



**What will
Net Zero
look like
for your
business**

Carbon Management for Food & Beverage Companies

Introduction

The Carbon Costs of Food

You have a big opportunity

July 2023 might have been the hottest month on record since 1880, & *we are* lacking urgently required global & local leadership to take action on climate. Adding that peak emissions on record were in 2022, there is so much to do it can seem overwhelming.

Although the conversation about emissions reductions is normally centred around energy, manufacturing and transport there is a major emitting factor that is often overlooked - food.

Emissions in Agriculture, have seen a 9% increase from 2000 - 2020 (FAO). The emissions from food production have been outlined in this graph.

Although emissions have increased agriculture has a big opportunity to capture carbon emissions through farms.

Reducing greenhouse gas (GHG) emissions is vital for slowing down climate change, especially in the food production sector. Weather events linked to climate change can have a disastrous effect on food production, threatening food security.

For instance, when crops are grown in areas that are either too hot or too cold for them, their yield suffers. Take Storm Debi in Scotland back in November 2022 – unexpected harsh weather like that can destroy crops & seeds, including those ready for planting.

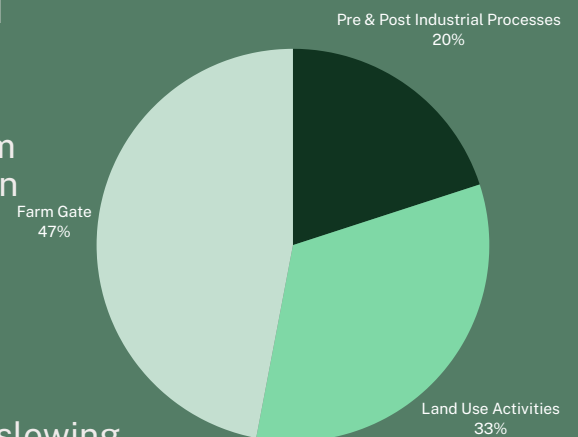
The agri-food sector is right in the middle of this problem but also holds the key to the solution. Agriculture, at its heart, is a carbon-negative industry. It takes in more carbon from the air and stores it in the soil than it releases.

The Intergovernmental Panel on Climate Change's report says that the global agriculture sector is trapping 12.5 gigatons of CO₂ each year. When you take off the emissions from agriculture and food processing, you're left with a negative carbon balance. This shows there's a massive chance to shift farming practices to a negative carbon stance, allowing the continued use of essential farm machinery while achieving net zero.

A big area of agreement among scientists, backed by plenty of evidence, is the potential of boosting soil health to increase its ability to trap carbon (enhanced sinks). This could be a game-changer in terms of mitigation.

But it's not just about carbon. Farms, especially those in your supply chain, can play a massive role in boosting biodiversity. At Farming Carbon, we're here to help create economic opportunities for farms to make a positive environmental impact.

So, what does all this mean for your business? It means there's a huge opportunity to be part of the solution, both in reducing emissions and enhancing the environment, while still keeping your business running efficiently.



Carbon Accounting

Carbon accounting is about working out how much carbon we're putting out and how much we're able to nab and stash away (sequestration) across all the bits and pieces of a company's workings. Then, we figure out the overall carbon score (the carbon we've let out minus the carbon we've managed to grab). With loads of companies aiming for those big Net Zero goals - which means making sure the carbon they let out and the carbon they capture in their whole value chain are balanced right out - it's becoming evermore important to cut down on emissions and to get better at sequestration.

When it comes to hitting that carbon neutral mark, there's a couple of main ways to go about it: offsetting & insetting.

Carbon Offsetting:

Offsetting's all about buying carbon credits to make it look like your company's carbon footprint's a bit smaller than it is. These carbon credits come from things like planting more trees, wilding projects, or building stuff that's good for the environment. They're checked out by independent folks to make sure they're legit. Then, these credits can be flogged off, and whoever buys them gets to knock a wee bit off their own carbon account.

