

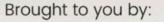




Introduction

The modern notion of sustainability has been bandied about for more than three decades. But the concept is finally achieving rising prominence due to growing urgency around climate change and the spotlight that the global pandemic shined on supply chain gaps and resource usage. If companies were not paying attention to sustainability prior to 2020, they certainly are now.

In this report, Karen Raterman discusses the pandemic's impact in further driving sustainability across the nutraceutical industry, addressing the economic, environmental and people pillars of sustainability: sustainable sourcing across the supply chain, the rise of new models to ensure transparency in value chains, responsible resource usage, supporting communities and looking ahead into the future of sustainable actions.









onsumers are likely to drive sustainability further. Global research firm Innova Market Insights named "Shared Planet" as its top trend for 2022, noting a significant shift among global consumers, who now express more concern for the health of the planet than for their own personal health, and say they want to play a role in shaping a more sustainable and prosperous future. Innova analysts suggest that for brands this means stepping up their sustainability efforts to

address an increasingly educated and interconnect consumer base.

The idea of sustainability is relatively simple. The concept as we know it today was first broadly defined in 1987 as a way for societies to live and meet their needs without compromising the ability of future generations to meet their own needs. More recently, sustainability in the context of business is further explained with three pillars of corporate responsibility—profit, people and



planet. The profit, or economic pillar, ensures a company has the financial resources and profitability to stay in business, while accounting for its social and ecological impacts; the social pillar requires support of the people (employees, stakeholders and communities) a company uses throughout its operations, addressing equity, equality and human rights; and the environmental pillar guides protection and replenishment of the planet's natural resources, maintaining biodiversity and the natural environment.

All these elements are connected and increasingly important in today's global supplement business. Dominik Mattern, VP of marketing for Kappa Biosciences in Oslo,



Norway, explains it this way: "Sustainability is relevant in any business context, as all supply chains start somewhere in nature. The natural capital builds the core of life and provides the success factors for other forms of capital, like the human and social capital. These in return feed on the manufactured and financial capital. Our society and economic system have been built on an irreplaceable capital of nature that man has not made, but simply found. All is intertwined: The health of the planet cannot be separated from the health of humans."

For many nutraceutical companies, sustainability is embedded in their business as a cornerstone to the idea of wellness. "Whether you are concerned about climate

change or biodiversity or any number of other links between personal and planetary wellness, sustainability of our supply chain is paramount to achieving any semblance of deeper wellness," said Greg Cumberford, VP of science and regulatory at UK-based Natures Crops International.



"Sustainability is relevant in any business context, as all supply chains start somewhere in nature.

Dominik Mattern



"We know we cannot promote the health of our customers, and, at the same time, ruin the health of producers and of the environment," said Loan Bensadon, co-CEO and innovation at Baia, in Madrid.
"It's not possible anymore, and
we need to take responsibility
for how we do business."

As economies and governments shift toward greener ecosystems that support communities and regenerate resources, sustainability for supplement companies is now seen as a growing mandate with considerable upside. "Sustainability in business isn't just good for the environment or society at large, it's good for business itself, as it reduces business costs, adds on with more innovative strategies, improves reputation and brings new customers who value sustainability and a greener environment," said Benny Antony, PhD, joint managing director of Arjuna Natural,



headquartered in Kerala, India. Companies that become aware of their links to communities where they operate and their impact on the environment will likely prosper in the long run, agreed Doron Safrai, CEO of Paris-based Solabia-Algatech Nutrition. "Therefore, all manufacturers, including those in the nutritional supplements industry, need to ensure sustainability throughout their entire supply chain if they want to thrive in the future."



The Economic Pillar:

A business reboot



ven with an appealing business opportunity, nutraceutical companies see enormous challenges ahead and now express an increasing exigency about climate change and addressing sustainability.

The urgency is driven by the fact that supply chain disruption due to climate, fire, floods, etc., will affect the ability of companies to get the things they need, said plant-based medicine expert Chris Kilham, founder of Medicine Hunter Inc. He noted that heavy rains in India ruined the ashwagandha crop two years ago, causing higher prices, hardship and disruption. "I think we will see a lot more of this," he said.

