



GREENING THE SUPPLY CHAIN



A hot button topic in a planet that faces climate peril and resource shortages, sustainability is becoming core to corporate strategy. It is high on the radar of both end consumers and business partners – both increasingly demanding visibility into enterprise sustainability practices. The supply chain, which has been identified as one of the biggest contributors to carbon emissions and waste, is square in the spotlight. Supply chains account for more than 90% percent of an organization’s greenhouse gas (GHG) emissions¹ in the context of their overall climate impact – in a typical organization, the supply chain contributes eleven times as many emissions as operational emissions². Making the supply chain sustainable is, therefore, key to achieving the net zero commitments made by countries that will eventually granulate into targets for carbon emitters.

Sustainability in sharp focus

What’s driving this heightened interest in sustainability and Environmental Social and Governance (ESG) frameworks? According to Vivek Bapat, SVP, Purpose and Sustainability at SAP, “What is new here is that from an investor perspective, companies are saying, ‘I would like for the business to disclose the types of risk exposure you have to all of the different aspects related to climate change in terms of the pollution or the waste that is occurring

within your business, or the way that you feel you can react to social or even geopolitical issues.’ So, the topic of sustainability is focused on risk disclosure and is driven by the investment community.

In addition, companies also see ESG as a catalyst for innovation and sustainability. The question then arises, how to move intent into action? The key challenge for many enterprises here is just recording the actual data that exists across their supply chains and their value chains. While enterprise systems may churn out significant data in reports and spreadsheets on how companies comply with internally set or externally regulated ESG norms, they do not have meaningful access to what is happening on the ground from an operational perspective. As Bapat points out, “The key aspect here is even if companies can report on some of the regulations, the credibility of that data, the granularity of the data, the auditability of that data - those are the things that are getting much more into focus.”

The second issue is around dealing with myriad regulations from around the world. Global companies with distributed supply chains must comply in multiple geographies – a UK manufacturer listed in the US, for example, must comply with plastics regulations in the UK where they build, as well as new SEC regulations in the US where they are listed – and then, report on all the compliances.

¹ <https://www.epa.gov/climateleadership/supply-chain-guidance#footnote>

² <https://www.cdp.net/en/research/global-reports/transparency-to-transformation>

As stated by Bapat, there are over 600 frameworks and regulations that companies need to deal with and report on.

The final challenge – how do companies act to improve their sustainability score after accessing the data and reporting companies? As Bapat phrases it, “How do you now begin to manage your sustainability information and transformation just like you manage your top and bottom line, or how do you manage your green line like your top and bottom line?” Make no doubt this is a change-making journey - from averages based transformation towards one that is much more detailed and based on actual data.

One way of climbing this mountain is to tap into the data enterprises already have. That is precisely SAP’s strategy for its users. “

Our strategy is pulling through multiple existing SAP solutions that people have relied on for years to run their business because there’s lots of capabilities in terms of data. For instance, customers are using S/4 HANA, CRM, Human Capital Management, and Spend Management - and the data you will need to drive the sustainability operations is most likely sitting in these systems. And so, what we’re working on is figuring out a way to make that data management, that data access piece, a lot simpler for customers”, points out Bapat. A key piece of the solution is the

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Data management problem is the number one issue that most customers have. And even if they have the data at their disposal, just a quarter of them are actually satisfied with the quality of their data.

-Vivek Bapat
SVP, Purpose and
Sustainability, SAP

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Sustainability Control Tower which can aggregate and record high-quality data from systems like S/4 HANA.

Once the data problem is solved, a business can begin to address the important questions, such as those related to energy use in the manufacturing, distribution, and consumption of industrial goods or consumer goods. Or questions about the material factors in the business that impact ESG goals. The connections between material use and its impact can then be made – in SAP’s Sustainability Control Tower, emission factors and the impact categories come together in the emission factors management piece. From there on, companies can begin ascribing footprint at the factory level and product level. This insight and analytics are key to figuring out where improvements can be made through the changes in business processes, whether it’s a change in the way that enterprises procure inputs, they sell/finance something, or even in the way that they might work across multiple industry areas.

