



The Visionary CEO's Guide to Sustainability 2024

How leaders can meet the moment
with pragmatism

Acknowledgments

For their contributions to this report, the leadership team of Bain & Company's Global Sustainability & Responsibility practice would like to thank the following people: Yelena Ageyeva-Furman, Derek Baraldi, Jeff Bauter Engel, Joel Benzimra, Hannah Bingley, Morgan Booher, Bob Brinckman, Anne-Elise Brouillard, Jan Budde, Nanette Byrnes, Julian Critchlow, Prashant Das, Jenny Davis-Peccoud, David Diamond, Juan Diego Gavidia, Amalie Dualeh, Katherine Duceman, Gail Edmondson, Robert Ferguson, Giulia Gallo, Nidhi Garg, Sheena Garg, Mael Gourlaouen, Christian Graf, Ellyn Gray, Chris Griffith, Johnny Hanson, Molly Hart, Annabell Marlen Hillenbrand, Lutchia Jakmakian, Matthieu Jonard, Paul Judge, Andrew Kahn, Juan Kaiser, Niels Koggersbol, Sune Kok, Emily Leinbach, Chloé Marchal, Lorenza Montedoro, Martha Moreau, Rupert Ottinger, Tracy Parker, Tanja Pick, Andrew Pontti, Abhijit Prabhu, Louis Roger, Aya Sakaguchi, Manya Sodhani, Tania Strauss, Holly Sullivan, Tiiram Sunderland, Himadri Suri, Joe Tan, Tarah Walker, Katie Ware, Melanie Zook, and the Editorial team.

This work is based on secondary market research, analysis of financial information available or provided to Bain & Company, and a range of interviews with industry participants. Bain & Company has not independently verified any such information provided or available to Bain and makes no representation or warranty, express or implied, that such information is accurate or complete. Projected market and financial information, analyses, and conclusions contained herein are based on the information described above and on Bain & Company's judgment, and should not be construed as definitive forecasts or guarantees of future performance or results. The information and analysis herein does not constitute advice of any kind, is not intended to be used for investment purposes, and neither Bain & Company nor any of its subsidiaries or their respective officers, directors, shareholders, employees, or agents accept any responsibility or liability with respect to the use of or reliance on any information or analysis contained in this document. This work is copyright Bain & Company and may not be published, transmitted, broadcast, copied, reproduced, or reprinted in whole or in part without the explicit written permission of Bain & Company.

Contents

Meeting the Moment with Pragmatism	2
2024 Trends	5
From Sustainability Commitments to Impact: Four Pragmatic Questions for Visionary CEOs	6
The Sustainability Puzzle: What Do Consumers Really Want?	13
How to Master the Art of Selling Sustainability	22
Getting It Done	29
How CEOs Can Turn Decarbonization Setbacks into Progress	30
AI and Sustainability: The Power of Integration	36
Olam Food Ingredients: Pioneering a New Financial Model for Sustainability	42
Transitions	47
Winning in the Energy Transition, One Step at a Time	48
All Together Now: Partnerships Are Key to Circularity	54
Faster by Design: New Models for Financing the Food Transition	60

Meeting the Moment with Pragmatism

For sustainability, 2023 was the year boundless excitement gave way to pragmatic realism. As the challenge of meeting bold commitments became clear, many companies started to rethink what is achievable and on what timeline.

Building a sustainable business remains a strategic imperative. Customers, consumers, and regulators are demanding it. Risk and competition will compel it. Transitions in energy, food, and other sectors are well underway. Sooner than expected, a mix of new technologies, consumer and customer behavior, and smart policy will create valuable opportunities for the most forward-thinking companies across industries.

In this report, Bain experts with diverse perspectives and industry experience offer new research, market intelligence, and insights to help navigate current trends and transitions while planning for the coming year and beyond.



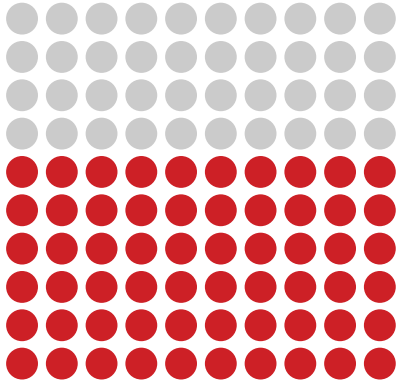
Jean-Charles van den Branden

Leader of Bain's Global Sustainability practice

The Visionary CEO's Guide to Sustainability 2024

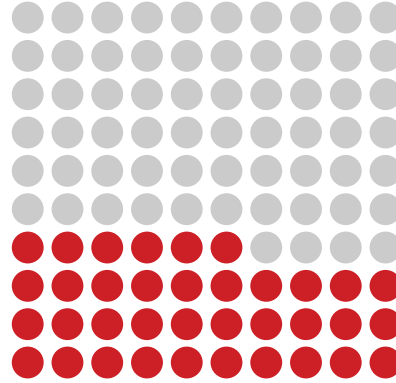
Customers are pressuring businesses to uphold sustainability commitments

US consumers are willing to pay a premium for sustainability



60%

of consumers' climate change concerns have increased over the past two years



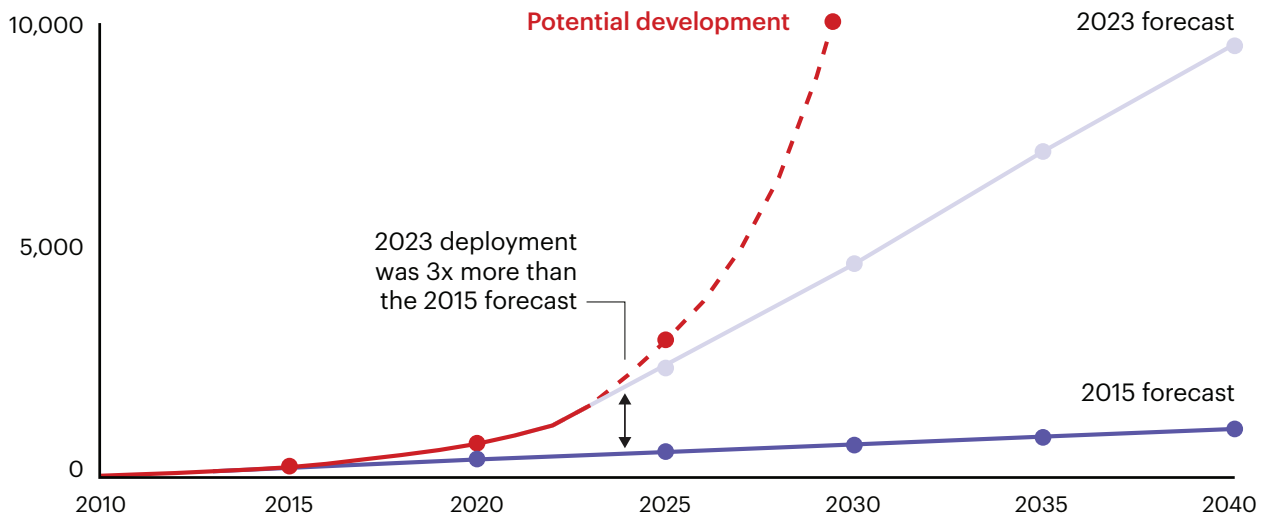
36%

of B2B customers would change suppliers today if their sustainability needs aren't met

Source: Bain & Company

Sustainability technology development has outpaced forecasts

Global solar electrical capacity (in gigawatts)



Source: Bain & Company



2024 Trends

From Sustainability Commitments to Impact:
Four Pragmatic Questions for Visionary CEOs6
The Sustainability Puzzle: What Do Consumers Really Want? 13
How to Master the Art of Selling Sustainability.....22



2024 Trends

From Sustainability Commitments to Impact: Four Pragmatic Questions for Visionary CEOs

Amid competing priorities, CEOs and consumers still say sustainability matters. By acting now, companies can set the stage for profitable growth.

By Jean-Charles van den Branden, François Faelli, John Blasberg, and Karan Singh

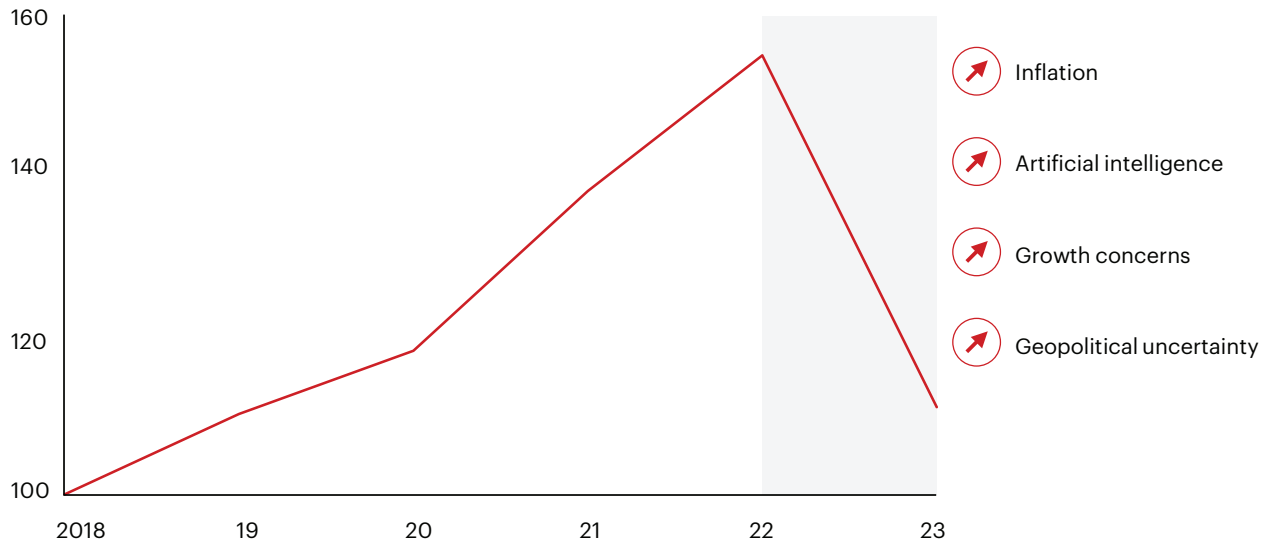
At a Glance

- ▶ Inflation, AI, and geopolitics are in the spotlight, but Bain research shows that CEOs and consumers still value sustainability.
- ▶ Sooner than expected, a mix of new technologies, consumer behavior, and smart policy will create opportunities.
- ▶ Asking and answering four questions can help CEOs set the right ambition and identify a practical, effective path forward.

If 2021 and 2022 were years of near boundless excitement, bold commitments, and mobilization, the past 12 months brought a hefty dose of reality about sustainability as CEOs juggle an increasing number of sweeping, systemic challenges. Global surveys reveal a sharp decline in CEOs' prioritization of sustainability relative to other topics. Disruptive technology, growth, inflation, and geopolitical uncertainty have taken the top spots on their agendas (see *Figure 1*).

Figure 1: CEOs' prioritization of sustainability has declined sharply

Importance of sustainability according to CEOs, indexed to 2018



Note: Based on separate CEO surveys
Sources: IBM; Gartner; PwC; KPMG; Bain analysis

Even as these other concerns rise, Bain & Company research shows that sustainability remains important to executives and consumers. Of nearly 19,000 consumers surveyed, roughly 60% are more concerned about climate change than they were two years ago, often due to personal experience of extreme weather. Among B2B buyers, 36% say they would leave a supplier that didn't meet their sustainability expectations.

They are right to care. A temperature increase of 2 degrees Celsius would have devastating consequences not only for mankind, nature, and biodiversity, but for the economy as well. The International Monetary Fund estimates that the cost of capital could rise by more than 1%. That alone could cut \$6 trillion from the value of the S&P 500.

Sustainability still matters, but companies are struggling to meet their existing commitments. Of the companies disclosing their progress via CDP, 30% are well behind on their Scope 1 and 2 emissions reduction goals, and almost half are behind on Scope 3. Many companies are reassessing, adjusting, and, in some cases, retracting their climate commitments. Some are simply missing the mark. In March 2024, 29% of companies in the Science Based Targets initiative's Business Ambition for 1.5C campaign were removed for noncompliance.

This is unfolding against a backdrop of heightened regulatory demands, as policymakers increasingly require public companies to disclose material mitigation activities and sustainability targets.

Noncompliance risks penalties and reputational harm—both to companies and to their leaders individually—pressuring executives to either double down or step back.

A familiar cycle

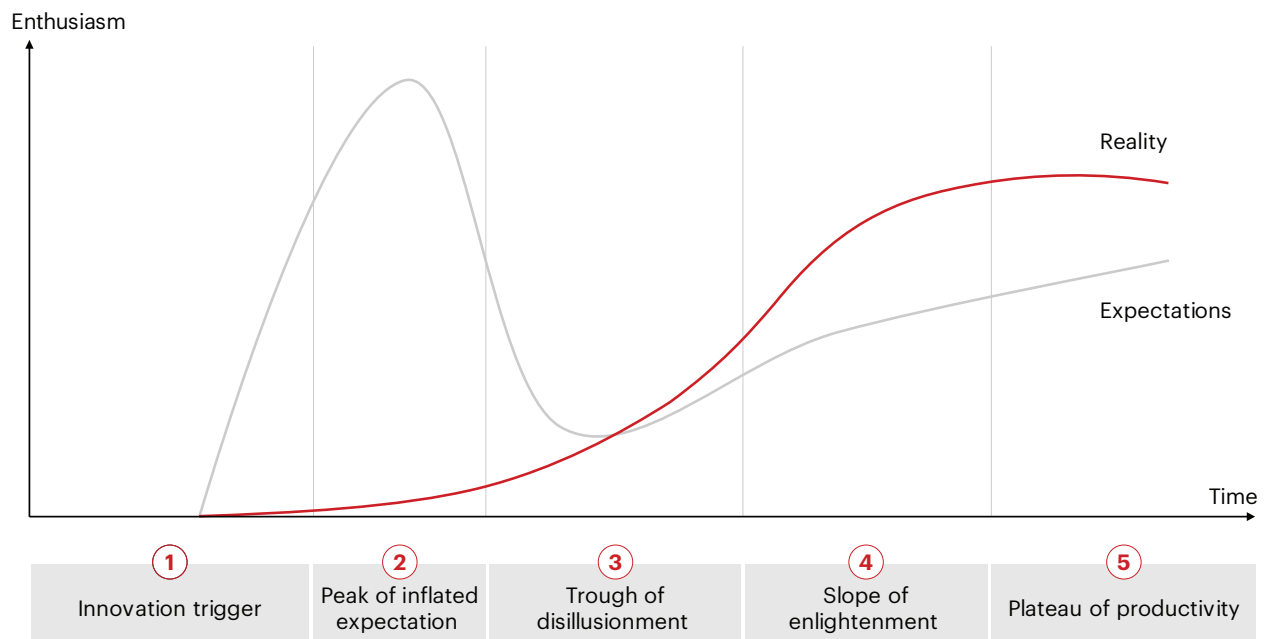
The transition to a more sustainable world is following a familiar cycle (see Figure 2). These cycles of transformation typically start with a trigger—a technological breakthrough, a sudden societal change, or a regulatory impulse.

A “hype” phase of excitement, hope, and frenzied activity follows this trigger, with behavior often accelerated by generous policy incentives. When sky-high expectations are not quickly met, or governments pull back prematurely, sentiment falls into the “trough of disillusionment,” a realization that the transformation will not be as quick or as easy as expected. At this point, it’s common for stakeholders to rethink their approach.

Many sustainability efforts are currently in this trough.

The shape and pace of this curve are influenced by the interplay of three forces discussed in last year’s CEO guide to sustainability: technology, consumer/customer behavior, and policy. As technology

Figure 2: An illustrative view of common transformation cycles



Sources: Gartner; Bain analysis

advances, companies improve efficiency and lower costs. As costs decline, adoption by customers and consumers picks up, growth accelerates, and a tipping point is reached. Before that critical threshold, government policies such as subsidies and regulation can provide a bridge of support as companies build knowledge and experience.

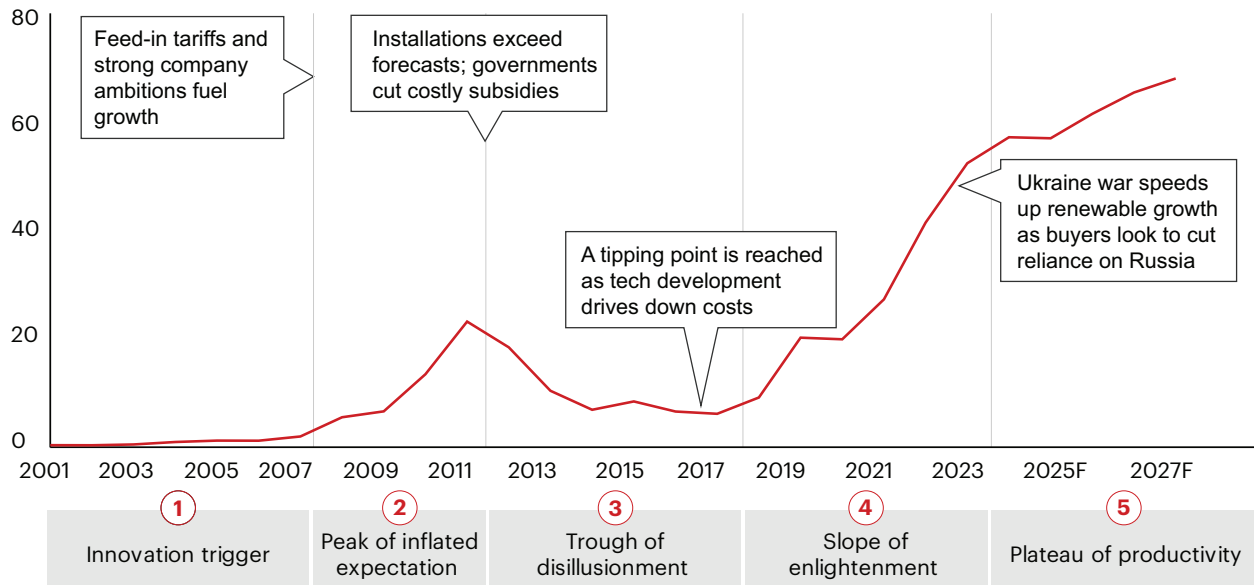
The history of the electric vehicle industry in Germany and Norway illustrates how policy can shape this trajectory. As EV manufacturers have moved along the technology experience curve over the last six years, battery costs have dropped by one-third and are projected to fall another 25% by 2030.