The nutraceutical industry is facing direct impacts from



Deep dive Q&A: Is sustainability financially feasible?

climate change at almost every point of its supply chain, noted Rushva Parihar, a sustainability consultant in Mumbai who heads the Improving Lives Foundation, which exemplifies OmniActive's vision to support not just its customers but also those who are making its products.

Until now, Mattern noted, "we've been a take-make-waste industry (grow now, clean up later). Today, we understand that this is no longer a viable strategy going forward as, in the long context, we are eating ourselves alive."

Underscoring these concerns, the International Alliance of Dietary Food Supplement
Associations recently issued
guiding principles on
sustainability for the
supplement sector, noting that
a shift toward more sustainable
systems in the space cannot
take place without the
involvement of a majority of the
sector.

Many industry thought-leaders agree and believe that achieving true sustainability will take a transformation of a business model built on high growth and low price. "We live on a planet with finite resources. Endless growth is not possible. Everyone is now called upon to pay attention to sustainability in their own area," said Dr. Andreas Biller, consultant and interim manager of Dr. Biller Biosulting and Pharma in Hamburg, Germany.



6 Ps for a regenerative business model

We need to rethink the way we do business, Bensadon said, adding, "It's time to acknowledge that we have gone too far in the name of profit and that, in our path to exponential growth, we lost our purpose, and now is the time to reclaim it. Our purpose is to accompany people in their path to wellbeing to help them live a fuller life."

For Kilham it boils down to one identifiable thing. "The market is at a poverty wage," he said. "We know that poverty means that environmental concerns cannot be dealt with. In a sustainable system, every part of the system survives and thrives, and that's not what we have going on." Kilham believes the answer is equally simple: "Companies simply need to pay more for their raw materials."

He cited kava as a case in point. In 1995, he said, kava was selling for \$6 a kilo of dry powder, which might take a grower 10 years to tend and harvest. "Now thanks to market demand they are getting \$40 per kilo. The difference is these communities now have thriving schools, better nutrition, and more access to medicine All of that came about just because, over time, we were able to drive a

higher price for kava. And that's great, when you consider at the end of the supply chain it doesn't mean supplements are particularly expensive."



Sustainable sourcing



While there are nutraceutical companies pushing the envelope with new models and innovative initiatives, the fact remains that for most companies sustainability starts small, and there are no onesize-fits-all solutions. A good starting point is an audit or risk assessment to identify problems and establish priorities. "We do an audit of a company to tell them 'Here are your challenges and concerns,' so they can work on priorities based on their business strategies," said Parihar.

For many companies, this begins with an evaluation of their supply chain, which crosses all the pillars of sustainability. For example, procuring raw material in a way that yields harvest after harvest involves plant breeding, healthy

farming, relationships with farmers, processing and composting that ultimately produces quality products that consumers want. "At Arjuna, responsible sourcing reflects the commitment to source all of our raw materials in a transparent, sustainable and



Podcast





Traceability enables companies to meet and balance business objectives, including efficiency, resilience, responsiveness, and sustainability."

Eva Criado



ethical way," Antony said. "This also means minimizing fossil fuel use and replacing artificial ingredients with natural alternatives, such as green solvents, natural ingredients and enzymes."

That said, it is often not enough just to source ingredients responsibly. Today, sustainability also requires complete transparency, which adds layers of difficulty. "Traceability adds a new element of complexity: the need to collaborate closely with a

large ecosystem of value chain partners," said Eva Criado, communications manager for Madrid-based Pharmactive.
"We warranty complete traceability with locally grown ingredients from fields to manufacturing facility, allowing savings. In addition, traceability enables companies to meet and balance business objectives, including efficiency, resilience, responsiveness, and sustainability."





