



Cultivating Sustainability:

A Roadmap for Food & Beverage
Companies



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Introduction: Navigating the Sustainability Landscape

In the ever-evolving realm of the food and beverage industry, the spotlight is now firmly fixed on sustainability—a force reshaping operational norms and consumer expectations. It's more than a trend; it's an imperative. As companies maneuver through a world increasingly attuned to environmental challenges, this section serves as a compass, guiding us through the current state of sustainability within the industry. Central to this journey is sustainable agriculture—a linchpin in fostering resilience, ethicality, and longevity in food production.

Consumers are driving this shift, with a growing interest in sustainable practices influencing their choices. According to [2020 McKinsey US consumer sentiment survey](#), more than 60 percent of respondents said they'd pay more for a product with sustainable packaging. A [recent study by NielsenIQ](#) found that 78 percent of US consumers say that a sustainable lifestyle is important to them.

In a [recent European Forrester study](#), over half agree that it's worth paying more for sustainable or environmentally friendly products. 64% agree that companies are responsible for protecting the environment.

This data underscores a significant paradigm shift, emphasizing the need for businesses to align with eco-conscious practices to meet the evolving demands of an environmentally-aware consumer base.

Sustainable agriculture is a way of farming that aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. It involves practices that focus on protecting the environment, maintaining soil fertility, and promoting economic viability for farmers. In simple terms, it's about growing food in a manner that is environmentally friendly, socially responsible, and economically feasible over the long term. This may include using natural fertilizers, rotating crops, conserving water, and avoiding the excessive use of pesticides. The goal is to create a balanced and sustainable approach to farming that benefits both people and the planet.

Regenerative Agriculture: A Paradigm Shift

In the pursuit of sustainable and ethical practices in the food and beverage industry, regenerative agriculture has emerged as a transformative paradigm.

Regenerative agriculture represents a holistic approach to farming that seeks to enhance soil health, biodiversity, and overall ecosystem resilience. Unlike conventional methods, regenerative practices view the farm as an interconnected system, leveraging natural processes to foster sustainability.

In essence, regenerative agriculture focuses on building soil health by promoting practices such as cover cropping, crop rotation, reduced tillage, and integrated pest management. By nurturing a diverse and dynamic ecosystem within the farm, these practices contribute to improved water retention, carbon sequestration, and a reduced environmental footprint. Sustainable farming aims to sustain current practices with minimal harm, while regenerative farming strives to actively restore and improve the environment for a more resilient and thriving ecosystem. Both approaches contribute to responsible agriculture, but regenerative

farming takes a more holistic and proactive stance toward ecological renewal. Regenerative agriculture stands out as a formidable ally in the global fight against climate change, owing to its significant contributions to carbon sequestration and overall environmental resilience. It has garnered attention to the extent that it is often referred to interchangeably as "low carbon agriculture," underscoring its pivotal role in minimizing carbon emissions and fostering ecological robustness.

On the other hand, farmers may be hesitant to transition to regenerative agriculture due to various challenges and uncertainties associated with the shift. Despite the potential positive return on investment highlighted in [research by BCG, OP2B and WBCSD](#), many farmers face obstacles. One significant barrier is the initial costs involved in adopting regenerative practices, including investments in new equipment and changes to established routines. Additionally, the lack of technical assistance and guidance, together with the psychological natural fear from change, farmers are left feeling ill-equipped for the transition. In supporting farmers through this transition, food and beverage companies play a crucial role. They can provide financial support, technical expertise, and educational resources to ease the burden on farmers. By fostering a collaborative and supportive environment, food and beverage companies contribute not only to the success of individual farmers but also to the broader adoption of regenerative agriculture, promoting sustainability across the entire supply chain.

For more information on Agritask's approach and solution, check out [Agritask's Framework for Regenerative Agriculture Implementation](#) white paper.



Tackling Agricultural Carbon Emissions

Reducing GHG emissions is critical to global food security, as the ripple effect of increased temperatures may significantly impair the ability to grow crops in certain areas. In a recent study it was found that [global barley yields will decline between 3–17%](#), depending on the geographical location, and in many areas of North Africa, the horn of Africa and South America.

The agri-food industry is not just a part of the problem, but a critical part of the solution. Agriculture is, in its core, a carbon-negative industry, capturing and storing more carbon from the air and into the soil than it emits.