Through its policies, Norway has steadily supported EVs and consumer adoption. As a result, sales there have continued to grow. In Germany, by contrast, direct subsidies for EV purchases were significantly reduced at the beginning of 2023 and cut altogether at the end of the year. EV sales promptly dropped and remain below 2023 levels. Germany's government cut support too early, before the cost of technology could reach the point at which the market would be self-sustaining.

This dynamic takes time to play out. CEOs should take a long-term view and not overreact to short-term trends. The trajectories of early sustainable technologies like solar are instructive (see Figure 3). Pushed by technological breakthroughs and government subsidies, Europe's solar industry grew

Figure 3: Solar energy has followed a common transformation cycle

Solar energy capacity addition per year in Europe (in gigawatts)



Sources: IRENA (2023); IEA Main Case scenario 2024-28

dramatically from 2000 to 2011. Then, as governments cut subsidies faster than the cost benefits from technological breakthroughs could be realized, the market cooled significantly. But by 2017, solar had reached its tipping point. Panel producers had enough experience and costs had declined to the point where mainstream consumers and energy companies were buying.

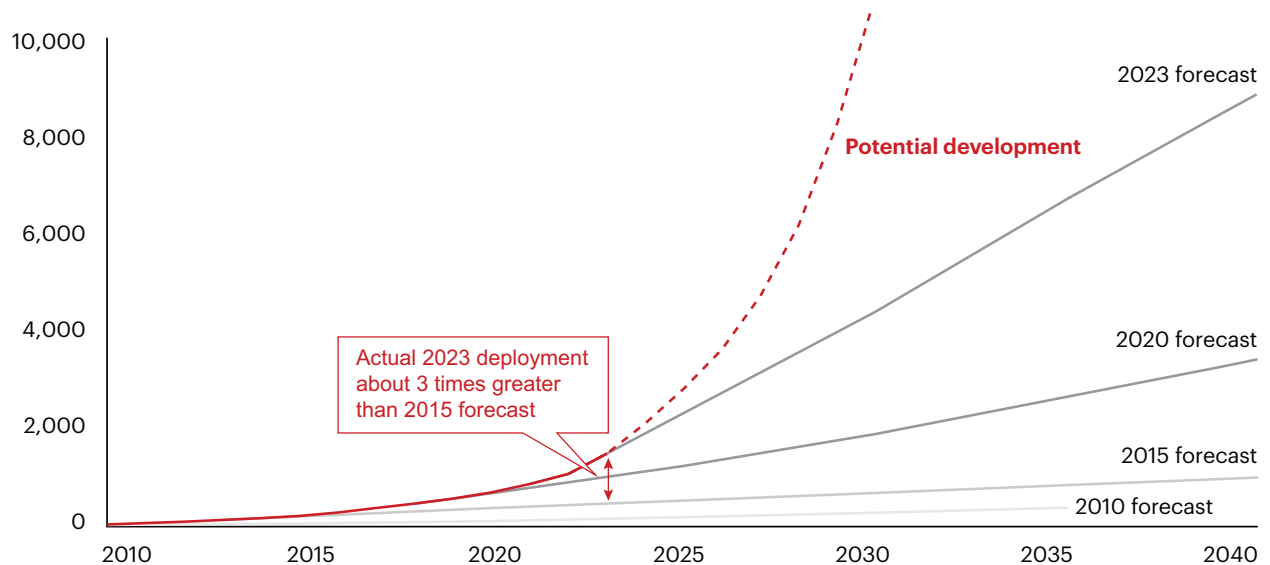
Companies and CEOs that stayed the course put themselves in position to benefit from the now-clear business case for solar. Today, installations are booming across Europe and much of the world.

As cost and adoption continue their dynamic interaction, many sustainable technologies are likely to reach their tipping point more quickly than expected. Forecasts for the development of solar and wind capacity, for example, have consistently underestimated market growth. Actual 2023 solar capacity was more than three times 2015 forecasts (see Figure 4). If this underforecasting continues, deployment may be even quicker than currently expected.

As business leaders navigate these challenges, visionary pragmatism is needed more than ever. Based on conversations and work with hundreds of companies and executives, we have identified four key questions that will help leaders in any industry or location set their ambition and begin to chart the path ahead.

Figure 4: Forecasts consistently underestimate the speed of renewables' development

Global solar electrical capacity (in gigawatts)



Notes: IEA forecasts for 2010–18 based on the New Policies scenario and for 2019–23 based on the Stated Policies scenario; potential development forecast based on previous years' underestimation
Sources: IEA World Energy Outlook 2006–23; Bain analysis

1. How will global sustainability transitions shape the future business landscape?

Dramatic shifts are underway in our energy supply, our global food system, the financing of sustainability, and materials supply and consumption. These transitions bring risks and opportunities that will play out over horizons far beyond the typical two- to three-year planning period. There will be new profit pools, supply chain disruptions, and scarcity. Political and technological developments, such as AI's huge energy demand, will create disruption.

To prepare, companies must first envision the future and develop scenarios and future-back strategies that ensure they are ready to make the right choices. This may include quickly securing a reliable supply of raw material, making foundational investments in sustainability, or evaluating the vulnerabilities of a fixed asset base.

One example: In response to increasing regulation and decarbonization targets for high-carbon-emitting steel production, steel companies are building green steel production in phases. They are gradually replacing existing blast furnaces with hydrogen-based direct reduction and green-electricity-powered arc furnaces, thereby developing technological and sustainable selling expertise while protecting their license to operate as regulation accelerates.

2. What are our critical priorities, and how fast must we move?

Moving from ambitious commitments to practical delivery is hard. Focus on truly material topics—those that are critical for the business and where it is possible to make meaningful change—is essential. Some companies are rethinking and restating sustainability targets, and more are asking tough questions. It will be important to stay focused on sustainability and prepare to accelerate in order to gain competitive advantage as scenarios change.

Moving from ambitious commitments to practical delivery is hard. Focus on truly material topics—those that are critical for the business and where it is possible to make meaningful change—is essential.

One example: a hypothetical machinery company. One of the first to set ambitious environmental, social, and governance targets, the company realizes it is spread too thin and that some of its commitments are not directly tied to competitive advantage or business value. Others have had limited impact. The company refocuses on a smaller number of meaningful changes, setting ambitious

Scope 1 and 2 and upstream Scope 3 decarbonization goals. The company also zeroes in on one additional area that matters most to it and its customers: circularity.

3. How can we build a business case for sustainability?

High costs and uncertain return on investment are the two impediments to developing sustainability programs most frequently mentioned by executives. To build a business case for sustainability, focus on multiple aspects: cost reduction from more efficient raw materials and energy consumption, commercial opportunities such as new customers, price premiums, and avoiding downside risks. Implementing changes with positive ROI first, companies can gain the momentum needed to tackle more complex ones.

One example: In the chemical industry, companies will need to make substantial capital investments in decarbonization. To offset these costs, one company is exploring commercial opportunities in sustainable plastics such as low-carbon-intensity polyethylene. It has identified several suitable applications and end markets that could help it gain share, thereby building a clear business case for the investment.

4. What actions should we take with external stakeholders?

Sustainability issues are complex and systemic. Companies can't go it alone. They must work up and down their supply chain to develop end-to-end solutions. Industry coalitions can help signal shared intent and foster precompetitive collaboration. Executives must work proactively to shape the policy landscape and build relationships in the public and nonprofit sectors.

One example: a textile company that faces shortages in recycled inputs such as rPET due to inefficient and inconsistent collection methods and competing demand from other industries. It looks to develop partnerships across the value chain with fiber and PET recyclers, collaborate precompetitively with other textile companies, and create partnerships with consumer products companies facing similar shortages. Such broad coalitions might help influence country-level recycling regulations and boost supply.

Helping executives answer these four questions is the aim of this CEO guide. We offer new research on B2B customers and end consumers—what they want, how willing they are to pay for sustainability, and how to influence their behavior. We dive deeply into challenging transitions, including energy, AI, and food systems. And we speak to a CFO who is pioneering a new financial model for sustainability. We hope you find both inspiration and practical ideas to take to your teams and organizations.



2024 Trends

The Sustainability Puzzle: What Do Consumers Really Want?

How businesses can unlock the challenge of helping consumers live sustainably.

By John Blasberg, Jean-Charles van den Branden, Harry Morrison, David Zehner, and Leah Johns

At a Glance

- ▶ In our global study, roughly 60% of consumers say their concerns about climate change have increased in the past two years.
- ▶ The best companies will develop solutions that help consumers *live* more sustainably, not just *buy* more sustainably.
- ▶ Companies can't market "sustainability" as a single concept or address consumers as a monolithic group, but value can be created by targeting specific customer segments with category-relevant claims.
- ▶ Packaging and recyclability have surfaced as key concerns for consumers.

The last year has given consumers much to worry about. From wars to heightened political tensions to lingering inflation, new reasons for unease have gained mindshare around the world. But these worries have barely dislodged a major issue in consumers' consciousness: Concerns about sustainability remain high and are competing with cost of living, political, and household finance worries. This

comes at a time when many global CEOs are turning their attention to pressing matters such as disruptive AI technology, the need for growth, and geopolitical uncertainty.

Even as CEOs deal with competing priorities, the message from people around the world in our second annual global study is clear. Among the nearly 19,000 consumers in 10 countries who participated in our recent survey, roughly 60% say that their concerns about climate change have increased over the past two years, often sparked by personal experience of extreme weather (see Figure 1)—the same as when we asked the question last year. In a broad-ranging study that included a survey, in-depth interviews, and shopping trips with global consumers, many told us that they want to live sustainably and that they believe their personal actions make a difference (see Figure 2).

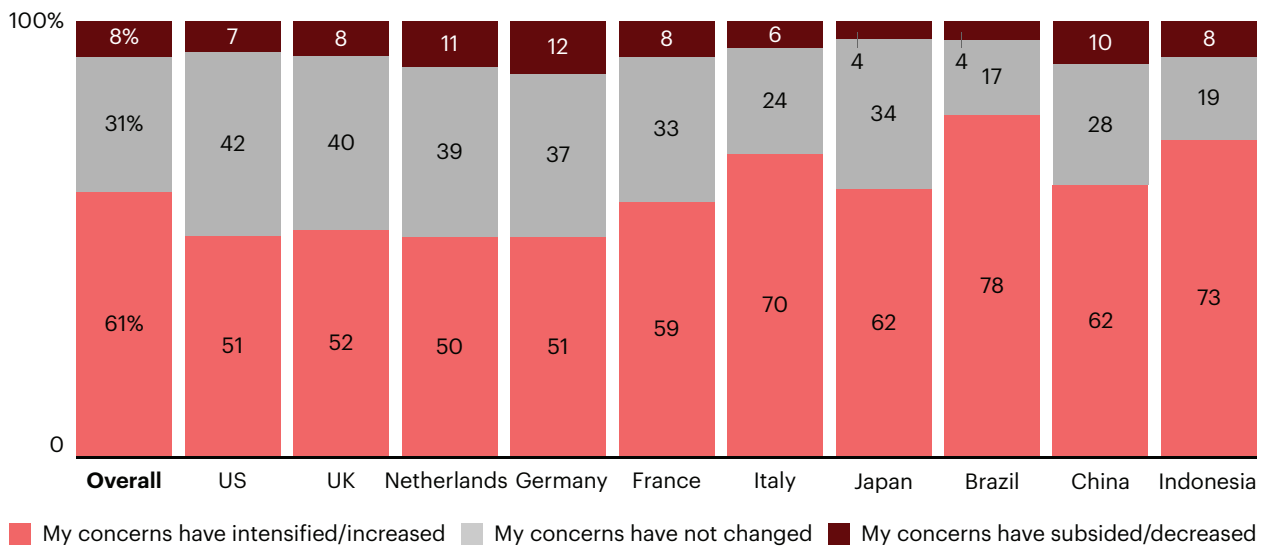
However, consumers have trouble figuring out how to live sustainably and look to brands and retailers, in addition to government, to help them. This opens up opportunities for companies that can support consumers' continuing quest for a sustainable lifestyle. But it also surfaces some fundamental issues that raise the stakes for businesses in the current economic climate.

For example, there is a consistent view in developed markets that living sustainably is inherently more expensive (see Figure 3). That isn't always true. Some consumers, while trying to save money, are adopting habits that also happen to be more sustainable, such as driving less, buying secondhand clothing, and, in some cases, actively cutting down on meat and dairy (see Figure 4). But the common

Figure 1: When asked, most consumers say their concerns about climate change have increased in the past two years

Q: How have your climate change concerns changed over the past two years?

Percentage of respondents

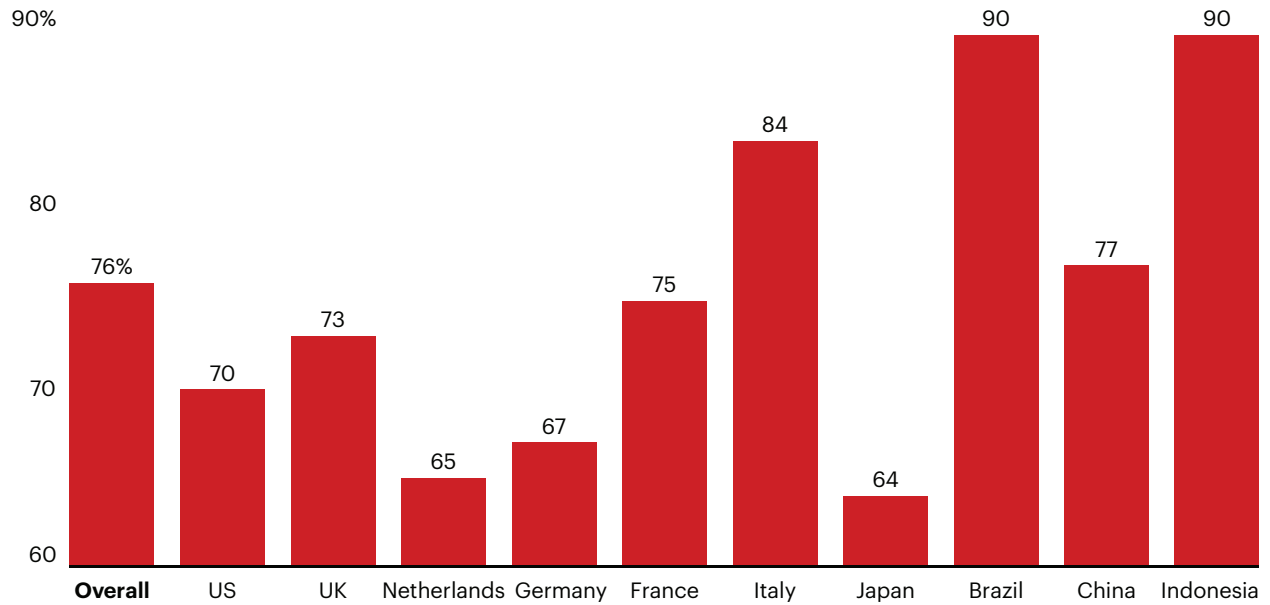


Notes: Excludes respondents who said they do not believe the climate is changing; columns may not total 100% due to rounding
Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

The Visionary CEO's Guide to Sustainability 2024

Figure 2: A majority of consumers believe that a sustainable lifestyle is important because their actions have an impact

Percentage of respondents for whom practicing a sustainable lifestyle is important

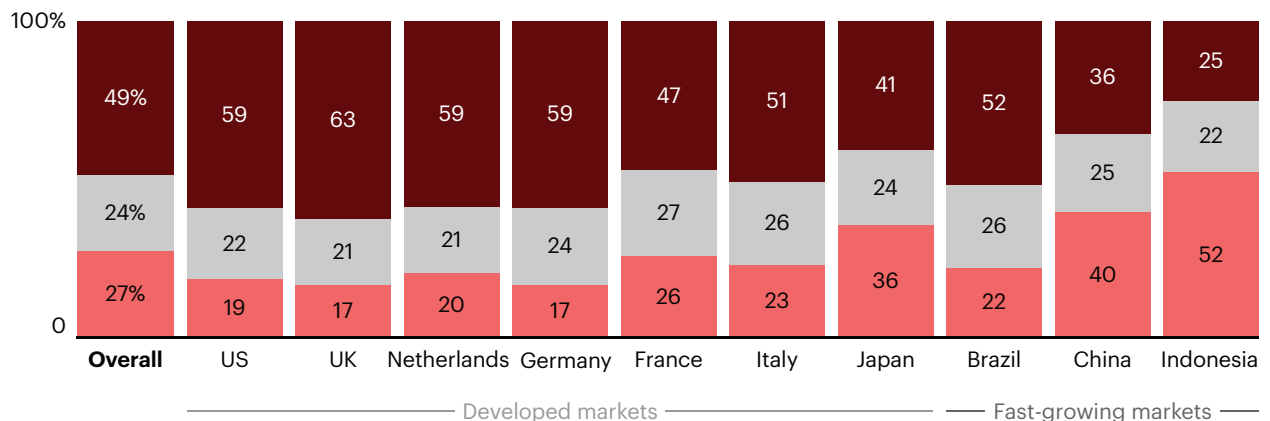


Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

Figure 3: In most developed countries, consumers say it would be more expensive to live a sustainable lifestyle

Q: Which of the following statements do you most agree with?

Percentage of respondents



To live more sustainably ...

- It would cost me less money/be cheaper for me
- It wouldn't be any more or less expensive
- It would cost me more money/be more expensive for me

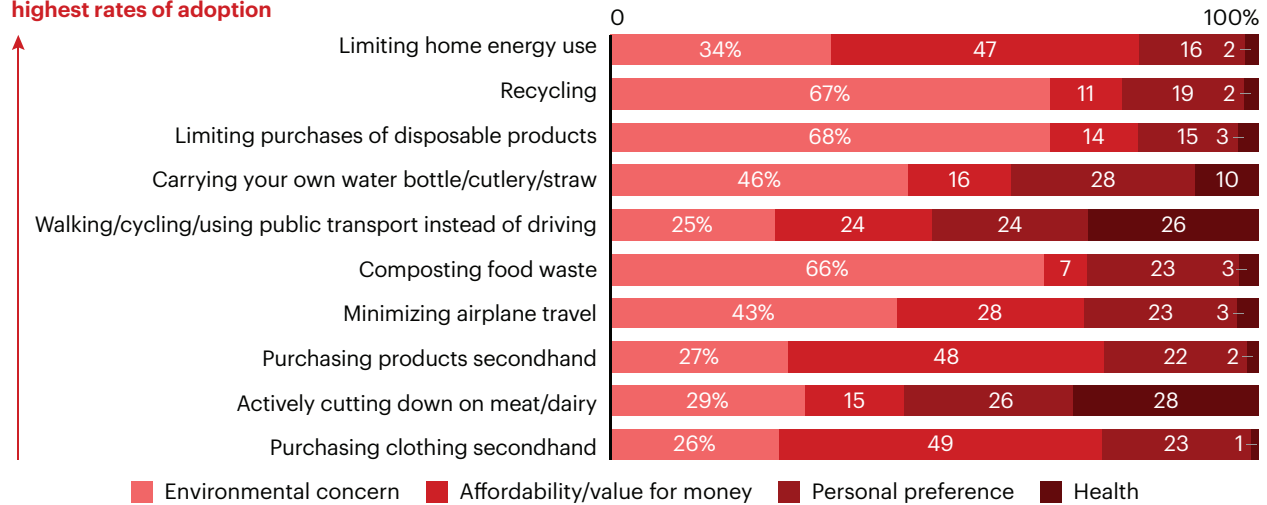
Note: Columns may not total 100% due to rounding
Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

Figure 4: When adopting lifestyle habits that support sustainability, consumers cite motivations beyond environmental concerns

Q: Which of the following best describes your main reason for adopting this lifestyle habit?

