

STATE OF SUPPLY CHAIN SUSTAINABILITY 2020

MIT Center for Transportation & Logistics

Council of Supply Chain Management Professionals



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MIT Center for Transportation & Logistics

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EXECUTIVE SUMMARY: The Path to 2020

Sustainability is impacting the way companies operate in every industry across the globe. Yet our understanding of supply chain sustainability and its impact on enterprises is limited. The State of Supply Chain Sustainability 2020 Report aims to fill this information gap and to help inform what the future of supply chain sustainability might look like.

The report is groundbreaking on two fundamental levels. First, this is the first edition of what will become an annual research project that aims to chronicle the evolution of supply chain sustainability over time. Second, our three-pronged analytical approach and comprehensive coverage are pioneering in the supply chain sustainability domain.

- The pressure to act is pointed: Some organizations are feeling significant pressure while others are feeling none, with the pressure largely dependent on their industry. And for those feeling pressure, it is not coming from just one source—it is being exerted by a diversity of stakeholders—not just campaigners like non-governmental organizations (NGOs), contrary to accepted wisdom.
- But what effect does pressure from stakeholders really have? We found that when companies feel pressure, they are far more likely to have publicly stated goals for which they will be held accountable. Companies that don't receive pressure, meanwhile, are less likely to have such goals.
- Despite pressure from multiple angles, many organizations appear to be rudderless when it comes to supply chain sustainability. Less than half of the supply chain professionals surveyed confirmed that their organizations have publicly stated supply chain sustainability goals. One-third maintained that their enterprises don't have such goals, and the remaining respondents were not sure whether these goals exist at their firms.
- Enterprises with sustainability goals tended to favor social rather than environmental targets. Eliminating child labor and forced labor was a top concern for most companies.
- Setting goals is important—but the acid test is how much companies actually invest in efforts to attain those goals. Our research showed that there is a significant disparity between the two sides of supply chain sustainability; while social sustainability is touted as top of mind when it comes to setting goals, environmental goals receive the most investment.
- What do companies publicly disclose about supply chain sustainability programs? Over 40% of respondents confirmed that their organizations disclose supply chain sustainability practices. They prefer to disclose on platforms the companies can control, like websites or press releases, rather than more structured disclosure reporting platforms like CDP (formerly the Carbon Disclosure Project) or Global Reporting Initiative (GRI). Carbon emissions and climate change are the most frequently reported topics.
- Knowing which tools translate investments into action helps to guide supply chain's pursuit of sustainability. Study results show that the two tools most widely embraced across the industries examined are supplier codes of conduct and supplier audits. Executives also expressed the value of collaborating with supply chain partners and external stakeholders to achieve sustainability goals.
- A notable finding is that almost 40% of the practitioners surveyed were either a primary decision maker or directly involved with sustainability. This shows that supply chain is taking a central position in sustainability activities. Again, however, a note of caution is warranted: Some respondents pointed to issues such as a lack of engagement and training that can prevent supply chain professionals from taking on more responsibility for sustainability.
- These are not the only speed bumps. Executives highlighted that financial, physical, and technological barriers also stand in the way of supply chain's shift to more sustainable practices. For example, in low-margin businesses such as apparel, making the case for investments in supply chain sustainability can be extremely challenging.

EXECUTIVE SUMMARY: The Future of Sustainable Supply Chains

Our research findings affirm that sustainability is influencing companies on both tactical and strategic levels, although it does face some significant headwinds. As business priorities change, so will the way in which supply chain sustainability is framed and implemented. Priorities and approaches are shifting for various reasons, but one thread dominates this complex weave: the COVID-19 pandemic.

This global catastrophe has already redrawn the supply chain sustainability map to some extent in response to changing consumer demand. The crisis is reshaping the contours of the sustainability movement, with some experts seeing a significant downturn in adoption of supply chain sustainability, while others see an opportunity to drive up engagement. It's impossible to know for sure how the pandemic will impact supply chain sustainability in the long term—only time will tell.

- We predict that COVID-19 will reset the supply chain sustainability trajectory over the next few years. Interest in sustainability peaked in 2019, and then it hit the buffers of the COVID-19 crisis in 2020. Today's massive supply chain disruptions are forcing a pivot toward response and mitigation. The year 2021 will be characterized by supply chain redesign as the focus shifts to recovery. In 2022 and beyond, re-evaluations of supply chains—including sustainability—may gather steam as business models are redefined.
- A key sustainability area that we expect will gain importance is social issues. The pandemic is teaching companies some harsh lessons about the cost of underestimating the importance of “front-line” workers such as meat packers and delivery drivers. One outcome could be a greater focus on worker health and safety, as well as on benefits and pay.
- Another theme to note is the future role of technology. This is nothing new; however, in recovering from multiple disruptions, firms will probably be more likely to invest in information technology that gives them better visibility into upstream and downstream operations. As consumer buying habits are being reshaped by the pandemic, the value of trust and ethical practices as components of a brand will likely increase. This trend implies that supply chain transparency will gain in currency; the days of opaque supply chains as commercially viable entities may be numbered.
- Finally, the pace of change was frenetic before the COVID-19 crisis. The post-pandemic era promises to be even more fraught with uncertainty, which underscores the need for this annual report.

A Brief Note of Introduction

We are pleased to present you with the State of Supply Chain Sustainability 2020 Report. This first annual edition of the report addresses numerous dimensions of supply chain sustainability and provides a snapshot to inform both supply chain professionals and future business strategy.

This year's study tackles the pressure to act, how goals and investments are aligned (or not), corporate preferences for reporting mechanisms, as well as the role of the supply chain professional in sustainability. In summary, we attempt to bring together insights from across industries, geographies, and roles to understand what supply chain sustainability looked like in 2019 at a high level to enable more informed decision making.

Of course, as a first edition, we were learning along the journey how best to gauge supply chain sustainability. While we believe we achieved the mark on this first edition, future editions will expand on depth of topics explored and global representation of supply chain professionals.

Our appreciation is extended to everyone who participated in the survey and interviews. Your engagement, insights, and input are key to informing this work and will be key going forward. In the second annual report, we hope we can include more voices across the profession in order to provide a clearer picture of supply chain sustainability and look forward to your input in the next edition!

Thank you,

Alexis Bateman PhD
Director, *MIT Sustainable Supply Chains*

Donna Palumbo-Miele EdD
Chair, *CSCMP Sustainability Committee*

THE REPORT

In this inaugural edition, the MIT Center for Transportation & Logistics (MIT CTL) and the Council of Supply Chain Management Professionals (CSCMP) teamed up to explore how sustainability practices are being implemented in global supply chains and what that means for companies and professionals.

To accomplish this goal, we aim to overcome the twin challenges of limited publicly available information and a misalignment in the terminology and metrics used to evaluate sustainability. The report also seeks to integrate multiple perspectives to provide insight into the industry and the profession on an annual basis.

Our research approach has three pillars: an anonymous survey of supply chain professionals, cross-industry executive interviews, and a systematic review of media coverage and corporate social responsibility reports (for a breakdown of the inputs, see Research Approach on page 9). We believe that this approach will enable this report to meet demands for information that are not being met by current or past research on supply chain sustainability.

While previous reports have brought deep perspectives and insight into various aspects of supply chain sustainability,^{1, 2, 3, 4, 5, 6, 7} the body of previous work does not define the actual state of supply chain sustainability today across industries, geographies, and functional roles within a defined time period.

Most reports and articles tend to target specific industries, such as energy, fashion, or manufacturing; or their specific impacts, like greenhouse gas emissions, ethical sourcing, or deforestation; or a certain segment of the supply chain, such as procurement or logistics.

Examination of supply chain sustainability is further complicated by the lack of industry-wide, standardized benchmarks to objectively measure progress and by scant transparency in both the sustainability efforts companies have undertaken and their resulting impacts. Different indexes and key performance indicators have been designed to measure some aspects of sustainability;^{8, 9} however, these measures are often inconsistently applied, reported, and monitored.^{10, 11} Furthermore, the weight given to each metric varies according to the party responsible for measuring it. This lack of globally accepted definitions of how to measure and report sustainability makes comparisons of values challenging.

While previous reports are all necessary to provide industry- and sector-specific baselines and metrics, the State of Supply Chain Sustainability 2020 Report is serving a different purpose: It offers a comprehensive examination of supply chain sustainability across industries, geographies, functions, and roles, giving professionals and executives a holistic view.

It provides a platform to observe how supply chain sustainability changes over time and how supply chain professionals react to these changes. It does not take a stance on whether industries are doing enough or on what they should do; it is simply a gauge of progress, key issues, and proposed directions supply chain sustainability may take in the future.

We believe the findings of this report will allow companies to make strategic decisions and inform professionals on how to engage with supply chain sustainability.

After this inaugural edition, we envision that this report will expand over time with feedback from the global network of supply chain professionals—and, most notably, from you! With your input, the 2021 annual report and those that follow will provide a perspective on changes over time, allowing a better understanding of how sustainability in supply chains evolves in reaction to the rapidly changing world we live in.

DEFINING SUPPLY CHAIN SUSTAINABILITY IN 2019

High-profile events such as the widespread destruction of the Amazon rainforest,¹² China's ban on plastics imported for recycling,¹³ and widespread labor issues¹⁴ put a spotlight on sustainability issues in 2019. The number of people discussing and taking an interest in these topics increased dramatically—engagement on social media around climate change issues tripled.¹⁵

Companies increasingly used sustainability as a marketing strategy,¹⁶ with a growing number of corporate campaigns focusing on sustainability as a core value of their products. Super Bowl LIV, one of the most watched television events in the U.S., saw a record number of environmentally focused ads, from electric cars to plastics-waste reduction to a number of food and beverage companies' focus on organic farming.¹⁷

Sales for products with labels such as “farm to table,” “fair trade,” and “ethically sourced” displayed record growth levels in 2019, with projections suggesting the market for these products will experience 7% compound annual growth between 2019 and 2025.¹⁸ Beyond labels, more and more major multinationals touted a commitment to sustainability through aggressive programs both internally and with supply chain partners, and with greater efforts to measure and monitor impacts across the supply chain.^{19,20}

However, while sustainability has become a household word, supply chain sustainability remains a harder concept to pin down. Definitions of supply chain sustainability vary across different types of (and even within the same) companies, industries, and geographies.^{21, 22} Moreover, these definitions are often heavily influenced by policies, stakeholders, and, ultimately, by an individual firm's willingness—technologically, financially, and ethically—to adopt practices that support sustainable supply chains.

The term sustainability was originally coined in Germany as *Nachhaltigkeit*, which means “sustained yield.” The term first appeared in 1713 in a handbook of forestry, referring to the practice of never harvesting more than the forest can regenerate. As ecology emerged as a scientific discipline, the concept of sustainability was redefined as the ability of an ecosystem to maintain its essential purposes and functions over time. In 1987, the United Nations defined sustainable development as meeting “the needs of the present without compromising the ability of future generations to meet their own needs.”²³

A more critical focus on sustainability in the supply chain began in the 1990s. Perhaps the most famous framing of the concept came from John Elkington's “triple bottom line” accounting framework that integrated social, environmental, and economic concerns into the evaluation of a business model—commonly referenced as, “people, planet, profit.”²⁴

In 2010, the UN Global Compact reinforced the term “supply chain sustainability” and defined it as “the management of environmental, social, and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services.”²⁵

This definition encompasses two of the three primary criteria for sustainability: social and environmental. There is an assumption that each stakeholder in the supply chain strives to be profitable if it wants to stay in business. Environmental sustainability refers to the use of natural resources, waste generation, emissions, and water use. Social sustainability refers to fair, safe, and equitable labor practices and policies, as well as a license to operate in local communities. In reality, environmental and social concerns are often interwoven and interrelated.

In this report, we consider supply chain sustainability to be the management of environmental and social impacts within and across networks consisting of suppliers, manufacturers, distributors, and customers in line with the UN Sustainable Development Goals. This spans every phase of the supply chain, from raw material sourcing and extraction to product use and end of product life.

With this definition of supply chain sustainability in mind, we can explore how key stakeholders in the supply chain understand sustainability and track how this concept continues to evolve over time.

RESEARCH APPROACH

To gain a broad outlook on supply chain sustainability in 2019, MIT CTL and CSCMP took a three-tiered approach. First, we conducted a large-scale survey of supply chain professionals. Next, we interviewed experienced sustainability and supply chain executives. Finally, we analyzed information from news, social media, and reports. The triangulation of these three sources allows for a more comprehensive and systematic view of the state of supply chain sustainability. See Appendix for full approach details.