Carbon Insetting:

Insetting's about cutting down emissions or getting better at grabbing and stashing carbon in one bit of your business or within your supply chain. Then you use the drop in carbon you've managed to make there to shrink the whole company's carbon footprint. This is usually considered a better route than carbon offsetting. This is perfect for Food Processing businesses

The main thing businesses need to be aiming for is hitting that Net Zero target, and doing their best not to rely too much on buying carbon credits.

This way, they're really putting the effort into cutting down their emissions right where they work. But, let's face it, most companies will probably end up using a mix of both offsetting and insetting to get to that neutral point.



Net zero vs. Carbon Neutrality - Spot the Difference?

Net Zero is all about making sure the amount of greenhouse gases we're chucking into the air is matched by the amount we're taking out. To hit Net Zero, like the SBTi says, you've got to focus on actually doing stuff - like sequestration and cutting down emissions. Now, the SBTi isn't too keen on using offsets, but they'll let you use them for up to 10% of your target, since they know it's tough to cut them out completely.

Carbon Neutrality means you're working to make sure every bit of carbon your business and its supply chain are responsible for is either offset or balanced out. This could be through actions that reduce or remove the same amount of carbon dioxide from the atmosphere.

****Additionality** is this idea that whatever emissions reductions or removals a project claims, they're extra to what would've happened normally. It's about figuring out if what the project's doing is actually making a real dent in greenhouse gas emissions, something that wouldn't have happened if the project wasn't there.

Measuring Carbon Emissions

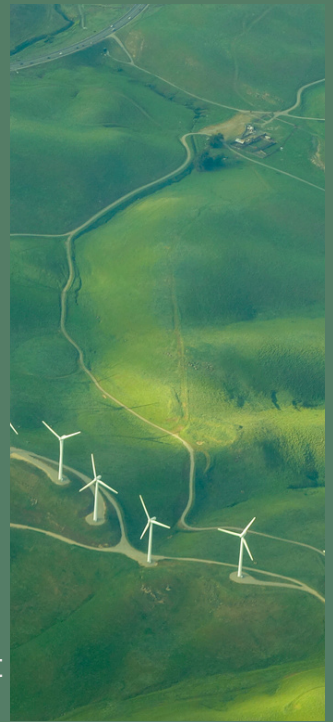
Just like any other industry, working out the carbon footprint of a food product can be a bit of a head-scratcher. It's split into three parts:

Scope 1: This is about emissions that are directly connected to what your organisation controls. Think of the emissions from your food processing machines, the fuel for your lorries or trucks, or the energy that heats your buildings.

Scope 2: This covers the electricity you're using in your buildings, and sometimes, the greenhouse gases (GHG) that come from the heat you generate.

Scope 3: These are the indirect GHG emissions linked to what your company does, but they happen outside your direct control. This includes a whole heap of things, from upstream (like emissions from producing, transporting, and getting rid of goods) to downstream (like how much energy consumers use, how they use your product, and what happens to it when it's binned).

Farming will be an element of your Scope 3, along with other big emitters like distribution vehicles and other supplier emissions. It's a bit easier to figure out the emissions from making stuff and moving it around, but as you will know, farming is a tougher nut to crack.



Carbon Reduction Challenges in Agriculture

Agriculture falls into your Scope 3 and can be a natural carbon-capturing industry - orchards, tree farms, farm soil, etc. directly sequester carbon from the air into the ground as part of their natural cycle. In terms of carbon the industry as whole has the potential to both emit less and sequester more.

Approximately 90% of overall national climate mitigation plan include the agriculture sectors, although few plans are fully formed and subsidized.

Issue with agri emissions in supply chain

Industrial farming methods emit so much that they discount the carbon capture benefits and lack of standardisation in carbon calculators make it tricky to measure accurately. Just the act of ploughing fields that only grow one type of crop can release carbon into the air. Ploughing, chemical application, overcropping, overgrazing can all affect the health and carbon storage within the soil.