According to the intergovernmental panel on climate change (IPCC)'s 6th assessment report, the global agriculture sector is sequestering ~12.5 gigaton of CO₂ per year. After accounting for agriculture and food manufacturing emissions, that leaves a negative carbon balance of ~5.9 gigaton of CO₂ per year. Yet that is just the tip of the iceberg. Studies suggest that, while varying according to soil and vegetation characteristics, the potential for carbon sequestration overall is much greater.

Carbon accounting is the act of calculating carbon emissions and capturing & storing (sequestration) across all operations, and tallying up the total operational carbon balance (carbon emitted minus carbon captured). With many companies declaring ambitious Net Zero targets – meaning completely balancing their value chain's carbon emissions and captures – there is a growing urgent need for emissions reduction and sequestration.

Carbon Related Regulation

Regulation plays a pivotal role in shaping the practices of industries, especially in the sustainability realm. Here we highlighted the regulatory framework surrounding carbon emissions reporting. Understanding these regulations is crucial for businesses aiming to align with global sustainability goals.

- 1 California's Climate Corporate Data Accountability Act:** California has passed a new law requiring major corporations to disclose their carbon emissions. The bill mandates companies with over \$1 billion in annual revenue to report their greenhouse gas emissions. The California Air Resources Board has until January 1, 2025, to establish a system for reporting emissions. This is a result of increasing pressure on large corporations to transparently disclose their contributions to climate change. Similar efforts are being considered at the federal level by the U.S. Securities and Exchange Commission, but the timing of their approval is uncertain. Critics have raised concerns about the potential financial impact of such regulations on businesses.
- 2 EU's Corporate Sustainability Reporting Directive (CSRD):** Starting in 2024, this directive is a game-changer in how companies report their impact on the environment, especially regarding carbon emissions. It requires large EU and non-EU businesses to disclose not only financial matters but also their Environmental, Social, and Governance (ESG) impacts. This includes their carbon emissions, a crucial aspect for investors assessing climate-related risks. The CSRD aims to provide clear and consistent guidelines, making it easier for companies to report their sustainability data. Non-compliance with these new rules may result in significant fines. In essence, the CSRD is pushing for more transparent and detailed reporting, especially in the critical area of carbon emissions, to help investors make informed decisions and promote sustainable practices.

If you are interested to learn more about carbon emissions and Agritask's offering, read our [Carbon Emissions Management](#) white paper.

Combating Deforestation: A Call to Action

Driven by agricultural expansion and other land-use changes, deforestation poses a significant threat to biodiversity, contributes to climate change, and undermines the industry's commitment to sustainability. The repercussions are felt across the entire supply chain, from raw material sourcing to consumer perception.

Forests sequester [7.6bn metric tonnes](#) of carbon dioxide per year, and are home to around 80% of the world's terrestrial biodiversity. This haven, however, is increasingly threatened by consumer demands for beef, soy, and other goods, responsible for ~75% of commodity deforestation. This is the data that led the European union to approve the EU deforestation regulation (EUDR) that will come into force in 2025.

The law seeks to prevent EU companies from importing products that have been linked to illegal deforestation and forest degradation. The products covered by the law include coffee, cocoa, timber, soy, palm oil, beef, leather, and other agricultural products that have a significant impact on the world's forests. The EUDR requires companies registered in the EU to ensure the products they import or export have not been produced on land that was deforested after December 31, 2020, and that is not subject to forest degradation. In addition, companies must ensure the production of these commodities has been compliant with "relevant laws" on land use, labor, and human rights in their country of origin. After the regulation comes into force, large companies will have 18 months to comply before being penalized.

To combat deforestation effectively, companies are adopting proactive strategies that promote responsible sourcing and land-use practices. Initiatives such as certification programs, satellite monitoring, and engagement with suppliers ensure transparency and accountability. By committing to deforestation-free supply chains, companies can not only mitigate environmental risks but also enhance their brand reputation and meet the growing demand for ethically sourced products.

For more information about deforestation and Agritask's offering, read our [Navigating the EU Deforestation Regulation](#) white paper.



Certifications: Supply Chain Compliance

Certifications in sustainable agriculture play a pivotal role in establishing compliance, providing consumers and other stakeholders with assurance that specific standards and practices align with sustainable and ethical principles. Several key certifications have emerged to signify adherence to environmental, social, and ethical benchmarks. These certifications encompass diverse criteria related to soil health, biodiversity, water quality, and carbon sequestration. The presence of these certifications serves as a testament to a commitment to responsible and sustainable agricultural practices, reinforcing the industry's collective journey towards a more resilient and environmentally conscious future.



