



The supply chain shift to sustainability: Suppliers commit to **diverse strategies**

Companies focus on farmers, emphasize regenerative practices, and commit to cutting-edge technologies and paths to decarbonization — leading the way for standardized impact measurements and industry communication strategies.

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Introduction: The case for **collaboration**

In 2017, Ann Ambrecht received a Fulbright scholarship to document the stories of the people involved in growing, sourcing and processing medicinal plants for the export market in India. What she learned about the botanical supply chain greatly disturbed her. She witnessed poor handling and storage conditions for herbs, such as being piled in cement bags or unsanitary warehouses, underscoring the need for traceability and responsible sourcing practices.

An anthropologist with a Ph.D. from Harvard who had started the Sustainable Herbs Program (now the Sustainable Herbs Initiative) two years prior, Ambrecht learned much from the six-month journey through the world's second-most populous country. Most importantly, it reinforced her belief in the interconnectedness of human wellness with environmental, social and economic factors within the supply chain. "Being in India just made it really clear to me that you can't talk about these things in isolation," she said. India is a

microcosm of the macro challenges facing global supply chains today, from inconsistent quality standards to economic and social pressures to environmental and climate challenges. Retooling global supply chains to be more sustainable could go a long way toward decarbonizing the global economy and addressing climate change. Just eight supply chains account for more than 50% of global greenhouse gas emissions, according to a report by the World Economic Forum in collaboration with the Boston Consulting Group. Food alone is responsible for about a quarter of emissions — the most of any other supply chain.

The natural products industry, including the nearly \$200 billion global supplements market, represents a small percentage of total emissions. However, many stakeholders believe the industry can play an outsized role in shifting supply chains toward more sustainable practices through collaboration, innovation, and a focus on empowering farmers and improving their livelihoods.



“To drive systemic change across the food and agriculture system, we must collaborate with the stakeholders that influence all parts of that system,” said Julie Robey, customer sustainability leader, Food Solutions Americas, Cargill, the largest private company in the United States. “Given our role as a global connector, we have embraced the opportunity to bring together governments, peer companies, NGOs [nongovernmental organizations], and thought leaders to spearhead industry-wide transformation.”

K Patel Phyto Extractions, a leading botanical extracts manufacturer and supplier in India, has put sustainability at the center of its operations in the many decades following its founding in 1956. That commitment has become more challenging amid the growing demand for natural resources, such as water, land and energy, according to Viraj Patel, director of business development for the Mumbai-based company.

“Supply chain sustainability is threatened by resource scarcity and competition. Depletion of natural resources and environmental degradation pose challenges to sustainable sourcing and production practices,” he said, but added: “There are also exciting opportunities for driving positive change and advancing sustainability in the supply chain by embracing innovation, collaboration and responsible sustainable business practices.”

Indeed, many suppliers view their role as vital to helping the industry move forward toward sustainability goals. Some companies are innovating with inherently natural, renewable or upcycled ingredients. Microphyt, a French biotechnology firm, for example, is mobilizing the power of microalgae as a source of ingredients for both personal care and nutrition. “Microalgae consume CO₂ and release oxygen,” making them excellent carbon captors, explained Christel Lemaire, marketing manager for Microphyt. They also require minimal water and can thrive in controlled environments without using arable land, preserving natural ecosystems and minimizing resource usage.

Other strategies revolve around curbing greenhouse gas emissions, improving farmer livelihoods, and investing in renewable and low-carbon solutions.

“What customers have been asking us more and more is to contribute to their programs that target net zero emissions in the period 2030-2050,” noted Francesca de Rensis, marketing director at Indena, a Milan, Italy-based supplier of extracts and pure active ingredients for use in the nutraceutical and pharmaceutical industries. “As a matter of fact, what is important for those customers are the activities suppliers, including Indena, carry out about environmental impact and supply chain management.”

This special report on sustainability within natural products industry supply chains will dive into some of the major challenges faced by suppliers and brands today. More importantly, it will illustrate how they are greening supply chains and highlight key practices that support measurable ways of producing more innovative, sustainable products. ♦



The cost of being sustainable

A key assumption is that being sustainable is more expensive, but within what framework? One could argue that the current status quo — continue to extract resources, ignore the climate crisis, allow the wealth gap to grow — will prove to be much more costly to the planet and its people than reduced short-term profit.

“A lot of companies still struggle with the balance between cost and doing the right thing,” conceded Rachel Calomeni, senior vice president of growth and innovation at HowGood, a firm that helps brands measure the environmental and social impact of their supply chain. However, she emphasized the necessity of environmental action: “At the end of the day, we all have to live on this planet. And if we don’t fix it, we’ve got some problems.”

CALCULATING COSTS

A growing number of companies want to be part of the solution and not the problem.

