Sustainability Metrics Landscape Compilation for the Electric Power Industry

Results of Research with Electric Power Companies and Metric Database Development

2022 TECHNICAL REPORT

Sustainability Metrics Landscape Compilation for the Electric Power Industry

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ABSTRACT

This study seeks to identify the landscape of sustainability metrics in use by electric power companies and requested by voluntary reporting bodies. The research was conducted through four phases: 1) identify metric sources, 2) establish metric capture framework, 3) review sources and capture metrics, and 4) validate metrics. The research culminated in a database with 6,072 metrics. A survey was also fielded with participants of EPRI's Energy Sustainability Interest Group to capture corporate perspectives on the ongoing evolution of sustainability disclosure practices. The survey provided valuable insights and context about the methods and challenges of tracking and recording sustainability metrics for electric power companies.

This report describes the methodology for developing the database over the four phases. It also provides results of the research, including the database and survey findings, most significant insights gleaned from the work, conclusions, and next steps.

Electric power companies may use this research to inform the focus of their own sustainability reporting activities for internal and external stakeholders. In addition, stakeholders may use this report and database to better inform their understanding of sustainability metrics in use within the electric power industry and the similarities or differences in metrics requested by voluntary reporting bodies.

Keywords

Sustainability metrics
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Stakeholder communication
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Product Title: Sustainability Metrics Landscape Compilation for the Electric Power Industry: Results of Research with Electric Power Companies and Metric Database Development

PRIMARY AUDIENCE: Electric power companies interested in gaining a better understanding of the full landscape of sustainability metrics

SECONDARY AUDIENCE: Stakeholders with an interest in sustainability metrics

KEY RESEARCH QUESTION

The aim of this research was to refresh the sustainability metrics compilation study published in 2019 and create a comparative study reexamining how the sustainability metrics landscape has evolved for the North American electric power industry.

RESEARCH OVERVIEW

The database development effort was broken into four phases:

- Phase 1: The initial phase, which took place during August 2021, sought to identify the corporate and non-corporate literature sources to be used to capture metrics. In total, 40 literature sources were assessed, compared to the 52 that were used in 2019.
- Phase 2: Having identified the range of literature sources, the aim of Phase II was to design a framework that would allow for the consistent capture of all relevant attributes associated with each metric. Looking for opportunities to build enhancements into the 2019 framework, this latest iteration of the data features 106 columns and combines the metrics captured in the prior study with those captured in this latest study. In so doing, users can see and easily navigate around the latest metrics as well as identify trends in the evolution of those metrics. For example, they can see which metrics have reappeared, which have disappeared, and which are new compared with 2019.
- Phase 3: The main phase of reviewing literature sources and capturing metrics took place between September 2021 and January 2022. Prior to review for duplicate metrics, over 8,000 metrics were identified and captured from the 40 literature sources.
- Phase 4: The final phase of the project took place from January to March 2022 and consisted of merging duplicate metrics and refining the database, which reduced the number of unique metrics from 8,684 to 6,072.

Additionally, a survey was fielded with participants of EPRI's Energy Sustainability Interest Group (ESIG) to capture corporate perspectives on the ongoing evolution of sustainability disclosure practices (see Appendix A: EPRI ESIG E-survey Questionnaire). The survey provided valuable insights and context into the realities, priorities, and challenges of tracking and recording sustainability metrics within electric power companies.

KEY FINDINGS

Key takeaways from the development of the sustainability metrics landscape captured in the 2022 database include the following:

- Overall, the number of metrics captured through this landscape review exercise has increased, reflecting several influencing factors:

  - Consideration of sustainability has shifted from issue management to strategic prioritization. This is reflected in the refresh of EPRI's separate report where the title changed from *Priority Sustainability Issues for the North American Electric Power Industry* (30023011444, 2017) to *Sustainability Priorities for The North American Electric Power Industry* (3002020773, 2021).
  - The number of metrics used and requested for corporate sustainability reports and voluntary reporting body documents has also increased over the past five years, reflecting the growing awareness and maturity for measuring and managing corporate sustainability issues.
  - In most electric power companies, almost all business functions have increased engagement with sustainability metrics.
- This study identified a total of 6,072 sustainability metrics.
  - Each metric was assigned to the most relevant sustainability priority, emerging sustainability priority or sustainability management element. There were significant variations in the number of metrics identified across the different categories, ranging from zero metrics for *Just Transition* up to 1,011 for *Diversity, Equity, and Inclusion*.
  - The top three priorities with the most sustainability metrics are: *Diversity, Equity, and Inclusion* (1,011); *Low Carbon Transition* (806); and *Energy Reliability and Resiliency* (530).
  - The top 10 most cited metrics appeared in at least 11 literature source documents (see Table 3-1). The most frequently cited metric was *Number of Employees*, which appeared in 24 source documents and was also the most frequently cited metric in 2019.
  - The average number of sustainability metrics among the two types of literature documents were slightly higher for the corporate sustainability reports at 221 per source compared to the voluntary reporting bodies, with an average of 139 per source.
  - The variation in number of metrics per source ranged from 14–812 among corporate sustainability reports and 14–516 for the voluntary reporting body sources reviewed.
- Reviewing the responses from the 36 EPRI ESIG participants who responded to the survey, 91% viewed *communicating sustainability performance to external stakeholders* as a *Very Important* or *Important* driver for their organization in capturing sustainability metrics (see Figure 3-11). This is by far the strongest driver for influencing corporate voluntary reporting behavior and is followed by *benchmarking performance with peers*, where 86% of respondents cited the same in aggregate across *Very Important* and *Important* responses. These results are similar to those found in 2019, where *communicating sustainability performance* and *benchmarking performance against peers* were the first and second most important drivers.
- The survey found that over two-thirds (72%) of ESIG members cited an increase in the number of sustainability metrics in use within their organization over the last three years.
- Further, the top two most significant metrics-related challenges cited by survey respondents as *Very Significant* or *Significant* were *consistency in metric measurement unit*, (91% in aggregate) and *consistency in metric measurement time period* (79% in aggregate).

WHY THIS MATTERS

Once a company has identified priorities and established goals for their company's sustainability strategy and initiatives, they then determine which metrics are appropriate for tracking, benchmarking, and communicating performance. This landscape review provides a dynamic resource that a company may use as a starting point to identify which metrics may be appropriate for their company to utilize. As the landscape for sustainability metrics is constantly evolving, this refresh and comparative study – which EPRI intends to continue in future

years – is critically important in ensuring the industry remains abreast of the metrics being used by their corporate peers and requested by voluntary reporting bodies.

HOW TO APPLY RESULTS

Electric power companies may use this research to inform the selection of metrics appropriate for tracking progress on sustainability initiatives and strategies. Further, stakeholders may use this report and database to better inform their understanding of sustainability metrics in use within the electric power industry and the similarities or differences in those requested by voluntary reporting bodies. Lastly, this research provides a comparative analysis of the evolution of sustainability metrics in use in the electric power industry over time.

LEARNING AND ENGAGEMENT OPPORTUNITIES

- *Priority Sustainability Issues for the North American Electric Power Industry: Results of Research with Electric Power Companies and Stakeholders in the United States and Canada*. EPRI, Palo Alto, CA: 2017. 3002011444.
- *Sustainability Metrics Landscape Compilation for the Electric Power Industry*. EPRI, Palo Alto, CA: 2019. 3002013459.
- *2019 State of the Metric: Summary of Learnings from Sustainability Metrics Research.* EPRI, Palo Alto, CA: 2019. 3002016114.
- *Sustainability Priorities for The North American Electric Power Industry: Results of 2020-2021 Research with Electric Power Companies and Stakeholders in the United States and Canada.* EPRI, Palo Alto, CA: 2020. 3002020773.
- *2020 Sustainability Reporting Trends: EPRI 2020 Pulse Survey Results.* EPRI, Palo Alto, CA: 2020. 3002021705.
- *2020 Metrics to Benchmark Electric Power Company Sustainability Performance.* EPRI, Palo Alto, CA: 2020. 3002019251.
- *2021 Metrics to Benchmark Electric Power Company Sustainability Performance.* EPRI, Palo Alto, CA: 2021. 3002021713.
- *2022 Metrics to Benchmark Electric Power Company Sustainability Performance.* EPRI, Palo Alto, CA: 2022. 3002024786.
- *2021 Sustainability Reporting Trends: EPRI 2021 Benchmarking Survey Results.* EPRI, Palo Alto, CA: 2022. 3002024782.
- EPRI Sustainability Homepage: http://www.epri.com/sustainability

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ACRONYMS

DEI	Diversity, Equity, and Inclusion
DJSI	Dow Jones Sustainability Index
EEI	Edison Electric Institute
EPRI	Electric Power Research Institute
ESG	Environmental, Social, and Governance
ESIG	Energy Sustainability Interest Group
EV	Electric Vehicle
GRI	Global Reporting Initiative
IOU	Investor-Owned Utility
IRP	Integrated Resources Planning
ISS	Institutional Shareholder Services
SASB	Sustainability Accounting Standards Board
SEC	Securities and Exchange Commission
TCFD	Task Force on Climate-related Financial Disclosures
TCR	The Climate Registry

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1
INTRODUCTION

As sustainability is a broad concept that engages a variety of stakeholders, identifying which aspects to focus on and the types of metrics to measure is invariably challenging. Further, sustainability is an evolving concept, and the priorities and metrics that are relevant to certain stakeholders can vary depending on whether they represent financial investors, employees, customers, regulators, or other entities.

In 2019, EPRI published *Sustainability Metrics Landscape Compilation for the Electric Power Industry* [1], which provided an overview and analysis of the metrics used in sustainability reporting at the time. Following a review of 30 utility sustainability reports – representing investor-owned utilities (IOUs), municipalities, and cooperatives – and guidance documents from 22 voluntary reporting bodies, a total of 4,857 unique metrics were identified. Each metric was categorized against 20 priority sustainability issues [5].

Since the 2019 report, there has been a shift in emphasis around sustainability for many in the sector. Whereas sustainability was previously generally positioned as an issue (or series of issues) that needed to be managed, many stakeholders now view sustainability as a series of strategic priorities, presenting an opportunity for electric power companies to build long-term strength and resiliency into their business. As a result, the metrics in this latest iteration of the report, are categorized against a set of sustainability priorities, defined in EPRI's *Sustainability Priorities for the North American Electric Power Industry* [2].

The metric realignment has resulted in merging and renaming of existing metrics alongside the introduction of entirely new metric categories within the 20 core sustainability priorities as well as three new sustainability management elements and three new emerging sustainability priorities. The 2022 report has identified 6,072 unique sustainability metrics and assessed 40 source documents, of which 10 derive from voluntary reporting bodies and 30 are authored by utility companies (see Appendix B and Appendix C) representing IOUs, municipalities, and cooperatives.

2
METHODOLOGY

2.1 Approach

The aim of this project was to build upon and refresh the sustainability metrics assessment performed and published in 2019. The project is designed to capture the entire landscape of sustainability metrics that were voluntarily recorded or submitted within the electric power industry. For the purposes of this work, sustainability is defined as the management and balance of economic, environmental, and social factors that have the potential to influence the long-term value creation of an electric power company and its stakeholders, today and in the future [2]. In addition, for the purposes of this work, a metric is defined as a quantitative measure of performance.

Development of the metrics database was split into four phases, as detailed in Table 2-1. Alongside the database, a survey was fielded with participants of EPRI's Energy Sustainability Interest Group (ESIG) to capture electric power company perspectives on the development of sustainability disclosure practices. This survey generated valuable insights on the burdens of metric collection and the changing sustainability metric landscape. Results from this survey were compared with the 2019 results to provide deeper comparative analysis.

Table 2-1
Project phases

Phase	Purpose
1. Identify metric sources	Build upon the 2019 range of literature sources to determine relevant sources to be used to capture metrics.
2. Establish metric capture framework	Design a framework built off the 2019 database that would allow for consistent metric capture and identification of recurring metrics from 2019.
3. Review sources and capture metrics	Review each literature source, identifying and capturing every metric referenced in the text.
4. Validate metrics	Review and validate the metrics captured from the source documents.

2.2 Phase 1: Identify Metric Sources

The initial identification phase took place during August 2021. As with previous iterations of the study, two sets of metric source documents were identified as appropriate for this study:

- **Voluntary Reporting Bodies**: The first set of source documents includes reporting frameworks and questionnaires that request data from electric power companies. Making use of EPRI's annual Sustainability Reporting Trends Survey [3], voluntary reporting bodies were included where at least three ESIG members had cited preparation or participation during 2020, compared to requiring two citations in EPRI's previous metrics publication. (This change in approach was driven by a wish to take a sharper focus on the voluntary reporting frameworks that were more widely adopted.) This phase identified a total of 12 questionnaires or guidance documents across 11 separate bodies (see Table 2-2), which were later revised to 10 questionnaires across nine separate bodies.
- **Electric Power Company Sustainability Reports**: Corporate sustainability reports from 30 electric power companies were also included in the study, as shown in Table 2-3. EPRI identified whether the companies referenced in 2019 had published updated reports. A total of 19 companies had updated reports and were therefore chosen for inclusion in this study. New reports from different companies were chosen to replace the 11 companies for which no 2020/2021 report could be found. When selecting company reports, care was taken to ensure the reports provided a representative sample of the North American electric power industry. This was achieved first by ensuring that the chosen group of utilities reflected the revenue split of approximately 69% for IOUs, 17% for publicly owned utilities, and 14% for cooperatives [4]. The distribution of reports between company types was adjusted to account for changes since 2019. Second, in addition to incorporating reports from across geographical areas, care was taken to ensure the power companies selected represented the largest possible section of the U.S. customer base. As a result, selection was limited to the largest electric power companies, with smaller electric power companies omitted.

The total volume of metric source documents has been streamlined since the 2019 study, with 40 total source documents reviewed in 2021 compared to 52 source documents in 2019, as shown in Table 2-4. This rationalization was driven by a sharper focus on the more widely adopted voluntary reporting frameworks.

The following voluntary reporting body publications that received at least three citations were *not* included as source documents:

- Edison Electric Institute (EEI) was identified by 23 responding companies; however, the EEI environmental, social, and governance (ESG) template was not updated before the database was created.
- MSCI was identified by 22 responding companies; however, when contacted, MSCI did not provide a document including metrics, and hence was excluded.
- The Climate Registry (TCR) was identified by seven responding companies; however, since TCR provides standards for greenhouse gas (GHG) accounting and a platform for submitting – as opposed to a disclosure questionnaire – it was not reviewed for the purposes of this research.