Percentage of respondents by main reason for activity

Habits with the 10 highest rates of adoption



Notes: Only includes respondents who reported having sustainable lifestyle habits; "other" responses not shown
 Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

perception that a sustainable lifestyle is expensive poses a challenge for brands, especially amid intensified cost-of-living worries. Conversely, consumers in some fast-growing markets believe that living more sustainably would actually cost them less. The frugal behavior they associate with sustainability could lead to an overall reduction in demand and consumption, complicating companies' growth plans.

The need to deaverage consumers

Just as these beliefs vary by geography, approaches to sustainable lifestyles diverge based on factors ranging from cultural norms to political leanings. Our research also helped us identify how people value different sustainability attributes across product categories (see Figure 5).

The division extends to where consumers learn about sustainability. Gen Zers in the US turn to a variety of sources for information about sustainability, with 37% relying on social media—the predominant source for them. Only 3% of US baby boomers rely on social media. There's also a division among consumers in the types of businesses they trust to sell them sustainable products. In most countries, consumers are more likely to trust smaller businesses, but in China and Japan, big companies are more trusted. And consumers are more likely to pay a premium in certain categories with certain benefits. In the US, for example, consumers say they're willing to pay up to 10% more for products that have minimal environmental impact and up to 15% more for products that have health benefits.

Figure 5: Consumers prefer different sustainability attributes depending on the product category, but “natural” is always No. 1

Q: Which of the following environmental sustainability and social responsibility elements are most important to you when purchasing products in these categories?

Percentage of respondents that selected option in their top three

Fresh food



Beauty and personal care



Packaged food and beverages



Household cleaning supplies



Note: Respondents were asked to rank up to five options, starting with the most important
Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

This means that it isn't effective for companies to market “sustainability” as a single concept or to target consumers as a monolithic group. Businesses need to understand what different consumer segments are after on a category-by-category basis. Yet appealing to specific sustainability priorities means taking a targeted approach to product development and marketing that runs counter to the movement toward simplicity. We call this *smart complexity*: striking the right balance between agility and scale to maximize the benefits of streamlining without sacrificing responsiveness to consumer needs.

Indeed, companies need a more flexible and agile supply chain that allows for more variations—enabling, for example, flexible modular designs and packaging with targeted messages. Smart complexity also allows companies to target consumers based on their specific sustainability needs. And with the right products in hand, some companies have begun relying on digital and AI tools to experiment with and customize their messaging to consumers.

As they develop new products and services, the best companies will consider how those offerings will help consumers *live* more sustainably, not just *buy* more sustainably. It's one thing to introduce a greener version of an existing product at a higher price point than many consumers are willing to pay. There's much more value to be created if that new product meets other key purchasing criteria—for example, if it saves the consumer time, helps lower their energy bill, or improves their health. Take wool dryer balls, which serve as a chemical-free alternative to dryer sheets or fabric softener while also cutting down on drying time and energy costs.

Consumers say that brands and retailers play a big role in their sustainability journey: 28% indicate that awareness campaigns by brands and retailers prompted them to start buying more sustainable products. As a sign of retailers' part in the equation, 33% of consumers report that they started buying sustainable products because they became available in the places they shop (see Figure 6).

Consider the full product life cycle

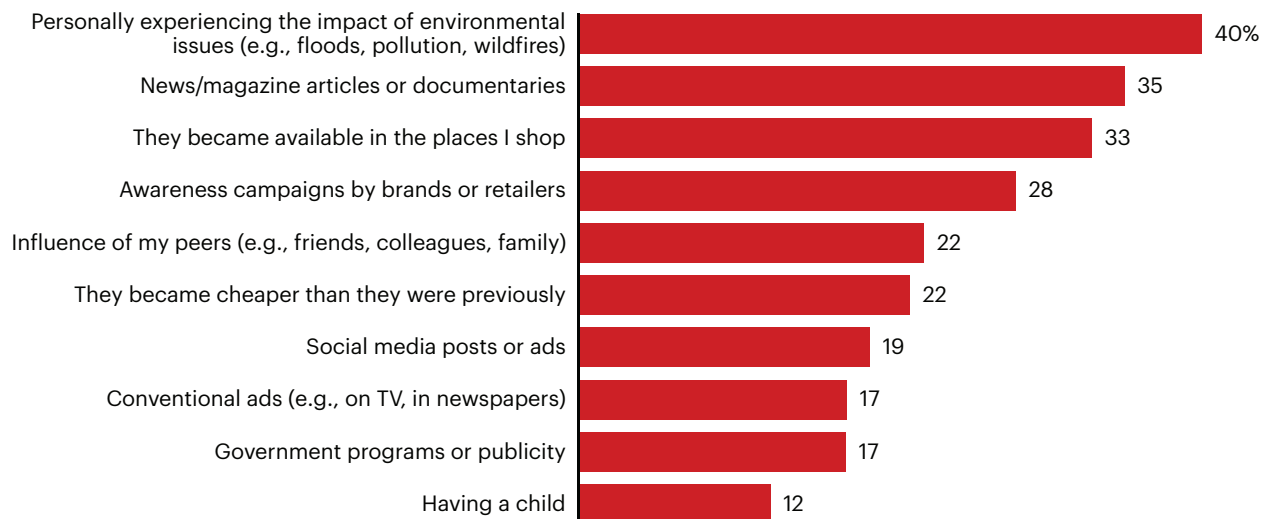
This year's research also highlights the growing importance of packaging in consumers' perception of sustainability (see Figure 7). This finding raises the pressure on companies (many of which report being behind schedule to meet 2025 recycling targets) both for *recycled* packaging and for the *recyclability* of their packaging. Consumers determine whether or not packaging is sustainable primarily from the perspective of what happens to it once they are ready to dispose of it—for example, if it is recyclable. In fact, consumers tell us that the ability to recycle packaging is significant to them and that the choice of material and use of recycled content also matter (see Figure 8).

Because consumers care about what happens to their waste, companies can distinguish themselves by leaning into the entire packaging value chain, including the downstream segment. As they do, they must face the big question of how to finance the collection, sorting, and recycling infrastructure, especially in less developed markets. They also must tackle the challenge of educating consumers. For example, consider that most surveyed consumers believe that the production of single-use, virgin

Figure 6: Consumers cite environmental issues, media articles, local availability, and brand campaigns as main drivers for shopping sustainably

Q: What prompted you to start buying sustainable products?

Percentage of respondents that selected option in their top four



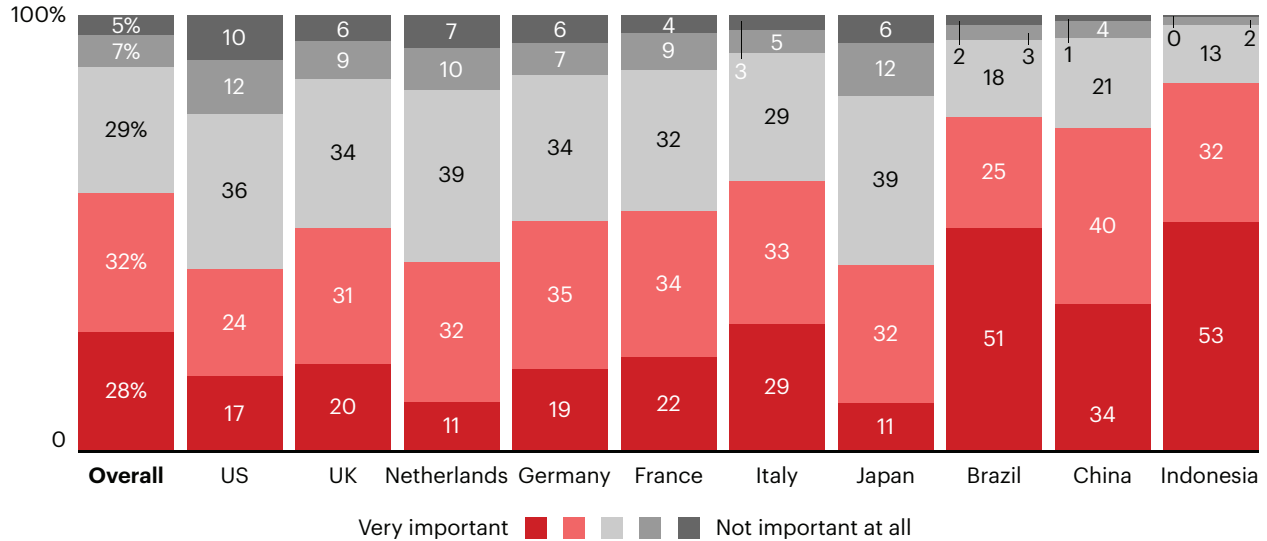
Notes: Respondents could select up to four options; only includes those who selected “minimal environmental footprint” or “socially responsible” as a top four key purchasing criterion in at least two product categories
Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

The Visionary CEO's Guide to Sustainability 2024

Figure 7: Consumers care about the environmental impact of packaging, giving it relatively higher importance in Brazil, China, and Indonesia

Q: How important to you is the environmental impact of your packaging choices?

Percentage of respondents

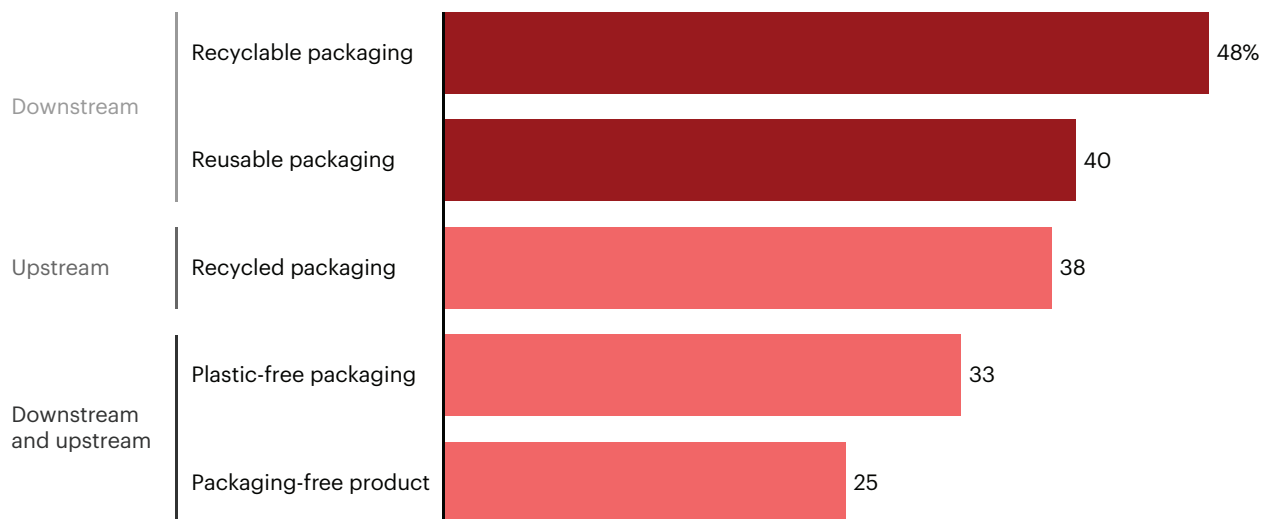


Notes: Based on weighted average score per country; columns may not total 100% due to rounding
Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

Figure 8: For packaging attributes, consumers are most concerned about what happens to packaging after using the product

Q: Which of the following sustainable attributes of packaging do you look for in the products you buy?

Percentage of respondents that selected option, weighted across categories



Note: Respondents were asked to choose up to two attributes in various categories (fresh food, packaged food and beverages, beauty and personal care, household cleaning supplies, apparel and accessories, electronic devices, and furniture and home decor)
Source: Bain Consumer Lab ESG Survey 2024 (n=18,991)

glass has a lower carbon footprint than plastic, yet the opposite is true. Adding to the complexity for global companies, there's a wide disparity in recycling regulations and infrastructure among markets.

Unlocking the challenges

What to do? We see five critical steps.

Size the opportunity to seize the opportunity. Brands can help consumers in their sustainability quest and spur profitable volume growth by drawing on their well-honed ability to segment and target consumers. Companies need to be willing to invest in identifying and developing products that meet untapped sustainability needs—and create the right messaging. That means determining where people are willing to pay more (and their limits) and where the company can gain share, and then taking a test-and-learn approach to innovation and marketing.

Companies need to be willing to invest in identifying and developing products that meet untapped sustainability needs—and create the right messaging.

Organize for results. Many traditional companies' operating models are not set up to serve the needs of sustainability-minded consumers. A simple example of the disconnect: The costs of developing new sustainable formats or purchasing more sustainable input materials are often assumed by supply chain and operations. However, these teams are detached from marketing and an understanding of what consumers value. Too often, the costs and benefits are misaligned, and companies miss opportunities to use sustainability to gain value with consumers.

Prepare to manage complexity. Be ready to acknowledge the fragmented market, both in production and in marketing. Companies need a more agile supply chain to make more variations, for example. And in many situations, marketing complexity arises from the new imperative to use different messaging for different consumer segments. For example, a plant-based spread could be promoted with one set of messages to a consumer group whose primary concern is animal welfare and with completely different messages to those who are focused on healthy food.

Tackle the packaging challenge. Not only do companies need to make packaging sustainable, they need to communicate that value to consumers while also educating them about the nuances of material choices. They also can work to solve the downstream piece of the puzzle, addressing the recycling infrastructure where it's necessary.

For example, the best companies will avoid making packaging out of multiple different materials so that it needs to be disassembled to recycle. Nestlé is actively working in this direction. The company's Purina brand launched its first designed-to-be-recyclable mono-material pet food pouch in 2022, and Nescafé debuted its first refillable paper pouch for coffee in 2024—all part of Nestlé's promise to introduce reusable or recyclable packaging by 2025. (The Consumer Goods Forum's Golden Design Rules for plastic packaging are an industry standard in packaging design.)

Brands also can ensure that information about packaging is transparent. Being clear about recyclability, for example, makes it easy for consumers to make the right disposal choice. Together, retailers and brands can reduce confusion and help consumers understand what the sustainable options are and why.

Build channel partnerships. Companies can help speed consumers' paths to achieving a sustainable lifestyle by forging the right partnerships across the value chain. That includes brand owner and retailer collaboration. With so many consumers telling us that accessibility is one of the key barriers preventing them from purchasing sustainable products, companies can collaborate to ensure prominent product placement and encourage new behavior in areas like refills or packaging returns. For example, The Perfume Shop partnered with L'Oréal to launch the UK's first multi-brand fragrance refill station, including YSL, Prada, Armani, Mugler, and Lancôme brands.

Will such moves spur consumers to action? If we've learned anything about sustainability over the years, it's that consumers will change their behavior if stakeholders make it easier for them or provide incentives. Despite their many other worries, consumers tell us they still are concerned about living and shopping sustainably. They have different preferences and even different definitions of sustainability. But they are uniform in their need for others—governments, industry organizations, brands, and retailers—to pave the way.



2024 Trends

How to Master the Art of Selling Sustainability

Our survey of 500 B2B buyers and sellers shows a widening chasm on sustainability. A new industrial sales model is needed to close this buy-sell gap.

By Torsten Lichtenau, Jamie Cleghorn, Xavier Houot, Mattias C. Karlsson, Yelena Ageyeva-Furman, and Jan Budde

At a Glance

- ▶ Sustainability is a top criterion for B2B buyers; 36% would leave suppliers that don't meet sustainability expectations.
- ▶ Although 85% of suppliers embed sustainability in their offerings, just 53% of customers feel the options meet their needs.
- ▶ By taking four steps—on customer, value, salesforce, and pricing—suppliers can start selling sustainability smarter.

It's not just consumers who are shopping for sustainability these days. Sustainability is now one of corporate buyers' top three purchasing criteria as well. More than a third of companies say they are willing to leave suppliers that don't meet their sustainability criteria, and nearly 60% say they'll be willing to do so three years from now, according to Bain & Company's 2024 survey of B2B buyers and sellers (see *Figure 1*). The implications are profound, threatening to put a large number of suppliers at risk of replacement and pointing to potentially significant shake-ups in market share.

