















What's Next for  
Sustainable Business?  
**2022 Trends Report**

# Table of Contents

Introduction	page 3	
1 – Integrating ESG	page 4	
2 – Valuing human capital	page 9	
3 – Responding to climate change	page 13	
4 – Safeguarding natural systems	page 19	
5 – Building sustainable and resilient supply chains	page 24	
6 – Enabling sustainable consumption and production	page 29	
7 – Applying technology to sustainability	page 33	
8 – Protecting fundamental rights	page 37	
9 – Shaping policy, regulations, and norms	page 41	
10 – Moving toward stakeholder capitalism	page 45	
Endnotes	page 49	

## Introduction

### Welcome to our 2022 Sustainability Trends report.

To open this year's report, we wanted to look back at our 2021 edition and take stock of how our predictions played out.

In that publication, we suggested 2021 would bring significant changes in the employer-employee relationship, sharp acceleration in the uptake of net zero targets, more focus on nature-based solutions as a key tool in the fight against climate change, and a deepening of companies' approaches to managing Diversity, Equity, and Inclusion (DEI). These forecasts did all to some extent 'come true' as the year unfolded, but action on them is far from 'job done.' Expectations around what corporate actors need to do on these topics continue to evolve, meaning that actions that were once deemed groundbreaking are coming to be seen as the norm for responsible businesses. The rapid uptake of net zero targets is just one example of the exception quickly becoming more common.

Some of the circumstances we examined a year ago continue to influence the landscape today.

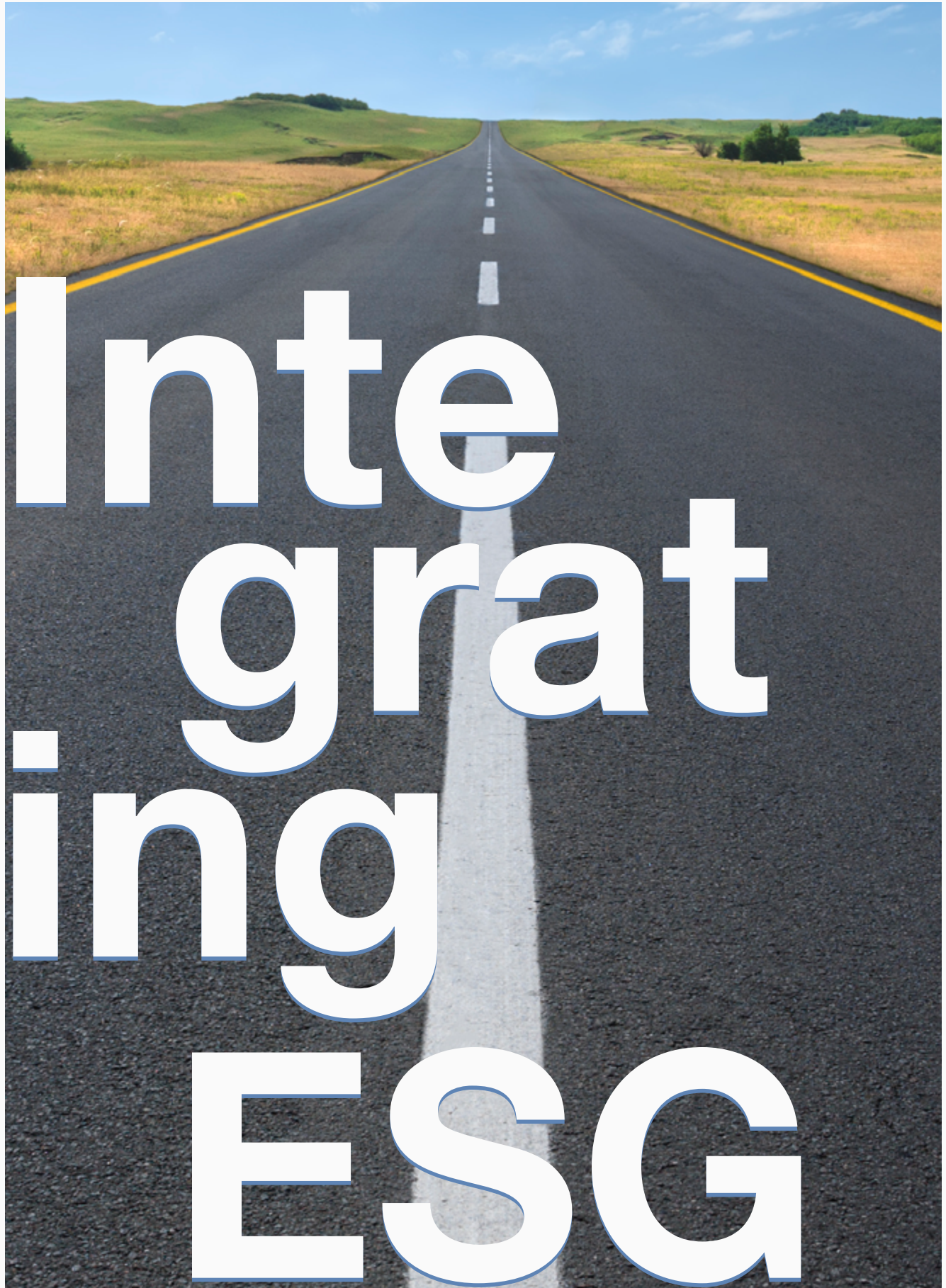
The biggest shaping influence of 2021 was the global pandemic and associated efforts around protection of lives and well-being, vaccination, and economic recovery. While we might wish otherwise, this is extremely likely to be true in 2022 also, with the Omicron variant, which emerged while we were finalizing this report, reminding us of the virus's dynamism and unpredictability. As a result, the 2022 trends refer frequently to pandemic-related impacts, including how COVID-19 continues to shape the workplace as well as its impacts on supply chain disruption and human rights. But as much as

possible this report focuses on the sustainability long game, exploring key trends and how they are helping – and demanding! – the corporate world to focus attention on sustainable development challenges even while the world navigates COVID-19 and works to a better future where the virus is under control.

Another topic as prevalent in this year's report as last is ambition and action around net zero. While we applaud the growing number of net zero targets, we also highlight backlash and growing scrutiny regarding what it will take for companies to deliver their net zero ambition. Likewise, we continue to refer to the ongoing integration of ESG into investor strategies, including the vocal debate that occurred in 2021 around whether ESG is merely a smokescreen that businesses might use to distract from a lack of real progress on critical societal issues. Finally, while we comment on welcome advances in the realm of protecting the natural world, including its link to climate action, we also highlight biodiversity threats like the fact that deforestation in the Amazon is at its highest rate ever, and we suggest that companies need to act with more urgency, commitment, and intent.

We are releasing this year's trends report as COP26 and the mixed reactions to its outcomes are still fresh and raw. Unsurprisingly, COP26, its fallout, and what this means for business feature strongly this year, as we explore how business and other stakeholders will respond to increasingly strident calls for climate action.

We hope you enjoy the report, and we welcome any feedback you might provide on our perceptions of these trends as a means to sharpen our own understanding of these complex topics.



## The growing prominence of ESG in investor strategies, coupled with new policies such as the European Union’s Sustainable Finance Disclosure Regulation, is helping cement ESG as a mainstream business concept influencing investment returns and corporate strategy.

Environmental, Social, and Governance (ESG) considerations now permeate investment strategies worldwide. One in every three dollars of global assets under management is already invested in a fund or strategy that in some way integrates ESG considerations, with capital inflows to ESG-guided products expected to increase.

Continuing the trend of the past few years, 2021 saw the launch of a variety of new ESG-focused regulations. With the European Union (EU) Taxonomy now in place and acting as a classification system defining sustainable economic activities, 2021 saw the formalization of further new regulations as part of the EU Green Deal. The most prominent was the EU Sustainable Finance Disclosure Regulation (SFDR), which requires financial market actors to disclose sustainability risks and impacts with the aim of making the sustainability profile of different funds easier to compare and understand. This regulatory momentum will continue to drive ever more ESG-focused business and investment decisions, as it will require investors to be more transparent on their sustainability criteria and force companies to think more carefully about gathering and reporting ESG data.<sup>1</sup>

Despite regulatory momentum and the strengthening business case for making ESG part of core business strategy, ESG integration in practice remains complex and challenging. One of the main barriers has been a lack of consistent and comprehensive data. For example, in a recent global survey of institutional and wholesale investors, half of respondents said that the absence of quality ESG data was

holding back their organization’s adoption of ESG.<sup>2</sup>

Variation and inconsistency in corporate ESG reporting, partly a result of the plurality of approaches and frameworks, is one reason why ESG data remains a challenge. In one notable move during 2021, the Sustainability Accounting Standards Board (SASB) and the International Integrated Reporting Council (IIRC) merged to create the Value Reporting Foundation (VRF). By June 2022, this organization will complete its integration of the Climate Disclosure Standards Board (CDSB), after which it will become the consolidated International Sustainability Standards Board (ISSB).<sup>3</sup> These developments are likely to lead to a higher degree of integration among existing frameworks and, in turn, result in more comparable and comprehensive disclosures by companies.

In parallel to the increasing focus on ESG integration by investors and companies, ESG has received some high-profile criticism. Skeptics of ESG and green investing have claimed that the market is awash with big claims and little action. Notably, Tariq Fancy, former Chief Investment Officer for Sustainable Investing at BlackRock, claimed that ESG investments allow fund managers to charge higher fees for products offering “scant or little evidence of real-world impact that would not have otherwise occurred.”<sup>4</sup> Fancy is not alone in this sentiment. Desiree Fixler, the former head of sustainability at DWS, a Germany-based asset management firm, challenged her company’s (and the wider market’s) activity in sustainable investing, accusing the firm of embellishing its green investment strategies and overall public image in relation to sustainable investment policy.<sup>5</sup> Many ESG skeptics believe that real change and progress in ESG integration will depend more on government regulation than corporate activity and are advocating for public sector action to address these issues.

Even as doubters push back, the mainstreaming of ESG will continue through 2022 and beyond, and we are likely to observe the following developments:

## **ESG functions will be further integrated deeper into business departments and operations**

Recognizing that integrating ESG into a business can drive value for the organization through brand reputation, ESG ratings outcomes,<sup>6</sup> financial performance,<sup>7</sup> and employee engagement and retention,<sup>8</sup> more than 80 percent of the world's largest companies now report on ESG or sustainability metrics and performance, with that number expected to grow further in 2022.<sup>9</sup> Along with the rise in reporting, ESG is becoming more prominent in the day-to-day work of business functions outside of the core sustainability team, especially communications and public affairs, investor relations, enterprise risk, and supply chain operations. In contrast to these functions, finance teams traditionally have been less engaged in ESG. For instance, one recent study showed that ESG and sustainability teams currently interact with finance teams very little: out of 14 designated business functions identified in the study, sustainability team engagement with finance departments ranked 11th.

This is set to change. Finance team engagement is critical for activities including budgeting, planning of core business operations, and risk assessment.<sup>10</sup> Furthermore, with the rapid expansion of sustainability-linked financing instruments such as green bonds and loans, companies that connect ESG and finance will be able to access capital at more favorable terms, while also bolstering their reputation among stakeholders and attracting ESG-conscious investors.<sup>11</sup>

## **Private equity firms will accelerate focus on ESG, also increasing pressure on portfolio companies**

The mainstreaming of ESG in investment processes has been accelerating rapidly in the last few years, especially among institutional investors. While for many years private equity (PE) was slow to embrace this trend, the tide has been turning, and the pace of ESG adoption in PE is expected to accelerate in 2022. The PE sector has been growing at break-neck speed, with assets under management nearly tripling between 2010 and 2020 (from \$1.7 trillion to \$4.5 trillion) and expected to double again to over \$9 trillion by 2025.<sup>12</sup> Over the last decade, more than \$3 trillion in combined assets has been raised by private capital funds that integrate ESG principles.<sup>13</sup> According to a 2020 survey of 150 General Partners, 88 percent expect to increase their ESG focus by 2022,<sup>14</sup> a signal that the importance of ESG in the sector will grow.

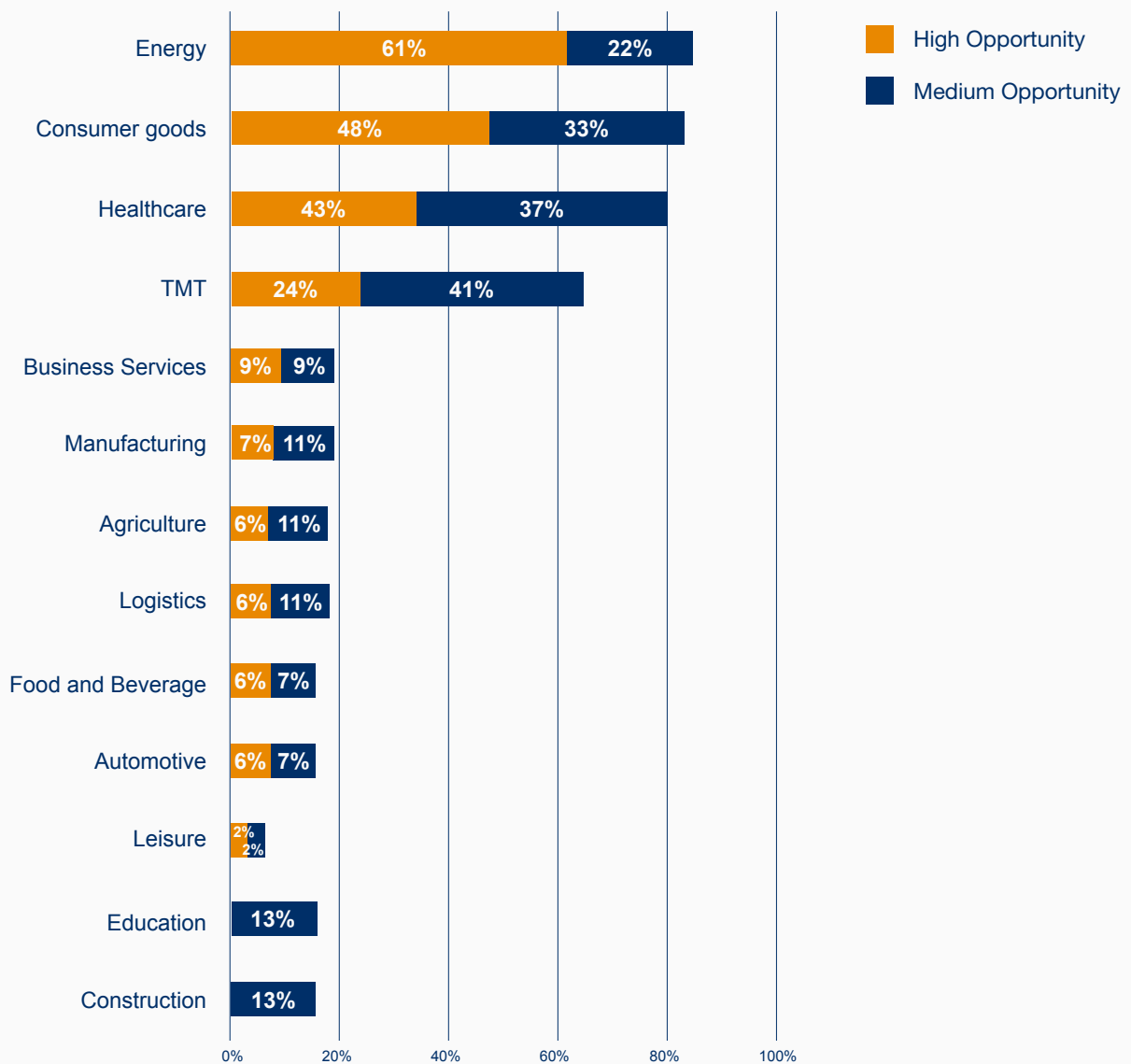
One positive outcome of this increasing focus on ESG is that PE firms are uniquely positioned to directly influence changes and accelerate progress on sustainability in their portfolio companies. Due to the nature of investment processes and short turnover cycles, PE firms influence strategy, management, and operations in the companies in which they invest. As they respond to demands for more ESG integration from asset owners, PE firms are also putting more pressure on their portfolio companies to gather the necessary information and, in turn, increasing the demand for sustainable business activity.

## **More businesses will link executive compensation to ESG performance**

While methods of implementing an effective ESG strategy often vary by organization, executive compensation is a tool being applied by a growing number of companies. Traditional measures of success used in executive compensation packages like production and performance, fulfillment of regulatory requirements, and risk management are losing favor to ESG metrics, including community

engagement, decarbonization, diversity metrics, and other multi-stakeholder issues which reflect a wider sense of corporate responsibility.<sup>15</sup> As of 2021, nearly half of FTSE 100 companies had at least one ESG target in their executives' long-term incentive plan.<sup>16</sup> In addition to increasing integration of ESG topics, the balance of E, S, and G metrics included in incentive plans is also changing. A 2020 global study found that nearly 80 percent of surveyed companies plan to change the way they use ESG metrics in their executive compensation plans by 2023.<sup>17</sup> These trends are likely to continue throughout 2022 and beyond, reflecting increasing awareness of the importance of delivering on ESG for a company's overall strategy and success.

**Chart 1: Sectors with the Greatest ESG investment Opportunity in the Next Five Years**



*In 2020, ERM conducted a global survey of over 50 private equity firms. The chart shows the sectors that respondents identified as presenting the highest ESG investment opportunity in the next three to five years. Source: ERM.<sup>18</sup>*

“

“Rather than having separate sustainability, ESG, and business strategies, it’s imperative that businesses develop one strategy which embeds ESG principles and provides a roadmap for the creation of value for the company and its stakeholders.”

– **Rahul Arora**

Partner, Sustainability, ESG and Climate Change, ERM

“

“In a sense, private equity has collectively reached a turning point. Though some private equity firms have already made progress and announced commitments, we expect to see a large push in 2022 towards systematic risk analysis, carbon footprinting, carbon offsetting projects, and more ambitious commitments. Another trend will be the reporting standardization and increased focus on climate-reported disclosures initiated by the TCFD and mandated by forthcoming regulations.”

– **Cornelia Gomez**

Head of ESG & Sustainability, PAI Partners





**As we pass the second anniversary of COVID-19's emergence, the pandemic continues to influence changes in the workplace, from more remote and flexible working to greater focus on employee well-being and corporate purpose. The scale of this transformation suggests these changes will endure beyond the pandemic's end.**

COVID-19 has fundamentally changed how we approach and think about work. Experiences including remote working or operating as a key worker on the front-line during the pandemic have driven many employees to reassess what they want from their jobs. Does their position help or hurt their well-being? Do they want flexible working options? Do they feel connected to a larger organizational purpose?

Many have demanded more from their employment. In the U.S., two-thirds of workers said the pandemic has made them rethink their life's purpose, while nearly half said they were reconsidering the kind of work they do.<sup>19</sup> These decisions have contributed to the so-called "Great Resignation" that has been occurring. In the U.S. alone, 4.3 million people quit their jobs in August 2021, breaking the previous record of four million set in April 2021.<sup>20</sup> This is not just a U.S. phenomenon, with 69 percent of Singaporean companies noting that turnover increased in the first half of 2021 compared to a year earlier, and one in four UK workers in October 2021 saying they are actively planning to change jobs.<sup>21,22</sup> These waves of job switching have been a wake-up call for employers, many of which are now focusing on and investing more in supporting employees with options like increased work flexibility and new well-being initiatives designed to increase retention.

Flexible working used to be a practice enjoyed by a few, but it has now spread to the many, especially those in white collar positions. At the height of the pandemic in May 2020, 69 percent of Americans worked from home at least a day a week, while in France and the UK 47 percent of employees worked remotely at least part time from March to May 2020.<sup>23,24</sup> While these

proportions have decreased in recent months, significant remote work is likely to endure, with one study projecting that 22 percent of U.S. workers will work remotely in 2025, an 87 percent increase over pre-pandemic levels.<sup>25</sup>

With so many people moving to new jobs, and with many of them operating remotely for at least some of the working week, a different challenge is arising for business. Before COVID-19, face-to-face interactions and relationships developed through working side-by-side helped define a company's culture. Now, with hybrid working the norm for many office jobs, companies are finding a shared culture harder to establish. In an article for the World Economic Forum, human capital experts emphasize that leaders can help to foster a shared culture by openly communicating a company's vision and direction so that employees can connect their work with a larger purpose, and by fostering an inclusive work environment where employees are empowered to make decisions and drive change.<sup>26</sup>

As companies adapt their practices to a digital reality, hiring approaches are also changing. Before COVID-19, one in five jobs in the U.S. was held by a contract worker, while in Britain contract work accounted for one in 10 positions.<sup>27,28</sup> Now, due to the COVID-19-induced transformation of the workplace, as well as the Great Resignation, contract workers are even more common, a trend witnessed globally.<sup>29,30</sup> As a result, with growth and demand for skilled labor increasing, businesses looking to attract the best talent may find it easier to hire independent workers on a contract basis rather than through traditional full-time roles.

Just as COVID-19 triggered shifts in ways of working, it is also triggering a shift in the types of jobs available. In one post-COVID-19 modeled scenario, it was estimated that one in 16 workers will need to find a different profession by 2030 as automation and Artificial Intelligence (AI) applications replace human workers in areas such as warehousing and grocery – a 12 percent increase over a pre-pandemic version of the same scenario.<sup>31</sup> Faster adoption of automation and AI due to COVID-19 is at least partly driving this shift as companies utilize technology to decrease physical worker proximity and manage demand growth.

Even as some sense of normalcy returns, human capital issues spotlighted during the pandemic are likely to remain at the forefront of business thinking. In response to the ongoing need to react to the shifting demands and preferences of workers, the following evolution in corporate action is likely:

### **A rise in workplace and worktime flexibility will change how companies operate**

Now that workers have developed more of a taste for remote work, many consider it to be an important benefit, with 65 percent of U.S. workers saying they would be willing to take a five percent pay cut to work remotely full-time.<sup>32</sup> With workers embracing remote work, businesses will need to develop clear positions on working remotely to support talent attraction and retention and as a strategy to prevent operational disruption. Work time flexibility is also increasing in popularity, with 65 percent of workers globally wanting to set their own schedules rather than stick to a traditional 9 to 5.<sup>33</sup> Such flexibility not only helps workers manage busy personal lives – it can also help increase performance, providing businesses with an impactful upside if managed correctly. According to one 2020 survey, organizations offering flexible time saw the portion of their employees defined as high performers rise from 36 to 55 percent.<sup>34</sup> Given its potential advantages for workers and companies, businesses should consider embracing flexible work schedules both to drive performance and to ensure they are competitive in the tight labor market that defines the COVID-19 era.