One additional voluntary reporting body source was added at a late stage to the database:

- **Task Force on Climate-related Financial Disclosures (TCFD):** During the course of the research, this reporting body rose in importance, serving as a template for proposed new climate change disclosure regulations set forth by the Securities and Exchange Commission (SEC) in March 2022. With ESIG members also observing the significant rise in prominence of the TCFD, a decision was made to include this within the database, despite only one ESIG member citing preparation for or in participation in the TCFD during 2020.

Table 2-2
Reporting bodies repeatedly referenced in the EPRI 2020 Sustainability Reporting Trends Survey

Number	Voluntary Reporting Body	Number of EPRI Survey Respondents Citing Preparation or Participation in 2020
1	EEI ESG Template	23
2	MSCI	22
3	Sustainalytics	22
4	Institutional Shareholder Services (ISS)	21
5	CDP Climate	18
6	Sustainability Accounting Standards Board (SASB)	17
7	CDP Water	14
8	Global Reporting Initiative (GRI)	12
9	Dow Jones Sustainability Index (DJSI)	11
10	Corporate Knights	8
11	The Climate Registry (TCR)	4
12	JUST Capital	3
13	TCFD	1

Table 2-3
Corporate sustainability report metric sources

Number	Electric Power Company Type	Number of Sources
1	IOU	21
2	Publicly Owned Utility	5
3	Cooperative Utility	4
Total		30

Table 2-4
Summary of metric source documents (compared to the 2019 study)

Number	Source Document Type	Number of Sources: 2019 Study	Number of Sources: 2022 Study
1	IOU	22	21
2	Municipal/Publicly Owned Utility	5	5
3	Cooperative Utility	3	4
4	Voluntary Reporting Bodies	22	10
Total		52	40

2.3 Phase 2: Establish Metric Capture Framework

The 2019 database framework was used as a starting point for creating the framework for this latest study. During September 2021, the database framework was reviewed and refined, and some columns were removed or adjusted to optimize its usability.[1] One major advancement in this latest study was to retain the content of the 2019 database, which allowed for significant efficiency in the metric capture process as the repeating metrics only needed a new page number recorded. Retaining the 2019 database content also allowed some new direct comparisons around repeating and nonrepeating metrics that were not previously possible.

The Sustainability Metrics Database vol. 2022 features 106 individual columns, with 60 of these being carried over from the 2019 version, as shown in Table 2-5. New columns were added for the 2022 metric sources, which were grouped into voluntary reporting bodies and electric power company sustainability reports, as was done in 2019. The metric total columns used in 2019 were kept and replicated for 2022 metrics to allow the user to compare how often particular metrics recurred in both studies. Additionally, to clearly demarcate which metrics reappeared from 2019, which did not reappear, and which were new, three additional columns have been added. All these columns can be filtered to analyze data.

[1] The column that identified metrics used by EPRI for benchmarking was moved to the right-hand side of the database to allow the user to easily analyze metric citation totals for benchmarking metrics. These included columns that identified the applicability of each metric to different types of electric power companies (such as IOUs, municipals, and cooperatives) and to electric power companies with different operational footprints (including nuclear, renewables, and coal). The leading/lagging column and metric number columns were also removed.

Table 2-5
List of metric columns and descriptions adopted in the metric database

Column	Column Header	Description
1	Metric Description	Written description of the metric
2	Sustainability Priority	Name of the sustainability priority to which the metric is assigned
3	Metric Type	Type of quantitative metric (e.g., absolute, intensity, or other)
4	Unit(s) of Measurement	Measurement unit(s) for the metric
5-34	2022 Metric Sources (Electric Power Company Sustainability Reports)	Whenever a metric is identified within a sustainability report published from 2020–2021, the page number of that metric is recorded against the relevant firm's column in the database. For a given metric, there may be multiple page references against different sources. The numbers above the electric power company names are the number of metrics recorded from that source document.
35-44	2022 Metric Sources (Non-Electric Power Company Source Documents)	As above, but the assessment is made with respect to voluntary reporting bodies and sustainability organizations, considering the 2020–2021 editions of documents
45-74	2019 Metric Sources (Electric Power Company Source Documents)	As above, but the page numbers are records carried over from the 2019 database with respect to electric power company sustainability reports
75-96	2019 Metric Sources (Non-Electric Power Company Sustainability Reports)	As above, but the page numbers are records carried over from the 2019 database with respect to voluntary reporting bodies and sustainability organizations
97	2022 Metric Usage Count – Electric Power Company Sources	The number of times a specific metric is referenced within company sustainability reports in the 2022 database outputs
98	2022 Metric Usage Count – Non-Electric Power Company Sources	The number of times a specific metric is referenced within non-electric power company source documents in the 2022 database outputs
99	Total 2022 Metric Count	The total number of times a metric is referenced across both electric power company source documents and non-electric power company source documents in the 2022 database outputs
100	2019 Metric Usage Count – Electric Power Company Sources	The number of times a specific metric is referenced within company sustainability reports in the 2019 database outputs
101	2019 Metric Usage Count – Non-Electric Power Company Sources	The number of times a specific metric is referenced within non-electric power company source documents in the 2019 database outputs

Table 2-5 (continued)
List of metric columns and descriptions adopted in the metric database

Column	Column Header	Description
102	Total 2019 Metric Count	The total number of times a metric is referenced across both electric power company source documents and non-electric power company source documents in the 2019 database outputs
103	2019 Only Metric?	A yes/no answer providing confirmation of whether a specific metric that occurred in 2019 only occurs in the 2019 source documents and does not recur in the 2022 source documents
104	2022 Only Metric?	A yes/no answer providing confirmation of whether a specific metric that occurred in the 2022 source documents is a new metric that did not appear in 2019
105	Metric in 2019 and 2022?	A yes/no answer providing confirmation of whether a specific metric that occurred in 2019 also occurs in the 2022 source documents
106	Benchmarking Metrics?	A yes/no answer providing confirmation of whether the metric is one of EPRI's identified benchmarking metrics. A yes-component answer signifies that the metric is a numerator, denominator, or component of one of EPRI's identified benchmarking metrics.

2.4 Phase 3: Review Sources and Capture Metrics

The main phase of metric capture research took place between September 2021 and January 2022, when the 40 source documents were reviewed and the listed metrics were captured in the database. When a metric was found, the database was searched to check if the metric had already been recorded in 2019. If the metric existed from 2019, the new page number was added to the existing row within the 2022 section of the database. If it was not an existing metric, a new row was added to the database.

Each identified metric was associated with either a sustainability priority, an emerging sustainability priority, or a sustainability management element. These three categories were defined as part of EPRI's 2021 study [2].

Searching the database before adding new metrics reduced the number of duplicates recorded (vs. the 2019 study). However, as a team of researchers worked across the various documents, it was not possible to eliminate the capture of duplicate metrics. As a result, a metric duplicate identification exercise was included within the metric validation stage of the methodology process.

2.5 Phase 4: Validate Metrics

Between January and March 2022, the captured metrics went through a metric validation exercise. (The process took half the time of 2019 due to reuse of the 2019 database, which improved first-time data capture.) The most significant part of this process was to identify and

combine duplicate metrics. This task presented many of the same questions and challenges experienced in 2019. As a result, the same considered approach was largely adopted in this study in dealing with those questions (see Appendix D) [1]. The exceptions to this were as follows:

- **Scope 3 Metrics**: The different types of scope 3 metrics were *not* consolidated in the database. This is a change from 2019 where certain source documents had such large volumes of pages dedicated to different scope 3 metrics that it was necessary to adopt a consolidation approach. In this latest study, the source documents provided more manageable volumes of scope 3 metrics; therefore, it was deemed valuable to capture scope 3 metrics in full, as was done for scope 1 and scope 2 metrics.
- **Electric Power Company Operations**: The updated database did not record applicability of metrics to specific operational domains of electric power companies, so this point does not apply in this latest report.
- **Financial Metrics**: Unlike 2019 (where financial metrics were recorded separately), purely financial metrics were not recorded in this study.

Two further considerations from 2019 were also replicated in this latest study:

- **Measurement Units**: It was not deemed helpful to separate out identically named metrics due to variations in measurement unit, so these were collapsed into single metrics.
- **Goals and Targets**: Goals and targets were deemed to be slightly different measures and were removed from the database.

Consolidating metrics with identical wording reduced the number of metrics from 8,684 to 7,008. Consolidating metrics with different measurement units and applying professional judgment to consolidate metrics with small variations in wording reduced the number of metrics from 7,008 to 6,072.

When comparing the number of sustainability metrics collected in 2019 with the current study, the number of metrics has increased by around 25%, from 4,857 to 6,072, as detailed in Table 2-6. An increase in the number of metrics being recorded aligns with the responses given in the project survey. Over two-thirds of respondents to the ESIG participant survey indicated that the number of metrics in use within their organization had either increased or significantly increased in the last three years. Of the 6,072 metrics, 20% were recurring metrics that had appeared in the 2019 database.

Table 2-6
Comparison of identified metrics between 2014, 2019, and 2022*

Sustainability Metric Category	2014 Metrics Study	2019 Metrics Study	2022 Metrics Study	# Metrics (2014 Study)	# Metrics (2019 Study)	# Metrics (2022 Study)	% Metrics repeating (2019 vs 2022)
Air Emissions		X		0	167	0	N/A
Air Quality			X	0	0	95	47%
Assets and Operations		X		0	1499	0	N/A
Business Model		X		0	7	0	N/A
Circular Economy			X	0	0	14	N/A
Climate Change		X	X	0	2	41	2%
Community Support and Economic Development	X			20	0	0	N/A
Community Vitality			X	0	351	370	21%
Customer Engagement			X	0	0	79	9%
Customer Relations		X		0	112	0	N/A
Cyber and Physical Security		X	X	0	8	34	12%
Diversity, Equity, and Inclusion			X	0	0	1011	20%
Economic Viability of Electric Utilities	X			32	0	0	N/A
Employee Safety and Health	X			20	0	0	N/A
Energy Affordability	X	X	X	2	93	130	20%
Energy Portfolio Diversity			X	0	0	514	23%
Energy Reliability	X			71	0	0	N/A
Energy Reliability and Resiliency		X	X	0	114	530	15%
Engagement and Collaboration	X			10	0	0	N/A
Financial Health			X	0	0	131	2%
Governance			X	0	0	29	N/A
Greenhouse Gas Emissions		X	x	0	727	364	43%
Habitat and Biodiversity		X	X	0	105	145	14%
Habitat Protection and Biodiversity	X			17	0	0	N/A
Human Rights			X	0	0	21	N/A
Innovation			X	0	0	52	N/A
Job Satisfaction	X	X		12	26	0	N/A
Just Transition			X	0	0	0	N/A
Labor Relations		X		0	21	0	N/A
Low Carbon Transition			X	0	0	806	15%
Public Policy Engagement			X	0	0	127	31%
Public Policy Relations		X		0	117	0	N/A
Public Safety and Health	X			24	0	0	N/A
Reductions of Other Air Emissions	X			35	0	0	N/A
Risk Management			X	0	0	39	N/A
Safety and Health		X	X	0	166	247	17%
Skilled Workforce Availability	X	X		8	128	0	N/A
Stakeholder Relationships			X	0	0	260	19%
Supply Chain		X	X	0	163	168	26%
Waste		X	X	0	286	232	29%
Waste Management	X			31	0	0	N/A
Water		X	X	0	336	406	19%
Water Availability	X			64	0	0	N/A
Water Quality	X			24	0	0	N/A
Workforce Development			X	0	0	227	15%
Workforce Diversity, Inclusion, and Equal Opportunity		X		0	428	0	N/A
TOTAL				**448**	**4857**	**6072**	**20%**

	2021 Sustainability Priority
	2021 Emerging Sustainability Priority
	2021 Sustainability Management Element

* Each identified metric is assigned to the most relevant sustainability metric category. In 2021, the previously named priority sustainability issues were refreshed and renamed sustainability priorities. Alongside the 20 priorities, three emerging sustainability priorities and three sustainability management elements were identified. As a result, the metrics were aligned using a different set of categories in this latest study vs. the 2019 study.

Note: Where N/A appears in the % Repeating column, it denotes that there were zero metrics identified against that metric category in 2019, 2022, or both. Also, note that some metrics have shifted metric category between 2019 and this current study. As a result, the % Repeating metrics may appear lower or higher than expected. (For example, zero metrics were recorded against *Air Quality* in 2019 as it was not a categorization that was used. However, 47% of the metrics assigned to this category in this latest study were featured in the previous database under a separate category.)

3
RESULTS

3.1 Survey

An online survey was conducted among EPRI ESIG members (see Appendix A for the survey and Appendix E for the member utility listing) to better understand corporate perspectives on sustainability metrics. All 44 2022 EPRI ESIG members were invited to participate. The survey was open for three weeks in February and March 2022. While the ESIG participant survey did not directly influence the content of the sustainability metrics database, the survey does provide additional insights into the contexts and emerging trends surrounding the collection of sustainability metrics.

The ESIG participant survey found that 72% of the 36 respondents cited an increase in the number of sustainability metrics in use within their organization over the last three years, as shown in Figure 3-1. This result corresponds with what was found in 2019, where 68% of respondents reported that sustainability metrics usage had increased. This is also reflected in the 25% increase in metrics found in the 2022 database compared to the 2019 version.

Despite the overall increase in metrics, 30% of respondents felt their organization was collecting too few metrics, as shown in Figure 3-2. At the same time, 27% of respondents believed they were collecting too many metrics. This variation suggests a lack of uniformity between power companies in terms of the volumes of metrics they capture. This hypothesis is supported when reviewing the total number of metrics featured in the power company source documents, which varied from 14–812. However, regardless of whether respondents reported that they had too many, too few, or the correct number of metrics, the majority (74%) felt that most or all of the metrics their firm uses were valuable, as shown in Figure 3-3.

How has the number of sustainability metrics in use within your organization changed in the last three years?

