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## The State of Corporate Sustainability Disclosure

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► **To cite this version:**

Magali Delmas, Kelly Clark, Tyson Timmer, Moana Mcclellan. The State of Corporate Sustainability Disclosure. SSRN Electronic Journal, 2022, 10.2139/ssrn.4194032 . hal-03998014

**HAL Id: hal-03998014**

**<https://hal.science/hal-03998014>**

Submitted on 6 Mar 2023

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THE STATE OF

# CORPORATE SUSTAINABILITY

IN 300 OF THE LARGEST US COMPANIES

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MAY 2022 | UCLA | CENTER FOR IMPACT AT ANDERSON  
CENTER FOR CORPORATE ENVIRONMENTAL PERFORMANCE

**UCLA**



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## 1. EXECUTIVE SUMMARY

Firms have an outsized role in shaping the environmental and social trajectories of our global society. As investors, policymakers, and the general public increasingly demand transparency to evaluate firms' impacts, environmental, social, governance (ESG) metrics have emerged as a means to measure firms' performance and impact. Disclosures on ESG metrics are then used to evaluate the sustainability of each firm, which may affect their reputation or ability to source capital. For example, across five major markets globally at the beginning of 2020, ESG factors were considered in 36% of investments, totaling \$35.3 trillion.<sup>5</sup>

ESG metrics cover a broad range of issues from carbon emissions to board composition and are meant to provide insight into how a firm performs on environmental, social and governance topics. At present, in the United States, the use of ESG metrics is voluntary. Nonetheless, firms' disclosure rates have spiked substantially over the last three decades. Yet because there is no standard disclosure framework that all companies employ, and mandatory disclosures are generally limited to financial metrics, companies can pick and choose which frameworks to employ and which ESG metrics to report on, if any. Firms do disclose data on different platforms and formats and it is costly for stakeholders to access the data. Because of the multiplicity of frameworks, lack of disclosure mandates, vague reporting guidelines, and challenges to access data, it is difficult for stakeholders to get a clear picture about the state of corporate sustainability at the firm, sector and country level.

Our goal in this report is to provide a better picture of the state of corporate sustainability disclosure among the biggest U.S. firms. In order to do this, we collect company level disclosure data using the ESG metrics chosen by the World Economic Forum (WEF) to drive progress toward a standardized reporting framework. In 2020, the WEF collaborated with over 200 companies to propose a universal set of 21 ESG core metrics (and 34 expanded metrics) with a specific focus on metrics that appeared to be widely reported on by high-revenue companies.<sup>6</sup> The WEF metrics span four pillars: the first three pillars, Planet, People, and Governance, correspond to the traditional ESG domains, but the WEF also includes a fourth pillar, Prosperity, that highlights the role of businesses in innovation and the economy. However, to date no research has evaluated if these metrics were indeed widely disclosed by companies.

We evaluate whether, to what extent, and how the top 300 firms on the Fortune 200 and S&P 500 lists report the information responsive to the WEF metrics.<sup>7</sup> We focus on these 300 firms for two reasons. First, these high-revenue firms have a substantial impact on our global social and environmental trajectories. Second, these firms have more resources to devote to reporting on ESG metrics; collectively, these companies generate approximately \$11.6 trillion annually, which is roughly half of the U.S. Gross Domestic Product. And third, these firms employ more than 22 million people, the equivalent of 1 in every 15 Americans.<sup>8</sup>

We assess the WEF-proposed 21 core metrics and find that, on average, these 300 companies disclose just under half (49.6%) of the metrics. When broken down by pillar, we observed larger percentages of mean disclosures in the Governance pillar (72%) and the Prosperity pillar (54%), followed by the Planet pillar (44%). The People pillar obtained lowest disclosure scores (29%). The low overall disclosure rate clearly limits the ability to analyze whether companies are advancing, stagnating, or backsliding across ESG metrics remains out of reach. The low disclosure rate also appears consistent across the board; there are not significant differences among disclosure rates based on business sectors.

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**Our goal in this report is to provide a better picture of the state of corporate sustainability disclosure among the biggest U.S. firms.**

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Further, when the types of metrics firms tend to report on are examined, we see a distinct favoring of firms reporting on process-based metrics over outcome ones. Despite the fact that the WEF skews strongly toward outcome-based metrics, with 67.6% focused on outcomes, we find higher levels of reporting across the process-based metrics (mean disclosure of 57.8%) versus outcome-based metrics (mean disclosure of 47.1%). We also find a higher percentage of reporting on qualitative (61.8%) rather than quantitative metrics (43.1%).

Although only a portion of these 300 companies provide information responsive to the WEF metrics, examining that information provides valuable insight into the state of sustainability of these firms.

One metric with a high disclosure rate is the ratio of male to female employees. Nearly 82% of firms report this information, but the results were far from equitable: on average, women represented only 38.9% of employees. The corresponding metric seeking information related to the percentage of women on the governing board had a similarly high percentage of firms disclosing (89.3%), and the result was that, on average, women make up 30.1% of people on governing boards.

At the other end of the spectrum are the metrics related to diversity and inclusion, that have lower disclosure rates and lower substantive outcomes. Our analysis revealed that there are multiple organizations reporting that 1% or fewer of their employees are Black. While the responses for these metrics indicate that companies are far from reaching diversity and inclusion goals, the lower disclosure rates also warrant a call for companies to begin providing more robust disclosures on these topics. Without being able to access this data, it will be difficult to ensure that progress is being made toward diversity goals.

For metrics with higher levels of disclosure, interesting trends also emerge. For example, one metric seeks the ratio of CEO to median employee compensation. Disclosure levels of this metric are high because many companies are legally required to report this information in their financial filings. And the picture painted by the results is striking. On average, the compensation package of the CEOs in the 300 companies was 529 times that of the median employee. There are also multiple organizations where the CEO's compensation is thousands of times that of the median employee. The vast differences even among these high-revenue organizations is worth noting. However, given the sometimes-unique nature of the CEO's compensation package, it suggests that a metric comparing an average of the compensation of other executives may provide more insight into the general compensation structure of an organization.

Another instructive metric relates to the 300 companies' disclosure of greenhouse gas (GHG) emissions data. On average, the 300 companies emit approximately 4 million metric tons of Scope 1 GHG emissions per year, and three organizations represent 25% of the total reported Scope 1 emissions in the 300 companies. However, although Scope 3 emissions often represent the most significant source of GHG emissions for organizations, only 61.2% disclose their Scope 3 emissions, compared with the more than 80% that disclose Scope 1.

Along with generally low rates of disclosures related to the WEF metrics, an analysis of the WEF metrics themselves also reveals areas for improvement. First, a number of metrics, including those related to diversity and inclusion, are not written in ways that provide adequate or useful guidance to those who would seek to use them. Despite recognizing the importance of diversity and inclusion and the need for improvement, the metrics chosen may prove difficult for firms to utilize. By failing to provide adequate guidance for how to measure and report metrics related to diversity and inclusion, the WEF framework hinders insight into the actual performance of organizations on these measures and makes resulting sustainability assessments less meaningful.

their sustainability data. At present, only 49.0% of the 300 companies indicate that even a portion of their sustainability reports were evaluated by a third party. This is particularly relevant because most of the sustainability we rely on for this project (54.7%) was found within the 300 companies' annual sustainability reports.

The overarching goal of ESG disclosures is to track progress on sustainability, easily, accurately, and thoroughly. Yet, despite the many resources of these 300 companies, they still only disclose a portion of the data deemed most relevant to sustainability by the WEF. This lack of data is more concerning given that so much of what is requested by the WEF metrics is likely easily accessible to the 300 companies, but impossible to access for stakeholders unless the companies voluntarily disclose it. For example, internal firm demographics are commonly collected by firms as well as resources used, such as electricity and water, which are invoiced by the utilities. This informational asymmetry may persist while sustainability disclosures remain voluntary. However, despite the chance that organizations may choose not to disclose relevant information, the metrics should undergo revisions to improve their ultimate utility. In this report, we suggest tangible ways to improve the metrics. First, metrics should be revised to provide clear guidance for measurement and reporting that allows stakeholders to make comparisons across firms. Second, the WEF should include calls for third-party verification of sustainability disclosures to increase their reliability. And, given the propensity of firms to report qualitative information over quantitative information, where appropriate, metrics should seek information that allows users to understand and quantify the impact of a firm's operations.

Ultimately, some consensus must be reached on what metrics firms should disclose and provide standardized and verifiable processes for collecting and reporting relevant data. The goal of any set of metrics, at a minimum, should be to cover the important areas in sustainability, ensure that the requested data is measurable and ultimately comparable, and provide assurances of accountability.

As it stands, while we can assess firm performance in isolated areas, we cannot easily track whether firms' collective impact is positive or negative across fundamental ESG metrics. If we want to forge evidence-based decisions toward environmental and social progress, we need, first, to have the data to guide those decisions.

## 2. INTRODUCTION

Stakeholders' need to evaluate firms' impact on society has largely driven firms' increasing disclosures around environment, social, and governance (ESG) metrics. However, because those disclosures remain almost entirely voluntary, firms can pick and choose metrics from numerous popular frameworks that best suit their own aims. This patchwork of reporting results in incomplete, inaccurate, and unstandardized data that makes it difficult for stakeholders to collectively compare firms and assess their impact. To align reporting strategies, standardized metrics, and boost

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**The goal of any set of metrics, at a minimum, should be to cover the important areas in sustainability, ensure that the requested data is measurable and ultimately comparable, and provide assurances of accountability.**

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Similarly, while many of the topics addressed by the WEF are important to stakeholders, the WEF metrics do not include processes to ensure that the data disclosed is accurate. WEF could do this by including more detailed prescriptions for how to gather, analyze and report on each of the metrics or it could include metrics requesting firms disclose their audit or third-party verification practices for

disclosure rates, in 2020, the World Economic Forum (WEF) proposed a framework consisting of, in their assessment, metrics that were already commonly used by firms.<sup>9</sup> But little data supports this claim as there is no comprehensive evaluation on firms' disclosure rates on these metrics. Our research has filled this gap. We selected 300 of the largest public companies to evaluate their disclosure rates and their ESG outcomes that align with the WEF's metrics (see Appendix 8.2 for a list of the companies). We focus on these 300 firms for two reasons. First, these high-revenue firms have a substantial impact on our global social and environmental trajectories. Second, these firms have more resources to devote to reporting on ESG metrics. Below, we discuss these firms' disclosure rates, ESG outcomes, and some of the limitations of the WEF framework.

### 3. DATA

#### 3.1 DATA COLLECTION

The WEF purposefully sourced and adapted many of its metrics from other reporting frameworks and are aligned with the United Nations Sustainable Development Goals (SDG). By incorporating metrics from well-established frameworks, the WEF could increase its credibility and minimize the burden on companies to use the WEF framework. The WEF incorporates metrics from the Global Reporting Initiative (GRI), Task Force on Climate-Related Financial Disclosures (TCFD), Sustainability Accounting Standards Board (SASB), and Embankment Project for Inclusive Capitalism (EPIC). The WEF also added a few original metrics and adapted others. For example, in the social pillar, WEF begins with GRI 405-1b (iii)<sup>10</sup> that seeks information on employee diversity characteristic and suggests reporting on "other indicators of diversity where relevant (such as minority or vulnerable groups)." GRI does not, however, specify which minority or vulnerable groups to include. The WEF included this metric and modified it to specify reporting on "ethnicity."