A first-of-its-kind survey last year of 335 supplement companies in more than 25 countries revealed that more than half (56%) of respondents said environmental sustainability was already highly relevant to their company.¹ The survey, conducted by Ipsos, a global market research firm, on behalf of the International Alliance of Dietary/Food Supplement

Associations (IADSA), also found that more than 80% were working toward responsible sourcing in their supply chain, preventing negative impacts of the production chain on the environment, and minimizing food and packaging waste.²

One big factor holding the industry back from doing more is (unsurprisingly) money, the Ipsos survey reported, associated with either direct costs to the company itself (44%) or to consumers (48%). Global inflation since mid-2021 has exerted additional pressure on many sustainability initiatives, according to Don Seville, director of the Sustainable Food Lab, a nonprofit organization that engages companies, farmers and other stakeholders to promote regenerative agriculture practices, improve farmer livelihoods, and foster co-creation of sustainable solutions across agricultural supply chains.

Global economic factors and geopolitics are impacting costs, placing added bottom-line pressure on companies. “Many of the companies are managing to hang on to [sustainability] programs,” Seville added, “but I think it’s under threat right now. It’s going to be a challenge for a few years, to see if they can hang on to those investments.”

Research has
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Products making ESG claims averaged **28% cumulative growth** over the five-year period **versus 20%** for products that made no such claims.

— McKinsey & Company, NielsenIQ

SUSTAINABILITY PAYS

Research has repeatedly shown that those investments do pay off.

A [2014 study](#) by Harvard Business School found that companies that had environmental, social and governance (ESG) policies — corporate-speak for sustainability — in the early 1990s outperformed a control group over nearly 20 years. The phrase is often misunderstood and misused, in part due to anti-ESG rhetoric, according to a Harvard Business Review article. Technically the term is about helping investors evaluate business risks from social and environmental factors. A 2017 study by Nordea Equity Research, the largest financial services group in the Nordic region, reported that “from 2012 to 2015, the companies with the highest ESG ratings outperformed the lowest-rated firms by as much as 40%.” And, in 2018, Bank of America Merrill Lynch published a report that said, “firms with a better ESG record than their peers produced higher three-year returns, were more likely to become high-quality stocks, were less likely to have large price declines, and were less likely to go bankrupt.”³

A [joint study](#) from McKinsey and NielsenIQ examined sales growth data for products with ESG-related claims that reflect actual spending behavior rather than consumer sentiment. They

analyzed five years of U.S. sales data, from 2017 to June 2022, covering 600,000 individual product SKUs from 44,000 brands across 32 food, beverage, personal care and household categories. The results were encouraging: Products making ESG claims averaged 28% cumulative growth over the five-year period versus 20% for products that made no such claims.

In some instances, the sustainable business decision is the better one for both planet and profitability. For example, water disposal has become prohibitively expensive in many municipalities, driving manufacturers to reuse or reduce usage. Plastic disposal is another waste stream where costs are incentivizing companies to be more creative in production and packaging.

“So, a lot of it is economically driven, which I think is good. I like the fact that the economy is actually working in that regard, and that it’s putting pressure on companies to be sustainable,” said Scott Forsberg, chief operations officer for Sonomaceuticals, a company that is commercializing a 100% upcycled prebiotic ingredient called Wellvine made from the unused parts of the chardonnay plant. “I think it will only increase — doing it the sustainable way is also the way that is the most efficient and saves you the most money.” ♦



The complexity of consumer behavior

Despite the McKinsey/NielsenIQ survey, much hand-wringing occurs over gauging consumer sentiment and behavior around sustainability. Consultants slice and dice surveys by generation (e.g., Millennial versus Gen X), by concern (e.g., climate change or pollution), by cause (e.g., social justice or wealth gap), and in countless other ways. After all, companies not only invest significant capital in ESG activities themselves but in certifications, marketing, and all the ways they communicate their sustainability stories.

DOES SUSTAINABILITY MATTER?

Nearly 90% of today's consumers are familiar with the concept of sustainability but far fewer can specifically identify sustainable companies or products, according to Shelley Balanko, Ph.D., senior vice president at The Hartman Group, a research and consulting firm specializing in understanding consumer behavior, trends and insights related to food and beverage choices.

Balanko says there is a "big gap" between familiarity with the term and understanding what it means in practice based on the firm's 2023 consumer survey on sustainability. About half of the 2,165 respondents associate sustainability with things like recycling, being environmentally friendly and conserving natural resources. Younger generations like Gen Z and Millennials tend to associate sustainability with more economic, social and personal meanings than older generations.

Sustainability: Bridging the understanding gap

90%

of consumers think it's important for companies to make business decisions with environmental and social impacts in mind.

But only 31% have heard the term that describes sustainable philosophy: ESG (Environmental, Social and Governance).*

What's the takeaway? The term has become very broad and means a lot of different things depending on a consumer's life view.

