EPRI

2023 Metrics to Benchmark Energy Utility Sustainability Performance

2023 marks the tenth year of EPRI's ongoing effort to identify and understand metrics appropriate for benchmarking the performance of energy utilities on industry sustainability priorities. The metrics outlined in this document reflect learnings from research begun in 2014 (3002004255) and evolving thinking informed by an annual reflection and refinement period in collaboration with EPRI's Energy Sustainability Interest Group (ESIG). This process helps to ensure metric boundaries are up to date with evolving standards, guidance, and science, and reflect insights from metric use by companies over time. Several changes were made to existing metrics this year, in particular on a number of environmental metrics. Descriptions and/or metric names were revised for three metrics under Air Emissions, one metric under Reportable Environmental Events, five metrics under Waste, and five metrics under Water. One metric under Reportable Environmental Events and three metrics under Water were removed. Under Energy Affordability, one metric – "residential reconnects within 30 days - was kept as an emerging metric and a second emerging metric – "eligible customers enrolled in low-income plans" - was added.

Since 2014, several reports have been published to share learnings gathered through each reflection and refinement period. These provide insight into the research evolution, and may be useful in better understanding the context of the metrics captured in this document:

- *Sustainability Metric Compilation for the Electric Power Industry: Results of Industry Interviews and Metric Database Development* (3002004255)
- *Metrics to Benchmark Sustainability Performance for the Electric Power Industry* (3002007228)
- *2016 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002009923)
- *2017 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002011884)
- *Metrics to Benchmark Sustainability Performance for the Electric Power Industry: 2017 Update* (3002012060)
- *2018 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002013458)
- *Sustainability Metrics Landscape Compilation for the Electric Power Industry: Results of Research with Electric Power Companies and Metric Database Development* (3002013459)
- *2019 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002016760)
- *2019 State of the Metric: Summary of Learnings from Sustainability Metrics Research* (3002016114)
- *2020 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002019251)
- *2021 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002021713)
- 2022 Metrics to Benchmark Electric Power Company Sustainability Performance (3002024786)

Additional emerging metrics will be tested in the future as EPRI refreshes and evolves its list of sustainability priorities for the energy utility industry. The findings from the 2020–21 refresh can be found in *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* (3002020773), and a refresh is currently in progress to be published in 2024.

Finally, as noted in past publications related to this work, the following list of metrics is not intended to be used as an index to rank electric power companies. Instead, these metrics have been identified as technically appropriate and potentially insightful ways for a company to understand their performance on individual sustainability priorities, how that performance compares to peer companies, and how they may be used to inform goalsetting.

If there are questions about this list of metrics or EPRI's portfolio of sustainability research more broadly, please contact:

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EPRI's sustainability metrics research is conducted in collaboration with members of the Energy Sustainability Interest Group (ESIG) and subject matter experts from throughout the Institute. The portfolio of sustainability work is designed to advance technical research and cross-sector dialogue around what a sustainable electric power company is and how it can support the sustainable generation, delivery, and utilization of electric power - aligned with EPRI's public benefit mission.

Each year ESIG has approximately 40 participating companies, representing a diverse segment of the North American energy utility industry. ESIG is designed to create the tools and resources energy utilities need to establish and enhance their sustainability programs. It also provides a forum for sustainability professionals to interact and share leading practices that can help further inform the development of sustainability programs throughout the industry.

ESIG's peer benchmarking work builds off the metrics research by providing an opportunity to test their applicability, technical validity, and informativeness. Each year roughly 30 project participants submit their performance data to EPRI's online platform to benchmark with industry peers. Members collaborate through webcasts and in-person meetings where results of the benchmarking are presented, and leading practice presentations provide insights into how to drive continuous improvement. In December 2021, EPRI published its second public report through the Benchmarking Project (3002021719), providing insights gained from multiple years of metric usage through the annual benchmarking process since 2015. The report also provides an overview of aggregate results from the 2021 benchmarking effort for 10 core metrics.

ESIG's work is organized into five research streams. The effort to identify metrics appropriate for benchmarking electric power
company performance on sustainability priorities falls into the area of Measure and Manage Performance.

To learn more about EPRI's sustainability research, please see EPRI's public sustainability website: www.epri.com/research/programs/109406.