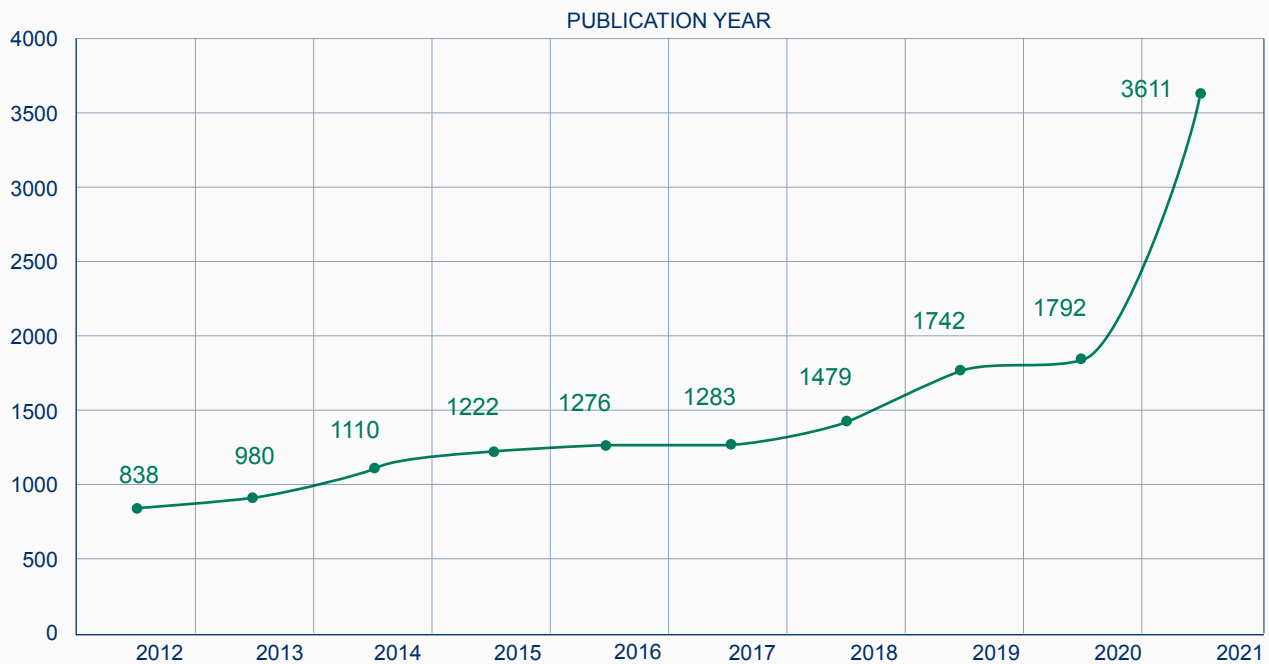
### **Businesses will need to enhance human capital disclosures as regulatory requirements grow in scope**

The dramatic changes occurring in the human capital space are not just attracting the attention of business. Governments are taking notice too. Last year, the Securities and Exchange Commission in the U.S. updated its human capital disclosure requirements to provide stakeholders with greater insights into companies' human capital practices. These updates require companies to disclose their human capital resources as well as their associated objectives. A review of initial disclosures made under the requirements by the 100 largest companies in the Fortune 500 was mixed in its assessment.<sup>35</sup> With no defined disclosure level, the review found the quality and volume of content and metrics varied considerably. Meanwhile, in the European Union, where human capital-related disclosure requirements already existed, the proposed Corporate Sustainability Reporting Directive (CSRD) will transform human capital-related reporting by introducing new, more detailed requirements.<sup>36</sup> Expected to be adopted in 2022, the CSRD, along with U.S. disclosure requirements, signals growing appetite among regulators to increase corporate transparency on human capital and other sustainability-related topics. Coupled with growing investor pressure, human capital disclosures are likely to be inextricably linked with business success moving forward.

### **To retain and engage employees, businesses will need to connect work more closely with purpose**

Given the Great Resignation and other workforce shifts, companies will need to better connect organizational purpose to what creates meaning for their employees in order to retain top talent and stay competitive. One study found that the top reasons employees cited for leaving an organization were that they did not feel their work was valued and that they did not feel a sense of belonging.<sup>37</sup> Visibly demonstrating purpose through action is one way organizations can help reconnect employee purpose and belonging. This is especially important for Millennials and Gen Z, among whom 44 percent and 49 percent, respectively said they make work choices based on an organization's alignment with their personal ethics.<sup>38</sup> Helping to connect a person's day-to-day work to a wider purpose and linking it to relevant societal issues can also help companies increase employee engagement. In one survey, organizations that acted authentically on social issues relevant to their business saw the percentage of highly engaged employees rise from 40 percent to 60 percent.<sup>39</sup>

**Chart 2: “Human Capital” References in Corporate Reporting 2012-2021**



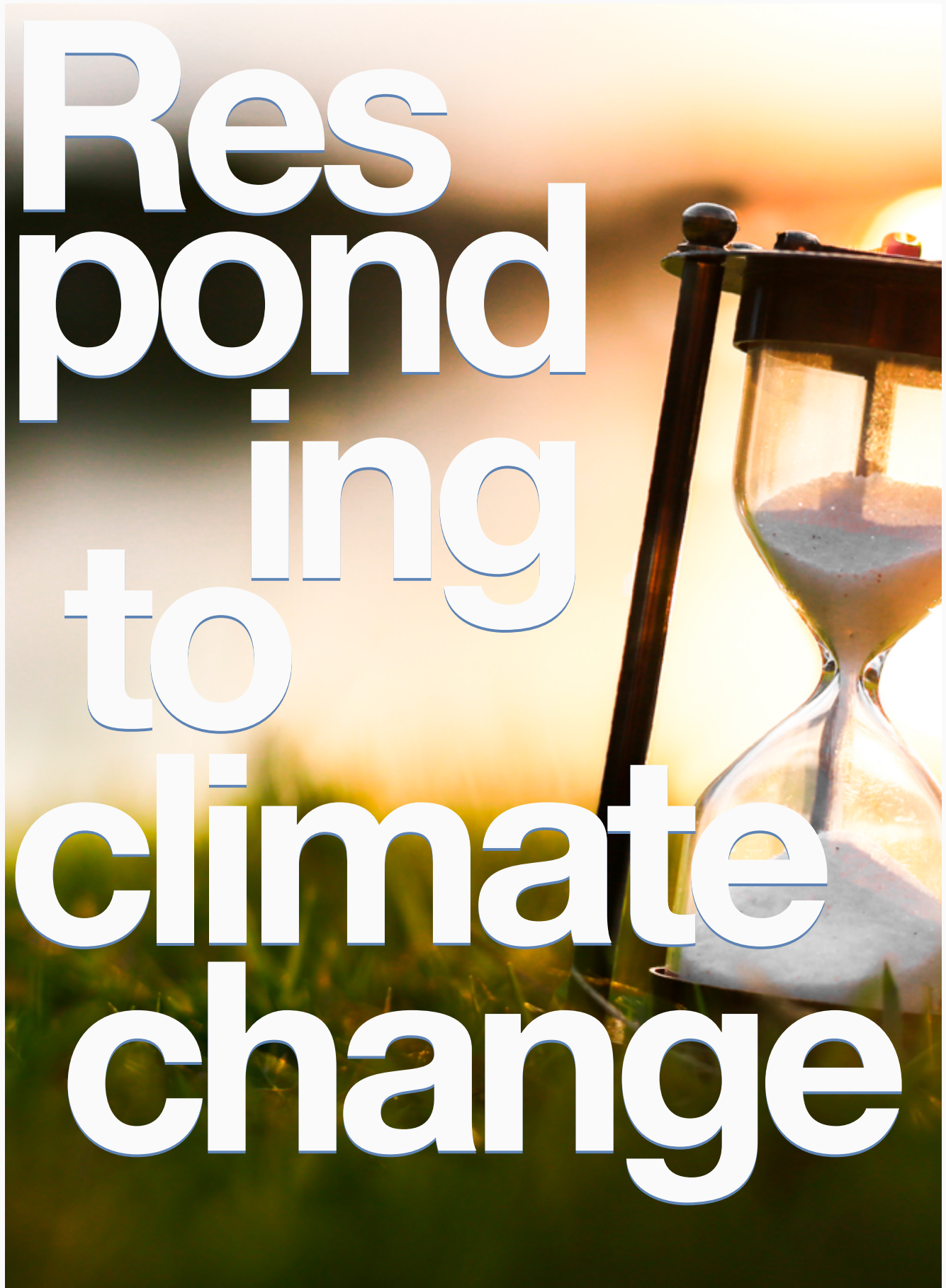
Number of times “human capital” was referenced in corporate reporting (SEC filings, financial reports, non-financial reports) over the 2012-2021 period. Source: Datamaran.<sup>40</sup>

“

*“It is no longer enough for companies to cover potential downsides in their human capital management such as protecting against lawsuits. To develop a competitive advantage, companies will need to optimize human capital management for upsides – like high employee engagement – that drive growth and innovation.”*

– **Judy Analco**  
Consulting Director, ERM





**Following the release of the IPCC's latest climate assessment report in August and COP26 in November, the stage is set for 2022 to be a critical year for climate action as political, business, and other leaders are challenged to do more, faster, to stop the current crisis.**

In August 2021, the Intergovernmental Panel on Climate Change (IPCC) released its sixth assessment report (AR6). The report delivered the strongest IPCC warning to date about the climate crisis, concluding that we are entering a period of unprecedented change as regards present and future climate impacts.<sup>41</sup> The report's stark findings were center stage at COP26 in Glasgow in November, where governments and non-state actors converged with the promise of setting climate goals and commitments ambitious enough to keep the Paris Agreement's goals to limit warming to 1.5 C in sight.

COP26 delivered mixed results. According to a Carbon Brief analysis of post-COP26 warming projections from the United Nations Environment Programme, Climate Action Tracker, the International Energy Agency, and Climate Resource, current policies will lead to a best estimate of around 2.6 C to 2.7 C,<sup>42</sup> a level that would not meet the Paris Agreement's well below 2 C goal. On the other hand, if countries meet nationally determined contributions (NDCs) for the near-term target of 2030, projected warming by 2100 will fall to 2.4 C. If they deliver on net zero promises made before and during COP26 the global temperature rise will be limited to 1.8 C. There was also clear disappointment when COP26 failed to reach an agreement to fully phase out coal, which was among the hoped-for outcomes of the conference.<sup>43</sup>

Glasgow also produced significant wins. More than 100 countries agreed to reduce the emissions of methane, a powerful greenhouse gas, by 30 percent by 2030 compared to 2020 levels.<sup>44</sup> Furthermore, more than 100 countries



pledged to end and reverse deforestation by the end of the decade, a landmark agreement key to addressing climate change and sustainable resource management.<sup>45</sup> There were also significant developments in the finance space, with commitments from financial institutions now exceeding \$130 trillion of private capital aimed at transforming the economy toward net zero.<sup>46</sup>

The urgency of the IPCC report and the latest COP is mirrored – and reinforced – by increasing public awareness of the issue, as well as societal unrest reflected in escalating climate protests worldwide. For example, in a survey across 17 global markets, GlobeScan found that public concern about climate change is at its highest level since 1998.<sup>47</sup> Sixty-three percent of respondents reported that they consider climate change to be a “very serious” concern. Latin American respondents are most concerned about climate change, and the U.S. is seeing a historically high percentage of respondents concerned about climate as well.

In addition to the moral and existential drivers behind the growing sense of urgency, businesses are becoming more aware of the material climate impacts they face. Unabated climate change could end up causing hundreds of billions of dollars in damages annually, with the associated economic opportunity

loss estimated at up to \$23 trillion by mid-century without immediate and significant intervention.<sup>48,49</sup>

Many companies and governments are responding to the climate crisis by setting net zero commitments. More than 130 countries have now set or are considering a net zero target by mid-century, while nearly a third of the world's largest publicly traded companies have committed to a net zero goal.<sup>50,51</sup> In November 2021, the BBC reported that varying levels of government and corporate net zero pledges now cover more than 80 percent of the global economy.<sup>52</sup>

Increasing attention to climate justice has also been a welcome development, with equity issues related to climate impacts becoming an important part of larger climate and environment conversations. Climate justice received more attention at COP26 than previous international climate meetings, with the forum acknowledging the disproportionate climate impacts (caused by sea level rise, flooding, droughts, and so on) facing, for example, developing nations and indigenous communities. COP26 participants also acknowledged more clearly than in the past the injustice reflected in the fact that climate impacts in developing nations are largely driven by the emissions of developed economies.<sup>53</sup>



While the global community is still far from meeting the goals established by the Paris Agreement, 2021 saw significant acceleration in efforts, awareness, and scale of business, civic, and governmental initiatives. This momentum will continue into 2022, when we are likely to see even greater focus on the following topics:

### **Companies will face growing expectations to set net zero targets, while scrutiny of net zero commitments will increase**

Even though net zero commitments are proliferating rapidly, considering the size of the global economy and the number of actors, relatively few companies have made such pledges. In 2022, companies of all sizes will face higher expectations to set ambitious emissions targets, with net zero progressing toward ‘norm’ status.

One major obstacle to more companies setting net zero goals and making these goals effective has been the absence of a net zero standard. This is set to change with the introduction of the new net zero framework recently issued by the Science Based Targets initiative (SBTi), which will guide and certify corporate net zero targets in line with the Paris Agreement.<sup>54</sup> Instead of self-defined targets and little to no accountability for actions, the new SBTi standard will offer companies a “robust certification to demonstrate to consumers, investors, and regulators that their net-zero targets are reducing emissions at the pace and scale required to keep global warming to 1.5 C.”<sup>55</sup> Using the standard, companies will be required to set near- and long-term targets across their value chains covering all emissions (including Scope 3) and commit to achieve total decarbonization by 2050. Beyond net zero, commitments to carbon negative operations represent the next evolution of even more ambitious corporate targets and may also become more common. For example, pulp and paper producer Suzano has established a goal to achieve a positive balance of net carbon removals to emissions and remove 40 million tons of CO<sub>2</sub> by 2025, while IKEA aims to be climate positive by 2030 by reducing more emissions than its supply chain emits.<sup>56,57</sup>

### **Climate justice will become more prominent in climate and environmental strategy development**

There is increasing understanding of the intricate connection between climate change and social justice, with growing calls for a ‘just transition’ that recognizes and addresses the imbalanced impacts of climate change on those who are most vulnerable. Formal requirements to consider climate justice are emerging, especially in national policies. For instance, the U.S. Environmental Protection Agency’s Draft Strategic Plan for 2022 – 2026 will make environmental justice a more prominent component of both enforcement and permitting processes.<sup>58</sup> Businesses will also need to respond to climate justice concerns, and resources are emerging to help companies consider how they can tackle this issue in practice. For example, B Lab has created a Climate Justice Playbook on how businesses can integrate climate justice considerations into their wider environmental strategies through engagement with local communities and social groups or by partnering with grassroots organizations.<sup>59</sup> As these resources become more widely available and accepted, climate justice and wider environmental justice considerations will become a more prominent topic to be integrated into climate and sustainability strategies as well as stakeholder engagement initiatives.

### **More companies will be disclosing climate risks in response to requirements by governments and investors**

Corporate climate risk disclosures are evolving from ‘nice to have’ into requirement backed by governments and investors. The framework of the Task Force on Climate-related Financial Disclosures (TCFD) is the most widely accepted climate risk disclosure framework with over 2,600 financial

institutions and companies supporting its adoption as of October 2021. In addition to growing support from investors and companies, government regulation on climate disclosure picked up in 2021, and more regulation is expected in 2022. New Zealand prides itself on being the first country to implement mandatory climate risk reporting in line with TCFD.<sup>60</sup> In the UK, TCFD disclosure is now required for certain financial market participants, a mandate that will incrementally expand across sectors until most large companies and organizations are required to disclose by 2025.<sup>61</sup> The G7 has backed the idea of compulsory TCFD reporting, indicating potential wider spread of required disclosure,<sup>62</sup> and the U.S. Securities and Exchange Commission has made apparent their intentions to move to more heavily regulated climate and Environmental, Social, and Governance (ESG) disclosure soon.<sup>63</sup> Regardless of who is asking for the information, companies in 2022 and beyond will need to anticipate climate risk becoming a major component of their annual disclosure.

“

"COP26 further magnified the landscape of risk and opportunity for business. Governments increased their ambition for national emission reductions with implications for regulation and other market mechanism interventions. Article 6 was agreed, enabling finalization of the 'rule book' and a global carbon market to develop, with implications for how carbon is priced and traded. And finally, the Glasgow Climate Pact strengthened the previous wording of the Paris Agreement on limiting warming to 1.5 C, as well as including a commitment for further national emission reduction ratchets at COP27."

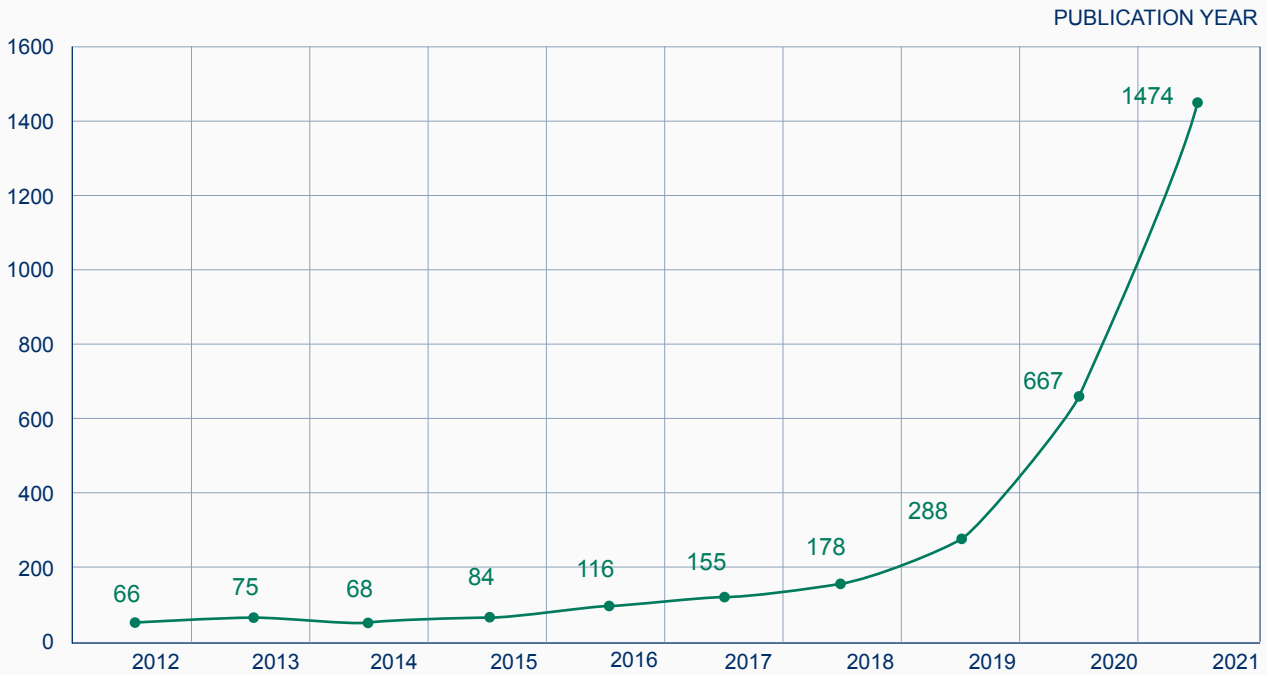
– **James Stacey**  
Global Director, Low Carbon Economy Transition, ERM

“

*"Collaboration, intensified corporate engagement, and progress toward net zero emissions alignment will continue into 2022. Sector decarbonization will gain even more focus supported by initiatives like Ceres' [Ambition 2030](#), and Climate Action 100+'s [Global Sector Strategies](#). On the regulatory front, we expect the SEC to issue a strong climate risk disclosure mandate that requires TCFD alignment, disclosure, and other elements as well as regulatory steps by other federal and state regulators. In 2022, we also anticipate that more investors will see the opportunities in the transition to a net zero emissions economy and pursue them."*

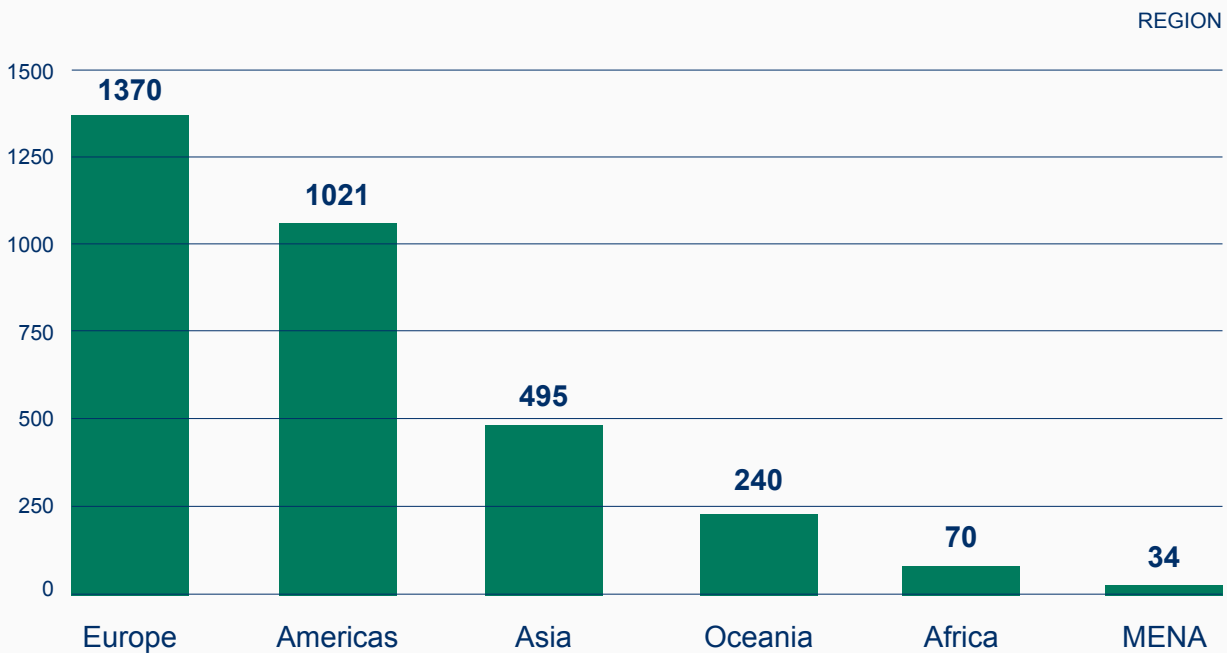
– **Steven Rothstein**  
Managing Director, Ceres Accelerator for Sustainable Capital Markets

**Chart 3a: “Net Zero” References in Corporate Reporting 2012-2021**



Number of times “net zero” was referenced in corporate reporting (SEC filings, financial reports, non-financial reports) over the 2012-2021 period. Source: Datamaran.<sup>64</sup>

**Chart 3b: “Net Zero” References in Corporate Reporting by Region 2012-2021**



Number of times “net zero” was referenced in corporate reporting (SEC filings, financial reports, non-financial reports) over the 2012-2021 period. Source: Datamaran.<sup>64</sup>



## **As biodiversity suffers further decline, the UN’s 15th Biodiversity Conference, the emerging Taskforce on Nature-related Financial Disclosures (TNFD), and the prominence of the nature agenda at COP26 brought hope. For business, biodiversity demands responses addressing the connections between ecosystems, climate change, and economic value.**

According to the UK Natural History Museum, the global ‘safe limit’ of biodiversity intactness is 90 percent. This metric now sits at 75 percent globally, putting at risk processes vital to humans such as pollination and nutrient cycling.<sup>65</sup> Additionally, habitat destruction, a major driver of biodiversity decline, is occurring on an enormous scale; for forests alone, 10 million hectares per year were lost between 2015 and 2020.<sup>66</sup> As populations decline and habitats are lost, extinctions follow. Just in the U.S., 23 species were declared extinct in September 2021.<sup>67</sup>

Encouragingly, two notable events addressing biodiversity took place in 2021. The UN Biodiversity Conference (COP 15) in Kunming, China, began remotely in October 2021 and will be completed at an in-person gathering in 2022. Participating governments hope to emerge from COP 15 with a new framework to replace the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, which have failed to stem declines.