Diversity among sustainability-aware consumers makes communicating about sustainability difficult.

HERE ARE SOME INSIGHTS:

Consumers learn about brands' sustainability efforts most from product packaging, but social media is gaining relevance.**



39%

Product packaging

27%

Grocery stores

26%

Social media

*The Hartman Group. Interest vs understanding.

**Nutrition Business Journal. 2023 Sustainability Marketing Report.

***Euromonitor International.

Understanding Sustainable Consumers 2023 Key Insights.





That jives, in part, with a series of four consumer surveys conducted by the Nutrition Business Journal (NBJ) in February 2024 for its “The State of Natural” report. The publication found that “consumers still see sustainability as admirable but not imperative, and they’re far more motivated to buy products that are good for their personal health over products aimed at saving the planet.”

In a previous consumer survey published by NBJ and New Hope Network research, sustainability ranked next to last at 14% (just ahead of “other”) as the reason why shoppers bought a new product in the last year. However, consumers who identify as natural channel shoppers were more than twice as likely at 30% to buy a new product based on its sustainability claims and Millennials and Gen Zers skewed more likely than older consumers to take sustainability into account as a priority.

IT'S A QUESTION OF TRUST AND AUTHENTICITY

Customers of ayurvedic products produced by Banyan Botanicals, a certified B Corporation, are somewhat self-selected to lean toward companies with sustainability missions. After all, the ayurvedic ethos revolves around the concept that “what we do to the planet, we do to ourselves,” said Erin Douglas, director of social and environmental responsibility at Banyan Botanicals. Similarly, their sustainable sourcing philosophy involves deep relationships in their supply chain and an ingredient-by-ingredient

approach to support individual plants, communities and ecosystems. “Our core customers ... truly care about sustainability, not just a one-off purchase; those people care,” she said.

Banyan Botanicals undertakes extremely rigorous certifications, including becoming [B Corp](#) and [Fair for Life certified](#). The former requires applicants to complete an assessment that covers more than 200 factors involving social and environmental performance in areas like employee benefits, supply chain practices and charitable giving. The latter is a certification program for fair trade in agriculture, manufacturing and trade.

“I don’t know how much our customers really know about what it means and how hard it is to become both Fair for Life certified and B Corp certified. Those are extremely rigorous ... It takes a lot of work and resources and time and money and all the things,” Douglas said. She added that while consumers may not understand the nuances of these programs, they do recognize and appreciate the broader sustainability mission those certifications represent.

The good news for brands like Banyan Botanicals is that consumers are more willing to trust sustainability claims, according to the NBJ and New Hope survey. More than 40% of all respondents (and more than 60% of natural channel shoppers) put their level of trust in sustainability seals and certifications in the top two boxes on a five-point scale, and 39% did the same for brands’ statements and claims on sustainability.

These kinds of results also reflect a shift in consumer attitudes toward large companies on sustainability, according to Balanko. Whereas 15 years ago there used to be “an inherent skepticism about big companies,” now “there’s a greater appreciation for the impact that large companies can have,” she said. More knowledgeable, committed consumers are “a little bit more willing to not immediately think that a big company can’t possibly operate in a sustainable fashion.” ♦

Focused on the farmer

While the natural products consumer packaged goods (CPG) industry will always be consumer values-centric in its approach, a number of large high-impact CPG companies, many that reach large consumer sectors beyond those typically in the natural channel, are recognizing that the growers, producers and collectors who comprise the foundation of their supply chains need to be supported financially, technically and socially.

Seville at Sustainable Food Lab succinctly summed up the shift that needs to happen. He believes companies should treat farmers as valued partners, understand their perspectives and motivations, ensure their economic viability and returns, and co-create sustainable solutions that align with their needs and priorities. "If the market doesn't support or promote equity, more sustainable agriculture, farmers can't get too far by themselves," he said.

DIRECT IMPACT: GROWING REGENERATIVE AGRICULTURE

This is especially the case for practices like regenerative agriculture, which often requires significant investments in time, money and land transformation. "Farmers have to get a decent return on investment and have the capacity to invest if they're going to take on more expensive practices, if they're going to preserve forests, if they're going to set aside land for riparian zones and habitat. So those things have to go hand in hand," Seville said.

Suppliers are responding. Cargill, for instance, launched a regenerative agriculture program in 2021 called RegenConnect®, which links farmers to new and emerging markets by paying them for improved soil health and other positive environmental

outcomes. The company offers market-competitive pricing based on each metric ton of carbon sequestered per hectare for primary crops in its supply chains, including rapeseed, wheat, corn, barley and sunflower.

"It's designed to support farmers as new carbon markets emerge and the world looks to agriculture to help solve climate change," Robey said. Since the program's inception, Cargill has expanded RegenConnect to 24 states, with farmers of nearly 1,000,000 acres in North America practicing regenerative agriculture. The company has launched similar regenerative agriculture programs in other countries and regions, including Canada, Brazil, Australia and Europe.