If you are interested in joining EPRI's sustainability communications list to receive announcements of new publications and invitations to public webcasts, please email sustainability@epri.com.

SUMMARY OF MAJOR CHANGES MADE TO 2022 SUSTAINABILITY METRICS

As discussed above, descriptions and/or metric names were revised for fourteen metrics, four were removed, one was kept as an emerging metric, and one emerging metric was added. These changes are discussed in further detail below.

Metric Removals

In an effort to manage the number of metrics, as deemed technically appropriate, the following metrics were removed since they measure absolute quantities that are highly influenced by fleet size and configuration, and by differences in regulatory environments and enforcement:

- Number of water permit non-compliance events/violations with fine (administrative)
- Number of water permit non-compliance events/violations with fine (performance)
- Total number of water permit non-compliance events/violations with fine
- Reportable Environmental Events with Fines

The information captured by the three water permit metrics is already included in three similar metrics that include water permit non-compliance events with or without fines; and, as permit violation fines vary by state/jurisdiction, the metrics specifically with fines were removed. The "reportable environmental events with fines" was removed for the same reason, as fines are not applied consistently across jurisdictions and this information is already captured under the broader "reportable environmental events" metric.

Metric Name and/or Description Changes

Updates to metric names and descriptions were heavily focused on the environmental metrics and were made based on member feedback in an effort to increase the consistency of information reported. All environmental metrics were reviewed and had the word "violation" replaced with "deviation" where appropriate, based on feedback that not all non-compliance events/deviations are deemed violations, and therefore the use of the word violation could lead to inconsistences in reporting. The following metrics had this change made:

- Number of air permit non-compliance events (administrative)
- Number of air permit non-compliance events (performance)
- Air permit non-compliance rate
- Reportable environmental events
- Number of non-compliance waste events (administrative)
- Number of non-compliance waste events (performance)
- Total number of non-compliance waste events
- Number of water permit non-compliance events (administrative)
- Number of water permit non-compliance events (performance)

- Total number of water permit non-compliance events
- Number of water permits violated
- Water permit violation rate
- Water permit non-compliance rate

Additionally, the three air permit non-compliance metrics above had references to “exceedances of Title V permits” (Clean Air Act Title V permits that apply pollution control requirements) added to their descriptions in an effort to increase reporting consistency nationally. Similarly, the water permit non-compliance metrics had references to Discharge Monitoring Reports (DMR) added given that DMRs are a nationally understood regulatory term for a periodic water pollution report and may also ensure increased reporting consistency. The “reportable environmental events” metric description was updated to clarify that the metric should “include the sum of all air permit non-compliance events, water permit non-compliance events, non-compliance waste events, and reportable spills/releases,” to reduce possible other interpretations on what should be counted under the metric.

The following two waste metrics had their names and descriptions updated:

- Universal waste generated
- Universal waste generated rate

Metric Additions

As noted earlier, one metric was added as an emerging metric under Energy Affordability:

- Eligible customers enrolled in low-income plans

The numerator for this metric is “of the number of residential customers eligible for low-income plans, the number currently enrolled/participating in those plans during the data year,” and the denominator is “number of residential customers eligible to participate in low-income plans during the data year.” This metric was added at the request of members and following research and discussions by the EPRI team on its technical validity.

Priority carried over

Priority evolved

New priority identified through 2017 priority refresh

Priority removed through 2017 priority refresh

Not a formal priority

Priority identified in initial 2014 priority identification, but metrics not identified; reemerged in 2017 priority refresh

SUSTAINABILITY ISSUE[11]	ORIGINAL METRICS IDENTIFIED[4]	METRICS FOR BENCHMARKING								
		2015[5]	2016[6]	2017[7]	2018[8]	2019	2020	2021	2022	2023
Air Emissions	35	16	17	17	17	17	17	10	9	7
Assets and Operations									1	1
Business Model										
Climate Change										
Community Vitality	20	6	7	7	7	8	8	8	4	4
Customer Relations										
Cyber and Physical Security										
Economic Viability of Electric Utilities	32									
Energy Reliability and Resiliency	71	4	4	4	4	4	4	5	5	5
Energy Affordability	2								1	2
Engagement and Collaboration	10									
Greenhouse Gas Emissions	78	11	12	12	12	12	12	10	9	7
Habitat and Biodiversity	17	2	2	2	2	2	2	2	4	4
Job Satisfaction	12									
Labor Relations										
Public Policy Relations										
Reportable Environmental Events	N/A	2	3	3	3	3	3	3	3	2
Safety and Health[1]	44	11	11	11	10	10	10	10	9	9
Skilled Workforce Availability[2]	8	14	17	17	10	10	10	10	9	9
Supply Chain[9]						1	1	2	2	2
Waste	31	7	12	12	12	12	12	11	10	9
Water[3]	88	4	12	12	14	14	14	13	11	13
Workforce Diversity, Inclusion, and Equal Opportunity					7	7	9	9	9	9
Natural Gas[10]								6	6	4