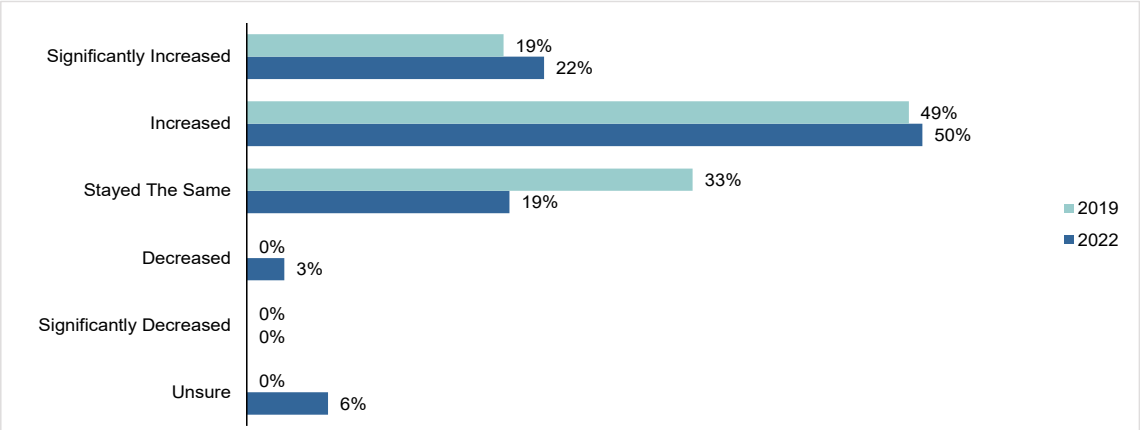

Figure 3-1
Metric use change

Which of the following statements best describes your view on the number of sustainability metrics recorded by your organization?

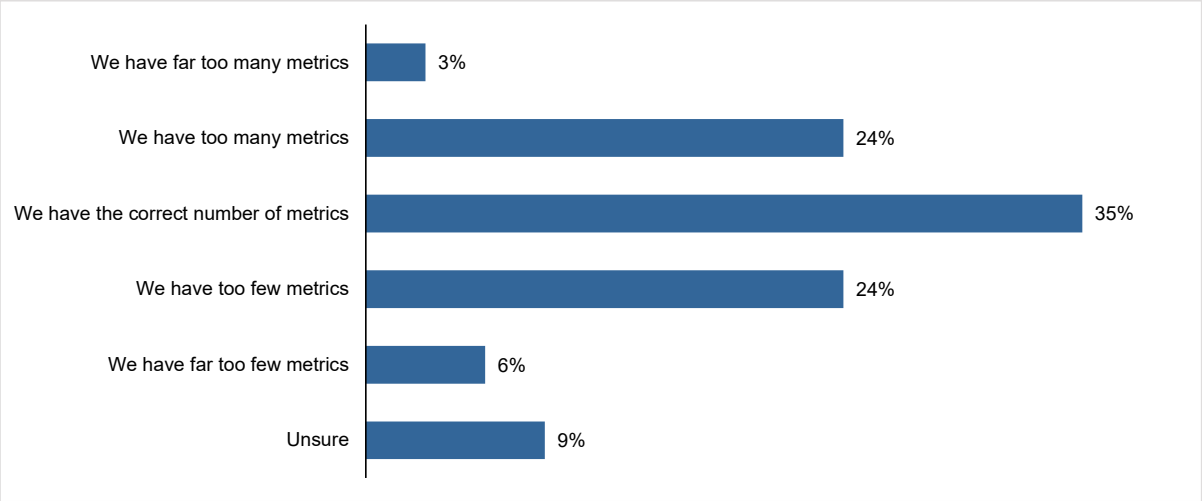

Figure 3-2
Metric number opinions

Which of the following statements best describes your view on the value of sustainability metrics in use by your organization?

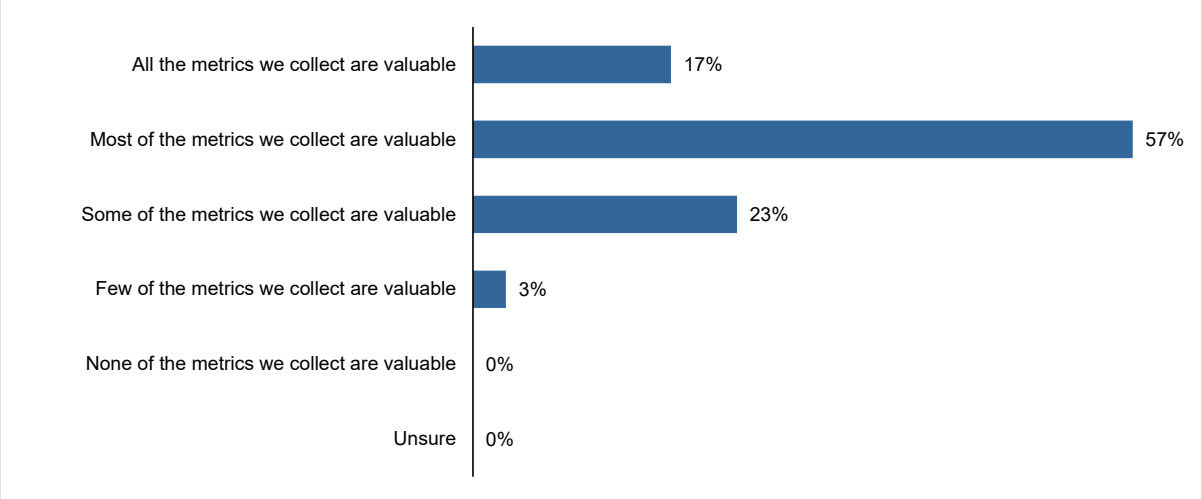

Figure 3-3
Metric valuation

To further examine the trend of increasing sustainability metrics usage, participants were asked what they found to be driving this increase. The top identified driver was an increase in the number of voluntary reporting bodies to which the firms report, with 68% citing this as a factor, as shown in Figure 3-4. Second to this was an organizational drive to be more transparent about sustainability performance, highlighted by 64% of respondents.

This same question was posed in the prior study in 2019. Interestingly, an increase in the number of voluntary reporting bodies to which the firms report was cited by only 38% of participants, registering as the third most frequently identified driver. With respect to an organizational drive to be more transparent, 69% of firms cited this reason in the prior study, and it was the most frequently identified driver.

If sustainability metric usage has increased, or significantly increased, what has been driving this trend?

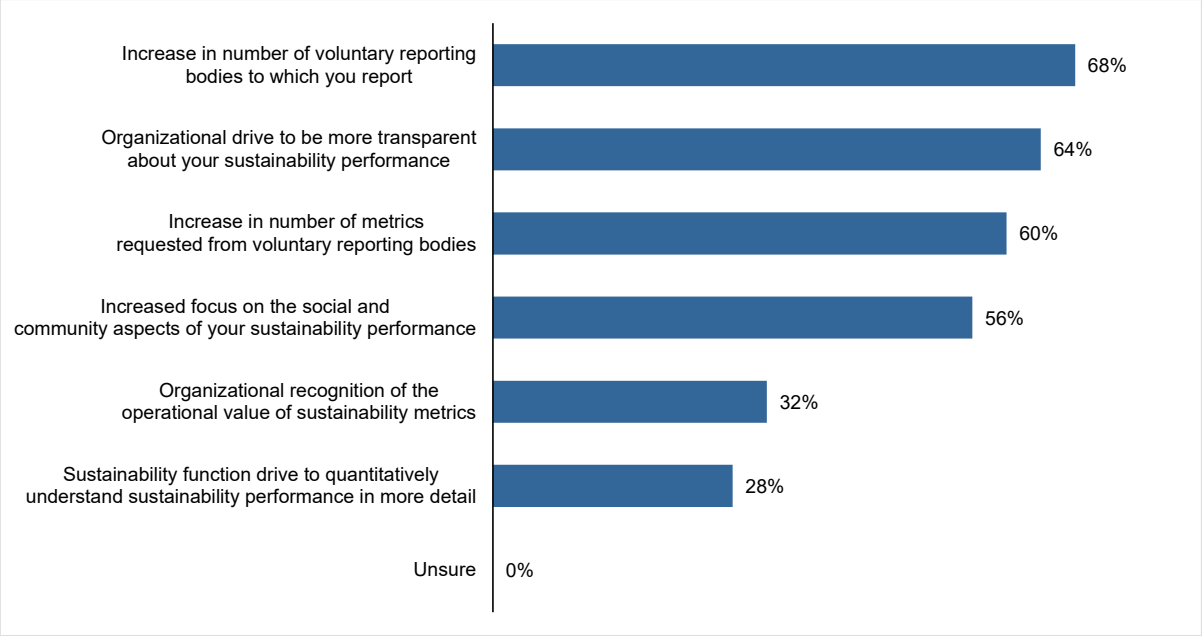

Figure 3-4
Reasons for increases in sustainability metric usage

The survey also asked respondents how important particular internal drivers are in motivating sustainability metric tracking for power companies. The most important driver, cited as *Very Important* by 80% of participants, was *communicating sustainability performance to external stakeholders*, as shown in Figure 3-5. In 2019, communicating to stakeholders was one category, but in the current study this driver was divided into two categories to provide more granular insights by looking at external and internal stakeholders separately. In 2019, only 60% of participants considered communicating sustainability performance to stakeholders to be very important. This 20% increase reflects the growing demand for ESG data from external stakeholders, and the category division has made this data point clear. *Communicating sustainability performance to internal stakeholders* was only considered *Very Important* by 18% of respondents in this latest study, illuminating the relative importance attributed to the two audiences when it comes to metrics.

The second most important driver highlighted by respondents was *benchmarking performance with peers*. In 2019, this driver was identified as *Very Important* by 19% of respondents (ranking seventh out of eight drivers). In contrast, in this latest study, 37% of respondents consider this to be *Very Important*.

One further point of note is the responses to the *compliance with regulatory reporting requirements* driver. In this latest study, 35% of respondents recognized this as a *Very Important* driver in tracking sustainability metrics (making it the third most important driver). In the prior study, this was the second most important driver with 49% of respondents recording this as a *Very Important* driver. It should be noted that this survey was conducted prior to the SEC announcement in March 2022 of the proposed new mandatory reporting requirements around climate; running the survey post-announcement could produce a different result.

How important are the following drivers for your organization in tracking sustainability metrics?

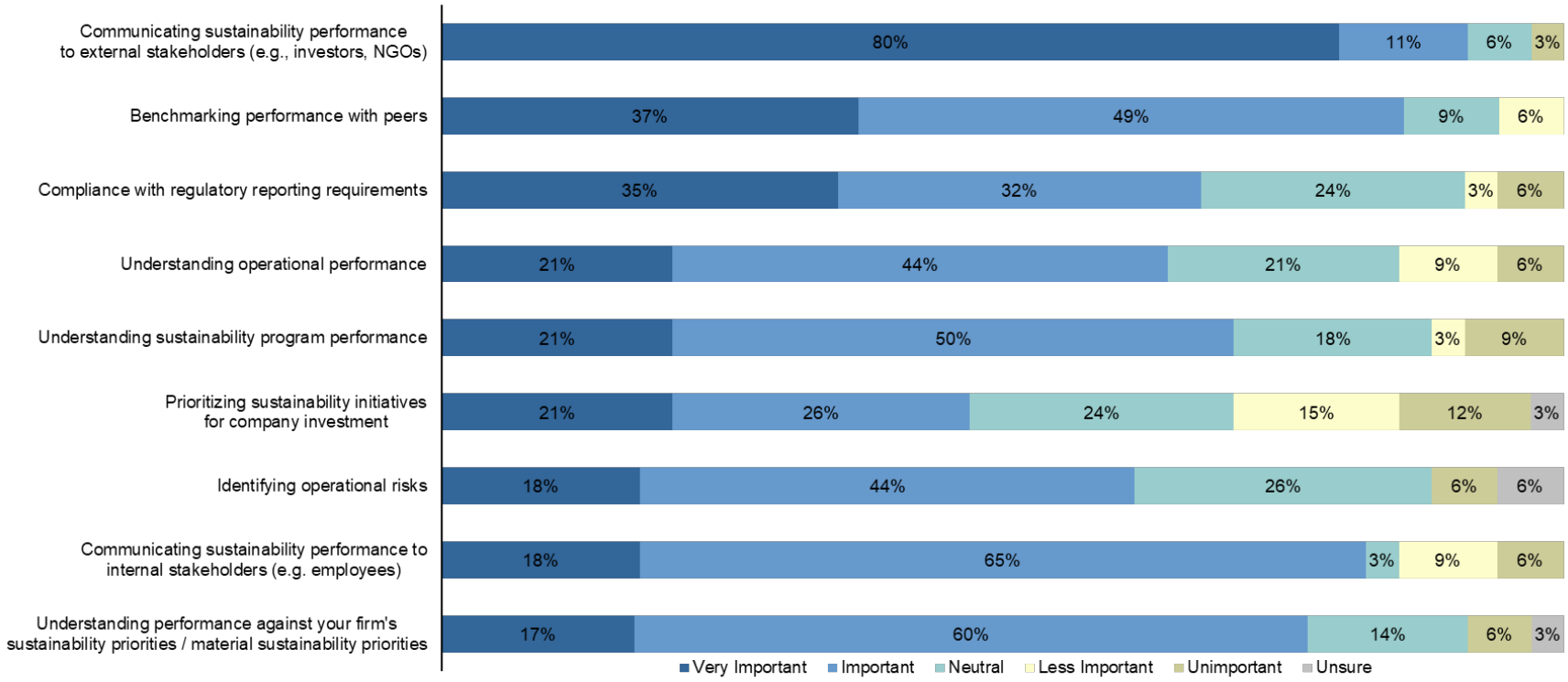

Figure 3-5
Reasons for collecting metrics

Corresponding with the results found in 2019, *consistency in metric measurement unit* was cited as the most significant issue when measuring performance with sustainability metrics, as shown in Figure 3-6. This aligns with findings during the metric validation phase. This phase centered around consolidating metrics with differing measurement units, which reduced the number of metrics by 30%. The second largest challenge faced by ESIG member firms when measuring sustainability performance was *consistency in metric measurement time period*. This has doubled in importance since 2019 where only 19% of participants considered it to be a *Very Significant* issue, compared to 38% in 2022. Other challenges noted by participants included *data privacy/security* and *time and cost of collecting metric data* and were cited as *Very Significant* challenges by 37% and 29% of respondents, respectively.

How significant are the following issues when measuring performance on sustainability metrics?