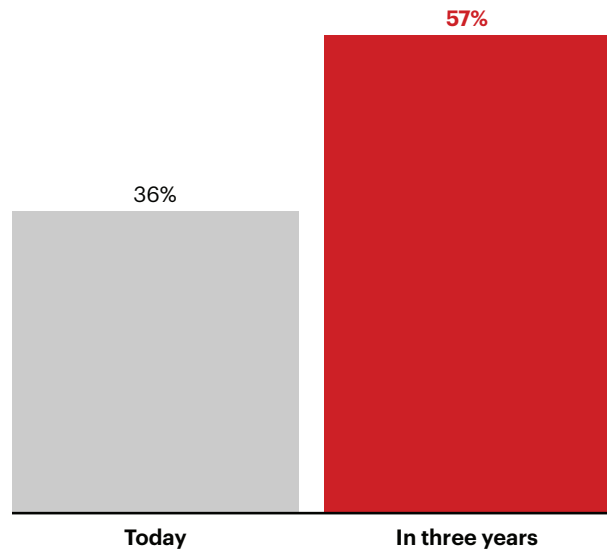
The Visionary CEO's Guide to Sustainability 2024

Figure 1: B2B customers will increasingly consider sustainability when choosing suppliers

Customers' ranking of key purchasing criteria when selecting suppliers

Today	In three years
1 Quality/meeting specifications	Quality/meeting specifications
2 Price/cost	Sustainability of their operations
3 Sustainability of their operations	Price/cost
4 Service levels	Sustainability of their offers
5 Sustainability of their offers	Service levels
6 Supplier reputation, scale, resilience	Supplier reputation, scale, resilience
7 Joint innovation	Joint innovation

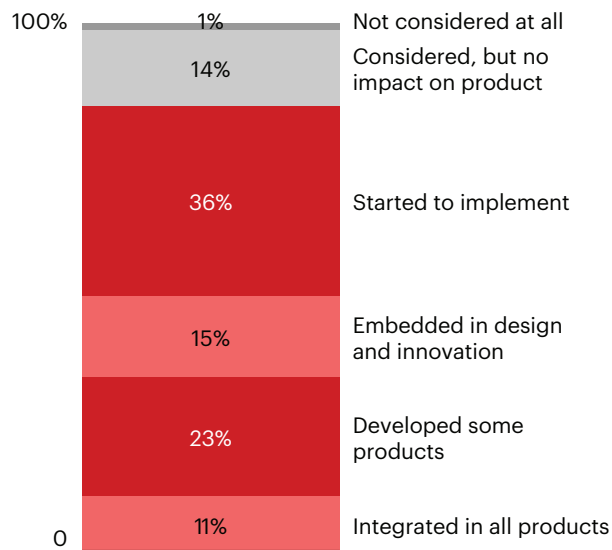
Percentage who say they will change suppliers that don't meet sustainability criteria



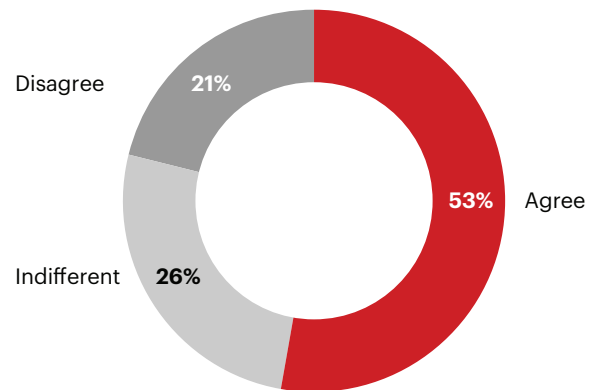
Note: Excludes "I don't know" responses
Source: Bain Global B2B Survey, April 2024 (n=503)

Figure 2: B2B suppliers are not consistently meeting their customers' sustainability needs

85% of suppliers are embedding sustainability in their products and services to some extent ...



... but only about half of customers say sustainable options address all dimensions of their expectations



Note: Excludes "I don't know" responses
Source: Bain Global B2B Survey, April 2024 (n=503)

Unfortunately, this message seems to be getting lost on suppliers. While 85% of them report that they embed some degree of sustainability in their products and services, only 27% consider themselves very knowledgeable about their customers' sustainability needs. Indeed, only 53% of customers say the sustainable options they are offered fully meet their expectations (see *Figure 2*).

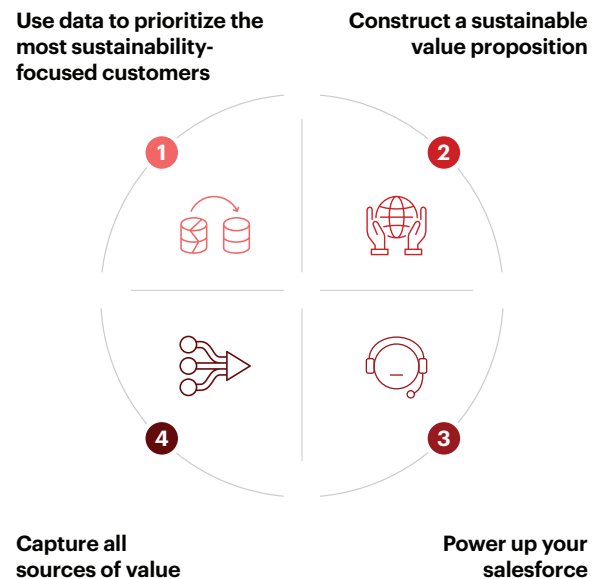
Closing this buy-sell communication gap is critical to ensuring that suppliers don't lose sales to more agile competitors, but they can't accomplish that by doing more of the same. Suppliers need to catch up to their customers, move fast, and be more systematic. With sustainability, many B2B suppliers must create entirely new markets, something that calls for a set of skills they may not have exercised for a very long time.

To master selling sustainability, companies should focus on four things.

1. Use data to prioritize the most sustainability-focused customers

Suppliers need to systematically identify the individual customers and customer segments that are most likely to be interested in sustainable offerings. This involves creating a profile that reflects how much they spend, the importance they place on sustainability, whether the supplier's product offers them a relatively low-cost way to lower their carbon footprint, the specific aspects of sustainability they care about most, and the goals they have set for those priorities. Goals might relate to emissions targets, circularity, biodiversity, transparency, or social dimensions. Only when a supplier has this kind of detailed understanding of customers' sustainability expectations can it begin to influence buying decisions.

When an aluminum manufacturer began planning to invest in low-carbon primary and recycled aluminum production, executives knew the company would have to reinvent how it goes to market. As a first step, the manufacturer identified its priority customer segments as those with ambitious public decarbonization targets, high internal or regulatory cost of carbon, and end customers who value green products. This led to a much more detailed understanding of customer needs than traditional sales had required and helped the company identify automotive manufacturers as a key customer segment to target early with its low-carbon aluminum.



2. Construct a sustainable value proposition

Armed with a more granular understanding of customers, suppliers can tailor value propositions that deliver the right mix of sustainability components and traditional key purchasing criteria like

price and performance. For many buyers, quantified CO₂ emissions reduction will be a critical part of the mix as that becomes a material aspect of their own sustainability and financial performance.

Selling such bespoke approaches requires translating sustainability features into benefits that sales teams can easily communicate, in a way suited to each customer's specific attitude toward sustainability. Suppliers must make clear the value on offer. Importantly, no single product can bring any customer all the way to its sustainability target.

Today two-thirds of customers report having a low or average understanding of what justifies the price of their suppliers' sustainable offerings. Some 45% don't believe their suppliers clearly state the financial return on that investment, limiting their willingness to pay a premium. There is clearly room for companies to better construct and communicate their sustainable value propositions.

Customers are notorious for overestimating what they would be willing to pay, but in our survey nearly 50% said they would pay a sustainability premium of 5% or more today. Only 6% stated that they would not pay any premium (see *Figure 3*). Customers also expect their willingness to pay to increase in the future.

Partnering with customers is the best way to translate sustainable initiatives into enhanced customer value and address their unmet needs. H2 Green Steel successfully did this, partnering with key early-adopter customers to secure substantial offtake agreements for its initial years of production. Before even breaking ground on its production facility, the company had already announced offtake agreements at a price premium for 1.5 million metric tons of green steel per year, showing that there is a clear demand for its product, that customers understand the value proposition, and that they are willing to pay for it.

3. Power up your salesforce

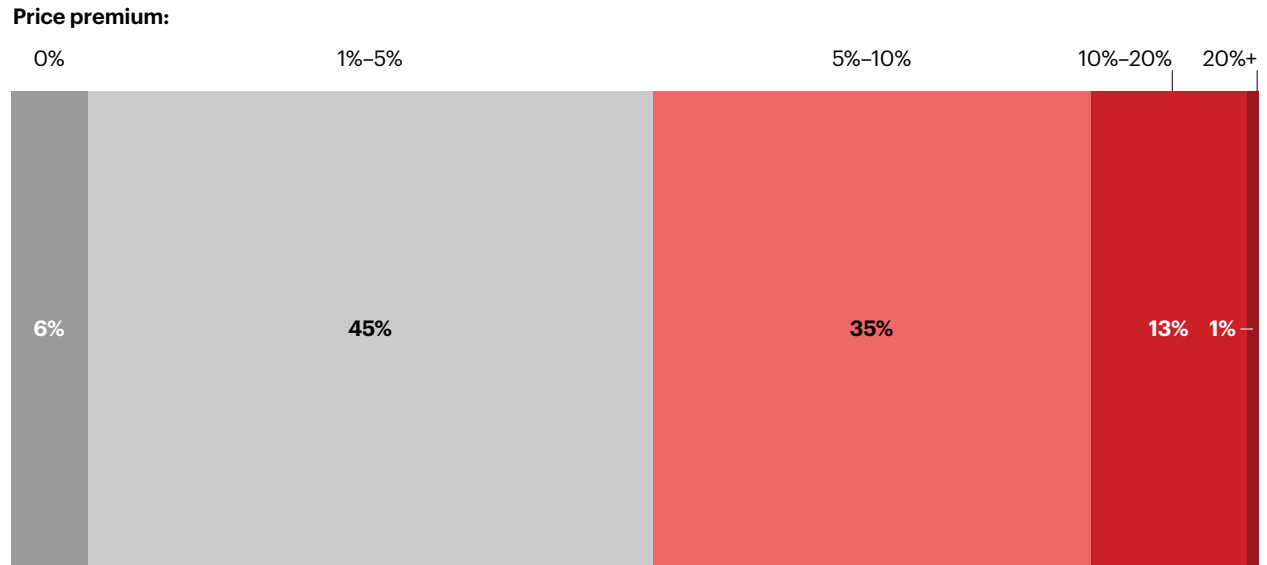
Selling sustainability requires different skills and tools from traditional sales approaches, processes, and models. Sales teams that have been historically product focused have to learn to emphasize not just a product's attributes and features but also the financial and sustainability value it offers the customer. They must truly understand how their offerings can support the sustainability agenda of the customer. That means companies need to equip their salesforces with the right knowledge and digital tools to target customers based on their sustainability commitments and pair these approaches with an incentive program that properly rewards the new selling motions.

To date, suppliers have not been taking this tack. Only 35% specifically target sustainability-conscious customers, and fewer than one in three have an incentive system in place to promote sustainable selling (see *Figure 4*).

When a paper and packaging company introduced new low-carbon packaging and products that substitute paper for plastic, it didn't stop at creating a new catalog featuring plastic-free luxury shopping bags and thermoformed cellulose packaging. It also developed sales pitches, provided

Figure 3: Almost half of customers are willing to pay a price premium of 5% or more

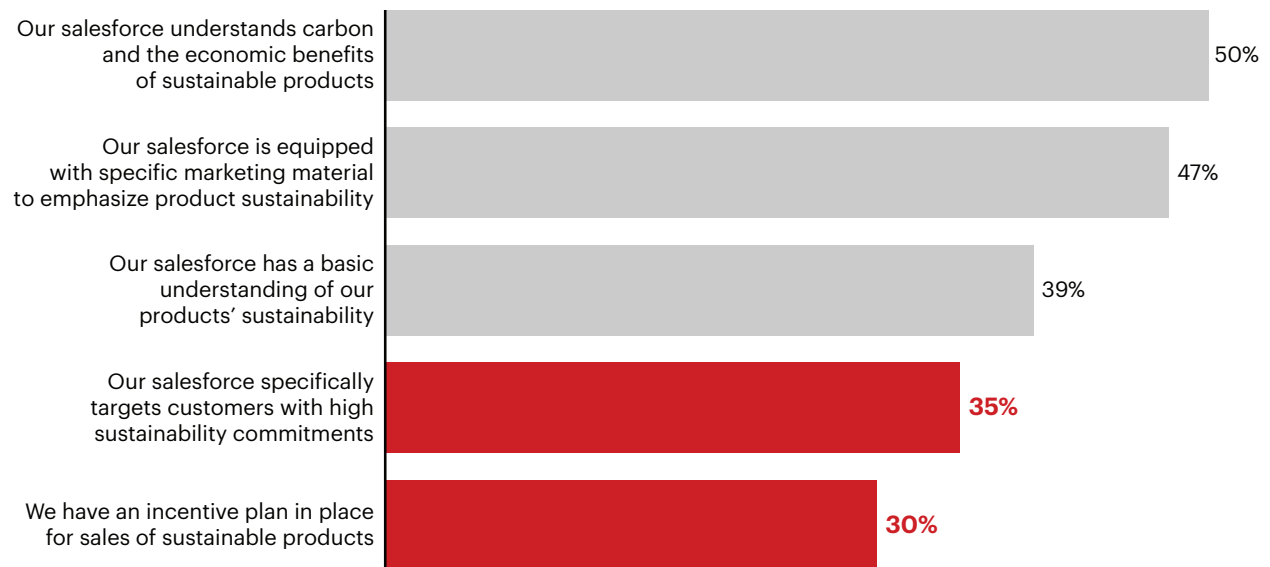
Share of respondents willing to pay a specified premium for a more sustainable product or service



Source: Bain Global B2B Survey, April 2024 (n=503)

Figure 4: Sustainable selling systems are still relatively immature

Q: How well equipped are you to sell sustainable products/services?



Source: Bain Global B2B Survey, April 2024 (n=503)

prototypes to the salesforce, held sessions with key customers describing the new products, and trained the entire sales network, enabling them to effectively sell the new products. The company also set up a dedicated tracking system to monitor its pipeline of sustainability-focused clients. Part of a long-term innovation transformation the company had underway, these efforts have contributed to increases in both revenue and margin.

4. Capture all sources of value

Sustainable products and services offer customers new sources of value, such as the opportunity to build market share in attractive segments and to realign their portfolio toward sustainable, value-added offerings.

Suppliers must align their pricing strategy with the full array of value their products offer customers. This may include enhancing their customers' sustainability. Or it may involve helping them gain market share, shift to more attractive customer segments, achieve higher profit margins, or charge a premium price. For many, sustainability alone won't justify a higher price, but once a fuller understanding of a product's value is established, sales teams can leverage that to negotiate prices with customers.

A global chemicals company collaborates with automotive manufacturers to supply them with low-carbon and circular coatings, plastics, and additives. The resulting innovations notably reduce vehicles' environmental impact by adhering to stringent sustainability criteria, including lower emissions and enhanced recyclability. By helping its customers make their cars more sustainable, the company has increased its products' value to automakers and earned a premium position in the market. The company's approach to partnership underscores its commitment to sustainability and has solidified its position as a preferred supplier of innovative solutions in the automotive sector.

Extreme changes, extreme measures

These four actions can help companies retrofit and turbocharge how they sell sustainable products and services. But when a supplier's sustainability strategy leads to new products, new customers, or a new go-to-market strategy that falls too far from its core, its legacy structures may simply prove too slow and cumbersome. In this situation, companies may have to consider spinning off their sustainable business units or setting up new companies focusing on sustainable products and customers, allowing them to both develop new innovations at speed and build a sales organization that can do the same.

Industrial selling is changing. Learning how to convey the true value of sustainability to customers is critical. This evolution can help companies protect or gain market share while growing green businesses to a scale at which sustainability becomes affordable for more and more customers.



Getting It Done

How CEOs Can Turn Decarbonization Setbacks into Progress 30

AI and Sustainability: The Power of Integration.....36

Olam Food Ingredients: Pioneering a New Financial
Model for Sustainability42



Getting It Done

How CEOs Can Turn Decarbonization Setbacks into Progress

Successful companies are establishing a strong business case and then collaborating across the value chain.

By Torsten Lichtenau, Peter Guarraia, Abhijit Prabhu, Anna Fritz Månsson, and Euan Murray

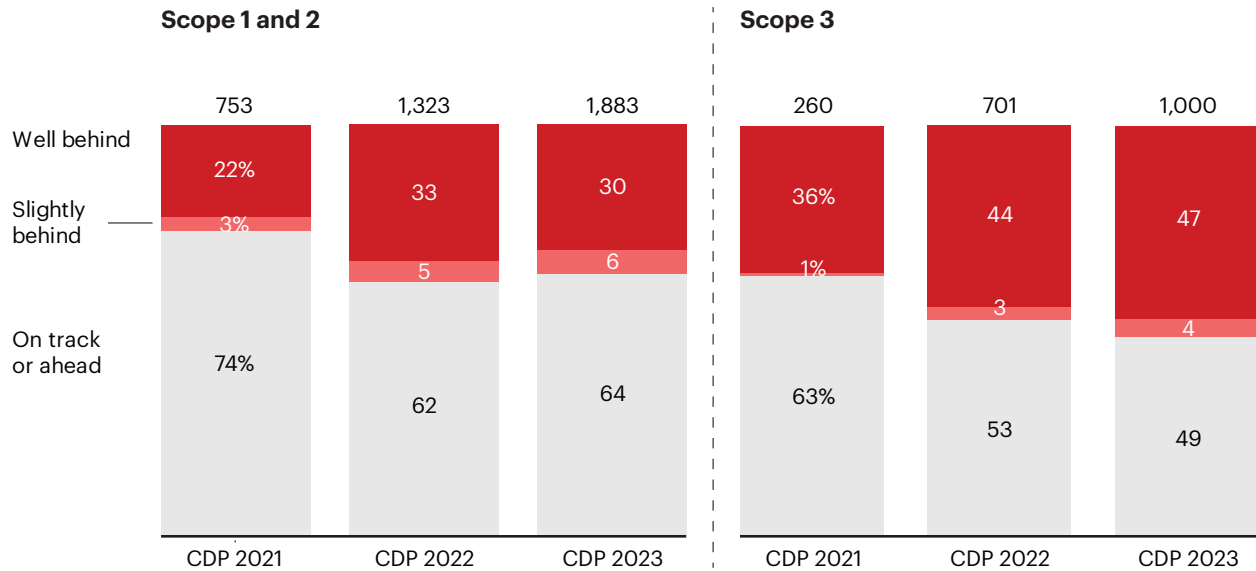
At a Glance

- ▶ According to Bain's analysis, 36% of companies are behind on their Scope 1 and 2 targets, and 51% are behind on Scope 3 targets.
- ▶ Those that do succeed value decarbonization holistically and embed it across the business.
- ▶ They also collaborate effectively with external groups, including suppliers, customers, policymakers, and standard setters.

Based on the number of companies that have set decarbonization targets, commitment to the carbon transition is growing fast. That's good news for the environment. It also means that simply committing to decarbonize no longer differentiates. What does set a company apart today is the ability to deliver on those ambitions and then monetize the gains in a way that's sustainable from a business perspective.

Yet many companies are struggling. Higher-than-expected costs and tight timelines are making it difficult to meet their Scope 1, 2, and 3 emissions targets (see *Figure 1*).

