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# Sustainability in manufacturing: Delivering net-positive returns

Sustainability should not be seen as a cost that must be offset somewhere else. Manufacturers can turn sustainability into a value differentiator by focusing on three areas.

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**Industrial giant ABB Ltd. is linking** compensation policies for senior management to the achievement of sustainability targets. Holcim, the world's largest cement maker, is **combining** sustainability and innovation into one C-suite job. Indian conglomerate Tata Group is **using** sustainability to quantify brand equity. These are just a few signs that the vast global industrial complex is retooling for a new era in which sustainability—the management of greenhouse gas emissions, energy consumption, waste management, green product development, and water conservation—is seen no longer as a cost but as a critical value differentiator.

One need only compare the US\$1 trillion market capitalization of Tesla with that of other automakers to see how the low- or no-emission option can also be the low-cost or free option. As Tesla reminds us, the path to get there isn't to tinker at the edges or get bogged down in a complicated cost–trade-off exercise but to position sustainability at the center of what you do and who you are as a company. For manufacturing executives navigating these crosscurrents, however, perhaps the biggest question is *How?*

We conducted extensive interviews with manufacturing leaders from the industrial, cement, chemicals, and fashion and retail sectors in the US, Europe, and Asia, and unearthed some interesting findings about sustainability in the manufacturing industry. The companies that have had the most success delivering financial returns while ensuring environmental stewardship—and thus ensuring that sustainability delivers positive returns—have embedded the goals of decarbonization and net zero into their organizational culture, innovation architecture, governance and reporting systems, and overall purpose. By making

bold changes to their business and operating models, they've approached sustainability as an investment that creates value and drives improved results in the short and long term, rather than as an initiative that imposes higher unwanted operating costs.

These companies have flipped the traditional notions of sustainability on their head. To them, sustainability means conforming with what customers, employees, investors, and governments are demanding for the betterment of the planet. When seen in this way, sustainability is net positive because it recognizes the direct, indirect, and nonquantified costs—both current and future—and is built from the beginning into how the business operates. The only *cost* is in not changing the company to make products for today's generation of customers, and hence losing market share in key consumer segments. According to a [PwC survey of C-level leaders](#) with responsibility for manufacturing operations, more than half (52%) of respondents said that, of all the changes in customer needs and behaviors, the growing demand for sustainable products is having the largest impact on operations, and the industrial manufacturing and consumer goods sectors feel it most acutely. According to a [PwC report](#) released this year, 73% of customers want to change their mobility behavior to lower CO<sub>2</sub> emissions, and 86% of employees said they prefer to work for firms that care about the same issues they do.

“Some people will say sustainability is an additional cost, but once they're doing it, it becomes second nature and integrated into how they do business,” said Sabine Schlorke, global manager for manufacturing at the International Finance Corporation, a member of the World Bank Group, in an interview. “If you see it as part of your business, it's not a cost; it's an opportunity.”

This mindset shift is increasingly prized by investors as well. One major takeaway from a [recent PwC survey](#) is that investors are paying more attention to the ESG (environmental, social, and governance) risks and opportunities facing the companies in their portfolios, and are poised to take action. Nearly 80% said ESG was an important factor in their investment decision-making; 75% said companies should make expenditures that address ESG issues relevant to their business even if it reduces short-term profitability; and about 50% said they would be willing to divest from companies that didn't take sufficient action on ESG issues.

Although the realities we've been describing might seem challenging to large and small manufacturing companies alike, especially those with significant CO<sub>2</sub> mitigation burdens and vast global value chains, they're not an insurmountable barrier to progress. Through our work with companies around the world, we have identified three areas of focus for enabling sustainability to deliver net-positive returns: planning, portfolio, and impact. Let's look at each in turn.

## Planning

The companies we identified as part of our analysis take a nontraditional approach to planning. They gain an advantage by incorporating sustainability goals into business and organizational processes from the beginning. They empower business leaders to set their own priorities and pursue new opportunities as they see fit. They prioritize corporate simplification, minimizing C-suite interference and eliminating redundant functions and bureaucratic bottlenecks wherever possible. And they pull all of the people-management levers at their disposal, aligning incentives with desired outcomes.

In 2019, ABB embarked on a [major corporate transformation](#), which involved redefining the company's purpose in consultation with its stakeholder groups. Sustainability emerged as a key part of that purpose as well as of the value it creates for stakeholders. As part of its transformation, the Switzerland-headquartered conglomerate did away with country and regional structures in the company's business areas—electrification, process automation, robotics, and discrete automation and motion—and gave division leaders full ownership of their products, functions, research and development activities, and profits and losses.