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80 percent (honestly, 100%) of organizations don’t have the plan they need for sustainability

-Josh Matthews
Practice Leader at HFS

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The only choice

Making these changes is a ‘no-choice’ decision, according to Josh Matthews, Practice Leader at HFS Research, given the various tipping points the planet has already crossed, be it rising temperatures, melting ice sheets, floods, bleached coral reefs and inequity in the employment supply chain. Since it is becoming increasingly clear that policy and the public will not change fast enough, “the only levers we’ve got left are on the business side.” But the good news is that, according to Matthews, “there’s now a new level of clarity on the business side, that those - the right people in the right organizations and the right rooms - are the only ones with the levers left to really change those systems and pull policy and the public along.” This is reflected in the fact that HFS is seeing demand increasing across the whole sustainability services value chain—particularly in supply chain and procurement strategy, platforms for sustainability measuring, monitoring, reporting, and optimization, sustainability risk management and mitigation, supplier monitoring and ESG reporting.

Despite this, Matthews points out that there is a huge disconnect between organizational level sustainability strategies and



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There's an industry push for standardized ESG data. Global energy firms must collaborate to make data available to procurement teams. We currently work with our competitors via a central platform that hosts supplier human rights data.

-Energy supermajor

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the priorities of heads of different business, procurement and supply chain operations. HFS research indicates that a lack of organizational alignment is a key internal hurdle to meeting energy transition goals. This is mirrored by the fact that lack of industry/ecosystem alignment and collaboration is the number one external challenge as well to meet the same goal. The bottom line - no one collaborates internally, let alone externally. HFS'

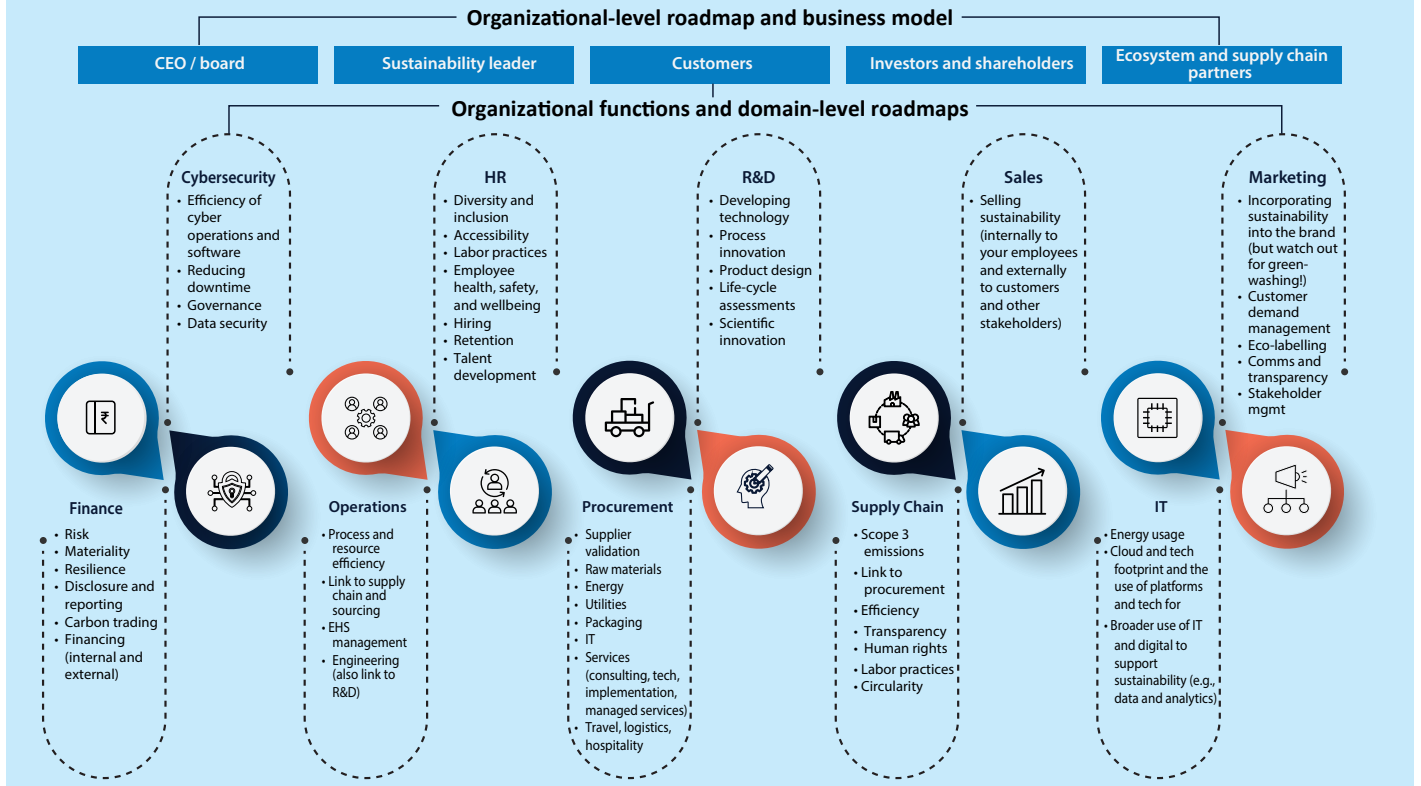
energy transition survey threw up the fact that collaboration peaked at 44% for respondents who said that they collaborated with functions throughout their organizations other than their own. That figure goes down for customers, suppliers, regulators, tech vendors and data providers. But collaboration is key to getting better data, and as we already know, getting the right data is central to executing a sustainability strategy and meeting ESG goals.