The push for traceability and to solve problems around sourcing and resource usage is also prompting development of more inherently sustainable models. "In nature, everything is connected, and we should learn from such principles," Mattern said. "This means much more cross-sector collaboration is needed. What is waste for one company may be input for another business. We must encourage this cross-talk building alliances and redefining ... competition. Think of it as 'coopetition.' Together we can achieve more than alone."

Still, full traceability of the value chain is challenging.
"Companies with a big portfolio of products such as extracts, blends, etc., source their raw materials from a wide range of

suppliers, and assessing the methods used in the production of all those resources will be time consuming and costly," Bensadon noted "New technologies will have to be implemented and full transparency will have to become the norm between stakeholders in supply chains. The good news is that this new way of managing a supply chain will generate a lot of information and data that could be used as a marketing tool, and new sustainability claims could be linked to certain ingredients, apart from the traditional organic and fair trade, such as 0 emissions, carbon negative, carbon neutral, etc."

To achieve positive impacts and manage sustainability efforts, it is important for

companies to have access to actionable data about ingredient supply, noted Nova Sayers, VP of growth and innovation for HowGood, a New York City research firm that manages a sustainability database. "We know that getting data from a many layered supply system can be challenging for many reasons and is usually very time consuming and costly -- plus that data usually gets put into spreadsheets and goes out of date very quickly," she said. "Supply data needs to be dynamic and actionable so that companies can identify hotspots and prioritize where to focus and engage the right suppliers to maximize positive impact."

Out-of-the-box thinking is also critical. Duplaco, for example,



Better health and nutrition through public-private engagement

believes that farming should be reinvented, with biotech offering a key to nutraceutical cultivation using minimal resources. The industry also needs more local supply chains, added Marieke Smidt, commercial director for the Dutch-based algae producer. "We therefore currently focus on

the European market and over time aim to set up microalgae cultivation facilities in each continent or sell nutraceuticals with a minimum use of land, water and energy, hence without disturbing nature." Next steps, she added, will be to look into the possibilities to use waste streams as feed for the microalgae as well as to residual flows.

Developing new supply chains from neglected and underutilized crops is another emerging option. Baia created a sustainable supply chain for a novel food ingredient from the West African plant miracle berry. Starting a supply chain from scratch has its advantages, Bensadon explained. "It's easier to design sustainable businesses from the outset than try to mend and



change unsustainable practices in big corporations. When we addressed the challenge of how to cultivate sustainable miracle berries, we decided that the new farms should not be established as a monoculture, and we assessed the crops that could be cultivated together, adding more biodiversity to the farm." The company used plants that fix nitrogen in the soil to avoid depletion and shade trees to protect young plants from solar exposure.

Sometimes sustainability also requires a hard look at a supply chain to understand when new ingredients may be a more sustainable choice. Natures Crops' Cumberford suggested that the omega-3 nutrition space is reaching that point. "Ninety percent of omega nutrition is supplied from marine sources or wild harvested from marine sources and taking primary forage fish species out of their eco-system for the purpose of creating omega-3

oils." This essentially competes with marine mammals, other marine fish and bird life, which is creating real sustainability issues, Cumberford commented. Natures Crops believes that a regenerative omega solution from ahiflower can be part of the solution. Ahiflower is a farmed crop at the leading edge of soil regeneration, pollinator regeneration, and biodiversity protocols. "I can't think of a supplement nutrition category that is more impactful on sustainability outcomes," Cumberford added. "It is very timely and important that consumers and healthcare practitioners understand the role of their daily choices and the recommendations they make in this big \$5.2 billion supplement segment."





The Environmental Pillar:

Responsible resource usage

The use of energy and other resources like water to produce nutraceutical products is another growing challenge, which often demands new solutions and contingencies for the unexpected.

"In a lot of the places we work, water is a huge challenge and becoming one of the most precious assets we have," noted Parihar. "We are working with farmers closely to help them save water and use less in the growing process."

Water usage is a big challenge in microalgae production, but there are solutions, noted Solabia-Algatech's Safrai. "We cultivate microalgae in the middle of the dessert, without access to quality water. Using drinking water for cultivation is not an option for us and we



cannot utilize effluent water.

