CORRUGATED PACKAGING ALLIANCE

2020 Life Cycle Assessment
Frequently Asked Questions

What is an LCA? Does the LCA conform to accepted standards?

A life cycle assessment (LCA) is a globally accepted tool used to estimate impacts to land, air and water based upon raw material extraction from the earth, manufacturing of those materials into products, the distribution/transportation and use of the products, and product end-of-life.

The Corrugated Packaging Alliance's LCA conforms to all principles described in the ISO 14040/14044 standards for a publicly disclosed life cycle assessment.

What are the benefits of an industry LCA?

An industry-wide LCA ensures access to quality data about the industry and is fed into the U.S. Life Cycle Inventory Database so that other industries and companies can draw upon the information for their own calculations. The corrugated industry LCA captures the system complexities of the value chain and allows individual companies to benchmark their performance against industry averages.

It helps consumer brands and retailers track progress on sustainability goals, and accurately recognize the sustainability contributions of corrugated packaging.

What is the functional unit of the product studied?

The LCA evaluated the environmental performance of a U.S. industry average corrugated product equivalent to a 1 kg corrugated cardboard box.

Can you give a comparable example to the corrugated industry's reduction in greenhouse gases?

Based upon the EPA greenhouse gas (GHG) emissions calculator, the corrugated industry's reduction in GHG emissions in 2020 as compared to 2006 is equivalent to annually removing 3.6 million vehicles from the road.

How much of the improvements came from mills? Did converting plants contribute?

The environmental improvements captured in the life cycle assessment came from both mill and converting operations in the corrugated packaging industry. Mills accounted for about 70 percent of the improvements, while an additional 30 percent came from converting plants.

Why did the indicator for fossil fuel extraction increase?

The indicator for fossil fuel extraction (depletion) measures the energy required to extract fossil fuels from the earth. While the corrugated packaging industry has made significant strides in replacing oil and coal with cleaner-burning fuel, the extraction of natural gas requires more energy. So that small increase in impact contributed to the much more substantial improvements in other indicators.

How is the OCC recycling rate calculated? Where does the data come from?
The old corrugated containers (OCC) recycling rate is calculated by dividing the U.S. recovery of OCC for recycling by the U.S. supply of containerboard (the material used to make corrugated boxes that has not yet been converted into boxes) over a given period, usually one year.

This rate is calculated by the American Forest & Paper Association. AF&PA's OCC recycling rate calculation is consistent with methods used by major U.S. trading partners around the world, including the European Union and Japan, and AF&PA's OCC recycling rate is similar to the recycling rate published by the U.S. Environmental Protection Agency.

Why isn't the effective recycling rate used for the LCA?
The scope of the LCA is the U.S. industry average corrugated box. The effective recycling rate is designed to give a better sense of the fiber available for recycling, including imported product packaging which is not a part of the traditional OCC recycling rate. Imported product packaging is not within the scope of this LCA.

What are the carbon benefits of sustainable forest management?
Sustainable forest management of working forests – where the industry gets its trees – requires long-term thinking. Trees are harvested and seedlings are planted based on schedules that have been planned out around the growing cycle. When sustainably managed, forests absorb more CO2 than they release. As trees grow, they capture and store carbon from the atmosphere. That carbon is stored in forest products long term. When new trees are planted, the cycle begins again.

What is the industry doing to improve its environmental impact?
Sustainable practices are at the foundation of the corrugated packaging industry, which is circular by nature and makes essential products from renewable and recyclable resources. The industry is committed to continuous improvement through a sustainability initiative called, *Better Practices, Better Planet 2030: Sustainable Products for a Sustainable Future*. This includes five quantifiable sustainability goals that the industry aims to meet by 2030.

To date, the industry has met or exceeded many of the goals outlined in its first sustainability initiative *Better Practices, Better Planet 2020*, including a 24.1% reduction in greenhouse gas emissions.

The LCA looked at boxes made in 2020, when will the next LCA be completed?
Life cycle assessments are typically completed every 4-6 years. The corrugated packaging industry has published LCA's with data from 2006, 2010, 2014 and 2020.