At Farming Carbon we support farmers to understand and apply farm practices that are more resilient and can help to mitigate the impact of climate change on the farm, keeping your supply chain more secure, and increasing loyalty because it demonstrates a commitment to the success of your supply chain partners.

We don't think anyone needs another farm carbon calculator (especially because the divergence of industry leading products has been shocking) but we are working with our clients to help create bespoke ways to explore options for risk mitigation and ensuring the certainty of supply. Find out more by chatting with our team.

Regenerative Agriculture; An Insetting Opportunity?

According to the International Union for Conservation of Nature (IUCN), soil holds more carbon than all the world's forests put together. It's a bit of a hidden hero in that way.

Humus and organic matter – the stuff that's left after plants and animals break down – store a whopping 1,500 billion tonnes of carbon globally. That's three times more than the carbon in all the above-ground biomass like grass, trees, and shrubs.

So, for farmers, getting stuck into sustainable and regenerative farming practices isn't just a good idea, it's a crucial step. By making these methods part of the everyday work on the farm, they can seriously cut down carbon emissions and, even better, actively pull carbon out of the air.

- ✓ **Minimizing “interference” in the natural soil (no-till or minimum tillage farming) to avoid disrupting carbon stores.**
- ✓ **Implementing multi-crop farming to deepen roots and enrich organic matter stores.**
- ✓ **Planting ground cover between row to reduce soil erosion and minimise run off.**
- ✓ **Implementing permaculture fertilisation, such as compost, both minimises the use of manufactured nitrogen-based fertiliser and avoids methane emissions, created by anaerobic decomposition.**
- ✓ **Adopting agroforestry and silvopasture methodologies to integrate and reintegrate carbon-sequestering trees into fields and grazing lands.**

We have a solution that will help businesses to either inset better practices in their supply chain, and increase economic opportunities with farming partners to provide offset opportunities for 'biodiversity net gain' & potentially carbon credits



Why does it matter?

It might seem inconsequential, for your business to consider the carbon emissions of the items, or services in your supply chain. To be totally frank, for some businesses it is and will continue to be. There are however 2 ways in which it will become something that matters to your business

✓ **Retail Supply Chain Mandating Carbon Reporting**

In the UK 10/11 of the biggest supermarkets have committed to SBTi, Wrap & WWF standards for animal welfare. The SBTi commitment means they will mandate carbon reporting and submission on an annual basis.

✓ **Legally Mandated in your Jurisdiction**

In the UK the SDS, and in Ireland and the EU, the CSRD, are disclosure requirements that will affect businesses of a defined size and their supply chain.

Carbon Accounting

Scale & Risk Management

Taking regenerative farming practices to a bigger scale, all the while keeping an eye on quality and consistency, is no walk in the park. Trying to standardize these practices across various regions and types of crops adds another layer of complexity. & let's not forget, shifting to regenerative methods can stir up new risks, like the unpredictability of crop yields. Farmers need a solid set of strategies, support & tools to tackle these risks.

Long Term Perspective

Regenerative farming isn't a quick fix; it's more of a long haul. Many food companies are used to thinking about short-term profits, but this shift to more sustainable and regenerative methods needs a different kind of thinking. It's about playing the long game and changing the mindset from immediate gains to sustainable futures.

Disclosing Emissions

Nowadays, there's a growing call from regulators, investors, and consumers for companies to come clean about their carbon emissions. The European Union are stepping it up a notch, holding corporations responsible for the environmental impact they make, including carbon emissions, right through their value chain.

IN the UK & NI, retail supply chains have committed to a “Net Zero Collaborative Action Plan”, which agrees a communal standard of reporting on carbon emissions to SBTi standards as well as integrating WRAP advice on plastics & WWF advice on animal welfare. Companies in the supply chain of large retail outfits will report on their Scope 1, 2, and 3 emissions, climate risks, & produce auditable annual reports.