Closely following the COP 15 meetings in October, nature was a central topic at the COP26 climate change conference in Glasgow, Scotland, in November 2021, with the role of natural systems in fighting climate change prominent on that meeting’s agenda. In the run up to the event, a WWF review of countries’ new climate action plans found that 92 percent include strategies to combat nature loss, an increase from 82 percent in July 2021.<sup>68</sup> Pledges

made at COP26 to fight deforestation and invest in climate-resilient agriculture are positive examples of progress.<sup>69</sup> Despite this, the focus on nature-based solutions (actions that protect and restore nature) was diminished in the final COP26 agreement when language referring to them was removed in favor of a more general statement on “protecting, conserving and restoring nature.”<sup>70</sup>

In part thanks to COP 15 and COP26, new frameworks for protecting natural systems are on the horizon. At the reconvening of COP 15 in May 2022, parties aim to produce an ambitious Post-2020 Biodiversity Framework. The first draft, published in June 2021, included 21 targets to put the world on the path to “living in harmony with nature” by 2050.<sup>71</sup> The framework will strengthen the connection between nature and climate action, in part thanks to how Target 8 references climate change and how biodiversity contributes to mitigation and adaptation. Target 15 is highly relevant for the private sector, as it calls for businesses to assess and report on their biodiversity dependencies and impacts.

The assessment and reporting language of Target 15 is also influencing development of the Taskforce on Nature-related Financial Disclosures (TNFD).<sup>72</sup> Just as the Task Force on Climate-related Financial Disclosures (TCFD) helps companies assess and disclose climate-related risks, the TNFD will provide guidance on nature-related disclosures. The TNFD’s Taskforce Members convened for the first time in October 2021 to develop a draft disclosure and risk management framework, which is expected to be released for consultation in early 2022. Businesses should prepare to report in line with the framework’s recommendations by beginning to analyze how they manage biodiversity issues and thinking about how this management would translate to disclosure.

According to the World Economic Forum’s New Nature Economy Report, over half of the world’s total GDP (\$44 trillion) is either moderately or highly dependent on nature.<sup>73</sup> With the demand for nature-related reporting likely to increase due to developments including the new biodiversity framework and the TNFD, it will be important

for companies to develop understanding of their dependence on nature. The Global Futures project aims to advance such understanding by modeling the impacts of nature’s decline on the world’s economies.<sup>74</sup> For the project, the World Wide Fund for Nature, the Global Trade Analysis Project, and the Natural Capital Project analyzed how ecosystem services are likely to be impacted under future development scenarios, finding that total cumulative economic loss through 2050 would equate to almost \$10 trillion under a business-as-usual scenario.

“

*“COP 15 and COP26 are putting biodiversity into headlines and getting people to talk about the issue. However, governments have so far achieved little. If you are a business, you need to act now. Think about what biodiversity action looks like for your company and pursue it rather than waiting for governments to act first.”*

**– Pete Jones**  
Principal Consultant, ERM



In response to the ongoing increase in focus on biodiversity loss and the impact of natural systems on society and the economy, the following evolution is likely:

## More businesses will pursue nature-positive action

While climate change has the Paris Agreement, similar frameworks for preserving biodiversity have yet to gain the same traction. But this may soon change. In June 2021, the G7 called on the world to become nature-positive by 2030, and over 100 non-state actors are advocating for the same as part of a Global Goal for Nature that can inspire the Post-2020 Biodiversity Framework process.<sup>75,76</sup> Heightened focus on the concept of being ‘nature-positive’ at the multilateral level is influencing companies as they recognize that nature underpins the world’s economy, and that, to protect nature, society needs to understand and respect the value nature provides. Given all companies are dependent on nature to some degree, nature-positive ambitions are likely to accelerate. More than 1,000 companies representing revenues of over \$4 trillion are already calling on governments to pursue policies to halt and reverse nature loss this decade.<sup>77</sup> Companies are also setting nature-positive goals of their own as they look to protect the resources that enable their success.<sup>78</sup> Dow is one example of a company pursuing nature-positive action through its commitment to deliver \$1 billion in Net Present Value through projects that enhance nature.<sup>79</sup> Another is Brazilian pulp and paper producer, Suzano, who in June committed to connect and restore half a million hectares (equivalent to the combined size of Paris, Madrid, Moscow, Oslo, and Rio de Janeiro) of forest biomes in Brazil by 2030.<sup>80</sup>

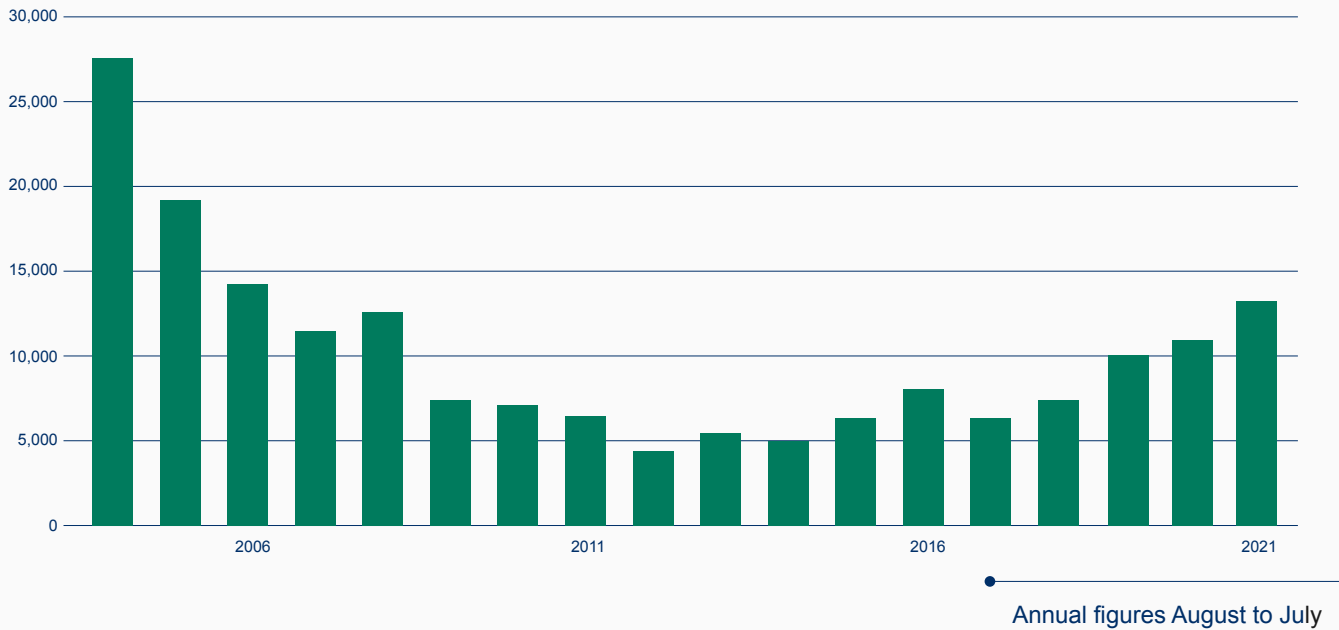
## Businesses and governments will move to reduce deforestation

The fight against deforestation was boosted at COP26 when 110 countries, together home to close to 85 percent of global forests, committed to end and reverse deforestation by 2030.<sup>81</sup> With the world losing 411 million hectares of forest between 2001 and 2020 and deforestation in the Amazon reaching its highest level in 15 years between 2020 and 2021, this commitment is welcome news.<sup>82,83</sup> For many businesses, deforestation poses substantial risk, with companies reporting \$53.1 billion in forest-related risks in responses to the CDP Forests 2020 questionnaire.<sup>84</sup> Still, many companies are struggling to reduce their exposure to deforestation. Only 16 companies made the CDP Forests “A” list, and only four out of more than 500 companies reviewed by CDP were pursuing all 15 of the deforestation-limiting actions that CDP uses in its evaluations. Of these four, Mars was noted as a leader due to its comprehensive work to limit deforestation through efforts ranging from board oversight, deforestation policies, compliance monitoring, and supply chain engagement. If governments and financial institutions are to meet the deforestation goals announced at COP26, many more companies will need to follow Mars’ example and quickly scale up their actions or risk adverse impacts such as decreases in forest-related commodities and reputational damage.

## More companies will pursue regenerative agriculture practices

Regenerative agriculture is receiving increased attention among companies whose business involves the use or production of agricultural products. Defined by the World Resources Institute as practices that promote soil health by restoring soil’s organic carbon, regenerative agriculture helps protect natural carbon sinks, improves soil health, and lowers pesticide use.<sup>85</sup> Reflecting the benefits such practices bring, companies are setting regenerative agriculture targets to boost financial performance and meet environmental goals. For instance, American food and agriculture company Cargill committed to supporting farmer-led efforts to adopt regenerative agriculture practices and systems across 10 million acres of North American farmland over the period 2020-2030.<sup>86</sup> In Europe, Nestlé committed to invest \$1.3 billion by 2025 to build regenerative agriculture practices.<sup>87</sup> Regenerative agriculture was a prominent topic of discussion at the UN Food Systems Summit held in 2021 at which business leaders declared their commitment to scaling science-based food system solutions and more sustainable business models that incorporate regenerative agriculture practices.<sup>88</sup> Business leaders also called for governments represented at the UN summit to provide leadership through co-designed policies and the redirection of subsidies to support regenerative agriculture.

### Chart 4: Amazon Deforestation at its Highest Level Since 2006



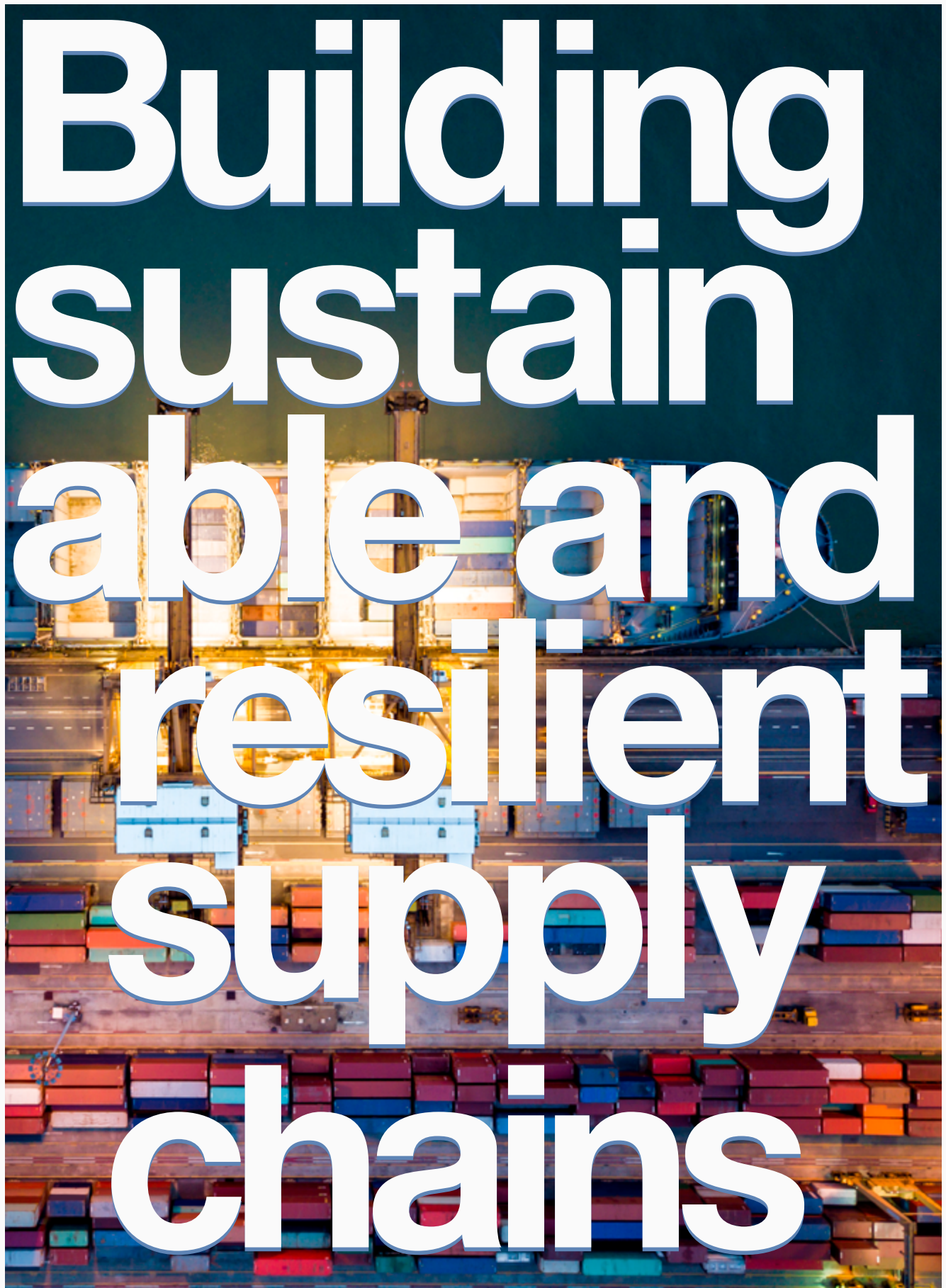
Annual rate of deforestation in the Amazon over the 2004-2021 period. Source: BBC.<sup>89</sup>



*“If COP26 has shown us anything, it's that nature is now part of the climate conversation. This momentum will continue to grow when the May 2022 UN Convention on Biological Diversity COP15 adopts a Post-2020 Global Biodiversity Framework, the nature equivalent of the Paris Climate Agreement. Once adopted, the Framework will be translated into policies and regulations at regional and national levels, incentivizing and requiring business to act and transform their business models. We urge businesses to embrace this transformation and act now to halve emissions and reverse nature loss by 2030.”*

**– Maelle Pelisson**  
Advocacy Director, Business for Nature



An aerial night view of a busy shipping port. The foreground is dominated by numerous stacks of colorful intermodal containers in shades of red, blue, green, and orange. In the middle ground, a large gantry crane is visible, illuminated by warm yellow lights. The background shows the dark silhouettes of port buildings and structures under a deep blue night sky. The overall scene conveys a sense of industrial activity and global logistics.

# Building sustain able and resilient supply chains

**Stakeholders continue to pressure companies to better manage high profile supply chain issues such as deforestation and human rights. At the same time, the scope of sustainable sourcing and supply chain management programs is expanding to include a wider range of ESG topics and emphasizing the need to more deeply embed concepts like just and fair procurement.**

It is a widely cited but still striking statistic: in the consumer goods sector, supply chains are responsible for 90 percent of a company's overall environmental impact, including 80 percent of most consumer goods companies' carbon footprint.<sup>90</sup> Supply chain management is already a cornerstone of many companies' sustainability strategies, but action is accelerating as companies seek to implement more comprehensive supplier strategies and action plans. For example, more than 1,000 companies have now set targets to reduce value chain emissions relating to Scope 3 emissions, with this practice quickly becoming a new business norm.<sup>91</sup>

It's not only climate where deeper supply chain action is being taken. Many corporates are putting in place more sophisticated and far-reaching supply chain initiatives to tackle other important supply chain topics. With European Union Human Rights Due Diligence regulations now requiring all companies operating in the region (regardless of where they are headquartered) to conduct more in-depth due diligence throughout their supply chains, and modern slavery a growing concern, addressing human rights in the supply chain remains a key governance and performance issue for corporates.<sup>92</sup> Managing safety and community issues remains fundamental to building resilient supply chains, but approaches to those topics are evolving, with safety culture and behavior change coming into greater focus along with business efforts to develop shared

value concepts with workers and communities. Biodiversity is also set to receive more supply chain attention due to developments like the upcoming Taskforce on Nature-related Financial Disclosures.

From interrupted plastic production due to Texas's extreme weather in February, to the ways civil unrest in South Africa following the jailing of the country's former president Jacob Zuma affected the transportation of mined raw materials, supply chains continued to make regular headlines throughout 2021 from a resilience perspective too.<sup>93,94</sup> The 2020-2021 semi-conductor shortage and an ongoing challenge in sourcing building materials illustrated the impact on supply chains caused when the pandemic led to rapid growth in demand for products for use in homes.<sup>95,96</sup> Furthermore, the logistics sector's role in connecting the supply chain to consumers has been in the spotlight, with reports of container ships gridlocked in ports due to a lack of workers, and the Heavy Goods Vehicle (HGV) industry in Europe severely impacted by a shortage of drivers, a challenge magnified by the implications of Brexit.<sup>97,98,99</sup>

To respond to these challenges and more, one type of resilience strategy expected to receive greater focus is corporate efforts to localize supply chains. Constructing production facilities and commercial hubs closer to where supply chain materials are sourced can be economically and environmentally attractive to investors and other stakeholders. Other supply chain resilience strategies include 'bridging' (helping to build the capacity of suppliers to manage during disruptions) and 'buffering' (taking action to protect against the consequences of supplier failures).<sup>100</sup>

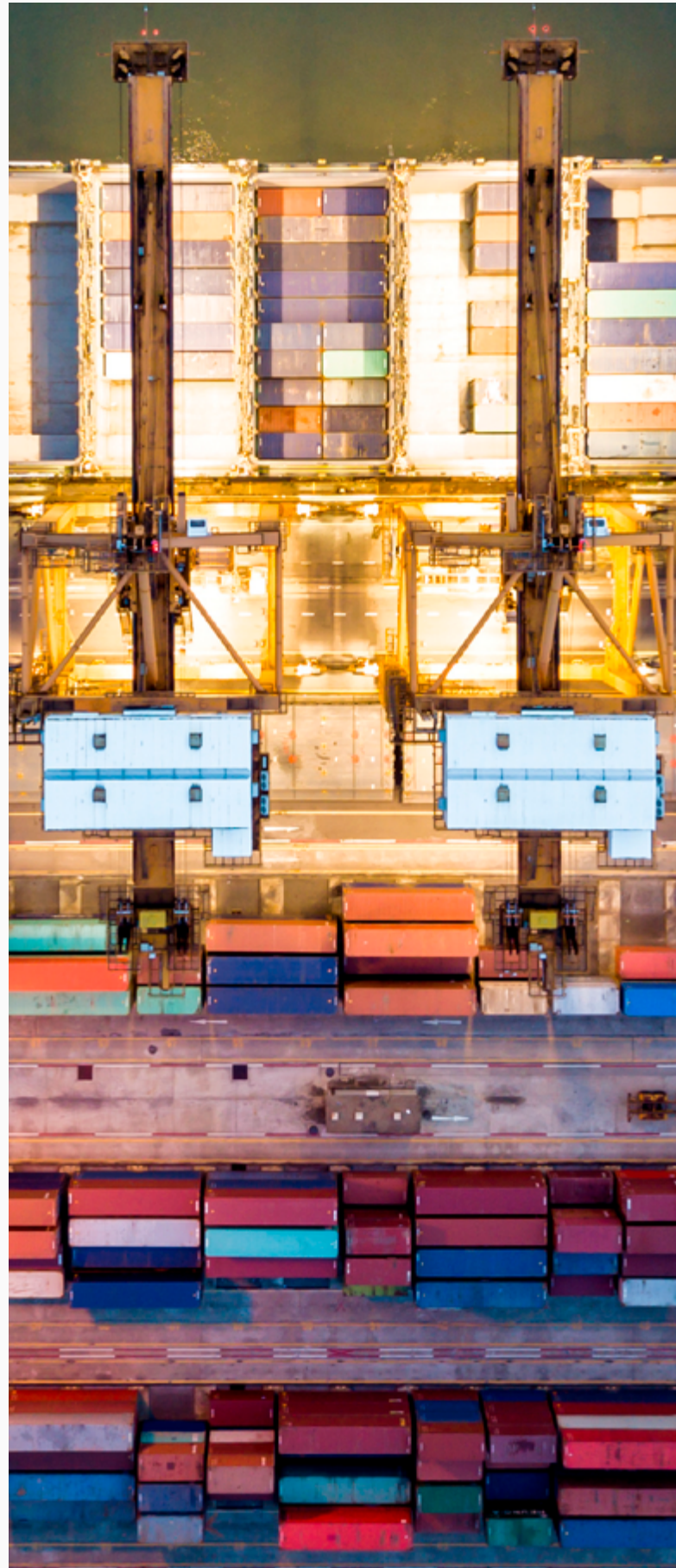
Like in other aspects of business, company action on supply chain performance and management is now being framed with Diversity, Equity, and Inclusion much more clearly in mind. Companies are doing more to ensure that supplier procurement processes are equitable and fair and are engaging with suppliers to improve performance rather than simply deselecting them. From a diversity perspective, some companies, for instance, hold vendor fairs

aimed at minority suppliers or run programs to help suppliers develop skills and grow their businesses.<sup>101</sup> From a performance perspective, Apple, Unilever, and Walmart all support their suppliers in meeting their required standards by creating frameworks and scores that allow them to measure improvement, and by providing them with training on industry best practices, guiding them on resolving issues and improving performance, and supporting industry-wide partnerships and initiatives.<sup>102,103,104</sup>

“

*“Businesses should start by identifying a small number of suppliers, sectors, or goods in their supply chain that they can work with to truly transform sustainability performance.”*

– **Bryan Hartlin**  
Partner, ERM



As companies continue to build more sustainable and resilient supply chains, we expect to see the following in 2022 and beyond:

### **Companies will look to their supply chains as a key means to deliver on their climate goals and commitments**

Companies are increasingly concerned with the sustainability impacts of their supply chains and conscious of their power to influence supplier behavior and performance. Faced with increased demand for more detailed and accurate Scope 3 information in particular, businesses find themselves needing to engage more deeply with suppliers on carbon and climate data. Such engagement is quickly becoming the norm amongst corporates looking to have leading positions. For instance, Salesforce announced in March 2021 that it will require all its suppliers to set science-based targets by 2024.<sup>105</sup> Additionally, more companies are signing up to various Environmental, Social, and Governance (ESG) and sustainability initiatives, including the Science Based Targets initiative and CDP, both of which encourage companies to address Scope 3 emissions. Over 1,000 companies now have science-based targets, and over 9,000 corporations disclosed data via CDP in 2020.<sup>106,107,108</sup>

There is also increasing focus on the carbon intensity of materials being sourced throughout supply chains. For example, in the automotive sector, Original Equipment Manufacturers (OEMs) who need to meet their own carbon reduction targets are seeking opportunities to work with suppliers that can provide low carbon aluminum. Mercedes-Benz AG has taken an equity stake in a green steel start-up company, while Audi is sourcing sustainable, low-carbon aluminum for their e-tron GT electric sports car.<sup>109,110</sup>