1,128 Survey Respondents

20 Executive Interviews

150 Documents Analyzed

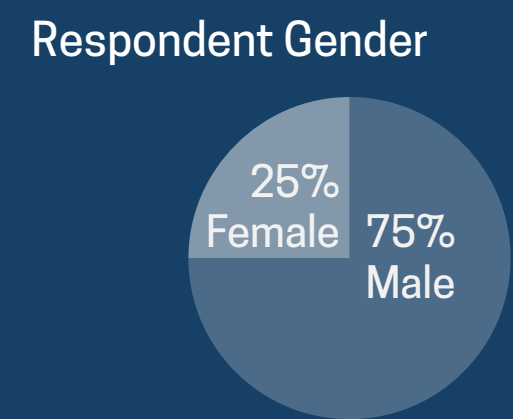
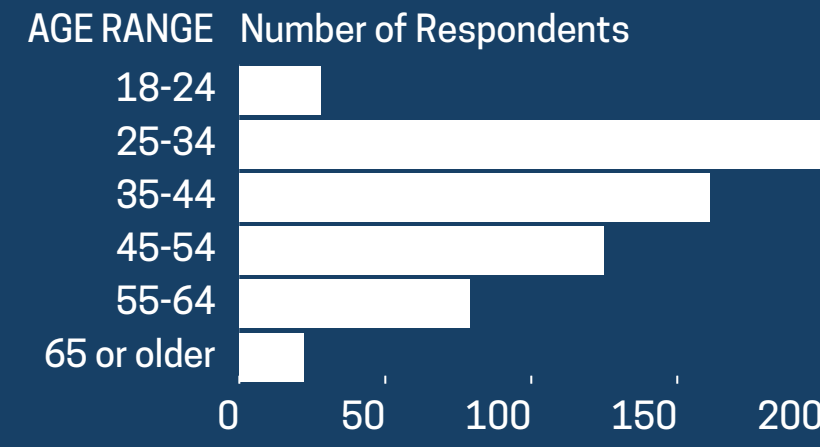
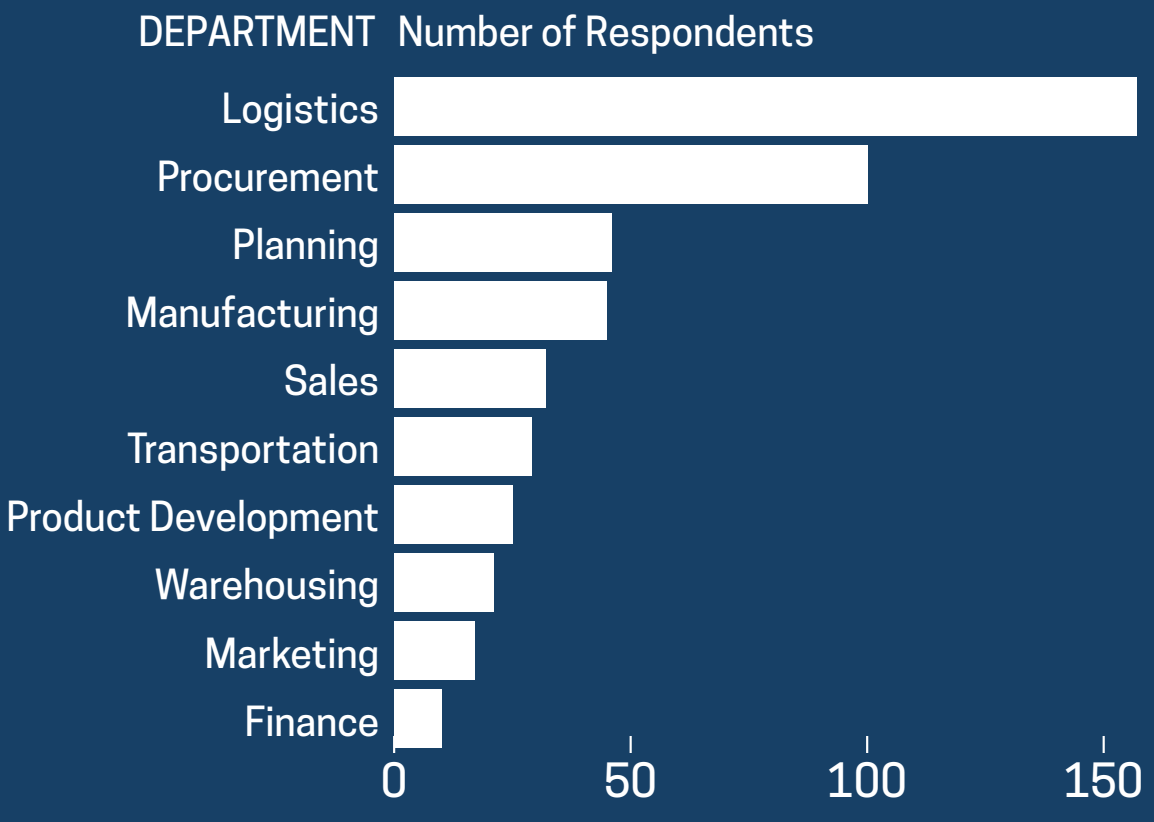
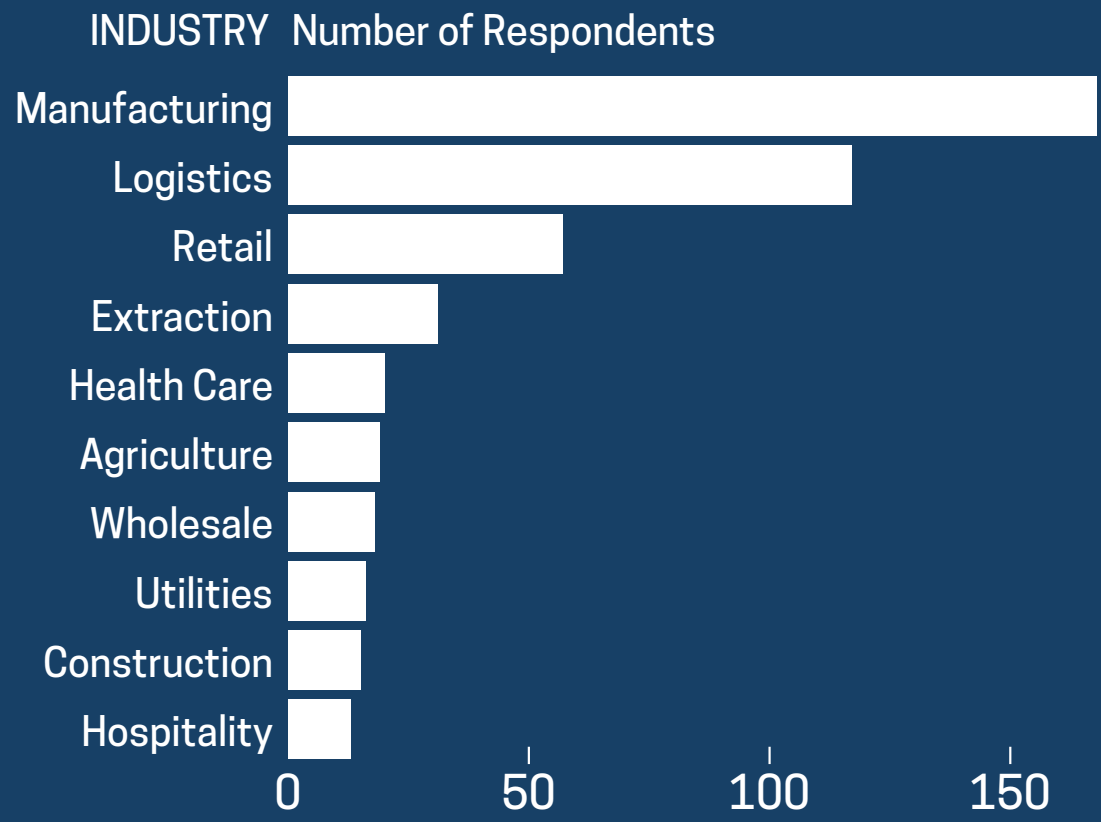


Figure 1: Based on voluntary survey Responses. Response numbers vary by question.

THE STATE OF SUPPLY CHAIN SUSTAINABILITY

We identified several key themes regarding how companies set supply chain sustainability goals and subsequently invest in implementing them. While we anticipated identifying core themes, unexpected motifs emerged as well, shedding light on how the supply chain professional is playing a core role in sustainability.

In this section, we explore both expected and unexpected themes that characterize supply chain sustainability in calendar year 2019.

The Pressure to Act

The Makeup of Goals Is Unexpected

Goals and Investment Differ

Companies Take the Easy Way Out in Reporting and Disclosure

Practices Differ across Industries, But Supplier Code of Conduct Is Primary

Supply Chain Professionals Are Engaged



The Pressure to Act

For those that feel pressure to increase supply chain sustainability, the pressure is not limited to one source—survey results illustrated that it is diffuse across many sources.

“We have seen a significant increase in consumer and retailer engagement around citizenship and sustainability over the last five years. Consumers are looking for sustainable products that still offer the same quality and high performance they expect while having a smaller footprint.”

James McCall, Supply Chain Sustainability Leader, Procter & Gamble

A little under half of survey respondents mentioned receiving pressure to improve their firms’ supply chain sustainability adoption. For those feeling pressure, on average, respondents identified feeling some to moderate levels of pressure from different sources including NGOs, media, investors, industry associations, governments, end consumers, corporate buyers, local communities, and company executives (Figure 2). The most intense pressure was reported as coming from government, mass media, and executives. But what can be seen most clearly is that, for those feeling pressure, it is diffuse and is not exclusive to a single source. This is contrary to accepted wisdom that NGOs and consumers are primary pressure sources.

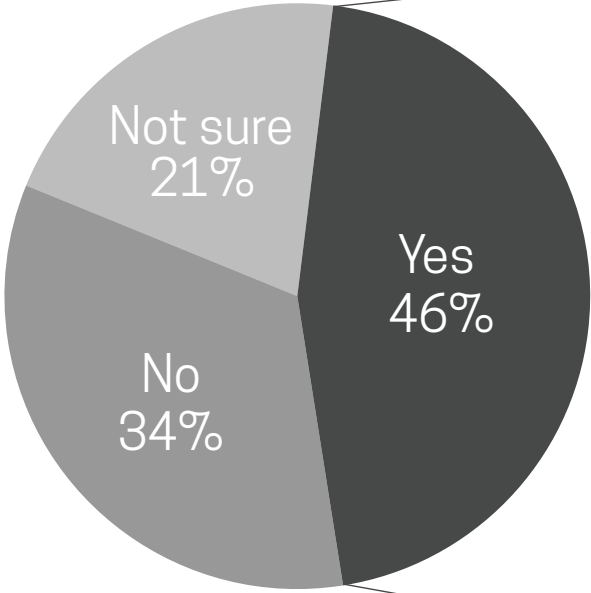
While supply chain professionals who responded to the survey indicated that they felt some to moderate levels of pressure across different sources, the majority of the interviewed executives reported feeling high levels of pressure from those same sources, and that pressure has intensified in the last two to five years.

“Pressure [for supply chain sustainability] has definitely increased significantly in the last two years. Key customers have higher expectations than what’s in the regulatory schemes.”

Bruce Klafter, Vice President of Sustainability, Flex

This difference in perception may be a result of a difference in how professionals and executives interact with different stakeholders, which may affect their subsequent awareness of growing sources of pressure. This might suggest that in coming years, supply chain professionals may see more pressure to act as pressure trickles down from executives in the form of responsibilities and KPIs.²⁶

Are you receiving pressure to adopt supply chain sustainability practices?



From where are you receiving pressure to adopt supply chain sustainability practices?

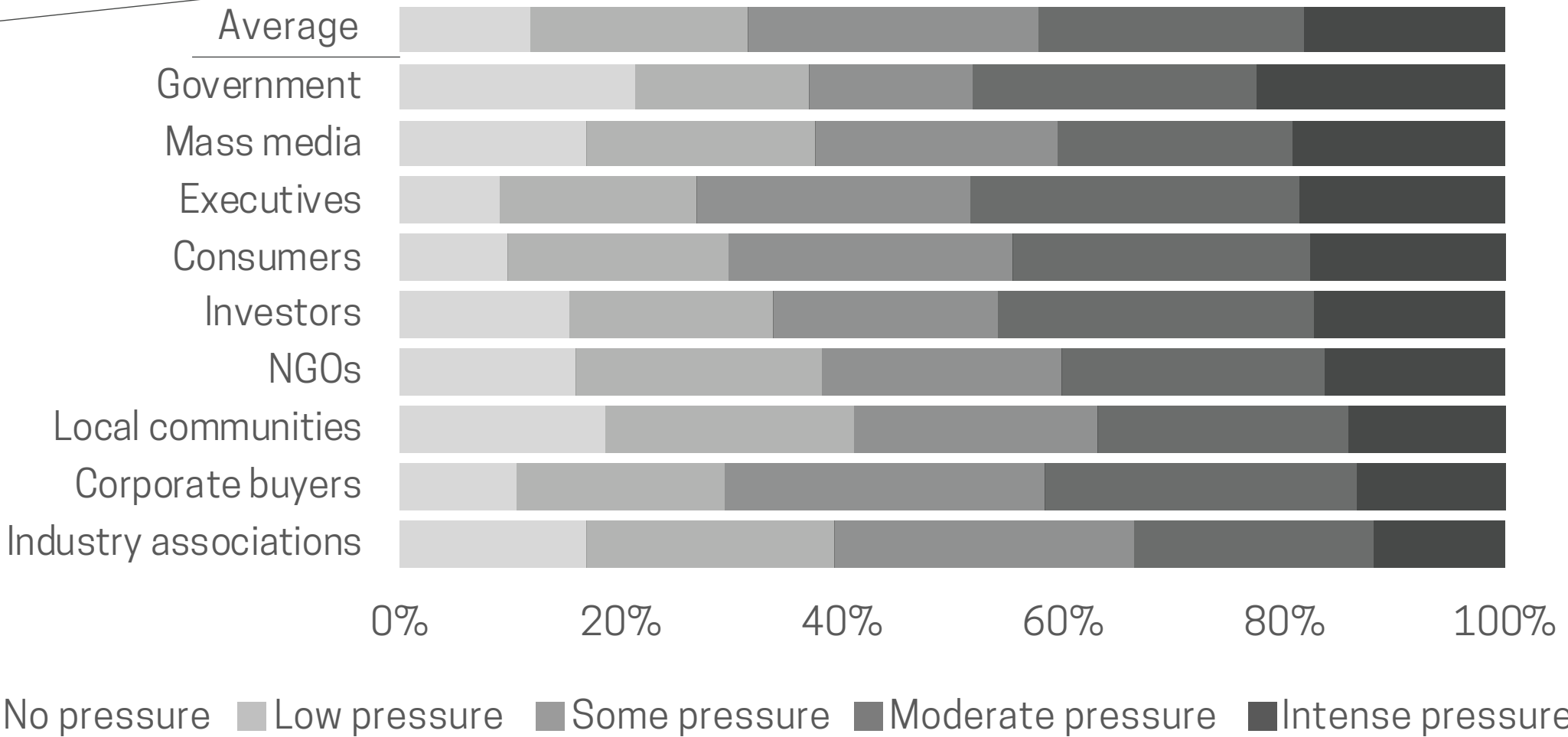


Figure 2: 46% of respondents said they feel pressure to increase supply chain sustainability, 34% said they feel no pressure, and 21% weren’t sure. Of the 46% that feel pressure, the pressure is diffuse across multiple sources with each source exerting a similar average of pressure, but government, mass media, and executives as placing the most intense pressure. N = 701.