With a lot of big financial names publicly backing “green finance”, companies are being nudged to get really precise with their carbon metrics and to set lofty sustainability targets. This is creating a bigger and bigger demand for carbon accounting, insetting, and offsetting.

How Food Corporations can Impact their Upstream Emissions.

Food and beverage companies are in a cracking position to make a dent in greenhouse gas (GHG) emissions – and they could save a pretty penny while they're at it.

Regulators and policymakers are getting stricter with big multinational companies and their suppliers, holding them accountable for the environmental and social impacts in their supply chains. New rules like the EUDR (European Union Disposal Regulation) and CSRD (Corporate Sustainability Reporting Directive) expect these corporations to use their clout over the value chain to spark positive changes. These big corporate players have a grand opportunity to tackle some of the cultural and behavioural barriers that stop farmers from adopting more carbon-efficient ways. They can do this by rewarding cooperative farmers, giving them advice and tech on farming, and helping to pay for inputs that aren't as heavy on carbon. [Farming Carbon can help!]

Food and beverage companies can really step up as facilitators, using their resources to help shift their value chain towards sustainable and regenerative practices. By insetting the reduced agricultural carbon emissions, they can bring down the carbon footprint of their entire value chain. This not only looks good to investors and consumers but also makes the crop supply more resilient against climate risks.

Effective Steps for Food & Beverage companies to Transform their Value Chain

The commitment of food and beverage companies to sustainable practices holds the potential to set off a positive chain reaction throughout the supply chain, triggering transformative impacts.



Supplier Engagement.

Companies are increasingly expected to engage a broad set of stakeholders in their sustainability efforts, including suppliers and raw material producers. It's crucial to map out specific issues to address in the supply chain and develop a portfolio of actions at the system level. This involves understanding the environmental impact of each raw material used and pushing for recycling processes that can separate and reuse materials. Innovative approaches in packaging and food production are also essential



Prioritising Sustainability

Despite the recognition of the importance of sustainability, many food and beverage companies are facing challenges due to macro-economic conditions, such as labor shortages and supply chain disruptions. This makes it difficult for them to prioritize sustainability. However, it's important for these companies to innovate and adapt, as consumer support for sustainable practices, including packaging and sourcing, is on the rise. There's a need for a balanced approach that takes into account current economic challenges while continuing to move towards sustainability.



Digital Transformation

Implementing digital technologies is vital for improving transparency in the supply chain, enhancing efficiency, reducing costs, and improving customer experience. Key areas include supply chain management, food safety and quality control, e-commerce adoption and delivery, and customer engagement through digital channels. The use of e-commerce platforms, digital sensors, advanced technologies can help track food products, manage inventory, and highlight opportunities for savings.



Retailer Net Zero Collaborative Action Plan

A commitment from UK supermarkets to decarbonize their operations, ensure sustainability in their supply chains, embrace products designed to reduce environmental impact.

As a core part of this they will be increasing the measurement and reporting structure within their business and supply chain. The RNZCAP includes commitment to SBTi for carbon reporting transparency, WRAP for responsible resource use and the WWF for animal welfare.

Due to the collaborative nature of the RNZCAP it is vital for processors to understand the requirements that are coming down the line.

What gets measured, gets managed.

Carbon accounting stands as the essential first step in shrinking the carbon footprint of the value chain. It is a wasted opportunity to overlook the chance for measurable reductions and meaningful insetting. While it's true that carbon accounting is complex and multifaceted, it's far from an insurmountable task. It can unearth valuable insights into where reductions can be made. The use of automated systems for carbon emissions reporting can be a game-changer. These systems can gather data autonomously, ensuring that your processes are not only more precise but also constantly up-to-date. It's crucial to implement a system that emphasizes precise data collection, utilizes advanced analytics tools, and incorporates an effective strategy for integrating into your business. Such a system ensures that your sustainability efforts are based on solid, reliable data, enabling more effective decision-making and action towards reducing carbon emissions.