In India, farmers face mounting environmental and economic challenges. In response, K Patel Phyto Extractions encourages the adoption of





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— Don Seville, director of Sustainable Food Lab

drought-tolerant crop varieties, water management practices and other conservation techniques, such as rotating ashwagandha with garlic to maintain soil fertility. “We provide training and technical assistance to farmers on sustainable agricultural practices,” Viraj Patel said.

Economically, the company facilitates market access and fair, consistent pricing to its growers. “We connect them with buyers valuing sustainable materials, and provide seeds and guaranteed purchases,” Viraj Patel added.

For example, when low turmeric yields jeopardized livelihoods a few years ago, K Patel surveyed the issue, finding certain regions were no longer viable due to soil and climate changes. The company identified three new locations promising higher yields based on soil and climate analysis. Pilot batches proved successful and mass cultivation followed. Crucially, K Patel committed to “purchasing all crops at fair prices, providing stable income.”

SUPPORTING FARMING COMMUNITIES

Other programs go beyond financial incentives to farmers in order to build resilience in rural communities where producers live and raise their children and where those programs can produce clear and measurable long-term impacts.

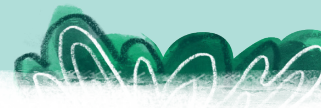
For instance, Cargill partnered with Nestlé to introduce the first KitKat made with cocoa mass from beans grown through the [Nestlé income accelerator program](#). The program incentivizes cocoa-farming families that enroll their children in school, implement good agricultural practices and engage in agroforestry activities. “The program is intended to help close the living income gap of cocoa-farming families and reduce child labor risk,” Robey noted, adding: “At the same time, it strives to advance better agriculture practices and promote gender equality, empowering women as agents for positive change.”

K Patel Phyto Extractions conducts similar social programs in India through workshops and partnerships with educational institutions and vocational training centers. In particular, the company is focused on promoting girls’ education as a “catalyst for positive social change and sustainable development,” Viraj Patel said. “We are dedicated to supporting the livelihoods and well-being of farmers in the communities where we operate. Agriculture is the backbone of many rural economies — and of India.” ✨





For personal care products, microalgae provide a natural alternative to synthetic ingredients, packed with beneficial compounds like antioxidants, anti-inflammatories and moisturizers, among others.



Raising the bar in everything from manufacturing to packaging

Beyond agriculture, companies are implementing production strategies to reduce their carbon footprint, maximize resource efficiency and minimize waste. From adopting renewable energy to upcycling ingredients and reimagining packaging solutions, these efforts are helping reshape the industry's environmental impact and set new standards for sustainable practices. Innovations in ingredient manufacturing and development driven by research into new technology-driven solutions are allowing suppliers — and brands — to create products with reduced resource and energy consumption and improved carbon footprints.

TECHNOLOGICAL INNOVATIONS

Take Microphyt. At the core of the company's sustainability efforts is its patented hydro-biomimetic technology, which replicates natural conditions to cultivate even the most fragile microalgae species in a closed system. This innovative approach minimizes water usage, land requirements and contamination risks, making it a more sustainable option compared to traditional microalgae cultivation in open-pond systems.

For personal care products, microalgae provide a natural alternative to synthetic ingredients, packed with beneficial compounds

like antioxidants, anti-inflammatories and moisturizers, among others. In the nutrition space, microalgae are interesting because they are rich in essential nutrients, including proteins, vitamins, minerals and omega-3 fatty acids, as well as highly effective bioactives such as powerful antioxidants. "Microalgae are microorganisms that concentrate high-value molecules such as antioxidants, which enable their survival in extreme conditions, making them rich sources of valuable compounds; they grow through cellular duplication via photosynthesis, providing an almost infinite supply of bioactives, thus contributing to their sustainability," Lemaire noted.

Microphyt's commitment to sustainability has attracted partnerships with industry leaders like L'Oreal, which aims to have 95% of its ingredients be bio-sourced, derived from abundant minerals or from circular processes by 2030.



ENERGIZING RENEWABLES AND EFFICIENCY

Many suppliers are also making significant strides within their factories and manufacturing facilities by making them more efficient and installing renewable energy infrastructure. Often, it is management of operations that are not as easily visible that can have large sustainability impacts.

Indena, a botanical supplier that has been creating quality natural ingredients for more than 100 years, has implemented several measures to reduce energy consumption and improve power generation at its plants in Europe, such as installing energy-efficient electric engines. The use of inverters helps reduce energy waste, while continuous improvements in building energy efficiency, such as insulated roofs and low-consumption light bulbs, further enhance performance.