Due to this, we have chosen to
pump salt water and desalinate
it."

Water shortages are not the only issue. In India, "we are one bad monsoon away from losing a harvest," Parihar said. "So we have looked at how we can mitigate that risk and protect our supply chain, farmers and

the crops they grow." If farmers can't sell their crops, they can't stay in business. So OmniActive has developed a fixed price that they give to farmers regardless of what happens, Parihar explained.

Understanding carbon emissions and energy use is also important. "Our manufacturing process is fully sustainable, relying on solar power and a comprehensive water recycling platform," Sofrai said. "The microalgae cultivation displaces no crops, utilizes carbon dioxide, and creates only oxygen as waste."

These efforts can also be ingredient specific. Nexira developed a carbon neutral footprint for its inavea, range of natural, organic ingredients. To meet this challenge, the company installed a new spray-dried tower, which allowed for the improvement of energy performance and electric consumption, noted Julie Imperato, communications manager for the company, in Rouen, France.

Arjuna is another supplier that analyzed its energy usage. After extensive analysis, the company realized that its
Karumathampatti Coimbatore
manufacturing facility could
facilitate a more cost-effective
way to power its manufacturing
line by using solar energy given
that direct sunlight is in
abundance, Antony noted.
Arjuna stands as the first
company in the world to
produce turmeric extract,
powered completely by solar
energy, he stated, explaining
that solar panel system powers
438000 kWh of annual energy

and saves 1000 liters of diesel every day.

Biller Biosulting took its energy evaluation down to the lightbulbs. The company worked with a regional energy supplier to replace lightbulbs, insulate buildings and install a combined heat and power unit as well as two photovoltaic systems, which convert the sun's radiation into usable electricity.

Reevaluation of current production technology is another area of potential. In building a new factory, Pharmactive took the opportunity to design special machinery that would be more sustainable and respectful to the planet, Criado said. The result was a patented, natural proprietary extraction process, called AFF-ON Cool-Tech™, which maintains peak freshness, purity and potency of its botanicals. (The company later

developed ABG Cool-Tech for Aged Black Garlic.) The clean and green technology is gentle on the planet and safeguards the potent bioactive compounds. It does not use harmful solvents, synthetics or additives and is an entirely ecofriendly technique that requires minimal industrial processing and generates shallow waste.







Nutraceutical companies have also explored many new options for creating sustainable programs that address needs of people both inside their operations and in the communities where they source ingredients. OmniActive, for example, developed the Improving Lives Foundation, a program committed to fostering change not only for customers and consumers but also communities where its products are sourced. The program focuses on critical issues in rural communities, such as nutrition-related issues, and supports gender equality, improving sanitation and access to clean water.

But many companies have also come to realize that sustainability demands a top-



to-bottom philosophy, which includes a well-informed and engaged workforce. Kappa Bioscience, for example, established the Ecologi program to develop a climate positive workforce. "Every one of our staff members became climate positive," said Mattern, noting that Kappa offsets the entire carbon footprint of its staff including emissions from business and personal travel, holidays, food, and hobbies. "We

are doing this by planting groves of trees in our company's forests and financing carbon-reduction projects worldwide through Ecologi."

Companies are also pushing boundaries in these areas with certifications that help them move along the sustainability continuum. The B Corp certification, for example, provides an annual assessment

of a company's value chain and operations to improve both internal business procedures and stakeholder relationships. "Being part of this movement means balancing both the social and economic purpose of the company, maintaining rigorous control and striving for continuous improvement," Bensadon explained, noting Baia recently received its B Corp certification.

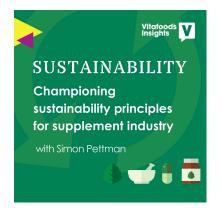
The standard, he added, helps prove that the company is moving forward on things like waste management, energy consumption, and corporate governance within the company. Above all, he added, it establishes a company culture to help employees "feel like part of something that is a living ecosystem."





While very little about the future of our climate looks certain, it is evident that the coming decade will be critical, making sustainability initiatives that much more important.

