

Being Carbon-minded in Food Manufacturing

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It's getting harder and harder to avoid the topics of carbon emission and how it may affect the health of our environment—carbon footprints, carbon neutrality, carbon offsets...just to name a few. Each and every activity with human involvement has an affiliated carbon value tied to greenhouse gas emissions; and food manufacturing has one of the biggest values of them all.

If we broaden our view beyond manufacturing to include food production as a whole, given the expansive life cycle of a food product start to finish, it's no surprise [food production accounts for 26 percent of the world's total greenhouse gas emissions](#). Pet food production itself makes up 10 percent. According to a study by the University of Edinburgh, [pet food production has a bigger carbon footprint than Mozambique and the Philippines](#).

There are so many steps required to produce food that are often overlooked - from running tractors, moving raw materials, processing the raw ingredients, baking, cooling, and all the way through to packaging and delivery. There's no denying

food production is one of the largest greenhouse gas contributors on the planet. Every link along the food value chain has a carbon footprint, and collectively they create one of the biggest of any other industry.



As contributors to global food production, we need to be mindful of the carbon footprint of these processes. We'll never not be producing food, and the more populated we get, the more

we'll need to rely on processed foods to feed the world. We'll always have factories running to produce it, but we can do a better job of finding ways to be less taxing on the environment.

Small Changes. Broad Impact.

Food production has a massive integrated system of processes and supply chains that are essential for its existence. The large carbon footprint of the food production industry puts it in a better position than many others to make a substantial impact. Because of the breadth of activity involved, small changes at any given point along the supply chain can make a really big impact.

But what can be done to reduce carbon impacts in a supply chain that's so complex?

Reduced carbon footprint and efficiency go hand-in-hand.

While cost savings are generally one of the main drivers of change, the other benefit of a more efficiently operated production plant is reduced greenhouse gas emissions. Efficient operations equate to a reduction of carbon emissions. And this emission reduction is a significant part of sustainability (along with water conservation, land use, and other factors). Therefore, improving efficiency in a manufacturing environment is a sure bet for improving a company's sustainability profile.

So many factors go into a sustainability profile – the raw material involved, the type of energy to be utilized, where the energy is coming from, the temperature differentials during processing, equipment utilization—and Corporate Project Services can help companies evaluate all of these factors in order to take inventory of their carbon values.

Changes or improvements that affect the bottom line and environment must be driven by data derived from testing. Even the most energy-efficient plant environments have significant degrees of greenhouse gas emissions—it's extremely difficult to avoid. So much energy is expelled in the processing, drying and grinding... every step of the process has a carbon value, and making those steps more efficient can improve your carbon score.

If you're running 1970s technology and paying exorbitant energy bills, you're not going to be able to compete with companies that are incorporating cost-savings and efficiency measures. Carbon emissions are dollars vaporizing into the atmosphere, quite literally. Every activity that generates waste is money that could be captured, whether that's through the water bill, heat bill, carbon credit bill, or land use.

Striving for the elusive "net zero" emissions.

Another way companies are reducing their net carbon footprint is through carbon offsets or earning carbon credits. A carbon offset is a quantifiable reduction in greenhouse gas emissions. The idea is if you can avoid or reduce one metric ton of greenhouse gas in one area, you're compensating for a metric ton of emissions somewhere else where it cannot be avoided. Think of this as a pay-to-play situation: By making environmental improvements in one area, you can offset the carbon impact of the whole process.

Take product packaging for example, which is one of the first places many companies look for carbon savings. High-gloss, colorful packaging is starting to lose its luster. Today, consumer products favor the no frills packaging—low ink, eco-friendly materials that don't take decades to degrade in a landfill. By reducing the carbon value of the packaging stage, the plant emissions are offset where they have less control.

In addition to sourcing ingredients based on food safety, quality and price, food manufacturers also look at geography and weigh the benefit of seeking local suppliers:

An ingredient coming 15 miles away vs. from overseas might cost more, but it will have a much smaller footprint; or in carbon terms, FoodPrint.

Perhaps you can't eliminate the emissions completely during the manufacturing stage of the process, but by taking steps like reducing the impact of transport when sourcing ingredients, or improving packaging further down the line, you counteract the emissions from the factory and therefore minimize the impact overall.

Trusted Advisor on Carbon Value

Regardless of your views on climate change and the role greenhouse gases play in the health of our environment, the reality is sustainability is becoming a prominent issue that will affect every industry to varying degrees. As a society we are becoming more and more interested in the carbon impact of the products we're buying and consuming. There's no question the need to be "carbon aware" is only going to get stronger – it matters to companies' reputations, their regulatory compliance, and to their ability to remain competitive.

CPS clients represent some of the world's largest food manufacturers, and their bold initiatives around sustainability are creating new standards for the rest of the industry. Food manufacturers cannot completely eliminate GHG emissions, but our clients are embracing transparency and being upfront about the emissions from their processes—all while leading the charge on making improvements to their carbon scorecard.

For our part, CPS continues to develop our carbon acumen to advise clients on processes and measures to diminish carbon emissions from their operations. We know there are impacts up and down the chain. We need to be sure we're providing the process insight and the tools they need to achieve their sustainability goals.

As we continue evolving with the trends of more self-monitoring and reporting, it will require more transparency from food manufacturers about current activities and future plans. CPS can help clients determine the best course to conform to increasingly stringent standards.

Our goal is to be the go-to experts on sustainability in our field—guiding clients on what to consider when laying out a plant, making recommendations on the right equipment to maximize these sustainability factors, and conducting assessments with sustainability in the forefront to improve their overall carbon scorecard.

If you want help evaluating your carbon values, please [reach out to our team](#).

[Corporate Project Services](#), a division of Wenger Manufacturing, is a dynamic group of planning specialists backed by Wenger's more than 80 years of process system supply to the industry. Our knowledge base and breadth of experience in extrusion processing and facilities construction is unsurpassed – and our commitment to excellence is recognized around the world.

*Source: <https://ourworldindata.org/food-ghg-emissions>

**Source: <https://www.heraldscotland.com/news/18777780.revealed-feeding-pets-contributes-climate-change/>