WEF describes 21 core metrics and 34 expanded metrics that are mapped to four pillars: Governance, Planet, People, and Prosperity. This research focuses on 300 of the largest US companies' disclosure related to the 21 core metrics, many of which have multiple subparts. For this analysis, we divide the 21 core metrics into 74 submetrics. For example, the WEF core metric for Water Consumption and Withdrawal in Water-Stressed Areas is "Report for operations where material: megaliters of water withdrawn, megaliters of water consumed, and the percentage of each in regions with high or extremely high baseline water stress, according to WRI Aqueduct water risk atlas tool." We split this into four submetrics: (i) Water Use: Megaliters of water withdrawn, (ii) Water Use: Percent of water withdrawn from high or extremely high baseline water stressed areas, according to WRI Aqueduct water risk tool, (iii) Water Use: Megaliters of water consumed, and (iv) Water Use: Percent water consumed from high or extremely high baseline water stress according to WRI aqueduct water risk tool. Analyzing reporting at the submetric level also allows us to

quantitatively evaluate how responsive firms were to disclosing data multiple scales — submetric, core metric, pillar, and overall (see list of the metrics and submetrics in Appendix 8.1).

We source data primarily from the text of sustainability reports, firms' websites, the Securities and Exchange Commission (SEC) public filings or the Compustat database, and the Carbon Disclosure Project (CDP). For each of the 300 companies, we first analyzed the firm's sustainability report for the most recently available year. If data for the WEF-proposed metrics were not available therein, we sourced data from the SEC or CDP for the year that most closely aligned with the sustainability report.<sup>11</sup> Of the information presented here, 54.9% of the came from corporate sustainability reports or corporate websites, 37.5% from SEC filings and 7.6% from the Carbon Disclosure Project.

After data collection, we verified accuracy by having a team member cross-check each submetric for every firm to ensure data validity. Then, a second team member evaluated a random sample of our full database. Any inconsistencies were evaluated by the full team and updated after consensus. Finally, we evaluated outliers across each submetric and each firm to ensure data validity.

Additionally, we assessed the distribution of process-based and outcome-based metrics within the 74 submetrics, and each metric was also assessed to determine whether it invited a qualitative or quantitative disclosure.

A few caveats should be noted. First, we exclusively evaluated data through the WEF lens. While firms may have reported additional ESG data, we only assessed ESG metrics responsive to the WEF 21 core metrics. Second, WEF proposed these metrics in 2020, and our data were sourced from either 2020 or the most recently available year prior to that,<sup>1</sup> so none of the companies were explicitly using the WEF framework to produce their sustainability reports. This may result in artificially low disclosure rates within our data for specific submetrics such as age in which WEF requires firms to report within specific categories (specifically, below 30, 30-50, and above 50 years of age). Finally, our evaluation focuses on 300 of the largest US companies; given the current economy, these 300 companies have high numbers of companies within sectors Information Technology, Health Care, and Industrials, which may bias the results.

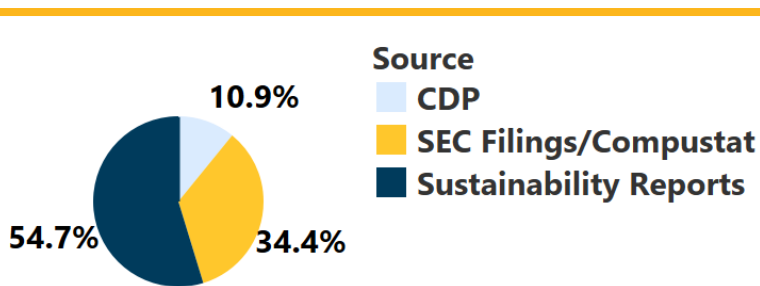


Figure 1. Sources of Corporate Disclosures<sup>12</sup>

### 3.2 DISCLOSURE INDEX METHODOLOGY

To first gain a broad picture of the state of reporting, we evaluate how responsive firms were to the WEF metrics at the submetric level. For each firm and each submetric, we assign 0% if no information is disclosed, 50% if some information is supplied, or 100% for complete disclosure. Examples of partial reporting include:

- (1) reporting only a number or a rate when both were required,
- (2) reporting only certain demographic data when a specific categories were required by the WEF,
- (3) only reporting aggregated data that included other data not requested by the metric,
- (4) reporting aggregated data that combined two separate metrics in a way that does not allow the number to be disaggregated into its component parts,
- (5) reporting data without more detailed context as required by WEF, or
- (6) reporting data for which the time period the data covered was explicitly outside the reporting year of the data's source.

To evaluate disclosure rates at the core metric and pillar levels, we aggregated and averaged the data from the 74 submetrics to the 21 WEF core metrics and then to the four WEF pillars (see Table 8.1 in Appendix). Not all submetrics required aggregation. For example, Land Use & Ecological Sensitivity as well as Setting Purpose did not have multiple submetrics.

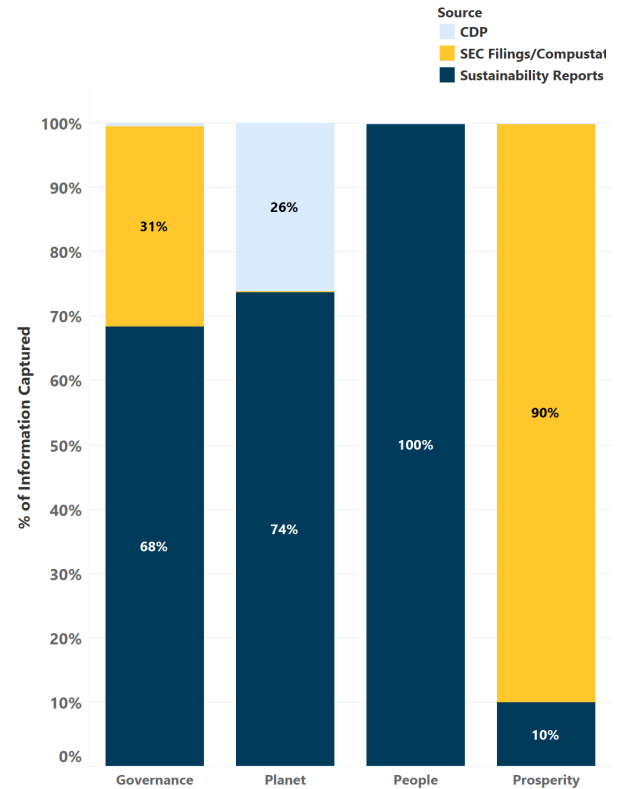


Figure 3. Percentage Source of Disclosures by Pillar

## 4. DISCLOSURE MAIN RESULTS

### 4.1 TOTAL AMOUNT OF DISCLOSURE BY PILLAR

Although WEF specifically selected metrics that are supposed to be broadly reported by firms, we find that the average overall disclosure rate across these 300 firms is of 49.6% with a minimum of 14.8% and a maximum of 74.8%.

The disclosure rate varied substantially by pillar (Figure 2). The average disclosure rates by pillar are 72% for the Governance pillar, 54% for the Prosperity pillar, 44% for the Planet pillar, and 29% for the People pillar. To track ESG progress across sectors, companies, and years disclosure rates will have to increase dramatically to provide a complete WEF dataset. Currently, only 52 companies have committed to employing the WEF framework, but few of those are present in the 300 companies evaluated here.<sup>13</sup>

The best sources for gathering the requested data also varied by pillar (Figure 3). For example, we sourced 100% of the disclosure data on the People pillar from corporate sustainability reports or corporate websites, while the percentage drops to 74% for the Planet pillar, and 68% for the Governance pillar. Unsurprisingly, 90% of the disclosure of the Prosperity pillar is found via SEC filings. While not all information in SEC filings is required by statute, much of the Prosperity pillar submetric information is typically found in SEC filings.

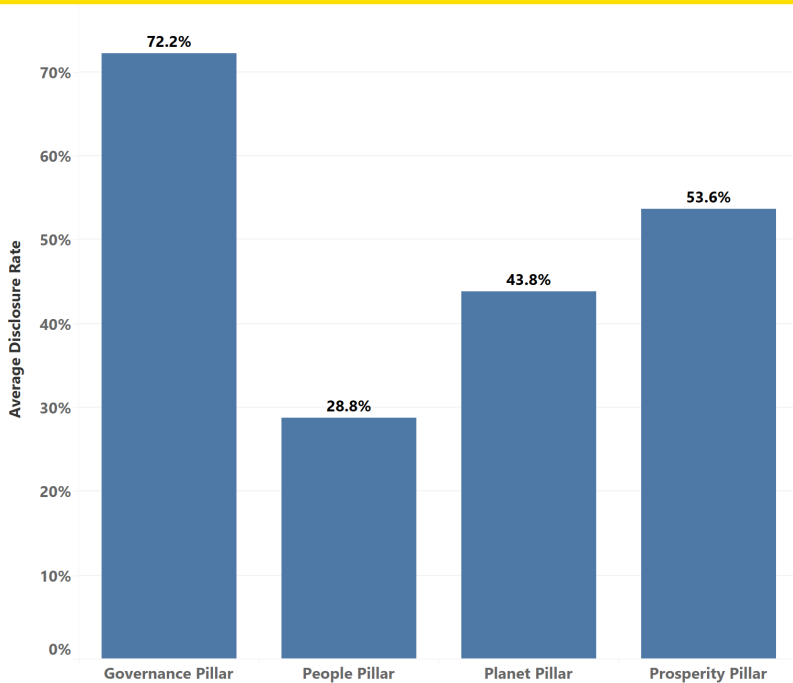


Figure 2. Average Percentage Disclosure for World Economic Forum (WEF) Metrics by Pillar



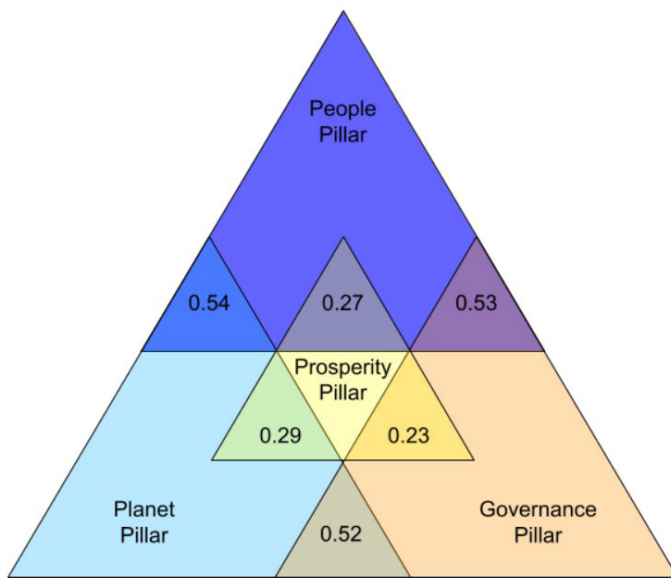


Figure 4. Correlations of Average Reporting Between Pillar

We evaluated the correlation matrix between each of the four WEF pillars. The People and Planet pillars had the strongest correlation (Figure 4), but the Governance pillar was also fairly highly correlated with both People and Planet. The Prosperity pillar had lower correlation scores with Governance, People, and Planet.

Traditionally, sustainability assessments focus on three areas, the environment, social issues, and governance. While undoubtedly organizations can have a positive impact on their community through the financial value they generate through operations, this thematic area is not typically included under the umbrella of sustainability. That exclusion may explain the lower correlation between Prosperity and the other pillars.

One interesting point is that despite the fact that the WEF framework was developed in collaboration with 51 corporations and that the development taskforce was composed of experts from the four largest accounting firms (i.e., Deloitte & Touche; Ernst & Young; Klynveld Pete Marwick Goerdeler; and PwC). There is no firm that disclosed 100% of the WEF-proposed Governance metrics. While Governance had the highest rates of disclosure compared with other pillars (mean of 72.1%), no company reached 100% disclosure.

Another global point to note relates to the lack of verification of the reported disclosures. Unlike financial disclosures, much of the data presented in sustainability reports has not been audited by an external party. In fact, of these 300 companies, only 9.2 % state that their report has been fully audited (Figure 5). Because there are no mandatory reporting standards for sustainability disclosures in the United States, firms have significant leeway to determine how to calculate and report their sustainability information and their assurance processes are often not

disclosed. This leaves stakeholders seeking to interpret the reported data with little ability to evaluate the quality of disclosures. Independent auditing could provide assurance that at least the judgments and choices made by organizations in their collection and reporting of sustainability information are reasonable.