Figure 1: Companies are falling behind on their commitments to decarbonize



Notes: CDP database covers prior year results; “on track or ahead” achieved or exceeded target, “slightly behind” achieved 80%–99%, and “well behind” less than 80%; percentage of actual reduction vs. intermediate target from base year to reporting year, assuming constant annual reduction; analysis includes most representative ongoing absolute near-term target; CDP 2021 data is less granular than data from other years; columns may not total 100% due to rounding
Sources: CDP; Bain analysis

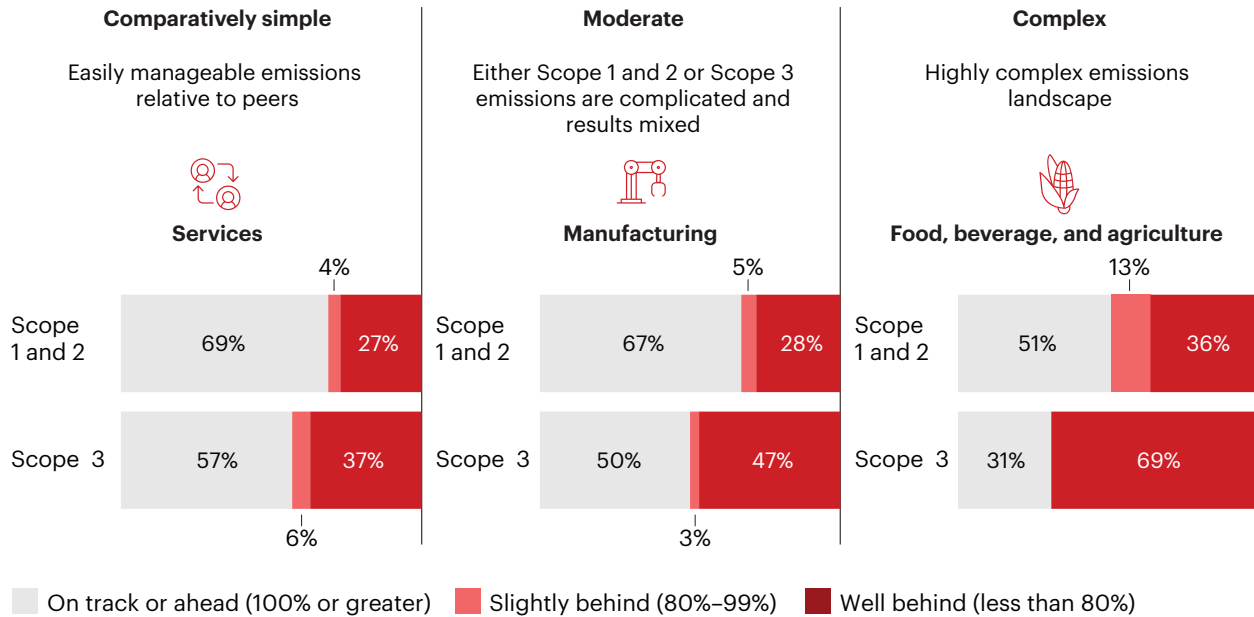
So, what can companies learn from those that are on track? Decarbonization leaders consistently do two things right. First, they are visionary pragmatists, having built a clear and realistic business case for how they will decarbonize. Second, they collaborate internally and also externally, with others in their value chain and with third parties like regulators. Many other efforts follow from these, but absent these two priorities, decarbonization ambitions seem to stall.

Step 1: Building the business case for decarbonization

Decarbonization efforts can be expensive and uncertain, especially in heavy-emitting industries. The more complex a company’s path to decarbonization, the more likely it is to fall behind (see Figure 2). While buying green electricity and renting energy-efficient office space can go a long way toward reducing the service sector’s carbon footprint, results are slower for industries that rely on new technologies and solutions to decarbonize or on partners, customers, and suppliers to do so—or both. Food, beverage, and agriculture companies, for example, have incredibly complex supply chains that represent the vast majority of their emissions. As a result, meeting targets is proving difficult.

Though there is no one standard approach to building the business case for decarbonization, companies that are having the most success do three things differently. First, they holistically value decarbonization’s contribution to the business. Second, they understand the decarbonization

Figure 2: The more complex an industry's emissions landscape, the harder it is to decarbonize



Notes: Percentage of actual reduction vs. intermediate target from base year to reporting year, assuming constant annual reduction; analysis includes most representative ongoing absolute near-term target
Sources: CDP 2023; Bain analysis

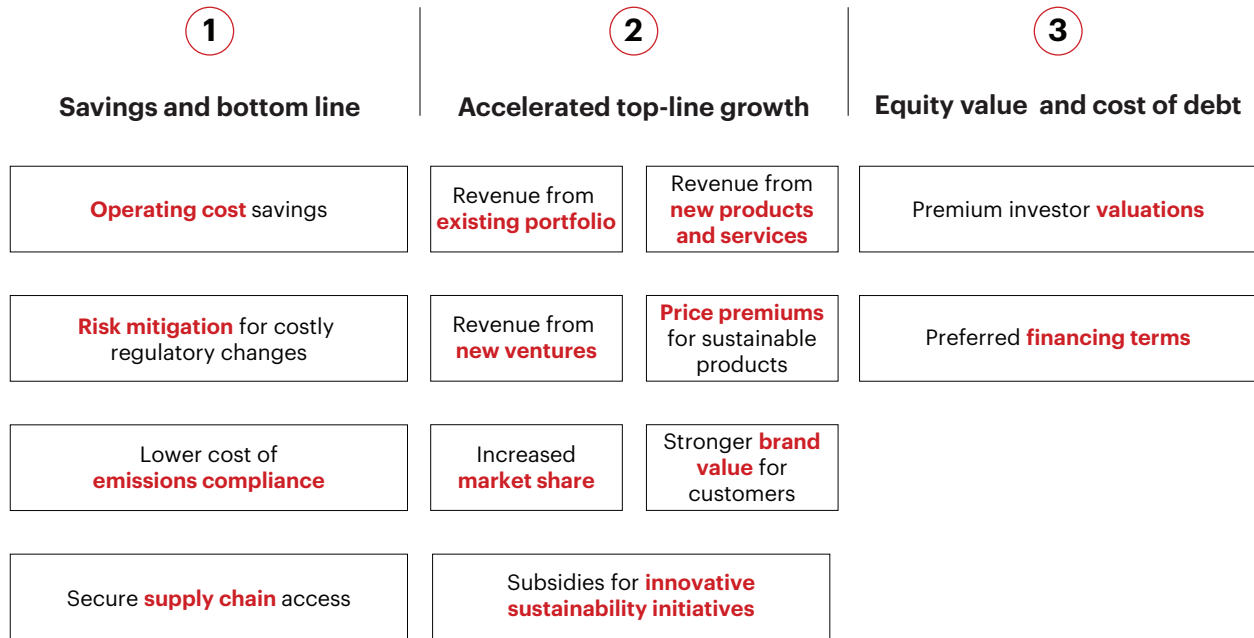
experience curve and pace themselves accordingly. Finally, they build flexibility into their plans and adjust to market changes and other factors.

Identifying value. If only operating costs are considered, decarbonization won't always offer a positive return on investment, so companies look for other sources of value. These can range from highly tangible benefits—things like carbon tax risk mitigation, subsidies, or price premiums—to less tangible ones, such as premium valuations by investors (see Figure 3).

Decarbonization can help safeguard market share from agile competitors, ensure a company is not locked out of low-cost or scarce low-carbon supplies, or keep it ahead of costly regulatory changes such as carbon pricing. Given the uncertainties ahead, companies are exploring multiple approaches. Consider the approach of one chemicals company. Forming exclusive partnerships with green suppliers of low-carbon feedstock early helped the company explore new technology and develop strategic partnerships to assure customers that they would have access to critical supplies as the market evolves. Over time, those supplier relationships should be financially beneficial for the company and help it build a strong market position as the industry shifts toward decarbonization.

Pacing for the decarbonization experience curve. In many industries, full decarbonization will require nascent technologies to mature. Successful companies aren't sitting back and waiting. They are focusing first on established ways of reducing carbon and then dynamically adding new approaches as their

Figure 3: Companies need to look holistically at the sources of value from decarbonization



Source: Bain & Company

capacity increases and emerging technologies mature or become economically viable. They also are developing a superior understanding of the decarbonization experience curve and the cost trajectory of key technologies.

That's how a dairy company has phased in its commitment to decarbonize. It will achieve the first 45% of its emissions reduction in the near term by pulling mature carbon levers like renewable electricity and cattle-feeding regimes that reduce methane emissions. The next 35% will come from packaging redesign, including lightweighting and increased levels of recycled content, and through sourcing lower-carbon raw materials. The final 20% will take longer and depends on new initiatives in logistics and innovation with suppliers. This could include working with partners to promote broader use of innovative low-carbon technologies, such as deploying battery electric vehicles in logistics.

Exhibiting flexibility. Companies make decisions in highly complex and unsure environments. The prices and availability of new materials and services are often uncertain. It's important to be able to adjust plans when new signals come in from customers, investors, government action, or technological change.

Consider how surging electric demand from generative AI has challenged many companies' established sustainability plans. In 2023, Microsoft reported a roughly 30% increase in Scope 3 emissions due to

AI- and cloud-related data center expansion. In response, the company has adjusted its approach, enforcing a requirement that major suppliers utilize 100% carbon-free electricity by 2030.

Step 2: Collaborating across the value chain

Decarbonization requires both independent action and collaboration across the value chain and with external participants. Companies that understand that embed decarbonization in their operating model and then work with a variety of external groups, from suppliers and customers to policymakers and standard setters.

Embedding decarbonization in operations. Decarbonization is the biggest internal operational shift many companies have faced since lean manufacturing. To instill a systematic approach to incremental change and a culture of continuous improvement, lean manufacturers develop new capabilities and embed them in their operating model.

Decarbonization is the biggest internal operational shift many companies have faced since lean manufacturing.

Similarly, decarbonization requires companies to manage carbon like they manage cost by putting an internal price on it, mastering their marginal abatement cost curves, and flexibly adapting to their experience curve. These new capabilities must be embedded by aligning organizational incentives and assigning ownership of decarbonization to functional leaders. Leading companies consider carbon when making decisions and recognize that a low-carbon focus can help build a differentiated company culture.

Working with customers and suppliers. In most industries, indirect emissions outweigh direct emissions, so progress requires collaboration with stakeholders up and down the value chain. This means companies must identify value for their customers, for their customers' customers, and for their own suppliers. It starts with better understanding and deaveraging individual customers and then educating them on the price, quality, and sustainability of the company's offering, as well as how it can help them and their own customers decarbonize. By understanding their customers, companies can work with them to develop the right new products and services, ones whose differentiation can be confidently asserted without risk of greenwashing.

With suppliers, it's important to build a similarly granular understanding of their carbon footprint and to identify which are critical emitters. (The largest source of Scope 3 emissions is often raw materials way up the value chain.) Helping suppliers decarbonize will involve advising them, innovating new products and solutions together, developing decarbonization plans, and possibly supporting the

financing of those plans. Sometimes, companies have to switch suppliers to reach their goals. Some 39% of B2B buyers report that they are already giving more business to sustainable suppliers.

A forward-thinking aluminum packaging company illustrates the dividends a “me and we” effort can pay. Internally, the company studied how to decarbonize production efficiently, identifying immediate no-regret moves, like manufacturing lighter cans and using renewable energy, that saved money and lowered costs. Simultaneously, it built a list of more strategic steps that could be taken over time, like shifting the supply mix to higher recycled content and electrifying manufacturing.

Understanding they couldn't reach their goals alone, executives also studied where carbon could be lowered across the whole value chain—from mining and refining to end users and recycling. So far, the company has identified ways to abate up to 80% of emissions by 2030, and it expects tens of millions of dollars in financial upside from cost savings and more circular and lower-carbon products.

Working with policymakers and standard setters. Leading companies anticipate and work with their value chain partners to understand and respond to upcoming regulation, such as carbon taxes, subsidies, or carbon border adjustment mechanisms. They also work with policymakers and standard setters to shape policy, supporting legislation that improves the ROI of decarbonization—either by subsidizing green efforts or by putting a cost on the negative consequences of carbon—and efforts to create common certification standards.

Change is collaborative, and companies need to work together to bring a cohesive industry voice to government partnerships. Through coalitions, they can outline the support needed to accelerate the sustainability transition. By framing the incentives well, they can illustrate how the right policies will help government address societal needs while providing companies with critical interim support as clean tech scales. Governments need to know what really moves the needle, and making the case in this way can help defend against future pressure to roll back good policies.

New opportunities

Even though decarbonization is complex, companies don't have to give up on their ambitions. By integrating sustainability into their core business and partnering with key stakeholders, companies can effectively manage risks and at the same time capitalize on new growth opportunities. Building a strong business case for decarbonization greatly improves the odds for any company to reach its environmental goals.



Getting It Done

AI and Sustainability: The Power of Integration

Three practices will help companies deploy a more carbon-conscious “eco-AI” approach to their technology and sustainability priorities.

By Jean-Charles van den Branden, Caroline Jean, and Martha Moreau

At a Glance

- ▶ AI is helping to solve vital sustainability business challenges in ways that deserve CEO and executive attention.
- ▶ Constraints on green energy will likely increase, so companies must act now to win the race for future supply.
- ▶ CSOs and CTOs need to work together on key steps, including supporting suppliers, upskilling staff, and deploying AI.

Artificial intelligence and sustainability are hot topics in business, but while AI has enormous and accelerating momentum, there is concern that sustainability’s moment may be passing. In truth, both are profoundly important and in only their very first stages. Indeed, we are early enough in their evolution to bring AI and sustainability together to create—using what we call an eco-AI approach—an incredibly powerful source of advancement for both the planet and the corporate bottom line.

Four pioneering strategic applications of AI

Increasing numbers of forward-thinking companies are using AI to work on sustainability in ways that generate true business value. Here are four approaches that are worth every CEO and business leader's attention.

Deliver value to customers while boosting sustainability. Consumers and customers continue to rate sustainability as an important purchase criterion, but they often lack a clear understanding of what makes a product or service sustainable. AI can help close this gap by providing new and more effective approaches to communicate about sustainable products and propositions. Home furnishings giant Ikea, for example, built an AI recommendation engine that can tailor product suggestions for consumers based on their sustainability preferences. Twenty percent of interactions with the tool drive traffic to the company's website, with 5% of those visits leading to transactions.

Improve financial and sustainability results. AI and digital systems can help companies develop sustainable offerings that save money, streamline innovation, and build new businesses. Consider how a food company might use digital tools to track and reward farmers for reducing their emissions. In addition to creating a more sustainable supply of raw materials, this could help the company build a premium, low-carbon product line. Profits from that line could then be used to pay back the upfront costs, thereby creating a positive flywheel.

AI and digital systems can help companies develop sustainable offerings that save money, streamline innovation, and build new businesses.

Reduce operational risk and maximize resilience. Bain & Company estimates that losses from natural disasters could represent up to 4% of global GDP by 2050. Remote monitoring, space-based technology, and more powerful predictive models all will be needed to assess exposure and build more resilient operations. AI can help mining, agriculture, and other companies estimate the exposure of facilities to a range of natural risks, including precipitation, heat, fire, wind, cold, and flood, and develop mitigation and transition plans for the most endangered locations based on that analysis.

Build operational and supply chain digital twins. When fully deployed, AI will revolutionize how companies identify and realize sustainability improvements within operations and along the supply chain. By instantly modeling the impact of decisions on spending, carbon emissions, and other sustainability metrics, digital twins will strengthen decision making and reduce consumption of materials, energy, and water. In the public sector, the Virtual Singapore platform shows the possibilities.

Pulling from diverse data sources, the platform's 3D city model helps urban planners and designers identify opportunities for energy efficiency, assess the environmental impacts of development, and reduce emissions through optimized transportation systems.

Eco-AI's power couple: CSOs and CTOs

As AI experimentation accelerates, leaders must consider the future implications of their IT strategies and priorities on their net-zero plans. While AI holds great promise to advance and speed sustainability efforts, the potential impact on emissions must be understood and addressed from the outset. This will require companies' sustainability and technology functions to work together on key priorities. Three principles for effectively doing so are emerging.

1. Technology's power use and emissions can no longer be an afterthought. Carbon emissions from IT traditionally have been seen as little more than a rounding error. This was fine when most companies' IT departments had a relatively small carbon footprint. For a typical consumer products company, for example, IT has historically represented about 1% of its carbon footprint, compared with 25% each for packaging and raw materials.

AI will change that. By 2030, Bain projects that the growth of AI, along with increased cloud usage and rising volumes of data in traditional applications, will lead to significantly higher IT carbon emissions across industries. In consumer products alone, IT emissions are expected to increase by at least three times (see *Figure 1*).

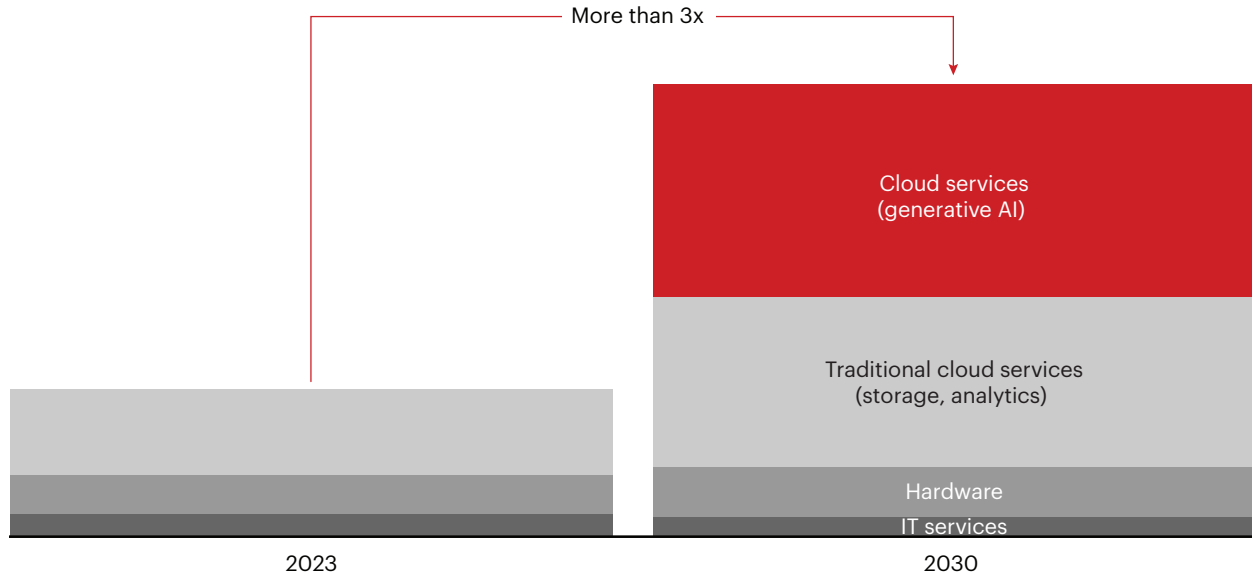
Companies should act now to ensure they are first in line for green power. This starts with understanding the power usage efficiency of data center providers and alternative suppliers.