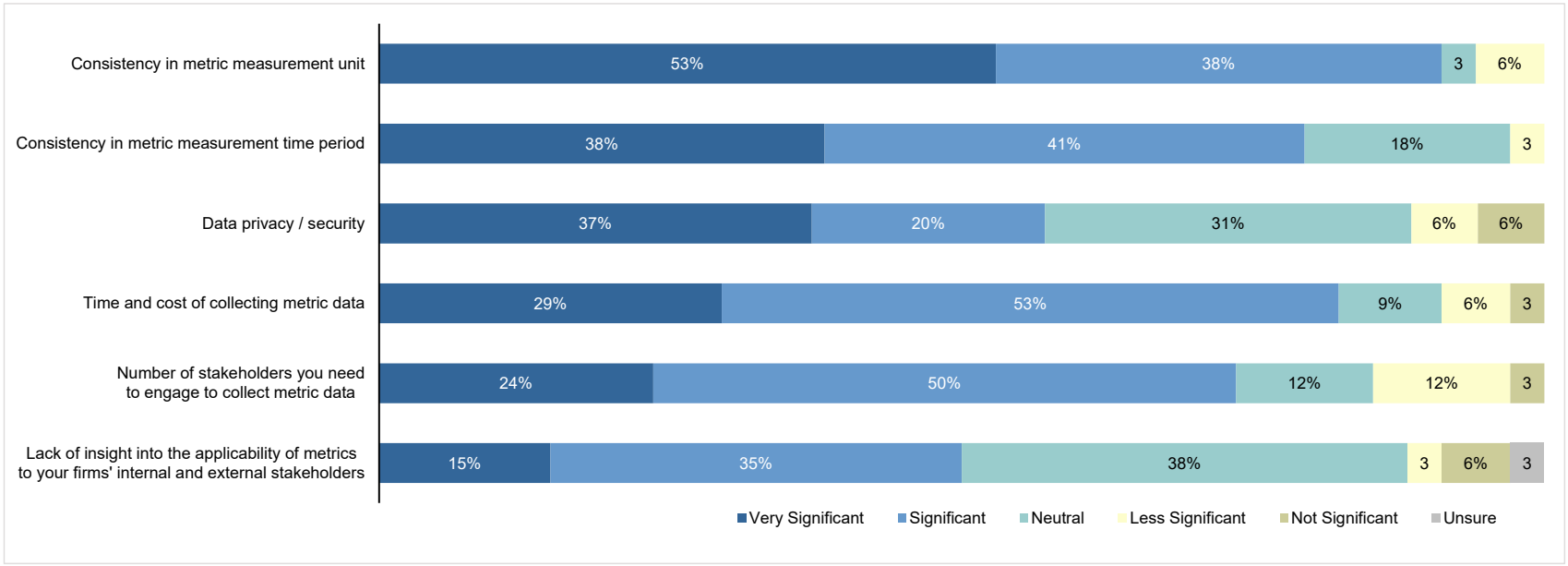

Figure 3-6
Challenges in recording sustainability metrics

The survey was also used to generate insights on which sustainability priorities gain the most attention and focus from senior executives and which priorities provide the most significant challenges in data collection. As shown in Figure 3-7, the top three sustainability priorities metrics receiving the most focus from senior executives were: 1) *Energy Reliability and Resiliency*, 2) *Safety and Health*, and 3) *Climate Change*. The sustainability priority cited as the most difficult to collect metrics for was *Circular Economy*, with 32% of respondents finding it *Very Challenging*. Correspondingly, *Circular Economy* received the lowest focus from senior executives out of all the sustainability priorities, as difficulties in metric collection and a low level of managerial prioritization create a cycle.

Climate Change also emerged as a sustainability priority where the associated metrics receive significant senior executive focus (it was the third highest ranked priority, with 60% of participants considering it *Very High* priority for senior executives). However, *Climate Change* also ranked as the second most challenging priority for data collection, with 29% finding it *Very Challenging*, as shown in Figure 3-8. This suggests *Climate Change* could be a good area of focus for the industry to try to establish a consensus on meaningful and effective metrics.

Among your senior executive team, how would you rate the level of focus on metrics for the following sustainability priorities?

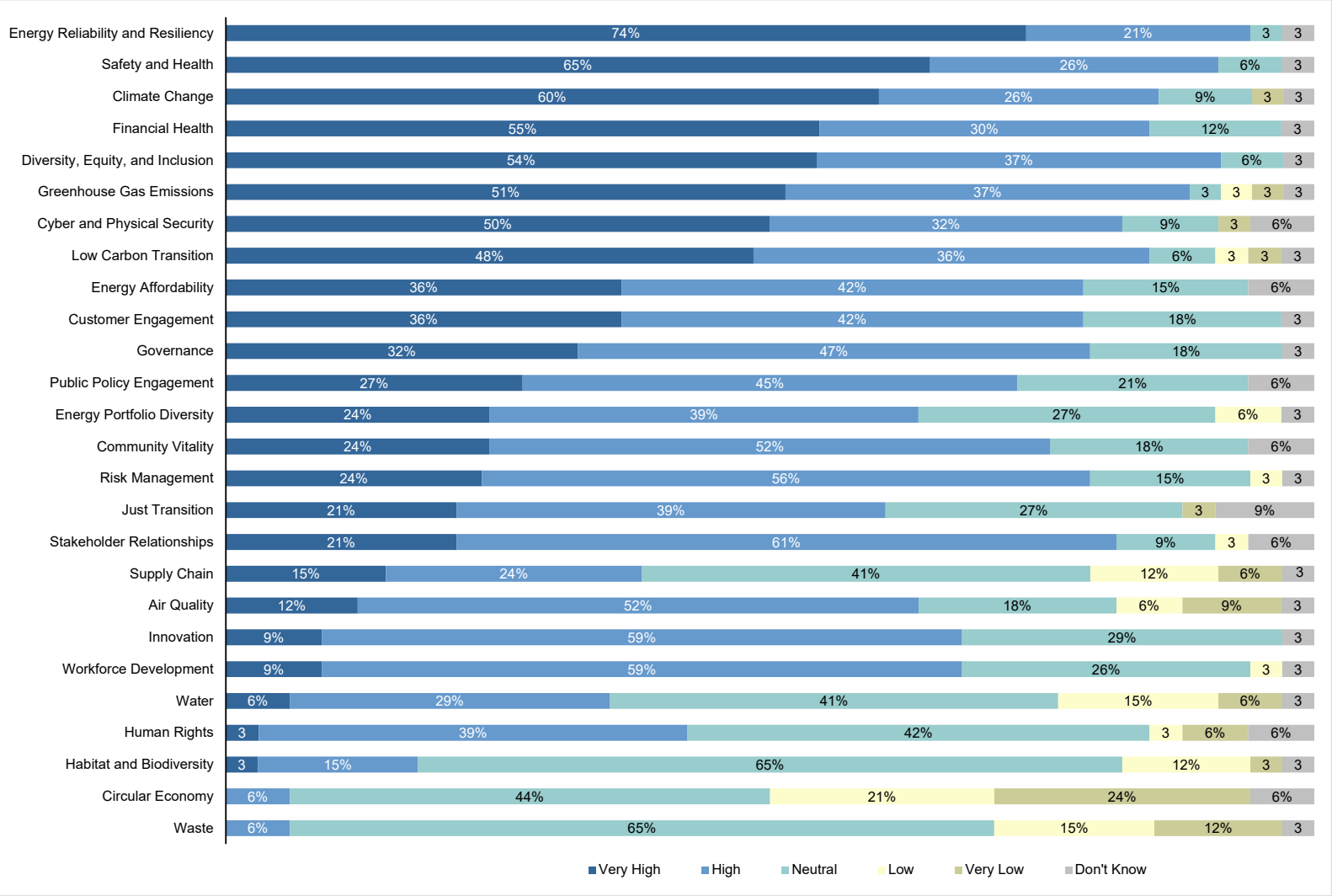

Figure 3-7
Senior executive focus on sustainability priorities

How would you rate the difficulty of collecting good quality data on metrics for the following sustainability priorities?

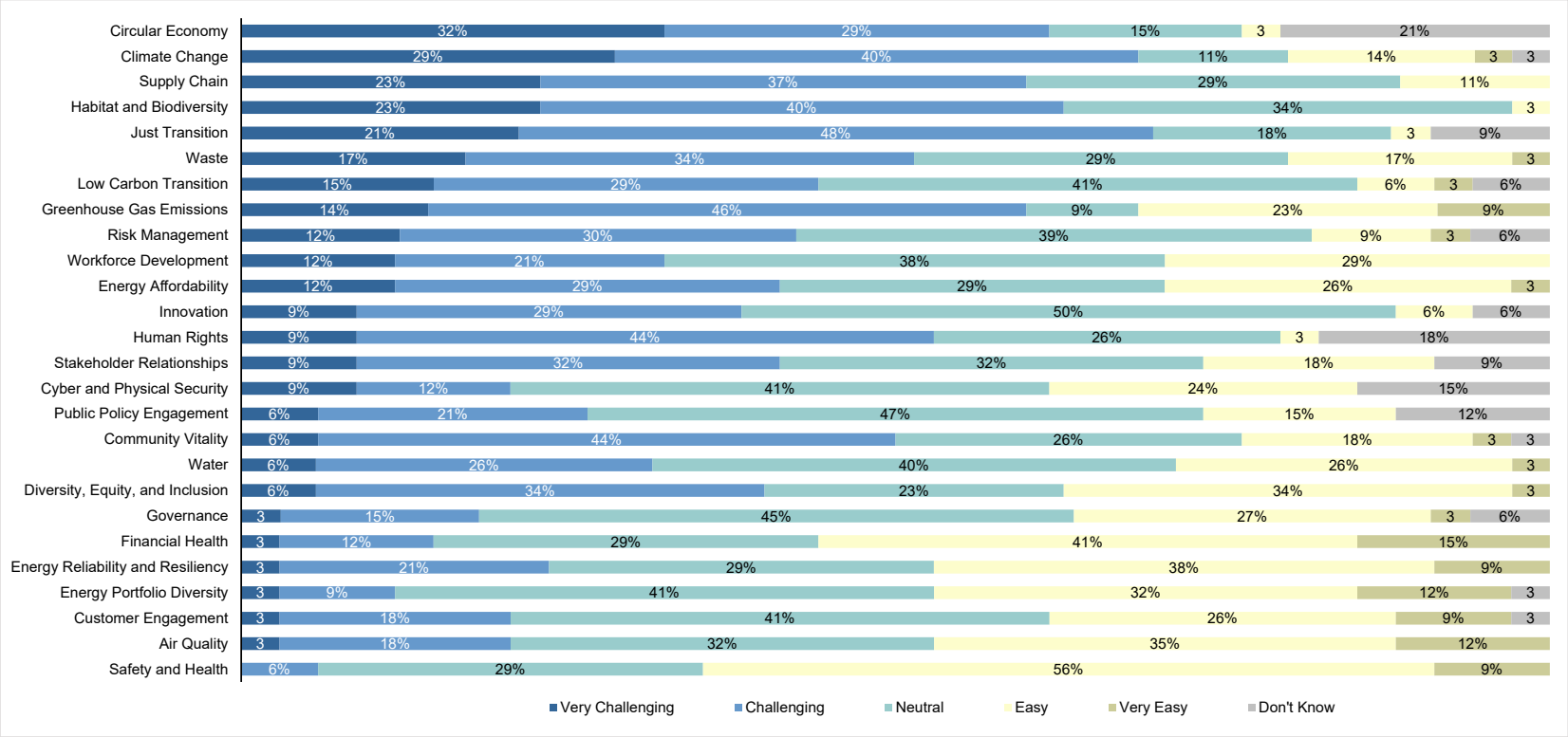

Figure 3-8
Challenges with accurate data collection

Finally, respondents were asked to indicate what change they had seen in engagement with sustainability metrics from different functions within the company over the last two years. As shown in Figure 3-9, of the 17 different functions assessed, only *Operations*, *Facilities*, and *Health & Safety* were reported by most respondents to have either unchanged or decreased engagement with sustainability metrics. For all other functions, at least 50% of respondents considered engagement to have increased or significantly increased. From reviewing the survey responses, the functions that showed the most significant increase in engagement with sustainability metrics in the last two years were *Investor Relations* and *Executive Team*. *Investor Relations* were indicated to have increased engagement by 79% of participants. *Executive Team* was recognized by 80% of participants to have increased engagement over the last two years.

In the last two years, how has the level of engagement from the following functions changed with respect to understanding the sustainability metrics you are recording and reporting?