In 2020, having come to the end of its previous sustainability strategy period, ABB launched its [sustainability strategy for 2030](#), with ambitious goals such as achieving carbon neutrality across operations and helping customers reduce annual CO<sub>2</sub> emissions by at least 100 megatonnes. Before finalizing the plan's targets, however, the company initiated a process that involved 400 hours of interviews with 300 stakeholders—including customers, suppliers, investors, public representatives, and NGOs—of ABB's four business areas. ABB also analyzed some 40,000 comments from the company's annual employee engagement

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—Roland Dubois, group head of sustainability for ABB

survey. The purpose was to define where ABB could make the biggest positive impact and to strengthen sustainability as a competitive differentiator for the company. Because of ABB’s decentralized business model, the process was necessary to ensure all four business areas and their respective divisions could not only participate but execute the 2030 sustainability strategy. And their inputs and concerns were instrumental to setting the plan’s targets.

Critically, ABB decided to embed sustainability in its operations and across its value chain. The company also chose to view sustainability-related initiatives as an investment. The strategy teams in the company’s business areas took the lead in reporting progress on a set of key performance indicators (KPIs), which were included in monthly and quarterly financial analyses, performance management processes, and business reviews of each business area. Along with financial performance and strategic progress, sustainability goals have become part of ABB’s performance lens. At the board level, sustainability has been added to the responsibilities of ABB’s governance and nomination committee, and the company’s compensation committee has linked pay to the achievement of the company’s sustainability targets.

ABB’s planning had an ancillary benefit: diversifying innovation activity. An experiment in one business area might be successful, while an experiment in another might not. In both cases, the company learns from the experience and applies those insights to the next project. One positive outcome already realized has been getting people in different business areas and divisions to work together to solve sustainability challenges.

“Considering our offerings and the sectors in which we operate—helping industries, cities, and transport operators improve energy and process efficiency—sustainability is a driver for our business and a differentiator, particularly when combined with digital solutions,” says Roland Dubois, group head of sustainability for ABB. For example, investments in making ABB sites carbon neutral through rooftop solar panels and other energy-efficient technologies are yielding insights and solutions that can be made available to its customers, showing a clear return on investment (ROI).

To build the right plan:

- **See sustainability differently.** Without a new mindset on how sustainability creates value, any planning effort will struggle.
- **Focus on outcomes for all stakeholders.** In addition to setting concrete goals—such as achieving net-zero carbon emissions by 2030—focus on the outcomes that sustainability will produce for all stakeholders. For example, what will net zero mean for your company’s culture, customer relationships, and new market opportunities? With this outcomes-oriented mindset, involve your stakeholders in the planning process from the beginning, affording them the opportunity to shape the process and come up with their own solutions.
- **Leave nothing unexamined.** Reevaluate your approach to compensation, organizational culture, innovation, and KPIs to deliver the agreed-upon outcomes.

## Portfolio

The R&D portfolio of today’s industrial business must produce innovative breakthroughs focused on clean energy, electrification, materials, chemistry, circularity, and economics, with the goal of creating a virtuous cycle of decarbonization. To create such a portfolio, companies need to take a different approach than they have in the past. Successful portfolio design and management will require myriad technologies and venture-capital investments, but also the ability to disperse and share these technologies and innovations and a spirit of partnership among the public sector, the private sector, and citizens. To be sure, the choice of technologies and projects will evolve as better solutions and economics become available. Similarly, organizational adoption will require heightened

awareness, new skills, changes in mindset, fresh approaches to goal-setting, and the establishment of incentives.

Consider the decision that Swiss cement and building materials giant Holcim made in March 2021 to expand its chief sustainability officer's role to include innovation activities. This C-suite position now oversees leadership and development of the company's global R&D strategy and organization in addition to external innovation collaborations, from academia to startups.

According to one Holcim executive, the driving force behind the change was to send a message to all stakeholders—employees, customers, regulators, and investors alike—that any investment in innovation should be an investment grounded in the goal of sustainability. On a tactical level, the move was designed to spur greater collaboration and knowledge transfer between what had been two disparate teams. With both disciplines sharing expertise and working together more closely, the company was betting that it'd be able to make smarter R&D decisions to advance its 2030 sustainability goals, such as achieving its SBTi (science-based targets initiative)-validated carbon-reduction targets, reducing freshwater withdrawal intensity, and recycling 100 million tons of waste. Now, whenever an R&D investment is initiated, the question asked is: will this help us achieve our sustainability goals?

Today, more than 80% of Holcim's research and development projects are dedicated to a broad range of green solutions, such as 3D printing that uses 60% less concrete, reversing the calcination process in cement-making, and an insulating foam that improves energy efficiency for buildings. Holcim's achievement is even more noteworthy in an industry in which emissions are considered difficult to abate. And by broadening the chief sustainability officer's role and reorganizing teams, Holcim has set itself up to do even more on sustainability through tighter control and management of its innovation pipeline, which includes investments in materials, data analytics, artificial intelligence, digitization, and co-creations with consortiums and universities.