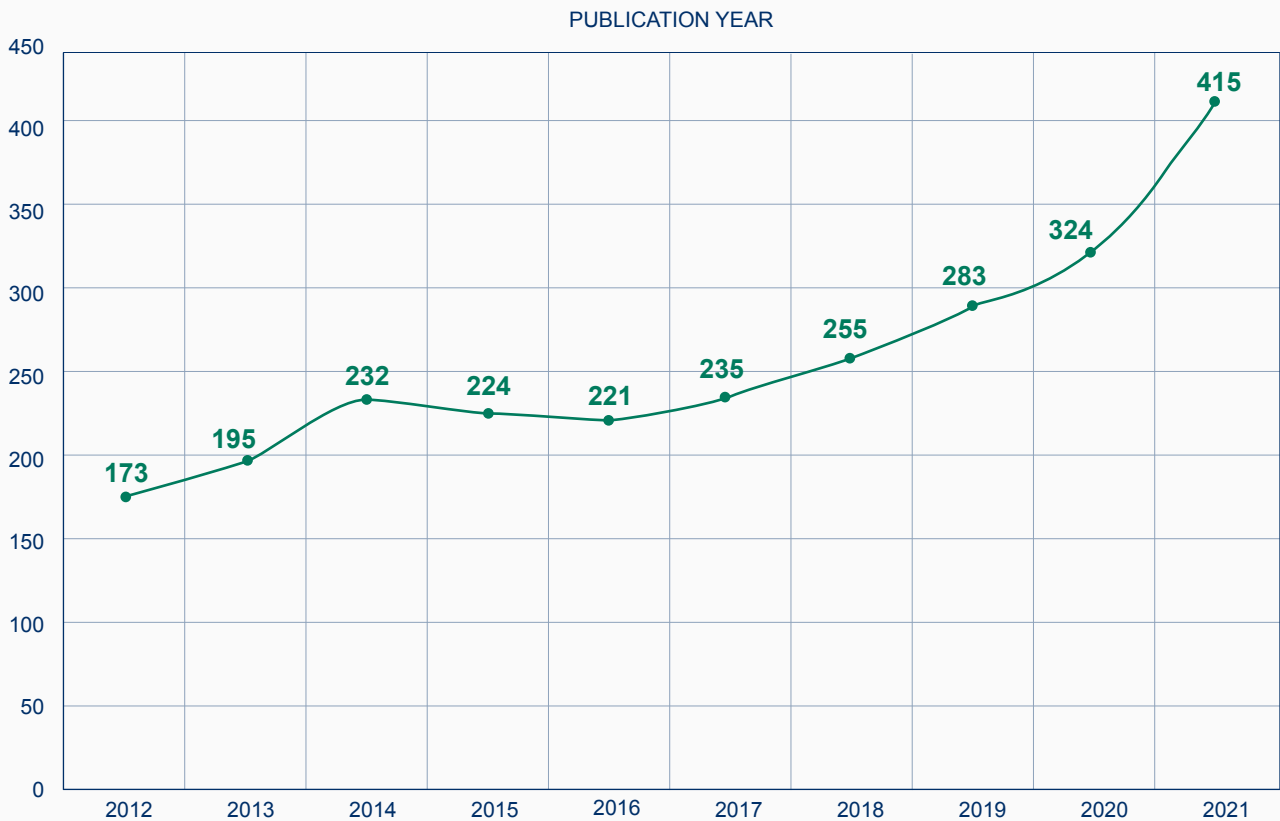
### **The demand for greater supply chain transparency and disclosure means business will seek new tools and approaches to help them identify – and prioritize – supply chain risks**

Given the growing number of requests for transparent supply chain sustainability data, companies are engaging more with suppliers on ESG issues. Yet even when companies have developed processes and controls to identify and manage supply chain ESG risks, they often face a lack of granularity in data which can result in a large and unmanageable number of suppliers being classified as high risk. To reflect this challenge, businesses will need to develop systems that focus on the most significant risks and develop action plans around them. Rather than being overwhelmed and trying to tackle all suppliers in one go, companies can first take a risk-based approach to prioritize suppliers and maximize impact. Tools and resources that businesses are using to do this are often sector specific, such as the Global Map of Supply Chain Risks in Agro-Commodity Production (GMAP), a tool for managing supply chain risks in the agricultural sector, and the oil and gas industry association IPIECA's guidance on managing sustainable supply chains in the oil and gas sector.<sup>111,112</sup>

### **Supplier procurement processes will evolve to include more inclusive approaches**

Companies are developing more robust and detailed sustainable procurement strategies that better align with and support overall corporate strategies. This relates to the alignment of environmental targets and efforts to reap the broader business benefits that can be gained from utilizing a diverse supplier base. Companies are working with organisations like the National Minority Supplier Development Council and the Women's Business Enterprise National Council, which help suppliers and business connect and work together more efficiently.<sup>113</sup> There is also growing recognition that there is no one size fits all approach to understanding your suppliers' current sustainability credentials, as suppliers will all be at different stages of their sustainability journey. As such, companies are working to engage and coach suppliers in meeting sustainability standards, rather than simply discounting them.<sup>114</sup> Overall, procurement, sustainability, and other strategic functions will work more closely together in 2022 to better integrate sustainability considerations into procurement processes.

Chart 5: “Supplier Diversity” References in Corporate Reporting 2012-2021



Annual figures August to July

Number of times “supplier diversity” was referenced in corporate reporting (SEC filings, financial reports, non-financial reports) over the 2012-2021 period. Source: Datamaran.<sup>115</sup>

“

“We are seeing our clients becoming more engaged in how to manage supply chains in a way that increases resilience while also allowing them to be a good steward of the planet.”

– Ed Struzik  
Partner, ERM





**Regulatory developments and consumer pressure, resource scarcity, supply chain volatility, and the looming threat of climate change are driving businesses to develop more circular business models that create and secure enterprise value at the same time as being good for the planet.**

2021's Earth Overshoot Day landed on July 29. Calculated annually by the Global Footprint Network, this is the date on which demand for resources exceeds the amount the planet can generate in one year. Worryingly, the date has been getting earlier annually.<sup>116</sup> Calculations like this stress the imperative of shifting our methods of production and consumption from a take-make-waste linear model to a circular one built on reuse and regeneration.

There is a business as well as an environmental argument for doing so. Current business models and operations strategies will be put at significant risk in an increasingly resource-constrained world and in the face of increasing supply chain and market volatility.<sup>117</sup> Organizations will need to adapt their business models to accommodate a low resource-use strategy or risk high costs and the loss of competitive advantage. They also need to engage in circular approaches to keep up with changing regulations. The European Union's Circular Economy Action Plan is a prime example that will influence activity globally.<sup>118</sup>

The voice of the consumer remains an important driver. Recent research shows that consumers want more sustainable products and are willing to engage more in recycling – though at the same time, they are reticent to engage in new ways of using products like leasing. This illustrates the challenge that remains; moving to a truly circular economy means overcoming significant cultural as well as technical hurdles.<sup>119</sup>

Forward-thinking companies are already acting, setting resource-positive and circularity goals that will help them transition toward fully circular models. Patagonia is a clear trail blazer, from their commitment to move toward 100 percent renewable and recycled raw materials, to their influence on consumer behavior as they challenge their customers to consider whether they need to buy products or if they could repair them instead.<sup>120</sup> Apple is another. Following up on its 2017 announcement of a long-term goal to use only recycled and renewable materials for all packaging and products, the company is pursuing new approaches such as the use of robotics to recover and recycle old iPhone components.<sup>121</sup> China's GEM Co. Ltd is recycling precious metals and other materials from batteries and electronics, while menswear brand MJ Bale has become Australia's first fully carbon-neutral fashion brand thanks to its work to offset the entire company's emissions with green projects including offshore wind and biodiversity conservation programs.<sup>122,123</sup>

Plastic reduction remains a key area of focus and an area where regulatory changes will continue to appear. For example, in the UK, it is hoped that the passing of the Environment Act will lead to tougher action being taken on single-use plastics in England and, from April 2022, a new tax will be introduced on plastic packaging with less than 30 percent recycled content.<sup>124</sup> The Ellen MacArthur Foundation has been tracking the top Fast Moving Consumer Goods companies with leaders in this space recognized for taking actions, including increasing the recyclability, reusability, and compostability of plastic packaging, while also setting targets for single use plastics reduction.<sup>125</sup>

As expectations, regulations, and business norms change in response to the increasingly urgent imperative to move to more circular practices, the following developments are likely:

### **Businesses will accelerate operationalization of circularity by developing action plans that build circular economy principles into core business activities**

Interest in contributing to the circular economy is high, with many business leaders and sustainability practitioners understanding why this concept is so crucial to sustainability but struggling to understand what it means for their business to fully integrate circular concepts and practices.<sup>126</sup> Many tools and frameworks are now available to help with this, such as the World Business Council for Sustainable Development's Circular Transition Indicators, the Portfolio Sustainability Assessment method, and the Ellen MacArthur Foundation's Circulytics.<sup>127,128,129</sup> As explained in our recent report, tools like these help companies unpick where in their business circularity might bring the greatest business and sustainability gains – be that in understanding and acting on barriers to waste recovery, re-thinking business models, or looking at classic approaches to business in a new way, such as thinking of products-as-a-service.<sup>130</sup>

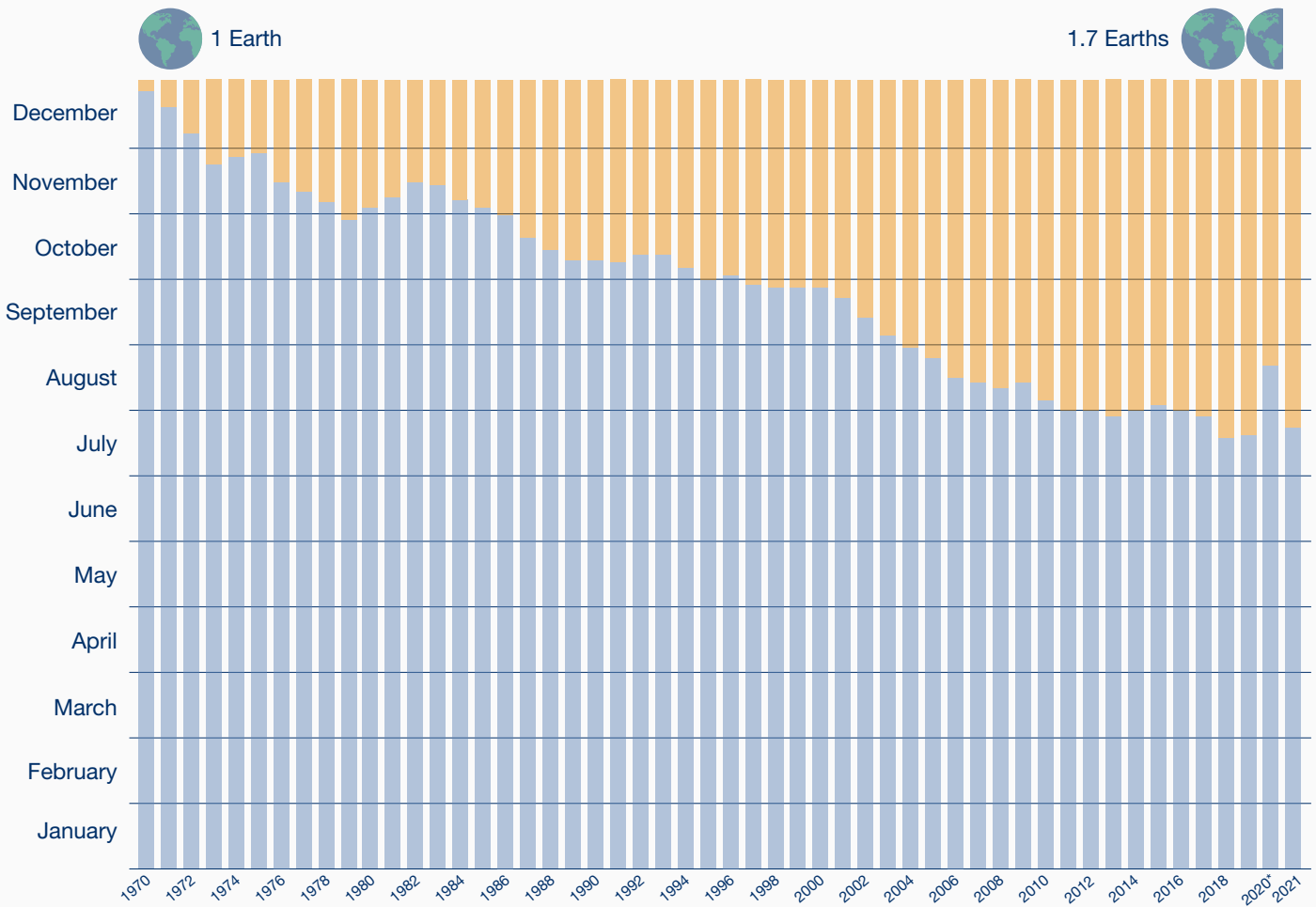
### **Businesses will accelerate efforts to add carbon footprinting labels to consumer products**

There is a growing expectation that companies will provide transparent information on the carbon footprint of their products. BASF, for example, recognizing that more customers are making environmentally conscious purchasing decisions, is developing a tool to provide carbon footprint information for its 45,000 products and will apply these tools to the whole of its global portfolio by the end of 2021.<sup>131</sup> In the food sector, following companies like Tesco who were experimenting with publishing carbon footprints on products a decade ago, the concept will likely come back into focus as customers seek ways to make more sustainable choices.<sup>132</sup> A traffic light system to indicate the carbon footprint of food products is currently being piloted in the UK.<sup>133</sup> Unilever is also trialling carbon labelling on selected products with a view to applying this to all products in the next two to five years.<sup>134</sup>

### **Resale and repair is becoming a key component of circularity approaches**

Repair is becoming a more prominent feature in business models in certain sectors, as the recycling adage Reduce, Reuse, Recycle shifts to Reuse, Repurpose, Resale. In May 2021, IKEA launched its buy-back and resale scheme, which involves the opening of 'circular hub' areas at certain stores where customers can return old items and purchase secondhand items at discounted prices.<sup>135</sup> In November 2021, Apple announced 'Self Service Repair', which will enable customers to gain access to genuine Apple parts and tools if they want to repair their own devices.<sup>136</sup> Philips is moving to a product-as-a-service model with Philips Circular Lighting, a model that provides maintenance services to customers as well as installing the bulbs in the first instance.<sup>137</sup> Based on circular principles, business model approaches like these are also likely to appeal to customers whose sustainability awareness is growing, leading to positive business as well as sustainability outcomes.

Chart 6: Earth Overshoot Day 1970-2021



\* The calculation of Earth Overshoot Day 2020 reflects the initial drop in resource use in the first half of the year due to the pandemic-induced lockdowns. All other years assume a constant rate of resource use throughout the year.

The day when Earth Overshoot Day (the date on which demand for resources exceeds the amount the planet can generate in one year) has occurred over the period 1970-2021. Source: Earth Overshoot Day.<sup>138</sup>

“

“Companies are increasingly interested in tools and new business models that can help them embed sustainability in their everyday activities, rather than considering the sustainability credentials of a product as an afterthought.”

– Peter Shonfield  
Principal Consultant, ERM





# Applying tech nology to sustain ability

**The digital revolution, quickened by the pandemic, has sped integration of technology into every aspect of business, including sustainability. In the future, companies will deepen use of advanced technologies to create more sustainable and equitable business practices.**

Data and digitization are now essential to all aspects of business operations. Not only are they relevant to how companies set up systems and do business with customers, but these technologies are also central to how businesses manage sustainability performance.

It's widely recognized that the digital revolution has been accelerated by COVID-19. Companies rapidly transitioned migration of their systems to the cloud, updated remote meeting and remote working capabilities, and accelerated the digitization of customer interactions, in many cases implementing changes years sooner than planned pre pandemic.<sup>139</sup>

But even as digital advances bring benefits to many, it is equally apparent that new forms and widespread adoption of virtual work have widened the digital divide between those with access to technology and those without. Remote work has been limited mainly to those in white collar jobs with good internet access and appropriate home-work environments, but many do not have these luxuries. During the pandemic, less than 20 percent of Black workers and only 16 percent of Hispanic workers were in jobs that could be conducted remotely.<sup>140</sup> In part due to these disparities, bridging the digital divide remains a high priority for global leaders. For example, the Biden Administration's infrastructure package includes \$65 billion for universal broadband across the U.S., while the UN has a goal to bring 75 percent of the world online by 2025 with internet access costs no higher than two percent of earnings.<sup>141,142</sup> Solving the divide is a high priority for the corporate world too, both for tech companies and for businesses in other sectors planning how to serve their customer base in a digitized world.

As well as affecting how businesses interact with their staff and customers, companies are deploying increasingly sophisticated technical tools to manage their sustainability performance. New digital tools can help make sense of sustainability-related data, translating it into information that can be operationalized. For instance, blockchain technologies support accountability and accessibility in Environmental, Social, and Governance (ESG) data aggregation, while artificial intelligence (AI) can be used to sift through unstructured data many times faster than manual approaches allow – an important factor considering the volume of unstructured ESG data has grown more than six-fold since 2014.<sup>143</sup>

Advancements in ESG data management technologies are also directly helping companies, large facilities, and cities reduce emissions, cut down on energy use, and conserve water by measuring and optimizing data. As these technologies are often energy intensive, smart implementation of AI could contribute to reductions of 10 percent or more of global emissions by 2050 by improving efficiency in production, transportation, and energy consumption.<sup>144</sup>

Furthermore, AI is being used by a growing number of companies to improve their services and products, from Google's use of the technology to design computer chips faster than a human is able to, to the use of voice powered AI assistants for customer service support.<sup>145,146</sup> AI is also finding favor in healthcare services, one example being the use of computer algorithms to investigate the factors behind adverse maternity incidents involving mothers from ethnic minorities who, in the UK, are five times more likely to die due to pregnancy complications than white women.<sup>147</sup> However, the increased use of AI comes with potential risks connected to the replication of inherent biases of the people who designed them and the use of datasets in which certain ethnic groups are underrepresented.<sup>148,149</sup> For example, a 2021 survey on biases within hiring platforms like LinkedIn found that 35 percent of Black students and professionals see recommendations for which requirements are lower than their current level of academic achievement.<sup>150</sup>

As the use of technology to manage business operations and improve sustainability gains momentum, and as demand for good quality data to track sustainability performance grows, the following evolution is likely:

### **Business will seek more technological tools, including those applying AI, to help them decipher sustainability-related data and enhance sustainability performance**

The business case for sustainability no longer needs to be made. The urgent task now is for companies to fully operationalize sustainability using evidence and data-based approaches. With a growing amount of data accessible on a range of topics from greenhouse gas emissions to supply chain performance metrics, there is growing demand for digital tools that let sustainability managers analyze data and obtain the information needed to improve sustainability performance. Machine learning and AI are emerging as the newest tools supporting ESG data analysis. AI can be programmed to perform sentiment analysis and review the tone of a conversation or text, generating quantitative insights from qualitative inputs.<sup>151</sup> It can also be programmed to highlight inconsistencies or to prioritize inputs differently, for instance by giving 10-K data more weight than information from a marketing report.<sup>152</sup>

AI is also being used to monitor real-time data such as emissions, thus providing reliable, granular, and regularly updated information which can reveal opportunities for interventions that improve performance. One example of a company providing these solutions is OPEX Group, now part of ERM Digital, which offers an AI powered emission optimisation engine that enables companies in carbon intensive industries to monitor, manage, and reduce their energy use and operate facilities with lower emissions.<sup>153</sup> Finally, numerous tools are emerging to help investors benchmark companies' ESG performance. ERM's own ESG Fusion, for instance, is an AI-powered platform that makes ESG benchmarking for private companies easier and more transparent.<sup>154</sup>

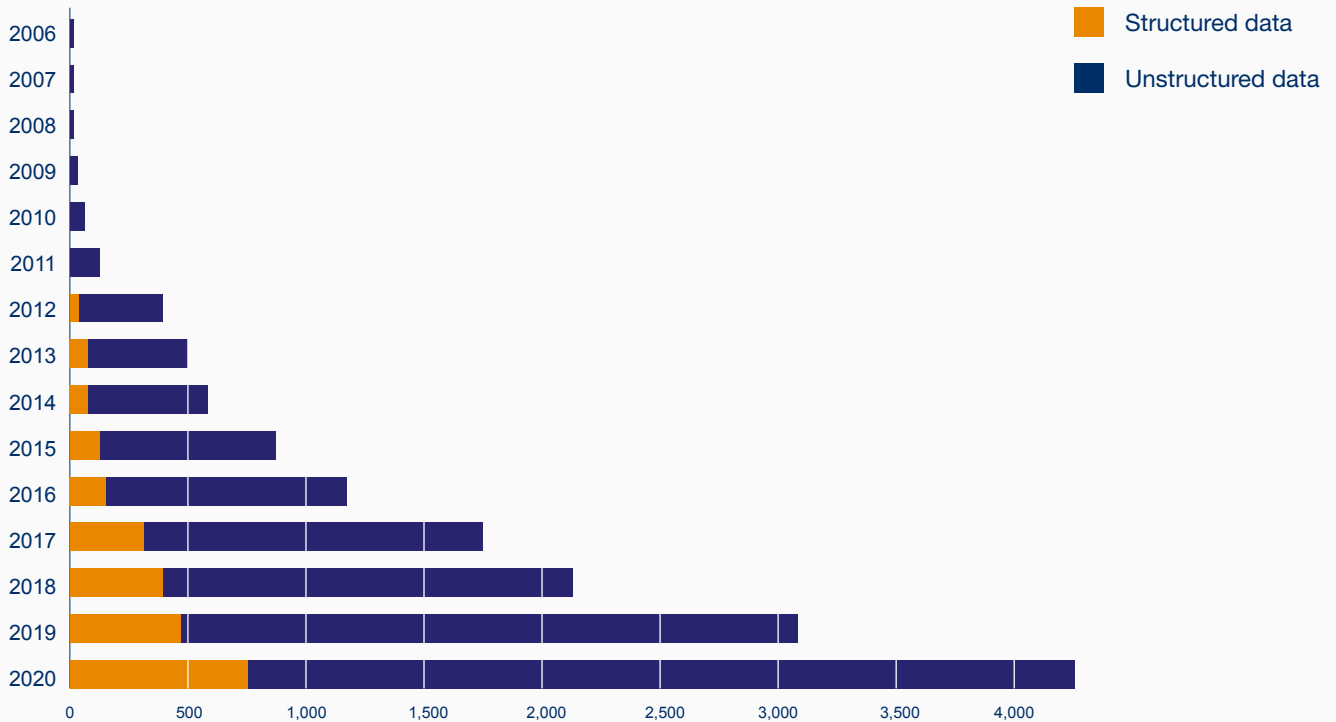
### **Companies will adapt their use of technology to help bridge the digital divide**

Addressing the imbalances created by the digital divide to help increase equity and equality presents a huge challenge for public and private sector leaders, and the role of business will be central to finding solutions. In the technology sector, companies already working to address this issue include HP and its commitment to accelerate digital equity for 150 million people by 2030 and Cisco, who in May 2021 announced creation of a Rural Broadband Innovation Center aimed at improving the availability and affordability of rural internet access.<sup>155,156</sup> Such programs are good for society and bring business benefits, as advancements in digital equity and improved access to the internet and technology will let companies more easily engage consumers and find the talent they want to hire.<sup>157</sup>

### **Business will use technology to help consumers shape more sustainable lifestyles**

A changing consumer base is demanding more sustainable products and services. Two-thirds of Millennials and more than 70 percent of Gen-Z say they want to lead healthier, more environmentally friendly lifestyles.<sup>158</sup> Companies can utilize technology to meet consumers' needs by providing customized data and products. Google's implementation of climate considerations in user-facing applications is a prime example – for instance, Google Flights will now report the carbon emissions of a selected flight and compare those to average emissions for the journey being planned. Google Maps has also been updated in certain locations to direct drivers on routes that are better for the environment even if they are not the shortest or quickest route.<sup>159</sup> Consumers attuned to their carbon footprint are taking advantage of products and technologies that allow for individualized tracking of impact. One example is Visa's FutureCard, which rewards customers for green purchases.<sup>160</sup> Simple technologies such as these are being used to help businesses promote and enable more sustainable behaviors by their customers. In the future, more businesses will blend technology and sustainability as part of responding to the increasing demand for sustainable products and services from a dynamic consumer base.