- 1 USDA Organic Certification:** Widely adopted in the food and beverage industry, this certification ensures that products meet strict organic standards, prohibiting the use of synthetic pesticides and fertilizers.



- 2 Fair Trade Certification:** Commonly found in the industry, especially in products like coffee, chocolate, and tropical fruits, this certification guarantees fair wages and ethical working conditions for farmers.



- 3 Rainforest Alliance Certified:** With a focus on environmental and social responsibility, this certification is prevalent in products like coffee, tea, and chocolates, ensuring sustainable and ethical sourcing.



- 4 Non-GMO Project Verified:** Given the increasing consumer concern about genetically modified organisms (GMOs), this certification is significant, indicating that a product is free from genetically modified ingredients.



- 5 Carbon Trust Standard:** While less common but gaining traction, this certification demonstrates a company's commitment to measuring, managing, and reducing its carbon footprint, contributing to overall sustainability goals.

Certifying agricultural raw materials in the food and beverage industry entails unique challenges, each requiring careful consideration:

Traceability

Establishing traceability workflows and implementing the right technology to track raw materials from specific plots to processing facilities is essential for certifications.

Certification Complexity

The multitude of certifications available and their diverse criteria create complexity. Navigating through the different certification processes and aligning them with specific raw materials necessitate a nuanced approach.

Economic Viability

Striking a balance between adhering to certification standards and maintaining cost-effectiveness is a persistent challenge.

Grower Engagement

Developing and sustaining relationships with a diverse network of growers isn't an easy task. Aligning their practices with certification standards, ensuring compliance, and fostering collaboration require effective communication.

Evolving Standards

The dynamic nature of sustainability standards and their continuous evolution necessitate companies to stay informed and adapt swiftly.

Nurturing Ethical Supply Chains

The concept of ethical supply chains has emerged as a cornerstone of responsible business practices in the food and beverage industry. Ethical supply chains, particularly in the agricultural context, encapsulate a commitment to social responsibility, environmental stewardship, and fair labor practices.

At its essence, ethical supply chains seek to minimize negative impacts on communities, ecosystems, and workers throughout the supply chain. This involves a holistic approach that extends from sourcing raw materials to the final product reaching consumers. Companies embracing ethical supply chains prioritize transparency, accountability, and sustainability as integral components of their operations.



Certification programs play a pivotal role in shaping and validating ethical supply chains. These programs set standards and criteria that companies must meet to be certified as ethically responsible. For example, Fair Trade certification ensures that farmers receive fair wages, working conditions are safe, and environmental sustainability is prioritized.

By nurturing ethical supply chains, companies not only contribute to positive social and environmental outcomes but also enhance their brand reputation. In an era where consumers are increasingly conscious of the ethical implications of their purchases, embracing ethical supply chains is a strategic imperative for long-term success. Ethical supply chains are not merely a trend but an ethical responsibility that companies must uphold to build a sustainable and resilient future.

Top 5 Common Challenges in Maintaining Ethical Supply Chains:

- 1 Forced Labor and Exploitation:** Addressing the pervasive issue of forced labor and exploitative practices remains a critical challenge, requiring rigorous oversight and accountability mechanisms.
- 2 Poor Working Conditions:** Ensuring safe and humane working conditions for all participants in the supply chain is a common challenge that demands ongoing commitment to occupational health and safety standards.
- 3 Environmental Degradation:** Mitigating the environmental impact of supply chain activities, including deforestation and resource depletion, is a shared challenge that necessitates sustainable and eco-friendly practices.
- 4 Child Labor:** Eradicating child labor practices across the supply chain requires concerted efforts, monitoring systems, and adherence to international conventions on child rights.
- 5 Unfair Compensation:** Achieving fair compensation for workers at every stage of the supply chain is a persistent challenge, emphasizing the need for transparent wage structures and commitment to equitable remuneration.



Plot Traceability: The Cornerstone for Sustainability

One of the biggest challenges for food & beverage companies when it comes to sustainability is ensuring transparency in their supply chains. With complex global supply chains that span multiple countries and stakeholders, it can be difficult to trace the origin of ingredients and ensure that environmental and social standards are being met.

Efficient traceability in agricultural supply chains has emerged as a cornerstone of sustainability efforts within the food & beverage industry. In an era where consumers increasingly demand transparency and ethical sourcing, traceability plays a pivotal role in meeting these expectations.