To reinvent your innovation portfolio:

- **Identify your sustainability drivers.** Audit your innovation pipeline to identify what types of sustainability-focused projects and technologies are already

flowing through the system, and adjust with agility. Understand the different types of projects and technologies as well as how they can deliver on sustainability goals.

- **Collaborate inside and out.** Facilitate collaboration across the enterprise's business units and functions as well as with supply-chain vendors and external partners (such as governments, startups, and universities).

- **Pull organizational levers.** Reinventing your innovation portfolio requires investing in skills training and aligning compensation incentives to sustainability goals.

## Impact

The climate crisis is changing in real time, and the way you measure the outcomes of your sustainability initiatives must keep pace. Those outcomes could include tangible and intangible impacts such as market share, brand awareness, shareholder value, progress toward meeting emissions-reduction and net-zero targets, and how the company takes advantage of government incentives. No matter the approach, the impact needs to permeate the culture of the organization.

Tata Group, one of India's largest conglomerates, has businesses in power, automobiles, aviation, steel, chemicals, and other industries, exposing it to new regulation for greenhouse gas emissions and climate change risks. A little more than a decade ago, Tata Group required every business to measure and project its own carbon footprint, create its own KPIs, and benchmark itself within its industry, with the goal of adopting aggressive abatement actions across the enterprise.

To address the challenge of designing climate change policies for its diverse businesses, Tata Group created a centralized entity: the **Tata Sustainability Group**. The objective was to empower a dedicated team of sustainability experts to develop a unified strategy for how best to reduce the life-cycle footprint of Tata products and services and drive growth through innovation—and then work closely with the strategy teams of specific Tata companies to build plans that work. Customization was especially important, as internal carbon pricing varies greatly by industry. A software business faces carbon-mitigation challenges that are vastly different than those of a steam plant, for example.



“This isn’t just good for the planet, and it’s not even just good in the long term, it’s also good for the business over the next five years.”

—Hana Kajimura, head of sustainability for Allbirds, on how the company’s five-year plan reduces costs

The approach proved successful. Tata is one of the leading companies on sustainability in the manufacturing industry and throughout Asia. And though decarbonization carries real costs, Tata sees the short- and long-term impact and ROI differently. To Tata, sustainability plays a major role in quantifying brand value, which the company has **calculated** at \$21.3 billion in 2021. By understanding and optimizing brand value, the thinking goes, a company can invest in a powerful strategy for long-term gains.

What’s more, Tata’s focus on sustainability has put the company in a position to attract capital investment and loans. With global investors increasingly calling for greater clarity about the ESG initiatives companies are undertaking and the returns they will generate, Tata leadership earlier this year tasked its group companies to produce detailed assessments of their ESG compliance.

To make the most impact:

- **Don’t discount the long term.** Set long-term outcomes (e.g., new business opportunities, brand equity, greater customer satisfaction) as deliverables for teams to complete as part of development to ensure planning can support the initiative.
- **Develop new KPIs.** Hold teams accountable for sustainability progress through multiyear KPIs and success metrics. Tie incentives to these success metrics.
- **Marshal your resources.** Large, established manufacturers have access to intelligence and insight across a wide spectrum of disciplines. To make the greatest impact and ensure progress toward meeting ambitious goals, get everyone

involved, from HR to IT, and have them focus on outcomes. If you choose to create a decentralized sustainability function, empower employees to break down silos and help business units succeed with their specific sustainability initiatives.

## The new ROI

Most people who have installed solar panels on their roofs have done the math and figured out the internal rate of return. Over time, the solar panels pay for themselves in the form of lower electricity bills. But what we're talking about runs much deeper. What's the ROI when you have a thriving business model in a carbon-constrained world? It's pretty vast. Just ask Larry Fink, the CEO and chairman of Blackrock, who **believes** the next 1,000 unicorns will be businesses developing green hydrogen, green agriculture, green steel, and green cement. Sustainability is not only free; it brings an ROI.

When US footwear and apparel company Allbirds developed its five-year sustainability **strategy**, the founders quickly realized that sustainability both costs money and saves money. So, to make the ambitious plan a reality and get buy-in across the company, Allbirds' sustainability team took care to quantify the costs and savings of every commitment. For example, increasing sustainable materials and R&D spending required investment, which registered as a cost. Other sustainability initiatives, such as prioritizing ocean shipping over air shipping, saved money. When all was accounted for, the ten sustainability initiatives in Allbirds' five-year plan reduced costs overall.

“That got everyone really excited,” said Hana Kajimura, head of sustainability for Allbirds. “Now we have more evidence that this isn't just good for the planet, and it's not even just good in the long term, it's also good for the business over the next five years. +”

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