A notable achievement is the Combined Heat and Power (CHP) plant at Indena's Settala mill, which is fueled by natural gas. This plant simultaneously generates electricity and heat, resulting in significant primary energy savings. "The revamping of the thermal power plant at Settala has improved its efficiency by aligning it with the actual needs of the plant," said de Rensis.


In addition, the company is well on its way to generating more than 10% of its electricity needs from renewable sources. Current and future projects will eventually equip Indena with more than four megawatts of photovoltaic systems, representing an estimated production of over 4,000,000 kWh (kilowatt-hours) per year. Adding to this, a new steam turbine will go into operation and be capable of producing around 600,000 kWh/year.

"One of the most important and challenging topics for the future are renewable energies," noted de Rensis. "At Indena, renewable systems have been implemented for years and new ones are being installed, giving a fundamental boost to the green self-production of energy."

Cargill has also made substantial progress in expanding its renewable energy capacity. The company recently increased its contracted renewable energy capacity by 42%, adding 300 megawatts of wind and solar power. This expansion brings Cargill's total off-site renewable energy portfolio to 716 megawatts. These efforts are part of the company's goal to reduce its absolute operational greenhouse gas emissions 10% by 2025, a milestone it surpassed in 2022.



The company is also pioneering decarbonization solutions in the shipping industry, collaborating with BAR Technologies and Mitsubishi Corporation to introduce wind propulsion technology to commercial shipping. "In the maiden voyage of the world's first wind-assisted-propulsion ocean vessel, Pyxis Ocean,



Our strategy is to evaluate and recycle **everything we can**, reducing our unused waste as much as possible.

— Christel Lemaire, marketing manager, Microphyt

the technology delivered significant fuel savings, equivalent to an average of three tons of fuel per day,” Robey noted.

In addition to its sustainable manufacturing technology, Microphyt has installed photovoltaic panels on the roof of its facility to harness solar energy for its operations. For additional electricity needs, Microphyt has committed to using 100% renewable energy through a dedicated contract. “These efforts ensure that the company operates entirely on renewable electricity, significantly reducing its carbon footprint,” said Lemaire.

At K Patel Phyto Extractions’ production facility, the company has installed briquette machines to replace coal for steam generation and is installing solar panels to run the entire plant on renewables. “This initiative is expected to significantly reduce our carbon emissions, contributing to a cleaner and more sustainable environment,” Viraj Patel said. The company is also in the process of shifting to solar technology to support energy efficient manufacturing.

CIRCULARITY AND UPCYCLING: PUTTING WASTE TO WORK

The world loses or wastes about a third of the food it produces, with about 14% lost between harvest and retail, according to the Food and Agriculture Organization of the United Nations.⁴ Globally, over 100 billion metric tons of biowaste are produced yearly from agriculture and other activities.⁵ While biowaste has been traditionally diverted to biofuels, more companies now upcycle it into novel food and nutritional ingredients. An organization called the Upcycled Food Association is now certifying such products.

Sonomaceuticals’ Wellvine ingredient is a prime example of a 100% upcycled product. The company uses the entire pomace (i.e., seeds, skins and pulp) from the winemaking process of chardonnay grapes, creating a zero-waste product. The raw material for Wellvine comes from vineyards owned by Sonomaceuticals’ parent company, Jackson Family Wines, which are certified by the Sustainability in Practice (SIP) program, ensuring sustainable farming practices.

“Everything that comes out of the wine press we use; we don’t separate it, we don’t throw something else away,” explained Forsberg, the COO at Sonomaceuticals. “We don’t create another waste stream by extracting it, purifying it, or taking out just the protein — we use all of it.”

Sonomaceuticals is not the only company squeezing sustainable products out of biowaste in viticulture. Indena focuses on circularity in its product design to transform waste into raw material or energy. “This business model aims at reducing greenhouse gas emissions, pollution and biodiversity impact,” noted Indena’s de Rensis. “In doing so, Indena can create new opportunities to reduce its environmental footprint.”

Enovita®, Indena’s grape seed extract for heart health, comes from upcycled grape





seeds that are a byproduct of white wine production. Post-extraction, these seeds are used for grape seed oil production, with the remaining waste converted to energy. The process recycles water, transforms liquid waste into biogas, and ultimately produces electricity and biomethane. Residual matter serves as agricultural fertilizer.

Beyond wine grape seeds, Indena also ensures nothing goes to waste throughout the production process of its Mirtoselect® bilberry extract. While the hand-squeezed juice ends up in the food market, Indena produces a nutraceutical product for vascular health and eye health from the extract. From seed waste, the company creates an oil for the cosmetic market and has been developing a fiber product for gut health. The bilberry skins are reused for animal nutrition.