Demonstrating impact and communicating those results downstream will be crucial and also may need new approaches.



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There remains a concerning lack of consumer recognition of sustainable initiatives in the supplement space, according to Cumberford. "I think that a lot of customers don't recognize that their choices may be influencing less sustainable outcomes simply because they aren't applying to supplements the same considerations they might make in foods."

New label regulations may help bridge this gap. "In Europe, environmental labeling will be mandatory in 2022," noted Imperato. "So if a company does nothing, they will have a non-attractive label, being noted with a low environmental score. No doubt, consumers will make their choice."

Mattern agrees that the power of marketing and brands can

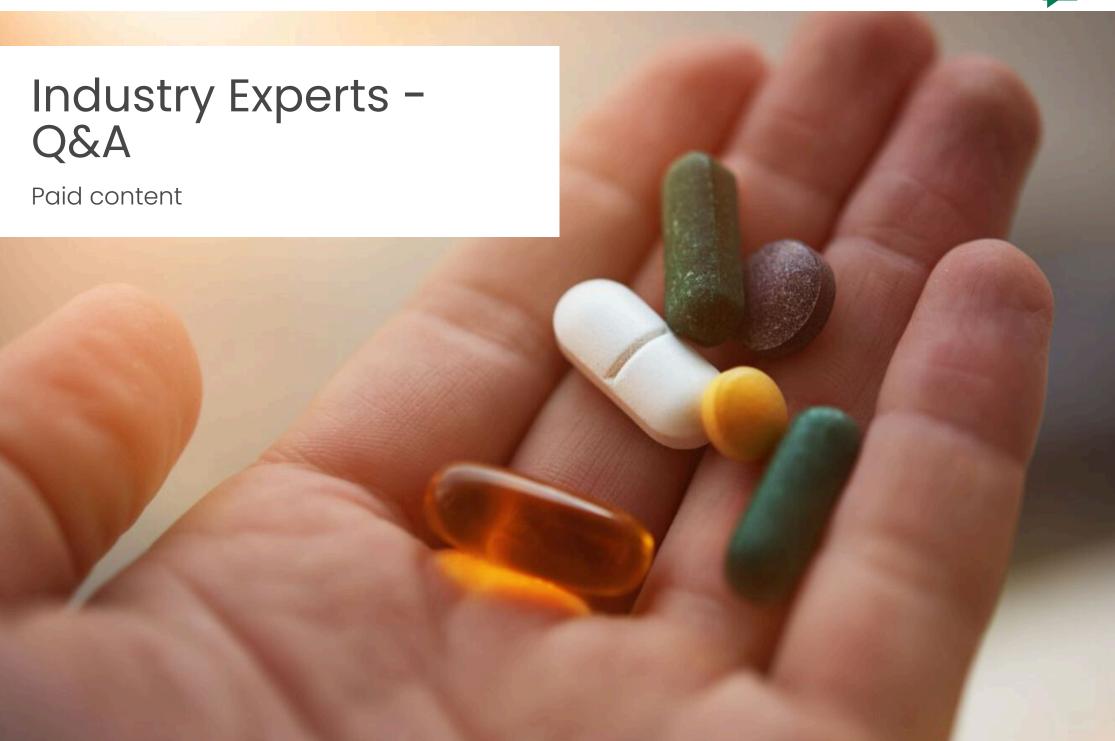


be used to nudge customers toward more sustainable products and services. In a recent blog post about marketing in the 21st Century, he suggested cause marketing will evolve toward more purposeful campaigns centered on sustainability, and that these campaigns work when a

"product's benefit and the brand idea are credible and authentic."

That doesn't mean, he added, that companies can become "green" overnight. "There is no shortcut," he wrote. "Being sustainable means rolling up the sleeves and doing the work."









A&P

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Visit us: www.wincloveprobiotics.com

What does 'sustainability' mean to your company, and how do you bring that to life?