### Chart 7: Increase in Structured and Unstructured ESG Data 2006-2020

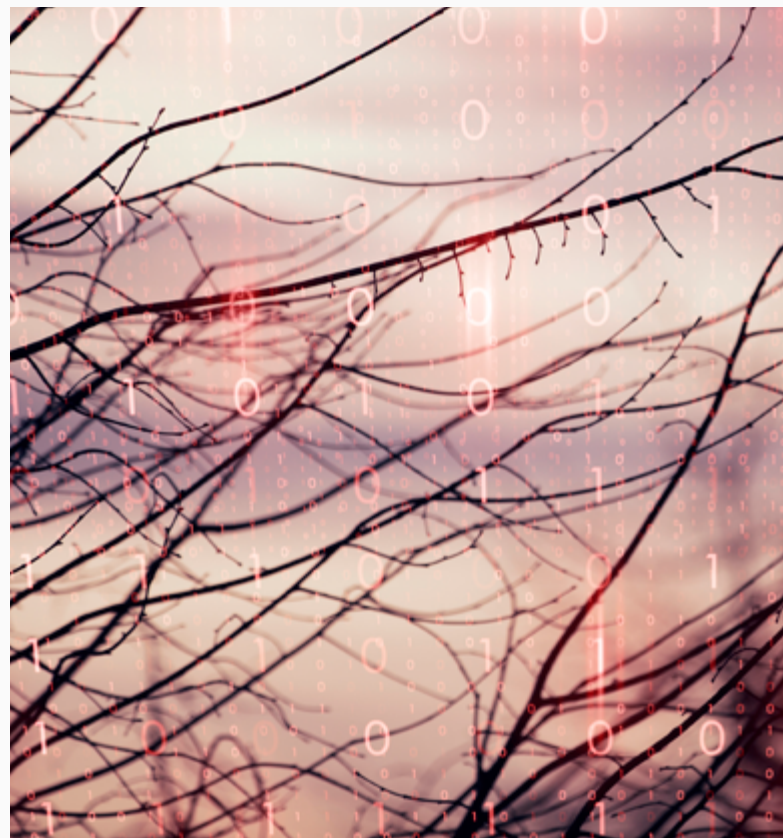


The number of exabytes of corporate ESG data available worldwide over the 2006-2020 period.  
Source: Tech Monitor.<sup>161</sup>

“

“If you can’t measure it, you can’t manage it. Five years ago, sustainability data was predominantly used for compliance and disclosure purposes, for example, for setting policies, pathways, and meeting regulatory requirements. Today, business leaders are demanding reliable, quantifiable, and granular data to improve sustainability performance at pace. This shift from compliance to performance means exploiting sustainability data at scale, which is best done by leveraging automation technologies such as AI.”

– **Manish Godkhindi**  
Global Managing Partner, ERM ESG Digital





# Protecting fundamental rights

**From the continuing global impacts of COVID-19 on vulnerable groups, to the conviction of Derek Chauvin for the murder of George Floyd and the exposure of human rights abuses in cobalt supply chains in the Democratic Republic of Congo, 2021 saw human rights-related developments with far-reaching implications for business and society. To help respond, business must speak and act against injustice and develop more inclusive workplaces for all.**

Expectations that business plays a significant role in protecting fundamental rights remain high, with global events and stakeholders pushing companies to advocate and act on issues. Companies are also expected to transparently disclose their positions and efforts so that they may be held accountable.

Employees are a significant force pushing employers to address issues such as racism and discrimination. Two-thirds of workers in the U.S. say they want their companies to publicly speak out on such issues, with 54 percent saying they would consider quitting if their employer did not do enough to combat racial injustice.<sup>162</sup> Companies seem to be heeding these calls. For example, after numerous violent attacks on Asian Americans in early 2021, companies such as Nike and Tommy Hilfiger released statements condemning discrimination and signifying their support for the Asian American community.<sup>163</sup> Outside of the U.S., the Race at Work campaign in the UK brings together companies to help reduce barriers facing ethnically diverse people in the workplace.<sup>164</sup>

The demand for better insight into companies' Diversity, Equity, and Inclusion (DEI) practices also remains high. For example, U.S. shareholders are requesting that companies publicly disclose the EEO-1 reports required by the U.S. Federal Government that outline

their workforce demographic data. In the UK, the Investment Association, an asset manager industry group, announced it would issue alerts for firms who fail to report on board diversity.<sup>165,166</sup> Shareholders are reinforcing calls for DEI transparency through shareholder proposals as well. According to Institutional Shareholder Services (ISS), DEI-focused shareholder proposals (e.g., requests to publish DEI reports or conduct a racial equity audit) increased twofold in the past year.<sup>167</sup>

Examples of the effects of COVID-19 on minority groups continued to emerge as the pandemic entered its second year, reminding businesses to be aware of, and to act on, the disproportionate impacts often felt by vulnerable groups. For example, with 65 percent of Hispanics in the U.S. working in COVID-vulnerable sectors such as food preparation, this societal group is much more likely to have been laid off during the pandemic.<sup>168</sup> In Latin America and the Caribbean, young people between the ages of 19 and 29 were particularly exposed to pandemic-related job disruptions, with one study estimating that one in six had left work since the emergence of COVID-19.<sup>169</sup> Gender was also a factor in COVID-induced work challenges. One survey found 60 percent of working women with children experienced increased stress due to family pressures during the pandemic versus just 34 percent of working men with children.<sup>170</sup> Another study estimated that one-third of working mothers in the U.S. have cut back their work or left their jobs during the pandemic to prioritize family needs.<sup>171</sup>

In last year's trends report, we highlighted the new European Union (EU) human rights due diligence legislation and the Equator Principles' EP4 revision as notable developments in the human rights regulatory space. In 2021, a further notable development was the October release of the Global Reporting Initiative's (GRI) updated Universal Standards.<sup>172</sup> These strengthened standards will help improve corporate transparency by bringing GRI's human-rights related standards into line with intergovernmental frameworks such as the UN Guiding Principles on Business and Human Rights by providing guidance on due diligence reporting and management.

In response to the enduring regulatory focus on human rights management and an increasing expectation for companies to act and speak out in support of fundamental rights protections, the following developments are likely to play out in 2022 and the years to come:

### **Companies will face new regulations that will raise the bar for human rights supply chain due diligence**

Human rights due diligence has been a requirement of the UN Guiding Principles on Business and Human Rights since the principles were endorsed by the UN Human Rights Council in 2011.<sup>173</sup> Since then, national laws to protect against human rights abuses in supply chains have also been established. In Germany, a new law will require companies with more than 3,000 employees to establish due diligence practices to protect against human rights violations.<sup>174</sup> Similar requirements are also a focus of the EU, which intends to mandate human rights due diligence for all large companies operating in the bloc.<sup>175</sup> The EU law, in particular, is likely to send shockwaves across the world given that all businesses that operate in some capacity in the EU (regardless of where they are headquartered) will need to adapt their due diligence practices to comply with it, impacting all their global supply chains in the process.

In addition to undertaking human rights due diligence in accordance with best practices and regulations, organizations are collaborating to find other ways to protect fundamental rights. The World Business Council for Sustainable Development (WBCSD), for instance, requires its members to declare support for the UN Guiding Principles on Business and Human Rights, provides human rights guidance to companies, and runs programs to facilitate collaborative learning among companies on the topic.<sup>176,177</sup> With their recent announcement of a new initiative aimed at helping investors address human rights together, the Principles for Responsible Investment is another organization focused on collaboration.<sup>178</sup> The initiative will bring together investors through collaborative engagements aimed at the human rights issues most relevant to each company's business circumstances.

### **Businesses will need to prepare to verify their modern slavery reporting**

Since receiving Royal Assent in 2015, the UK's Modern Slavery Act has transformed how companies approach the issue of modern slavery. Most notably for the business world, the act mainstreamed corporate management and disclosure of the topic by requiring companies operating in the UK to publish an annual statement outlining how they prevent modern slavery.<sup>179</sup> Now over six years old, the act is likely to undergo revision given the Modern Slavery (Amendment) Bill which was introduced in the British House of Lords in June 2021. The proposed bill (currently undergoing review) would strengthen transparency requirements under the Modern Slavery Act by mandating reporting and verification on country-of-origin sourcing inputs, external inspections, audits, unannounced spot checks, and reporting on the use of employment agents acting on behalf of an overseas government.<sup>180</sup>

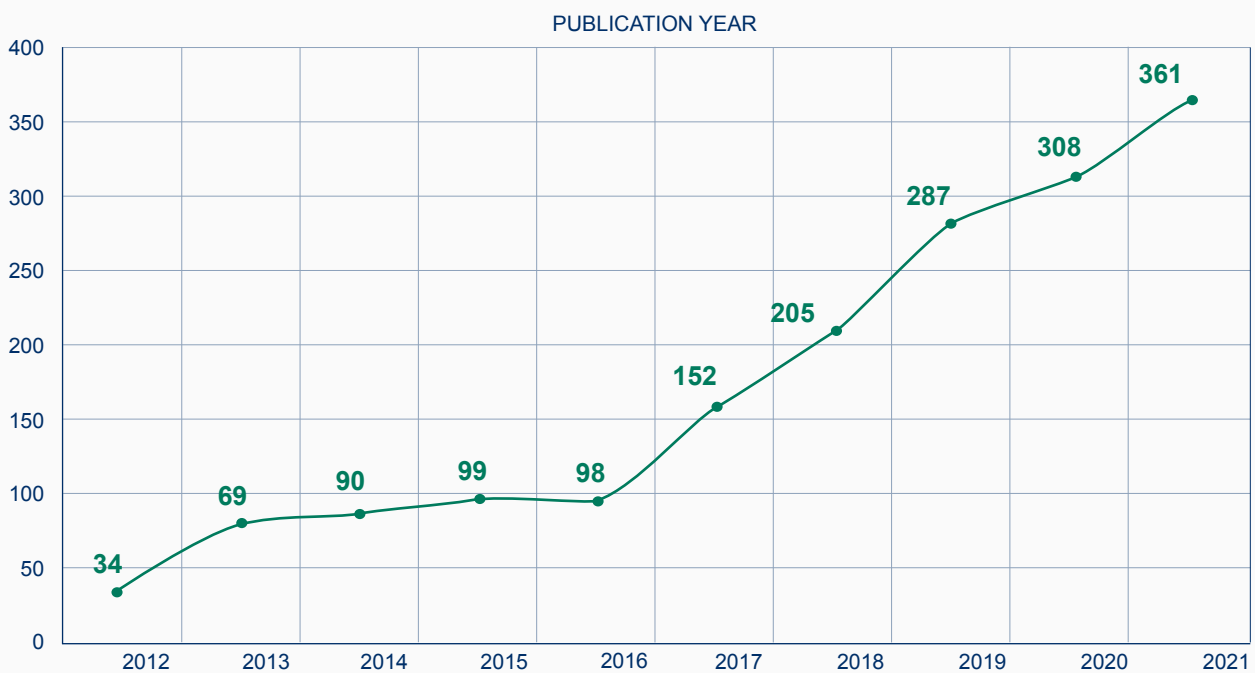
In addition to new transparency requirements, the bill would introduce criminal offences for false statements and for sourcing from suppliers for whom a formal warning was issued by the Independent Anti-Slavery Commissioner. As a private member's bill (i.e., a legislator not acting on behalf of the government), the final form of the bill and the potential for its passage is uncertain. Nonetheless, its introduction signals growing appetite for strengthening modern slavery management and disclosure. To stay ahead of the curve, businesses should evaluate where modern slavery risks exist in their operations and supply chains and implement practices that help to mitigate these risks.

### **DEI will become more relevant at all levels of business, including board and executive levels**

DEI is more and more often connected to the board and executive levels of companies. At the board level, DEI disclosure is gaining significant traction within companies and with external stakeholders, for instance, driving many companies to increase reporting on director diversity. In 2021, 83 percent of the

largest U.S. employers (based on a subset of the Russell 1000) disclosed board diversity data, up from just 45 percent in 2019.<sup>181</sup> For companies listed on America’s Nasdaq stock exchange, board diversity will soon be even more pertinent given the SEC’s August approval of Nasdaq’s Board Diversity Rule.<sup>182</sup> The rule requires listed companies to disclose board diversity statistics and, where they do not have at least two diverse directors, to explain why. At the executive level, more and more companies are linking compensation to DEI performance. As of February 2021, 99 companies within the S&P 500 included DEI metrics in their executive pay programs, up from 51 in September 2018.<sup>183</sup> McDonalds, which ties executive pay to its goal to increase representation of historically underrepresented groups and women in leadership roles, is one example.<sup>184</sup> With a 2018 study connecting gender, ethnic, and cultural diversity to an increased likelihood of above-average profitability, companies would be prudent to establish robust processes to embed strong DEI practices across their operations and to disclose information on them to ensure they benefit from their efforts.<sup>185</sup>

**Chart 8: “Human Rights Due Diligence” References in Corporate Reporting 2012-2021**



Number of times “human rights due diligence” was referenced in corporate reporting (SEC Filings, financial reports, non-financial reports) over the 2012-2021 period. Source: Datamaran.<sup>186</sup>



*“The EU Taxonomy and the proposed EU directive on human rights due diligence, along with increasing reputational pressures, are inciting fundamental rights action among companies that have operations in the EU. We are seeing increased demand from clients needing help to turn human rights policies and language into practices that help them better manage the topic in light of these developments.”*

– **Caroline Vail**  
Partner, ERM



# Shaping policy, regulations, and norms

**As we move into 2022, business will be confronted by a raft of new sustainability-focused regulations and demands to help drive societal and environmental change through its advocacy and policy engagement.**

Corporations are increasingly expected to influence and take stances on societal and environmental issues. This demands balancing core business operations with participation in solving sustainability issues like the climate crisis and systemic racism, as well as the creation of new business models that support more sustainable lifestyles.

This is partly about who people trust and the demands placed on them as a result. The latest Edelman Trust Barometer finds business more trusted than any other institution – and the only institution perceived to be both competent and ethical. Eighty-six percent of 2021 Trust Barometer respondents comprising 33,000 individuals across 28 countries say that they expect CEOs to speak out on issues such as pandemic impact, job automation, and local community issues. Sixty-six percent think CEOs should take the lead on influencing societal change rather than waiting for governments to impose change on them.<sup>187</sup>

Other research shows that the public is watching companies closely to see whether they keep their promises. One survey conducted by Porter Novelli in April 2021 found that 67 percent of U.S. adults believe companies wait until a social justice issue is headline news before they become willing to address it themselves.<sup>188</sup> Fifty-four percent of participants in the same survey report watching whether and how brands have made progress in addressing social justice issues in the last year, with 45 percent having made the effort to conduct their own research on what companies have done to deliver against previously made commitments.

Leadership is more than making commitments and changes inside one's own organization.

Given that each company in the Fortune 500 has an annual revenue bigger than that of the UN, and given the lobbying capacity of the private sector dwarfs that of other interest groups, many argue that business has a responsibility to take stands and engage others on major societal issues.<sup>189,190,191</sup> The sustainability advocacy organization CERES uses the example of climate action, saying that setting ambitious goals is crucial but inadequate without also engaging others and seeking to influence public policy. CERES calls for CEOs to take more climate action including publicly advocating for policy and legislation aligned with achieving net zero by 2050, ensuring their trade associations' lobbying also supports net zero ambitions, and allocating lobbying resources and spending in a manner consistent with the goals of the Paris Agreement.<sup>192</sup>

Last year brought a particularly rapid proliferation of climate and sustainability-related regulation, especially in Europe. This regulatory environment demands that business navigate new legislation and prepare for even more demanding sustainability regulations likely to emerge soon in Europe and other regions. And part of preparing for the future is understanding and influencing how new rules are developed and implemented – not to undermine or weaken them – but to ensure they are actionable and will motivate businesses and markets to become more sustainable, and reward them for doing so.

Some companies are doing this. Prior to COP26, a range of UK companies including financial institutions, industry groups, and civil society organizations wrote to the Chancellor and Secretary of State for the Department of Business, Energy, and Industrial Strategy, to call for the UK Government to commit to making the disclosure of net zero transition plans for large companies mandatory and to provide a clear timeline for this requirement.<sup>193</sup> The Sustainable Food Policy Alliance, a high-profile group of companies including Danone, Nestlé, Mars, and Unilever, is another example of a group of companies which has come together for advocacy purposes, in this case to push for more sustainable food and agriculture policies.<sup>194</sup>

Given the sway that business holds and the current dynamism of sustainability-related regulation, the corporate world has an opportunity to engage with regulators and shape the direction of future legislation. As business uses its influence to advocate for and inspire change in favor of sustainability in the political and social context in which they operate, the following developments are likely:

### **Companies will leverage their economic influence to encourage government action on societal issues that matter to their workforces and customers**

Companies have significant financial leverage, and they are using this as well as their voice to respond to controversies occurring in their respective regions and markets that are relevant to their stakeholders. A high-profile example from 2021 saw Major League Baseball relocate its All-Star Game from Georgia after the state passed new voting laws judged restrictive and racist by many, to Colorado, one of the most voter-accessible states in the country.<sup>195</sup> Presently, some companies are considering a boycott of the 2022 Beijing Winter Olympics due to China's human rights record.<sup>196</sup> Companies also utilize their influence in lobbying groups and their political clout to influence change. For example, since 2019, Unilever has worked with its trade associations to confirm their actions are in line with the Paris Agreement.<sup>197</sup> Similarly, several European utilities including Iberdrola, EDF, and Enel support and advocate for ambitious action on climate change and associated regulation.<sup>198</sup> Part of the reason for all this is that stakeholders are demanding more from companies, who in turn are demanding more of governments. The next year will see more companies working to capture and express what they stand for and to influence positive change on the scale required to solve the thorniest societal and planetary challenges.

### **Company leaders will invest more in collaborations in which members share sustainability objectives and values**

Many companies seek to increase impact and drive change through peer groups focused on environmental and social issues. Groups like the UN Principles for Responsible Investment are rapidly growing (the UN PRI has grown from 3,000 to over 4,000 signatories in 2021 alone), a trend expected to continue in 2022 as companies express more interest in sustainability and invest more time and effort in the search for solutions.<sup>199</sup> Some groups pull in multiple corporate members, while others target leaders of specific functions or CEOs, then use the group's collective voice to signal commitment to sustainability issues like diversity. One example of this is the Valuable 500 Initiative. Formed in 2021, the Valuable 500 is a global community of 500 Global CEOs who have committed to building disability inclusion into their businesses.<sup>200</sup> Other networks target Chief Financial Officers (CFOs) who can be found joining forces via networks like Accounting for Sustainability, the CFO Taskforce for the SDGs, and the World Business Council for Sustainable Development's CFO Network, using such forums to shape dialogues, share resources, and develop new approaches.<sup>201,202,203</sup>

### **Business will need to adjust to the wave of new regulations coming from Europe – and the ways Europe's influence drives changes globally**

Environmental regulation has boomed in recent years, especially in Europe where the European Union (EU) Green Deal and associated measures are rapidly pushing European economies and the companies that participate in them to be more sustainable. The EU Taxonomy, Corporate Sustainability Reporting Directive (CSRD), and Sustainable Finance Disclosure Regulation (SFDR) are examples of new EU regulations designed to integrate sustainability into the European financial system.<sup>204,205,206</sup> And these developments do not only affect activities in Europe; they often set the tone and provide blueprints for sustainable regulation in other regions. In 2022 and beyond, business will need to adjust to emerging regulations in the EU and the private sector must anticipate more and faster changes in environmental and sustainability regulations in all regions in the near- to medium-term.

### Chart 9: Business Expected to Fill Void Left by Government



Percentage of global respondents who expect CEOs should act on societal problems in the absence of government action and to hold themselves accountable to the public in 2021. Source: Edelman.<sup>207</sup>

“

“The regulatory developments coming out of the EU will have the effect of disseminating good practices globally. One example was during COP26, with the completion of the international rules to govern global carbon-emissions trading, influenced by the EU’s progressive sustainability regulation and action of late.”

– **Onur Durmus**  
Partner, EMEA Lead EU Green Deal and EU Taxonomy Services, ERM

“

“Given that 2022 will mark the 50th anniversary of the first UN sustainable development conference in 1972, and there will be a Stockholm+50 UN meeting to highlight this, I expect and hope that we will more critically reflect on how we can accelerate the sustainability transition for the next 50 years. The moment really calls for accountability from world leaders – and all actors frankly – on how to get to the targets we have set, but I also hope that promising solutions are showcased and inspire others.”

– **Åsa Persson**  
Research Director and Deputy Director, Stockholm Environment Institute



**The past year has brought both challenges and opportunities for stakeholder capitalism. On one hand, notable criticism has been levied at the concept for being more buzzwords than impact driver. On the other, multilateral and corporate developments show stakeholder capitalism principles influencing sustainable action.**

Since its emergence in the 1970s, the concept of stakeholder capitalism (the pursuit of long-term value creation by accounting for the needs of all stakeholders) has faced criticisms, most notably from Milton Friedman whose arguments for shareholder primacy defined business purpose for a generation.<sup>208</sup> Stakeholder capitalism faces new criticism today, with doubters suggesting that the companies purporting to follow stakeholder capitalism principles consistently fail to ‘walk the talk.’

The Business Roundtable's 2019 Statement on the Purpose of a Corporation redefined the purpose of a business from one of shareholder primacy to one that supports all stakeholders.<sup>209</sup> While the statement was met with much fanfare, a 2021 study from Harvard Law School's Program on Corporate Governance analyzing the corporate governance documents of signatory companies found that many have not yet fully embraced it.<sup>210</sup> In fact, the authors of the study suggested that most companies had not aligned internal documents and practices with the statement, with most still stating that stakeholder interests come second to those of shareholders.

The public makes similar observations, with 2021 survey results from Just Capital, for example, suggesting that many Americans do not believe companies have adjusted which stakeholder groups they prioritize in the wake of the Business Roundtable Statement.<sup>211</sup> Like the Harvard Law School findings, these survey respondents noted that a company's shareholders, not their other stakeholders, continue to benefit from most of the positive impacts that result from their business.

Despite critiques, there are other examples that suggest stakeholder capitalism is delivering on its promises and having an impact. Throughout the COVID-19 pandemic, global stock markets have fluctuated. However, one thing that has remained consistent has been the outperformance of purposeful companies or those otherwise deemed sustainable by third parties. According to an analysis by S&P Global of 26 Environmental, Social, and Governance (ESG) exchange traded funds that screen stocks for ESG-related criteria, 19 outperformed the S&P 500 between March 5, 2020 to March 5, 2021.<sup>212</sup> An analysis by BlackRock found that individual companies with better ESG profiles than their industry peers were performing better and experiencing a “sustainability premium” in their stock price.<sup>213</sup> In the future, purpose-driven companies are likely to continue to outperform peers given their ability to deliver long-term value to both shareholders and stakeholders.

As businesses that embed stakeholder capitalism characteristics become more prominent and successful, benefit corporations, that is businesses pursuing legally defined value creation for both shareholders and stakeholders, are also receiving more attention. Five years ago, over 1,700 Certified B Corporations (benefit corporations certified by the nonprofit B Lab) existed in over 50 countries. Today, that number has grown to greater than 3,500 in more than 70 countries.<sup>214,215</sup> Because benefit corporations have legal protections designed to ensure they can balance financial and non-financial interests, they form an attractive vehicle for business leaders looking to wholeheartedly pursue stakeholder capitalism.