**IN SUMMARY, we find low rates of corporate disclosure overall (49%), and even lower rates for the Planet and People pillars. The disclosures come mostly from corporate sustainability reports and company websites, and only a few of these reports are audited. We find that disclosure rates and patterns on the Prosperity pillar tend to differ slightly from those on the Governance, People, and Planet pillars, which represent the usually accepted ESG categories. The inclusion of the Prosperity pillar, which includes more metrics that firms might be legally required to report, might inflate the overall reporting rates.**

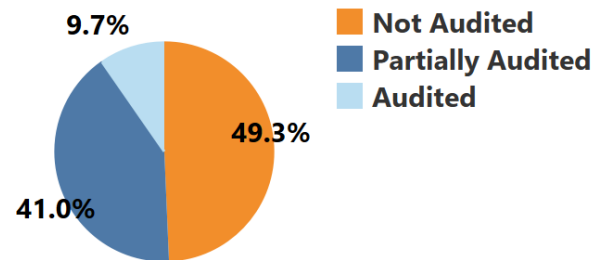


Figure 5. Corporate Sustainability Reports Indicating External Auditing

#### 4.2 DISCLOSURE BY PILLAR AND INDUSTRY

There are approximately 11 sectors represented in the companies based on their Global Industry Classification Standard (GICS) codes. When we analyze the data by sector, we find that there is not substantial variation in overall disclosure rates for WEF metrics: Most sectors float near a 50% median disclosure rate. The sector with the highest median disclosure rate is Materials (59%) while the lowest is Communication Services (44%). The highest percentage for any sector's maximum disclosure rate is for Information Technology (maximum of 74.8%). However, there are some differences in reporting rates by sector within each pillar.

Most of the Governance and Prosperity metrics have been collected and compiled for a longer period of time than those of Planet and People. Likely due to this longevity and widespread acceptance, these metrics are more commonly reported on by firms and do not provide significant differentiation among the largest US companies. Therefore, we include most of our results for these pillars in Appendix 8.3, and instead focus on the two more nascent areas: the People and Planet pillars.



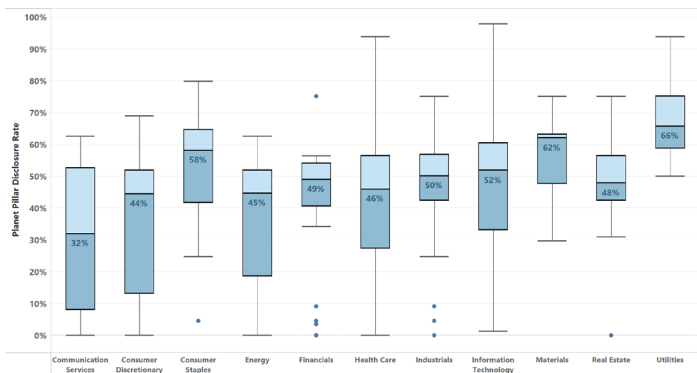


Figure 6. Disclosure by Sector for the Planet Pillar

#### 4.2.1 PLANET

Disclosure rates in the Planet pillar have a wider range across GICS sectors than the other pillars, signifying that within each GICS sector some companies disclose the majority of the data responsive to the WEF metrics while others report very little. The Information Technology sector is a particularly relevant example of this (Figure 6.). The overall mean disclosure rate for the Planet pillar is 43.8%, with a minimum of 0.0% and a maximum of 97.7%. The Utilities sector has the highest median disclosure rate (66%) while Communication Services has the lowest median disclosure rate (32%). The Utilities sector has more mandated environmental disclosures, which likely accounts for the comparatively high disclosure rate.

The Planet pillar seeks disclosure on four principal areas, the information requested by the Task Force on Climate-Related Financial Disclosures (TCFD), greenhouse gas (GHG) emissions, water usage, and land use and ecological sensitivity. These comprise 19 submetrics, of which 14 are related to climate change (TCFD and GHG emissions). Nine of the 19 metrics seek quantitative information related to an organization's performance.

The GHG emissions submetrics have the highest mean levels of disclosure, with 73.5% of firms disclosing some information. However, examining the submetrics shows that there are differences in reporting based on the scope of emissions. While average reporting on Scope 1 emissions (direct emissions from operations) and Scope 2 emissions (indirect emissions from purchased energy) is high (81.2% and 78.2%, respectively), the average reporting on Scope 3 emissions (all other emissions associated with company activity) is much lower, with only 61.2% of organizations reporting any relevant information.

The climate-focused TCFD metric also has a high average disclosure, with 71.9% disclosing at least some information requested by the TCFD. However, the metrics related to water and land usage see significantly lower rates of disclosure, with an average of 26.0% of firms providing

information related to water usage and only 3.7% of firms providing any information related to their land usage.

What is clear from this analysis is that we need increased disclosure rates across all submetrics in the Planet pillar to have a more complete understanding of firms' environmental impact.

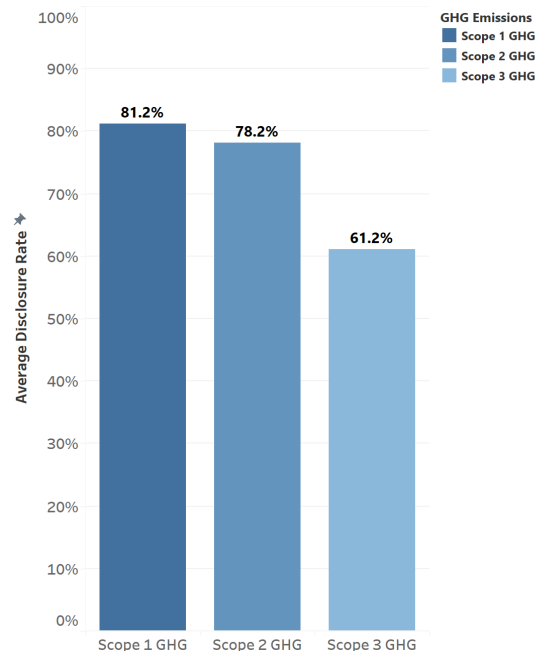


Figure 7. Disclosure Rates on Scope 1, 2 & 3 Greenhouse Gas (GHG) Emissions

#### 4.2.2 PEOPLE

The People pillar demonstrates the lowest level of disclosure, despite the fact that many of the metrics request data that companies routinely collect on their employees. For example, the U.S. Equal Employment Opportunity Commission requires all private sector employers with more than 100 employees to collect and submit data related to the race and ethnicity and sex of its employees.<sup>17</sup> The call for increased disclosure of diversity and inclusion metrics has ramped up in concert with an increasing public awareness of systemic racial inequities. It could be that companies are hesitant to disclose data if it does not show them favorably; if this is the case, further discussions are likely needed around how to encourage disclosure even when the outcome metrics are not positive.

The People pillar metrics focus on diversity and inclusion; pay equality; wage level; risks for child, forced or compulsory labor; health and safety; and training provided. These core metrics consist of 18 submetrics, of which 14 seek quantitative responses. The People pillar had the lowest overall mean response rate 28.8%, with a minimum of 0% and a maximum of 70.8%. At the metric level, we see the highest response rate for the diversity and inclusion metric, with a mean disclosure rate of 54.9%, and the lowest for the

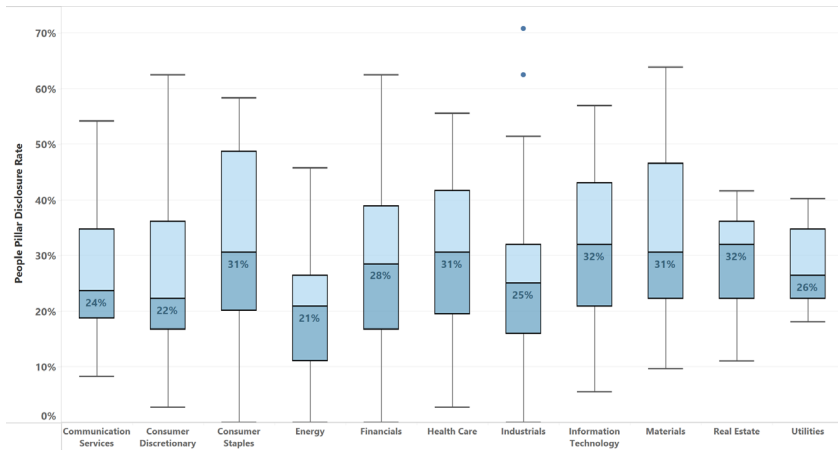


Figure 8. Disclosure Rates by Sector for the People Pillar

training provided metric, with a mean disclosure rate of 12.9%. Of the GICS sectors, 9 out of 11 sectors are under a 10% disclosure rate. The median disclosure rates per sector are also low for all sectors, ranging from 22% for Consumer Discretionary to 32% for both Real Estate and Information Technology (Figure 8). Without a strong uptick in reporting for the People pillar, tracking progress will be difficult.

**IN SUMMARY, we find that disclosure rates are similar across industry sectors for the Governance, Prosperity, and People pillars. In the Planet pillar, disclosure rates vary by industry sector with higher reporting rates for the Utilities and Materials sectors. In the Planet pillar, we find high disclosure rates for Scope 1 GHG emissions (81.2%). The People pillar is the least reported across industries. The highest reported metric in the People pillar is Diversity and Inclusion at 54%, and the lowest reported metric in the People pillar is Training at only 12%.**

#### 4.3 REPORTING ON QUANTITATIVE OUTCOMES VERSUS QUALITATIVE PROCESSES

The WEF provides a mix of process- and outcome-based metrics. Process-based metrics focus on the actions taken by an organization to achieve a given goal (Chen & Delmas, 2011).<sup>19</sup> Whereas outcome-based metrics assess the actual impact of an organization's operations on an external system like the environment or society. For example, one submetric seeks information related to the internal and external mechanisms for seeking ethics advice from the organization. This metric is focused on process — the structures in place at the organization to achieve the desired outcome, an ethical organization. In contrast, another submetric seeks information about the number of fatalities as a result of work-related injuries, an outcome-based metric focused on the potential results of the organization's operations.

At the submetric level, 32.4% seek information about a company's process, and 67.6% seek information about outcomes. Yet, we see that the average disclosure

percentage for process-based metrics is 57.8%, while the average disclosure percentage for outcome-based metrics is only 47.1%.

While quantitative metrics seek numeric responses arising from an analysis of performance data, qualitative metrics invite narrative or textual responses based on observation or judgment (Fiksel, 1993).<sup>20</sup> Although there are more quantitative metrics in the WEF framework represent two third of the metrics, only 43% of the companies on average disclosed information in response to quantitative metrics. In contrast, we see that on average 62% of companies disclosed information in response to qualitative metrics (Figure 9). This may also explain some of the discrepancy in reporting as it is easier for an organization to discuss efforts it is undertaking to make progress than it is to measure that progress and be held accountable for demonstrable quantitative improvements.