1 From 2014–2017, Safety and Health metrics were in two issues (Public Safety and Health and Employee Safety and Health) and combined through EPRI's Priority Sustainability Issue Refresh (3002011444).

2 Some of the metrics in Skilled Workforce Availability were moved to Workforce Inclusion, Diversity and Equal Opportunity in 2018.

3 From 2014–2017, Water metrics were in two issues (Water Quality and Water Availability) and combined through EPRI's *Priority Sustainability Issue Refresh* (3002011444).

4 *Sustainability Metric Compilation for the Electric Power Industry: Results of Industry Interviews and Metric Database Development* (3002004255).

5 *Metrics to Benchmark Sustainability Performance for the Electric Power Industry* (3002007228).

6 *2016 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002009923).

7 *2017 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002011884).

8 *2018 Metrics to Benchmark Electric Power Company Sustainability Performance* (3002013458)

9 The Percent Spend with Diverse Suppliers metric was moved from Community Vitality to Supply Chain in 2019

10 Natural Gas is not a formal priority sustainability issue (priority area).

11 EPRI plans to map its legacy priority sustainability issues to the results of its refreshed 2023 sustainability priorities, to be published in 2024

AIR EMISSIONS

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Total mercury (Hg) emissions	Absolute lbs. of mercury emissions from company, equity-owned generation. Companies should use emissions rate-based, direct measurement as outlined in the EPA Mercury and Air Toxics Standard (MATS) or regulatory equivalent for international operations.	lbs
Mercury emission rate for total company-owned net generation	**Numerator:** Total lbs. of mercury emissions from company, equity-owned generation. **Denominator:** MWh from company, equity-owned total net generation.	lbs/MWh
Total SO_2 emissions	SO_2 emissions from company, equity-owned generation sources. Report SO_2 values aligned with current EPA reporting or regulatory equivalent.	lbs
SO_2 emissions rate for company-owned fossil fuel generation	**Numerator:** Numerator: Total lbs. of SO_2 emissions from company, equity-owned fossil fuel generation. "Fossil fuel generation" to include generation from company, equity-owned coal, natural gas, and oil plants. **Denominator:** MWh from company, equity-owned total fossil fuel generation.	lbs/MWh
SO_2 emissions rate for company-owned total net generation	**Numerator:** Total lbs. of SO_2 emissions from company, equity-owned generation. **Denominator:** MWh from company, equity-owned total net generation.	lbs/MWh
Total NOx emissions	Absolute lbs. of NOx emissions from company, equity-owned generation. Report NOx values aligned with current EPA reporting or regulatory equivalent.	lbs
NOx emission rate for company-owned fossil fuel generation	**Numerator:** Total lbs. of NOx emissions from company, equity-owned fossil fuel generation. **Denominator:** MWh from company, equity-owned total fossil net generation.	lbs/MWh
NOx emission rate for company-owned total net generation	**Numerator:** Total lbs. of NOx emissions from company, equity-owned generation. **Denominator:** MWh from company, equity-owned total net generation.	lbs/MWh
Air permit non-compliance rate	**Numerator:** Sum of administrative and performance non-compliance events/deviations from or exceedances of Title V permits (federal, state/provincial, or local air permits). See "administrative non-compliance event" and "performance non-compliance event" definitions for further details. **Denominator:** Number of air quality permits.	# events / # permits