Microphyt has adopted an upcycling strategy for some of its commercially available ingredients as well. For example, its PhycoSi™ cosmetic ingredient is produced from the byproduct recovered during the production of the company's nootropic ingredient BrainPhyt™. Additionally, Microphyt recycles the water used to cultivate the microalgae and the water used to cool the photobioreactors in their first production building: a greenhouse containing the photobioreactors where the microscopic plants grow. The company even reuses the green solvent employed during extraction.

"Our strategy is to evaluate and recycle everything we can, reducing our unused waste

as much as possible," Lemaire said.

These types of supplier efforts can also be verified by third-party certifications that contribute to the trust and authenticity equation downstream for both brands and consumers. In addition to the previously mentioned B Corp and Fair for Life certifications, they cover a wide range of processes from the [Upcycled Certified Standard](#) and the [Regenerative Organic Certification](#) to broader sustainability certifications like [EcoVadis](#) and [Sedex](#).

Microphyt, for example, recently earned an EcoVadis Silver Medal, which recognizes the company's consistent commitment to sustainability and corporate social responsibility. The company also boasts an FSSC 22000 certification recognizing its high quality standards.

REPACKAGING SUSTAINABLE PRODUCTS

Companies face numerous challenges in terms of producing sustainable products, but one of the most widespread is the lack of sustainable packaging options, according to Alexis Durham, director of education for the American Herbal Products Association. "Everything we buy as consumers is packaged in some way, but there's a shortage of sustainable packaging options that are durable, effective, affordable and widely available."

Banyan Botanical's Douglas is certainly familiar with the challenge of moving away from virgin plastics. The company spent eight years



U.S. consumers reported that **more than half** of respondents at least sometimes purchase products based on the sustainability of the packaging. Another top concern: Ocean litter.



researching, assessing and testing different materials for sustainable packaging that would reduce waste, pollution and emissions, be safe and nontoxic, and still be logistically feasible, durable and affordable. The company considered everything from aluminum (cans are lined with BPA-ni and are opaque) to glass (breakable and emissions-intensive) to compostable (lack of commercial compost facilities and limited shelf life).

In the end, there was no silver-bullet solution. Drink mixes and teas are moving out of virgin plastics and into paper tubes. The company's tablets, however, are being transitioned into a type of post-consumer recycled plastic called Prevented Ocean Plastic™; it's made from plastic that is collected from the shores of ocean-bound waterways. "This not only cleans up those waterways and landscapes, it also prevents plastic from entering our oceans," Douglas wrote last year, describing the years-long journey by Banyan Botanicals to implement more

sustainable packaging.

The subject seems to resonate with consumers. [A 2023 survey](#) of 11,500 consumers across 11 countries by McKinsey & Company found that a majority of respondents claim to be willing to pay more for sustainable packaging. [A separate survey by McKinsey](#) the same year that was focused on U.S. consumers reported that more than half of respondents at least sometimes purchase products based on the sustainability of the packaging. One of the top concerns from both surveys? Ocean litter.

"Sustainable packaging is an increasing priority for many of our customers and consumers because of plastic waste pollution," noted Cargill's Robey. "That's why we have worked to reduce the amount of plastic and increase the amount of post-consumer recycled plastic in our vegetable oil bottles, an effort that has saved millions of pounds of plastic and thousands of metric tons of greenhouse gas emissions." ♦



COMPETITORS BECOME COLLABORATORS:

Seven brands band together to offset costs for tracking Scope 3 emissions

To avoid the catastrophic effects of climate change, carbon dioxide emissions need to fall 45% from 2010 levels by 2030 and reach net zero by 2050, according to the Intergovernmental Panel on Climate Change. But for companies to cut their greenhouse gas emissions, they first need to be able to measure them.

The Greenhouse Gas Protocol sets the standards to measure and manage emissions, which are classified into Scopes 1, 2 and 3. Scope 1 covers direct emissions by a company, such as running boilers or vehicles. Scope 2 are indirect emissions, like the energy a company buys to heat or cool a building. Scope 3 emissions are everything else in a company's value chain, including ingredients purchased through suppliers. For many businesses, Scope 3 emissions account for more than 70% of their carbon footprint, according to a report from Deloitte.⁶

The scale of the problem becomes apparent when considering the complexity of sourcing herbs in the natural products industry, according to Ann Armbrecht of the Sustainable Herbs Initiative. "[Brands] source anywhere from 30 to 100 different species. Often there are just one or two people responsible for that. Each herb has different challenges and issues, and so it's really complex."

Not to mention expensive. Taylor Clayton, sustainability

impact manager at Traditional Medicinals, says his botanical wellness company received estimates for conducting life cycle assessments at \$10,000 per plant. "We have 120 unique herbs that we source and 200 unique products," he said. "So, you could see that it quickly became very cost prohibitive for us to even get started."

Through the Sustainable Herbs Initiative, seven botanical brands — who are also competitors — decided to pool their resources and collaborate on developing a methodology for measuring their Scope 3 emissions.