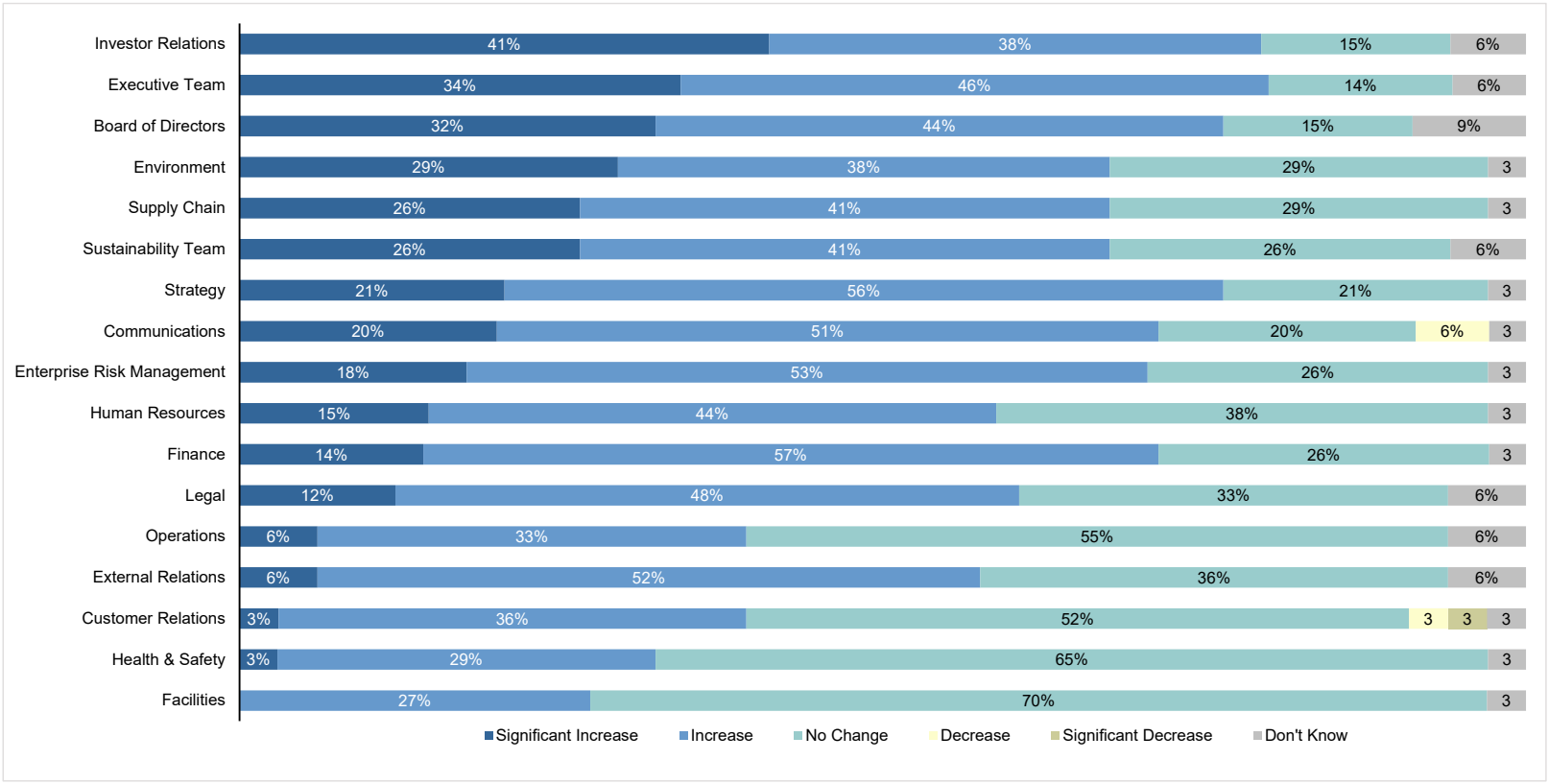

Figure 3-9
Engagement with sustainability metrics from different functions

3.2 Database Results

A total of 6,072 sustainability metrics were identified through the research. Changes in the sustainability priorities between 2017 and 2021, including removals, introductions, and updated descriptions, have contributed to changes in the number of metrics that fall into particular categories. For example, the description of the sustainability priority, *Greenhouse Gas Emissions*, has been refined to focus on scope 1 emissions. The scope 2 and scope 3 emissions metrics, which originally fell into this category, are now under the new category *Low Carbon Transition*. As such, the number of metrics in the priority *Greenhouse Gas Emissions* has reduced by 50% since 2019 (from 727 in 2019 to 364 in 2022). Additionally, due to the removal of the priority *Assets and Operations*, many metrics which would have fallen into this category now fall under *Energy Reliability and Resiliency*. This is because the description for the sustainability priority *Energy Reliability and Resiliency* has broadened to reference the effectiveness of operational infrastructure and processes (see Appendix F). Hence, the number of metrics in this category has increased by 365% from the 2019 study (from 114 in 2019 to 530 in 2022).

However, not all significant changes to the number of metrics – in particular, sustainability priorities – are due to description changes or removed categories. The number of metrics in the sustainability priority *Climate Change* has increased from 3 in 2019 to 41 in 2022 as shown in Figure 3-10. In 2019, the metrics ascribed to the priority *Climate Change* focused on research and development, whereas in 2022, 56% of the metrics in this category reference extreme weather events, their aftermath, and mitigation measures taken. Additionally, 29% of the metrics in the *Climate Change* category are based around climate-related risks and opportunities. These results demonstrate a shift from theoretical to operational thinking by electric power companies when it comes to climate change and the associated risks. Equally, the number of metrics in the priority *Cyber and Physical Security* has increased from 8 in 2019, to 34 in 2022. Looking at those metrics focused specifically on cyber as opposed to physical security, 31 metrics are focused on cyber security in the current study compared to 5 in 2019. The growth of this category demonstrates the increasing importance of cyber security for electric power companies.

Looking at the sustainability priorities with the highest volume of metrics, three categories stand out:

- *Diversity, Equity, and Inclusion (1,011)*
- *Low Carbon Transition (806)*
- *Energy Reliability and Resiliency (530)*

These categories have a broad focus, and they capture a variety of sustainability elements. *Energy Reliability and Resiliency* has long been an established core priority for electric power companies. As extensive work has been done by electric utilities to understand performance in this area, sustainability metrics have been clearly established. *Diversity, Equity, and Inclusion* has been growing in importance over the last 5 years, boosted by powerful social movements such as Black Lives Matter, which gained prominence during the pandemic. The growing importance of *Diversity, Equity, and Inclusion* is shown by the growth in metrics over time. In the 2019 study, 428 metrics were collected in the equivalent category (*Workforce Diversity, Inclusion, and Equal Opportunity*), and this has more than doubled in 2022. Additionally, in the

results of the ESIG member survey, *Diversity, Equity, and Inclusion* was rated as the fifth highest priority metric category for senior executives, with *Energy Reliability and Resiliency* rated first. Although *Low Carbon Transition* is a new priority, the number of metrics aligned to this priority not only signify the breadth of the category, but also the rising importance of measuring carbon footprints and adopting low-carbon technologies for electric power companies.

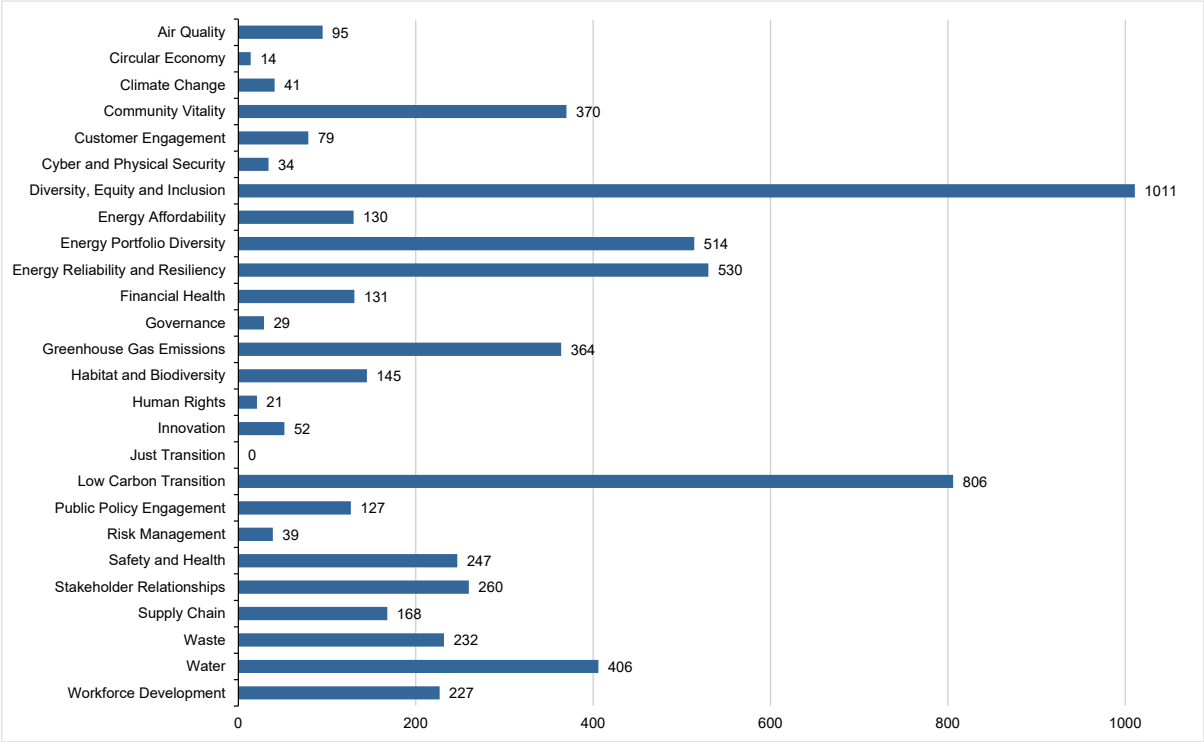

Figure 3-10
Total metrics segmented by sustainability priority

In this study, metrics were categorized against either a sustainability priority (20), an emerging sustainability priority (3), or a sustainability management element (3). These three categories were defined in EPRI's 2021 study [2]. The rationale for extending the categories beyond the 20 sustainability priorities was due to the far better alignment some metrics had to either the emerging priorities or the sustainability management elements. For example, some metrics referenced either broad management themes, for example, *overall corporate governance score from ISS*, (which has an excellent fit with the *Governance* management element) or explicitly referenced emerging priorities, for example, *percentage of contractors and tier 1 suppliers assessed for human rights issues* (a clear fit with the emerging priority, *Human Rights*). However, since these are not core priorities, the average number of metrics recorded against the emerging priorities and sustainability management elements was far lower than the core priorities. For example, the emerging priority *Just Transition* aligned with zero metrics, as metrics better fit in *with Low Carbon Transition*, *Community Vitality*, and *Diversity, Equity, and Inclusion*, and no metrics were found that encapsulated the *Just Transition* category well.

All the top 10 most frequently occurring metrics in the database are recurring metrics from 2019, as shown in Table 3-1. Additionally, the most frequently recurring sustainability priority in the top 10 most referenced metrics was *Diversity, Equity, and Inclusion*, followed by *Energy*

Reliability and Resiliency, which is very similar to the results of the 2019 study. In 2019, the top priorities in terms of frequently referenced metrics were *Assets and Operations* and *Workplace Diversity, Inclusion, and Equal Opportunity*. As the former now falls under *Energy Reliability and Resiliency* and the latter has been refocused, this mirrors the results of the current study. EPRI acknowledges that these priorities are also very broad and heterogenous, which likely drives each power company to establish metrics appropriate for their specific circumstances. At the same time, metrics related to *Energy Reliability and* Resiliency and *Diversity, Equity, and Inclusion* are also typically featured in core annual reports (as well as sustainability reports), which drives insights (and therefore metrics) for these categories.

The most frequently referenced metric in the database was *Number of Employees* with 24 mentions, 22 times in corporate documents and twice in the voluntary reporting documents (see Table 3-1). This is the same metric that appeared most frequently in the 2019 study, where it appeared 21 times (see Table 3-2). *Number of Employees* is a popular metric as it is easy to collect and is needed for general business functions such as understanding company size, workforce changes, and regulatory responsibilities associated with employee numbers. The second most frequently referenced metric, *Women Share of Workforce*, appeared 18 times in the database and appeared 18 times in the 2019 study (see Table 3-2). This common metric is also relatively simple to collect, and its ongoing popularity demonstrates that evaluating corporate gender equality continues to be a priority for North American electric power utilities. This is reinforced by the *Women Share of Board Members* metric being referenced 11 times in the current study, similar to results of the 2019 study where *Percentage of Women in Management* occurred 10 times. Of the top 10 most frequently referenced metrics, *Total Scope 3 Emissions* was recorded in the most voluntary reporting documents, appearing in four. The sustainability priorities of the top 10 most frequently referenced metrics vary more in the current study than in 2019, going from four priorities to six. Five of the most frequently referenced metrics in the database are metrics highlighted in EPRI research as appropriate ones to benchmark the performance of electric power companies on their priority sustainability issues [6]. Additionally, *Number of Employee Corporate and Personal Volunteer Hours at Company-Sponsored Events at Nonprofit or Charitable Organizations* is highlighted in the database as a component of one metric identified by EPRI for benchmarking. The importance of benchmarking performance was reinforced in the results of the survey, as *Benchmarking Performance with Peers* was rated as the second most important driver for tracking sustainability metrics in the ESIG member survey (see Figure 3-5).

Table 3-1
Top 10 most frequently referenced metrics within the database

#	Metric	Sustainability Priority	Corporate Documents	Voluntary Reporting Documents	Total
1	Number of Employees	Diversity, Equity, and Inclusion	22	2	24
2	Women Share of Workforce	Diversity, Equity, and Inclusion	17	1	18
3	System Average Interruption Duration Index (SAIDI)	Energy Reliability and Resiliency	14	1	15
4	Number of Employee Corporate and Personal Volunteer Hours at Company-Sponsored Events at Nonprofit or Charitable Organizations	Community Vitality	15	0	15
5	NO_x Total Emissions	Air Quality	13	2	15
6	Total Scope 3 Emissions	Low Carbon Transition	9	4	13
7	Particulate Matter Emissions	Air Quality	10	2	12
8	Total Water Withdrawn	Water	9	2	11
9	Women Share of Board Members	Diversity, Equity, and Inclusion	10	1	11
10	Customer Average Interruption Duration Index (CAIDI)	Energy Reliability and Resiliency	10	1	11

Table 3-2
Top 10 most frequently referenced metrics from the 2019 metrics study report

	Metric	Priority Issue	Total Frequency
1	Number of Employees	Workforce Diversity, Inclusion, and Equal Opportunity	21
2	Percentage of Employees That Are Women	Workforce Diversity, Inclusion, and Equal Opportunity	18
3	Percentage of Energy Generation from Renewables (Renewable Portfolio Standard Results)	Assets and Operations	15
4	Number of Customers	Assets and Operations	15
5	Total Employee Volunteer Hours	Community Vitality	14
6	System Average Interruption Duration Index (SAIDI)	Energy Reliability and Resiliency	11
7	System Average Interruption Frequency Index (SAIFI)	Energy Reliability and Resiliency	10
8	Percentage of Electricity Generation (MW) – Nuclear	Assets and Operations	10
9	Percentage of Women in Management	Workforce Diversity, Inclusion, and Equal Opportunity	10
10	Number of Electric Customers	Assets and Operations	10

When comparing the 2019 and 2022 databases, only 20% of metrics that occurred in the 2019 study recurred in 2022. This is partly due to the increasing amount of detail and specificity in the metrics collected in 2022; 85% of all the metrics in the current study were only referenced in a single document. One well-established sustainability priority, *Safety and Health*, which was minimally affected by the changing sustainability priority descriptions, had 17% of its metrics recurring from 2019. The metrics which recurred in this category were well-established, simple, and commonly used, for example: *Days Away, Restricted, and Transfer (DART) Rate*. The new metrics added to the database often incorporated small variations with differing details, for example *Injury Types as a Percentage of All Injuries in a Specified Year: Burns* is a metric repeated with differing injuries from a chipped/cracked tooth to a sprain. Differing variations of injuries, also with the prefix *Injury Types in a Specified Year*, contribute 27 new metrics to the category. In addition, several very specific metrics were referenced only in the 2019 study, for example *Number of Employee Spouses Participating in Utility-Organized Work Weight Loss Program*. However, these were generally associated with a specific corporate report and are unlikely to be replicated in other source documents.