We see this tendency to favor qualitative disclosures clearly illustrated in the Governance pillar. While there are generally high levels of reporting on the Governance core metrics, one metric stands out: Anti-corruption. Unlike the other metrics in the Governance pillar, which all have disclosure means above 65%, the Anti-corruption metric's disclosure mean is 27.4%. This low value is particularly surprising given the high percentage of organizations (95.8%) that provide

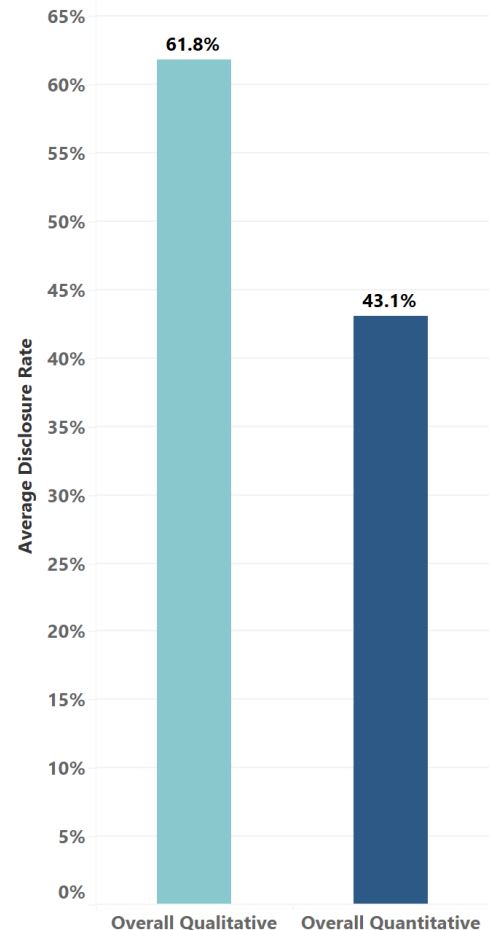


Figure 9. Disclosure Rates by Metric Type (Qualitative Versus Quantitative)

1 - Texas Instruments Incorporated 74.8%	5 - Newmont Corporation 70.2%	9 - Johnson & Johnson 68.6%	10 - Ecolab Inc. 68.1%	11 - 3M 67.9%	12 - Hewlett Packard Enterprise 67.4%
2 - General Motors 70.9%	6 - Intel 69.5%	13 - Freeport-McMoRan Inc. 67.2%	16 - Air Products and Chemicals Inc. 66.0%	17 - Whirlpool 65.9%	18 - Halliburton 64.8%
3 - Johnson Controls International plc 70.6%	7 - Philip Morris International 69.4%	14 - Jacobs Engineering Group 66.5%	19 - Advanced Micro Devices Inc. 64.5%	20 - NVIDIA Corporation 64.5%	
4 - Lam Research Corporation 70.4%	8 - Edwards Lifesciences Corporation 68.9%	15 - Western Digital 66.5%			

Figure 10. Top 20 Ranked Companies by Overall Percentage Disclosure for World Economic Forum (WEF) Metrics

disclosures related to the Protected Ethics Advice and Reporting Mechanisms, a process-based metric focusing on ethical operations of the corporation.

**IN SUMMARY, we find that organizations favor process-focused metrics over outcome-based ones and prefer generalized qualitative disclosures.**

#### 4.4 OVERALL DISCLOSURE: TOP FIRMS

Across all 20 top disclosing firms for each pillar, there is no sector that emerges as a leader in disclosing ESG metrics. The average reporting for these top 20 firms is about 68.14%. Texas Instruments Inc. has the top ranking for overall disclosure rates, even though they are only disclosing three-quarters of the data requested through the WEF framework. For the individual pillars, Johnson & Johnson ranks highest for the Prosperity pillar; Johnson Controls International ranks highest for the People pillar (71%) as well as the Governance pillar (95%); and Texas Instruments Inc. ranks highest for the Planet pillar (98%).

These disclosure metrics track how responsive a firm is to reporting on the WEF-proposed metrics, not whether the firms are top-ranked in terms of outcomes. For example, Texas Instruments Inc. has the highest ranking (98%) for the Planet pillar: They have disclosed nearly all of the data requested for each WEF submetrics within the Planet pillar. Undeniably, firms disclosing all of the data requested within the WEF framework is beneficial, especially considering that overall disclosure rates are low (mean 49%). Yet, we also need to understand ESG outcomes to strengthen our

understanding of firms' impact on our global society. A specific example of this is Philip Morris International. This firm ranks fairly high in both overall disclosure rates and rates across each of the four pillars. Yet, as the largest public tobacco company, it might be screened out of some socially responsible investing portfolios as a so-called "sin stock."

**IN SUMMARY, we find that the average reporting among the top 20 companies ranges from 65% to 75% with companies from various sectors being represented.**

## 5. SELECTED OUTCOME MEASURES

### 5.1 GREENHOUSE GASES

More than 80% of the 300 companies report some information related to the greenhouse gasses they emit either directly or indirectly through their operations.

For Scope 1 GHG emissions, the most commonly reported type, the 300 companies, on average, emit approximately 4 million metric tons per year. However, some significant outliers of note are driving up this level; for example, Exxon Mobil reports Scope 1 emissions of 111 million metric tons; Chevron reports Scope 1 emissions of 55 million metric tons, and Southern Company reports Scope 1 emissions of 88 million metric tons. Together, these firms emit 25% of the reported Scope 1 emissions. While these companies represent some of the highest absolute emissions, when we normalize the Scope 1 emissions by the amount of revenue

generated by each company, we can find their carbon intensity of operations. We find on average that these 300 companies emit 180.8 metric tons of Scope 1 emissions per million dollars of revenue, and we see the highest carbon intensity for the following companies: AES Corp., Ameren Corp., and Southern Company.

GHG emissions encompass Scope 2 and Scope 3 alongside Scope 1. Scope 3 emissions include the supply chain and often represent the most significant sources of emissions for organizations. Despite this importance, this is one of the few WEF metrics to capture supply-chain impacts, as opposed to SASB, which includes more metrics related to the broader operations of an organization. However, the lower levels of reporting on this submetric hamper stakeholders' ability to assess the actual impact of these organizations on climate change and sustainability. ○○○

**IN SUMMARY, we find that the highest GHG reported emissions for Scope 1 to be in the Energy sector and Utilities sectors, and Scope 3 reported emissions to be in the Energy sector. However, the low disclosure rate on Scope 3 emissions across sectors hampers a robust comparison.**

## 5.2 EMPLOYEE DIVERSITY

Within the people pillar, we see generally lower rates of disclosure related to the WEF metrics. However, of those organizations that do disclose the data covered by the WEF metrics, those disclosures indicate that these organizations have significant room to improve the diversity of their workforces.

Of the diversity metrics, we see firms reporting gender diversity most commonly, with 82% of the 300 companies disclosing this information in their reports. On average, among the 300 companies, 39% of the employees are women, but the percentage of women employees range from under 5% (Norfolk Southern, an industrial and consumer products railway transporter) to more than 80% (Estee Lauder Cos. Inc., a prestige beauty and skincare company). When we look at sector variation, we see correlations between the sector and the number of women employees. The sectors with the highest percentages of women is Health Care and the sector with the least number of women is Materials (Figure 11.).

The next most commonly reported set of diversity metrics focuses on the percentages of employees of various ethnicities, with more 57% companies reporting on the various ethnic breakdowns. Of those companies disclosing this information, we see that on average, 10.44% of employees are Black, 11.87% are Hispanic, 16.31% are Asian, and 59.12% are White. As with women employees, we see wide variations in the percentages reported in each of these categories. For example, multiple companies report that 1% or less of their employees are Black: Advanced Micro Devices Inc. (1%), Broadcom (1%), Freeport-McMoRan Inc. (1%), and Synopsys Inc. (1%). In contrast, Aflac has the highest percentage of Black employees (33.50%).

We see similar variation in the percentage of Hispanic employees. For Synopsys Inc., Norfolk Southern, Duke Energy, and Broadcom, 3% or less of their employees are Hispanic. In contrast, Freeport-McMoRan Inc. has the highest percentage of Hispanic employees at 40%. And Duke Energy, Freeport-McMoRan Inc., Home Depot, Kroger, O'Reilly Automotive, PepsiCo, Progressive, Union Pacific, UPS, Walmart, Waste Management, and Norfolk Southern have 3% or fewer Asian employees, and Qualcomm has the most Asian employees with 60.90%.