ASSETS AND OPERATIONS

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Effective energy efficiency investment rate	**Numerator:** Total electric energy savings for the data year as reported on Schedule 6, Part A of the EIA Form 861 and/or equivalent international reporting. Incremental Annual Savings for the reporting year are those changes in energy use caused in the current data year by: 1. New participants in demand-side management (DSM) programs that operated in the previous reporting year. 2. Participants in new DSM programs that operated for the first time in the current reporting year. A "New program" is a program for which the reporting year is the first year the program achieved savings, regardless of when program development and expenditures began. **Denominator:** Total investment in the data year for electric energy efficiency programs as reported to EIA on Form 861 and/or equivalent international reporting.	kWh / $ invested

COMMUNITY VITALITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Charitable contribution rate	**Numerator:** Charitable contributions include money or property given to: (1) Churches, synagogues, temples, mosques, and other religious organizations; (2) Federal, state, and local governments, if your contribution is solely for public purposes (for example, a gift to reduce the public debt or maintain a public park); (3) Nonprofit schools and hospitals; (4) The Salvation Army, American Red Cross, CARE, Goodwill Industries, United Way, Boy Scouts of America, Girl Scouts of America, Boys and Girls Clubs of America, etc.; and (5) War veterans' groups. Charitable contributions do not include money or property given to: (1) Civic leagues, social and [non-501(c)(3)] sports clubs, labor unions, and chambers of commerce; (2) Foreign organizations (except certain Canadian, Israeli, and Mexican charities); (3) Groups that are run for personal profit; (4) Groups whose purpose is to lobby for law changes; (4) Homeowners' associations; (5) Individuals; (6) Political groups or candidates for public office; (6) Cost of raffle, bingo, or lottery tickets; (7) Dues, fees, or bills paid to country clubs, lodges, fraternal orders, or similar groups; (8) Tuition; (9) Value of blood given to a blood bank. Matched donations may be accounted for in this metric; but only in the amount given by the company (e.g., if an employee makes a $100 gift to an academic institution that is matched by the company, $100 would be counted for this metric). Scholarships awarded can be counted if they meet the following criteria, identified in the IRS Company Scholarship Program (October 2016): "Company-related scholarship programs can meet the scholarship requirements by ensuring that the scholarships awarded are for the main purpose of furthering the recipients' education rather than compensating company employees. 1. The preferential treatment derived from employment must not have any significance beyond that of an initial qualifier, 2. The selection of scholarship grantees must be controlled and limited by substantial non-employment related factors, including a selection committee of individuals who are independent and separate from the private foundation, its organizer, and the employer concerned, and 3. There must exist only a limited probability that qualified employees or their children will receive scholarship grants."	%

COMMUNITY VITALITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Charitable contribution rate *(continued)*	Money spent to sponsor a work-related event should not be counted in this metric (e.g., sponsorship of a Ceres conference or purchase of a table at an energy-focused event). Money donated through a company's foundation may be counted toward this metric. Corporate giving outside of a foundation may also be counted in this metric. Money donated by employees through company campaigns should NOT be counted for this metric. Charitable donations made in association with permit negotiations should NOT be counted for this metric. For in-kind contributions, report the financial equivalent of the contribution (e.g., if making a book donation to a school, report the dollar amount of books contributed). You MAY report the value of time or services donated (e.g., if doing pro-bono legal work, report the dollar amount of work being provided). **Denominator:** Revenues	%
Corporate volunteerism rate	**Numerator:** Number of employee corporate volunteer hours at company-sponsored events at non-profit or charitable organization. "Corporate volunteer hours" reflect employee volunteering conducted through a company-sponsored event for non-profit or charitable organizations. Company-sponsored events include events where a company encourages employee participation (e.g., company encourages employee participation in 5k charity run or a weekend habitat for humanity build). Personal volunteer hours performed by employees for non-profit or charitable organizations on their own time should NOT be counted (e.g., hours committed to leading boy scout troop or coaching little league team not company sponsored). Hours reported should include BOTH paid and unpaid hours committed by employees. Time served as a member of a Board of Directors for a non-profit or charitable organization maybe included for the purposes of t his metric. Volunteer hours performed by retirees should not be counted for the purposes of this metric. For example, a four-hour park clean-up sponsored by the company draws in 60 employees (20 of which are serving during their working hours, therefore being compensated for the effort, 40 of whom are volunteering on their own time) and an additional 40 members of the public. For the purpose of this metric, the company would report 240 hours (60 employees x 4 hours) **Denominator:** Average number of employees. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	hours / employee