By nature, Winclove Probiotics, pursues a strong socially oriented policy aimed at helping people. Not only in making probiotic formulations, but also in our behavior; ensuring internal diversity, establishing social initiatives in North

Amsterdam, investing in foreign projects where help is needed, and striving to minimize ecological footprint. For us at Winclove we see this all as aspects of sustainability and since these aspects are very important for us we wanted to bring this even more to life by becoming a B Corp Certified company in 2020. 'B Corp' stands for Benefit Corporation, and only companies that are visibly and consistently committed to social causes and the protection of our planet are eligible for the B Corp label. Based on their core beliefs, Winclove as a B Corp company strives for a healthy society, a healthy economy, and a healthy planet. With the ultimate objective; "Using business as a force for good.

What is unique about your company's sustainability story?

As a B Corp company, we are part of a business community that stands for balancing profit with people and planet, which is of high importance to us. By harnessing the power of business, B Corp uses profit and growth as a means to larger goals, such as a sustainable economy and enhanced inclusiveness.

Maarten: "B Corp calls us out to turn our good intentions into concrete actions.
What really matters is behavior. I believe that companies must aspire to serve as an example in this and to motivate and inspire others."

Could you offer an example of how your company aligns with the concept of the three pillars of sustainability: economic, environmental and social?

B Corp-certified companies voluntarily pursue the highest standards in terms of social and ecological impact, act responsibly, and operate transparently.

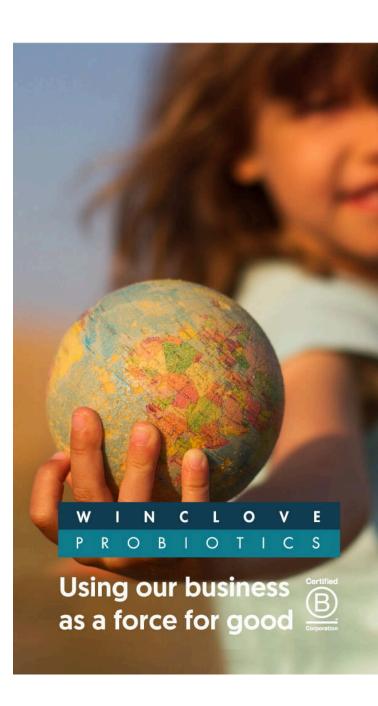


They are aware of how their actions affect society and use their business power to do right by the world. With every decision they make, they take into account the impact on their employees, customers, suppliers, society, and the environment.

Being B Corp means way more than just recycling plastics. Although obvious things like using plastic-free tea bags mean a lot for our planet, B Corp makes you think a step further. For instance, we are aware that our own product packaging is a burden on the environment. Therefore, we are intensifying the partnership with our suppliers about more environmentally friendly packaging. We aim to be completely CO2 neutral by 2030. This didn't only make us switch from energy supplier, but also involves taking a critical look at transport.

Why should brands choose to do business with suppliers that are committed to sustainability?

Our B Corp certificate assures our business partners that we, as a company, are an ethical stakeholder. Achieving the B Corp certification fits the spirit of the times. Maarten: "I believe that consumers, end users, and society are more often forming an opinion on the ethics and the purposes of products. How can we as an industry take our ultimate responsibility in this? It's very easy; after all, there are enough companies making tens of billions in profits. If these companies don't just think in terms of profit, but they take their responsibility, then the world can start to look very different. We at Winclove Probiotics are making our contribution in this, and with our behavior we hope to inspire our own stakeholders so that ultimately we create an economic system where we all think about the world around us."







Biographies

Our expert contributors

Benny Antony, PhD, joint managing director, Arjuna Natural

Benny Antony, PhD, is the co-founder of Arjuna Natural Pvt Ltd, where he currently serves as joint managing director. Dr Antony has more than 80 granted international patents and has applied for over 50 international patents on other products and processes. For his significant contributions in the extraction industry, he received the Innovator award from the Spices Board of India, and was nominated as a member of the organisation's Technical Committee. He holds a doctorate from Maharaja's College.