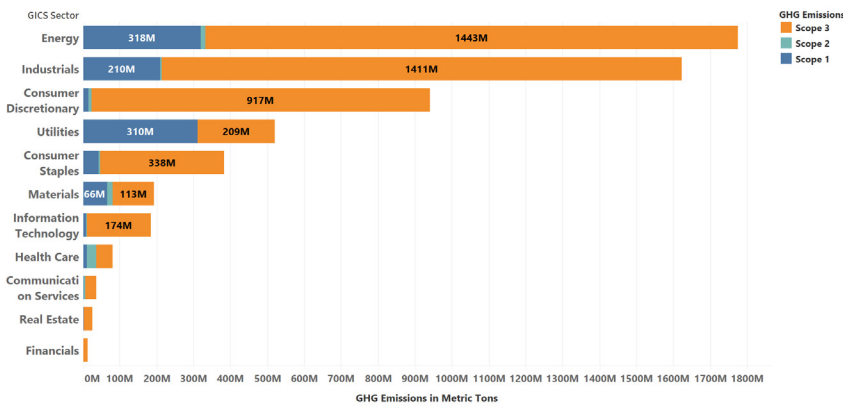


Figure 11. Metric Tons of GHG CO2e Emissions by Sector and Scope

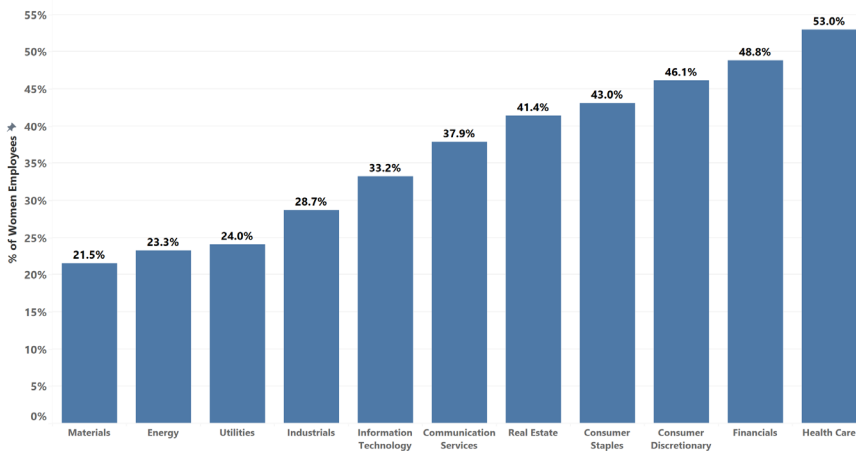


Figure 12. Percentage of Women Employees by Sector

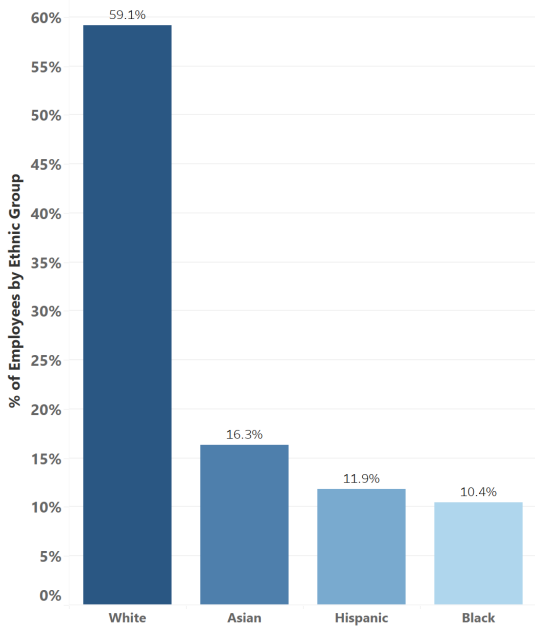


Figure 13. Reported Diversity by Ethnic Group

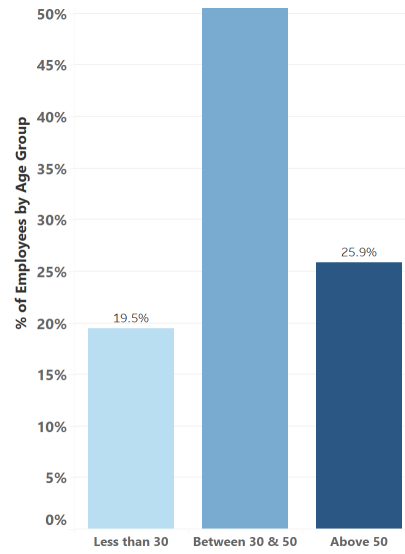


Figure 14. Reported Age Distribution of Employees

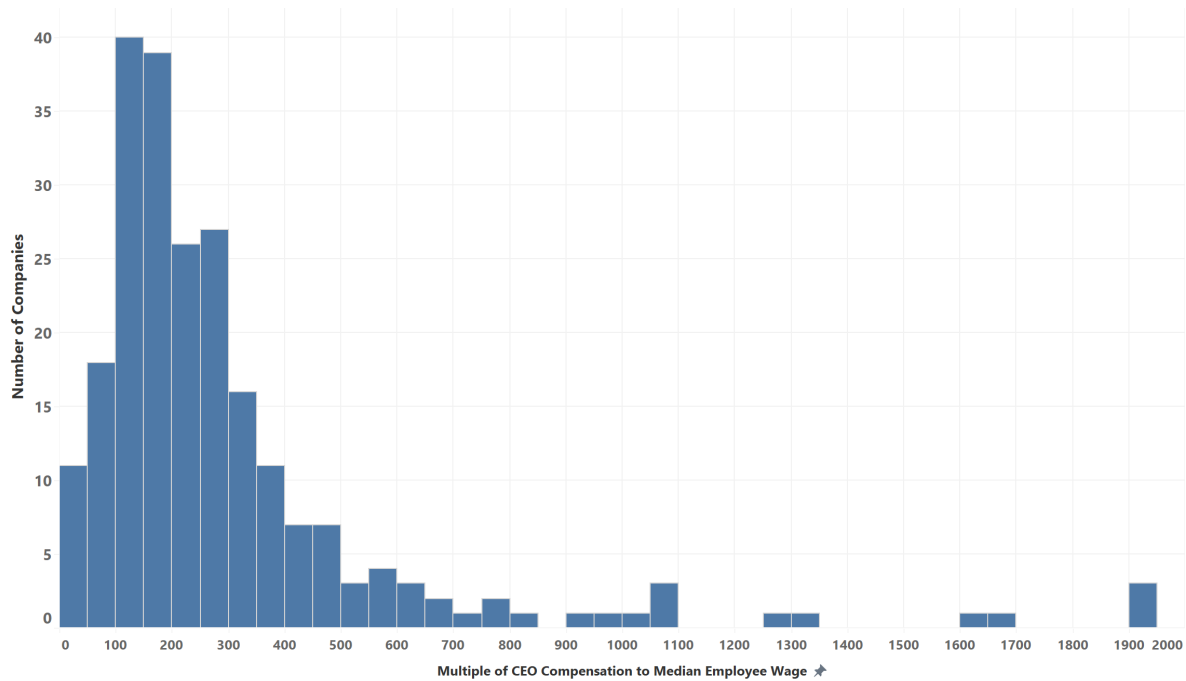


Figure 15. CEO Compensation to Median Employee Wage (N = 235, Interval Width = 50)

When White employees are considered, the range remains wide, but the average is much higher. The company with the lowest percentage of White employees is Western Digital at 26.10%, and the company with the highest percentage of White employees is Alliant Energy with 94.6%.

In terms of employee age, the average disclosure is 26%. For those with reporting data, we find 19.5% of employees under 30 years old, 55% of employees between 30 and 50 and 26% of employees over 50.

**IN SUMMARY, despite lower disclosure rates in the People pillar, we observe wide variations in the percentages reported in each of these categories across firms and clear room for improvement in specific cases.**

### 5.3 CEO TO MEDIAN EMPLOYEE COMPENSATION (SEC MANDATED DISCLOSURE)

One of the WEF core metrics seeks the ratio of the compensation of the CEO to the median employee of the organization. The SEC requires companies to disclose this information in their public filings, thus providing some insight into the pay practices of the organizations. We see wide variation in this number as well. For example, the ratio for Twitter is 0 because the CEO did not take any compensation for the year sampled. In contrast, Tesla is an outlier on the opposite end of the spectrum where its CEO's compensation was more than 40,000 times that of the median employee. For all of the companies that report this information, on average, the CEO was paid 529 times more than the median employee. Removing the Twitter and Tesla outliers, that average becomes 359.

Given the fact that CEOs may often arrange individualized compensation packages that do not reflect the actual amounts upper management are compensated, a better measure for this metric might focus on the compensation provided to C-suite executives (either as a whole or using the median C-suite salary) compared to the median employee.

**IN SUMMARY, we observe a wide range of CEO to median employee. On average, in our sample of firms that reported this information, the CEO was paid 529 times more than the median employee. But this includes several outliers with higher numbers.**

## 6. METRICS CHALLENGES AND OPPORTUNITIES

Our report shows that firms can make progress on sustainability reporting. We observe generally low levels of reporting on most metrics, a tendency of firms to focus on describing qualitative processes rather than quantitative outcomes, and little third-party assurance on the quality of reporting.

Given the voluntary nature of corporate sustainability reporting we explore potential barriers to disclosure and possible improvements to the metrics chosen to increase disclosure. The barriers include a lack of guidance and definitions in some metrics that can make it challenging for organizations to provide responses that are ultimately comparable. However, these barriers are not sufficient to explain low disclosure rates since we also find low disclosure rates on metrics that firms collect routinely.

The scope of reporting might be perceived as too broad and raise questions regarding whether firms across sectors should all report on the same metrics, as suggested by the WEF framework, or whether they should focus on those that are material to their sector, as suggested by SASB. In the same vein, there are questions about whether metrics related to prosperity should be included as one of the reporting categories in addition to the more traditional ESG categories.

In this section, we discuss these issues and provide some guidance to improve the state of corporate sustainability disclosure.

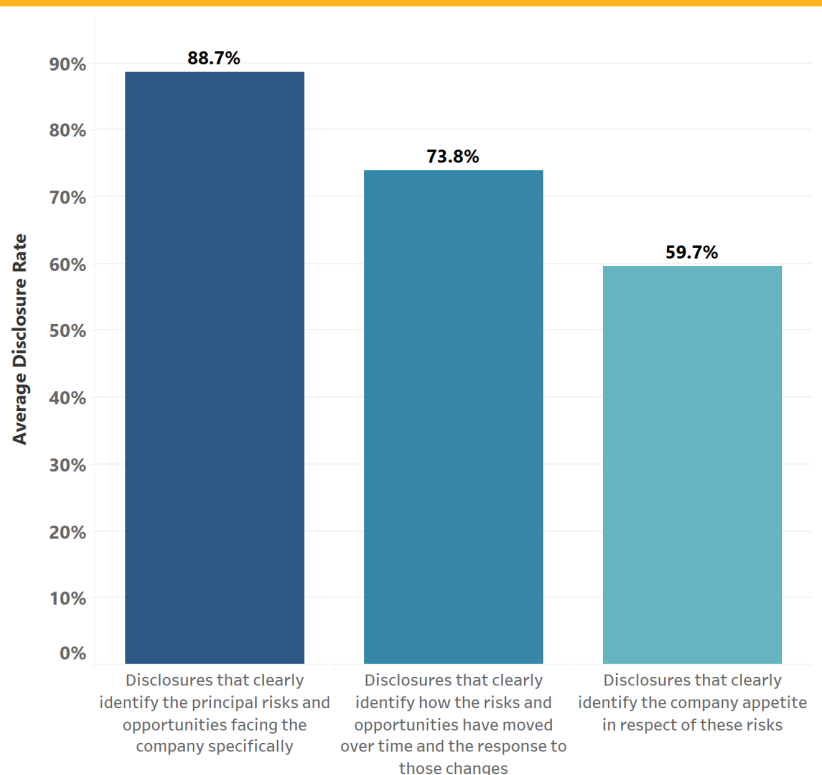


Figure 16. Integrating Risks and Opportunities into Business Practices

## 6.1 LACK OF GUIDANCE AND DEFINITIONS FOR SOME METRICS

The lack of guidance and definitions in some sustainability metrics may make it challenging for organizations to provide responses that are ultimately comparable.

For a number of the WEF metrics, what information the metric seeks is not immediately clear. For example, submetric 6b seeks information related to an organization's "appetite" for the risks it faces (See Appendix). However, no information is provided to advise an organization of how to assess its appetite, and indeed, from the data we have gathered, we see fewer organizations are reporting on their appetite for these risks (59.7%) compared with the mean percentages reporting on what they believe those risks to be (88.7%) and how those risks have changed over time (73.8%).

While other factors may be influencing the lower disclosure rates related to firm appetite for risk, moving forward, the WEF could strengthen the likelihood of organizations responding to this submetric with information that is ultimately comparable across companies. To accomplish this, WEF should provide additional guidance on how an organization should interpret this metric and standardize the means for assessing and reporting the organization's risk appetite.

Some ambiguity in the WEF metrics is due to a lack of standardization in the field in general. As all of this reporting remains voluntary in the United States, consensus has not been reached in some important areas of sustainability. This lack of consensus may contribute to lower levels of disclosure. For example, many firms report their Scope 1 (81.2%) and Scope 2 (78.2%) GHG emissions. These categories are well-defined and fairly easily calculated. In contrast, for Scope 3 (indirect) emissions, we see only 61.2% of the companies disclosing this information. This may be due to the fact that although there are protocols related to Scope 3 emissions, the method of calculation is more complicated and defining what should or should not be included is less straightforward. (Greenhouse Gas Protocol, n.d.)<sup>23</sup> This ambiguity may explain the lower levels of disclosure we see for Scope 3 emissions compared with Scopes 1 or 2 (see Figure 7 in Section 5).

## 6.2 BREADTH OF METRICS

Whether sustainability reporting should be based on a set of universal standards or industry specific ones remains an open question. The WEF framework has endeavored to create a set of metrics applicable to all organizations; however, even based on the data presented here, an argument can be made that not all of the core metrics are material for every organization. For example, while every business uses some water, given the wide variation of amounts used that we see in the substantive responses, water usage may not be material for every organization to report. Nonetheless, it can be argued that the core metrics here address topics that are of universal interest and are material to the broader societies in which these organizations operate. Thus, there is value in having

organizations measure and report on these metrics even if they are not of paramount importance to the company's own operations.

The potentially more concerning consequence of striving to create a set of universal metrics is that the WEF framework may lead companies to ignore issues that, although material, are industry specific or simply not included in the WEF core metrics. A prime example of this concerns metrics related to supply chain issues. Much of an organization's impact arises from its supply chain and sourcing of necessary materials and labor. Other frameworks, like SASB, acknowledge this through their frequent inclusion of supply-chain metrics in their categorization of what is material and should be disclosed. However, the WEF includes few core metrics that touch on supply chain issues.

Thus, we suggest a middle ground, a set of universal metrics that all organizations report on covering topics that are material to society coupled with a sector or industry-based framework that can enhance the universal metrics to ensure that topics material to both society and the organization are captured.

SASB identifies 26 relevant material issues that are then used to identify the metrics that are recommended for a company to disclose in a given sector and industry.<sup>24</sup> Eleven of the SASB material issues overlap with 14 of the 21 WEF core metrics (67%). Out of these 14 overlapping issues, we find that firms disclosures are even lower (40.2%) than the average disclosure rate for all the WEF metrics (49.6%).

The WEF does identify additional metrics, called expanded metrics, that increase the amount of overlap between WEF and SASB. Of the 34 WEF expanded metrics, eight address the same disclosure topics as five SASB relevant material issues not addressed by the WEF core metrics. The combination of the WEF core and expanded metrics do not address 10 relevant material issues defined by SASB.

