

LIGHT-WEIGHTING SECONDARY PACKAGING TO REDUCE CLIMATE IMPACT

The idea for Boulder Organic Foods started in 2006 when Kate Brown was searching for a refrigerated soup without preservatives, artificial ingredients, and emulsifiers. Two years later, Boulder Organic Foods was born and now produces a wide range of made-from-scratch organic and gluten-free soups. Passionate about sustainability from the start, Boulder Organic Foods is working to reduce its climate impact in line with climate science; given the role of packaging in their operational footprint, it's a big focus for the company. For this case study, Boulder Organic Foods used a Life Cycle Assessment to measure their packaging emissions and create a packaging strategy that maintains food safety and quality while minimizing climate impacts.



Improving Boulder Organic Foods' Packaging

For this study, Boulder Organic Foods wanted to evaluate the environmental impacts associated with two different potential secondary (case-level) packaging changes for its most popular SKU. The first proposed change was switching from a corrugated box to a corrugated pad with shrink wrap. The second proposed change was switching their current corrugated box from 0% post-consumer recycled (PCR) content to 100% PCR content.

To measure the environmental benefits, Boulder applied and was accepted into a Packaging Climate Optimization project—a partnership between Climate Collaborative and Trayak. This project connects Climate Collaborative-committed companies to Trayak, who uses a cost-effective, streamlined LCA to quickly benchmark existing packaging and develop climate-improved alternatives.

All three organizations worked together to collect packaging system information (materials, masses, conversion processes, etc.) and perform the analysis with Trayak's LCA tool, EcoImpact-COMPASS (Comparative Packaging Assessment). The analysis showed that adding PCR content to the case provided a smaller potential environmental benefit when compared to the switch to the corrugated pad with shrink wrap. The latter provides larger environmental benefits given the pallet utilization improvements it creates (an additional 160 units per pallet!).



Results by the numbers

By switching their secondary packaging to a pad with shrink for this SKU, Boulder Organic Foods can...

Water Consumption Reduction

by 17%. Switching cases for an annual volume of 1.77 million units saves about 3.33 million gallons of water. The water saved is enough to fill **5 Olympic - sized swimming pools!**



Fossil Fuel Consumption Reduction

by 14%. By switching cases that annually deliver 1.77 million units, fossil fuel consumption could be reduced by 814,282MJ—equivalent to nearly **133 barrels of oil!** You could **power 21 average U.S. homes** for one year with these savings!



Greenhouse Gas Emissions Reduction

by 24% (81 tons CO2 eq annually). This is the same amount of carbon that is sequestered by nearly **1,899 tree seedlings grown for 10 years!**



Key Takeaways

Boulder Organic Foods engaged in this case study because of their commitment to reduce their climate impact. They have some ambitious sustainability goals for their primary packaging by 2025 and now feel educated enough to make goals focused on secondary packaging and pallet utilization.

Design process is key - Incorporating the use of an LCA tool to evaluate packaging before making a switch allowed them to optimize the change.

Evaluate Multiple Alternatives - Sometimes a packaging format change that improves pallet utilization has a larger environmental benefit. In this case, switching to a pad with shrink has greater environmental benefit than switching their current secondary packaging to 100% PCR.

Scalability - The packaging modification can be carried across their full line of retail products, offering an even larger impact than noted in this case study, meaning the environmental savings seen could be even higher! When investing time and money in evaluating packaging changes, prioritize exploring changes that can be scaled across multiple products.