As shown in Figure 3-11, the sustainability priorities with the highest percentage of 2019 metrics that recur in the current study are *Air Quality* (47%), *Greenhouse Gas Emissions* (43%), *Public*

Policy Engagement (31%), and *Waste* (29%). These priorities have well established metrics that are often comparable across electric power companies. For example, one metric that has recurred from 2019 and is frequently referenced in the current study is *Particulate Matter Emissions*. The sustainability priorities that have the lowest percentage of metrics recurring from 2019 – of those which had a category size of over 80 in 2019 (to reduce the risk of the data being skewed by the size of the category) – include the following: *Customer Engagement* (formerly labeled *Customer Relations*), *Habitat and Biodiversity* (formerly labeled *Habitat Protection and Biodiversity*), and *Workforce Development* (formerly labeled *Skilled Workforce Availability*). The metrics recorded in 2019 in the sustainability priority *Habitat and Biodiversity* were very focused, detailed, and specific. For example, one metric that did not recur was: *Acres of Intertidal Wetlands Restored*. Differing specificities were highlighted in the current study, for example, one new metric added to the database was: *Number of Avian and Wildlife Protection Standards Implemented*.

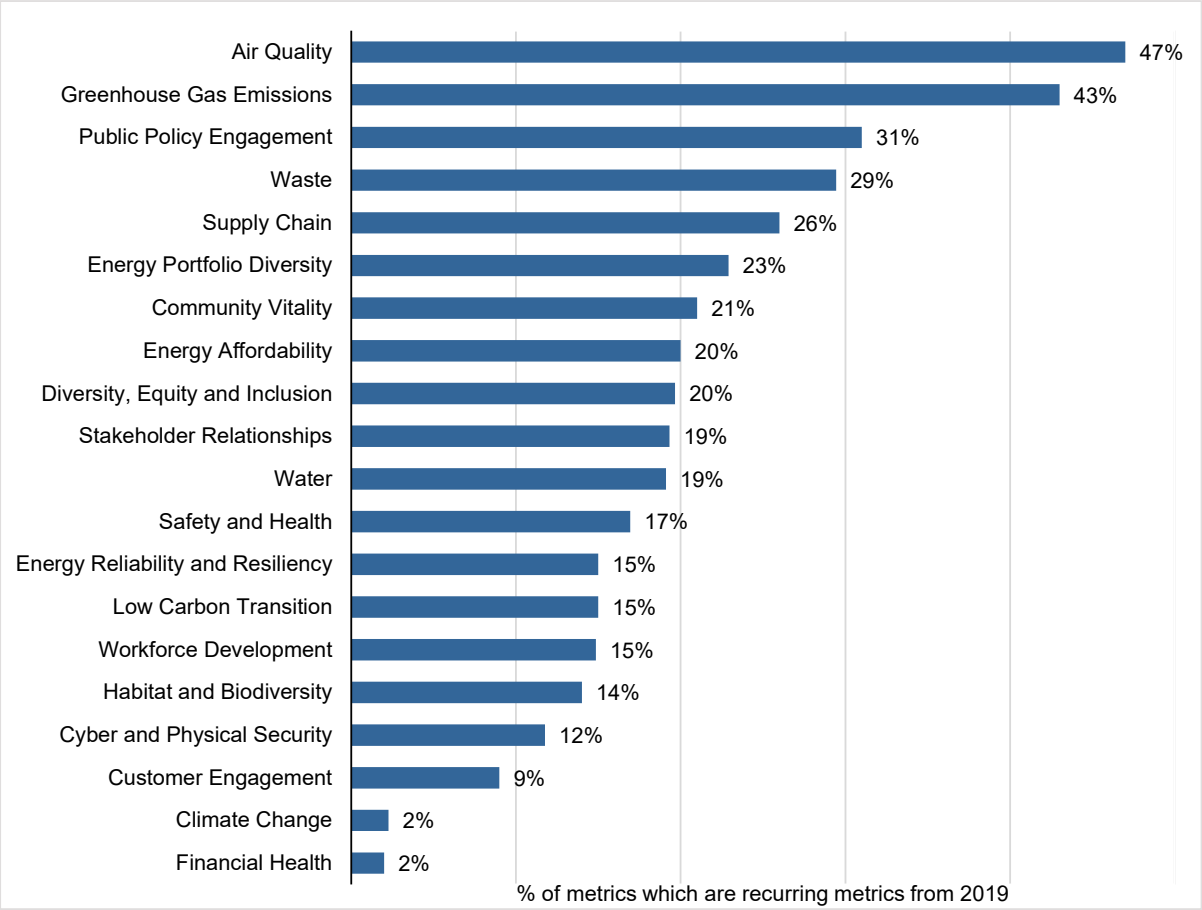

Figure 3-11
Percentage of recurring metrics per sustainability priority

The limited number of metrics recurring from 2019 in the categories *Workforce Development* (15%) and *Customer Engagement* (9%) may demonstrate the changed focus of the customer and workforce-based priorities reflected in the changed name and definition of these sustainability priorities. For example, when looking at the metrics from *Customer Engagement* and the sustainability priority's previous categorization as *Customer Relations*, different specificities are highlighted. In 2019, many metrics focused on social media interactions and followers, such as *Number of Customers that Follow Utility's Social Media Accounts*. These did not recur, but instead, the metrics in the current database emphasize a different and more business-focused form of online engagement and interaction. Five metrics in this category focus on remote billing and online transactions, with two metrics centered on automated phone systems and online chat use for customer queries. This shows that digital engagement is a continued and evolving focus, with current metrics emphasizing the digitization of daily workings as opposed to simple social media trackers. Additionally, forms of customer engagement oriented around low carbon are being increasingly referenced in the sustainability metric landscape. Energy efficiency was a prominent theme in *Customer Relations* in 2019, and this has continued into 2022 with six metrics focused on this area, three of which recurred from 2019. Alongside this, metrics such as *Total Returned in EV Charger Rebates to Consumers* and *Number of Trees Planted on Behalf of Customers* demonstrate a focus of customer engagement on sustainability issues.

Two further observations from the database should be noted:

- **Intensity vs. Absolute Metrics**: Each metric was categorized as absolute or intensity. From the total of 6,072 metrics identified, 3,734 metrics (61%) were classified as absolute metrics and 2,338 metrics (39%) were classified as intensity metrics.
- **Corporate Documents and Voluntary Reporting Documents**: On average, 221 metrics were recorded per corporate sustainability report and 139 per voluntary reporting document. This ranged from 14–812 among corporate sustainability reports (see Figure 3-12) and 14–516 among voluntary reporting documents (see Figure 3-13). For the voluntary reporting documents, the CDP Climate Change Questionnaire had almost double the number of metrics than the second most metric-dense noncorporate document. This large number of metrics from a climate change focused document reinforces EPRI's findings of an increased focus on and number of metrics under the *Climate Change* and *Low Carbon Transition* priorities. Additionally, while there is no one-size-fits-all for the number of metrics reported in corporate sustainability reports, the wide range in number observed emphasizes a lack of alignment on the number and type of metrics appropriate to measure sustainability performance, a result also found in the ESIG member survey.

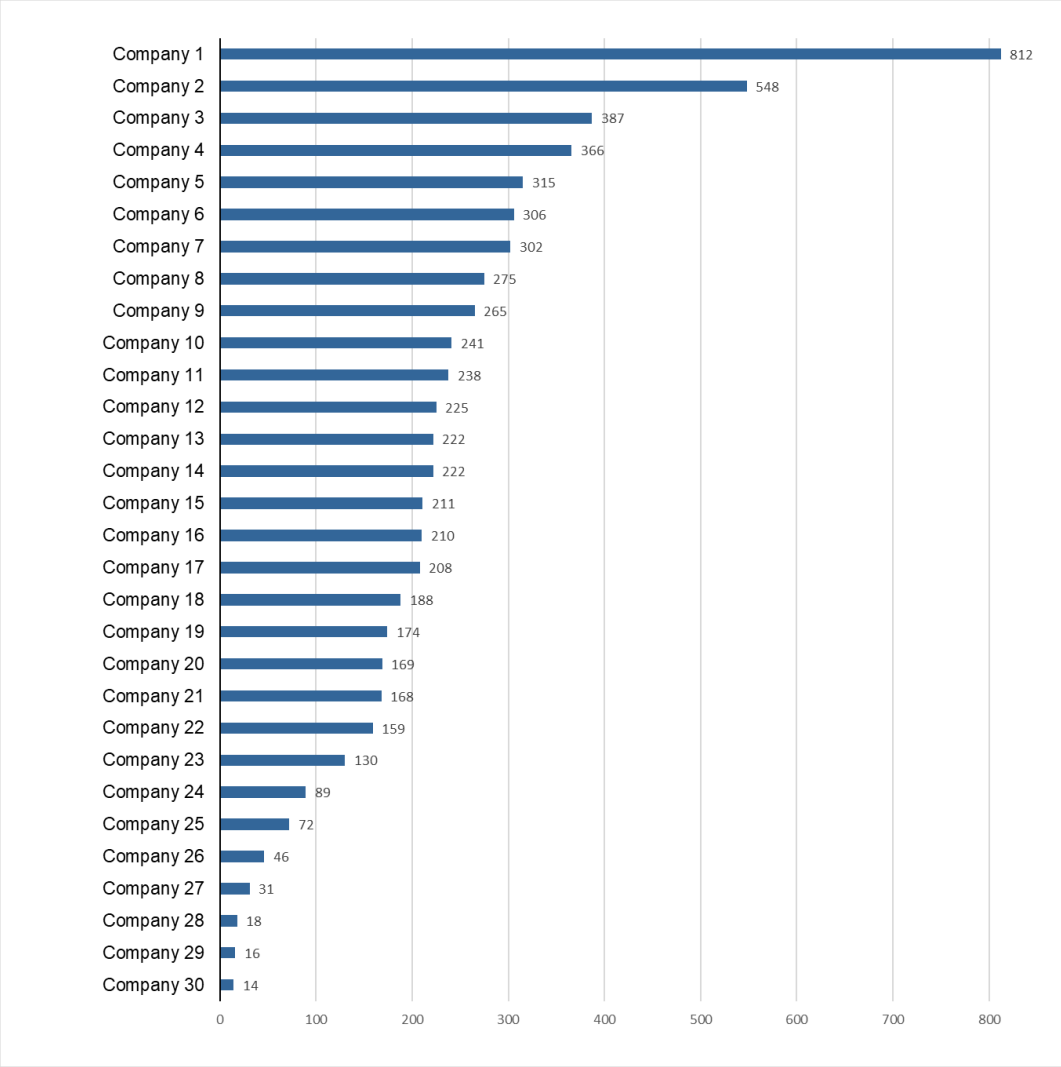

Figure 3-12
Number of metrics per corporate sustainability report

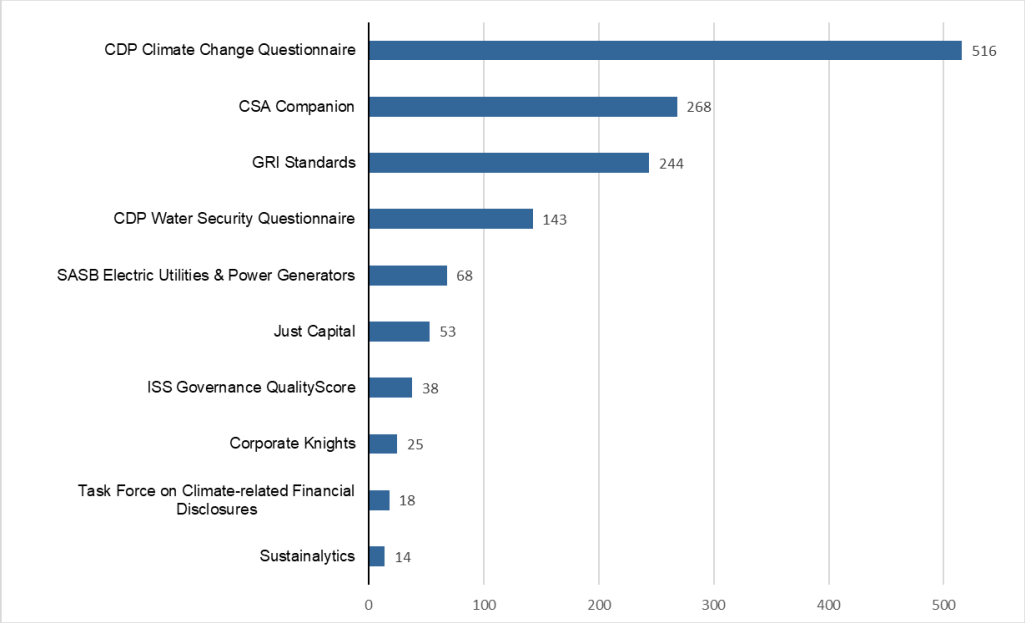

Figure 3-13
Number of metrics per voluntary reporting body document

3.3 Robust Insights

Several insights identified in the 2019 study hold true based on the findings of this refresh and are therefore worth underscoring:

- **Identifying the "Right" Metrics:** As the number of metrics has increased from 4,857 to 6,072, the optimization of sustainability reporting continues to be tempered by the need to ensure that sufficient details and aspects of a broad area are captured. Companies continue to seek a balance in understanding sustainability performance through contextualized "stories" and the desire to use only the most efficient metrics for effective disclosures and transparency. The categories emerging within *Low Carbon Transition* – such as *Climate Change*, *Circular Economy*, and *Supply Chain Management* – were found in the ESIG member survey as the most challenging categories to collect accurate data on. It is likely that this balancing act will continue, and metric numbers will keep growing as sustainability measurement continues to expand in coverage, as demonstrated in the increasing prevalence of metrics within *Diversity, Equity, and Inclusion*.
- **Diversity of Industry:** Both the 2017 and 2019 studies highlighted that a metric applying to one company may not be universally applicable for other companies, and this remains true. However, five of the 10 most frequently referenced metrics in the database have been identified as benchmarking metrics in previous EPRI research and denoted in the database. Again, a balance exists between several key benchmarking metrics occurring repeatedly across documents alongside a diverse mixture of metrics highlighting differing objectives and operational settings from each company.
- **Context Matters:** Noted in the previous report was the importance of contextualizing metrics. Consideration of the diversity of geography and ecosystems is sometimes necessary to achieve a deeper understanding of a company's sustainability performance, for example, to

facilitate meaningful analysis of companies that do and do not operate in water-stressed areas. Metrics can provide a point of information and comparison, but it must be acknowledged that metrics are from a rich landscape of information and specificity and cannot be used individually to form immediate conclusions without context.