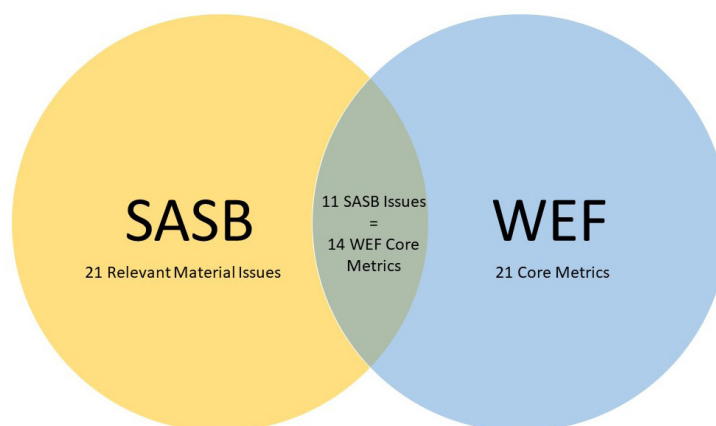


Figure 17. Overlap Between Sustainability Accounting Standards Board (SASB) & World Economic Forum (WEF)



Related to the discussion of the universality of metrics, is the question of the incorporation of the Prosperity pillar in the WEF framework. The inclusion of the Prosperity may possibly be artificially inflating overall disclosure rates. Much of the data requested in the Prosperity pillar is commonly reported on financial disclosures, and by including it in the WEF, it may obscure the lack of reporting on other pillars.

### 6.3 EXTERNAL ASSURANCE OF RELIABILITY

Sustainability disclosures and reporting remain an entirely voluntary undertaking in the United States. As such, compared with traditional financial reporting, potentially fewer requirements exist related to the collection, analysis, and reporting of sustainability information. Similarly, because the way in which an organization chooses to define a particular metric may substantially influence the reported value, there is room for confusion in the significance of the reported information. Given the lack of assurances around many areas of sustainability disclosures, a simple way to meaningfully improve the reported data is through the use of third-party verification or external audit processes.

Public companies, like those examined here, are required to have their financial statements audited by a third-party. However, when we examined whether their sustainability disclosures were provided the same scrutiny, we found that more than half of the companies did not state that their ESG reports were audited. Only 9.2% of these organizations reported that their sustainability reports were fully audited, and the remaining organizations reported that some portion of their report was audited. Increasing the percentages of firms engaging external audit processes could increase stakeholders' confidence in the reported data, and the WEF could improve its framework by calling for firms adopting its metrics to have their resulting disclosures fully audited.

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**In general, organizations are disclosing more information related to governance and prosperity issues and less information related to environmental and social issues.**

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### 6.4 OPPORTUNITIES FOR IMPROVEMENT

Given the observations from the data reported by the largest U.S. companies, a number of suggestions could improve the metrics proposed by WEF.

First, metrics need to be more precise to increase comparison. The WEF claims that their core set of metrics has only 21 metrics. However, because almost every metric consists of multiple submetrics, more than 70 metrics are in the core set. The submetrics within each core metric are often interrelated. Currently stakeholders are left with the task of attempting to weight and aggregate the submetrics on their own. Providing a means to incorporate performance on each submetric into an overall assessment of performance on the core metric could improve these metrics.

Second, in order to increase insight into an organization's actual performance, metrics that are solely process

focused, should be accompanied by outcome-based metrics that correspond with the process-based ones. While companies may nonetheless choose not to disclose this information, the absence of it in and of itself may provide useful information to a stakeholder.

Third, we can increase the utility of sustainability metrics by ensuring that the terms used are clearly defined and processes are explicitly laid out for how to collect and report the requested information.

Fourth, the information should be third-party verified to ensure quality reporting.

In sum, although much of the information included in the WEF framework is highly relevant to sustainability progress, there is room for improvement to ensure that the requested disclosures present an accurate picture of organizational progress and provide comparable information. However, what the data also demonstrates is that even when considering clearly articulated and well-defined metrics, ultimately these disclosures are voluntary. Even where it is possible to collect and report much of the requested information in the WEF metrics (like water usage data) or where companies are already required to collect the data (like employee demographics), companies may not have strong incentives to report this information as long as disclosure remains voluntary.

While we propose avenues to improve the general quality of the metrics, we likely will need mandated disclosure requirements to reach disclosure rates that will allow a meaningful comparison across firms.

## **7. CONCLUSION**

Despite the significant resources of the largest U.S. companies and the WEF's claim that its core metrics represent information that many organizations already report, we see generally low levels of disclosure related to the WEF metrics. In general, organizations are disclosing more information related to governance and prosperity issues, and less information related to environmental and social issues. For metrics addressing social issues, the low disclosure rates are accompanied by substantive disclosures that indicate a need for significant improvements to improve equity.

While some of the lack of disclosure is undoubtedly related to the voluntary nature of sustainability disclosures, providing additional guidance related to measurement and methods of reporting, expanding the metrics to cover universally applicable areas like supply chain issues, and include calls for third-party verification of the results could improve the WEF metrics themselves.

Considerable value can be found in sustainability disclosures that cover important areas, seek measurable information, provide useful context, and include indicia of reliability. We know that we measure what we care about and that we care about what we measure,<sup>25</sup> so it is critical that disclosure metrics be crafted to maximize their use to organizations and all of their stakeholders.



# ENDNOTES

1. Anderson School of Management and Institute of the Environment & Sustainability. [delmas@ucla.edu](mailto:delmas@ucla.edu)
2. Institute of the Environment & Sustainability
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4. We would like to thank Bhavna Sivanand for her extraordinary support for this project and Corey Christensen, Jasleen Kahlon, Kevin Truong, Ryan (Yuxuan) Bai, and Eustina Kim for their excellent research assistance in collecting the data, Madhava Sai Rohith Juturu and Mariah Francis for the figures. We thank Charles Corbett, Henry Friedman and Brad Sparks for their useful comments on earlier version of this paper.
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7. The ESG disclosures evaluated for this project were not in direct response to the WEF framework. Rather, to assess whether the information requested by the WEF metrics was, in fact, commonly reported, we analyzed the disclosures of the Fortune 300 companies that aligned with the metrics identified by the WEF.
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11. Four reports from 2018, 105 reports from 2019, 166 reports from 2020, and 25 reports from 2021 were used.
12. Percentage of Information Sourced from Sustainability Reports, Corporate Websites, Carbon Disclosure Project, and Securities and Exchange Commission for World Economic Forum (WEF) metrics. 12,448 individual data points were sourced for the disclosure information
13. World Economic Forum. (2022). *Creating a global coalition*. Retrieved February 26, 2022, from <https://www.weforum.org/stakeholdercapitalism/our-community>
14. Percentage Source of Disclosures from Sustainability Reports, Corporate Websites, Carbon Disclosure Project, or Securities and Exchange Commission for World Economic Forum (WEF) Indicators by Pillars
15. Percentage Disclosure by Global Industry Classification Standard (GICS) Sectors for Companies for the World Economic Forum (WEF) Planet Pillar
16. Scope 1 emissions consist of direct emissions from operations; Scope 2 emissions consist of indirect emissions from purchased energy; and Scope 3 emissions include all other emissions associated with company activity.
17. U.S. Equal Employment Opportunity Commission (n.d.) EEO-1 Data Collection. <https://www.eeoc.gov/employers/eo-1-data-collection>; 42 U.S.C. § 2000e-8(c); 29 C.F.R. § 1602.7-14; 41 C.F.R. § 60-1.7(a).
18. Percentage Disclosure by Global Industry Classification Standard (GICS) Sectors for Companies for the World Economic Forum (WEF) People Pillar
19. Chen, C., Delmas, M. A., (2011). *Measuring Corporate Social Performance: An Efficiency Perspective*. *Production and Operations Management*, 20(6), 789-804. DOI: 10.1111/J.1937-5956.2010.01202.x
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21. Scope 1 emissions consist of direct emissions from operations; Scope 2 emissions consist of indirect emissions from purchased energy; and Scope 3 emissions include all other emissions associated with company activity.
22. Four extreme outliers are not shown: Telsa (40,668), Aptiv (5,294), Western Digital (4,934), Chipotle Mexican Grill (2,898)
23. [https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard\\_041613\\_2.pdf](https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf)
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# APPENDIX

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18	<b>8.1 WEF Metrics and Associated Submetrics</b>
22	<b>8.2 List of Companies Included</b>
28	<b>8.3 Disclosure by Pillar and Industry</b>

**PILLAR: Governance**

<b>Variables</b>	<b>Average Disclosure Rate</b>
<b>1. Setting Purpose</b>	<b>98.0%</b>
<b>2. Governance Body Composition Overall</b>	<b>71.6%</b>
2a. Governance Body Composition: Competencies related to economic, environmental and social topics	31.7%
2b. Governance Body Composition: Executive/Nonexecutive members	95.0%
2c. Governance Body Composition: Percent independent	95.2%
2d. Governance Body Composition: Tenure on the governance body	89.3%
2e. Governance Body Composition: Number of each member's other significant positions and commitments and nature of those commitments	98.7%
2f. Governance Body Composition: Percent women	91.2%
2g. Governance Body Composition: Percent of underrepresented social groups	67.0%
2h. Governance Body Composition: Stakeholder representation	4.2%
<b>3. Material Issues Impacting Stakeholders</b>	<b>66.7%</b>
<b>4. Anti-corruption (Overall)</b>	<b>27.4%</b>
4a. Anti-corruption: Total percentage of governance body members, employees, and business partners who have received training on the organization's anti-corruption policies and procedures, broken down by region	24.2%
4b. Anti-corruption: Total number and nature of incidents of corruption confirmed during the current year, but related to previous years	3.7%
4c. Anti-corruption: Total number and nature of incidents of corruption confirmed during the current year, related to this year	5.7%
4d. Anti-corruption: Discussion of initiatives and stakeholder engagement to improve the broader operating environment and culture, in order to combat corruption	76.0%
<b>5. Protected Ethics Advice and Reporting Mechanisms</b>	<b>95.8%</b>
5a. Protected Ethics Advice and Reporting Mechanisms: Description of internal and external mechanisms for seeking advice about ethical and lawful behavior and organizational integrity	95.8%
5b. Protected Ethics Advice and Reporting Mechanisms: Description of internal and external mechanisms for reporting concerns about unethical or unlawful behavior and lack of organizational integrity	95.8%
<b>6. Integrating Risk and Opportunity into Business Process (Overall)</b>	<b>74.1%</b>
6a. Integrating Risk and Opportunity into Business Process: Disclosures that clearly identify the principal risks and opportunities facing the company specifically (as opposed to sector risks)	88.7%
6b. Integrating Risk and Opportunity into Business Process: Disclosures that clearly identify the company appetite in respect of these risks	59.7%
6c. Integrating Risk and Opportunity into Business Process: Disclosures that clearly identify how the risks and opportunities have moved over time and the responses to those changes.	73.8%

**PILLAR: Planet**

<b>Variables</b>	<b>Average Disclosure Rate</b>
<b>7. GHG Emissions (Overall)</b>	<b>73.5%</b>
7a. GHG Emissions: Scope 1	81.2%
7b. GHG Emissions: Scope 2	78.2%
7c. GHG Emissions: Scope 3	61.2%
<b>8. TCFD Implementation (Overall)</b>	<b>71.9%</b>
8a. TCFD Implementation: Describe the organization's governance around climate-related risks and opportunities	80.0%
8b. TCFD Implementation: Describe management's role in assessing and managing climate-related risks and opportunities	79.8%
8c. TCFD Implementation: Describe the climate-related risks and opportunities identified over the short, medium and long term	61.8%
8d. TCFD Implementation: Describe the impact of climate-related risks and opportunities on the organization's business strategy and financial planning	78.2%
8e. TCFD Implementation: Describe the resilience of the organization's strategy taking into consideration different climate-related scenarios, including a 2 degrees C or lower scenario	51.7%
8f. TCFD Implementation: Describe the organization's process for identifying and assessing climate-related risks	69.3%
8g. TCFD Implementation: Describe the organization's process for managing climate-related risks	70.3%
8h. TCFD Implementation: Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	65.5%
8i. TCFD Implementation: Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	83.8%
8j. TCFD Implementation: Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions and related risks	71.5%
8k. TCFD Implementation: Describe the targets used by the org to manage climate related risks and opportunities and performance against target	78.7%
<b>9. Land use and ecological sensitivity: Report the number and area in hectares of sites owned, leased, or managed in or adjacent to protected areas or key biodiversity areas</b>	<b>3.7%</b>
<b>10. Water Use</b>	<b>26.0%</b>
10a. Water Use: Megaliters of water withdrawn	35.7%
10b. Water Use: Percent of water withdrawn from high or extremely high baseline water stress according to WRI aqueduct water risk tool	15.7%
10c. Water Use: Megaliters of water consumed	43.7%
10d. Water Use: Percent of water consumed from high or extremely high baseline water stress according to WRI aqueduct water risk tool	9.2%

