.org/sites/default/files/Food%20Maxx%204-pg.pdf>

<sup>v</sup> <http://usereusables.org/sites/default/files/Kaiser%20WP.pdf>

<sup>vi</sup> <http://usereusables.org/sites/default/files/Peerless%20Highlights.pdf>

<sup>vii</sup> <http://usereusables.org/sites/default/files/Toyota%202-pg.pdf>

<sup>viii</sup> [http://usereusables.org/sites/default/files/fiddlehead\\_farm\\_highlights\\_0.pdf](http://usereusables.org/sites/default/files/fiddlehead_farm_highlights_0.pdf)

<sup>ix</sup> <http://usereusables.org/sites/default/files/Bay%20Area%20News%20Group%20%28BANG%29%20Highlights.pdf>

<sup>x</sup> <http://usereusables.org/sites/default/files/Pepsico%20Highlights.pdf>

<sup>xi</sup> <http://usereusables.org/sites/default/files/PepsiCo%202-pg.PDF>

<sup>xii</sup> <http://usereusables.org/sites/default/files/Full%20Belly%20Farm%20Highlights.pdf>

<sup>xiii</sup> <http://usereusables.org/sites/default/files/Finelite%20Article.pdf>

<sup>xiv</sup> <http://packagingrevolution.net/svenska-retursystem-provides-reusable-packaging-standardization-for-swedish-grocery-industry/>

<sup>xv</sup> <http://www.packworld.com/new-returnable-package-saves-herman-miller-46000yr>