The onus, therefore, on CEOs and sustainability leaders is to translate organizational roadmaps into metrics targets, accountability and incentives across the C Suite and possibly below. Matthews believes an "organization's sustainability objectives will keep translating into distinct targets for every department throughout the organization."

Therefore, sustainability roadmaps need to be broken down across all stakeholders and all the business functions, right down to the shop floor, through target metrics, accountability and incentives before being brought back up to align with overall business strategy and industry dynamics.



Leading organizations driving collaboration and alignment across their industries, regions, and entire ecosystems



An intelligent move toward sustainability

How do enterprise sustainability plans become goals, and how are those goals actioned and reported? The tools for enterprises using platforms like SAP lie in new intelligence built into these platforms. These enable enterprises to address full circularity across all material flows to build a regenerative business.

Eliminating waste

The first axis of change is waste elimination. The pressure to do this comes from consumers, 91% of whom are concerned about plastic waste, and 73% who are willing to pay more for eco-friendly packing[<https://www.triviumpackaging.com/sustainability>]. Governments are responding with regulations with over 400 Extended Producer Responsibility (EPR) schemes or planned[[https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/WPRPW\(2020\)2/FINAL&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/WPRPW(2020)2/FINAL&docLanguage=En)] worldwide. Such EPR schemes typically place responsibility for the environmental impact of products on producers. Producers pay fees based on their packaging of plastic volume in a market (e.g., fee for 1 ton of plastic). Such schemes also provide incentives to prevent waste at source. In parts of Europe, plastic taxes are already in place for produced or imported packaging.

This clearly is a regulation risk that must be managed. That is where a product like SAP Responsible Design and Production fits in – it helps producers manage their EPR obligations and plastic taxes to control and eliminate the costs of the downstream

waste system and make design changes to eliminate waste. Fully integrated with S/4 HANA and PLM, the system helps enterprises

- Manage EPR declarations and materials taxes in line with the latest regulations
- Maintain a global view of progress and support circular design processes.
- Provide transparency and reporting to third-party NGOs on Voluntary Agreements.

Waste management extends to emissions, which are technically a kind of waste product. These can be managed through S/4HANA EHS Environment Management which measures, calculates, tracks, and reports GHG Emission Inventories to meet corporate reduction goals. In addition, tools like SAP Product Footprint Management can calculate product footprint from cradle to cradle (across raw material-product-consumer use lifecycle) at scale, considering the entire product lifecycle for disclosure and internal product optimization. In both cases, the systems integrate and reuse existing business data from S/4HANA and other ERP systems. This ensures efficient, standardized and fast data acquisition, calculations and reporting.

Optimizing production and supply footprints

While companies need to generate all this data for reporting purposes, they also need to use it as a planning tool to reduce their carbon footprint. There is where the SAP IBP Carbon Footprint Planning fits in. This system

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COMPANIES THAT PERSIST IN TREATING CLIMATE CHANGE SOLELY AS A CORPORATE SOCIAL RESPONSIBILITY ISSUE, RATHER THAN A BUSINESS PROBLEM, WILL RISK THE GREATEST CONSEQUENCES.