While historical perceptions of pressure to address environmental and social concerns have often been tied to non-governmental organizations like Greenpeace or conscientious consumer segments, executives highlighted the changing nature of these forces.²⁷

“Pressure has increased, but it is a different type of pressure. [It] used to be ‘name and shame’ from NGOs and journalists exposing companies in the 1990s and early 2000s. This still happens, but emerging brands are trying to build sustainability into their brand ethos.”

Marcus Chung, Vice President of Supply Chain & Manufacturing, *ThirdLove*

In addition to external pressures to act, the survey results showed, current and prospective employees are exerting some pressure, and their voiced desire to work for a more responsible workplace is being heard clearly by many executives.

“While recent pressure has been largely driven by consumer demands—and we expect this to continue to be a major driver of widespread supply chain sustainability—we’re also increasingly observing internal pressures for the company to further pursue supply chain sustainability.”

Susie Bodnar, Director of Operations and Client Strategies, *Four Kites*

Although pressure was present in all industries in the survey, some are more heavily impacted than others. Survey results showed that extractive industries received the most pressure to bolster supply chain sustainability, followed by agriculture, forestry, fishing, and hunting, and construction (see Figure 3). The industries that received the least amount of pressure were health care and services and wholesale, with more than half of the respondents in those industries responding that they felt no pressure at all.

Reported level of pressure by industry

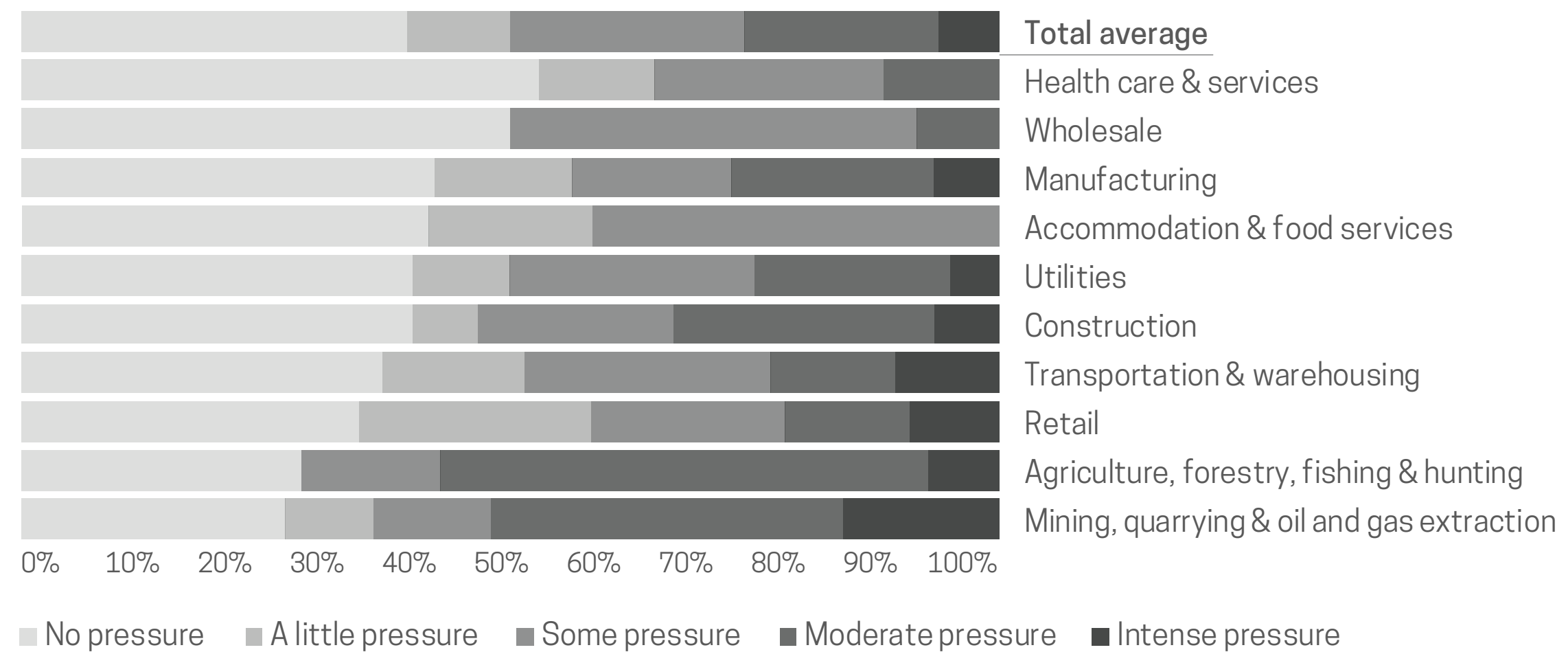


Figure 3: Level of pressure exerted on each industry, with responses ranging from no pressure to intense pressure, analyzed by the subset of industries included here. The total average represents the average of responses across these industries. Industries most pressured were mining, quarrying, oil, and gas extraction, as well as agriculture, forestry, fishing, and hunting. The least pressured were health care and services and wholesale. N = 387.

This finding aligns with our analysis of media content, which shows that there was extensive coverage of the environmental and social impact of extractive industries. Mining in particular has come under increased scrutiny, given its pivotal role in energy and construction as well as in several high-profile environmental disasters.^{28,29,30} Similarly, food sectors such as agriculture and fishing have found themselves at the center of controversies around environmental impacts like clear-cutting of rainforests and wide-ranging labor issues such as slave and child labor.³¹

Executive interviews highlighted how companies were being urged to improve their supply chain sustainability performance and what that means for players across the supply chain.

One executive described this pressure as “a waterfall effect” in that consumer-facing brands are feeling the heat on all fronts, but the pressure to act was passed on from the brand to its suppliers. Brands conveyed these pressures to suppliers in the form of required compliance with supplier codes of conduct as well as the tracking and reporting of sustainability-related impacts.

While regulatory pressure was not an overwhelming factor in the survey responses, it was a reoccurring theme in the interviews and content analysis, both in terms of existing regulation and the “threat” of new regulations.³² Policies such as the United Kingdom’s Modern Slavery Act (2015),³³ the California Supply Chain Transparency Act (2012),³⁴ and the U.S.’s Dodd-Frank Wall Street Reform and Consumer Protection Act (2010)³⁵ were all referred to as key regulatory frameworks that push for greater due diligence in the supply chain.

These pieces of legislation have rules in place to ensure no forced, slave, or human-trafficked labor in supply chains, in some cases all the way back to raw material. For example, the Dodd-Frank Act requires that companies apply due diligence to ensure that they are not sourcing from conflict zones like the Democratic Republic of the Congo.

According to multiple executives, the effort to comply with legislation is no small task and has prompted companies to not only be aware of practices among their direct suppliers but also to know what is going on in deep-tier suppliers with whom they typically do not interact.³⁶

But does pressure for supply chain sustainability drive corporate commitment?

The short answer is yes. Companies where respondents felt any level of pressure were far more likely to have publicly stated goals than those where respondents did not. Of the respondents who felt pressure, over two-thirds indicated that their company both receives pressure and has goals.

Conversely, of those who did not feel pressure, a similar proportion indicated their company does not have publicly stated goals. While this does not indicate direct causation, it can be deduced from these findings that pressure drives action, especially in the form of goal setting. For those looking to drive more corporate commitment to supply sustainability, pressure is the key.

Table 1: Respondents who indicated whether their companies received pressure and whether they had public sustainability goals. A majority of those who indicated their company received pressure had such goals, while the majority of those that did not receive pressure did not have goals. N=491.

| Received pressure | Has public goals | Number of respondents | Relative frequency |
|-------------------|------------------|-----------------------|--------------------|
| Yes | Yes | 184 | 67% |
| Yes | No | 93 | 33% |
| No | Yes | 68 | 32% |
| No | No | 146 | 68% |

The Makeup of Goals Is Unexpected

The findings about the formalization of pressure and its translation into corporate goals revealed a surprising result. **Social issues were represented as high-focus goals far more often than were environmental ones. This is contrary to longstanding assumptions that environmental issues are primary to sustainability.**

As shown in Figure 4, nearly half of survey respondents indicated that their companies had publicly stated sustainability goals relating to supply chain sustainability. One-third said their company didn't have any such goals, and the remaining respondents weren't sure.

Does your company have corporate supply chain sustainability goals?

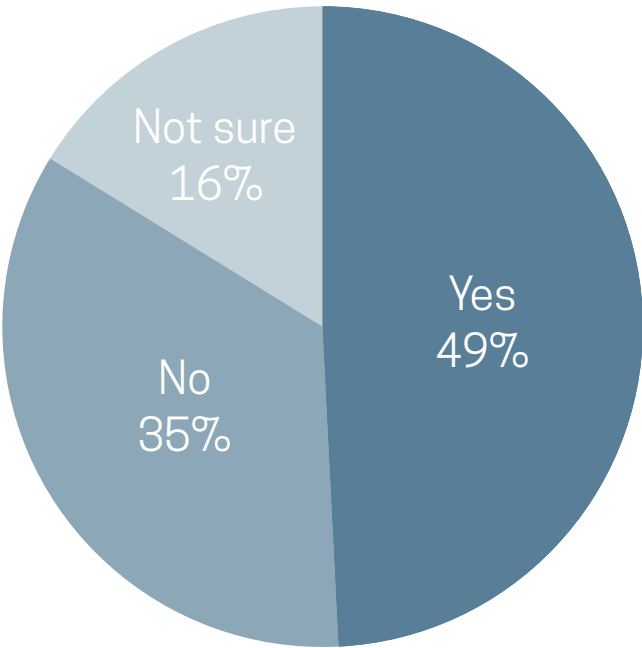


Figure 4: Respondents' companies' supply chain sustainability goals. Nearly half said their company has such goals. N = 941.

Of those who stated their company had goals, the three goals perceived to have the highest focus were all social commitments, including no child labor, no forced/slave labor, and worker welfare/employment quality.

As illustrated in Figure 5, environmental considerations emerged lower in the list, with carbon emissions and energy management ranked in sixth and seventh place. Air pollution mitigation and natural resources and biodiversity conservation were least commonly selected as a high focus in corporate goals.

Supply chain sustainability goals ranked by category

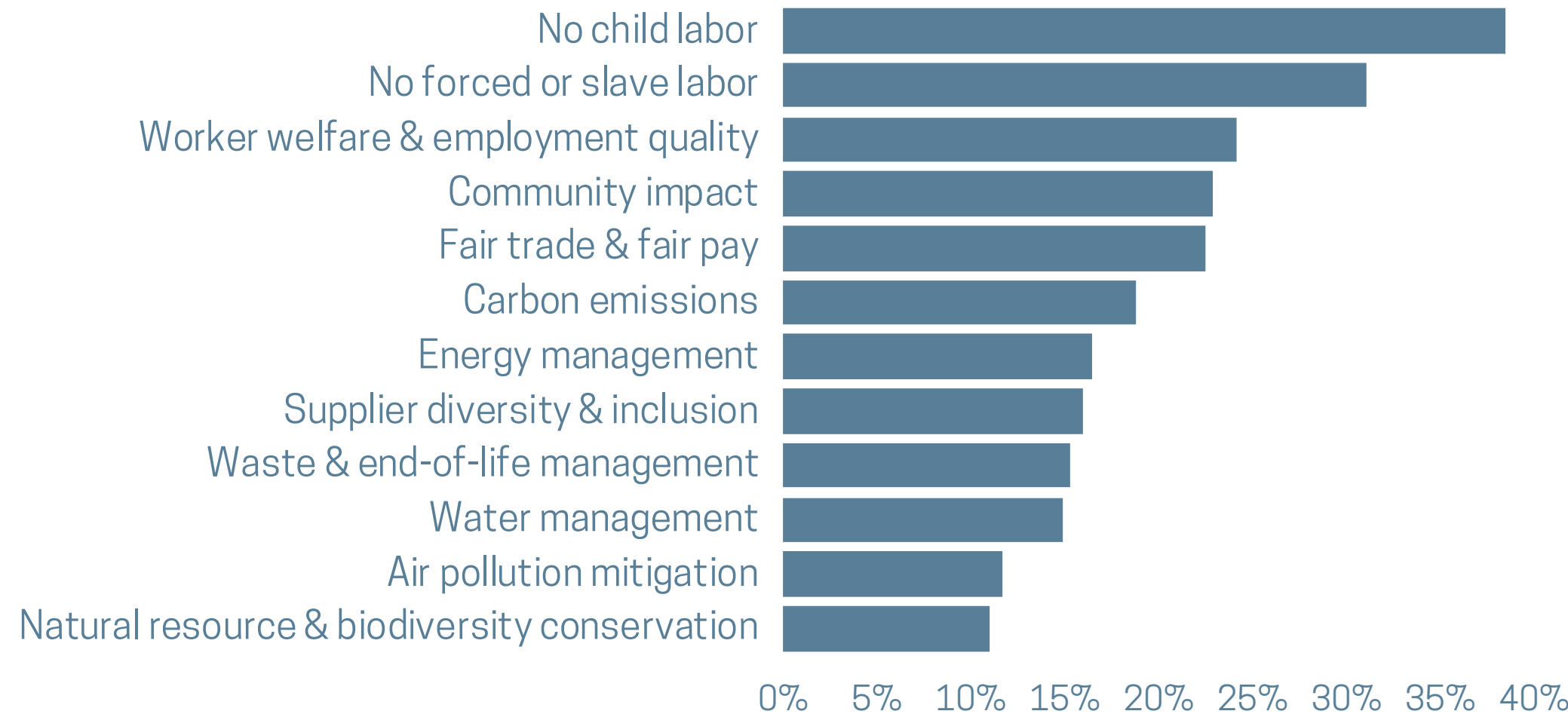


Figure 5: Percent of respondents ranking each category as a very high focus for their corporate sustainability goals. Social sustainability categories were more often cited than were environmental categories. N=463.