**PILLAR: People**

<b>Variables</b>	<b>Average Disclosure Rate</b>
<b>11. Diversity and Inclusion (Overall)</b>	<b>54.9%</b>
11a. Diversity and Inclusion: Percent of employees by age group	25.3%
11b. Diversity and Inclusion: Percent of women employees	82.7%
11c. Diversity and Inclusion: Percent of employees by ethnicity	56.7%
<b>12. Pay Equality (Overall)</b>	<b>17.9%</b>
12a. Pay Equality: Women to men (by geographic area)	20.2%
12b. Pay Equality: Minor to major ethnic grounds	15.7%
<b>12. Wage Level (Overall)</b>	<b>41.3%</b>
13a. Wage Level: Ratio of standard entry level wage by gender compared with local minimum wage	4.3%
13b. Wage Level: Ratio of total compensation of CEO to median employee wage	78.0%
<b>14. Risks for Incidents of Child, Forced, or Compulsory Labor (Overall)</b>	<b>16.5%</b>
14a. Risks for Incidents of Child, Forced, or Compulsory Labor: An explanation of the operations and suppliers considered to have significant risk in relation to the type of operation and type of supplier	16.5%
14b. Risks for Incidents of Child, Forced, or Compulsory Labor: An explanation of the operations and suppliers considered to have significant risk in relation to the countries with operations and suppliers considered at risk	16.5%
<b>15. Health and Safety (Overall)</b>	<b>29.1%</b>
15a. Health and Safety: Number and rate of fatalities as a result of work-related injury	31.3%
15b. Health and Safety: Number and rate of high consequence work-related injuries excluding fatalities	12.2%
15c. Health and Safety: Number and rate of recordable work-related injuries	32.0%
15d. Health and Safety: Main types of work-related injuries	14.3%
15e. Health and Safety: Number of hours worked	5.8%
15f. Health and Safety: Explanation of how organization facilitates workers' access to on-occupational medical and healthcare services and scope of access provided	78.8%
<b>16. Training Provided (Overall)</b>	<b>12.9%</b>
16a. Training Provided: Average hours of training per person by gender (total hours of training/total # of employees)	16.5%
16b. Training Provided: Average hours of training per person by employee category (total hours of training/total # employees)	14.7%
16c. Training Provided: Average training and development expenditure per full-time employee (total cost of training/# of employees)	7.7%

**PILLAR: Prosperity**

<b>Variables</b>	<b>Average Disclosure Rate</b>
<b>17. Absolute Number and Rate of Employment (Overall)</b>	<b>11.5%</b>
17a. Absolute Number and Rate of Employment: Total number and rate of new employee hires by age group	8.2%
17b. Absolute Number and Rate of Employment: Total number and rate of new employee hires by gender	19.2%
17c. Absolute Number and Rate of Employment: Total number and rate of new employee hires by diversity	8.5%
17d. Absolute Number and Rate of Employment: Total number and rate of employee turnover by age group	11.5%
17e. Absolute Number and Rate of Employment: Total number and rate of employee turnover by gender	14.3%
17f. Absolute Number and Rate of Employment: Total number and rate of employee turnover by diversity	7.2%
<b>18. Economic Contribution (Overall)</b>	<b>63.0%</b>
18a. Economic Contribution: Revenue	100.0%
18b. Economic Contribution: Operating costs	99.3%
18c. Economic Contribution: Employee wages and benefits	64.8%
18d. Economic Contribution: Payments to providers of capital	96.0%
18e. Economic Contribution: Payments to government	1.7%
18f. Economic Contribution: Community investment	72.5%
18g. Economic Contribution: Financial assistance from government during reporting period	6.5%
<b>19. Financial Investment (Overall)</b>	<b>98.2%</b>
19a. Financial Investment Contribution: Total capital expenditures minus depreciations, supported by narrative describing company's investment strategy	98.8%
19b. Financial Investment Contribution: Share buybacks plus dividend payments, supported by narrative describing company's strategy for returns of capital to shareholders	97.5%
<b>20. Total R&amp;D Expenses</b>	<b>41.8%</b>
<b>21. Total Tax Paid</b>	<b>41.8%</b>
21a. Total tax paid: Global	58.0%
21b. Total tax paid: U.S.	49.3%



8.2 LIST OF COMPANIES INCLUDED (COMPANY NAME / TICKER SYMBOL)

Agilent Technologies Inc.	A	Anthem Inc.	ANTM
American Airlines Group	AAL	Aon Plc Class A	AON
Advance Auto Parts	AAP	A. O. Smith	AOS
Apple	AAPL	Air Products and Chemicals Inc.	APD
Abbvie	ABBV	Amphenol Corp. Class A	APH
AmerisourceBergen Corp.	ABC	Aptiv PLC	APTIV
Abbott Laboratories	ABT	Aramark	ARMK
Albertsons Cos. Inc.	ACI	Arrow Electronics Inc.	ARW
Aecom	ACM	Activision Blizzard Inc.	ATVI
Accenture Plc Class A	ACN	Broadcom Inc.	AVGO
Adobe Inc.	ADBE	Avnet Inc.	AVT
Analog Devices Inc.	ADI	American Express	AXP
ADM (Archer Daniels Midland Co).	ADM	Boeing	BA
Automatic Data Processing Inc.	ADP	Bank of America Corp.	BAC
Autodesk Inc.	ADSK	Baxter International Inc.	BAX
Ameren Corp.	AEE	Best Buy Co. Inc.	BBY
American Electric Power Co. Inc.	AEP	Becton, Dickinson and Co.	BDX
AES Corp.	AES	Biogen Inc.	BIIB
Aflac Inc.	AFL	Bank of New York Mellon Corp.	BK
American International Group Inc.	AIG	Booking Holdings	BKNG
Akamai Technologies Inc.	AKAM	Baker Hughes Co.	BKR
Align Technology Inc.	ALGN	BlackRock Inc.	BLK
Alaska Air Group	ALK	Bristol-Myers Squibb Co.	BMJ
Allstate	ALL	Berkshire Hathaway Inc.	BRK.A
Alphabet (formerly Google)	GOOGL	Boston Scientific Corp.	BSX
Applied Materials Inc.	AMAT	Citigroup Inc.	C
Advanced Micro Devices Inc.	AMD	Cardinal Health	CAH
Amgen	AMGN	Carrier Global Corp.	CARR
American Tower	AMT	Caterpillar	CAT
Amazon.com Inc.	AMZN	Chubb Ltd.	CB
AutoNation	AN	CBRE Group	CBRE

8.2 LIST OF COMPANIES INCLUDED (COMPANY NAME / TICKER SYMBOL)

Crown Castle	CCI	Digital Realty Trust	DLR
Cadence Design Systems Inc.	CDNS	Dollar Tree Inc.	DLTR
CDW	CDW	Dow	DOW
C.H. Robinson Worldwide	CHRW	Duke Energy Corp.	DUK
Charter Communications Inc.	CHTR	DXC Technology	DXC
Cigna	CI	DexCom Inc.	DXCM
Colgate-Palmolive Co.	CL	Electronic Arts Inc.	EA
Comcast	CMCSA	eBay Inc.	EBAY
CME Group Inc. Class A	CME	Ecolab Inc.	ECL
Chipotle Mexican Grill Inc.	CMG	Estee Lauder Cos. Inc. Class A	EL
Cummins Inc.	CMI	Emerson Electric Co.	EMR
Centene Corp.	CNC	EOG Resources Inc.	EOG
Capital One Financial	COF	Enterprise Products Partners	EPD
ConocoPhillips	COP	Equinix Inc.	EQIX
Costco Wholesale	COST	Energy Transfer	ET
Salesforce Inc.	CRM	Eaton Corp. Plc	ETN
Cisco Systems Inc.	CSCO	Edwards Lifesciences Corp.	EW
CSX Corp.	CSX	Exelon Corp.	EXC
Cognizant Technology Solutions	CTSH	Ford Motor Co.	F
CVS Health	CVS	Meta Platforms Inc. (formerly	FB
Chevron Corp.	CVX	Freeport-McMoRan Inc.	FCX
Dominion Energy	D	FedEx	FDX
Delta Air Lines	DAL	Fidelity National Information	FIS
DuPont	DD	Fiserv Inc.	FISV
Deere & Co.	DE	Fluor Corp.	FLR
Dell Technologies	DELL	Fannie Mae	FNMA
Dollar General Corp.	DG	Fox Corp.	FOXA
D.R. Horton	DHI	Fortinet Inc.	FTNT
Danaher	DHR	General Dynamics Corp.	GD
Walt Disney Co.	DIS	General Electric	GE
DISH Network	DISH	Gilead Sciences Inc.	GILD

8.2 LIST OF COMPANIES INCLUDED (COMPANY NAME / TICKER SYMBOL)

General Mills Inc.	GIS	Jones Lang LaSalle Inc. (JLL)	JLL
General Motors	GM	Johnson & Johnson	JNJ
Genuine Parts Co.	GPC	JPMorgan Chase & Co.	JPM
Global Payments Inc.	GPN	Nordstrom	JWN
Gap Inc.	GPS	KB Home	KBH
Goldman Sachs Group	GS	Kraft Heinz Co.	KHC
Halliburton	HAL	KLA Corp.	KLAC
HCA Healthcare	HCA	Kimberly-Clark	KMB
Home Depot	HD	CarMax	KMX
HollyFrontier	HFC	Coca-Cola Co.	KO
Hartford Financial Services	HIG	Kroger Co.	KR
Honeywell International Inc.	HON	Kohl's	KSS
Hewlett Packard Enterprise	HPE	Loews Corp.	L
HP	HPQ	Lear Corp.	LEA
Host Hotels & Resorts	HST	Lennar Corp.	LEN
Humana	HUM	L3Harris Technologies Inc.	LHX
International Business Machines	IBM	Linde plc	LIN
Intercontinental Exchange Inc.	ICE	Eli Lilly	LLY
IDEXX Laboratories Inc.	IDXX	Lockheed Martin Corp.	LMT
Illumina Inc.	ILMN	Lincoln National	LNC
IHS Markit Ltd.	INFO	Alliant Energy Corp.	LNT
World Fuel Services Corp.	INT	Lowe's	LOW
Intel Corp.	INTC	Lam Research Corp.	LRCX
Intuit Inc.	INTU	Lumen Technologies	LUMN
International Paper	IP	Southwest Airlines Co.	LUV
IQVIA Holdings Inc	IQV	Live Nation	LYV
Intuitive Surgical Inc.	ISRG	Macy's Inc.	M
Illinois Tool Works Inc.	ITW	Mastercard	MA
Jacobs Engineering Group	J	ManpowerGroup	MAN
Jabil Inc.	JBL	Marriott International Inc.	MAR
Johnson Controls International plc	JCI	McDonald's	MCD