- **Normalization:** Intensity metrics can provide clearer comparisons and hence can more easily be used for benchmarking, compared to absolute metrics. Though it should be noted that 61% of metrics recorded in the current study are absolute metrics, intensity metrics provide a means by which industry diversity can be managed for the purpose of benchmarking company performance. As industry stakeholders seek to understand the relative sustainability performance of companies across the electric power sector, they would likely be best served by focusing on normalized or intensity metrics.
- **Burden of Reporting:** Companies continue to face the challenge of how best to divide resources between sustainability reporting and driving change on sustainability priorities. The growing number of voluntary reporting bodies identified in the survey and the increased number of metrics catalogued in this study both emphasize the increasing corporate burden of reporting. Because of this burden, as concluded in the previous study, some reporting functions risk becoming tactical instead of adding value by facilitating enhanced change and performance. Yet, the general trends within the sustainability metrics landscape – with the new sustainability priority *Low Carbon Transition* holding the most metrics alongside the increased focus on *Diversity, Equity, and Inclusion* – demonstrate that metric collection is intertwined with material sustainability changes, although the exact relationship cannot be easily discerned.
- **Consistency of Process:** It continues to be critical to adhere to a scientifically consistent boundary for collecting and auditing data for the purposes of benchmarking.

4
SCOPE AND LIMITATIONS

The objective of this study was to capture the sustainability metric landscape for electric power companies in North America and compare how this has changed over four years. To ensure a balanced review, sustainability metrics were captured through a review of corporate sustainability reports alongside reporting frameworks and standards from voluntary reporting bodies. Despite efforts to create a representative sample, as with any study of this type, there are limitations to the current study that need to be considered when interpreting the results:

- One part of the analysis compared sustainability metrics captured in this study to those captured in the previous study iteration in 2019. While a useful exercise, there were some variations in the source documents used in this latest study vs. those used in 2019. The evolution in the metrics landscape could therefore have been a little different if it had been possible to use like-for-like source documents in this latest study.
- The research focused on voluntary sustainability reporting programs and did not include a review of U.S or international regulations.
- The source documents used to compile the metrics database focused on the electric power sector in North America. While some sources are used internationally, the results of the study may not apply internationally.
- The metric source documents were selected to provide a representative view of the metrics recorded by electric power companies in North America. Despite the care taken to select source documents that would accurately encapsulate the industry and enable comparisons with the previous study, other sustainability metrics for the electric utility industry are likely referenced in other sources that the size of this study could not incorporate.
- The appropriate metrics for an individual electric power company will vary according to a myriad of factors including, but not limited to, geographic footprint, operational footprint, and ownership structure. As a result, individual electric power companies should use this database as a source that can be analyzed and evaluated to help identify metrics most appropriate for their application.
- The mapping of metrics to sustainability priorities was based on the professional judgment of the researchers, and these classifications may be changed based on future updates.
- Participants in the electronic survey were all ESIG members. As a result, participants may not represent an accurate cross section of the electric power industry in North America. Information on which utility respondents were associated with the survey responses are detailed in Appendix E.
- While analyzing survey response trends between reports, it should be noted that the participant list is different each year. Therefore, changes may in part be due to who is responding to the survey.

- The survey captures a snapshot of the opinions of a specific set of individuals. The questions asked were seeking the views and opinions of those individuals and therefore may not be representative of the organizations the individuals represent.
- The research did not assess factors such as the cost-effectiveness of collecting metric data.
- The research did not assess the scientific defensibility of metrics.

5
CONCLUSIONS

This report delivers a comprehensive, detailed assessment of the sustainability metric landscape for electric power companies today. The report focuses primarily on North American electric power companies but includes a small number of international firms to provide added insight to the North American counterparts. A refresh of an earlier study published in 2019 where 4,857 metrics were identified, this research identified a total of 6,072 metrics. With the metric capture methodology closely aligned with 2019 (and this study referencing fewer source documents than 2019), this increase in metrics points to an ongoing complexity and challenge for electric power companies seeking to disclose their sustainability performance. This change also highlights the ongoing value of periodically revisiting and refreshing sustainability metrics research.

For the 2019 publication, metrics were assigned to the most appropriate priority sustainability issue. Since this prior study, priority sustainability issues have been refreshed and renamed sustainability priorities. As part of this refresh, two new categories, emerging sustainability priorities and sustainability management elements, were established. Metrics were assigned to the priority, emerging priority, or management element considered the best match with the metric.

The introduction of new sustainability priorities and recategorization of other priority sustainability issues had a significant impact on the makeup of 2022 metrics vs. 2019. The large volume of metrics for new sustainability priorities such as *Low Carbon Transition* (806) reflects the elevated profile around this priority. Furthermore, the low percentage of recurring metrics around *Climate Change* (2%) suggests a significant evaluation as to how to measure this priority. Finally, it is worth highlighting *Diversity, Equity, and Inclusion*, where the total number of metrics recorded has more than doubled since 2019. This may suggest a deeper understanding at electric power companies around linguistic nuances relating to self-identification within the workforce.

The inclusion of sustainability management elements and emerging sustainability priorities as metric categorization options allowed a more granular assessment of the metrics. Overall, the average number of metrics assigned to these categories was lower than the core sustainability priorities. For example, for *Just Transition*, zero metrics were recorded. In the case of emerging priorities, this perhaps suggests more work is needed to establish better measures of performance. Emerging priorities were, in fact, highlighted in the survey as challenging from a performance measurement perspective. Sustainability management elements (*Governance*, *Innovation*, and *Risk Management*) are more conceptual, and so while useful to capture some overarching metrics, it is not surprising the metric count is low as these large categories are more challenging to capture in single quantitative metrics.

This study has shown that most electric power companies are seeing an increase in engagement around sustainability metrics from almost all functions of their businesses. The final set of sustainability metrics that are relevant for a specific electric power company will likely be

influenced by factors relating to ownership structure, geographic footprint, and operational makeup, among others. For an electric power company, this comprehensive inventory of sustainability metrics can serve as a baseline for establishing or validating the metrics important at the individual company level – helping to better understand and communicate sustainability performance to both internal and external stakeholders.

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NEXT STEPS

This refreshed set of metrics is expected to form the primary input for ongoing efforts to review and refine a subset of metrics appropriate for benchmarking performance on the industry-level sustainability priorities. The ongoing nature of this work is vital as results from this study show a continual evolution in the metric landscape. It is also likely that this research will inform the refresh of EPRI's sustainability benchmarking metrics during 2022.

EPRI will continue developing the tools and resources to help electric power companies establish and enhance their sustainability programs and thus embed a sustainability mindset throughout their companies. Continued research will be a priority in the areas of sustainability reporting and disclosure, understanding the full landscape of sustainability metrics, and determining appropriate metrics for benchmarking performance.

7
REFERENCES

[1] *Sustainability Metrics Landscape Compilation for the Electric Power Industry.* EPRI, Palo Alto, CA: 2019. 3002013459.

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[4] U.S. Energy Information Administration, "Electricity Explained: Data and Statistics," Accessed online: Electricity explained - data and statistics - U.S. Energy Information Administration (EIA).

[5] *Priority Sustainability Issues for the North American Electric Power Industry: Results of Research with Electric Power Companies and Stakeholders in the United States and Canada.* EPRI, Palo Alto, CA: 2017. 3002011444.

[6] *2022 Metrics to Benchmark Electric Power Company Sustainability Performance.* EPRI, Palo Alto, CA: 2022. 3002024786.

A
EPRI ESIG E-SURVEY QUESTIONNAIRE

EPRI 2022 Metrics Member Survey

Survey Introduction

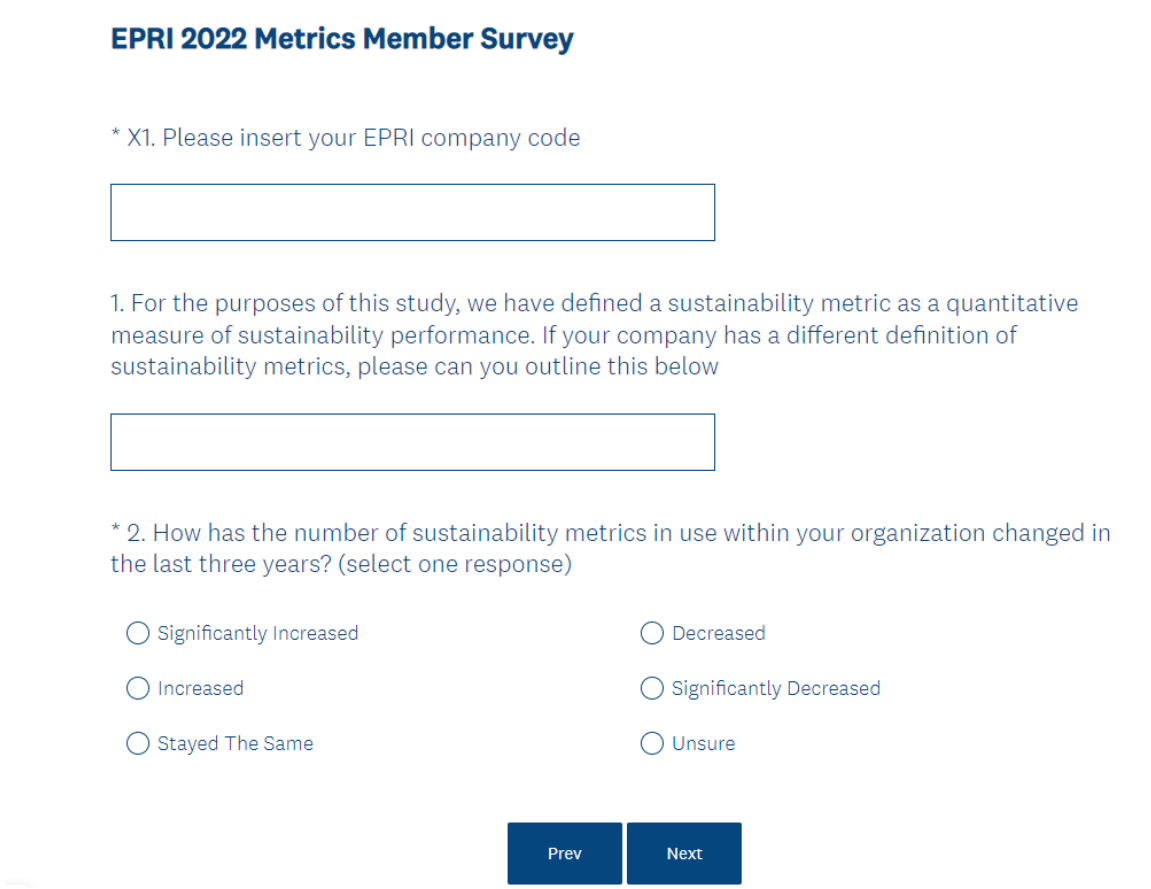
Dear ESIG Member

Thank you very much for participating in this survey to support the third iteration of our metrics research. The purpose of the survey is to better understand trends in the use of sustainability metrics within individual member companies. Beyond that, we would like to get your assessment of the value and accuracy of the metrics you report, as well as the challenges associated with recording the metrics. We also want to take the opportunity to get insight into how you see the metrics landscape evolving in the future. We intend to feature charts and quotes from this survey within the final report but your individual responses will not be attributable to either you or your company. We anticipate the survey will take around 15 minutes to complete. Thank you again for your time.

Next

Powered by SurveyMonkey

See how easy it is to create a survey.



Depending on if the respondent answered question 2) with a variation of increase or decrease, 2a or 2b appeared, and if the respondent answered with unsure or stayed the same, both 2a and 2b were skipped.

EPRI 2022 Metrics Member Survey

* 2a. If it has increased, or significantly increased, what has been driving this trend? (select all that apply)

- ☐ Increase in number of metrics requested from voluntary reporting bodies
- ☐ Increase in number of voluntary reporting bodies to which you report
- ☐ Organizational drive to be more transparent about your sustainability performance
- ☐ Organizational recognition of the operational value of sustainability metrics
- ☐ Other (please specify)
- ☐ Sustainability function drive to quantitatively understand sustainability performance in more detail
- ☐ Increased focus on the social and community aspects of your sustainability performance
- ☐ Unsure

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EPRI 2022 Metrics Member Survey

2b. If it has decreased, or significantly decreased, what has been driving this trend? (select all that apply)

- ☐ Reduction in number of metrics requested from voluntary reporting bodies
- ☐ Reduction in number of voluntary reporting bodies to which you report
- ☐ Organizational drive to be more streamlined in the reporting on sustainability performance
- ☐ Other (please specify)
- ☐ Consolidation of multiple metrics
- ☐ Organizational focus on value-add sustainability metrics
- ☐ Unsure

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* 3. Which of the following statements best describes your view on the NUMBER of sustainability metrics recorded by your organization? (select one response)

- ◯ We have far too many metrics
- ◯ We have too many metrics
- ◯ We have the correct number of metrics
- ◯ We have too few metrics
- ◯ We have far too few metrics
- ◯ Unsure

* 4. Which of the following statements best describes your view on the VALUE of sustainability metrics in use by your organization? (select one response)

- ◯ All the metrics we collect are valuable
- ◯ Most of the metrics we collect are valuable
- ◯ Some of the metrics we collect are valuable
- ◯ Few of the metrics we collect are valuable
- ◯ None of the metrics we collect are valuable
- ◯ Unsure

* 5. How important are the following drivers for your organization in tracking sustainability metrics? (select one response per row)

	Very Important	Important	Neutral	Less Important	Unimportant	Unsure
Benchmarking performance with peers	◯	◯	◯	◯	◯	◯
Communicating sustainability performance to internal stakeholders (e.g. employees)	◯	◯	◯	◯	◯	◯
Communicating sustainability performance to external stakeholders (e.g. investors, NGOs, etc.)	◯	◯	◯	◯	◯	◯
Prioritizing sustainability initiatives for company investment	◯	◯	◯	◯	◯	◯
Understanding sustainability program performance	◯	◯	◯	◯	◯	◯
Understanding performance against your firm's sustainability priorities / material sustainability priorities	◯	◯	◯	◯	◯	◯
Understanding operational performance	◯	◯	◯	◯	◯	◯
Identifying operational risks	◯	◯	◯	◯	◯	◯
Compliance with regulatory reporting requirements	◯	◯	◯	◯	◯	◯

Other (please specify)

6. Looking ahead to the next three years, what changes do you anticipate around the drivers for sustainability metrics collection?