The emphasis on social goals may derive from a belief in many companies that eliminating child labor and forced labor are a crucial starting point and are non-negotiable supply chain practices.

This emphasis was echoed in our media analysis,^a where reports of child and forced labor received a high level of negative sentiment from journalists reporting on corporate commitment, while progress with fair pay and local community engagement received high levels of positive sentiment. Recognizing that the media plays a substantial role in pressuring companies to act, it makes sense that issues with strong positive and negative assessments would drive goal setting.

Carbon emissions ranked highest among the high-focus environmental goals, which was perhaps not surprising given the increasing attention globally around the issue of climate change. For instance, climate change has been the subject of intense debate among stakeholders for the last decade, but it became more prominent than ever in 2019 as a result of global climate strikes.³⁷ The other top two environmental goals included energy management and waste/end-of-life management. Both goals reflect the need to respond to growing pressures from multiple stakeholders. For many, the connection between energy efficiency and operating costs has come into clear focus.³⁸

^a See Methods Appendix for more details on approach.

Because they are looking for opportunities to reduce costs, executives' comments reflected a substantial focus on energy management. Energy efficiency projects and alternative energy adoption, when economically viable, were listed as critical. Waste and end-of-life management hit a critical peak in 2018 when China banned imports of foreign plastic waste.

This announcement shone a spotlight in 2019 on the massive waste and recycling problem worldwide, leading to a clear recognition that recycling systems are broken and that the waste problem has become untenable.^{39, 40} In response to these issues, many companies have introduced "circular economy" goals, such as zero-waste manufacturing and operations, end-of-life management of products, and plastics reduction goals.

The approach to sustainability goals can be further explored within the industry sectors researched (see Table 2). In manufacturing, retail, and transportation/warehousing, labor issues represented the top three goals.

However, the fourth-ranked goal differed among industries; manufacturing highlighted water as the next most important issue, retail highlighted waste and end-of-life management, and transportation highlighted emissions. Each of these environmental goals aligns significantly with the noted environmental impact of each industry.

For retailers, goals around waste and end-of-life management have become increasingly common as consumer waste, such as discarded plastics and corrugated packaging, has filled up dumpsters and recycling bins. Plastic bag bans have been introduced around the world, particularly in Europe and North America,⁴¹ to minimize plastics at the point of pickup (although these have been temporarily suspended during COVID-19). Manufacturing's focus on water management is aligned with production processes that often rely heavily on water, coupled with the growing risk of water insecurity near many global production sites. In addition, transportation's focus on emissions is likely due to growing scrutiny of its role in global carbon emissions generated as a result of fossil fuel-dependent trucks, ships, and planes moving freight around the world.

Table 2: Top social and environmental sustainability goals for select industry sectors. Responses in all three sectors showed a clear focus on social issues. N = 192.

| RANK | Manufacturing | Transportation/Warehousing | Retail |
|------|------------------------------|----------------------------|------------------------------|
| 1 | No child labor | No child labor | No child labor |
| 2 | Worker welfare | Worker welfare | No forced slave labor |
| 3 | No forced slave labor | No forced slave labor | Worker welfare |
| 4 | Water management | Carbon emissions | Waste/end-of-life-management |
| 5 | Waste/end-of-life-management | Energy management | Carbon emissions |

Changing minds

"Some can't believe it's possible that you can actually do a wind or solar deal cheaper than doing a carbon-based electricity deal. They just forget that the wind and the sun is every day, and it's free. So you don't have to put a barrel of oil, or whatever is needed, to run these generators that create electricity."

Tony Milikin, Vice President of Procurement,
AB InBev

Setting stretch goals

"Let's put a challenging goal in front of ourselves that even if we have no idea how to achieve, we are confident it constitutes goodness. Then let's be unflinchingly honest with ourselves about what we are doing and how we need to improve."

Jackie Sturm, Corporate Vice President of Global Supply,
Intel

Goals and Investment Differ

For many companies, reaching sustainability goals will require some form of financial or human resource investment, whether in high-priced premium sustainable materials, renewable energy technologies, tracing systems, or auditing programs. **Our survey showed, however, that this may not always be the case in practice; we found that highly touted goals may not match with significant investment. This suggests that while companies are vocal on certain issues, their commitment may not always play out in practice.**

We found that there is a mismatch between the level of focus on issues relative to goals and the perceived level of investment being allocated toward reaching these goals, especially for social issues (see Figure 6). For instance, if a company sets a low value on air pollution mitigation and its investment in that area is also low,

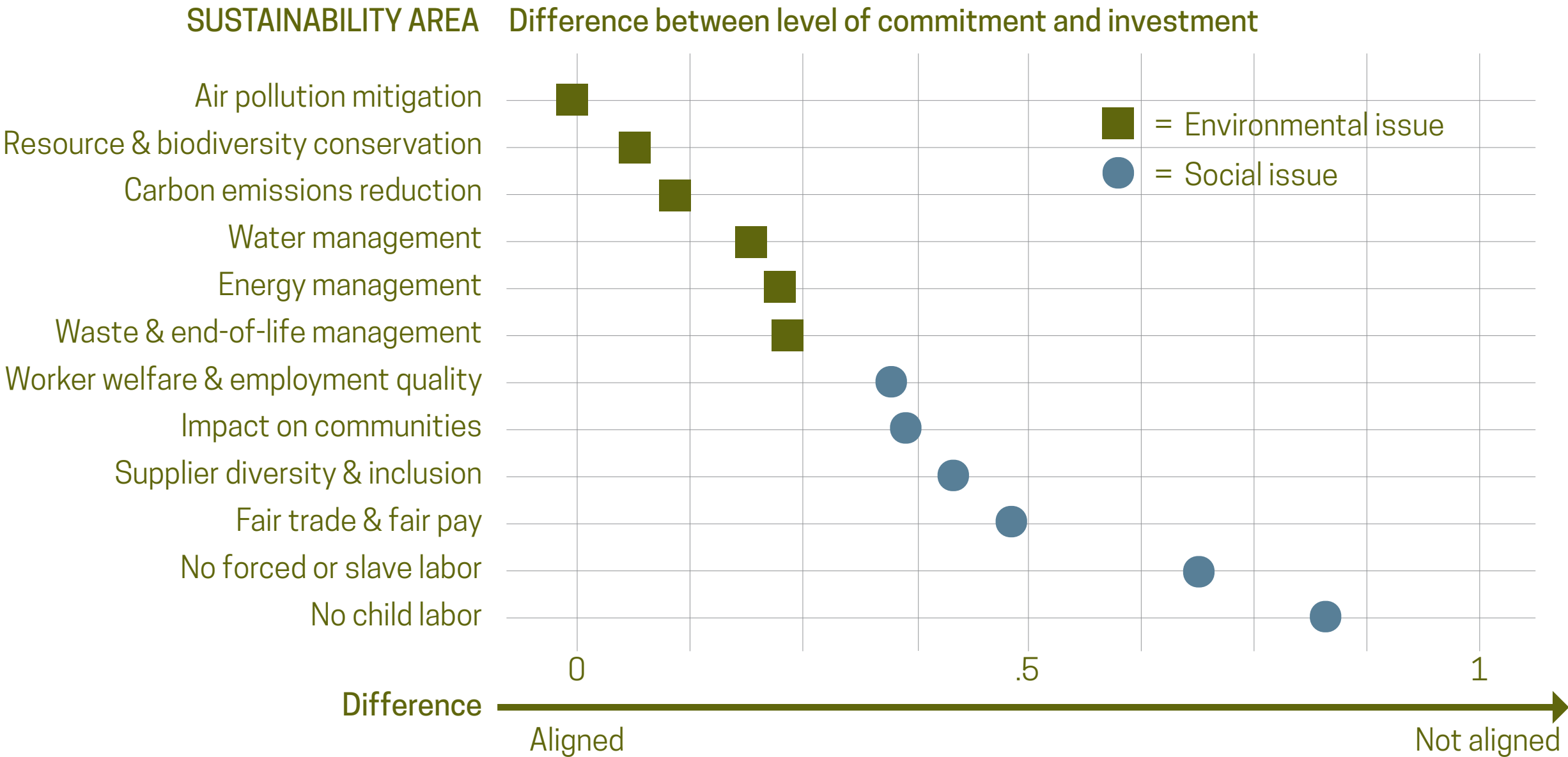


Figure 6: Difference between levels of commitment and investment, representing to what extent companies' goal commitments and investments are aligned. Categorical levels are converted to numeric levels (0 to 4) to calculate the differences. For example, where respondents ranked no child labor as an important goal but selected no investment (difference = 4), they are heavily misaligned. N = 245.

then it means their set goal and investment are aligned, but if it values child labor as an important goal but invests little in that area, then they are misaligned.

Social issues were highlighted as critical goals for companies in the survey, but the same was not true across the board for level of investment. For instance, child labor was ranked sixth on the list of sustainability investment areas. Environmental goals and investments appear to be more aligned than social ones. An example is carbon emissions, which ranked as the third highest area of investment.

There are two insights we can gain from this:

1. Some publicly stated goals may not match actual invested resources and can be perceived as a form of “greenwashing” (giving the impression that a company’s sustainability policies that a company is more committed to achieving a sustainability goal than they actually are).
2. While social issues are perceived as essential goals from the standpoint of public perception, environmental issues are the ones receiving a level of investment that matches their level of focus as corporate goals.

Although the cost of mitigating social and environmental impacts may not be equivalent across all issue areas, there is agreement that they both require human and financial resources to maintain progress and commitment. What is less clear is when those investments offset initial investments and start paying back in the form of cost reduction, risk reduction, and an increasing customer base.

Even though goals do not always match investment, especially for social issue areas, companies do have practices in place to embed and advance supply chain sustainability, as discussed in the following section. Gleaning insights from these practices and companies’ evolving capabilities to improve social sustainability can serve to inform future investment.

“The biggest challenge is money. When business is good, companies are willing to invest in sustainable projects. When money gets tight, the focus is on keeping the business solvent. The irony is that some sustainable practices can, in fact, help companies through tough times. The biggest opportunity is to identify sustainable projects that will save money and add to the bottom line.”

Kevin Smith, Former SVP of Supply Chain and Sustainability, *CVS Caremark Corporation*

Companies Take the Easy Way Out in Reporting and Disclosure

The survey findings showed that most of the companies that have publicly stated goals are reporting and disclosing their progress. Reporting referring to the act of sharing information and disclosures being the shared information. Reporting and disclosure can come in a variety of formats, such as reporting carbon emissions to CDP or a wider set of issues to GRI. Companies also speak about their sustainability initiatives through press releases, Corporate Social Responsibility (CSR) reports, or web content—often leveraging them in various combinations.

KPMG has tracked the growth of sustainability reporting over the last three decades. In its 2018 study, the consulting firm found that nearly three-quarters of companies surveyed had some form of sustainability reporting or disclosure in 2017, and of the 250 biggest companies in the world, 93% reported on their sustainability.⁴² This is a huge leap from KPMG’s first survey in 1993, where only 12% of companies said they reported, and even from 2008, where just over half of companies did.

It’s clear that general sustainability reporting has become the norm, but our survey showed that the practice of reporting specifically on supply chains trails other areas.

Some 40% of our survey respondents indicated that their company disclosed supply chain sustainability practices, though another 15% of respondents indicated that they do not currently disclose practices but have plans to do so.

Table 3 shows, by industry, which platforms respondents’ companies are using to report information about their sustainability efforts. Darker shading indicates channels that were most often used to disclose progress on supply chain sustainability for each sector. For instance, companies from the agricultural sector showed a strong commitment to reporting across all channels, while the health care industry was less apt to report on any channel. In general, firms across all industries surveyed preferred channels that they could control and that had fewer requirements.

