



ZEO® Carbon Footprint certifications and Carbon Neutral box supply chain + Q&A (Confidential – For Supply Chain partners only!)

Background: CJCHT Group requires all supply chain companies involved to conduct carbon footprint analysis, and use “technology” to break the tie, by employment of ZEO® low carbon solutions to reduce energy and paper consumption, which has been highly recognized as one of the best sustainability projects by the customer and third party verifications. ZEO® corrugated supply chain is growing rapidly with more and more companies joined and supported. Come and help us bring your supply chain greener and more sustainable at almost no cost incurred.

- 1. ZEO® Carbon Footprint Analysis:** ClearCarbon instructed by Wal Mart has conducted a simplified carbon footprint product analysis on the ZEO® corrugate box to understand the reductions in greenhouse gas (GHG) emissions associated with box light-weighting, where a standardized Carbon Footprint Model and Data have been established and verified for further applications. Overall, the ZEO® Box compared to the average cardboard box saves a lot of CO₂e per year, by the carbon footprint analysis considered the relevant “life cycle” phases of the box, including: Raw material, Raw material transportation, Manufacturing of the box, and Distribution of the box. Details as attached Appendix 1.
- 2. ZEO® Carbon Neutral and Verification Process:** a. Carbon Footprint analysis and calculations: via the simplified carbon footprint model and data provided by ClearCarbon and Wal Mart, CJCHT/TMIT will assist supply chain corrugated companies to measure and manage associated carbon footprint (**in a reduced manner**) of the production order for corrugated boxes; b. Carbon Credit purchase: the required Carbon Credit to offset the carbon emissions per product order of ZEO® corrugated boxes will be purchased on open market by bidding for either the United Nations Clean Development Mechanism (CERs) or independent voluntary standards (VERs); a report of *retired carbon credit usage* to either end customer or the production plant will be issued by CJCHT/TMIT with certified and legalized number by CERs or VERs; c. Carbon Neutral and Labels: the retired or used VERs or CERs carbon credits to offset the associated corrugated boxes will be labeled via ZEO® stamp (as attached Appendix 2) with proper indications and legalized numbers thereon for due diligence check.
- 3. Q&A:**
 - (1) **What is “Carbon Neutral?”** Answer: “Carbon Neutral” or “Carbon Offset” refers to achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset, or buying enough carbon



credits to make up the difference. ZEO® Carbon Netural further refers to reducing energy and material used in the corrugated boxes and offsetting the residual amount by a less number of carbon credits as a goal.

(2) **What is the difference between normal corrugated boxes and ZEO® boxes for Carbon Netural?** Answer: Due to the light weighted and less energy used nature of ZEO® boxes, it is certified and exercised transparently that ZEO® boxes can provide a more cost saving scheme in pursuits of Carbon Netural practices. The ZEO® Carbon Footprint model provides a faster, easier and efficient calculation on Carbon Footprints and therefore facilitates the whole process of Carbon Netural, while providing numerous check-and-balance, order-by-order legalized numbers in place for accumulation and improvement later on.

(3) **Is the certification and legalization process used by ZEO® Carbon Netural “credible”?** Answer: Yes. And it’s probably more credible than you can imagine. Unlike some Carbon Netural companies claiming a past-recorded offset and carbon neutral for probably several years’ ago emissions, ZEO® Carbon Netural is aiming at Current and On-going emissions generated per order base and is offsetting them by each true and genuine *CERs or *VERs carbon credits with transparently retired or used records. *the United Nations Clean Development Mechanism (CERs) and independent voluntary standards (VERs).



• **Appendix 1: Wal Mart/ClearCarbon Tech Carbon Footprint Analysis**

ClearCarbon has conducted a simplified carbon footprint product analysis on the ZEO® Box corrugate box to understand the reductions in greenhouse gas (GHG) emissions associated with box light-weighting. Using a 2009 as a baseline timeframe, CO₂e emission savings were calculated based on utilizing less corrugate material in the design of a 48” x 47.5” x 30.5” box. Annual box specifications, raw materials, processing energy and supplier locations were provided by YFY Paper Corp (ZEO® cardboard maker) in Nanjing, China and standard industry data in Ecoinvent 2.1 were used to model the ZEO® Box and an equivalent average box of the same dimensions. A summary of the results follows.

Overall, the ZEO® Box compared to the average cardboard box saves **185 tons of CO₂e** per year. This is based on 2009 results received and replacing 526,000 boxes with ZEO® Boxes. The carbon footprint analysis considered the relevant “life cycle” phases of the box, including:

- Raw material,
- Raw material transportation,
- Manufacturing of the box, and
- Distribution of the box.

Life Cycle Phase	1 ZEO® Box	1 Average Box
	kg CO ₂ e/box	
Raw Material Transport	0.02	0.03
Raw Materials	0.90	1.18
Manufacturing	0.14	0.21
Distribution	0.42	0.46

Figure 1. Comparison of 1 ZEO® Box to 1 Average Corrugate Box by Life Cycle Phase

The raw material and manufacturing life cycle phases contribute the majority of carbon savings for the ZEO® Box when comparing to the Average box.

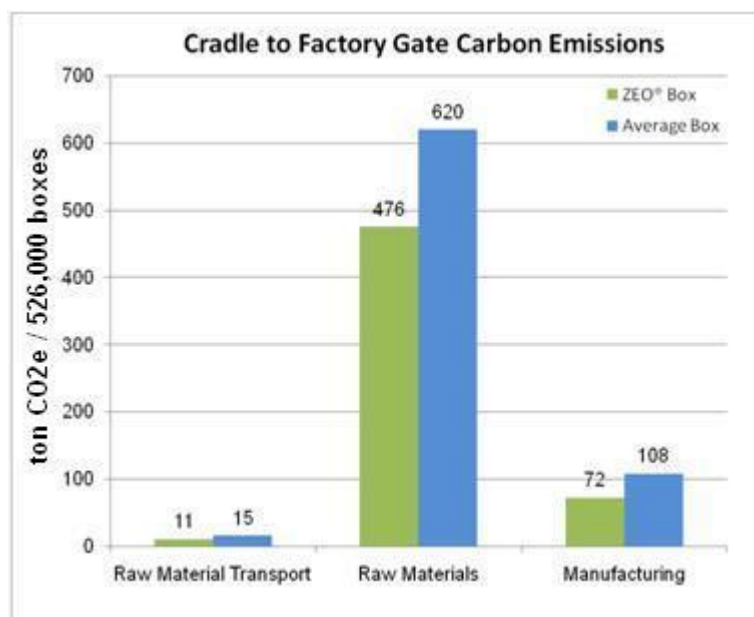


Figure 2. Comparison of 526,000 ZEO® Boxes to 526,000 Average Corrugate Boxes

* numbers reproduced based on ClearCarbon index for CJCHT orders of 2009.

For more information about this calculation, please contact: Anna Nicholson, ClearCarbon (anicholson@clearcarboninc.com).



Appendix 2: ZEO® Carbon Neutral Stamp – sample order reference