With more companies espousing stakeholder capitalism-related principles, it will be critical for them to do so authentically and transparently to ensure stakeholders can be confident that their actions will align with their words. In response to enduring scrutiny of stakeholder capitalism, the following evolution is likely:

## **Businesses will create, or invest more in, internal roles and functions that deliver on stakeholder capitalism principles**

Despite the critiques of stakeholder capitalism, there is no denying the growth in related jobs. In June 2021, PricewaterhouseCoopers (PwC) announced its intention to create 100,000 ESG jobs by 2026, a 36 percent increase over their current employee base.<sup>216</sup> With demand growing, businesses are having a challenging time finding people with appropriate expertise. In Japan, for example, the pool of expertise is so small that ESG job candidates can earn two times what they might earn in other fields.<sup>217</sup> Companies are also expanding their ESG teams, with average ESG team size increasing from five in 2011 to 15 in 2021, creating more demand for ESG professionals in the process.<sup>218</sup> As the number of ESG-related positions grows, so does the number of Chief Sustainability Officers (CSO). Since Dupont appointed the first CSO of a publicly traded U.S. company in 2004, the number of CSOs has grown markedly.<sup>219</sup> By 2011, there were 29, and, by March 2021, there were 95 CSOs at publicly traded U.S. companies, a 228 percent increase in a decade.<sup>220</sup>

Moving forward, CSO and other ESG roles are likely to multiply as the corporate world transforms to maximize value for both business and society. Companies need to think about how they will respond to keep in step with this evolution. For those without a dedicated ESG function, the first step should be to establish one. For those that already have one, they should think about the function's structure. Is it robust enough for their ambitions? Can it attract the best talent given the increasing demand for ESG expertise? Overall, the growth in ESG-related roles supports the idea that, though not perfect, stakeholder capitalism and the ESG issues at its core are seen by many companies as drivers of long-term value creation.

## **Businesses will redefine and enhance engagement approaches to respond to a wider range of stakeholder needs**

For stakeholder capitalism to truly succeed, it must accomplish what its name implies through better internal and external stakeholder engagement. Because all businesses are different, companies must evaluate what types of engagements their stakeholders need to prosper. A recent survey conducted in August 2021 by Porter Novelli exploring how executives are adapting to the growing need to understand their stakeholders and deliver value to them found that 75 percent no longer rank shareholders as their single most important stakeholder.<sup>221</sup> In this survey, over 71 percent of the executives polled rated employee satisfaction as their top priority. This sentiment is reflected by the growing number of companies, particularly since the onset of COVID-19, that have been reconsidering and working to improve how they engage employees by, for example, using more digital engagement channels and employee engagement surveys.<sup>222</sup> To ensure that stakeholder capitalism plays out in practice, businesses need to continue to evaluate who their priority stakeholders are and develop targeted plans to engage with them appropriately. PepsiCo is one example of a company that does this well by defining their understanding of the issues that are most important to each of their stakeholder groups and outlining how they engage on them.<sup>233</sup>

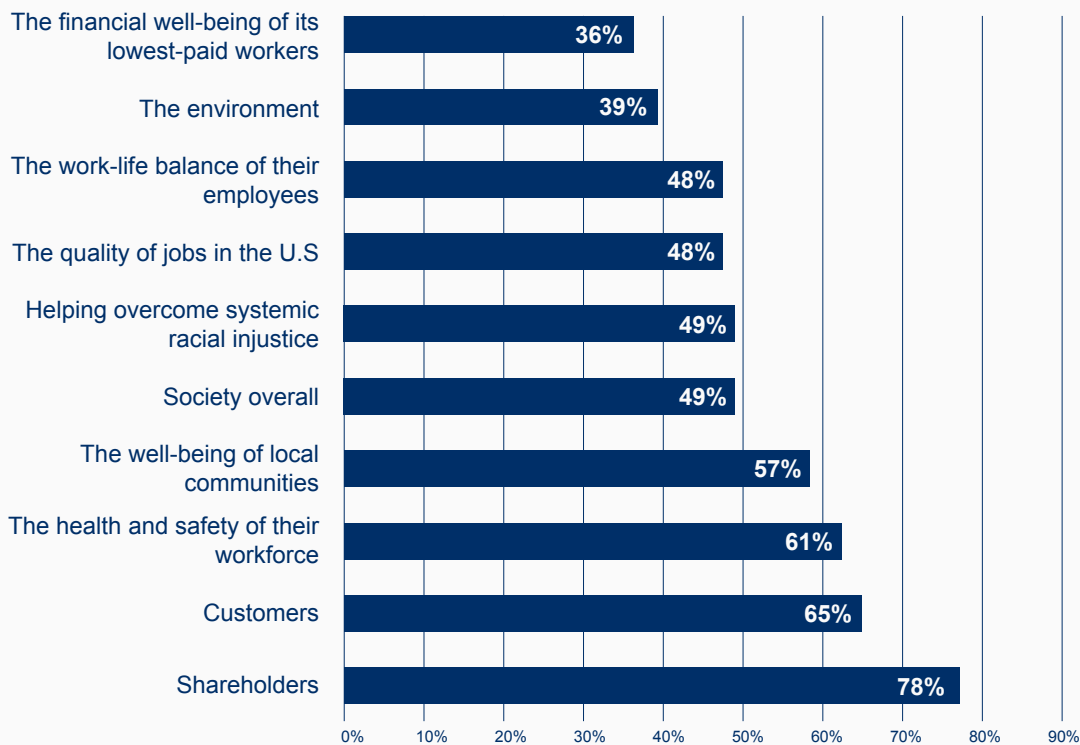
## **Stakeholder capitalism-influenced reporting and disclosure will become increasingly common**

2021 was a boon for the pursuit of stakeholder capitalism-inspired reporting. In January, 60 members of the World Economic Forum (WEF) and the International Business Council (IBC) committed to the IBC's Stakeholder Capitalism Metrics, a major win for supporters of universal stakeholder capitalism reporting.<sup>224</sup> Pointing to an early analysis of reports incorporating the metrics, WEF states that it is now easier to measure corporate progress against ESG issues and to evaluate the collective impact of

companies reporting to the metrics. Integrated reporting (corporate reporting that combines traditional financial disclosures with ESG disclosures) also received a boost with the publication of a revised International <IR> Framework in January 2021 by the Value Reporting Foundation (VRF).<sup>225</sup> The revised framework, which defines what elements compose an integrated report, aims to empower “more decision-useful reporting” and advance universal corporate reporting.

Not short of big announcements, COP26 saw the launch of the International Sustainability Standards Board (ISSB) by the International Financial Reporting Standards Foundation.<sup>226</sup> The board, which will be formed by the merger of the Climate Disclosure Standards Board and the VRF, will develop “a comprehensive global baseline of high-quality sustainability disclosure standards to meet investors’ information needs.” While the path to universality will likely still experience some bumps, the developments of 2021 indicate increasing convergence among stakeholder capitalism-related reporting standards. Both companies and their stakeholders are likely to benefit from this convergence thanks to increased consistency and comparability in reporting.

### Chart 10: American Views on Companies’ Positive Impacts



Percentage of Americans who say companies have a positive impact on various groups. Source: JUST Capital.<sup>227</sup>



*“Global social and environmental changes we are experiencing will have significant economic consequences. The draft standards from ISSB provide a useful tool for anticipating how and when social and environmental factors will impact a company’s enterprise value”*

– Cora Lee Mooney

Regional Service Leader, Corporate Sustainability and Climate Change, ERM

# Endnotes

- <sup>1</sup> Segal, M. 2021. *Guest Post: Markets Must Brace for Hard-Hitting ESG Regulation*. Online posting. ESG Today. Accessed 12 November 2021. <https://www.esgtoday.com/guest-post-markets-must-brace-for-hard-hitting-esg-regulation/>
- <sup>2</sup> Roach, G. 2021. *Data issues biggest barrier to greater ESG adoption, survey finds*. Online posting. Corporate Secretary. Accessed 12 November 2021. <https://www.corporatesecretary.com/articles/esg/32759/data-issues-biggest-barrier-greater-esg-adoption-survey-finds>
- <sup>3</sup> <https://www.valueinvestingfoundation.org/>
- <sup>4</sup> Browne, A. 2021. *ESG Whistleblower Calls Out Wall Street Greenwashing*. Online posting. Bloomberg. Accessed 12 November 2021. <https://www.bloomberg.com/news/newsletters/2021-10-02/esg-whistleblower-calls-out-wall-street-greenwashing-new-economy-saturday>
- <sup>5</sup> Bartz, T. 2021. *"The Sustainability Propaganda Got Completely Out of Control"*. Online posting. Spiegel International. Accessed 12 November 2021. <https://www.spiegel.de/international/business/former-deutsche-bank-executive-on-green-investments-the-sustainability-propaganda-got-completely-out-of-control-a-a07d3744-e79f-44bc-ab12-97b70c000b86>
- <sup>6</sup> Farnham, K. 2021. *The Board's Guide To ESG Integration*. Online posting. Diligent Insights. Accessed 12 November 2021. <https://insights.diligent.com/esg/integration/>
- <sup>7</sup> KPMG. 2020. *Integrating ESG into your business: A step-by-step ESG guide for Hong Kong-listed issuers*. Online posting. KPMG. Accessed 12 November 2021. <https://assets.kpmg/content/dam/kpmg/cn/pdf/en/2020/01/integrating-esg-in-to-your-business.pdf>
- <sup>8</sup> Nossa Capital. 2020. *ESG and Employees: Attracting and retaining talent*. Online posting. Medium. Accessed 12 November 2021. <https://medium.com/nossa-capital/esg-and-employees-attracting-and-retaining-talent-3e4fa33fd2c5>
- <sup>9</sup> Singh, A. 2021. *ESG reporting is becoming increasingly investor-grade – and siloed*. Online posting. GreenBiz. Accessed 12 November 2021. <https://www.greenbiz.com/article/esg-reporting-becoming-increasingly-investor-grade-and-siloed>
- <sup>10</sup> PRNewswire. 2021. *Small Teams Driving Integration of Sustainability into Business*. Online posting. PRNewswire. Accessed 12 November 2021. <https://www.prnewswire.com/news-releases/small-teams-driving-integration-of-sustainability-into-business-301416724.html>
- <sup>11</sup> Khan, F. et al. 2021. *Connecting ESG, Capital Markets, and CFOs*. Online posting. The Sustainability Institute by ERM. Accessed 12 November 2021. <https://www.sustainability.com/globalassets/sustainability.com/thinking/pdfs/2021/connecting-esg-capital-markets-and-cfos-02nov21.pdf>
- <sup>12</sup> Joyce, C. 2020. *Future of Alternatives 2025: Private Equity AUM Will Top \$9tn in 2025*. Online posting. Preqin. Accessed 12 November 2021. <https://www.preqin.com/insights/research/blogs/private-equity-aum-will-top-9tn-in-2025>
- <sup>13</sup> Preqin. 2020. *Preqin Impact Report: The Rise of ESG in Alternative Assets*. Online posting. Preqin. Accessed 12 November 2021. <https://www.preqin.com/insights/research/preqin-impact-report-the-rise-of-esg-in-alternative-assets>
- <sup>14</sup> Intertrust. 2020. *New study reveals rise of ESG among private equity GPs – yet obstacles remain*. Online posting. Intertrust Group. Accessed 3 December 2021. <https://www.intertrustgroup.com/news/new-study-reveals-rise-of-esg-among-private-equity-gps-yet-obstacles-remain/>
- <sup>15</sup> PricewaterhouseCoopers. 2021. *Paying well by Paying Good*. Online posting. PricewaterhouseCoopers. Accessed 12 November 2021. <https://www.pwc.co.uk/human-resource-services/assets/pdfs/environmental-social-governance-ec-pay-report.pdf>
- <sup>16</sup> Gosling, T. and O'Connor, P. 2021. *Executive Pay and ESG Performance*. Online posting. Harvard Law School Forum on Corporate Governance. Accessed 12 November 2021. <https://corpgov.law.harvard.edu/2021/04/12/executive-pay-and-esg-performance/>
- <sup>17</sup> Willis Towers Watson. 2020. *4 in 5 companies planning to change ESG measures in executive pay plans over next 3 years, Willis Towers Watson survey finds*. Online posting. Willis Towers Watson. Accessed 12 November 2020. <https://www.willistowerswatson.com/en-US/News/2020/12/4-in-5-companies-planning-to-change-esg-measures-in-executive-pay-plans-over-next-3-years-tyw-survey>
- <sup>18</sup> ERM. 2020. *Eyes on the prize: Unlocking the ESG premium in private markets*. Online posting. ERM. Accessed 12 November 2021. <https://www.erm.com/globalassets/documents/insights/2020/unlocking-the-esg-premium-erm-private-equity-report-oct-2020.pdf>
- <sup>19</sup> Dhirra, N. et al. 2021. *Help your employees find purpose—or watch them leave*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/help-your-employees-find-purpose-or-watch-them-leave>
- <sup>20</sup> Consider This From NPR. 2021. *The Great Resignation: Why People Are Leaving Their Jobs In Growing Numbers*. Online posting. NPR. Accessed 12 November 2021. <https://www.npr.org/2021/10/22/1048332481/the-great-resignation-why-people-are-leaving-their-jobs-in-growing-numbers>
- <sup>21</sup> Sabharwal, M. 2021. *Dealing with the "Great Resignation" in Asia*. Online posting. Mercer. Accessed 12 November 2021. <https://www.mercer.com.sg/our-thinking/dear-mercer/dealing-with-the-great-resignation-in-asia.html>
- <sup>22</sup> Brignall, M. 2021. *"The Great Resignation": almost one in four UK workers planning job change*. Online posting. The Guardian. Accessed 12 November 2021. <https://www.theguardian.com/money/2021/nov/01/the-great-resignation-almost-one-in-four-workers-planning-job-change>
- <sup>23</sup> Saad, L. and Wigert, B. 2021. *Remote Work Persisting and Trending Permanent*. Online posting. Gallup. Accessed 12 November 2021. <https://news.gallup.com/poll/355907/remote-work-persisting-trending-permanent.aspx>
- <sup>24</sup> Organisation for Economic Co-operation and Development. 2021. *Teleworking in the COVID-19 pandemic: Trends and prospects*. Online posting. Organisation for Economic Co-operation and Development. Accessed 12 November 2021. <https://www.oecd.org/coronavirus/policy-responses/teleworking-in-the-covid-19-pandemic-trends-and-prospects-72a416b6/>
- <sup>25</sup> Upwork. 2021. *Upwork Study Finds 22% of American Workforce Will Be Remote by 2025*. Online posting. Upwork. Accessed 12 November 2021. <https://www.businesswire.com/news/home/20210215005287/en/Upwork-Study-Finds-22-of-American-Workforce-Will-Be-Remote-by-2025>
- <sup>26</sup> Smith, C. and Heger, N. 2021. *9 ways to foster a people-centric digital culture*. Online posting. World Economic Forum. Accessed 12 November 2021. <https://www.weforum.org/agenda/2021/07/9-ways-foster-people-centric-digital-culture/>
- <sup>27</sup> Noguchi, Y. 2018. *Freelanced: The Rise Of The Contract Workforce*. Online posting. NPR. Accessed 12 November 2021. <https://www.npr.org/2018/01/22/578825135/rise-of-the-contract-workers-work-is-different-now>
- <sup>28</sup> Partington, R. 2019. *Gig economy in Britain doubles, accounting for 4.7 million workers*. Online posting. The Guardian. Accessed 12 November 2021. <https://www.theguardian.com/business/2019/jun/28/gig-economy-in-britain-doubles-accounting-for-4-7-million-workers>
- <sup>29</sup> MBO Partners. 2021. *State of Independence in America*. Online posting. MBO Partners. Accessed 12 November 2021. [https://info.mbopartners.com/rs/mbo/images/MBO\\_Partners\\_State\\_of\\_Independence\\_2021\\_Preview.pdf](https://info.mbopartners.com/rs/mbo/images/MBO_Partners_State_of_Independence_2021_Preview.pdf)
- <sup>30</sup> Healey, B. 2021. *Demand for freelance writers, graphic designers and web developers has exploded since the start of the pandemic, fuelling a growing gig economy*. Online posting. Business Insider. Accessed 12 November 2021. <https://www.businessinsider.com.au/demand-for-freelance-workers-gig-economy-growth>
- <sup>31</sup> Lund, S. et al. 2021. *The future of work after COVID-19*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19>
- <sup>32</sup> Brown, M. 2021. *To remain remote, employees are ready to give up benefits, PTO, & salary*. Online posting. Breeze. Accessed 12 November 2021. <https://www.meetbreeze.com/blog/employees-give-up-benefits-salary-remain-remote/>
- <sup>33</sup> Jabra. 2021. *Jabra Hybrid Ways of Working: 2021 Global Report*. Online posting. Jabra. Accessed 12 November 2021. <https://www.jabra.com/hybridwork>
- <sup>34</sup> Gartner. 2020. *Gartner Identifies Three Dimensions That Define The New Employer-Employee Relationship*. Online posting. Gartner. Accessed 12 November 2021. <https://www.gartner.com/en/newsroom/press-releases/2020-10-13-gartner-identifies-three-dimensions-that-define-the-new-employer-employee-relationship>
- <sup>35</sup> Pandit, G. 2021. *First Look at the Human Capital Disclosures on Form 10-K*. Online posting. The CPA Journal. Accessed 12 November 2021. <https://www.cpajournal.com/2021/10/27/first-look-at-the-human-capital-disclosures-on-form-10-k/>
- <sup>36</sup> European Commission. *N.D. Corporate sustainability reporting*. Online posting. European Commission. Accessed 12 November 2021. [https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting\\_en#review](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en#review)
- <sup>37</sup> De Smet, A. 2021. *'Great Attrition' or 'Great Attraction'? The choice is yours*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/great-attrition-or-great-attraction-the-choice-is-yours?cid=soc-web>
- <sup>38</sup> Deloitte. 2021. *A call for accountability and action: The Deloitte Global 2021 Millennial and Gen Z Survey*. Online posting. Deloitte. Accessed 12 November 2021. [https://www2.deloitte.com/content/dam/Deloitte/global/Documents/2021-deloitte-global-millennial-survey-report.pdf?cid=learn\\_more\\_content\\_click](https://www2.deloitte.com/content/dam/Deloitte/global/Documents/2021-deloitte-global-millennial-survey-report.pdf?cid=learn_more_content_click)
- <sup>39</sup> Gartner. 2021. *9 Work Trends That HR Leaders Can't Ignore in 2021*. Online posting. Gartner. Accessed 12 November 2021. <https://www.gartner.com/smarterwithgartner/9-work-trends-that-hr-leaders-cant-ignore-in-2021>
- <sup>40</sup> Datamaran is ERM's partner for data-driven materiality assessments. It is the only software analytics platform in the world that identifies and monitors external risks, including ESG. Its patented technology offers real-time analytics on strategic, regulatory, and reputation risks. Datamaran has a collection of corporate reports (annual financial, annual sustainability, and SEC filings), hard laws, soft norms and policies, online media and custom sources. The data shown covers an analysis of corporate disclosures, illustrating the total number of corporate reports in which the relevant terms are being discussed.
- <sup>41</sup> Intergovernmental Panel on Climate Change. 2021. *Headline Statements from the Summary for Policymakers*. Online posting. Intergovernmental Panel on Climate Change. Accessed 12 November 2021. [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Headline\\_Statements.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Headline_Statements.pdf)
- <sup>42</sup> Hausfather, Z. and Forster, P. 2021. *Analysis: Do COP26 promises keep global warming below 2C?* Online posting. CarbonBrief. Accessed 12 November 2021. <https://www.carbonbrief.org/analysis-do-cop26-promises-keep-global-warming-below-2c>
- <sup>43</sup> Abnett, K. and Piper, E. 2021. *China, India, other big coal users missing from COP26 phase-out deal*. Online posting. Reuters. Accessed 10 December 2021. [https://www.reuters.com/business/cop/cop26-coal-deals-take-aim-dirtiest-fossil-fuel-2021-11-03/#:~:text=GLASGOW%2C%20Nov%204%20\(Reuters\),and%20other%20top%20coal%20consumers](https://www.reuters.com/business/cop/cop26-coal-deals-take-aim-dirtiest-fossil-fuel-2021-11-03/#:~:text=GLASGOW%2C%20Nov%204%20(Reuters),and%20other%20top%20coal%20consumers)
- <sup>44</sup> Vaughan, A. 2021. *COP26: 105 countries pledge to cut methane emissions by 30 per cent*. Online posting. NewScientist. Accessed 9 December 2021. <https://www.newscientist.com/article/2295810-cop26-105-countries-pledge-to-cut-methane-emissions-by-30-per-cent/#ixzz7EBzSuN>
- <sup>45</sup> Rannard, G. and Gillett, F. 2021. *COP26: World leaders promise to end deforestation by 2030*. Online posting. BBC. Accessed 12 November 2021. <https://www.bbc.com/news/science-environment-59088498>
- <sup>46</sup> Drew, P. 2021. *Amount of finance committed to achieving 1.5C now at scale*

needed to deliver the transition. Online posting. GFANZ. Accessed 9 December 2021. <https://www.gfanzero.com/press/amount-of-finance-committed-to-achieving-1-5c-now-at-scale-needed-to-deliver-the-transition/>

<sup>47</sup> GlobeScan. 2021. *Insight of the Week: Public Concern About Climate Change is at its Highest Level Since 1998*. Online posting. GlobeScan. Accessed 12 November 2021. <https://globescan.com/2021/08/27/insight-of-the-week-public-concern-about-climate-change-highest-level-since-1998%e2%80%8b/>

<sup>48</sup> United Nations Environment Programme Technical University of Denmark Partnership. 2016. *The Adaptation Finance Gap Report*. Online posting. United Nations Environment Programme Technical University of Denmark Partnership. Accessed 12 November 2021. <https://unepdtu.org/publications/the-adaptation-finance-gap-report/>

<sup>49</sup> Flavelle, C. 2021. *Climate Change Could Cut World Economy by \$23 Trillion in 2050, Insurance Giant Warns*. Online posting. The New York Times. Accessed 12 November 2021. <https://www.nytimes.com/2021/04/22/climate/climate-change-economy.html>

<sup>50</sup> <https://www.un.org/en/climatechange/net-zero-coalition>

<sup>51</sup> <https://zerotracker.net/>

<sup>52</sup> Oakes, K. 2021. *What makes a good net zero carbon emissions pledge?* Online posting. BBC. Accessed 12 November 2021. <https://www.bbc.com/future/article/20211028-why-not-all-net-zero-emissions-targets-are-equal>

<sup>53</sup> Kaplan, S. and Dennis, B. 2021. *Climate change brings irreversible harm to poor countries. At COP26, rich ones face pressure to foot the bill*. Online posting. The Washington Post. Accessed 12 November 2021. <https://www.washingtonpost.com/climate-environment/2021/11/08/climate-change-loss-adaptation-cop26/>

<sup>54</sup> Science Based Targets initiative. N.D. *The Net-Zero Standard*. Online posting. Science Based Targets initiative. Accessed 12 November 2021. <https://sciencebasedtargets.org/net-zero>

<sup>55</sup> Sustainable Brands. 2021. *SBTi Launches World-First Net-Zero Corporate Standard*. Online posting. Sustainable Brands. Accessed 12 November 2021. <https://sustainablebrands.com/read/new-metrics/sbti-launches-world-first-net-zero-corporate-standard>

<sup>56</sup> Suzano. N.D. *Even More Climate Positive*. Online posting. Suzano. Accessed 12 November 2021. <https://centraldeindicadores.suzano.com.br/en/long-term-goals/even-more-climate-positive/>

<sup>57</sup> Ikea. N.D. *What does being climate positive mean for IKEA?* Online posting. Ikea. Accessed 12 November 2021. <https://about.ikea.com/en/sustainability/becoming-climate-positive/what-is-climate-positive>

<sup>58</sup> K&L Gates. 2021. *EPA Gets Serious About Environmental Justice*. Online posting. JD Supra. Accessed 12 November 2021. <https://www.jdsupra.com/legalnews/epa-gets-serious-about-environmental-2533686/>

<sup>59</sup> B Lab. 2021. *B Lab and Partners Release the Climate Justice Playbook for Business*. Online posting. B Lab. Accessed 12 November 2021. <https://bcorporation.net/zbtcc20216/b-lab-and-partners-release-climate-justice-playbook-business>

<sup>60</sup> Climate Disclosure Standards Board. 2020. *New Zealand becomes first to implement mandatory TCFD reporting*. Online posting. Climate Disclosure Standards Board. Accessed 12 November 2021. <https://www.cdskb.net/mandatory-reporting/1094/new-zealand-becomes-first-implement-mandatory-tcfd-reporting>

<sup>61</sup> UK Department for Business, Energy & Industrial Strategy. 2021. *Mandatory climate-related financial disclosures by publicly quoted companies, large private companies and LLPs*. Online posting. UK Government. <https://www.gov.uk/government/consultations/mandatory-climate-related-financial-disclosures-by-publicly-quoted-companies-large-private-companies-and-llps>

<sup>62</sup> S&P Global. 2021. *Companies, investors face new pressure from compulsory disclosure of climate risk*. Online posting. S&P Global. Accessed 12 November 2021. <https://www.spglobal.com/esg/insights/companies-investors-face-new-pressure-from-compulsory-disclosure-of-climate-risk>

<sup>63</sup> U.S. Securities and Exchange Commission. N.D. *SEC Response to Climate and ESG Risks and Opportunities*. Online posting. U.S. Securities and Exchange Commission. Accessed 12 November 2021. <https://www.sec.gov/sec-response-climate-and-esg-risks-and-opportunities>

<sup>64</sup> Datamaran: See endnote 40.