How Farming Carbon Can Help.

Farming Carbon is a sustainability consultancy, providing support for food adjacent businesses to identify easy ways to get on top of your in-house sustainability reporting.

Reporting on sustainability is quickly becoming overwhelming for businesses, particularly with EU directives such as CSRD setting the standard of GHG reporting being as molecularly detailed as financial accounts for businesses of varying sizes.

We can also help you with your sustainability strategy, outlining opportunities for efficiency, differentiation and improving the perception of value of your business by clearly communicating your environmental and social impact.

Although that's not all.

We are working on the development of a tool that will support the farmers in your supply chain, for the companies that it is suitable for it will help to demonstrate your commitment to Environmental and Social impact.

Farmer-led Education

Our showcase farms cover all types of farm enterprise. We highlight those who are farming profitably, productively and creating a positive impact on the environment around them. Farmer-led education makes the platform more relatable and we invite your best supply chain partners to take part.

Reduce the burden of paperwork

With Leaf, Red Tractor and other environmental audits, the farmers that are doing the right thing for the environment & want to prove it - face mountains of paperwork. Our product helps them to be audit ready easily & efficiently

Standardise your farming support

Social value in business is not just about donating to charity at Christmas time. You need to demonstrate protection for your customers, community and supply chain. Working with Farming Carbon we can help you to more thoroughly support your supply chain, increasing resilience and loyalty of supply.

Bespoke package tailored to your needs.



What is required? & Future pacing

Streamlined Energy and Carbon Reporting (SECR)

SECR requires organizations to annually report on energy use and carbon emissions.

WHO?

Quoted companies, large unquoted companies, and large limited liability partnerships (LLPs).

“Large” Companies defined as: £36 million + turnover, £18 million + balance sheet, or 250 employees or more.

WHAT

Global scope 1 and 2 greenhouse gas (GHG) emissions, and reporting scope 3 emissions is voluntary but recommended.

UK Sustainability Disclosure Standards (SDS)

SDS is being developed to centralize the UK's new enhanced climate, sustainability, and ESG reporting, disclosure, and communications requirements.

Expected to be finalized and take effect from January 1, 2025.

As well as scoped emissions it includes non-climate sustainability and ESG reporting disclosure, and a detailed transition plan outlining the submitter's path to net zero emissions

Carbon Management for your business

Together with our partners, Susneo, Farming Carbon support your Sustainability Journey

Digital Transformation

A comprehensive platform for businesses seeking to enhance their sustainability efforts, particularly in carbon reporting. The platform is powered by advanced technologies like Susneo Data Engines, GeoCube A.I., and the S-Index. These tools allow for the seamless integration of various sustainability metrics, providing unparalleled speed and precision in data delivery.

Susneo facilitates compliance with carbon reporting requirements and help you to completely understand environmental impact within your business which empowers you to make better decisions.

Carbon Management Tool, created bespoke for your business incorporating

- ✓ Simplify the complexity of sustainability and carbon neutrality efforts, from reducing utility expenditures to transitioning to green energy.
- ✓ Customizable Metrics: The S-Index allows selection & weighting of sustainability metrics relevant to operational/industry trends, tracking progress over time.
- ✓ Climate Risk Assessment: GeoCube A.I. incorporates climate considerations to assess risks and identify suitable green energy opportunities.
- ✓ Data-Driven Approach as Susneo uses a data-first strategy to help businesses understand their sustainability score, crafting a tailored S-Index for unique insights and actionable steps.
- ✓ The platform handles diverse data inputs – from images to satellite data – unifying all crucial measurements into a user-friendly interface & saving time & effort for all clients



**We work with our partner
Susneo for this and
demonstrations are
available on request.**

A scenic view of a valley with rolling hills and trees, with two lambs in the foreground. The text is overlaid on a semi-transparent green rectangle.

Want to learn more about Farming Carbon?

email:
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