Table 3: Percent of surveyed companies disclosing sustainability to various platforms; the darker shading indicates higher levels of disclosure. The arrow shows the continuum of difficulty among platforms companies report on. Most industries prefer platforms like websites where they have greater control. N = 503.

| INDUSTRY | Website | Press Releases | CSR Report | Business Case Studies | Reporting Organization |
|--|------------|----------------|------------|-----------------------|------------------------|
| Accommodation & food services | 40% | 40% | 27% | 27% | 20% |
| Agriculture, forestry, fishing & hunting | 60% | 55% | 55% | 45% | 35% |
| Construction | 27% | 33% | 33% | 27% | 40% |
| Health care & services | 17% | 17% | 12% | 8% | 8% |
| Manufacturing | 40% | 36% | 37% | 25% | 29% |
| Mining, quarrying & oil and gas extraction | 37% | 27% | 37% | 20% | 23% |
| Retail | 34% | 29% | 26% | 25% | 15% |
| Transportation & warehousing | 46% | 38% | 34% | 34% | 25% |
| Utilities | 36% | 41% | 27% | 23% | 23% |
| Wholesale | 26% | 26% | 26% | 16% | 21% |
| Total Average | 36% | 34% | 31% | 25% | 24% |

Least difficult → Most difficult

As indicated, respondents' companies prefer platforms in the "least difficult" spectrum, using their websites most frequently, followed closely by press releases and CSR reports. Business case studies and reporting organizations were less popular, likely because—as indicated by their inclusion in the "most difficult" spectrum—they have more information requirements. We also found through survey analysis that companies with higher levels of reporting and disclosure through company channels felt a higher level of pressure from investors, executives, and NGOs.

But what is being reported? In an analysis of more than 52 corporate social responsibility reports, we found that carbon emissions and climate change were the most frequently discussed topics, followed by energy management and supplier diversity, as shown in Figure 7. Given the increased global dialogue around climate change in recent years, it is not surprising that this was the most common type of disclosure. Similarly, energy management has become a key issue and opportunity area as the cost of alternative energies has continued to fall.⁴³ A quarter of interviewed executives mentioned the imperative to disclose progress on supply chain sustainability.

They acknowledged an increasing need for depth of reporting by disclosing information not only about their own company operations, but also about supply chain practices of their Tier 1 and deeper-tier suppliers.

Another key issue area that emerged in the CSR reports we reviewed was supplier diversity and inclusion. In 2019, gender and diversity issues became a primary focus, following a widespread increase in attention fixed on inappropriate and unfair workplace conditions.⁴⁴ With that context, and a desire to support women- and minority-owned businesses in the supply chain, corporate supplier diversity and inclusion programs have attracted strong interest.

Reporting and disclosure practices do not tell the whole story of how sustainable practices are being applied in supply chains, but they do highlight how sustainability is taking form across industries. The rise of public discussion around corporate social responsibility is symptomatic of a marked change in public attitudes, reflecting both the pressure for companies to be more transparent and their willingness to act.

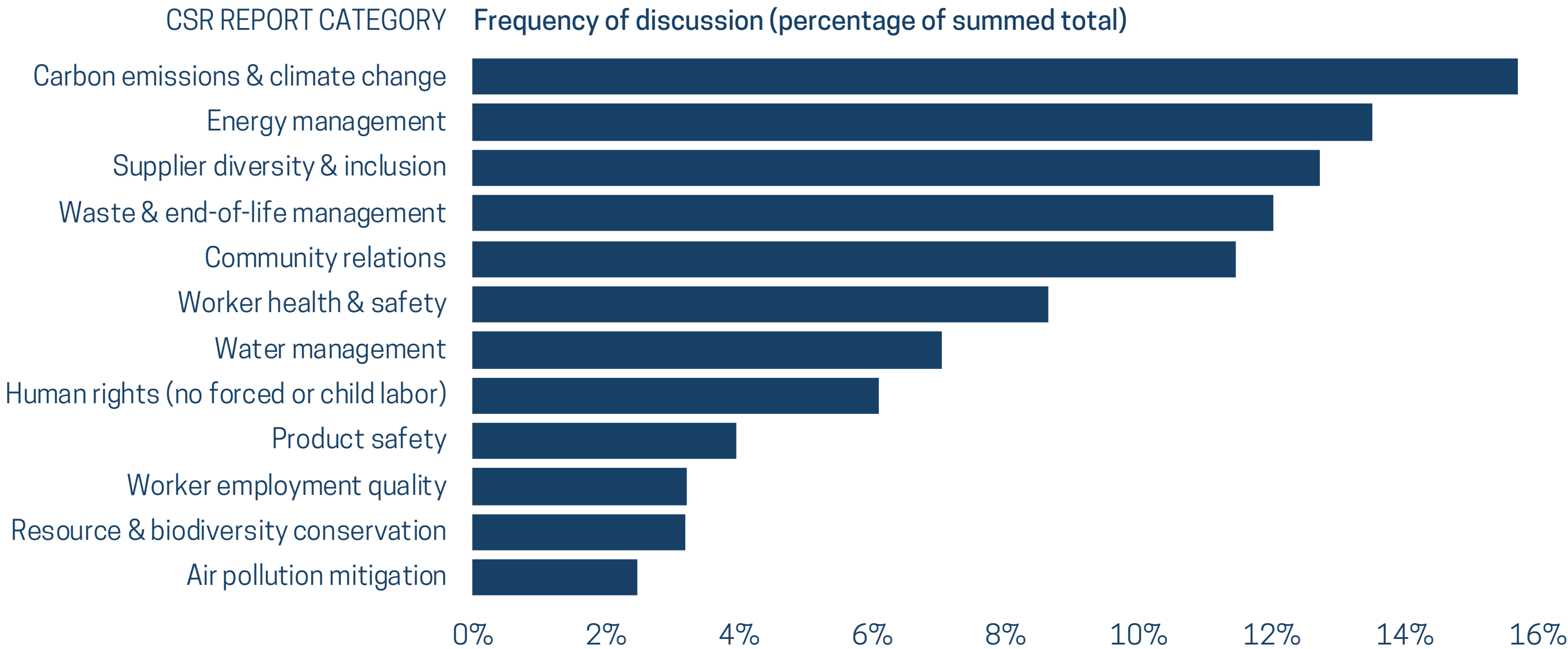


Figure 7: Of the explored issue areas, this represents the proportion of each issue area of the summed frequency of all issue mentions as addressed in corporate social responsibility (CSR) reports. Carbon emissions, energy management, and supplier diversity were most frequently mentioned. N = 52 reports.

Practices Differ across Industries, But Supplier Code of Conduct Is Primary

Disclosure is important, but action is a critical component of achieving goals. We looked at the tools companies are using to achieve their sustainability goals, including practices that address the direct supplier, like supplier codes of conduct, benchmarking, auditing, and training, as well as practices that address wider supply chain issues, such as certification, standards, supply chain mapping, and due diligence.

As Figure 8 shows, establishing a code of conduct for suppliers was the most prevalent supply chain sustainability practice across industries; 74% of respondents have that approach in place, a finding echoed by the Sustainable Procurement Barometer.⁴⁵ A supplier code of conduct can serve as the primary statement on the way a supplier conducts its business, as well as a clear statement of what a buyer expects of its suppliers. Increasingly, industry groups are collaborating to develop joint codes of conduct for their suppliers that specifically target known issues in their sectors. Supplier codes of conduct are also compliance-oriented, so that a supplier can be penalized if found to be noncompliant.

Supplier audits were the second most frequently used tool among the surveyed industries. Supplier audits aim to assess supplier practices in terms of regulatory compliance and sustainability practices.⁴⁶ **However, some manufacturing executives said that conducting regular, trustworthy audits remains a challenge, and that if a supplier is found to be noncompliant, limited action is taken.**⁴⁷

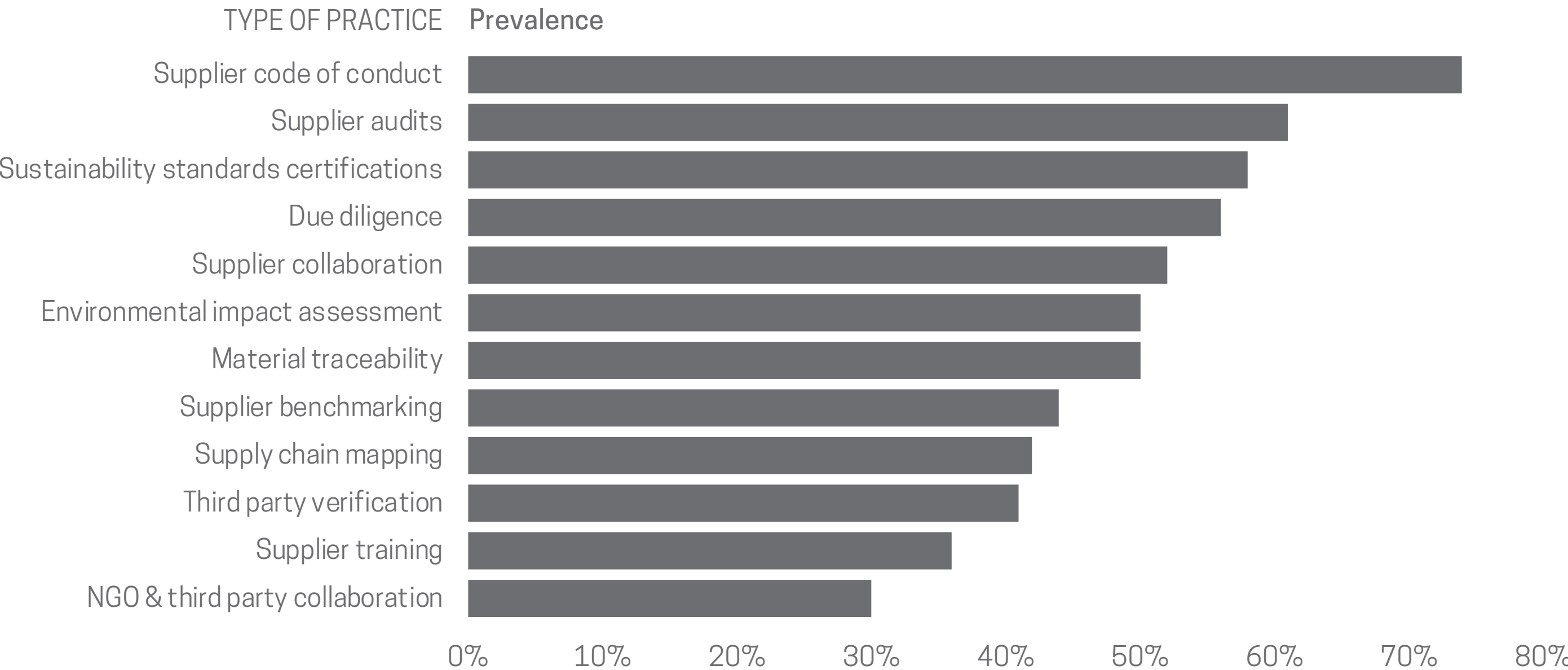


Figure 8: Percent of respondents citing corporate use of each supply chain practice. Supplier codes of conduct and supplier audits were most commonly used. N = 367.

The reality is that it can take significant resources to effectively and consistently engage with suppliers that may be located far away. Supplier management is further complicated by the complex nature of global supply chains that often include many intermediary or subcontracted suppliers, obscuring social and environmental operating practices. Most companies can only audit Tier 1 suppliers; relatively few companies audit Tier 2 suppliers regularly, even though risks often exist deeper in the supply chain.⁴⁸

The good news is that surveyed companies with higher levels of investments in supply chain sustainability were more likely to have a wider range of practices in place to manage it.

The most common supply chain practices primarily fall into two main focus areas: supplier conduct and supply chain visibility (see Table 4).

Practices related to supplier conduct include codes of conduct, training, collaboration, benchmarking, and standards/certifications. Practices related to supply chain visibility included supplier auditing, supply chain mapping, due diligence, and material traceability. These focus areas show that establishing guidelines for acceptable practices and using end-to-end supply chain visibility to monitor the execution of these practices have become important components of supply chain sustainability.

While survey respondents highlighted common practices, the executives who were interviewed tended to emphasize the role of collaboration with supply chain partners and external stakeholders, recognizing that singlehandedly effecting change in the supply chain was unrealistic.

Many executives stressed the importance not only of supplier-focused initiatives, but also of working with NGOs and industry groups that can further drive industry-wide adoption of their preferred practices. They indicated that an increasing number of partners are being leveraged to make progress toward sustainability goals.

Jackie Sturm of Intel described such a collaboration: “What has been a big part of the evolution is closer engagement with NGOs and industry associations. We are a founding member of the Responsible Business Alliance. Through that effort, we’ve connected tightly with NGOs. We focused more on what’s going on in certain categories that support our business. Where might we be inadvertently fueling things that are injurious to either environment or communities?”

Collaboration

“To drive fundamental changes needed over the next decade, you have to be willing to think big, look outside of manufacturing to your entire supply chain, and actively partner to drive sustainability at scale.”

James McCall, Global Product Supply Sustainability Leader, Procter & Gamble

“What has been a big part of the evolution is closer engagement with NGOs and industry associations.”