COMMUNITY VITALITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Paid corporate volunteerism rate	**Numerator:** Number of employee paid corporate volunteer hours at company-sponsored events at non-profit or charitable organizations. "Corporate volunteer hours" reflect employee volunteering conducted through a company-sponsored event for non-profit or charitable organizations. Absolute number of PAID employee corporate volunteer hours. "Corporate volunteer hours" reflect employee volunteering conducted through a company-sponsored event for non-profit or charitable organizations. Hours counted for the purposes of this metric should reflect time during an employee's normal paid work schedule where the e mployees are volunteering. DO NOT count volunteering done via flexible scheduling (i.e., if an employee takes off early to volunteer but makes up the time on a different day, this should not be counted). Personal volunteer hours performed by employees for activities not sponsored by a company should NOT be counted (e.g., hours committed to leading a Boy Scout troop or coaching a little league team that is not company sponsored). Hours should include ONLY paid hours committed by employees. Time served as a member of a Board of Directors for non-profit or charitable organizations may be included for the purposes of this metric. Volunteer hours performed by retirees should not be counted for the purposes of this metric. For example, a four-hour park clean-up sponsored by the company draws in 60 employees (20 of which are serving during their working hours and are therefore being compensated for the effort, 40 of whom are volunteering on their own time) and an additional 40 members of the public. For the purpose of this metric, the company would report 80 hours (20 employees being paid x 4 hours). **Denominator:** Average number of employees. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	hours / employee
Total employee volunteer hour rate	**Numerator:** Number of employee corporate and personal volunteer hours at company-sponsored events at non-profit or charitable organizations. Include BOTH corporate volunteer hours and personal volunteer hours performed by employees. "Corporate volunteer hours" reflect employee volunteering conducted through a company-sponsored event for non-profit or charitable organizations. "Personal volunteer hours" reflect employee volunteering conducted on personal time for non-profit or charitable organizations (e.g., hours committed to leading a Boy Scout troop or coaching a little league team that is not company sponsored). Time served as a member of a Board of Directors for a non-profit or charitable organization may be included in this metric. Volunteer hours performed by retirees should not be counted for the purposes of this metric. For example, a company sponsors a 15-week tutoring program for local school children where 20 employees volunteer 1 hour a week (total of 300 hours). Three employees decide to continue volunteering on their own time for an hour each week for an additional 15 weeks (total of 45 hours). For the purposes of this metric, the company would report 345 hours (300 + 45). **Denominator:** Average number of employees. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	hours / employee

ENERGY AFFORDABILITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Residential reconnects within 30 days	**Numerator:** Of the number of residential customers disconnected for nonpayment, the number reconnected within 30 days during the data year. **Denominator:** Number of residential customer electric disconnections for nonpayment during the data year.	%
Eligible customers enrolled in low-income plans	**Numerator:** Of the number of residential customers eligible for low-income plans, the number currently enrolled/participating in those plans during the data year. **Denominator:** Number of residential customers eligible to participate in low-income plans during the data year.	%

ENERGY RELIABILITY AND RESILIENCY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
System average interruption duration index (SAIDI)	Average duration of planned and unplanned system interruptions per utility customer served during the data year. Count system interruptions as defined by companies' regulatory PSC/PUC/BPU. This metric should be reported according to the guidance set forth in 1366-2012 IEEE Guide for Distribution Reliability Indices and should exclude major storm events, unless the PSC/PUC/BPU has determined that a particular event should be included.	minutes
System average interruption frequency index (SAIFI)	Average number of interruptions that a customer would experience during the data year Count system interruptions as defined by companies' regulatory PSC/PUC/BPU. This metric should be reported according to the guidance set forth in 1366-2012 IEEE Guide for Distribution Reliability Indices and should exclude major storm events, unless the PSC/PUC/BPU has determined that a particular event should be included.	#
Customer average interruption duration index (CAIDI)	Average duration of planned and unplanned interruptions (i.e., average restoration time) during the data year. Count system interruptions as defined by companies' regulatory PSC/PUC/BPU. This metric should be reported according to the guidance set forth in 1366-2012 IEEE Guide for Distribution Reliability Indices and should exclude major storm events, unless the PSC/PUC/BPU has determined that a particular event should be included.	minutes
Customer average interruption frequency (CAIFI)	Average number of interruptions per customer interrupted during the data year. Count system interruptions as defined by companies' regulatory PSC/PUC/BPU. This metric should be reported according to the guidance set forth in 1366-2012 IEEE Guide for Distribution Reliability Indices and should exclude major storm events, unless the PSC/PUC/BPU has determined that a particular event should be included.	#
Weighted equivalent forced outage rate demand (WEFORd)	WEFORd for non-renewable generation within the data year. Any unit that runs throughout the year should be included in the metric. Refer to the North American Electric Reliability Corporation (NERC) Generating Availability Data System (GADS) Data Reporting Initiative (DRI) for further guidance.	%