<sup>65</sup> Ashworth, J. 2021. *Analysis warns global biodiversity is below 'safe limit' ahead of COP 15*. Online posting. Natural History Museum. Accessed 12 November 2021. <https://www.nhm.ac.uk/discover/news/2021/october/analysis-warns-global-biodiversity-is-below-safe-limit.html>

<sup>66</sup> UN News. 2020. *Deforestation has slowed down but still remains a concern, new UN report reveals*. Online posting. United Nations. Accessed 12 November 2021. <https://news.un.org/en/story/2020/07/1068761>

<sup>67</sup> Brown, M. 2021. *US says ivory-billed woodpecker, 22 other species extinct*. Online posting. AP News. Accessed 12 November 2021. <https://apnews.com/article/climate-change-science-animals-wildlife-fish-b6e61676548a1d7b-2f81a6512cbed7a7>

<sup>68</sup> Bakhtary, H., Haupt, F. Elbrecht, J. 2021. *NDCs – A Force for Nature?* Online posting. World Wide Fund for Nature. Accessed 12 November 2021. [https://wwfint.awsassets.panda.org/downloads/wwf\\_ndcs\\_for\\_nature\\_4th\\_edition.pdf](https://wwfint.awsassets.panda.org/downloads/wwf_ndcs_for_nature_4th_edition.pdf)

<sup>69</sup> United Nations. N.D. *COP26 Day 7: Sticking points and nature-based solutions*. Online posting. United Nations. Accessed 12 November 2021. <https://www.un.org/en/climatechange/cop26-day-7-sticking-points-and-nature-based-solutions>

<sup>70</sup> United Nations Framework Convention on Climate Change. 2021. *Glasgow Climate Pact*. Online posting. United Nations Framework Convention on Climate Change. Accessed 12 November 2021. [https://unfccc.int/sites/default/files/resource/cop26\\_auv\\_2f\\_cover-decision.pdf](https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover-decision.pdf)

<sup>71</sup> UN Environment Programme. 2021. *1st Draft of The Post-2020 Global Biodiversity Framework*. Online posting. UN Environment Programme. Accessed 12 November 2021. <https://www.unep.org/resources/publication/1st-draft-post-2020-global-biodiversity-framework>

<sup>72</sup> <https://tnfd.global/>

<sup>73</sup> World Economic Forum. 2020. *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*. Online posting. World Economic Forum. Accessed 12 November 2021. <https://www.weforum.org/reports/nature-risk-rising-why-the-crisis-engulfing-nature-matters-for-business-and-the-economy>

<sup>74</sup> World Wide Fund for Nature. 2020. *Global Futures Report*. Online posting. World Wide Fund for Nature. Accessed 12 November 2021. [https://wwf.panda.org/wwf\\_news/?359334/Global-Futures-Report](https://wwf.panda.org/wwf_news/?359334/Global-Futures-Report)

<sup>75</sup> Group of Seven. 2021. *G7 2030 Nature Compact*. Online posting. Group of Seven. Accessed 12 November 2021. <https://www.g7uk.org/wp-content/uploads/2021/06/G7-2030-Nature-Compact-PDF-120KB-4-pages.pdf>

<sup>76</sup> <https://www.naturepositive.org/>

<sup>77</sup> Business for Nature. 2020. *More than 560 companies with revenues of US\$ 4 trillion call on governments to act now to reverse nature loss*. Online posting. Business for Nature. Accessed 12 November 2021. [https://static1.squarespace.com/static/5d777de8109c315fd-22f3a/t/5f651910b71066357bd5b-dc8/1600461074656/Business+for+Nature+news+release++CTA+signatories\\_underembargo21Sept.pdf](https://static1.squarespace.com/static/5d777de8109c315fd-22f3a/t/5f651910b71066357bd5b-dc8/1600461074656/Business+for+Nature+news+release++CTA+signatories_underembargo21Sept.pdf)

<sup>78</sup> Angle, A. 2021. *Preparing Your Company for the Nature Agenda*. Online posting. The Sustainability Institute by ERM. Accessed 12 November 2021. <https://www.sustainability.com/thinking/preparing-your-company-for-the-nature-agenda/>

<sup>79</sup> Dow. N.D. *Valuing Nature*. Online posting. Dow. Accessed 12 November 2021. <https://corporate.dow.com/en-us/science-and-sustainability/2025-goals/nature.html>

<sup>80</sup> Suzano. 2021. *Suzano sets out a new, ambitious long-term biodiversity conservation target*. Online posting. Suzano. Accessed 12 November 2021. <https://www.suzano.com.br/en/suzano-sets-out-a-new-ambitious-long-term-biodiversity-conservation-target/>

<sup>81</sup> Rannard, G. and Gillett, F. 2021. *COP26: World leaders promise to end deforestation by 2030*. Online posting. BBC. Accessed 12 November 2021. <https://www.bbc.com/news/science-environment-59088498>

<sup>82</sup> Root, T. and Stevens, H. 2021. *The world has pledged to stop deforestation before. But trees are still disappearing at an 'untenable' rate*. Online posting. The Washington Post. Accessed 12 November 2021. <https://www.washingtonpost.com/climate-environment/2021/11/03/world-has-pledged-stop-deforestation-before-trees-are-still-disappearing-an-untenable-rate/>

<sup>83</sup> Watson, K. 2021. *Brazil: Amazon sees worst deforestation levels in 15 years*. Online posting. BBC. Accessed 19 November 2021. <https://www.bbc.com/news/world-latin-america-59341770>

<sup>84</sup> CDP. 2021. *The Collective Effort to End Deforestation: A Pathway for Companies to Raise Their Ambitions*. Online posting. CDP. Accessed 12 November 2021. <https://www.cdp.net/en/articles/media/53-billion-at-risk-from-deforestation-yet-only-1-percent-of-companies-taking-best-practice-action>

<sup>85</sup> Ranganathan, J. et al. 2020. *Regenerative Agriculture: Good for Soil Health, but Limited Potential to*

*Mitigate Climate Change*. Online posting. World Resources Institute. Accessed 12 November 2021. <https://www.wri.org/insights/regenerative-agriculture-good-soil-health-limited-potential-mitigate-climate-change>

<sup>86</sup> Cargill. 2020. *Cargill to advance regenerative agriculture practices across 10 million acres of North American farmland by 2030*. Online posting. Cargill. Accessed 12 November 2021. <https://www.cargill.com/2020/cargill-to-advance-regenerative-agriculture-practices-across-10>

<sup>87</sup> Nestle. 2021. *Nestlé unveils plans to support the transition to a regenerative food system*. Online posting. Nestle. Accessed 12 November 2021. <https://www.nestle.com/media/presseleases/allpresseleases/support-transition-regenerative-food-system>

<sup>88</sup> United Nations Food Systems Summit 2021. 2021. *Business Declaration on Food Systems Transformation*. Online posting. United Nations Food Systems Summit 2021. Accessed 12 November 2021. <https://foodsystems.community/wp-content/uploads/2021/09/FSS-Business-Declaration-4778ccec3f0e33b41ecb0ddecce18ed8.pdf>

<sup>89</sup> Watson, K. 2021. *Brazil: Amazon sees worst deforestation levels in 15 years*. Online posting. BBC. Accessed 19 November 2021. <https://www.bbc.com/news/world-latin-america-59341770>

<sup>90</sup> Bove, A. and Swartz, D. 2016. *Starting at the source: Sustainability in supply chains*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/business-functions/sustainability/our-insights/starting-at-the-source-sustainability-in-supply-chains>

<sup>91</sup> Science Based Targets initiative. N.D. *Companies Taking Action*. Online posting. Science Based Targets initiative. Accessed 12 November 2021. <https://sciencebasedtargets.org/companies-taking-action#table>

<sup>92</sup> Dow Jones. N.D. *Revealing Risk: Tackling Global Modern Slavery*. Online posting. Dow Jones. Accessed 12 November 2021. <https://vis-it.dowjones.com/risk/content/revealing-risk-modern-slavery/>

<sup>93</sup> Supply Chain Dive. 2021. *How supply chains contend with severe weather and climate disasters*. Online posting. Supply Chain Dive. Accessed 12 November 2021. <https://www.supplychaindive.com/news/supply-chain-contend-severe-weather-climate-hurricane-logistics/601044/>

<sup>94</sup> Kotze, C. 2021. *Civil unrest hits South African mineral supply chains*. Online posting. S&P Global. Accessed 12 November 2021. <https://www.spglobal.com/platts/en/market-insights/latest-news/metals/071521-civil-unrest-hits-south-african-mineral-supply-chains>

<sup>95</sup> Zimmerman, S. 2021. *Steel and roofing materials shortage hamstrings construction industry*. Online posting. Supply Chain Dive. Accessed 12 November 2021. <https://www.supplychaindive.com/news/steel-roofing-materials-shortage-construction/607866/>

<sup>96</sup> Knight, W. 2021. *Why the Chip Shortage Drags On and On ... and On*. Online posting. Wired. Accessed 12 November 2021. <https://www.wired.com/story/why-chip-shortage-drags-on/>

<sup>97</sup> International Maritime Organization. N.D. *Coronavirus disease (COVID-19) Pandemic*. Online posting. International Maritime Organization. Accessed 12

November 2021. <https://www.imo.org/en/MediaCentre/HotTopics/Pages/Coronavirus.aspx>

<sup>96</sup> Office for National Statistics. 2021. *Fall in HGV drivers largest among middle-aged workers*. Online posting. Office for National Statistics. Accessed 12 November 2021. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/fallinghgvdriverslargestamongmiddleagedworkers/2021-10-19>

<sup>99</sup> Reality Check Team. 2021. *How serious is the shortage of lorry drivers?*. Online posting. BBC News. Accessed 10 December 2021. <https://www.bbc.com/news/57810729>

<sup>100</sup> TSC Webmaster. *Companies Urged to Fortify Supply Chains from Climate Change Disruption*. Online posting. The Sustainability Consortium. Accessed 12 November 2021. <https://sustainability-consortium.org/companies-urged-to-fortify-supply-chains-from-climate-change-disruption/>

<sup>101</sup> Volkman, S. and Lee, M. 2021. *Corporate Progress and Action on Diversity, Equity, and Inclusion*. Online posting. The Sustainability Institute by ERM. Accessed 12 November 2021. <https://www.sustainability.com/thinking/corporate-progress-and-action-on-diversity-equity-and-inclusion/>

<sup>102</sup> Apple. 2021. *People and Environment in Our Supply Chain: 2021 Annual Progress Report*. Online posting. Apple. Accessed 12 November 2021. [https://www.apple.com/supplier-responsibility/pdf/Apple\\_SR\\_2021\\_Progress\\_Report.pdf](https://www.apple.com/supplier-responsibility/pdf/Apple_SR_2021_Progress_Report.pdf)

<sup>103</sup> Unilever. N.D. *Sustainable and regenerative sourcing*. Online posting. Unilever. Accessed 12 November 2021. <https://www.unilever.com/planet-and-society/protect-and-regenerate-nature/sustainable-and-regenerative-sourcing/>

<sup>104</sup> Walmart. 2019. *Walmart on Track to Reduce 1 Billion Metric Tons of Emissions from Global Supply Chains by 2030*. Online posting. Walmart. Accessed 12 November 2021. <https://corporate.walmart.com/newsroom/2019/05/08/walmart-on-track-to-reduce-1-billion-metric-tons-of-emissions-from-global-supply-chains-by-2030>

<sup>105</sup> Adven. 2019. *Adven's Carbon Handprint Innovation Challenge: new ideas to reduce customers' emissions*. Online posting. Adven. Accessed 27 January 2021. <https://adven.com/articles/advens-carbon-handprint-innovation-challenge-new-ideas-to-reduce-customers-emissions/>

<sup>106</sup> Science Based Targets initiative. N.D. *Companies Taking Action*. Online posting. Science Based Targets initiative. Accessed 12 November 2021. <https://sciencebasedtargets.org/companies-taking-action#table>

<sup>107</sup> Ridings, D. 2021. *Scope 3: The Holy Grail of Walking Our Climate Talk*. Online posting. Sustainable Brands. Accessed 12 November 2021. <https://sustainable-brands.com/read/supply-chain/scope-3-the-holy-grail-of-walking-our-climate-talk>

<sup>108</sup> CDP. 2020. *Companies worth \$15 trillion revealed on CDP 2020 'A List' of environmental leaders*. Online posting. CDP. Accessed 12 November 2021. <https://www.cdp.net/en/articles/media/companies-worth-15-trillion-revealed-on-cdp-2020-a-list-of-environmental-leaders>

<sup>109</sup> Daimler. 2021. *Mercedes-Benz to use green steel in vehicles in 2025, reducing its carbon footprint*. Online posting. Daimler. Accessed 12 November 2021. <https://media.daimler.com/marsMediaSite/en/instance/ko/Mercedes-Benz-to-use-green-steel-in-vehicles-in-2025-reducing-its-carbon-footprint.xhtml?oid=50048886>

<sup>110</sup> Al Circle. 2021. *Alcoa to supply low carbon aluminium for Audi's electric car*. Online posting. Al Circle. Accessed 12 November 2021. <https://www.alcircle.com/news/alcoa-to-supply-low-carbon-aluminium-for-audi-electric-car-63817>

<sup>111</sup> International Finance Corporation. N.D. *Global Map of Environmental & Social Risk in Agro-commodity Production (GMAP)*. Online posting. International Finance Corporation. Accessed 12 November 2021. <https://gmaptool.org/>

<sup>112</sup> IPIECA. N.D. *Sustainable supply chains*. Online posting. IPIECA. Accessed 12 November 2021. <https://www.ipieca.org/our-work/sustainability/sustainable-supply-chains/>

<sup>113</sup> Volkman, S. and Lee, M. 2021. *Corporate Progress and Action on Diversity, Equity, and Inclusion*. Online posting. The Sustainability Institute by ERM. Accessed 12 November 2021. <https://www.sustainability.com/thinking/corporate-progress-and-action-on-diversity-equity-and-inclusion/>

<sup>114</sup> Green Biz. 2021. *Supply Chain Sustainability: Moving From 'Why' to 'How'*. Online posting. Green Biz. Accessed 12 November 2021. <https://www.greenbiz.com/webcast/supply-chain-sustainability-moving-why-how>

<sup>115</sup> Datamaran: See endnote 40.

<sup>116</sup> Earth Overshoot Day. N.D. *About Earth Overshoot Day*. Online posting. Earth Overshoot Day. Accessed 12 November 2021. <https://www.overshootday.org/about-earth-overshoot-day/>

<sup>117</sup> Sellers, K. and Ahmad, R. 2021. *Circularity: From Theory to Practice*. Online posting. The Sustainability Institute by ERM. Accessed 3 December 2021. <https://www.sustainability.com/thinking/circularity-from-theory-to-practice/>

<sup>118</sup> Moore, D. 2020. *European Commission adopts new Circular Economy Action Plan*. Online posting. Circular Online. Accessed 12 November 2021. [https://www.circularonline.co.uk/news/european-commission-adopts-new-circular-economy-action-plan/?gclid=EAlalQobChMgMaS-3rLP9AIVxbTtCh29JQ7EAAAYASAAEGID-f\\_D\\_BwE](https://www.circularonline.co.uk/news/european-commission-adopts-new-circular-economy-action-plan/?gclid=EAlalQobChMgMaS-3rLP9AIVxbTtCh29JQ7EAAAYASAAEGID-f_D_BwE)

<sup>119</sup> Capgemini Research Institute. 2021. *Circular Economy For A Sustainable Future*. Online posting. Capgemini Research Institute. Accessed 12 November 2021. <https://www.capgemini.com/gb-en/wp-content/uploads/sites/3/2021/11/Circular-Economy.pdf>

<sup>120</sup> Patagonia. N.D. *Why Recycled?* Online posting. Patagonia. Accessed 12 November 2021. <https://eu.patagonia.com/gb/en/why-recycled/>

<sup>121</sup> <https://www.apple.com/environment/>

<sup>122</sup> Labi, S. 2021. *Australian fashion label becomes nation's first to be carbon neutral*. Online posting. Nine News. Accessed 18 November 2021. <https://www.9news.com.au/national/environment-news-australian-fashion-label-mj-bale-becomes-nations-first-to-be-carbon-neutral/823e5e8f-d776-42c2-b83a-1f03ba4ba9f4>

<sup>123</sup> Labi, S. 2021. *Australian fashion label becomes nation's first to be carbon neutral*. Online posting. 9News. Accessed 18 November 2021. <https://www.9news.com.au/national/environment-news-australian-fashion-label-mj-bale-becomes-nations-first-to-be-carbon-neutral/823e5e8f-d776-42c2-b83a-1f03ba4ba9f4>

<sup>124</sup> UK Government. 2021. *Plans unveiled to ban single-use plastics*. Online posting. UK Government. Accessed 20 November 2021. <https://www.gov.uk/government/news/plans-unveiled-to-ban-single-use-plastics>

<sup>125</sup> UN Environment Programme. 2021. *The Global Commitment 2021 Progress Report*. Online posting. UN Environment Programme. Accessed 12 November 2021. <https://www.unep.org/resources/report/global-commitment-2021-progress-report>

<sup>126</sup> Sellers, K. and Ahmad, R. 2021. *Circularity: From Theory to Practice*. Online posting. The Sustainability Institute by ERM. Accessed 12 November 2021. <https://www.sustainability.com/thinking/circularity-from-theory-to-practice/>

<sup>127</sup> World Business Council for Sustainable Development. 2020. *Circular Transition Indicators v2.0 – Metrics for business, by business*. Online posting. World Business Council for Sustainable Development. Accessed 31 May 2021. <https://www.wbcsd.org/Programs/Circular-Economy/Factor-10/Metrics-Measurement/Circular-transition-indicators>

<sup>128</sup> World Business Council for Sustainable Development. 2017. *Framework for Portfolio Sustainability Assessments (PSA)*. Online posting. World Business Council for Sustainable Development. Accessed 31 May 2021. <https://www.wbcsd.org/Projects/Chemicals/Resources/Framework-for-portfolio-sustainability-assessments>

<sup>129</sup> Ellen MacArthur Foundation. 2017. *Circularity - measuring circularity*. Online posting. Ellen MacArthur Foundation. Accessed 31 May 2021. <https://www.ellenmacarthurfoundation.org/resources/apply/circularity-measuring-circularity>

<sup>130</sup> Sellers, K. and Ahmad, R. 2021. *Circularity: From Theory to Practice*. Online posting. The Sustainability Institute by ERM. Accessed 12 November 2021. <https://www.sustainability.com/thinking/circularity-from-theory-to-practice/>

<sup>131</sup> BASF. 2021. *Product Carbon Footprint*. Online posting. BASF. Accessed 12 November 2021. <https://www.basf.com/gb/en/who-we-are/sustainability/we-drive-sustainable-solutions/quantifying-sustainability/product-carbon-footprint.html>

<sup>132</sup> Evans, J. 2020. *Could carbon labelling soon become routine?* Online posting. Financial Times. Accessed 12 November 2021. <https://www.ft.com/content/45d8e119-391b-41e5-8b6a-c6b5a082d062?shareType=nongift>

<sup>133</sup> Iqbal, N. 2021. *Traffic-light system of 'eco-scores' to be piloted on British food labels*. Online posting. The Guardian. Accessed 12 November 2021. <https://www.theguardian.com/business/2021/jun/27/traffic-light-system-of-eco-scores-to-be-piloted-on-british-food-labels>

<sup>134</sup> Cohen, D. 2021. *Unilever: Breakthrough as food industry giant introduces carbon footprint labels on food*. Online posting. Independent. Accessed 12 November 2021. <https://www.independent.co.uk/climate-change/news/unilever-carbon-footprint-labels-food-b1882697.html>

<sup>135</sup> Ho, S. 2021. *Fully Circular By 2030: IKEA Launches Resale Hub Concept For Secondhand Furniture*. Online posting. Green Queen. Accessed 12 November 2021. <https://www.greenqueen.com.hk/fully-circular-by-2030-ikea-launches-resale-hub-concept-for-secondhand-furniture/>

<sup>136</sup> Apple. 2021. *Apple announces Self Service Repair*. Online posting. Apple. Accessed 20 November 2021. <https://www.apple.com/newsroom/2021/11/apple-announces-self-service-repair/>

<sup>137</sup> Ong, R. 2021. *Phillips, Patagonia and Unilever shows us value in the circular economy*. Online posting. Zenbird. Accessed 12 November 2021. <https://zenbird.media/philips-patagonia-and-unilever-shows-us-value-in-the-circular-economy/>

<sup>138</sup> <https://www.overshootday.org/about/>

<sup>139</sup> LaBerge, L. 2020. *How COVID-19 has pushed companies over the technology tipping point – and transformed business forever*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever>

<sup>140</sup> Chakravorti, B. 2021. *How to Close the Digital Divide in the U.S.* Online posting. Harvard Business Review. Accessed 12 November 2021. <https://hbr.org/2021/07/how-to-close-the-digital-divide-in-the-u-s>

<sup>141</sup> Reichert, C. 2021. *Biden's new \$1.2 trillion infrastructure plan includes \$65B for universal broadband*. Online posting. CNET. Accessed 12 November 2021. <https://www.cnet.com/news/bidens-new-1-2-trillion-infrastructure-plan-includes-65b-for-universal-broadband/>

<sup>142</sup> O'Halloran, D. 2021. *How to finance digital inclusion so universal access to the internet drives sustainable growth*. Online posting. World Economic Forum. Accessed 10 December 2021. <https://www.weforum.org/agenda/2021/10/unlocking-finance-for-digital-inclusion-and-sustainable-growth/>

<sup>143</sup> Meyers, K. 2021. *Artificial Intelligence Opens New Frontiers in ESG Data*. Online posting. The Impactivate. Accessed 12 November 2021. <https://www.theimpactivate.com/artificial-intelligence-opens-new-frontiers-in-esg-data/>

<sup>144</sup> Degot, C. et al. 2021. *Reduce Carbon and Costs with the Power of AI*. Online posting. Boston Consulting Group. <https://www.bcg.com/en-us/publications/2021/ai-to-reduce-carbon-emissions>