Traceability in agriculture can provide a comprehensive “passport” for each crop, documenting its entire life cycle and journey from seed to harvest.

This detailed record includes information such as the type of seed planted, the precise timing of planting, key growth stages monitored throughout the season, specific chemicals or fertilizers applied, quality samples taken, soil samples analyzed, and the optimal timing for harvest. Essentially, this agricultural passport encapsulates a wealth of data, providing a thorough account of the crop's development, the conditions it encountered, and the practices employed during its cultivation. By capturing these details, traceability ensures transparency, quality control, and adherence to sustainable and ethical agricultural practices.

Regulations pertaining to food traceability have become paramount worldwide, with numerous countries implementing specific standards to ensure the safety and transparency of the food supply chain. These regulations mandate stringent traceability practices, requiring food producers, processors, and distributors to maintain comprehensive records and documentation about the origin, production, and distribution of food products. Examples of such regulations include the Food Safety Modernization Act (FSMA) in the United States, the General Food Law in the European Union, and similar regulations in countries globally. These guidelines aim to facilitate rapid identification and response to potential food safety issues, allowing for the prompt removal of contaminated products from the market. Compliance not only reduces risks but also builds consumer confidence in the reliability and safety of the global food supply chain.



Traceability has various outcomes for food & beverage companies:

Quality Assurance

Implementing traceability technologies allows food companies to monitor and maintain the quality of their products throughout the supply chain. This ensures that consumers receive safe and high-quality food items.

Compliance with Regulations

Traceability technologies help food companies meet regulatory requirements by providing the necessary documentation and transparency in the production and distribution processes.

Efficient Recall Management

In the event of a product recall, traceability enables swift and precise identification of affected batches, minimizing the impact on consumers and the company's reputation.

Risk Mitigation

Developing and sustaining relationships with a diverse network of growers isn't an easy task. Aligning their practices with certification standards, ensuring compliance, and fostering collaboration require effective communication.

Consumer Confidence

Visible traceability information fosters trust among consumers, as they can make informed choices about the products they purchase based on detailed information about the sourcing and production processes.

Sustainability Monitoring

Traceability can extend to environmental and social aspects, allowing companies to monitor and communicate sustainability initiatives, contributing to responsible and ethical business practices.



Agritask Sustainability Offering

Agritask's platform drives and monitors sustainability programs across globally distributed growers and suppliers, delivering measurable impact and meeting value chain due diligence and sustainable sourcing goals.

Built to suit your changing sustainability sourcing needs and requirements, the platform consists of different modules that allow you to choose your desired goals and digitize the right processes for you.

For sustainable sourcing we recommend adopting the following:



Sustainable Compliance

The backbone of sustainability sourcing, this module enables the survey mobile tool accompanied with the management dashboards, allowing to efficiently track and manage sustainability surveys throughout the portfolio. You can implement 3rd party surveys or create your own using this tool.



Crop Management

Influence farming practices throughout the season by providing agronomic advisory at scale, for example to limit chemical usage and/or to prescribe specific ag-input brands. These sustainability related farming practices will be tracked and documented for future use.



Regenerative Agriculture

Providing farmers with an interactive guide through the mobile app, providing personalized guidelines based on corporate agronomists best practices. This in addition to tracking and managing regenerative practices implementation, and more.



Carbon Emissions Accounting

Measure and document carbon-related farming practices using the mobile app. Once reported, the data is analyzed through a carbon calculator and presented using actionable dashboards. Detect and address the carbon hotspots in your supply chain, optimize supply chain operations and streamline reporting.



**Crop
Management**



**Regenerative
Agriculture**



**Cost
Profiler**



**Sustainable
Compliance**



**Carbon
Accounting**

Sustainability is a complex and multifaceted issue for food and beverage companies, but it is also one of the most urgent issues facing our planet today. Food and beverage companies can take meaningful steps towards a more sustainable future by integrating these initiatives into their core business practices, fostering a culture of responsibility, and driving positive change across the entire supply chain. Through these actions, companies can not only reduce their environmental impact but also meet the growing demand for sustainable and socially conscious products, contributing to a healthier planet and a more resilient industry. However, achieving true sustainability will require a collective effort from all stakeholders involved in the food system, from farmers and suppliers to retailers and consumers. Only by working together, we can create a sustainable food system that feeds the world while also preserving the health of our planet.





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