Jackie Sturm, Corporate Vice President of Global Supply, Intel

Table 4: Most frequently applied practices by selected industry. Multiple practices in a category indicate that respondents valued those practices equally. For example, respondents in the construction industry ranked supplier audit and material traceability equally. N = 383.

| INDUSTRY | Primary Practices | Secondary Practices |
|--|--|--|
| Accommodation & food services | Sustainability standards, certifications | Supplier benchmarking, environmental impact assessment audit |
| Agriculture, forestry, fishing & hunting | Supplier code of conduct | Sustainability standards certification, supply chain mapping, supplier audit |
| Construction | Supplier audit, material traceability | Supplier code of conduct, sustainability standards certification |
| Health care & services | Supplier code of conduct, due diligence | Supplier collaboration, sustainability standards certification |
| Manufacturing | Supplier code of conduct | Supplier audit |
| Mining, quarrying & oil and gas extraction | Supplier code of conduct | Supplier audit |
| Retail | Supplier code of conduct | Sustainability standards certification |
| Transportation & warehousing | Supplier code of conduct | Supplier training, environmental impact assessment, supplier benchmarking, supplier audit, due diligence, supplier collaboration |
| Wholesale | Supplier code of conduct, due diligence | Supplier collaboration |

Supply Chain Professionals Are Engaged

A novel finding from the research is that sustainability, in many cases, is now part of supply chain professionals' responsibilities. Our research on supply chain roles ranging from junior- and manager-level professionals all the way up to executives indicates that adoption of sustainability is impacting the profession.

As businesses have come under pressure to tackle social and environmental issues, they have created sustainability teams or departments to carry out this work. Initially, these departments were often "bolt-on" units with limited funding or power to drive change. **As some companies have come to recognize that the supply chain function is central to sustainability, the discipline has shouldered more responsibility for related projects.** Many of the bolt-on units created to take charge of these projects have been incorporated into supply chain groups.

"Supply chain professionals are at the forefront of not only pursuing, but creating and implementing, more sustainable ways of getting products to our customers and consumers. Because of where we sit in our companies, we see the entire process. We are part of, or completely responsible for, the acquisition of raw materials, ingredients and packaging supplies, all the way through to consumption, as well as recycling and returns depending upon the business and product characteristics."

Rick Blasgen, President & CEO,
Council of Supply Chain Management Professionals

This phenomenon was clearly represented in the research. Nearly half of survey respondents were either a primary decision maker or directly involved with sustainability, as Figure 9 illustrates. While the nature of the survey could be biased toward professionals who are already

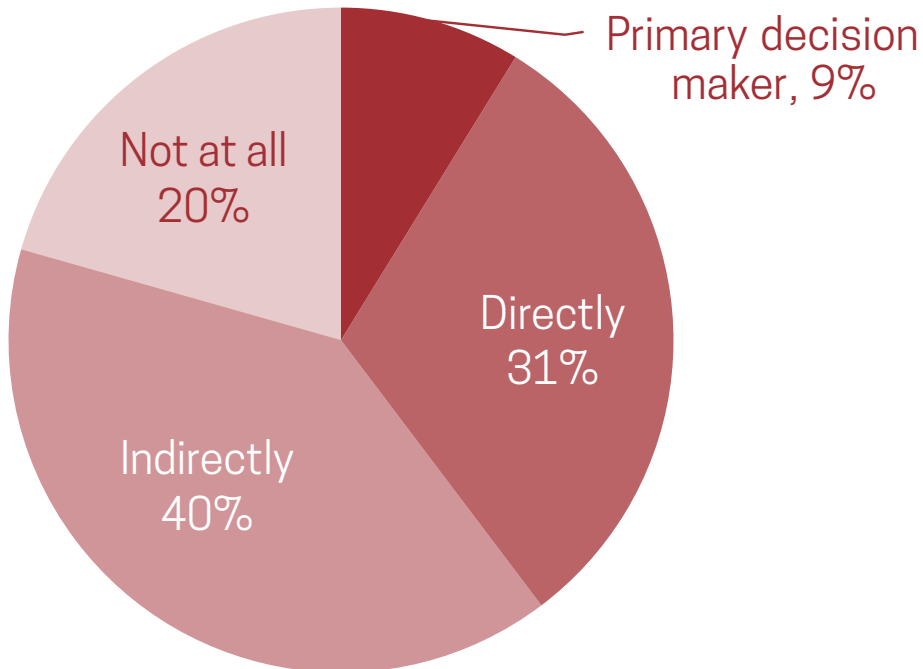


Figure 9: Respondents' influence in corporate sustainability efforts. The great majority of respondents wield direct or indirect influence, but few are the primary decision makers. N = 620.

involved with sustainability, there is evidence that supply chain's involvement in sustainability efforts is part of an industry trend. The executives interviewed identified the impact of this trend in most professional supply chain roles.

Companies have adopted a variety of approaches to assignment responsibility for sustainability. For example, some companies allocate supply chain practitioners to cross-functional departments or give practitioners in related functions such as procurement and logistics more responsibility for sustainability. In light of this trend, it appears

"The supply chain function is best suited to addressing a company's sustainability goals because it's central to the life cycle of the products and services a company produces."

Jennifer Wong, Vice President of Sustainability, Convoy

that the days of a separate sustainability department with a limited role are fading.

One executive likened this change to the evolution of the role of "Chief Quality Officer" and other quality-control functions that gained prominence in the 1980s and '90s. These responsibilities have slowly been absorbed into all departments and functions. Sustainability may be taking the same path—and integration across all business functions is a key feature of this changing landscape.

Many executives maintained that placing responsibility for sustainability in supply chain roles yields practical and strategic benefits. This approach to sustainability is reshaping the upper echelons of supply chain management. A portion of the executives interviewed are responsible for expanding sustainability in their company and supply chains. This is echoed by experts tracking the industry, such as Michelle Meyer, Client Executive for Gartner and current Board Chair for CSCMP. She noted that she has seen "more supply chain executives 'own' sustainability than ever before."

This phenomenon is not confined to veteran supply chain professionals. More than 20% of applicants to the MIT Supply Chain Management master's program cited sustainability as one of their key interests influencing their decision to pursue a career in supply chain. This attitude is further evidenced in recruitment efforts.

"Most of the executives from supply chain, logistics, or transportation that we work with have sustainability as one of their top items on their development agenda."

Radu Palamariu, Executive Recruiter, Alcott Global

However, the level of engagement with sustainability is not standard across industries (see Figure 10). Agriculture, forestry, fishing, and hunting had the most respondents who were primary decision makers or directly involved, and therefore the highest level of engagement, followed by accommodation and food service, construction, and utilities. Retail and health care and services had the most respondents who were not at all engaged.

The supply chain sustainability picture within the profession is not all positive. Some survey respondents said they lacked responsibility for sustainability or were unaware of their company’s activities in this area. One respondent said, “This survey made me aware of how much I do not know about our supply chain sustainability strategy.” Others identified an acute lack of opportunity for engagement and/or limited training to get up to speed on supply chain sustainability. Four executives reinforced this point, indicating that a lack of training can be a significant barrier to engagement in sustainability. These findings suggest a dearth of educational opportunities for professionals seeking to find an entry point into supply chain sustainability and to scale up their knowledge quickly and comprehensively.

An additional finding is one that has important implications for decision makers in supply chain sustainability: While being sustainable is commonly touted as the right thing to do, the right decisions on how and when to act are not always clear.

Executive input showed that while there is momentum to pursue supply chain sustainability, the journey is impeded by financial, physical, and technological barriers. For instance, in industries with low profit margins, such as apparel, it can be challenging to justify upfront investment in initiatives that may not pay off in the near term.

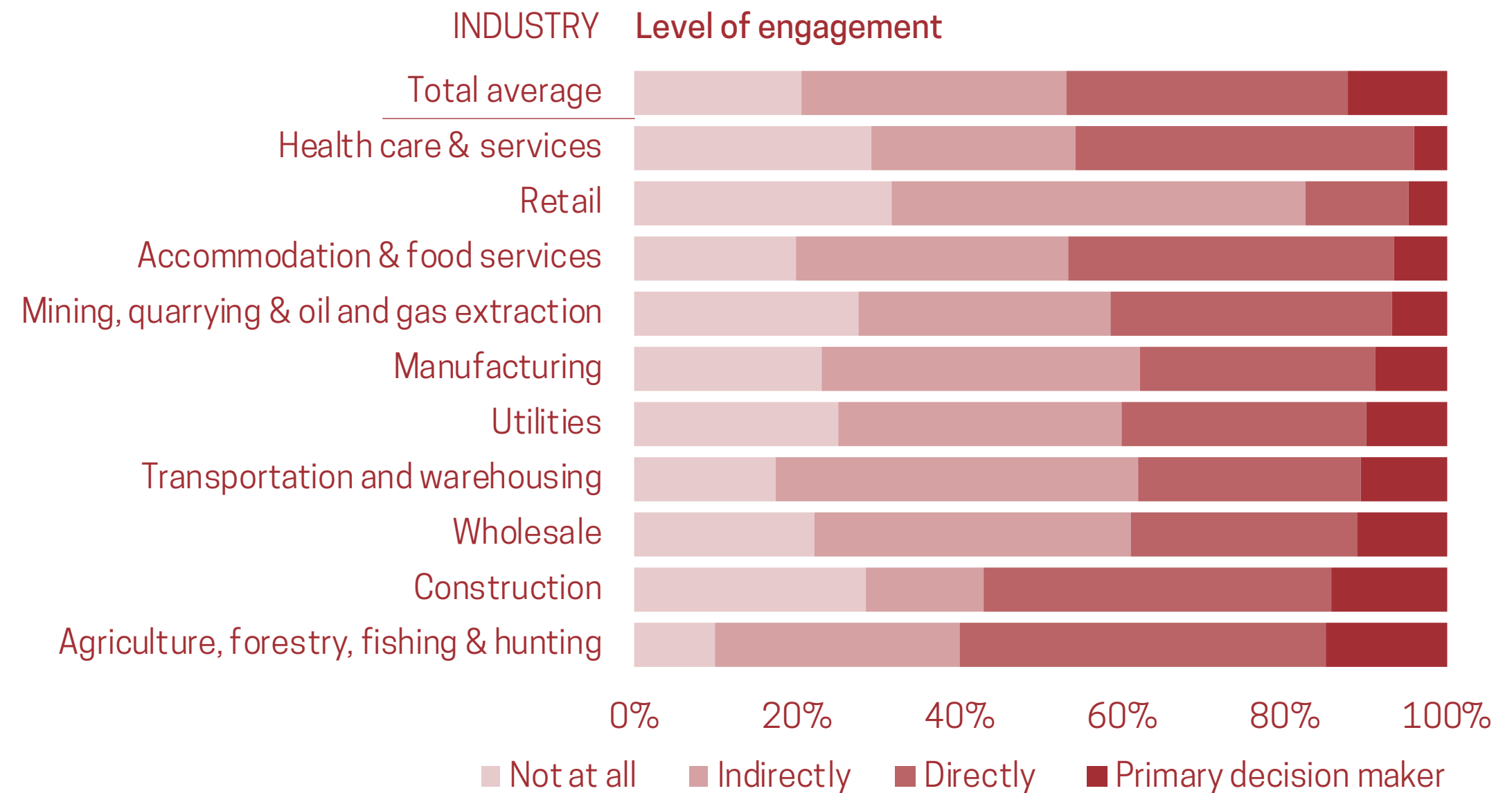


Figure 10: Percent of respondents selecting specified levels of engagement in supply chain sustainability, ranging from not at all to primary decision maker. Total average represents all industries included in this figure. Supply chain professionals in the construction and agriculture, forestry, fishing, and hunting industries were most deeply engaged in sustainability. N = 474.

The gift of sustainability

“Cost is always going to be a challenge until scale is reached. Apparel in general is a low-margin business and it can be really tough to justify something that costs more—that’s probably the biggest, most practical barrier.”

Marcus Chung, Vice President of Supply Chain and Manufacturing, *ThirdLove*

Other executives said that they face difficult tradeoffs when managing supply chains while also trying to advance social and environmental agendas. Some companies struggle to align internally and externally on what are the most pressing issues to address within the social and environmental landscape, as seen in the mismatch between stated goals and investment summarized in Figure 10. Strategies that seek

“My boss gave me a gift when he said, ‘Hey, Tony, take sustainability.’ I brought it into our procurement team, and our procurement team went nuts. They saw it as a gift, also. Everything that we do now, every contract that gets reviewed, has a sustainability focus in it. It’s not just about price, and it’s not about just the payment terms or supply security. It’s really got a whole focus of sustainability in it.”

Tony Milikin, VP of Procurement, *AB InBev*

to align sustainability goals with internal and external expectations, practices, timelines, and financing may enable more effective outcomes.

STATE OF SUPPLY CHAIN SUSTAINABILITY: FUTURE DIRECTIONS

While the data for this study were largely collected in 2019, this work cannot ignore the massive influence of COVID-19 in the context of the 2020 supply chain. The pandemic is changing the ways in which businesses and supply chains operate and serve markets. There are some dire predictions of supply chain sustainability taking a back seat for the foreseeable future, yet other early trends may mark an opportunity for change in a crisis. In this section:

From Peak to Purpose

Social Sustainability Will Be Top of Mind

Sustainability Will Further Grow as a Key Responsibility of Supply Chain

Information, Technology, and People

Transparency Will Become Critical

Shock waves from the COVID-19 pandemic buffeted supply chains around the world, and the immediate impacts on social sustainability were clear and significant. One has been an impact on labor in supply chains in the U.S. and internationally. Numerous headlines have reported forced overtime hours to meet deadlines for surging demand for products such as PPE, unsafe working conditions that are unable to keep workers safe from infection, and challenges with fair pay and benefits for those working the front lines. In some cases, labor challenges were exacerbated by COVID-19, with some meatpacking plants highlighted as sources of outbreak due to operations requiring such close working conditions.