A number of factors are pushing up AI's energy use and carbon emissions. The first is an explosion of users and applications. Bain's 2024 cross-industry AI survey shows that almost 90% of large companies in the US are using generative AI in some capacity. And corporate users are tapping increasingly large, sophisticated, and power-hungry models. The total number of parameters grew from 1.5 billion for GPT-2 in 2019 to 1.7 trillion for GPT-4 in 2023. Users are also engaged in more energy-intensive activities. Video generation, for example, requires up to 300 times more power than image generation. Projected gains in the energy efficiency of processes and chips are unlikely to offset this surging demand.

A significant portion of tech-related emissions sits outside the IT department's control. As a result, companies will have to take a broad and systemic view when mapping future emissions from technology.

Figure 1: The carbon emissions of IT departments are climbing, driven by generative AI

IT carbon footprint projection for a typical consumer goods company (in CO₂e)



Source: Bain & Company

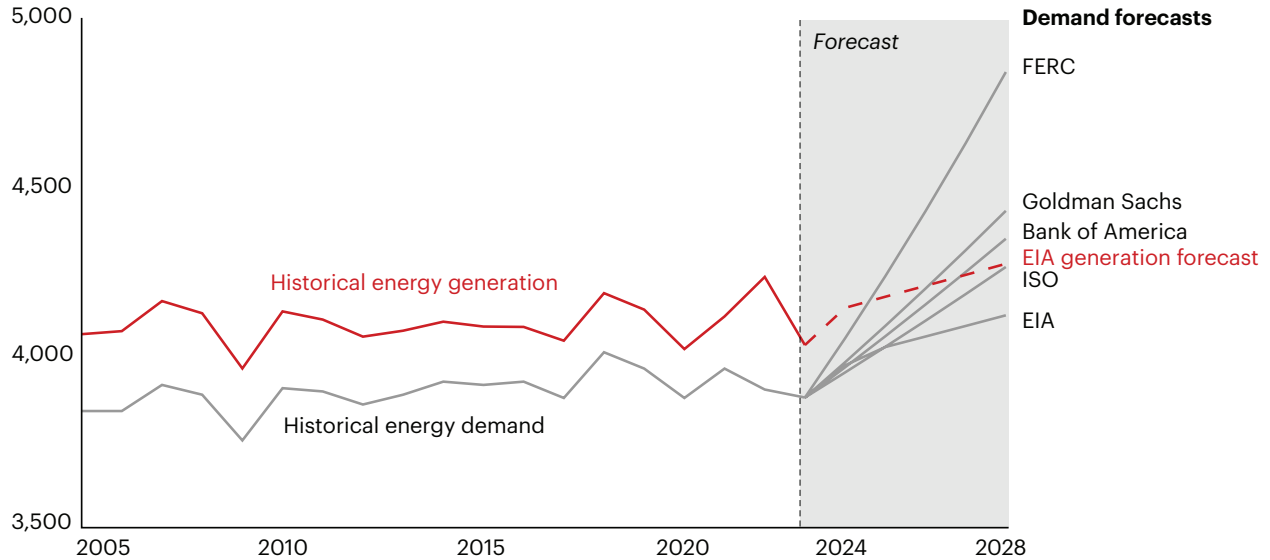
For B2C companies, this should include a calculation of emissions from consumer use of AI-enabled apps. With a large user base and a bias toward image and video generation, many of these apps are more power-intensive than most organizations realize. As AI-enabled initiatives expand in teams like purchasing, marketing, and finance, CTOs and CSOs will have to work across functions to get the information needed to build a holistic picture. This review should include work with third-party suppliers—for example, when marketing departments work with outside agencies on AI use cases.

2. Win the race to decarbonize your cloud. Bain analysis shows that up to 70% of a typical company's IT Scope 3 decarbonization goals will depend on the decarbonization of its IT suppliers. The fastest way to decarbonize IT is therefore to engage suppliers and support their decarbonization journeys. Cloud providers are scrambling to meet the burgeoning demand for sustainably powered data services and to capture the opportunities this presents. While progress is advancing on many fronts, the supply of green energy will be quite constrained in the medium term, creating significant headwinds for the net-zero ambitions of both the tech sector and its customers. Indeed, many experts expect total demand for electricity to increase beyond total supply in the next few years (see Figure 2).

Companies should act now to ensure they are first in line for green power. This starts with understanding the power usage efficiency of data center providers and alternative suppliers. There is a high level of variation across companies and among the sites of any single provider. New tools to track the energy efficiency of cloud service providers are becoming available, and suppliers are offering dashboards to

Figure 2: If electricity generation growth remains as forecast, demand is likely to exceed supply in the near-term

US electricity historical and forecast demand vs. generation (in terawatt-hours)



Note: EIA combined forecasts of electricity demand and generation for 2023 to 2025 taken from the EIA Short-Term Energy Outlook (May 2024) and for 2025 to 2028 from the EIA Annual Energy Outlook (March 2023)
 Sources: ISO (data from H2 2023–H1 2024); FERC Grid Strategies; Bank of America; Goldman Sachs analyst forecasts, April 2024; EIA

help monitor and test consumption. Supplier selection and management processes will need to be bolstered, and purchasing teams will have to be trained to embed sustainability criteria in their process.

3. Don't hit the brakes on AI, but integrate sustainable behavior from the start. Could the combination of tremendous growth in AI demand, limited availability of green energy, and sustained stakeholder pressure to decarbonize eventually result in constraints on AI usage, or even rationing? While this sounds extreme, it's urgent that forward-looking CEOs, CTOs, and CSOs push their organizations to use AI in the most effective and efficient ways.

Two areas warrant immediate focus. The first is upskilling and creating awareness within the organization of eco-design and eco-utilization of generative AI. This includes selecting appropriately sized models for the task at hand. There can be more than 100 times difference in power use between the smallest and the largest model when applied to the same task. Also, not everyone needs AI's most powerful tools. Bain estimates, for example, that 90% or more of a typical consumer goods company's employees do not require access to energy-consuming video generation tools.

There are other technical actions to take as well. Companies can leverage prompt engineering, such as the selection of predefined prompts for all users and semantic "caching" of existing responses based on identical or similar user requests, to reduce the number of requests per user. Fine-tuning a

model rather than using a multipurpose one can reduce emissions by up to 70%, and deploying quantization in open-weight models to reduce model size and speed up processing can reduce emissions by up to 50% without a significant impact on output quality.

• • •

Merging AI and sustainability presents tremendous opportunities for business. Companies should strategically embed AI within sustainability initiatives to fuel innovation, efficiency, and resilience. However, the surge in AI's energy demand calls for a smart, sustainable approach. By embedding sustainability from the start, businesses can meet carbon targets and lead the charge toward a greener, tech-driven future. The challenge is clear: Innovate fast, but do it sustainably.



Getting It Done

Olam Food Ingredients: Pioneering a New Financial Model for Sustainability

CFO Rishi Kalra has finance and sustainability speaking a common language, valuing comprehensive impact, and reporting results investors can count on.

By Sachin Shah

As a global food and ingredients company involved in cocoa, coffee, dairy, nuts, and spices, Olam Food Ingredients (ofi) is on the front line, helping farmers and communities respond to a changing world. The company has developed innovative ways to effectively communicate its value as a sustainable enterprise to investors and regulators. By taking a pioneering approach to accounting that includes not only financial capital but also natural, social, and human capital, ofi aims to create consistent long-term value that, in turn, builds resilience for the business and its stakeholders.

To learn more about how ofi is tackling some of the thorniest issues facing companies today, we spoke to executive director and group chief financial officer Rishi Kalra about his work. From accounting that properly reflects the costs and benefits of sustainability, to translating sustainability into language any executive, regulator, or investor can understand, Kalra offers valuable insight into the critical role CFOs play today. Following are edited excerpts from our conversation.

Bain: Rishi, you have been working at the intersection of finance and sustainability for many years, both at Olam and as the co-chair of the Asia-Pacific chapter of the CFO Leadership Network for Accounting for Sustainability. How would you describe the role of the CFO in sustainability today, and how has that evolved over time?

Rishi Kalra: Traditionally, sustainability was never part of the CFO's role; it was always in the CEO's domain. The challenge was that sustainability wasn't speaking the language of business leaders. It was becoming very theoretical, and the only language that business leaders understood was dollars and cents, and in a form that they'd always seen: profit and loss statements and balance sheets.

Today, sustainability is at the heart of the role of a CFO from a governance, commercial, and regulatory standpoint. Regulators expect it. Investors are seeking it.

Regulators are now mandating sustainability reporting, and the same rigor that you apply to financial numbers has to be applied to sustainability numbers. If you don't have the same data governance, and the same processes and systems to track it, the potential for missteps increases; that can be a big risk to any organization.

CFOs can bring the same rigor they apply to accounting and financial numbers to sustainability numbers—asking, for example, whether the data is not only relevant but also good enough to be reported outside the organization.

Today, sustainability is at the heart of the role of a CFO from a governance, commercial, and regulatory standpoint. Regulators expect it. Investors are seeking it.

Bain: Meeting sustainability goals requires a lot of external collaboration. Olam has a history of working across the supply chain to support sustainable food. How did you start doing that?

Kalra: In our industry it was all about “who paid the most got the most.” That was not the business model we wanted to run with. We knew that if we worked with these communities, if we worked with the farmers, if we showed them a better way of improving their livelihoods, we would get a better product and strengthen our networks. There was a commercial rationale: The farmers and communities benefit as much as we do.

This is a journey we have been on for years. Much later, the world started picking up on some of these things, but by then we were entrenched in the communities and networks we had built and were doing this as an integral part of our business, not as a buzzword.

By following this path, we took an important step toward becoming a purpose-led organization.

Bain: What is the value proposition of sustainability for ofi?

Kalra: Unless we can demonstrate a commercial angle to delivering sustainability and see the value from it, it's only a budget to spend. In that scenario, it would only be about being a good corporate citizen, and there would be no real change. The work we continue at ofi ensures that sustainability remains at the heart of our operations. This effort is led by our Finance for Sustainability team that tracks our actions and impact through our Integrated Impact Statement (IIS), which we started developing way back in 2017.

Bain: To understand this value, you have to measure the benefits of sustainability. That's also something you focus on, correct?

Kalra: We've been tracking key metrics for a very long period. We launched AtSource some years back to provide customers all the metrics that matter to them. Whatever sustainability data matters to a company—water usage or carbon impact, for example—it already exists with us. This service, which we provide to our customers, creates value both for our customers and for us, in addition to having a real impact on the ground.

I'm a strong advocate for the idea that the future of accounting is in multi-capital accounting, which goes beyond financial capital. Financial capital only looks at the past, at history. It doesn't account in a way that lets you invest for the future. In financial accounting, there was no common measure of sustainability numbers to help investors or lenders see what was happening.

So, we were one of the first companies in the world to report beyond financial capital through our IIS. We started measuring and reporting the impact of our actions in dollars and cents across natural, social, and human capital—things that are not covered in conventional financial statements. In doing so, we ensure our sustainability and finance teams speak a common numerical language that everyone can understand, evaluate, and articulate.

That has driven real change internally but also helps us explain it effectively externally. Investors are looking to invest in companies that are not only saying what they are doing but actually doing it and can prove it.

The role of finance is to allocate capital to projects that matter. You might have heard our story about bees?

Bain: Please tell it.

Kalra: There are certain food products that can only be pollinated by bees. As one of the largest almond growers in the world, we were seeing productivity on our farms decline because the bees were not in their natural habitat. Every year, we spent millions of dollars for beehive owners to bring bees to our farms to pollinate the almonds. Yet, over the years, productivity continued to decrease. So, we worked with partners to create natural habitats for bees on our farms. What we saw was that productivity steadily increased.

That is where the link starts to be made. There is a cost to doing this, and in a financial statement that money you are spending is an expense, but the value is long-term productivity. So how do you allocate capital to a project like that? It's by looking at expenses not in the conventional way but by looking at the impact on natural capital and then measuring that in dollars and cents.

It's a mindset. I see it as a very big mindset shift.

Bain: With this mindset, what is your ambition for sustainability at off?

Kalra: Our commitments are 2030 targets in our new sustainability strategy, "Choices for Change." We applied the concept of double materiality. We want to double down on topics that are both important to the world and that we can make an impact on. It's not everything for everybody. For us, it's about regenerating the living world, prosperous farmers, thriving communities, and climate action. And we want to hold ourselves to making the biggest impact on these topics.

Bain: What advice would you give to other companies earlier on this journey? How can they shift their mindset?

We started measuring and reporting the impact of our actions in dollars and cents across natural, social, and human capital—things that are not covered in conventional financial statements.

Kalra: Everybody has to be clear that sustainability is no longer optional. The sooner they can make sustainability a value proposition, the quicker it will be embedded. There's never a right or wrong time. It's about your starting point and improving from there. If everyone is improving, the world is benefiting.



Transitions

Winning in the Energy Transition, One Step at a Time	48
All Together Now: Partnerships Are Key to Circularity	54
Faster by Design: New Models for Financing the Food Transition	60



Transitions

Winning in the Energy Transition, One Step at a Time

Forget 2050. The next 5 to 15 years will make or break the race to net zero.

By Peter Guarraia, Emily Emmett, Cate Hight, Valeria Sterpos, Brian Murphy, and James Baird

At a Glance

- ▶ Surging demand for data center power, rising capital costs, and other factors are intensifying the challenges of the energy transition.
- ▶ Although they remain committed to decarbonization, many companies are focusing on investments with clearer paths to a return.
- ▶ Rather than targeting 2050, emerging energy transition leaders are developing strategies for “203X”—the next 5 to 15 years.
- ▶ To start, they’re evaluating what they know (and don’t) about 203X, identifying their competitive advantages, and assessing their organizational capabilities.

As businesses encounter the practical realities of delivering on long-term decarbonization commitments, executives are realizing that success in the energy transition will require a pragmatic, urgent focus on moving from one stepping-stone to the next on the path to net zero.

It will take change at an unprecedented scale and pace to solve the dual challenge of the energy transition—increasing the world’s energy supply to meet growing demand while curbing carbon

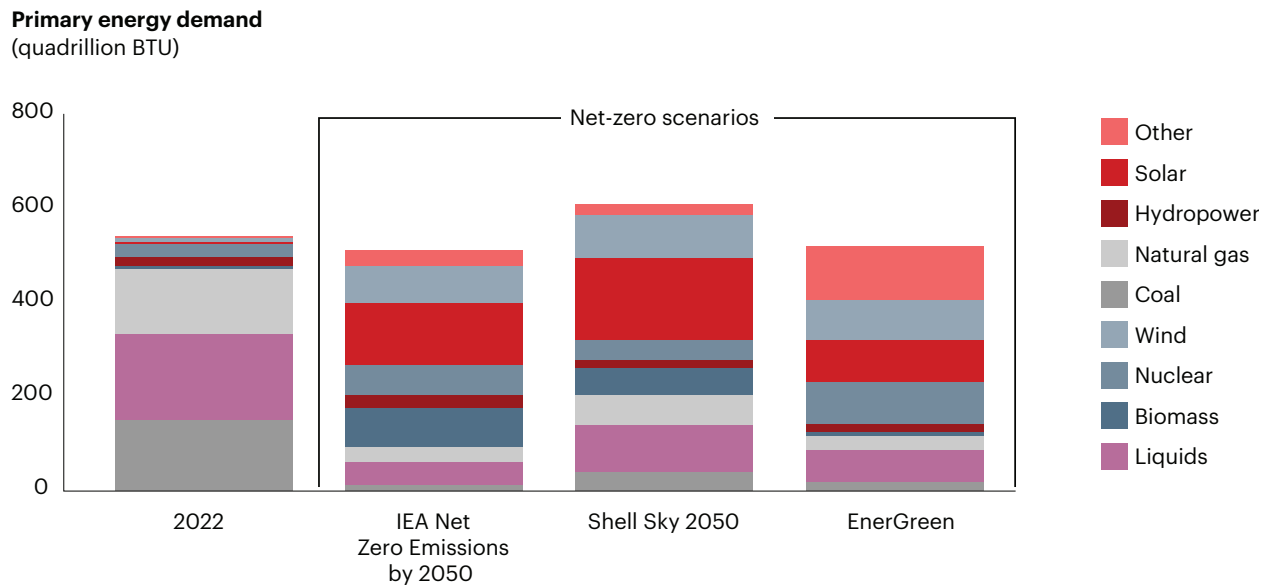
emissions. This challenge was daunting even before artificial intelligence began to grow at an explosive rate in late 2022. The resulting surge in demand for data center power, combined with the ongoing effort to “electrify everything,” will put immense pressure on electrical grids in the coming years while complicating decarbonization efforts. At the same time, rising capital costs, geopolitical tensions, supply chain constraints, and regulatory complexity are only exacerbating the challenge.

As energy transition initiatives accelerated in recent years, many investors and companies anchored their efforts around the distant-future goal of achieving net-zero carbon emissions by 2050, operating on the assumption that immediate steps were needed in order to achieve that end goal. However, as they’ve ramped up decarbonization investments, many companies have found out the hard way that it’s possible to lose a lot of money between now and 2050. Although most remain committed to decarbonization, companies are increasingly focusing on transition-related investments with clearer paths to generating a return.

Still, it remains unclear what the mix of energy generation sources and emissions abatement technologies will look like in a net-zero end state, with a range of potential combinations (see Figure 1). The pace and roadmap for reaching that end state are even more opaque.

It’s understandable that executives would have reservations about making investment and business decisions based on an uncertain future that’s more than 25 years away, possibly long after their tenures

Figure 1: The mix of energy generation sources to achieve net-zero emissions could vary



Notes: Primary energy demand projections vary across scenarios due to differences in assumptions about the combination of renewables- and electrification-induced efficiency gains as well as technical efficiency gains and behavioral changes; EnerGreen liquids category only includes oil; all net-zero scenarios reflect projections as of 2023
Sources: Resources for the Future; IEA; Shell; Enerdata; Bain analysis

have ended. But a better way is emerging. Some companies are refocusing on strategic and financial fundamentals that explicitly recognize the dual challenge imperative but prioritize practical execution in the near term. Rather than taking a 2050 lens, they're developing an energy transition strategy geared toward winning in the next 5 to 15 years—a less rigid, but more pressing and actionable, time horizon that we're calling “203X.”

These companies are discovering that focusing on 203X is powerful *and* pragmatic. It inspires them to imagine what's possible while holding them accountable for what's practical. It doesn't downplay the urgency to act; it highlights it. Success in a very different future demands having the conviction to make bold moves now to secure advantages—geographic, technological, competitive—that will be meaningful in 203X and beyond.