8.2 LIST OF COMPANIES INCLUDED (COMPANY NAME / TICKER SYMBOL)

Microchip Technology Inc.	MCHP	O'Reilly Automotive Inc.	ORLY
McKesson Corp.	MCK	Occidental Petroleum	OXY
Moody's Corp.	MCO	Penske Automotive Group Inc.	PAG
Mondelez International Inc.	MDLZ	Plains GP Holdings	PAGP
Medtronic Plc	MDT	PBF Energy	PBF
MetLife	MET	Paccar Inc.	PCAR
Marsh and McLennan Cos. Inc.	MMC	PG&E Corp.	PCG
3M	MMM	PepsiCo	PEP
Altria Group Inc.	MO	Pfizer Inc.	PFE
Molina Healthcare	MOH	Principal Financial	PIFG
Marathon Petroleum Corp.	MPC	Performance Food Group	PFPG
Merck & Co. Inc.	MRK	Procter & Gamble	PG
Moderna Inc.	MRNA	Progressive	PGR
Morgan Stanley	MS	Prologis Inc.	PLD
MSCI Inc. Class A	MSCI	Philip Morris International	PM
Microsoft	MSFT	PNC Financial Services Group Inc.	PNC
Motorola Solutions Inc.	MSI	PPG Industries Inc.	PPG
Micron Technology	MU	Prudential Financial	PRU
NextEra Energy Inc.	NEE	Public Storage	PSA
Newmont Corp.	NEM	Phillips 66 Co.	PSX
Netflix	NFLX	PayPal Holdings	PYPL
NGL Energy Partners	NGL	Qualcomm	QCOM
Nike Inc.	NKE	Rite Aid Corp.	RAD
Northrop Grumman	NOC	Regeneron Pharmaceuticals Inc.	REGN
ServiceNow Inc.	NOW	Realty Holdings	RLGY
Norfolk Southern Corp.	NSC	ResMed Inc.	RMD
Nucor	NUE	Roper Technologies Inc.	ROP
NVIDIA Corp.	NVDA	Ross Stores Inc.	ROST
NXP Semiconductors NV	NXPI	Raytheon Technologies Corp.	RTX
Omnicom Group	OMC	SBA Communications Corp. Class A	SBAC
Oracle	ORCL	Starbucks Corp.	SBUX

8.2 LIST OF COMPANIES INCLUDED (COMPANY NAME / TICKER SYMBOL)

Charles Schwab Corp.	SCHW	UnitedHealth Group	UNH
Sherwin-Williams	SHW	Union Pacific	UNP
StoneX Group	SNEX	United Parcel Service Inc.	UPS
Synopsys Inc.	SNPS	U.S. Bancorp	USB
Synnex Corp.	SNX	US Foods Holding	USFD
Southern Company	SO	Visa	V
Simon Property Group	SPG	Paramount (ex-Viacom CBS)	VIAC
S&P Global Inc.	SPGI	Valero Energy	VLO
Sempra Energy	SRE	Vertex Pharmaceuticals Inc.	VRTX
Synchrony Financial	SYF	Verizon Communications	VZ
Stryker Corp.	SYK	Walgreens Boots Alliance	WBA
Sysco Corp.	SYU	Western Digital Corp.	WDC
AT&T	T	Welltower Inc.	WELL
TE Connectivity Ltd.	TEL	Wells Fargo	WFC
Tenneco	TEN	Whirlpool Corp.	WHR
Truist Financial Corp.	TFC	Waste Management	WM
Target	TGT	Walmart Inc.	WMT
Tenet Healthcare	THC	WestRock Co.	WRK
TJX Cos.	TJX	Exxon Mobil Corp.	XOM
Thermo Fisher Scientific	TMO	XPO Logistics Inc.	XPO
T-Mobile US Inc.	TMUS	Zoetis Inc. Class A	ZTS
T. Rowe Price Group	TROW		
Travelers Co.	TRV		
Tesla	TSLA		
Tyson Foods Inc.	TSN		
Trane Technologies plc	TT		
Take-Two Interactive Software Inc.	TTWO		
Twitter Inc.	TWTR		
Texas Instruments Inc.	TXN		
United Airlines Holdings	UAL		
United Natural Foods Inc.	UNFI		

8.3 DISCLOSURE BY PILLAR AND INDUSTRY

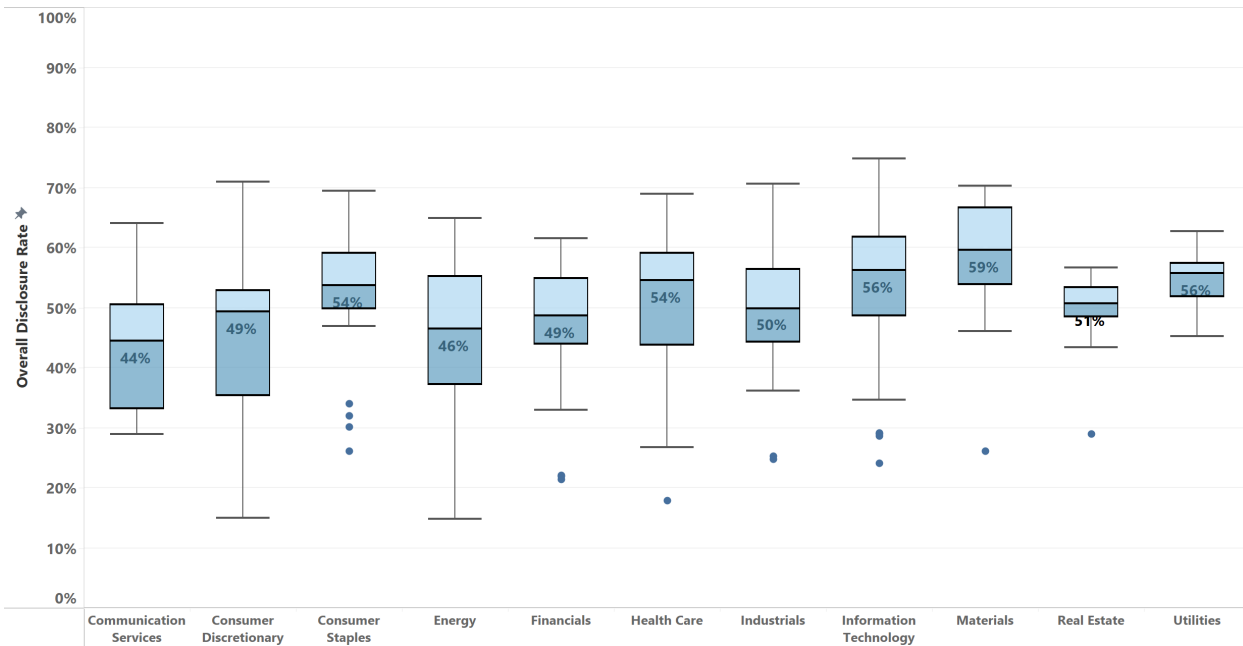


Figure 19. Percentage Disclosure by Global Industry Classification Standard (GICS) Sectors for Companies for the World Economic Forum (WEF) Indicators.

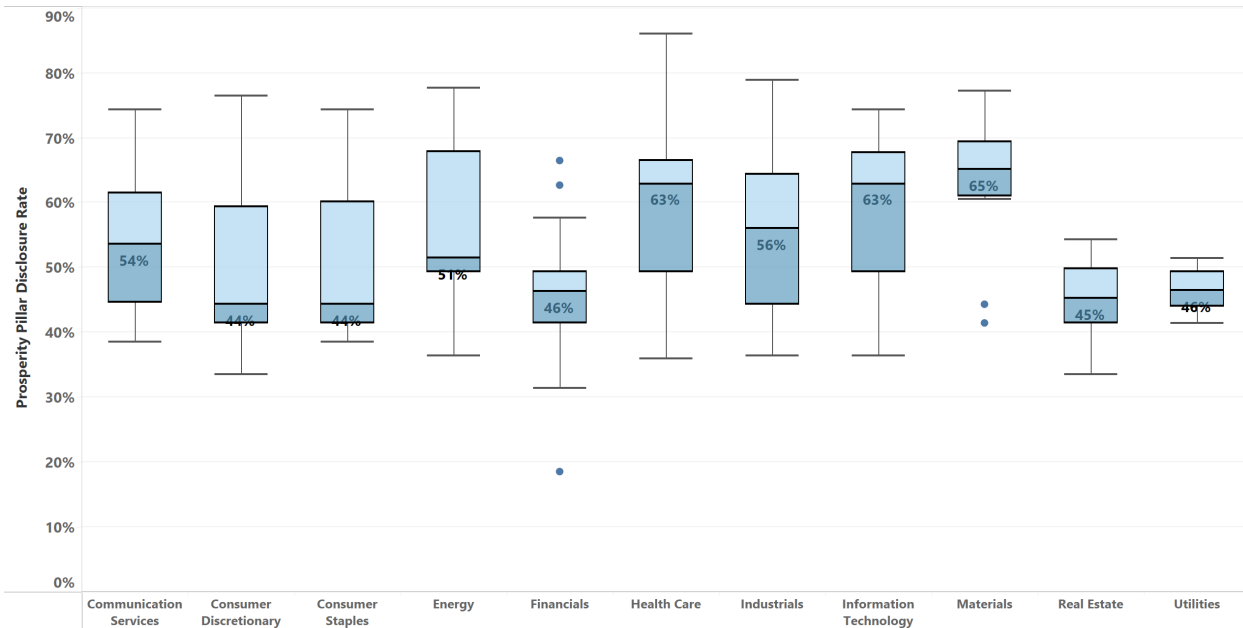


Figure 20. Percentage Disclosure by Global Industry Classification Standard (GICS) Sectors for Companies for the World Economic Forum (WEF) Prosperity Pillar.

8.3 DISCLOSURE BY PILLAR AND INDUSTRY

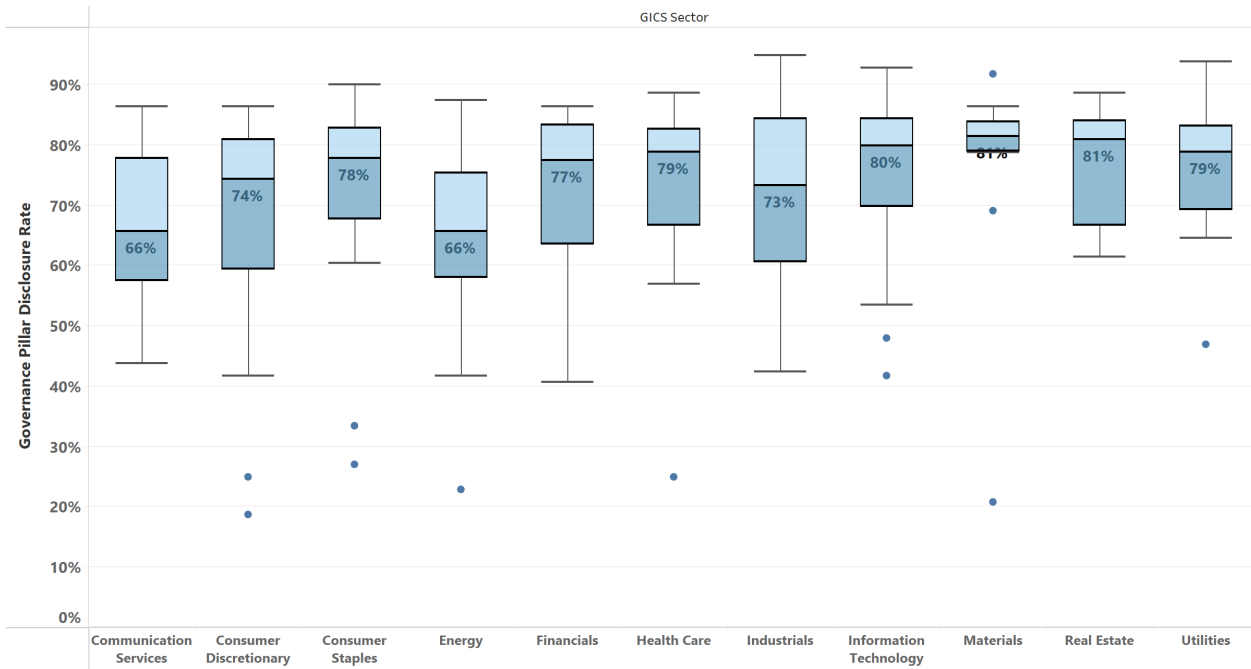


Figure 21. Percentage Disclosure by Global Industry Classification Standard (GICS) Sectors for Companies for the World Economic Forum (WEF) Governance Pillar.