They started by pooling their existing data and analyzing its usability, then selected 21 unique herbs to study collectively, avoiding duplication of efforts. The group is working with consultants to design a process for primary data collection and to create a replicable calculation method that can be used independently after the consultant contract ends. They'll develop a shared database of emission factors for their supply chains, focusing on creating a farmer-friendly approach that respects the complexities of herb sourcing.

"We have 120 unique herbs that we source and 200 unique products. So, you could see that it quickly became very cost prohibitive for us to even get started."

— Taylor Clayton, sustainability manager, Traditional Medicinals

"It was really important for the design considerations for this group to keep the farmer in focus," said Nate Brennan, purchasing and sales manager with Pacific Botanicals. "We really are looking for a way to tailor a tool that will be more or less local for the botanical industry, and kind of fit the nuances of growing botanicals."

The collaboration faces challenges in data collection, noted Erin Douglas, director of social and environmental responsibility at Banyan Botanicals. "A lot of botanicals are grown in very remote, secluded areas in the world," she said. "Just actually reaching a lot of these places to verify the data is going to be quite challenging. There's going to be language barriers that we're going to have to work through as well."

Despite the challenges, the Scope 3 working group will soon be ready to start mapping emissions for all their herbs. It's a significant milestone, according to Douglas. "I feel like we've made more progress in a year than we have in 10 years."





Tracking and communicating sustainability

It may be obvious by now that each sustainability journey is unique, requiring time, money and commitment to reach a goal like 100% upcycled ingredients, ocean-friendly packaging or net-zero emissions. Many companies struggle to take the first steps.

TOOLS TO MEASURE IMPACT

But like it or not, sustainability is reaching a turning point in which companies must now embrace sustainable business practices or risk being left behind.⁷ A good place for companies to start is by measuring the impact they are already having, no matter how small it might be. Fortunately, there are a number of companies and services that now provide data metrics associated with environmental impacts like carbon footprint, water and energy usage, deforestation risks and animal welfare, and then help companies develop sustainability strategies and gain certifications.

HowGood, for example, is one of these companies specializing in CPG supply chains. With a focus on helping brands make solid sourcing decisions, their database helps brands measure the environmental and social impact of their supply chain.

HowGood can rapidly analyze a product's sustainability impacts once they have the ingredient and sourcing details. "If we put in a product, we'd be able to generate something in a

minute or two; it really doesn't take long to create the report on any particular product," explained Calomeni, who supports growth and innovation at HowGood.

The hard part is often getting the underlying data from a brand about its product recipes and supply chains, Calomeni noted. To overcome this data gap, HowGood leverages its relationships with suppliers to trace ingredients back to their origins. The company refines the analysis using its granular sourcing intelligence, even accounting for certifications and standards that impact environmental footprint, to find areas for further improvement.

Tractor Beverage Company, which supplies organic, clean-label drink flavors to restaurants, partnered with HowGood and Stephanie Bledsoe, DPM, an agronomist and consultant, to develop an Organic Impact Tracker for its beverage line. "When we say that we want to make the world a cleaner, healthier place, one drink at a time, one of our founders actually asked the question, 'Well, how good can one drink be?'" explained Danielle Syrup, manager of impact at Tractor. This question spurred the development of the Organic Impact Tracker, a system Tractor used to hold itself accountable for supporting sustainable farming practices, soil health and clean water.

The company currently tracks five key metrics every year. In 2023, it avoided more than 34 tons

of synthetic pesticides and nearly 730 tons of emissions, while supporting almost 4,000 acres of organic land and soil health. Tractor Beverages also saved about 190,000 gallons of water.

On the supply side, Cargill is one of more than 30 companies on a collaborative effort to build TRACT™, a sustainability performance measurement platform. TRACT offers a central place for insights across numerous sustainability areas — such as carbon, deforestation, biodiversity, labor and human rights — using aligned methodologies and metrics to enable effective data transfer across supply chain partners.

Microphyt is participating in a groundbreaking project to initiate broader sustainable impacts. The company is a key player in the SCALE project, a pioneering initiative aimed at building the world's first fully integrated microalgae biorefinery. Supported by the European Union's Circular Bio-Based Europe Joint Undertaking, SCALE aligns with the U.N. Sustainable Development Goals by "providing industrial-

scale production of environmentally friendly, natural ingredients that will contribute to reducing petrochemical dependency."

SUSTAINABLE STORIES: COMMUNICATING IMPACT

While collaboration is key to pushing forward on sustainability goals, strategies for communicating progress to business and manufacturing stakeholders, as well as consumers, about those initiatives is no less important but can be a challenging undertaking. At times, the effort behind the scenes can be overwhelming and underappreciated, so you want these commitments to be understood and out of the shadows.