In addition, as people stayed home, demand dropped significantly for certain services and products, which led to dropped orders—resulting in closures, furloughs, and layoffs. Many people were left without a source of income to support themselves and their families. For example, in the apparel industry, \$1.5 billion of already-placed orders were canceled in Bangladesh in one week alone, putting more than 4 million workers at risk of losing employment.⁴⁹ These types of ripple effects are occurring across many industries.

Significant environmental impacts also unfolded; enforcement of environmental regulations was relaxed due to the pandemic, coupled with additional impacts from the immediacy of serving pandemic-related needs. The focus during a crisis like a pandemic is on the short term, such as the massive surge in demand for single-use plastic products for pharmaceutical or medical purposes.⁵⁰ Furthermore, many countries do not have biohazardous waste protocols, which could lead to a secondary environmental crisis with billions of small, hazardous plastics ending up in waterways and oceans around the world.

The impacts of this pandemic are global, acute, and widespread. However, even in the early days of this disruption, the prior adoption of sustainability practices played a role in helping to make supply chains resilient to pandemic-related upheavals. The crisis also changed expectations concerning the role supply chain sustainability will play going forward.

The COVID-19 crisis has demonstrated on a global scale the importance of supply chain-related factors for investors.⁵¹ Companies ranked higher on ESG ratings financially outperformed companies with lower rankings. This is in large part because investment in sustainability tends to be a form of risk management, contributing to a greater knowledge about one's supply chain, supplier relationships, and labor management practices.⁵² In the early days of the disruption, companies appeared to take steps toward sustainable supply chains not in spite of the pandemic but *because* of it.

“I am afraid that the aftermath of COVID-19 and especially the deep recession we are heading towards, will cause sustainability to take a back seat to economic considerations. As consumers focus on livelihood and economics, companies are focusing on costs, revenues, and resilience. Sustainability is and will continue to drop in the list of corporations' priorities until the pandemic is over and until the world's economies are back.”

Prof. Yossi Sheffi, Director,
MIT Center for Transportation & Logistics

From Peak to Purpose

To look back and then look forward, Figure 11 proposes a trajectory for supply chain sustainability, moving from where supply chains were in 2019 to where they might be in 2022 and beyond. In 2019, supply chain sustainability hit a fever pitch with companies across sectors adopting and acting upon sustainability. This reached a new peak with global sustainability recognition and support. But in 2020, the global COVID-19 pandemic caused massive disruptions. Facing the crisis, the clear mandate for all was to pivot all available supply chain capacities to response and mitigation to serve pandemic needs.

We predict that in 2021 supply chains will enter a recovery and redesign period. Even if a recovery begins toward the end of 2020, it will likely be a patchwork response as the world struggles to adapt to the global pandemic.

“At the core of any company are people. People who want to do the right things for society and future generations.”

Mark Baxa, Former Board Chair,
Council of Supply Chain Management Professionals

But in 2021, recovery may look more optimistic as companies evaluate the lessons learned and make changes in supply chain design, operations, and management. These changes may include in some cases a higher valuation of supply chain labor through better pay, improved working conditions, and increased benefits for front-line labor, from delivery drivers to production laborers to warehouse workers. If 2022 and beyond begins to see forms of recovery from the pandemic and the associated economic recession, we may see more companies adopting sustainability in their supply chains in an effort to be more resilient. This could mean a focus on long-term objectives, like better treatment of workers, but also a more critical focus on climate and environmental impacts. This period has the potential to drive a new purpose for the supply chain profession—one that values social and environmental impacts more significantly.

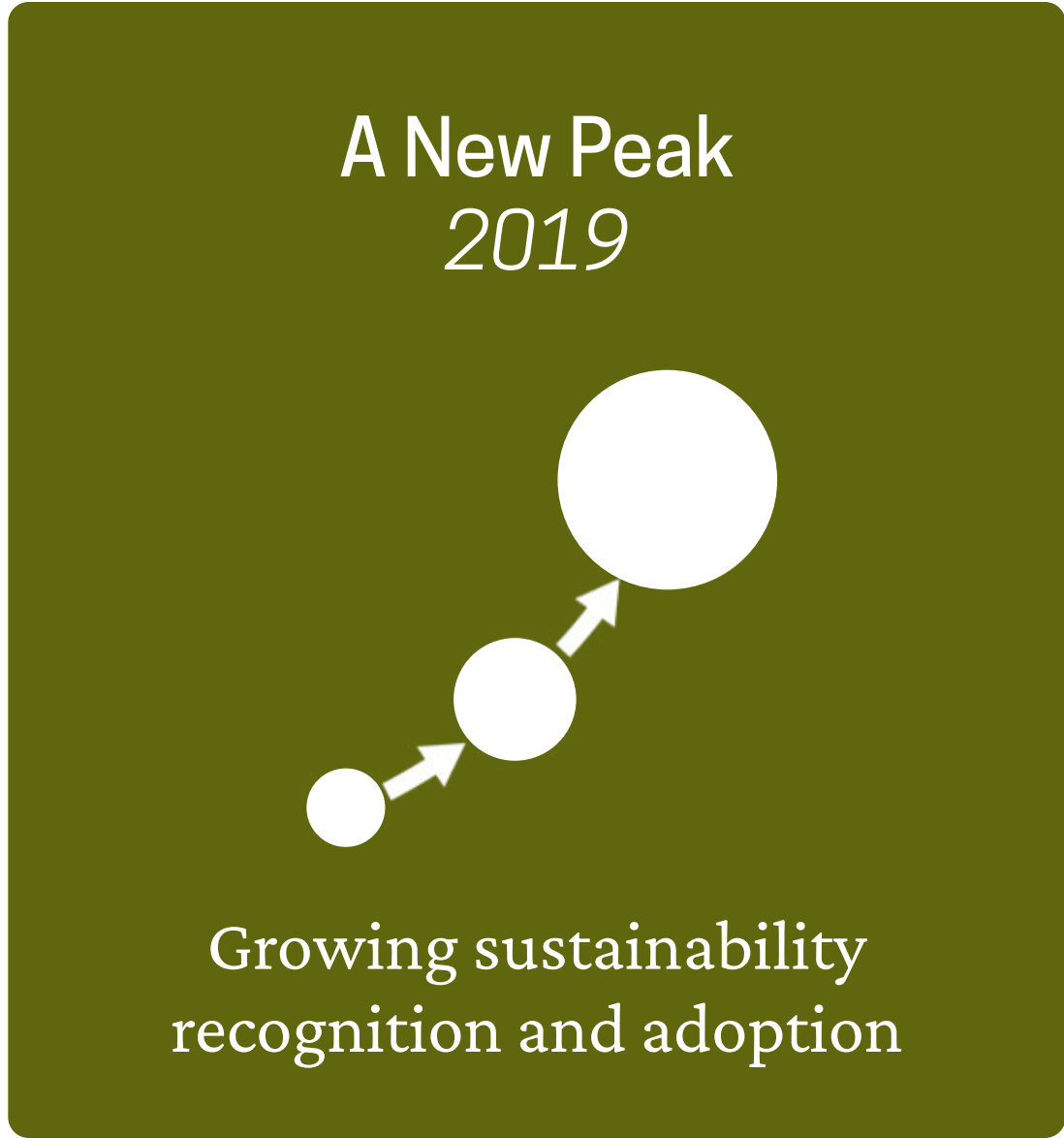


Figure 11: Trajectory of supply chain sustainability focus: From peak to purpose

Social Sustainability Will Be Top of Mind

While environmental sustainability in the form of managing climate change, harnessing renewable energy, and reducing waste management were in focus in 2019, the global COVID-19 pandemic may force a pivot toward social sustainability. Sustainability engagement may shift toward better health and safety practices, job benefits, and increased pay as a reaction to the myriad headlines about the mistreatment of front-line supply chain workers during COVID-19. For example, the pandemic brought existing labor issues to light as poor working conditions in food processing and other sites led to increased infection rates. Meat processing plants around the U.S. shut down in April 2020 when COVID-19 infection rates among workers spiked in these facilities.⁵³

We may also see shifts stemming from economic recovery efforts, such as investment in small, diverse, and local businesses seen as critical for local, regional, and national economic recovery.

To complement what we learned in the investigation of 2019 material, we conducted a poll at MIT CTL’s April 2020 virtual conference, *Crossroads: Understanding Uncertain Futures*, to see how attitudes shifted in the first few months of 2020. Of the 155 supply chain managers and executives polled, two-thirds said they foresee higher investing in supply chain sustainability in the post-pandemic recovery (see Figure 12), and over half indicated that these investments will place a significant focus on worker health and safety. These findings were in line with our 2019 findings with one exception—a new emphasis emerged on local or domestic suppliers.

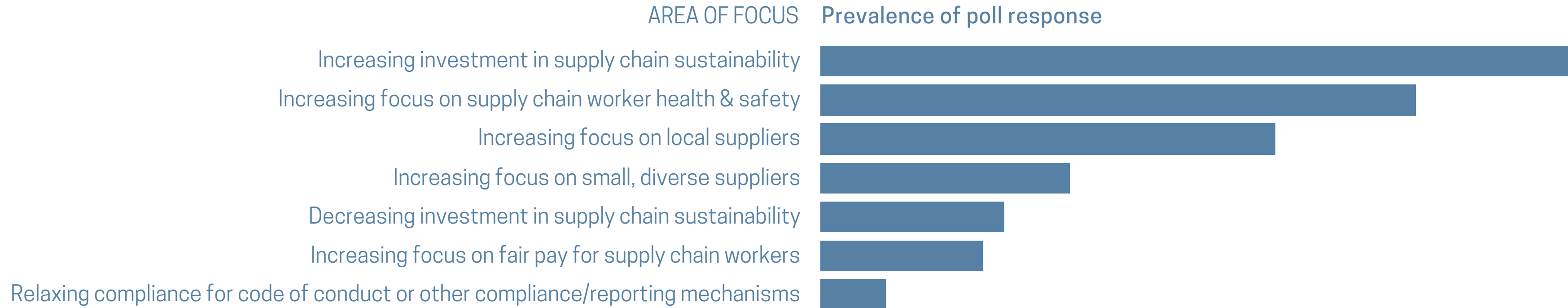


Figure 12: Polling results on anticipated corporate commitments to supply chain sustainability priorities in 2020. Two-thirds of respondents expect to see increased investment in sustainability. N = 155.

Supply Chain Will Continue to Play a Key Role in Sustainability

In the 2019 data, survey and executive respondents overwhelmingly indicated that sustainability is significantly diffusing into the supply chain profession, a sentiment that was echoed during the Crossroads session. As seen in Figure 13, 84% again agreed that sustainability is becoming part of supply chain professionals’ core responsibilities in the long term.

Do you think sustainability will become part of supply chain professionals core responsibilities over the long term?

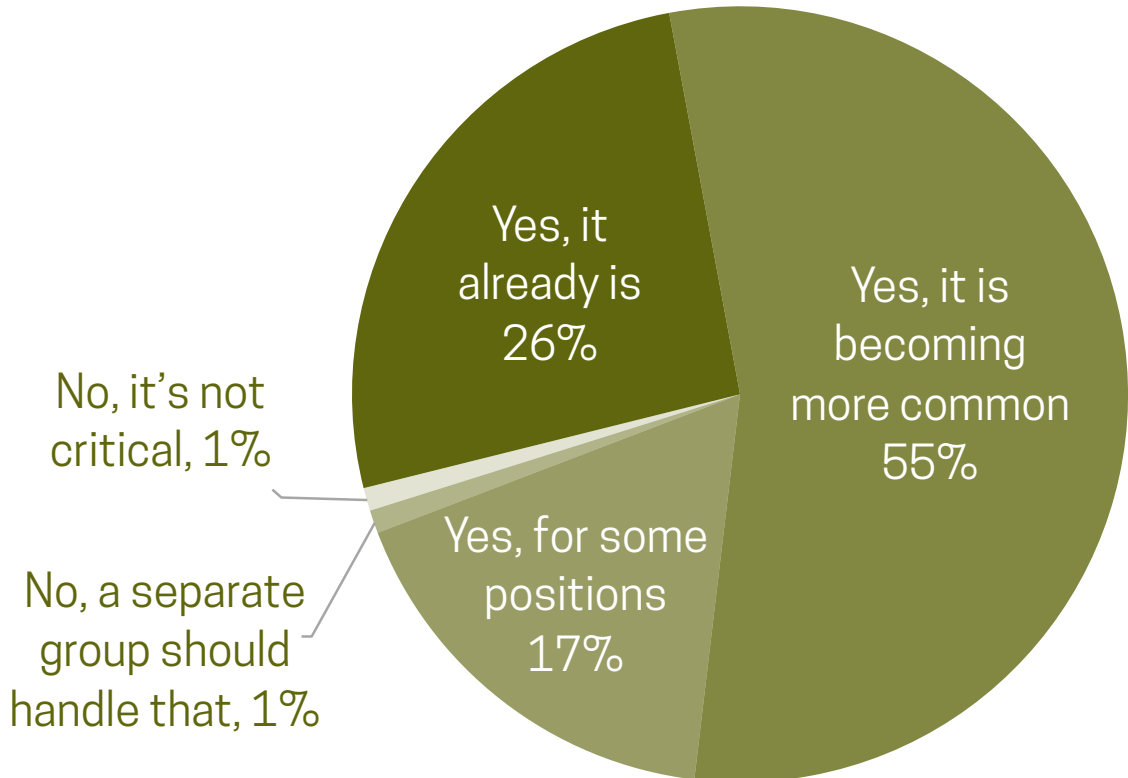


Figure 13: Polling results on perception of supply chain’s role in sustainability in 2020 by middle managers to executives. The great majority indicated that sustainability is becoming a core responsibility. N = 155.