GREENHOUSE GAS EMISSIONS

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Total CO_2 emissions rate for fossil fuel generation	**Numerator:** Metric tons of CO_2 emissions from company, equity-owned fossil fuel generation. "Fossil fuel generation" to include generation from company, equity-owned coal, natural gas, and oil plants. Do not include emissions from biomass. **Denominator:** MWh from company, equity-owned total fossil fuel net generation.	metric tons/MWh
Total CO_2 emissions rate for TOTAL generation	**Numerator:** Metric tons of CO_2 emissions from company, equity-owned generation. "Fossil fuel generation" to include generation from company, equity-owned coal, natural gas, and oil plants. Do not include emissions from biomass. **Denominator:** MWh from company, equity-owned total net generation across all units (i.e., full fleet).	metric tons/MWh
Total CO_2 emissions rate for biomass generation	**Numerator:** Metric tons of CO_2 emissions from company, equity-owned biomass generation. **Denominator:** MWh from company, equity-owned biomass net generation.	metric tons/MWh
Total Scope 1 emissions	Total Scope 1 CO_2e emissions from all company operations including fossil fuel generation, natural gas T&D, fleet, and other company operations. Emissions to be broken out and reported for CO_2, CH_4, N_2O, HFC, PFC, NF_3 and SF_6. Further guidance on calculations can be found in the Climate Registry's General Reporting Protocol 2.1 (January 2016) and Electric Power Sector Protocol.	metric tons CO_2e
Total Scope 2 emissions	Total Scope 2 CO_2e emissions from all company operations including fossil fuel generation, natural gas T&D, fleet, and other company operations. Emissions to be broken out and reported for CO_2, CH_4, N_2O, HFC, PFC, NF_3 and SF_6. Further guidance on calculations can be found in the Climate Registry's General Reporting Protocol 2.1 (January 2016) and Electric Power Sector Protocol.	metric tons CO_2e
Total Scope 3 CO_2e emissions	Total Scope 3 CO_2e emissions from any of the upstream and downstream activities that are applicable to the reporting company. "Upstream and downstream activities" as categorized and defined in Technical Guidance for Calculating Scope 3 Emissions (version 1.0) from the World Resource Institute's Corporate Value Chain (Scope 3) Accounting and Reporting Standard (September 2011). Further guidance on a full Scope 3 emissions calculation can be found as referenced by the Climate Registry's General Reporting Protocol 2.1 (January 2016).	metric tons CO_2e
Total CO_2 emissions rate for electricity used to meet end load	**Numerator:** Report the sum of the following CO_2 emissions: 1. Emissions from equity-owned power generation facilities (GEN) 2. Emissions embedded in net power purchased through specified contracts (SC) or agreements (e.g., PPAs) above and beyond what your company generated 3. Emissions associated with net power purchased from the wholesale power market for resale to end-use customers (PP) **Denominator:** Total MWh of energy sold to end-use customers. **Equation:** (GEN + SC + PP) / MWh	metric tons/MWh