Balanko at The Hartman Group said there is a certain amount of fatigue among the company's clients in trying to effectively communicate their sustainability efforts. Companies are "fatiguing in terms of how do we communicate what we're doing? And what matters? What should we communicate?"

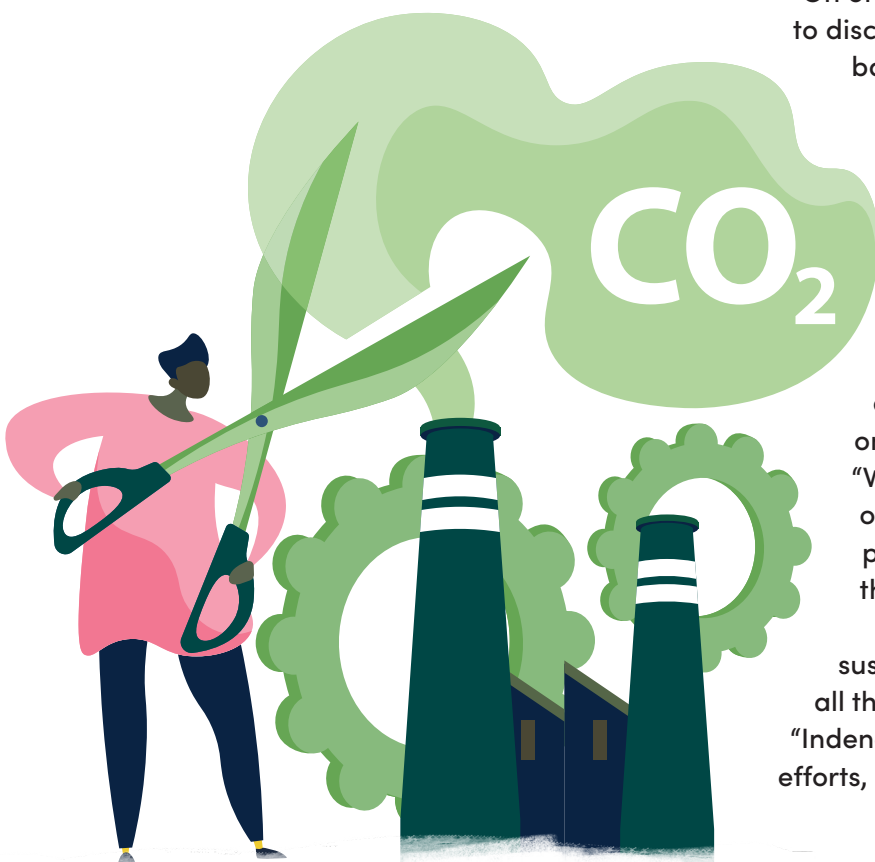
On one hand, many companies feel the need to discuss their efforts but fear potential backlash, she explained. This situation

creates a challenging environment for businesses, which Balanko describes as "almost like a 'darned if you do, darned if you don't'" scenario.

Many still rise to the challenge.

"We are proud of the work we're doing to build more sustainable supply chains, and we share the results of our efforts through our ESG scorecard and on our website," Cargill's Robey said. "We're also in regular communication with our customers, discussing specific product line initiatives that align with their operations and ESG goals."

Starting in 2025, Indena will issue its own sustainability report with detailed figures on all three ESG areas, according to de Rensis. "Indena's approach is to communicate its efforts, always offering specific examples,





The cost of inaction can have lasting effects on brand reputation, so companies clearly need to seize the moment and also take a leap of faith.

statistics and certifications backing up our sustainability claims,” she said.

For example, the company provides full transparency into the eco-friendly journey of its ingredients. For Enovita® grape seed extract, customers can get information on how it addresses over a third of the U.N. Sustainable Development Goals through initiatives like water conservation, renewable energy use, youth employment and gender equality throughout the supply chain. Customers can also track the lifecycle of Mirtoselect® bilberry extract, learning about its zero-waste processing, local community benefits and positive climate impacts.

Banyan Botanicals publishes an Annual Social and Environmental Responsibility Report to hold itself accountable and communicate its progress on different initiatives to its stakeholders and customers.

“We call it our annual accounting to ourselves, because it helps us remember what we’re doing and also keeps us on target to finish our missions,” Douglas said. “The feedback we get from our employees and customers is quite magical.”

A little bit of magic is always good, but the transition to a sustainable economy, as Douglas noted, comes down to companies holding themselves accountable. This can also be seen as a key moment in which there is opportunity to create new models, collaborate competitively and develop new technologies, which in turn supports efficient resource usage, cost optimization and offers new potential for growth in an increasingly competitive market, according to the Deloitte report.⁸ The cost of inaction can have lasting effects on brand reputation, so companies clearly need to seize the moment and also take a leap of faith. ♦

THANK YOU TO OUR PARTNERS



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