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- reviews the carbon footprint of a company's production plan
- creates different scenarios to simulate and optimize the carbon footprint
- optimizes the carbon footprint of the supply plan

Managing the external chain

For large enterprises, supply chains extend to many third parties. How does one then source responsibly? Here is where SAP brings in Ariba components such as Certificate Management which automates the tracking of supplier diversity certificates while making it easy to find existing suppliers with specific certifications. Let's suppose that companies want to obtain an external view of

these suppliers. In that case, SAP offers integration with external risk management platforms like EcoVadis, which provides sustainability ratings, benchmarks, and scorecards to businesses across all levels of the global supply chain. The platform can also be extended to making specific supplier choices from an ESG perspective, such as scouting for minority/female-owned suppliers.

Does something new, like incorporating sustainability practices into supply chain management, mean a complete IT system overhaul? Not necessarily so. Solutions from Infosys on the SAP platform help companies leverage existing investments in IBP and S/4 HANA to manage the supply chain carbon footprint. Existing data from sales and operations plans are married with emissions data (actual or database numbers) to calculate emissions from supply chain activity.

The solution also integrates data to S/4 execution systems to provide carbon footprint visibility at operation level. IBP features like the dashboard can be used to study actual versus planned emissions performance with week-to-date/month-to-date/year-to-date granularity or to slice and dice data to see emissions at the product/factory/order level. Since the solution is IBP based, enterprises can use the optimization function to declare a target of planned CO2 emissions - IBP then generates a constraint plan within the boundaries of the target values.

Clearly, as these solutions show, for a committed corporate, it is possible to chart a path toward sustainable supply chains. But, faced with regulatory pressures from governments and the moral pressure of living on a warming planet, companies are at the fork where 'two roads diverged in a yellow wood.' And like for Robert Frost, the path less traveled will make all the difference.

³<https://www.triviumpackaging.com/sustainability>

⁴[https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/WPRPW\(2020\)2/FINAL&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/WPRPW(2020)2/FINAL&docLanguage=En)



CASE STUDY

Driving it right

Regarding its sustainability strategy, a North American manufacturer of zero-emission vehicles felt that in addition to emissions avoided by the vehicles it was putting on the road, it had a responsibility to lead by example, to reduce its own greenhouse gas (GHG) emissions from operations.

So, in 2021, the company did a Scope 1 analysis of its direct emissions from company-owned and controlled resources. It followed that up with a Scope 2 study of indirect emissions from the generation of purchased energy. This required studying all operations - offices, warehouses, and service centers across North America. Data was required on the size of these facilities, their use (manufacturing/administrative) and their fuel utilization, be it electricity, natural gas etc.

Then began the Scope 3 scan that includes all emissions that occur in the value chain, including both upstream (such as purchased goods and services, waste from operations, leased assets) and downstream emissions (such as transportation and distribution, franchises, end of life treatment of sold products). In other words, all the emissions are linked to the company's operations. For its Scope 3 analysis, the manufacturer identified the top three categories that were material to them; for them, most upstream emissions were from the production of purchased goods and services. So that's what they decided to focus on. The company now works with a third party to regularly collect data on this front.

The challenge before the company is integrating data from a global supply chain into its ERP system – this is a work in progress that the company is taking up, one step at a time. In doing so, pragmatism is key –many of its suppliers are in Asia, so shortening

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Can a sustainable strategy improve access to capital?

“There is direct need for companies, even if they are not profitable, to have a sustainability strategy if they want to have a direct access to capital. It's been quite clear that companies that are focusing on ESG issues are better positioned to access larger part of capital from investors. And that's because investors, especially the one with a long term approach, see sustainability strategy as a sign of managing business risks and of managing opportunities well.”
Representative of North American electric vehicle manufacturer

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the transport chain may not be feasible. But the important thing, according to a senior official at the electric vehicle manufacturer, is to start the conversation with suppliers and voice their concerns. “Over time, as we grow, as we become a bigger customer to these suppliers, the idea is to have processes in place, RFP processes that will include sustainability elements, for sure,” she adds.

What next? The company's leadership is clear: “So the next step for us would be to go into more granular information, get more granular data, issue recommendations, and put a plan in place. Setting a target - that's the easy part. Everybody wants to be to have a net zero target. But how are we going to get there? How are we going to reduce emissions? So, the first step would be to have a plan to reduce emissions to the greatest extent possible. Then, for the balance of residual emissions that we will not be able to eliminate, to purchase credits for the equivalent amount of GHG emissions.”





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