* 7. How significant are the following issues when measuring performance on sustainability metrics? (select one response per row)

	Very Significant	Significant	Neutral	Less Significant	Not Significant	Unsure
Consistency in metric measurement unit	◯	◯	◯	◯	◯	◯
Consistency in metric measurement time period	◯	◯	◯	◯	◯	◯
Data privacy / security	◯	◯	◯	◯	◯	◯
Time and cost of collecting metric data	◯	◯	◯	◯	◯	◯
Number of stakeholders you need to engage to collect metric data	◯	◯	◯	◯	◯	◯
Lack of insight into the applicability of metrics to your firms' internal and external stakeholders	◯	◯	◯	◯	◯	◯

Other (please specify)

* 8. In the last two years, how has the level of engagement from the following functions changed with respect to understanding the sustainability metrics you are recording and reporting? (select one response per row)

	Significant Increase	Increase	No Change	Decrease	Significant Decrease	Don't Know
Sustainability Team	◯	◯	◯	◯	◯	◯
Communications	◯	◯	◯	◯	◯	◯
Customer Relations	◯	◯	◯	◯	◯	◯
Environment	◯	◯	◯	◯	◯	◯
Enterprise Risk Management	◯	◯	◯	◯	◯	◯
External Relations	◯	◯	◯	◯	◯	◯
Facilities	◯	◯	◯	◯	◯	◯
Finance	◯	◯	◯	◯	◯	◯
Health & Safety	◯	◯	◯	◯	◯	◯
Human Resources	◯	◯	◯	◯	◯	◯
Investor Relations	◯	◯	◯	◯	◯	◯
Legal	◯	◯	◯	◯	◯	◯
Operations	◯	◯	◯	◯	◯	◯
Strategy	◯	◯	◯	◯	◯	◯
Supply Chain	◯	◯	◯	◯	◯	◯
Executive Team	◯	◯	◯	◯	◯	◯
Board of Directors	◯	◯	◯	◯	◯	◯

* 9. Among your senior executive team, how would you rate the level of focus on metrics for the following sustainability priorities? (select one response per row)

	Very High	High	Neutral	Low	Very Low	Don't Know
Air Quality	◯	◯	◯	◯	◯	◯
Climate Change	◯	◯	◯	◯	◯	◯
Community Vitality	◯	◯	◯	◯	◯	◯
Customer Engagement	◯	◯	◯	◯	◯	◯
Cyber and Physical Security	◯	◯	◯	◯	◯	◯
Diversity, Equity, and Inclusion	◯	◯	◯	◯	◯	◯
Energy Affordability	◯	◯	◯	◯	◯	◯
Energy Portfolio Diversity	◯	◯	◯	◯	◯	◯
Energy Reliability and Resiliency	◯	◯	◯	◯	◯	◯
Financial Health	◯	◯	◯	◯	◯	◯
Greenhouse Gas Emissions	◯	◯	◯	◯	◯	◯
Habitat and Biodiversity	◯	◯	◯	◯	◯	◯
Low Carbon Transition	◯	◯	◯	◯	◯	◯
Public Policy Engagement	◯	◯	◯	◯	◯	◯
Safety and Health	◯	◯	◯	◯	◯	◯
Stakeholder Relationships	◯	◯	◯	◯	◯	◯
Supply Chain	◯	◯	◯	◯	◯	◯
Waste	◯	◯	◯	◯	◯	◯
Water	◯	◯	◯	◯	◯	◯
Workforce Development	◯	◯	◯	◯	◯	◯
Circular Economy	◯	◯	◯	◯	◯	◯
Human Rights	◯	◯	◯	◯	◯	◯
Just Transition	◯	◯	◯	◯	◯	◯
Governance	◯	◯	◯	◯	◯	◯
Innovation	◯	◯	◯	◯	◯	◯
Risk Management	◯	◯	◯	◯	◯	◯

10. In the next three years, what change do you expect to see in the categories of metrics which are most in demand?

* 11. How would you rate the difficulty of collecting good quality data on metrics for the following sustainability priorities? (select one response per row)

	Very Challenging	Challenging	Neutral	Easy	Very Easy	Don't Know
Air Quality	○	○	○	○	○	○
Climate Change	○	○	○	○	○	○
Community Vitality	○	○	○	○	○	○
Customer Engagement	○	○	○	○	○	○
Cyber and Physical Security	○	○	○	○	○	○
Diversity, Equity, and Inclusion	○	○	○	○	○	○
Energy Affordability	○	○	○	○	○	○
Energy Portfolio Diversity	○	○	○	○	○	○
Energy Reliability and Resiliency	○	○	○	○	○	○
Financial Health	○	○	○	○	○	○
Greenhouse Gas Emissions	○	○	○	○	○	○
Habitat and Biodiversity	○	○	○	○	○	○
Low Carbon Transition	○	○	○	○	○	○
Public Policy Engagement	○	○	○	○	○	○
Safety and Health	○	○	○	○	○	○
Stakeholder Relationships	○	○	○	○	○	○
Supply Chain	○	○	○	○	○	○
Waste	○	○	○	○	○	○
Water	○	○	○	○	○	○
Workforce Development	○	○	○	○	○	○
Circular Economy	○	○	○	○	○	○
Human Rights	○	○	○	○	○	○
Just Transition	○	○	○	○	○	○
Governance	○	○	○	○	○	○
Innovation	○	○	○	○	○	○
Risk Management	○	○	○	○	○	○

* 12. What percentage of your time do you estimate is spent on collecting sustainability metrics data and what percentage is spent on driving improved performance against the metrics? (please answer as a % - it it noted these two activities are likely to only be a subset of what you do so these percentage may not add to 100)

Sustainability metric data collection

Sustainability metric performance improvement

12a. What changes or investments would enable you to shift the balance of your time more towards sustainability metrics performance improvement?

13. Are there any other comments on sustainability metrics you'd like to add?

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B
VOLUNTARY REPORTING BODIES SOURCE DOCUMENT LITERATURE BIBLIOGRAPHY

#	Organization	Publication Title
1	CDP Climate Change	CDP Climate Change 2021 Questionnaire
2	CDP Water	CDP Water Security 2021 Questionnaire
3	Corporate Knights	2021 Global 100: Overview of Methodology
4	DJSI	CSA Companion 2021
5	GRI Standards	Consolidated Set of GRI Sustainability Reporting Standards 2020
6	ISS Governance QualityScore	Governance QualityScore Methodology Guide 2021
7	JUST Capital	Ranking Methodology 2020
8	SASB Electric Utility Standard	Electric Utilities & Power Generators October 2018
9	Sustainalytics	ESG Risk Ratings – Methodology Abstract
10	Task Force on Climate-related Financial Disclosures	Annex: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures October 2021

C
CORPORATE SUSTAINABILITY REPORT SOURCE DOCUMENT LITERATURE BIBLIOGRAPHY

#	Organization	Publication Title
1	American Electric Power	2021 Corporate Accountability Report
2	CenterPoint Energy	2020 Corporate Responsibility Report
3	Consolidated Edison Co. of New York, Inc	2020 Sustainability Report
4	Dubai Electricity and Water Authority (DEWA)	2020 Sustainability Report
5	Duke Energy Corp.	2020 Sustainability Report
6	E.ON	2020 Sustainability Report
7	Edison International	2020 Sustainability Report
8	Enel	2020 Sustainability Report
9	ENGIE	2020 Integrated Report
10	Entergy	2020 Integrated Report
11	Exelon Corporation	2020 Sustainability Report
12	FirstEnergy	2020 Corporate Responsibility Report
13	Fortis	2020 Sustainability Report
14	Great River Energy	2020 Sustainability Report
15	Hawaiian Electric Industries	2021 ESG Report
16	Hydro-Québec	2020 Sustainability Report
17	National Grid	2020/2021 Responsible Business Report
18	New York Power Authority (NYPA)	2020 Sustainability Report
19	NextEra Energy	2020 Sustainability Report
20	NRG Energy	2020 Sustainability Report
21	Oglethorpe Power Corporation	2021 Environmental Commitment
22	Oklahoma Gas & Electric	2020 Environmental Stewardship Report
23	Pacific Gas and Electric Co. (PG&E)	2021 Corporate Sustainability Report
24	Pedernales Electric Cooperative	2020 Annual Report
25	PPL	2020 Sustainability Report

#	Organization	Publication Title
26	PSEG	2020 ESG Report
27	Sempra Energy	2020 Corporate Sustainability Report
28	Tennessee Valley Authority	2020 Sustainability Report
29	Tri-State Generation and Transmission Association	2021 ESG Report
30	Xcel Energy Services, Inc.	2020 Sustainability Report

D
METRIC VALIDATION QUESTIONS

#	Questions	Resolution
1	How to manage minor variations in measurement units (e.g., thousand metric tonnes vs. metric tonnes)?	A metric was only considered a duplicate if the measurement units were identical. For example, scope 2 CO_2e emissions measured in metric tonnes was considered a separate metric from one that was measured in thousand metric tonnes.
2	How to manage minor variations in metric descriptions (e.g., % of women in senior management positions vs. % of females in leadership roles)?	In these instances, professional judgement was applied as to whether the metrics were the same. In the specific example to the left, it was deemed to be a duplicate metric.
3	What to record as the measurement unit when no measurement unit is specified?	In this scenario, the measurement unit was noted as unspecified.
4	How to capture very specific metrics (e.g., target emissions reduction by 2025 vs. 2012 baseline year)?	For such specific metrics, the metric was translated to the following: “Emissions reduction in target year vs. baseline year.”
5	Approach to capturing metrics that are not specific to an electric power company (e.g., U.S.-wide emissions factor for electric power generation)?	All such metrics that were nonspecific to an electric power company were excluded.
6	How to manage the huge variation in metric options provided in some voluntary reporting body templates (e.g., CDP Climate)?	All the different metric variation options were captured for scope 1 and scope 2 emissions, but the large number of variations in scope 3 metric types were consolidated in the database.
7	How to determine applicability of metrics to different electric power company operations, e.g., generation (fossil fuel), generation (nuclear), transmission, etc.?	For each issue category of metrics, a broad level assessment was made as to which types of electric power company operations were applicable to each metric, and this assumption was applied throughout. For metrics falling under the environmental category, a more detailed metric review was applied.
8	How to treat metrics that do not fall into one of the 20 priority sustainability issue categories?	All the metrics could be categorized into one of 20 priority sustainability issues aside from many financial metrics, which were placed in their own financial category.

E
EPRI ESIG E-SURVEY PARTICIPANTS

Company Name
Alliant Energy
Ameren Services
American Electric Power
Arizona Public Service
Arkansas Electric
Bonneville Power Administration
Consolidated Edison
Consumers Energy
CPS Energy
Dominion Energy
DTE Energy
Enel
Entergy
Evergy
Exelon
FirstEnergy
Fortis
Great River Energy
Minnesota Power
National Grid USA
Nebraska Public Power District
New York Power Authority (NYPA)
NiSource
NRG Energy, Inc.
Oklahoma Gas & Electric
Omaha Public Power District (OPPD)

Company Name
Ontario Power Generation
Pacific Gas and Electric
PNM Resources
PPL
Salt River Project
Santee Cooper
Southern California Edison
Southern Company
Tennessee Valley Authority
WEC Energy Group

F
FINAL LIST OF SUSTAINABILITY PRIORITIES

#	Sustainability Priorities	Definition
1	Air Quality	Environmental and human health impacts from air emissions (non-GHG) produced by electric power companies.
2	Climate Change	Operational and planning impacts resulting from changes in climate.
3	Community Vitality	Prosperity and fair treatment of communities served or impacted by company operations.
4	Customer Engagement	Interaction with customers through evolving services, technologies, communication, and education.
5	Cyber and Physical Security	Vulnerability of customer and company information, facilities, systems, and infrastructure from digital and physical threats.
6	Diversity, Equity, and Inclusion	A company culture that embraces, motivates, promotes, and supports a diverse workforce and board of directors.
7	Energy Affordability	Affordability of energy bills for all customers accounting for the value of services delivered.
8	Energy Portfolio Diversity	Diversity of generation resources used for electricity production.
9	Energy Reliability and Resiliency	Effectiveness of operational infrastructure and processes to ensure consistent delivery of energy for customers and rapid recovery from disruptive events.
10	Financial Health	Quarterly, annual, and long-term financial performance.
11	Greenhouse Gas Emissions	Direct GHG emissions produced through power generation and other company operations.
12	Habitat and Biodiversity	Vitality of natural habitats and the species that depend on them.
13	Low Carbon Transition	Economy-wide decarbonization through the retirement of high emitting fossil fuel plants and the enablement of renewables, storage, electrification, and other solutions.
14	Public Policy Engagement	Appropriate and ethical interaction with local, state, and federal regulators and elected officials.
15	Safety and Health	Safety, health, and well-being of employees, contractors, and the public with respect to interaction with owned or managed assets.
16	Stakeholder Relationships	Trust-based and transparent relations with all relevant stakeholders.
17	Supply Chain	Economic, environmental, and social performance of suppliers and resilience to disruptive events.
18	Waste	Generation and management of waste, including coal combustion residuals (CCR) and nuclear waste.
19	Water	Quality and availability of water resources.
20	Workforce Development	Hiring, training, mentoring, engaging, and retaining appropriately skilled and experienced workers.

About EPRI

Founded in 1972, EPRI is the world's preeminent independent, non-profit energy research and development organization, with offices around the world. EPRI's trusted experts collaborate with more than 450 companies in 45 countries, driving innovation to ensure the public has clean, safe, reliable, affordable, and equitable access to electricity across the globe. Together, we are shaping the future of energy.

Program:

Strategic Sustainability Science

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