HABITAT AND BIODIVERSITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Percentage of natural land managed to support habitat and biodiversity as required for mitigation	**Numerator:** Acres of natural land which the organization has authority and control to manage (whether through easement, lease, or ownership) in the reporting year, AND was applied towards habitat/species/biodiversity mitigation. **Denominator:** Total acres of natural land which the organization has authority and control to manage, whether that is through easement, lease, or ownership. Condition of the natural land does not need to be known. "Natural land" includes water and terrestrial land that is in a natural state (e.g., fallow, naturally vegetated, open water, streams, wetlands). Excludes non-natural impermeable, concrete, parks inconsistent with biodiversity (i.e., soccer/golf parks), cropland not supporting habitat, etc. "Habitat/species/biodiversity mitigation" includes Supplemental Environmental Project negotiation (SEP), operating/siting permit, or any other federal, state, or local requirement or negotiation (e.g., FERC, US Endangered Species Act, US Clean Water Act). For linear locations, such as streams, rivers, and rights-of-ways, estimate the acres by multiplying the linear feet by its width. For the purposes of this metric, the following may be included: • ALL land being managed during the data year, regardless of the year management began. • In-lieu fees that can be accurately translated into acres of conservation, credits translated into acres purchased/applied via mitigation banking. • As this is "required for mitigation", it is assumed that the overseeing regulatory authority has determined that the land is suitable as habitat. Therefore, the condition of the land doesn't need to be known. The following should NOT be included: • Recreation areas that are not managed in a way consistent with supporting biodiversity (e.g., soccer fields, baseball parks, heavy use of pesticides). • Acres managed by others through financial donations as part of the mitigation negotiation.	%
Percentage of natural land voluntarily managed to support habitat and biodiversity	**Numerator:** Acres of natural land which the organization has authority and control to manage (whether through easement, lease, or ownership) in the reporting year, AND was managed to support biodiversity, where the condition of the property is known. The condition of the property (when reporting the numerator of this metric) can be determined via site visit, satellite imagery, habitat modeling analysis or other verification approach. **Denominator:** Total acres of natural land which the organization has authority and control to manage, whether that is through easement, lease, or ownership. Condition of the natural land does not need to be known. (Reporting of denominator is optional). "Natural land" includes water and terrestrial land that is in a natural state (e.g., fallow, naturally vegetated, open water, streams, wetlands). Excludes non-natural impermeable, concrete, parks inconsistent with biodiversity (e.g., soccer/golf parks), and cropland not supporting habitat "Managed to support biodiversity" includes activities taken specifically for the purpose of ensuring habitat is created/maintained/enhanced/restored. For linear locations, such as streams, rivers, and rights-of-ways, estimate the acres by multiplying the linear feet by its width.	%

HABITAT AND BIODIVERSITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Percentage of natural land voluntarily managed to support habitat and bio-diversity *(continued)*	For the purposes of this metric, the following may be included: • ALL land being managed during the data year, regardless of the year management began. • Habitat managed in Transmission and Distribution Rights-of-Ways via lease, easement, or ownership (e.g., land managed with biodiversity-friendly Integrated Vegetation Management (IVM) programs). • Habitat co-located with other land uses (e.g., solar sites, wind turbines, camping) The following should NOT be included: • Recreation areas that are not managed in a way consistent with supporting biodiversity (e.g., soccer fields, baseball parks, heavy use of pesticides). • Corporate surplus property where the condition is unknown. • Acres managed by others through philanthropic donations (e.g., The Nature Conservancy). • Property applied towards mitigation, including mitigation/species banks.	
Percentage of natural land managed to support pollinator habitat and bio-diversity as required for mitigation	**Numerator:** Acres of natural land which the organization has authority and control to manage (whether through easement, lease, or ownership) in the reporting year, AND was applied towards pollinator species mitigation. **Denominator:** Total acres of natural land which the organization has authority and control to manage, whether that is through easement, lease, or ownership. Condition of the natural land does not need to be known. (Reporting of denominator is optional) Pollinators include insects, birds, and animals that are known to move pollen between flowers. Their habitat includes a mix of flowering plants, forbs, and grasses (preferably native to the eco-region) that are maintained with minimal use of chemicals. This is a subcategory of the metric: "Natural land managed to support habitat and biodiversity as required for mitigation." A company may not report more acres in this pollinator sub-metric than in the "Natural land managed to support habitat and biodiversity as required for mitigation" metric.	%
Percentage of natural land managed to support pollinator habitat and bio-diversity voluntarily	**Numerator:** Acres of natural land (water and terrestrial) which the organization has authority and control to manage (whether through easement, lease, or ownership) in the reporting year, AND managed to support pollinators voluntarily. **Denominator:** Total acres of natural land the organization has authority and control to manage, whether that is through easement, lease, or ownership. Condition of the natural land does not need to be known. (Reporting of denominator is optional) "Managed to support pollinators" includes activities taken specifically for the purpose of ensuring habitat is created/maintained/enhanced/restored. Pollinators include insects, birds, and animals that are known to move pollen between flowers. Their habitat includes a mix of flowering plants, forbs, and grasses (preferably native to the eco-region) that are maintained with minimal use of chemicals. The condition of the pollinator-supporting habitat must be known via site visit, remote sensing, satellite imagery (or other similar means) to include pollinator-supporting plants and/or pollinators. This is a subcategory of the metric "Natural land managed to support habitat and biodiversity voluntarily." A company may not report more acres in this (pollinator) metric than in the "Natural land managed to support habitat and biodiversity voluntarily" metric.	%