Information, Technology, and People

The increasing role of technology within supply chains continues to be a major factor in the way company operations are managed around the globe, which can be leveraged to impact supply chain sustainability. Examples of technology used in the application of sustainability in supply chains include automation and robotics, tracing and mapping technologies, and transportation innovations like electric vehicles. While these technologies are promising, the executive interviews suggested that there is no one-size-fits-all approach to technology, but the crisis may serve as an opportunity to adopt critical technologies that will also enable progress in supply chain sustainability.

What is clear is that certain technologies will play an accelerating role in supply chain sustainability adoption, information transfer, and progress tracking. With the massive disruption caused by COVID-19, it is likely that in the recovery, firms will be more likely to invest in information technology that enables them to know more about upstream and downstream operations and allows them to manage their supply chains more effectively and sustainably.⁵⁴

Transparency Will Become Critical

Another unclear, but probable, impact of the COVID-19 crisis is a re-evaluation of the needs and values of consumers. As consumers have been forced to consider their material needs while staying at home and protecting themselves and their families, they may fundamentally change their purchasing practices, creating significant ramifications for global supply chains.

An April 2020 Ernst & Young study on how COVID-19 is changing consumer behavior showed that one-quarter of consumers plan to patronize brands they can trust, and another quarter are willing to pay more for ethical brands during the recovery from the pandemic.⁵⁵ Many of the findings suggest that the actions companies take now—and in the future—will influence customer loyalty and growth of their market base more than ever as the pandemic reshapes consumer spending.

The increasing value attached to trust and ethical practices will force the hand of many companies to be more transparent in their supply chain management. Opaque supply chains that are vulnerable to disruptions will become an endangered species.⁵⁶

In the future, gaining a deeper understanding of the end-to-end supply chain and communicating its societal impacts will become more important.

CONCLUSION

This inaugural State of Supply Chain Sustainability 2020 Report identified many key learnings, including:

- Pressure to act on sustainability is coming from multiple sources, not just NGOs.
- Pressure drives action; companies receiving pressure are more likely to set sustainability goals.
- Social sustainability goals are the most important focus among corporate goals.
- However, the importance companies place on goals may not match their level of investment in those areas.
- Companies tend to disclose their progress on sustainability on platforms that are less rigorous.
- Supplier code-of-conduct policies and audits are the most frequently adopted supply chain sustainability practices.
- Supply chain professionals are engaged in driving corporate sustainability.

Nuanced learnings emerged in the differences among industries in goals and practices, as well as between professional and executive perceptions. Understanding the big picture of supply chain sustainability, as well as recognizing differences across professional positions and industries, can help equip supply chain professionals for the future.

Crucially, the uncertainties of a global pandemic and a volatile commercial environment cloud the outlook for sustainability. Some argue that these forces favor a more sustainable future; others maintain that sustainability will be put on the back burner as these forces play out. Another view falls between these two camps. Our outlook identifies several key themes that may play out in 2020 and beyond, including:

- Social sustainability will continue to be top of mind and may even become more important as a key focus area.
- There will be a greater emphasis on corporate transparency.
- The pandemic may drive efforts toward more purpose-driven supply chains that value social and environmental impacts more significantly.

The next report in this annual series will examine these uncertainties and what role supply chain management will continue to play in pursuing progress toward achieving social and environmental goals. It will also provide further clarity on the likely evolution of supply chain sustainability.

We look forward to reporting the state of supply chain sustainability in 2021.

GLOSSARY

Carbon emissions: Polluting carbon substances released into atmosphere: carbon dioxide and carbon monoxide produced by motor vehicles and industrial processes and forming pollutants in the atmosphere.

Child labor: The exploitation of children to engage in economic activity, on a part-time or full-time basis, and which deprives children of their childhood development.

Climate change: Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer).

Collaboration: The act of working together with other people or organizations to create or achieve something.

Community impact: Business strategies which promote the growth of healthy social groupings.

Corporate social responsibility (CSR): The continuing commitment by businesses to behave ethically and contribute to economic development while improving the quality of life of the workplace as well as the local community and society at large.

COVID-19: The official name given by the World Health Organization to the novel coronavirus.

Corporate social responsibility/sustainability report: A periodical report published by companies in order to portray the relationships between a company and society and to communicate efforts the company is making to be sustainable.

Disclosure: A company's timely release of information that may affect investor decision-making to give all stakeholders equal access to facts about the company.

Energy management: The process of tracking and monitoring energy with the goal of reducing total usage.

Engagement: An organization's efforts to understand and involve stakeholders in its activities and decisions.

Environmental impact assessment: The process of identifying and evaluating the consequences of one economic activity on the environment and, when appropriate, mitigating those consequences.

Environmental sustainability: The avoidance, to the maximum practicable extent, of irreversible and irretrievable commitment of resources.

Fair trade: A trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade.

Forced/slave labor: Situations in which persons are coerced to work through the use of violence or intimidation, or by more subtle means such as accumulated debt, retention of identity papers or threats of denunciation to immigration authorities.

Greenwashing: Is considered an unsubstantiated claim to deceive consumers into believing that a company's products are environmentally friendly.

Investment in sustainability: Placing financial or human resources to achieve progress toward a certain issue, whether it be social or environmental.

Natural resource/biodiversity conservation: The protection, preservation, restoration, and rational use of all resources in the total environment.

NGO or third-party collaboration: Collaboration with a non-governmental organization or third party to support sustainability efforts on a specific issue.

Regulatory due diligence: A comprehensive assessment of compliance with existing regulation related to social and environmental concerns.

Reporting: The collection and presentation of information to the public.

GLOSSARY

Social sustainability: The ability of a company to develop processes and structures which not only meet the needs of its current members but also support the ability of future generations to maintain a healthy community.

Stakeholder: A person, group, or organization that has direct or indirect stake in an organization because it can affect or be affected by the organization's actions, objectives, and policies.

Supplier audit: A semi-random on-site examination to identify and assess social and environmental issues and supplier sites.

Supplier benchmarking: Evaluating and comparing suppliers based on their compliance to sustainability standards put in place.

Supplier collaboration: Working with a supplier to scale their practices and determine improvements that can be made to increase sustainability.

Supplier diversity and inclusion: An organization's effort to incorporate leadership from traditionally underrepresented or underserved groups into its supply chain.

Supplier training: Teaching supplier staff and management selected practices to help improve their social and/or environmental compliance.

Supply chain management: The design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand, and measuring performance globally.

Supply chain mapping: The process of engaging across companies and suppliers to document the exact source of every material, every process and every shipment involved in bringing goods to market.

Supply chain sustainability: Management of environmental and social impacts within and across networks consisting of suppliers, manufacturers, distributors, and customers in line with the UN Sustainable Development Goals.

Sustainability: A set of environmental, economic and social conditions in which all of society has the capacity and opportunity to maintain and improve its quality of life indefinitely without degrading the quantity, quality, or availability of natural resources and ecosystems.

Sustainability goals: Objectives set by businesses to create a better, more sustainable future.

Sustainability standards and certifications: Voluntary, independently assessed production standards and certifications adopted by companies to demonstrate sustainable progress.

Third-party verification: the employment of an external party to verify internal claims about sustainability progress.

Traceability of materials: Ability to follow the movement of a material or good through the supply chain from raw material to final product.

Transparency: A measure of increased accountability in which a business reports on its ethics and performance results of its supply chain through accessible publication of the business' practices and behavior.

Waste/end-of-life management: The collection, transportation, and disposal of garbage, sewage, and other waste products.

Water management: The control and movement of water resources to minimize damage to life and property and to maximize efficient beneficial use.

Worker welfare: Services, facilities, and benefits provided by employers to create better conditions for workers.

APPENDIX: DATA & METHODOLOGY

Survey

This survey was open from October 7 to November 15, 2019. MIT CTL, CSCMP, and their extended networks shared the survey to supply chain professionals via member and social media channels like email lists and LinkedIn. As an incentive for participation, respondents could sign up to receive a copy of this report for free. We received 1,128 responses.

The survey included questions about a broad coverage of issues in of supply chain sustainability: areas and level of commitment and investment, disclosure frequency and channel, types of supply chain practices applied, and sources and level of stakeholder pressures. The responses were anonymous to encourage honesty, but we gathered basic information on the respondent and the company they represent.

While the total number of respondents who started the survey and filled out some portion of the survey is 1,128, a subset of that population is featured in analyses in the report. This is due to two reasons: survey design and attrition. The survey design used skip logic branching for some topics, where respondents receive different questions based on their answers, resulting in a smaller subset of respondents who received and answered that question. In addition, there was attrition, or drop-out, as respondents got further into the survey. As a result, not all analyses are based on the total number of respondents who began the survey. Each figure indicates the portion of respondents included in that analysis.

To ensure proper interpretation from survey respondents, we solicited feedback from academic and industry area experts and collaborators. We also ran a pilot survey to gather responses and feedback from 60 supply chain professionals. The survey was approved by the MIT Committee on the Use of Humans as Experimental Subjects.

The survey results were analyzed with various statistical methods, including correlation, hypothesis tests, multivariate and binomial logistic regression analyses. Additional details of the survey and analysis are available in Barrington and Allegue’s 2020 paper.⁵⁷

Executive Interviews

Twenty executives in the research team’s networks were selected to represent a range of industries, shown in Table 5, were interviewed. Each were asked same set of question via phone/web interview or email, and the questions were shared in advance of the interview. The interviews were analyzed 1) for key insights that either supported or contrasted survey and content analysis findings, and 2) for themes that emerged across the interviews.

Table 5: Interview respondents by industry

| Industry Sector | Number of Interviews |
|------------------------------|----------------------|
| Consumer goods | 2 |
| Industry association | 4 |
| Health care & services | 1 |
| Manufacturing | 5 |
| Retail | 3 |
| Technology & communications | 2 |
| Transportation & warehousing | 3 |

Published Content

To complement learnings from primary information from the survey and executive interviews, we reviewed an extensive number of documents: More than 150 documents were reviewed, including 52 corporate social responsibility and sustainability reports, 58 news articles, 30 journal articles and research reports, and 25 industry reports.

The documents were collected using key phrases related to the work such as “carbon emissions,” “supply chain management,” “sustainability,” “child labor,” and others to identify relevant documents in aggregate news sources such as Factiva and Google News. The content data were collected in two phases. At the beginning of 2020, we focused exclusively on 2019 content related supply chain sustainability. The second took place from March to May of 2020 to review available information related to the COVID-19 pandemic and its impact on supply chain sustainability. The second data collection was limited in scope given the rapid evolution of the situation.

We analyzed 1) the percentage of words referring to the sustainability focus areas in the CSR/sustainability reports, and 2) the sentiment toward certain sustainability focus areas in news articles. The sentiment analysis was conducted using an open-source machine learning API created by MonkeyLearn.⁵⁸ This tool identifies whether media presented certain topics (such as air pollution or child labor) in a positive, negative, or neutral tone in each article.

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Acknowledgements

Faculty Chair

Yossi Sheffi
*Elisha Gray II Professor of Engineering Systems
Massachusetts Institute of Technology*

Lead Investigator

Alexis Bateman
*Director
MIT Sustainable Supply Chains*

Research Advisors

Chris Caplice
*Executive Director
MIT Center for Transportation & Logistics*

Lisa D’Ambrosio
*Research Scientist
MIT AgeLab*

Student and Research Assistants

Laura Allegue MASc ’20
Massachusetts Institute of Technology

Ashley Barrington MASc ’20
Massachusetts Institute of Technology

Carson Collard
*SB Candidate
MIT Sloan School of Management*

Yin Jin Lee
*PhD Candidate
MIT Institute for Data, Systems, and Society*

Coordinating Author

Suzanne Greene
*Manager
MIT Sustainable Supply Chains*

Contributing Authors

Ken Cottrill
*Editorial Director
MIT Center for Transportation & Logistics*

Daniel McCool
*Communications Coordinator
MIT Center for Transportation & Logistics*

Design & Communications

Arthur Grau
*Senior Communications Officer
MIT Center for Transportation & Logistics*

Samantha Varney
*Communications and Marketing Coordinator
MIT Center for Transportation & Logistics*

CSCMP Team

Rick Blasgen
*President & CEO
Council of Supply Chain Management Professionals*

Chris Adderton
*Vice President
Council of Supply Chain Management Professionals*

Donna Palumbo-Miele
*Sustainable Supply Chain Committee Chair
Council of Supply Chain Management Professionals*

Nichole Mumford
*Vice President of Marketing
Council of Supply Chain Management Professionals*

Alex Sanchez
*Senior Digital Marketing Manager
Council of Supply Chain Management Professionals*

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Mark Baxa
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Mani Janakiram
Jon Kirchoff
Bruce Klafter
Delman Lee
Mary Long
Benny Mantin
James McCall
Michelle Meyer
Michael Milam
Tony Milikin
Tyler Morgan
Radu Palamariu
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Wendy Tate
Aaron Terrazas
Susana Val
Karen van Nederpelt
Jennifer Wong

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