Going forward, navigating the energy transition will require continually forecasting 5 to 15 years ahead, mapping key stepping-stones, and dynamically adjusting strategy in a thoughtful, balanced way. This approach can mitigate uncertainties that paralyze action, highlight potential disruptions to guard against, and empower resilient decision making.

Developing a stepping-stone strategy

Even when companies recognize the benefits of a stepping-stone approach to the energy transition, many aren't sure how to start. Emerging leaders are forming their strategy by focusing on three things.

1. Get clear on what you know and what you don't. Anchoring on 203X instead of 2050 helps narrow strategic considerations to a more manageable number and focus the conversation. Leading companies contemplate the industry variables likely to remain relatively steady between now and 203X, as well as the “known unknowns” that they'll need to develop resilience against. By identifying the external factors that could affect their strategy and grouping these factors by their degree of predictability, organizations can develop a plan that prioritizes investments based on a range of possible outcomes. This can illuminate potential pathways to capitalize—and their trade-offs.

Executives may be surprised by how much they can project with reasonable confidence within the 203X window, such as the relatively predictable development speed of energy technology (constrained by physics) and the relatively defined speed and scale limitations of infrastructure construction. Essentially, this means companies will be operating within today's parameters for much of 203X. That should feel freeing for executives' energy transition decision making. Although they can't ignore long-term technology trends, some things that might be possible by 2050 are off the table (for now).

Meanwhile, identifying *unknowns*, such as the future cost of capital, can make the strategy adaptable to less predictable external disruptions. It also helps avoid irreversible commitments that depend on a worldview that may change.

As part of a durable and resilient strategy, companies should continuously consider and plan for uncertainties, including extreme-but-plausible scenarios where the range of outcomes can be estimated.

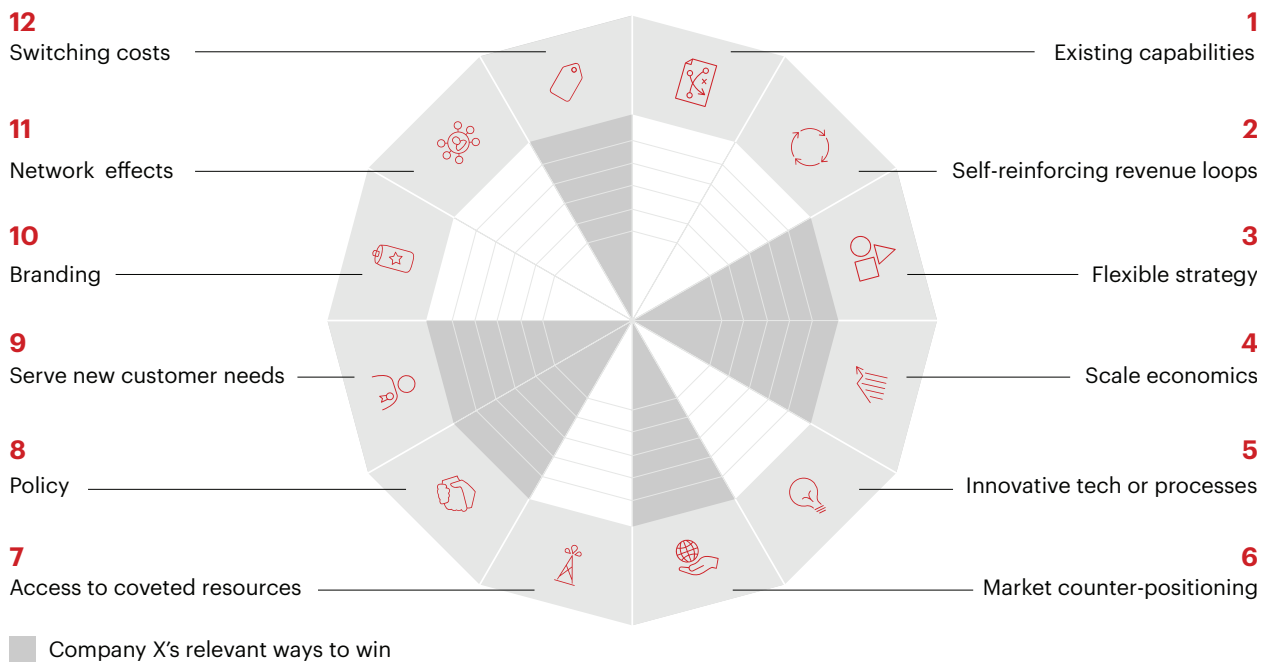
History has shown that certain disruptive events will happen, even if executives don't know when or how significant they'll be (think weather or wars that hobble energy supply chains). Once the range of plausible scenarios is understood, companies can define and track key signposts that would trigger strategic adjustments.

Maersk, the global shipping and logistics company, has launched the first vessels in a planned fleet of around 25 container ships that can sail on green methanol in addition to biodiesel and conventional bunker fuel. Maersk has also begun retrofitting existing ships with the same dual-fuel engines. This move gives the company optionality as green methanol technology matures, plus resilience against the pace of its production, while helping fulfill the company's 2030 carbon-reduction goals on the path to its 2040 net-zero emissions target.

2. Identify the most relevant ways to win. Succeeding in the energy transition will likely require a portfolio of strategic advantages that, together, will allow companies to navigate even the most dramatic shifts in the landscape. Emerging leaders are evaluating their companies against 12 potential competitive levers and leaning into the ones that are most relevant or important to their business model (see Figure 2).

These companies are also trying to anticipate which approaches their competitors are pursuing, or are most likely to pursue, and how those choices may affect them.

Figure 2: Succeeding in the energy transition requires identifying your company's strongest competitive levers among 12 potential ways to win



Source: Bain & Company

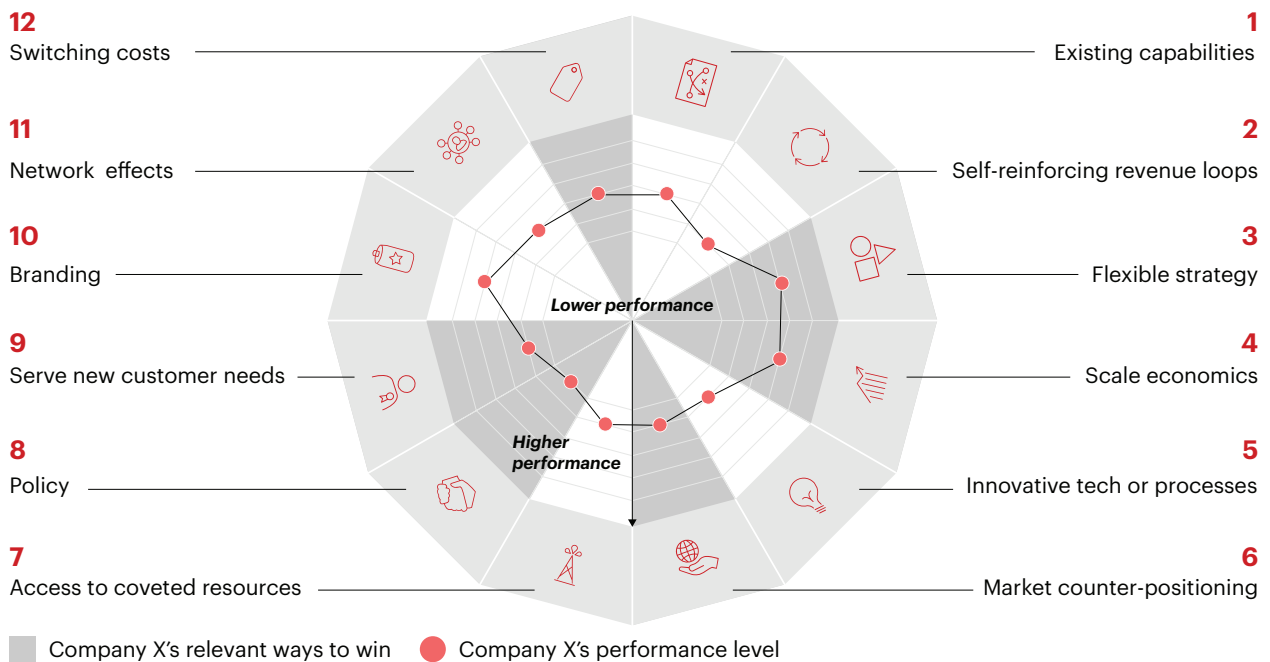
A prudent portfolio of competitive levers focuses on a few priority areas while recognizing crucial interdependencies. For example, innovative technology may be relevant, but if the technology requires resources that are constrained, securing coveted access will also be critical to the company's success.

3. Assess performance and capabilities across key levers. Leading companies conduct an honest assessment of their current performance across the chosen strategic areas of focus. It's crucial to be realistic about which capability gaps to close and how. Thoughtful investment of scarce internal resources will be essential, and acquisitions and partnerships may be an important part of succeeding in the energy transition.

By marrying the short list of competitive levers with an assessment of performance and capabilities in those areas, companies can build a robust execution roadmap (see Figure 3).

With electric vehicle sales rising, a chemical manufacturer looked to capitalize on surging demand for critical battery materials. The company assessed technology and market trends, and it ran potential scenarios to help identify its key strategic choices. For example, what's the right mix for its portfolio of product types and battery chemistries, as well as resource types and locations? Where should it locate its resource base and processing operations? Which customers and value chain intermediaries should it focus on, and how would that differ from its current customer base?

Figure 3: Assessing performance across potential competitive levers can guide a company's energy transition roadmap



Source: Bain & Company

The assessment helped the company develop a 10-year growth strategy with clear short-term priorities (e.g., supplier relationships, production expansion, technology roadmaps) and a set of signposts to monitor that would prompt updates to the strategy (e.g., technology advances, government incentives for EVs). Despite the variability in material prices and fluctuations in near-term EV demand, the company's flexible long-term strategy enables it to adapt nimbly to such headwinds.

Or consider how one retail energy firm is transforming itself into a consumer-centric services company. Faced with diminished growth prospects in its core business, customer demand for sustainability, and competition from residential solar and other new energy products, the firm needed to evolve. The leadership team recognized this, but some members were skeptical the company could execute such a pivot, given the organization's limited success entering new markets in the past.

To succeed this time, the company developed a long-term growth strategy with a clear roadmap. It conducted detailed market assessments for potential new businesses, defined the uncertainties most likely to affect the company's strategy, and stress-tested the organization's capabilities by simulating potential disruption scenarios. The company also ran a series of "micro-battles": discrete, time-boxed initiatives that rapidly bring strategic choices to action and formulate ways to scale the results. Through this effort, the company established a repeatable, structured model for evaluating and scaling new businesses. Ultimately, the company projects its new strategy could deliver hundreds of millions of dollars in EBITDA in the coming years.

Seizing the moment

We're in an unprecedented moment in history, facing tremendous challenges but also incredible opportunities. Emerging leaders know that success in the energy transition requires preparedness and durability. They're developing strategies that capitalize on known factors or those they can reasonably constrain, while becoming adaptable to those they cannot. Above all, they're moving quickly to capture advantages that will define their strategic position in 203X and beyond.



Transitions

All Together Now: Partnerships Are Key to Circularity

Broad alliances help circular businesses increase revenues and gain new customers.

By Hernan Saenz, Joshua Hinkel, Tessa Bysong, Xavier Houot, and Simone Doms

At a Glance

- ▶ Circular partnerships speed access to market knowledge and sources of circular feedstocks.
- ▶ More than 90% of companies with a circularity initiative have at least one partnership, according to a Bain survey.
- ▶ Artificial intelligence can help extend a product's useful life by determining when it needs repair or service.

Many businesses recognize the power of circularity to shape the next economic era. Circular business models will enhance operational resilience, give rise to new markets, and offer a competitive edge in a world of limited resources. But most leadership teams are still uncertain about how to deliver on that promise.

Partnerships are vital to a successful circular strategy. They provide the knowledge and materials to design a circular business model. They can also lower production costs, create economies of scale, and enhance consumer loyalty. In a 2022 Bain & Company survey, 94% of respondents who said their company had a circularity initiative had at least one circular partnership.

Companies can develop in-house capabilities to manage a circular business model, but partnerships may offer a faster and more cost-effective approach. They speed access to market knowledge, lower the cost of circular materials, and help guide the policies and standards needed for a mass market in circular goods and services.

Partnerships will need to evolve quickly to include a wider range of stakeholders and companies beyond linear value chains. These alliances may comprise companies from diverse industries and even competitors. Cross-industry coalitions can help businesses agree on how to share the revenues, costs, and risks of circular business models. As more companies go circular, partnerships will expand into multi-stakeholder coalitions or circular ecosystems.

Sources of value

Companies can create value from circular processes in three different ways. The first involves reducing virgin material consumption by using recycled feedstock or redesigning products to reduce material needs. The second source of value is based on increasing a product's useful life span through repair, refurbishing, and remanufacturing services. And the third focuses on transforming high-value products to services to increase capacity utilization. Leadership teams may forge a circular business model around one or more of these sources of circular value. Each industry will use the model that is best adapted to its needs.

Partnerships will differ depending on the type of circular value sought. Companies may collaborate in seeking access to circular feedstocks, for example, or to refurbish products and extend their life. Others may partner to reinvent products as services that reduce resource consumption. In our experience, companies start with vertical partnerships and industry coalitions since they help pave the way for industry standards.

An important step in building a circular business model is identifying the control points in the value chain and inflection points (see *Figure 1*). Control points include both material flows, such as access to circular feedstocks, and information flows, such as how to identify goods for repair or disposal. In the chemicals industry, for example, where recycled feedstock is in short supply, collection and sorting facilities for plastic waste are a vital control point.

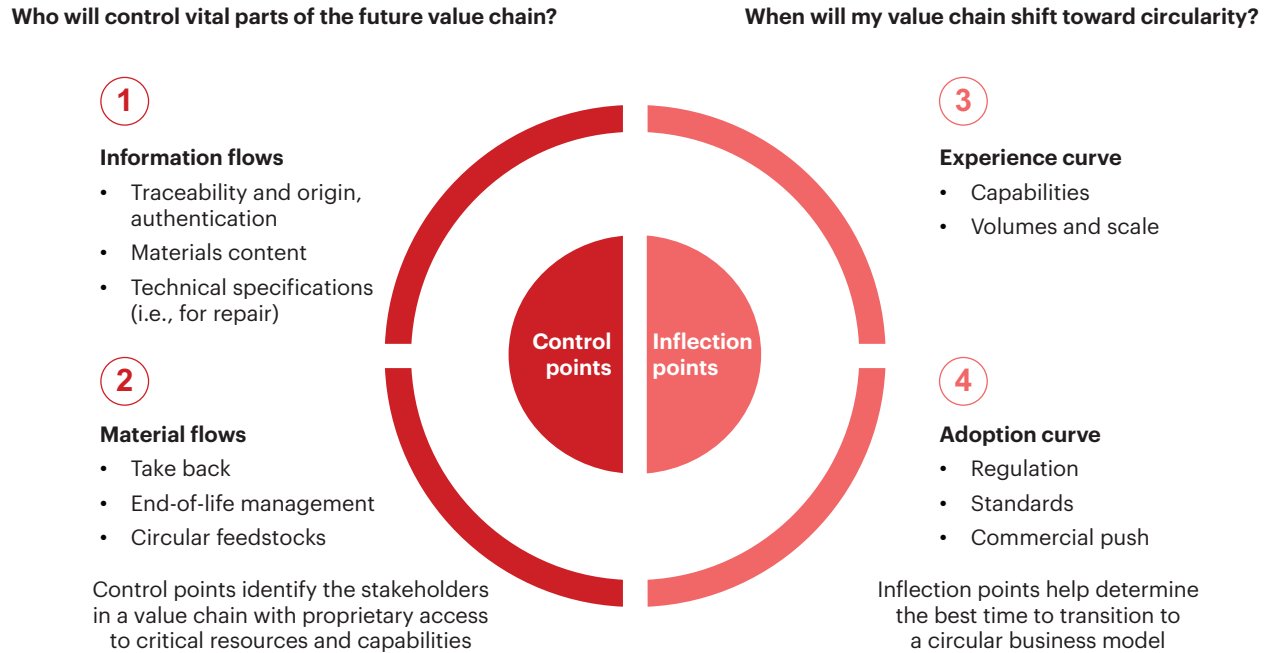
Inflection points include the factors that can make circular goods cost-competitive, increase consumer confidence in refurbished products, and create demand for new circular offerings.

Successful partnerships help companies gain access to control points and understand how circular products can best compete with linear equivalents.

Circular feedstocks

The challenge with circular feedstocks is that demand often rapidly outstrips supply. Firms seeking circular feedstocks for plastics, textiles, or metals, for example, have already encountered those

Figure 1: Control points and inflection points help companies manage the transition to circular business models



Source: Bain & Company

limits. One reason for feedstock scarcity is the lack of recycling technologies that are economically viable at scale. Another is the lack of affordable and accessible waste that can be used as feedstock.

To develop large quantities of sustainable inputs, leading companies are partnering with those who have access to end-of-life material and the ability to generate value from reusing it. Partners can recycle materials either through traditional mechanical means or via emerging advanced chemical recycling capabilities that process hard-to-recycle plastics such as flexible films or thermoplastics.

Dow Chemical and Freepoint Eco-Systems, for example, recently agreed to convert 65,000 metric tons of plastic waste in the US into circular feedstock for new virgin-grade equivalent plastics. Freepoint plans to build an advanced recycling facility in Arizona to convert end-of-life plastic waste into pyrolysis oil, which Dow will buy to produce new virgin-grade equivalent plastics suitable for food packaging as well as medical and pharmaceutical packaging.

Extending product life span

Partnerships are also key to extending the useful life of products. Maintenance and service providers, for instance, have knowledge about common failure points and how to design products for easier upgrades. A partner may also supply critical data flows, including traceability of products and components, telemetrics (enabled by the Internet of Things), and predictive maintenance to determine when a

product needs repair, upgrade, or refurbishment. Companies may connect products to their own cloud service or that of a partner and use artificial intelligence to improve performance and uptime. The data generated can increase customer confidence in refurbished products, accelerating adoption.

