HP EXPERIENCES COST SAVINGS AND EXHIBITS ENVIRONMENTAL RESPONSIBILITY THROUGH SUSTAINABLE SUPPLY CHAIN SOLUTIONS

HP wanted to improve the sustainability and efficiency of its supply chain operations by reducing the size of its product packaging, using more recyclable materials, decreasing carbon emissions, and cutting transportation costs.

CHALLENGES:

- Reduce Greenhouse Gas (GHG) emissions
- Redesign product packaging using sustainable materials
- Reduce shipping, freight and logistics costs
- Increase pallet yield for reduced number of shipments

SOLUTION:

- Conducted in-depth supply chain analysis to determine the most effective sustainable approach
- Measured and analyzed the amount of GHG emissions resulting from various packaging types
- Redesigned product packaging used for hard drives, circuit boards, keyboards and other components

RESULTS:

HP experienced substantial, measurable savings:

Direct Packaging Benefits Per Year

- More than 350 thousand U.S. dollar savings in packaging materials alone
- 74 thousand cubic feet removed from packaging
- 88 thousand pounds of packaging eliminated
- 62 metric ton reduction in GHG, equaling:

11.9 passenger cars driven in one year
144 barrels of oil saved
6,974 gallons of gasoline
20.9 tons of waste recycled , not sent to landfills

Estimated Indirect Savings Per Year

- More than 50 thousand U.S. dollars in outbound transportation costs
- 10 metric tons less packaging

HP is committed to its role in creating a low-carbon economy. The leading technology company was one of the first to measure and report its global logistics and manufacturing carbon footprint, so transitioning to more sustainable supply chain operations was a critical next step.

HP leveraged its existing relationship with ModusLink to develop a sustainable supply chain strategy. For more than 20 years, ModusLink has managed the company's complete supply chain for commercial accessories in North America and EMEA, including procurement, kitting and distribution into direct and indirect channels.

ModusLink's cradle-to-cradle approach includes services ranging from sustainable packaging redesign and network optimization to GHG footprinting, recycling and asset disposition. HP was seeking to accomplish two major goals:

1. Significantly decrease its GHG emissions
2. Reduce logistics and transportation costs

In order to achieve these goals, ModusLink used a combination of sophisticated tools, existing relationships with key sustainable materials suppliers, and an in-house team of experts to conduct a thorough analysis of HP's supply chain network and operations. This analysis confirmed that an eco-friendly product packaging redesign would significantly reduce HP's environmental impact and its logistics costs.

The existing packaging design consisted of large boxes and non-biodegradable foam. ModusLink has developed a 4D methodology — a process that analyzes ergonomics, cost, logistics and sustainability — to redesign product packaging using less materials, eliminating plastic and finding more environmentally sound alternatives. As a result, the foam was replaced with protective end-caps made from 100 percent recycled plastic, and cubic feet and pounds of the finished packaging were significantly reduced.

ModusLink then conducted a network simulation and GHG analysis incorporating the new packaging design to understand the impact on transportation cost and other factors in the supply chain. The analysis showed that HP could reduce GHG emissions by 10 metric tons per year and yield transportation cost savings of more than $50 thousand per year, which is a savings of 12 percent per unit.

With more compact, eco-friendly packaging in place, HP continues to uphold its commitment to the environment while benefiting from the cost savings and efficiency resulting from a more sustainable supply chain.

The 4D Methodology for Product Packaging

1 Ergonomics
- Design for easier assembly
- Design for a supreme point-of-purchase and out-of-box experience

2 Cost
- Reduce materials where possible
- Use cost-effective materials

3 Sustainability
- 7Rs concept (Remove, Reduce, Recycle, Renew, Revenue, Read)
- Determine CO_2 footprint via ECRM scorecard

4 Logistics
- Reduce empty space and size for pallet maximization and freight reduction
- Reduce packaging while still protecting the product