<sup>145</sup> Sheard, S. 2021. *Google claims it is using A.I. to design chips faster than humans*. Online posting. CNBC. Accessed 10 December 2021. <https://www.cnbc.com/2021/06/10/google-is-using-ai-to-design-chip-floorplans-faster-than-humans.html>

<sup>146</sup> Hamer, C. 2021. *AI-Powered Customer Service: 5 Real-World Examples*. Online posting. readspeaker.ai. Accessed 10 December 2021. <https://www.readspeaker.ai/blog/ai-powered-customer-service/>

<sup>147</sup> Gregory, A. 2021. *AI projects to tackle racial inequality in UK healthcare, says Javid*. Online posting. The Guardian. Accessed 10 December 2021. <https://www.theguardian.com/technology/2021/oct/20/ai-projects-to-tackle-racial-inequality-in-uk-healthcare-says-javid>

<sup>148</sup> Reilly, D. 2021. *Fighting bias in A.I. means acknowledging it exists*. Online

posting. Fortune. Accessed 10 December 2021. <https://fortune.com/2021/11/09/ai-fighting-bias-algorithms/>

<sup>148</sup> Jayaraman, M. 2021. *The Future of AI and ML Fairness in Southeast Asia*. Online posting. Forbes. Accessed 10 December 2021. <https://www.forbes.com/sites/forbesbusinesscouncil/2021/06/18/the-future-of-ai-and-ml-fairness-in-southeast-asia-whos-responsible/?sh=6e475ad398f8>

<sup>150</sup> Carter, A. 2021. *Unmasking Coded Bias: Why we need inclusion and equity in AI*. Online posting. University of Pennsylvania Carey Law School. Accessed 12 November 2021. <https://www.law.upenn.edu/live/files/11528-unmasking-coded-bias>

<sup>151</sup> S&P Global. 2020. *How can AI help ESG investing?* Online posting. S&P Global. Accessed 12 November 2021. <https://www.spglobal.com/en/research-insights/articles/how-can-ai-help-esg-investing>

<sup>152</sup> Zuckerman, T. 2021. *Data on demand: 9 ESG trends from GreenFin 21*. Online posting. GreenBiz. <https://www.greenbiz.com/article/data-demand-9-esg-trends-greenfin-21>

<sup>153</sup> <https://www.opex-group.com/>

<sup>154</sup> <https://esgfusion.erm.com>

<sup>155</sup> Murry, S. 2021. *Why digital equity is a human right: HP commits to bold new goal for 2030*. Online posting. HP. Accessed 12 November 2021. <https://garage.hp.com/us/en/news/hp-sustainable-impact-report-2020.html>

<sup>156</sup> Davidson, J. 2021. *Cisco Reinforces Commitment to Bridging the Digital Divide*. Online posting. Cisco. Accessed 12 November 2021. <https://blogs.cisco.com/news/cisco-reinforces-commitment-to-bridging-the-digital-divide>

<sup>157</sup> Chakravorti, B. 2021. *How to Close the Digital Divide in the U.S.* Online posting. Harvard Business Review. Accessed 12 November 2021. <https://hbr.org/2021/07/how-to-close-the-digital-divide-in-the-u-s>

<sup>158</sup> GlobeScan. 2020. *Study Finds People Want to Make Healthy and Sustainable Living Choices but Do Not Know Where to Start*. Online posting. GlobeScan. Accessed 12 November 2021. <https://globescan.com/2020/10/07/people-want-healthy-sustainable-living-choices-2020/>

<sup>159</sup> Pruitt-Young, S. 2021. *You can now search for flights based on carbon emissions*. Online posting. NPR. Accessed 12 November 2021. <https://www.npr.org/2021/10/06/1043803529/google-flights-carbon-emissions-air-travel>

<sup>160</sup> Future. 2021. *New Visa FutureCard is good for your wallet and good for the planet*. Online posting. PR Newswire. Accessed 12 November 2021. <https://www.prnewswire.com/news-releases/new-visa-futurecard-is-good-for-your-wallet-and-good-for-the-planet-301413488.html>

<sup>161</sup> Borrett, A. 2021. *AI is tackling the lack of transparency in ESG investing*. Online posting. Tech Monitor. Accessed 12 November 2021. <https://techmonitor.ai/ai-tackling-lack-of-transparency-esg-investing>

<sup>162</sup> Borrett, A. 2021. *AI is tackling the lack of transparency in ESG investing*. Online posting. Tech Monitor. Accessed 12 November 2021. <https://techmonitor.ai/ai-tackling-lack-of-transparency-esg-investing>

<sup>163</sup> General, R. 2021. *Major Brands Around the World Share #StopAsianHate*

*in Solidarity*. Online posting. Yahoo. Accessed 12 November 2021. <https://www.yahoo.com/now/major-brands-around-world-share-211203162.html>

<sup>164</sup> The Prince's Responsible Business Network. N.D. *Race at Work*. Online posting. The Prince's Responsible Business Network. Accessed 12 November 2021. <https://www.bitc.org.uk/race/#h-about-the-race-at-work-charter>

<sup>165</sup> Beyoud, L. and Ramonas, A. 2021. *Shareholders Up Demands for Workplace Diversity Data Seen by Few*. Online posting. Bloomberg Law. Accessed August 31 2021. <https://news.bloomberglaw.com/esg/shareholders-up-demands-for-workplace-diversity-data-seen-by-few>

<sup>166</sup> The Investment Association. 2021. *Investors Step Up Pressure To Increase Ethnic Diversity on Boards*. Online posting. The Investment Association. Accessed 12 November 2021. <https://www.theia.org/media/press-releases/investors-step-up-pressure-increase-ethnic-diversity-boards>

<sup>167</sup> Bradford, H. 2021. *Investors press companies on DEI*. Online posting. Pensions & Investments. Accessed 31 August 2021. <https://www.pionline.com/governance/investors-press-companies-dei>

<sup>168</sup> Azcue, X. et al. 2020. *US Hispanic and Latino lives and livelihoods in the recovery from COVID-19*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/us-hispanic-and-latino-lives-and-livelihoods-in-the-recovery-from-covid-19>

<sup>169</sup> Tharoor, I. 2021. *The 'Great Resignation' goes global*. Online posting. The Washington Post. Accessed 12 November 2021. <https://www.washingtonpost.com/world/2021/10/18/labor-great-resignation-global/>

<sup>170</sup> Lacey, N. and Bricker, D. 2021. *The COVID-19 effect on the global gender gap: Measuring it is the first step towards closing it*. Online posting. World Economic Forum. Accessed 12 November 2021. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/us-hispanic-and-latino-lives-and-livelihoods-in-the-recovery-from-covid-19>

<sup>171</sup> Lee, D. 2021. *Women put careers on hold during COVID to care for kids. They may never recover*. Online posting. Los Angeles Times. Accessed 12 November 2021. <https://www.latimes.com/politics/story/2021-08-18/pandemic-pushes-moms-to-scale-back-or-quit-their-careers>

<sup>172</sup> Global Reporting Initiative. 2021. *Universal Standards*. Online posting. Global Reporting Initiative. Accessed 12 November 2021. <https://www.globalreporting.org/standards/standards-development/universal-standards/>

<sup>173</sup> United Nations Human Rights Office of the High Commissioner. 2011. *Guiding Principles on Business and Human Rights*. Online posting. Accessed 12 November 2021. [https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr\\_en.pdf](https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf)

<sup>174</sup> German Federal Law Gazette. 2021. *Act on Corporate Due Diligence in Supply Chains*. Online posting. German Federal Law Gazette. Accessed 12 November 2021. <https://perma.cc/8JUX-ET2Q>

<sup>175</sup> European Parliament. 2021. *Corporate due diligence and corporate accountability*. Online posting. European Union. Accessed 12 November 2021. <https://>

[www.europarl.europa.eu/doceo/document/TA-9-2021-0073\\_EN.pdf](http://www.europarl.europa.eu/doceo/document/TA-9-2021-0073_EN.pdf)

<sup>176</sup> World Business Council for Sustainable Development. N.D. *WBCSD membership conditions*. Online posting. World Business Council for Sustainable Development. Accessed 12 November 2021. <https://www.wbcds.org/download/file/8486>

<sup>177</sup> <https://www.wbcds.org/Programs/People-and-Society/Tackling-Inequality/Human-Rights>

<sup>178</sup> Principles for Responsible Investment. 2021. *Collaborative stewardship initiative on social issues and human rights*. Online posting. Principles for Responsible Investment. Accessed 13 December 2021. <https://www.unpri.org/investment-tools/stewardship/collaborative-stewardship-initiative-on-social-issues-and-human-rights>

<sup>179</sup> UK Government. 2015. *Modern Slavery Act 2015*. Online posting. UK Government. Accessed 12 November 2021. <https://www.legislation.gov.uk/ukpga/2015/30/contents/enacted>

<sup>180</sup> UK Parliament. 2021. *Modern Slavery (Amendment) Bill [HL]*. Online posting. UK Parliament. Accessed 12 November 2021. <https://bills.parliament.uk/bills/2892>

<sup>181</sup> Stutzman, M. et al. 2021. *A Growing Number of Companies Are Recognizing the Benefits of Racially Diverse Boards*. Online posting. JUST Capital. Accessed 12 November 2021. <https://justcapital.com/reports/a-growing-number-of-companies-and-shareholders-are-recognizing-the-benefits-of-racially-diverse-boards/>

<sup>182</sup> Nasdaq. 2021. *Nasdaq's Board Diversity Rule: What Nasdaq-listed Companies Should Know*. Online posting. Nasdaq. Accessed 12 November 2021. <https://listingcenter.nasdaq.com/assets/Board%20Diversity%20Disclosure%20Five%20Things.pdf>

<sup>183</sup> Glass Lewis. 2021. *Racial & Ethnic Diversity in the Boardroom*. Online posting. Glass Lewis. Accessed November 12 2021. <https://www.glasslewis.com/wp-content/uploads/2021/04/Race-Ethnicity-in-the-Boardroom.pdf>

<sup>184</sup> McDonalds. N.D. *Diversity, Equity & Inclusion*. Online posting. McDonalds. Accessed 12 November 2021. <https://corporate.mcdonalds.com/corpmcd/our-purpose-and-impact/jobs-inclusion-and-empowerment/diversity-and-inclusion.html>

<sup>185</sup> Hunt, V. et al. 2018. *Delivering through diversity*. Online posting. McKinsey & Company. Accessed 12 November 2021. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/delivering-through-diversity>

<sup>186</sup> Datamaran: See endnote 40.

<sup>187</sup> Edelman. 2021. 2021 *Edelman Trust Barometer*. Online posting. Edelman. Accessed 12 November 2021. <https://www.edelman.com/trust/2021-trust-barometer>

<sup>188</sup> Porter Novelli. 2021. *2021 Porter Novelli Business & Social Justice Study*. Online posting. Porter Novelli. Accessed 12 November 2021. <https://www.porternovelli.com/findings/2021-porter-novelli-business-social-justice-study/>

<sup>189</sup> Townsend, S. 2020. *We Urgently Need 'Scope X' Business Leadership For Climate*. Online posting. Forbes. Accessed 10 December 2021. <https://www.forbes.com/sites/>

[solitairerownsend.com/2020/06/29/we-urgently-need-scope-x-business-leadership-for-climate/?sh=4fab425b4dd3](https://solitairerownsend.com/2020/06/29/we-urgently-need-scope-x-business-leadership-for-climate/?sh=4fab425b4dd3)

<sup>190</sup> OpenSecrets. 2021. *Business, Labor & Ideological Split in Lobbying Data*. Online posting. OpenSecrets. Accessed 10 December 2021. <https://www.opensecrets.org/federal-lobbying/business-labor-ideological>

<sup>191</sup> George, S. 2021. *How can businesses become climate advocates? Here are 8 top tips*. Online posting. Edie. Accessed 10 December 2021. <https://www.edie.net/news/7/How-can-businesses-become-climate-advocates--Here-are-8-top-tips/>

<sup>192</sup> Cramer, A. et al. 2021. *An Open Letter to America's CEOs*. Online posting. Ceres. Accessed 10 December 2021. <https://www.ceres.org/news-center/press-releases/open-letter-americas-ceos>

<sup>193</sup> E3G Press Releases. 2021. *Leading companies call on UK government to make disclosure of net-zero transition plans mandatory*. Online posting. E3G. Accessed 10 December 2021. <https://www.e3g.org/news/leading-companies-call-on-uk-government-to-make-disclosure-of-net-zero-transition-plans-mandatory/>

<sup>194</sup> Food Policy Alliance

<sup>195</sup> Chappell, B. 2021. *MLB Moves All-Star Game To Colorado Amid Uproar Over Georgia Voting Law*. Online posting. NPR. Accessed 12 November 2021. <https://www.npr.org/2021/04/06/984711881/mlb-moves-all-star-game-to-colorado-amid-uproar-over-georgia-voting-law>

<sup>196</sup> Shepherd, C. and Kuo, L. 2021. *Pressure over China's human rights abuses mounts ahead of Beijing Olympics*. Online posting. The Washington Post. Accessed 26 November 2021. [https://www.washingtonpost.com/world/asia\\_pacific/china-olympics-boycott-human-rights/2021/11/26/e4d7a6fa-4b5e-11ec-a7b8-9ed28bf23929\\_story.html](https://www.washingtonpost.com/world/asia_pacific/china-olympics-boycott-human-rights/2021/11/26/e4d7a6fa-4b5e-11ec-a7b8-9ed28bf23929_story.html)

<sup>197</sup> Unilever. 2021. *Using our voice for a zero carbon future*. Online posting. Unilever. Accessed 9 December 2021. <https://www.unilever.com/planet-and-society/climate-action/using-our-voice-for-a-zero-carbon-future/>

<sup>198</sup> LobbyMap. 2021. *The CA100+ Target Companies: Scoring and Analysis of Climate Lobbying*. Online posting. InfluenceMap. Accessed 9 December 2021. <https://lobbymap.org/filter/List-of-Companies-and-Influencers#1>

<sup>199</sup> <https://www.unpri.org/pri/about-the-pri>

<sup>200</sup> <https://www.thevaluable500.com/>

<sup>201</sup> <https://www.accountingforsustainability.org/en/index.html>

<sup>202</sup> UN Global Compact. N.D. *CFO Taskforce for the SDGs*. Online posting. UN Global Compact. Accessed 12 November 2021. <https://www.unglobalcompact.org/take-action/action/action-platforms/cfo-taskforce>

<sup>203</sup> World Business Council for Sustainable Development. N.D. *CFO Network*. Online posting. Accessed 12 November 2021. <https://www.wbcds.org/Overview/CFO-Network>

<sup>204</sup> Europe Commission. N.D. *EU taxonomy for sustainable activities*. Online posting. European Commission. Accessed 12 November 2021. [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en)

<sup>205</sup> European Commission. 2021. *Corporate Sustainability Reporting*.

Online posting. European Commission. Accessed 12 November 2021. [https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting-corporate-sustainability-reporting\\_en](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting-corporate-sustainability-reporting_en)

<sup>206</sup> Doyle, D. 2021. *What is the Impact of the EU Sustainable Finance Disclosure Regulation (SFDR)?* Online posting. S&P Global. Accessed 12 November 2021. <https://www.spglobal.com/marketintelligence/en/news-insights/blog/what-is-the-impact-of-the-eu-sustainable-finance-disclosure-regulation-sfdr>

<sup>207</sup> Edelman. 2021. *Edelman Trust Barometer*. Online posting. Edelman. Accessed 12 November 2021. <https://www.edelman.com/sites/g/files/aatous191/files/2021-03/2021%20Edelman%20Trust%20Barometer.pdf>

<sup>208</sup> Friedman, M. 1970. *A Friedman doctrine-- The Social Responsibility Of Business Is to Increase Its Profits*. Online posting. The New York Times. Accessed 12 November 2021. <https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html>

<sup>209</sup> Business Roundtable. 2019. *Business Roundtable Redefines the Purpose of a Corporation to Promote 'An Economy That Serves All Americans'*. Online posting. Business Roundtable. Accessed 12 November 2021. <https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans>

<sup>210</sup> Bebchuk, L. and Tallarita, R. 2021. *Will Corporations Deliver Value to All Stakeholders?* Online posting. Social Science Research Network. Accessed 12 November 2021. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3899421](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3899421)

<sup>211</sup> Mizell, J. 2021. *Two Years After the Business Roundtable's Redefined Purpose of a Corporation: Do Americans Believe Companies Are Living Up to Their Promises?* Online posting. Just Capital. Accessed 12 November 2021. [https://justcapital.com/wp-content/uploads/2021/09/JUST-Capital\\_Harris-Poll\\_BRT-Survey-Report\\_Sept-2021.pdf](https://justcapital.com/wp-content/uploads/2021/09/JUST-Capital_Harris-Poll_BRT-Survey-Report_Sept-2021.pdf)

<sup>212</sup> Whieldon, E. and Clark, R. 2021. *ESG funds beat out S&P 500 in 1st year of COVID-19; how 1 fund shot to the top*. Online posting. S&P Global Market Intelligence. Accessed 12 November 2021. <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/esg-funds-beat-out-s-p-500-in-1st-year-of-covid-19-how-1-fund-shot-to-the-top-63224550>

<sup>213</sup> Lee, D. 2021. *Here to stay*. Online posting. BlackRock. Accessed 12 November 2021. <https://www.blackrock.com/us/financial-professionals/insights/sustainability-letter>

<sup>214</sup> <https://www.bcorporation.net/en-us/faqs/>

<sup>215</sup> Marquis, C. 2021. *Public Benefit Corporations Flourish In The Public Markets*. Online posting. Accessed 12 November 2021. <https://www.forbes.com/sites/christophermarquis/2021/06/14/public-benefit-corporations-flourish-in-the-public-markets/?sh=1255bbb0233d>

<sup>216</sup> DiNapoli, J. 2021. *PwC planning to hire 100,000 over five years in major ESG push*. Online posting. Reuters. Accessed 12 November 2021. <https://www.reuters.com/business/sustainable-business/pwc-planning-hire-100000-over-five-years-major-esg-push-2021-06-15/>

<sup>217</sup> Tomisawa, A. 2021. *Boom in ESG Finance Creates One of Asia's Hottest*

*Job Markets*. Online posting. Bloomberg Green. Accessed 12 November 2021. <https://www.bloomberg.com/news/articles/2021-07-26/boom-in-esg-finance-creates-one-of-asia-s-hottest-job-markets>

<sup>218</sup> Weinreb, E. 2021. *The Chief Sustainability Officer 10 Years Later: The rise of ESG in the C-suite*. Online posting. Weinreb Group. <https://weinrebgroup.com/wp-content/uploads/2021/05/Weinreb-Group-Sustainability-and-ESG-Recruiting-The-Chief-Sustainability-Officer-10-years-Later-The-Rise-of-ESG-in-the-C-Suite-2021-Report.pdf>

<sup>219</sup> Adigue, A. 2021. *The Chief Sustainability Officer: organizational strategist and futurist*. Online posting. GRI. Accessed 12 November 2021. <https://globalreportinginitiative.medium.com/the-chief-sustainability-officer-organizational-strategist-and-futurist-6fc1ea38d7ef>

<sup>220</sup> Weinreb, E. 2021. *The Chief Sustainability Officer 10 Years Later: The rise of ESG in the C-suite*. Online posting. Weinreb Group. <https://weinrebgroup.com/wp-content/uploads/2021/05/Weinreb-Group-Sustainability-and-ESG-Recruiting-The-Chief-Sustainability-Officer-10-years-Later-The-Rise-of-ESG-in-the-C-Suite-2021-Report.pdf>

<sup>221</sup> Porter Novelli. 2021. *The 2021 Porter Novelli Executive Influence Study*. Online posting. Porter Novelli. Accessed 12 November 2021. <https://www.porternovelli.com/findings/the-2021-porter-novelli-executive-influence-study/>

<sup>222</sup> Terry, M. *Employee Engagement Trends for 2021: Focus has Changed for the Better*. Online posting. Talkfreely. Accessed 12 November 2021. <https://www.talkfreely.com/blog/employee-engagement-trends>

<sup>223</sup> PepsiCo, N.D. *ESG Topics A-Z: Stakeholder Engagement*. Online posting. PepsiCo. Accessed 12 November 2021. <https://www.pepsico.com/esg-topics-a-z/stakeholder-engagement>

<sup>224</sup> Hillyer, M. 2021. *Global Business Leaders Support ESG Convergence by Committing to Stakeholder Capitalism Metrics*. Online posting. World Economic Forum. Accessed 12 November 2021. <https://www.weforum.org/press/2021/01/global-business-leaders-support-esg-convergence-by-committing-to-stakeholder-capitalism-metrics-73b5e9f13d>

<sup>225</sup> Value Reporting Foundation. 2021. *International <IR> Framework*. Online posting. Value Reporting Foundation. Accessed 12 November 2021. <https://www.integratedreporting.org/resource/international-ir-framework/>

<sup>226</sup> IFRS Foundation. 2021. *IFRS Foundation announces International Sustainability Standards Board, consolidation with CDSB and VRF, and publication of prototype disclosure requirements*. Online posting. IFRS Foundation. Accessed 12 November 2021. <https://www.ifrs.org/news-and-events/news/2021/11/ifrs-foundation-announces-issb-consolidation-with-cdsb-vrf-publication-of-prototypes/>

<sup>227</sup> Tonti, J. 2021. *SURVEY ANALYSIS: Americans Agree CEOs Have a Role to Play in Addressing Income Inequality, Believe Workers Are Being Left Behind*. Online posting. JUST Capital. Accessed 15 November 2021. <https://justcapital.com/reports/survey-analysis-americans-agree-ceos-have-a-role-to-play-in-addressing-income-inequality-believe-workers-are-being-left-behind/>

## The SustainAbility Institute is ERM's primary platform for thought leadership on sustainability

The purpose of the Institute is to define, accelerate, and scale sustainability performance by developing actionable insight for business. We provide an independent and authoritative voice to decode complexities. The Institute identifies innovative solutions to global sustainability challenges built on ERM's experience, expertise, and commitment to transformational change.

### Authors

Andrew Angle  
Aiste Brackley  
Mark Lee  
Justin Nelson  
Laura Street

### ERM Contributors

Judy Analco  
Rahul Arora  
Sade Bamimore  
Onur Durmus  
Manish Godkhindi  
Neil Griffiths  
Bryan Hartlin  
Sabine Hoefnagel  
Pete Jones

### Other Contributors

Cornelia Gomez,  
*PAI Partners*

Maelle Pelisson,  
*Business for Nature*

Åsa Persson,  
*Stockholm  
Environment Institute*

Steven Rothstein,  
*Ceres Accelerator for  
Sustainable Capital  
Markets*

### Design

Irena Matijevic

### Acknowledgements

[Datamaran](#) is ERM's partner for data-driven materiality assessments. It is the only software analytics platform in the world that identifies and monitors external risks, including ESG. Trusted by blue-chip companies and top tier partners, it brings a data-driven business process for external risk and materiality analysis. In house - at any time.

Datamaran's patented technology offers real-time analytics on strategic, regulatory and reputational risks, specific to your business and value chain. Companies worldwide use Datamaran to:

- Gain a clear view of risks and opportunities tied to ESG, geopolitical, technology and emerging issues - with the power of patented technology;
- Monitor these material and emerging risks through live dashboards; and
- Strengthen risk management, Board oversight and annual reporting with credible data and real-time insights.



### Contact

Twitter: [twitter.com/SustInsti](https://twitter.com/SustInsti)  
LinkedIn: [linkedin.com/company/sustainabilityinstituteerm](https://linkedin.com/company/sustainabilityinstituteerm)  
Email: [Institute@erm.com](mailto:Institute@erm.com)  
Website: [sustainability.com](https://sustainability.com)