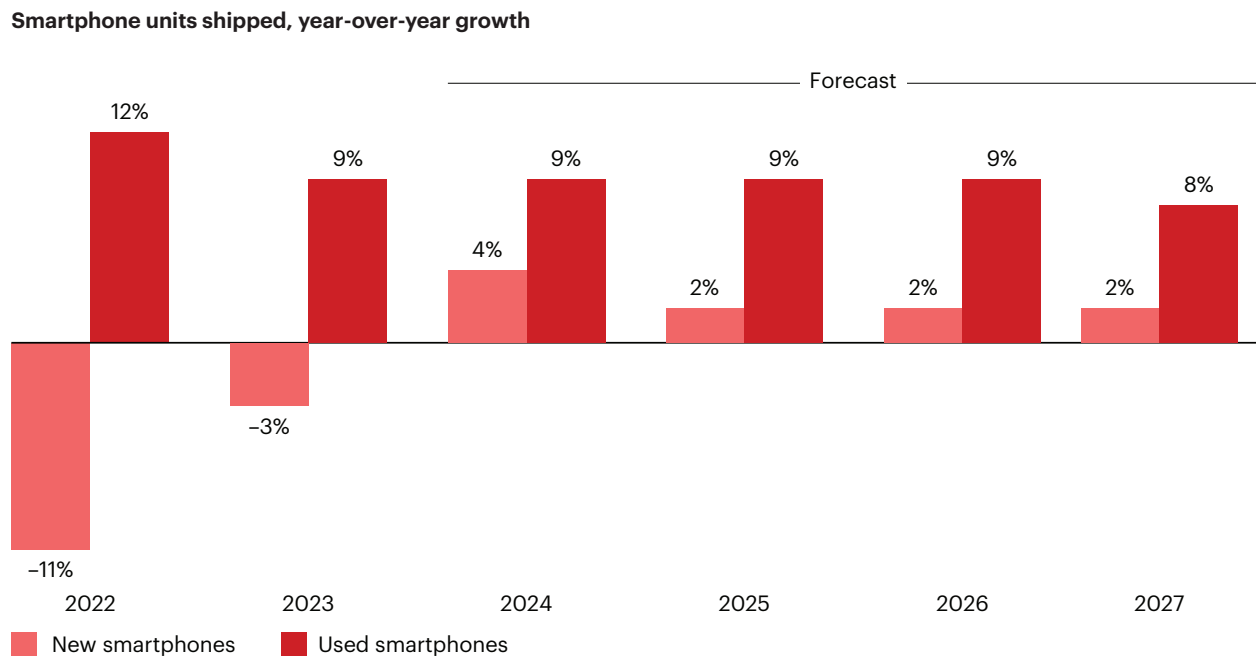
Take the case of Apple, which extends the lifetime of its iPhones and other devices by offering certified refurbished products with Apple replacement parts and a one-year limited warranty. In China, Apple has two partners for recycling devices: Foxconn subsidiary iFengPai and ATRenew, the country's largest secondhand consumer electronics service company.

Since Apple launched its trade-in program in 2013, the secondary market for refurbished products has become a major source of profit and an environmental win (see Figure 2). Apple's share of the global market for refurbished phones in 2022 rose to 49%, and the company sent 12.2 million devices and accessories to new owners for reuse in 2021, extending their lifetime and reducing the need for new virgin material. That strategy has helped Apple gain access to a larger customer base, particularly in countries and regions where lower-priced competitors are the market leaders.

Transforming products into services

Partnerships play a similarly important role in reinventing business models and transforming products into shared services. Companies that move to service-based business models often forge collaborations

Figure 2: Used smartphones outpace new smartphones in unit sales growth



Notes: Sales for used smartphones in 2023 is a forecast based on Q1-Q3 data; the figure for new smartphone sales in 2023 is actual full-year sales
Sources: IDC Worldwide Smartphone Forecast Update, June 2024; IDC Worldwide Used Smartphone Forecast, December 2023

with financial partners and use software and AI solutions to maintain products at their optimum performance level for the longest possible time.

In 2023, mobility company Lynk & Co partnered with used car auctioneer BCA Europe to increase the life span of Lynk's cars by reselling them in the used car market. Lynk offers its members easy access to a car as a flexible, month-to-month service. After customers return their vehicles, Lynk inspects and reconditions them before BCA Europe seeks a buyer. The partnership, which covers seven European markets, helps increase the lifetime of each vehicle.

Companies that move to service-based business models often forge collaborations with financial partners and use software and AI solutions to maintain products at their optimum performance level for the longest possible time.

The shift to shared services can create new markets. German machinery maker The Trumpf Group and insurer Munich Re partnered in 2020 to develop an innovative business model for laser-cutting machine services. Instead of having to buy or lease laser equipment, Trumpf customers pay an agreed price for each cut sheet metal part, so the expenditure on equipment is tied directly to business need.

The pay-per-part model offers customers financial flexibility, allowing them to avoid significant capital expenditures on machinery and react faster to market changes. Trumpf remains the legal owner of the machine and takes care of all maintenance, repairs, production planning, and programming. Munich Re finances the machine and bears the investment risk.

Though pay-per-part contracts represent less than 1% of Trumpf's total business today, they are a win-win for the company and its customers. Under pay-per-part contracts, Trumpf sends its own engineers and mechanics to customers, who, in turn, can focus on their core business. The arrangement provides Trumpf with valuable data on the performance of its machines. Overall, the pay-per-part contracts enable Trumpf engineers to manage material use more efficiently, reducing carbon dioxide emissions by up to 65%. After 8 to 10 years, Trumpf takes back the machines and refurbishes them or reuses selected parts.

Circular ecosystems

Over time, industry partnerships are likely to evolve into broad ecosystems that stretch beyond a company's value chain. These alliances will bring together all the parties needed to ensure that those

who have access to feedstocks connect efficiently with those who can recycle them. They also will help shape industry standards and accelerate cost reduction over time.

Already, companies are joining together in industry coalitions to lay the precompetitive foundation for circular business models. The Global Battery Alliance, for example, is working to scale a sustainable battery value chain and has more than 160 member organizations, including Tesla, BASF, Microsoft, and Volkswagen. The alliance has created a “battery passport” as a standard to increase transparency and accountability along the battery value chain. The passport, a digital twin of the physical battery, provides standardized data on the provenance of raw materials, manufacturing history, sustainability performance (such as carbon footprint), and recycling. The aim of the passport is to increase consumer confidence in electric batteries with trusted data on sustainability and performance.

Companies in every industry are working together in new and more interconnected ways to lay the foundations for circular business models. Partnerships will exist both within a business's value chain and outside of it. Leadership teams that start forging these vital alliances now will be best positioned to prosper as the transition to a more sustainable economy accelerates.



Transitions

Faster by Design: New Models for Financing the Food Transition

We know how to build more resilient, climate-smart, and nature-positive food systems, but we must move faster. New models can help.

By John Blasberg, Sasha Duchnowski, Andrew Keech, Jenny Davis-Peccoud, and Vikki Tam

At a Glance

- ▶ Emerging financing and collaboration models can help agriculture clear long-standing barriers to sustainability.
- ▶ These models can accelerate farmer adoption of the necessary production changes by distributing risk and monetizing ecosystem benefits.
- ▶ Many companies stand to benefit from more sustainable food systems. Asking five key questions will help them jump-start their efforts.

This article is excerpted from the World Economic Forum report 100 Million Farmers: Breakthrough Models for Financing a Sustainability Transition.

Our global food system has a significant impact on the environment. It accounted for more than 30% of global greenhouse gas (GHG) emissions in 2020, over 80% of tropical deforestation and biodiversity loss, and 70% of global freshwater withdrawals. It also has the potential to sequester substantial amounts of carbon.

We know the practices, technologies, and inputs that could begin to reduce—and ultimately reverse—the food system’s impact on climate and nature while at the same time building resilience, boosting productivity, and enhancing the nutrient density of crops. Yet we struggle to deploy these solutions at the scale and pace required. Currently, an estimated 15% of global cropland is farmed using regenerative practices.

Transforming the global food system demands greater investment: at least \$300 billion in additional capital annually through 2030, according to the Food and Land Use Coalition. Without new approaches, it will be hard to raise that much capital.

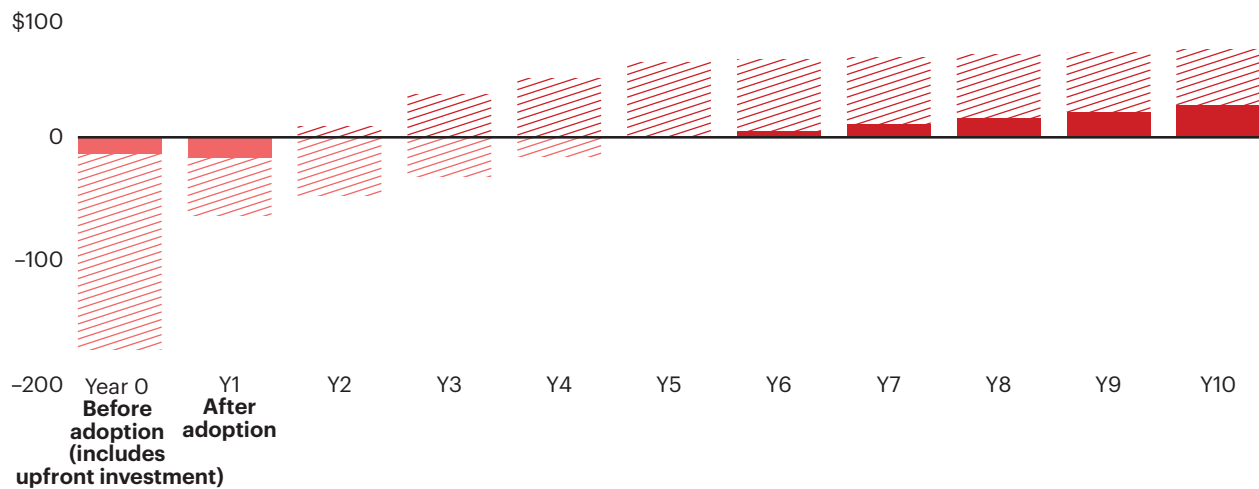
Regenerative agriculture, one part of that transformation, illustrates the challenge. Its potential benefits are well understood, but farmer adoption has not scaled quickly enough due to economic, technical, and social barriers. Even though longer-term returns can be positive, the economic risks farmers face in the early transition years—up-front investments required, uncertainty in yields as soils are reconditioned—can pose a major barrier to getting started at all (see *Figure 1*).

To date, few actors, including those that stand to benefit from the many advantages of regenerative agriculture, have stepped up to share that risk. However, innovative financing and collaboration models are now emerging that use up-front payments or guarantees to defray the risks for farmers

Figure 1: Regenerative agriculture typically increases farmer cash flows—but only over time and after significant up-front investment

Net cash impact from adopting regenerative practices, farmer owner-operator model

(US dollars/acre)



Notes: Cash-flow impacts are not adjusted for inflation and do not reflect noncash costs, cover crop sales, grazing (hay savings), additional yield benefits in drought years, sustainability-linked incentives/payments/discounts, or proceeds from the sale of credits for carbon or other ecosystem services; cash impact of adoption is calculated relative to a baseline scenario in which crop prices are held fixed throughout the transition period at their Year 0 level; in the modeled scenario, a 500-acre farm in Illinois, USA, growing corn and soy in rotation transitions from conventional practices to no-till and cover crops
Source: Bain & Company

and in some cases offer other supports, like affordable working capital loans, equipment and input financing, and technical assistance.

Monetizing the benefits of regenerative agriculture

Regenerative agriculture can deliver many valuable outcomes to a wide set of participants in today's food system, but so far, few are paying for them. The benefits include a lower carbon footprint for food production; reduced water use, runoff, and pollution; improved biodiversity; higher nutrient density in food; and more resilient farming operations. These outcomes are highly valuable to downstream agri-food companies that need reliable and resilient supply chains, aim to produce nutritious foods, and want to deliver on Scope 3 carbon commitments. Farm lenders and insurers of farms could lower risk in their agricultural portfolios, while local water companies would benefit from cleaner water.

Transforming the global food system demands greater investment: at least \$300 billion in additional capital annually through 2030, according to the Food and Land Use Coalition.

Monetization of these outcomes could occur in several ways. For example, a wide range of actors could pay for verified environmental outcomes like GHG emission reduction and removal or lower freshwater pollution. Agri-food companies could pay premiums for commodities produced in a way that delivers the desired outcomes or agree to longer-term offtake contracts that reflect the more reliable supply they expect to receive. Monetization of resilience could take the form of more favorable lending and insurance terms for farmers to reflect lower portfolio risk.

Today, only one ecosystem outcome market is relatively developed: the monetization of carbon outcomes through carbon offsets and Scope 3 reduction programs, called "insets." Markets for water quality, water conservation, farmland resilience, enhanced biodiversity, and higher nutrient density of food have been slow to develop, in part because of a lack of agreement on how to measure things like biodiversity. Another factor is insufficient data on the precise relationship between regenerative practices (such as reduced or no tillage, cover cropping, and nutrient management) and better environmental and economic outcomes.

Before the many benefits of regenerative agriculture can be fully monetized, a blend of catalytic, concessional, and commercial investment capital will be needed to kick-start programs that provide farmers with the requisite financial and nonfinancial support. This investment capital can be recouped over time as food system actors recognize and increasingly value the benefits delivered by regenerative practices.

Emerging financing and collaboration models

Coordinating these capital sources and channeling their investment efficiently require backbone entities. So does coordinating support and services for farmers. Entities that take on this coordination role must have a strong understanding of a number of factors, including the optimal deployment of regenerative practices, the expected economic and environmental outcomes for the farms they assist, and the financial and nonfinancial support that is most likely to incentivize farmers. Their ability to accurately forecast farms' agronomic and environmental performance under regenerative management will be key to structuring robust financing vehicles.

A range of models are being tried today. No one program yet incorporates all the essential elements to accelerate and scale up farmers' transition to sustainable practices, but two "farmer-allied" models do show promise. The first builds on grower associations and the inherent trust they have with farmers, who often face a bewildering array of offers and programs, not always tailored to their needs and mostly inconsistent with one another.

One example of this type of model is the Soil and Water Outcomes Fund (SWOF), a program affiliated with the Iowa Soybean Association. Despite evidence that using conservation tillage and cover cropping could bring both soil health and financial benefits to US corn, soy, and wheat farmers, more than 90% of them surveyed in 2022 cited uncertain return on investment as a barrier to adoption. We estimate that \$25 billion to \$80 billion in financing—or more—will be needed to help US farmers reach an agronomically optimal level of low- or no-till farming and cover crops.

SWOF is beginning to address that need by providing participating farmers across 19 states with up-front payments, along with technical assistance to support their transition. SWOF's financing comes in part from monetizing and selling environmental credits to corporate buyers, like PepsiCo, Cargill, and Target, who benefit from a more sustainable supply chain. It has also raised catalytic capital from government sources, including the USDA's Partnerships for Climate-Smart Commodities.

SWOF serves as a coordinator between farmers and other parties, quantifying environmental outcomes from individual farms with robust data and modeling, negotiating purchases from multiple buyers simultaneously, and optimizing financing flows. It's a model that is now being emulated in different crops, including cotton, and in other regions of the US. But even leading programs such as SWOF need greater financial services involvement in order to provide farmers with a full suite of solutions to support their transition.

The second model, in which financial services providers with the necessary advanced analytical capabilities catalyze progress, is exemplified by Crédit Agricole. Through a partnership with Canadian multinational McCain Foods and GAPPI, the bank is offering up to €40 million of new debt on attractive terms to 800 potato farmers adopting regenerative methods. With McCain making the interest payments and Crédit Agricole providing the loans, the partnership shows how aggregating capital from a variety of sources can help unlock more financial support for growers. In partnership with France Carbon Agri,

the bank launched a platform to monetize agricultural carbon outcomes. And at the same time, it is building its own internal capabilities. For example, relationship managers can use its Trajectoires RSE Agri tool to discuss regenerative agriculture more effectively with farmers.

Steps to accelerate change

Such innovative models show promise but need to be built out, scaled up, and replicated much more quickly. Financial services companies will play an important part, improving the financial health of their clients while building new revenue streams and progressing on their own environmental commitments and regulatory obligations.

But with less than 4% of overall climate finance going to the agriculture, forestry, and other land use sector today, far more engagement is necessary. Of more than 50 regenerative agriculture pilot programs studied in the US, only 15% include a financial institution of any size. Yet these players have a lot to gain from a more resilient portfolio and can bring valuable advanced analytical, risk management, and financial engineering capabilities to partnerships with others in the value chain.

Indeed, every company that benefits from regenerative agriculture must contribute. Efforts like the World Economic Forum's First Movers Coalition for Food aim to leverage the procurement power of member companies to give growers confidence and speed the adoption of sustainable farming for high-GHG agri-food commodities. Downstream agri-food companies, including processors, consumer products companies, and retailers, will benefit from greater certainty of supply and delivery on climate and nature commitments. All food system actors must develop the capabilities to effectively participate in the kind of collaboration critical to sustainable agriculture.

Companies keen to accelerate the transition to sustainable food systems will benefit from considering five questions:

1. How much value can our company create by ramping up our commitment to transitioning to sustainable food production while continuing to meet our commercial ambitions?
2. What investments, products, services, and procurement strategies will help us reach our targets?
3. How can we help farmers obtain the financing and other support they need?
4. Do we have the right partners, in the right models, to provide the support needed?
5. What operating model changes will we have to make?

Bold ideas. Bold teams. Extraordinary results.

Bain & Company is a global consultancy that helps the world's most ambitious change makers define the future.

Across 65 cities in 40 countries, we work alongside our clients as one team with a shared ambition to achieve extraordinary results, outperform the competition, and redefine industries. We complement our tailored, integrated expertise with a vibrant ecosystem of digital innovators to deliver better, faster, and more enduring outcomes. Our 10-year commitment to invest more than \$1 billion in pro bono services brings our talent, expertise, and insight to organizations tackling today's urgent challenges in education, racial equity, social justice, economic development, and the environment. We earned a platinum rating from EcoVadis, the leading platform for environmental, social, and ethical performance ratings for global supply chains, putting us in the top 1% of all companies. Since our founding in 1973, we have measured our success by the success of our clients, and we proudly maintain the highest level of client advocacy in the industry.



For more information, visit www.bain.com

Amsterdam • Athens • Atlanta • Austin • Bangkok • Beijing • Bengaluru • Berlin • Bogotá • Boston • Brussels • Buenos Aires • Chicago
Copenhagen • Dallas • Denver • Doha • Dubai • Düsseldorf • Frankfurt • Helsinki • Ho Chi Minh City • Hong Kong • Houston • Istanbul • Jakarta
Johannesburg • Kuala Lumpur • Kyiv • Lisbon • London • Los Angeles • Madrid • Manila • Melbourne • Mexico City • Milan • Minneapolis
Monterrey • Mumbai • Munich • New Delhi • New York • Oslo • Palo Alto • Paris • Perth • Rio de Janeiro • Riyadh • Rome • San Francisco • Santiago
São Paulo • Seattle • Seoul • Shanghai • Singapore • Stockholm • Sydney • Tokyo • Toronto • Vienna • Warsaw • Washington, DC • Zurich