Loan Bensadon, co-founder, Baia Food

After receiving his Baccalaureate from the Lycée Français, Loan Bensadon was admitted to the School of Pharmacy at the Universidad Complutense in Madrid, where he acquired a broad knowledge of natural sciences. He graduated in 2012 with R&D training from Utrecht University. Shortly after, he co-founded Medicinal Gardens with his schoolmate, Guillermo Milans del Bosch, a graduate in law and business administration. They created a functional food start-up: Baïa Food.

Andreas Biller, PhD, consultant, and interim manager of Dr. Biller Biosulting & Pharma

For more than 20 years, Andreas Biller, PhD, served as the managing director of Dr.Loges, developing outstanding formulations and products, and helping bring those to the global market. He currently serves as a consultant and interim manager of Dr. Biller Biosulting & Pharma.

Eva Criado Clemente, communications manager, Pharmactive Biotech Products

Eva Criado Clemente is an experienced marketing professional with a demonstrated history of working in the health, wellness, and fitness industry. She is skilled in communications, brand building, consumer products, advertising, social media, and more. Criado Clemente has a bachelor's from Florida International University, a master's from Universidad Complutense de Madrid, and studied business administration at Kingston University.

Greg Cumberford, vice president science and regulatory, Natures Crops International

Greg Cumberford is vice president science and regulatory with Natures Crops International. He has a 30-plus year career in co-evolved botanical natural wellness products research,

innovation, and commercial development.

Julie Imperato, global marketing communications manager, Nexira

Julie Imperato, global marketing communications manager at Nexira, brings 10 years of experience in project management, sales, strategic and operational marketing to the table, with an emphasis on communication and promotion, and new product development. She is passionate about international projects, and works in B2B2C marketing, supporting the development of Nexira's global growth.

Chris Kilham, founder, Medicine Hunter Inc.

Chris Kilham is a teacher, author, medicine hunter, educator, and world traveler. He has conducted medicinal research across five continents and in the South Pacific. He has authored many articles and 14 books. Through Medicine Hunter Inc., he travels to locate native medicinal plants and to set up cultivation methods and fair systems of trade with indigenous people.

Dominik Mattern, vice president marketing, Kappa Bioscience

Dominik Mattern is a leader with 20 years of progressive experience in the nutraceutical industry and is spearheading marketing at Kappa Bioscience. He is known for his pioneering approach to commercial models and product innovation. Passionate for business ethics and sustainability, he is a staunch supporter of the triple bottom line: people-planet-profit. Before Kappa, he worked for international companies including SwissCaps, Capsugel, and Lonza.

Rushva Parihar, head, Improving Lives Foundation

Rushva Parihar is a sustainability consultant, currently serving as the head of the Improving Lives
Foundation, founded by OmniActive
Health Technologies. OmniActive's
Improving Lives Foundation is committed to fostering positive change to the communities, customers, and consumers impacted by the company's products and practices.

Doron Safrai, CEO, Solabia-Algatech Nutrition

Doron Safrai is the CEO of Solabia-Algatech Nutrition. He has a 20-year background in management, sales, marketing, and business development roles with diverse B2B and B2C companies including Tambour, Keter and SodaStream. Before joining Solabia-Algatech, he was the executive vice president of global marketing and sales for the Galam Group.

Nova Sayers, VP of growth and innovation, HowGood

Nova Sayers works to enable retailers, restaurants, brands, and their suppliers to achieve better impacts—while empowering consumers to purchase for good. In her current role as VP of growth and innovation for HowGood, she helps clients measure, improve, and communicate their product and ingredient impact using the world's largest product sustainability database and software platform. She has consulted with large and small CGP companies to promote responsible business and regenerative supply.

Marieke Smidt, commercial director, Duplaco

Marieke Smidt, commercial director at Duplaco, has served in myriad roles with B2B and B2C organisations including DSM, Reverdia (a joint venture between Royal DSM and Roquette), SoFine Foods, and SOUR. She is an international business development manager with a focus on new and innovative business. An independent team player, she is innovative and dedicated to delivering excellence.



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Sustainability Report 2021

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