NATURAL GAS

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Fugitive emissions intensity	**Numerator:** Volume of CH_4 Emissions from distribution pipeline as reported through Subpart W. **Denominator:** Total volume of natural gas throughput on distribution pipeline as reported through Subpart W. Distribution pipeline means a pipeline that is designated as such by the Pipeline and Hazardous Material Safety Administration (PHMSA) 49 CFR 192, and to include mains and services.	%
Legacy distribution pipeline replacement rate	**Numerator:** Miles of legacy distribution pipeline planned to be upgraded during the data year. "Legacy distribution pipeline planned to be upgraded" can include unprotected steel, cast iron, and wrought iron. **Denominator:** Total miles of legacy distribution pipeline planned to be upgraded. "Distribution pipeline" refers to pipeline that is designated as such by the Pipeline and Hazardous Material Safety Administration (PHMSA) 49 CFR 192, and to include mains and services.	%
Percentage of legacy distribution pipeline still to be upgraded	**Numerator:** Miles of legacy distribution pipeline that needs to be upgraded. "Legacy distribution pipeline planned to be upgraded" can include unprotected steel, cast iron, and wrought iron. **Denominator:** Total miles of distribution pipeline. "Distribution pipeline" refers to pipeline that is designated as such by the Pipeline and Hazardous Material Safety Administration (PHMSA) 49 CFR 192, and to include mains and services.	%
Leak repair rate	**Numerator:** Number of Grade 2 and 3 leaks on the distribution system repaired during the data year. **Denominator:** Total number of Grade 2 and 3 leaks on the distribution system during the data year (i.e., number repaired plus number of leaks still open at the close of the data year). Distribution pipeline means a pipeline that is designated as such by the Pipeline and Hazardous Material Safety Administration (PHMSA) 49 CFR 192, and to include mains and services.	Rate

REPORTABLE ENVIRONMENTAL EVENTS

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Reportable environmental events (REE)	This metric should include the sum of all air permit non-compliance events, water permit non-compliance events, non-compliance waste events, and reportable spills/releases. Environmental events are non-compliance events/deviations of air, water, and waste permits and regulations that: • Violate permit conditions or other regulatory requirements and trigger regulatory-required oral or written notification to a regulatory agency, or • Are reportable spills to water, reportable oil/chemical spills, reportable quantity releases, or • Should have been subject to an environmental permit or regulatory notification, but the organization failed to obtain the appropriate permit or make the required notification, or • Trigger enforcement action by a regulatory agency. FAQs: • **Are REEs only those that trigger immediate reporting?** No - any event that requires reporting to an agency - either immediately or in periodic reporting - that is a deviation from permit requirements should be included. If the event is an exception in semi-annual or annual reporting, the event should be included. The aim is to capture and compare any/all public records of environmental deviations or non-compliance events. • **How do I handle NOVs?** A Notice of Violation (NOV) will always be an REE, but an REE will not always result in an NOV. Regarding timing related to benchmarking year, NOVs generally come after an event and/or they may later be resolved through settlement or other means; in these cases the event should already be reported and would be an REE for the purposes of this benchmarking. If a non-compliance or other environmental event was never reported but subsequently receives an NOV, then that NOV would be counted as an REE for the year in which it was received. • **How do I handle events that were "forgiven"?** Deviations or exceedances should still be reported to this metric regardless of subsequent action or non-action by a regulatory agency. • **What about de minimis events?** For the purposes of this benchmarking, do not count opacity exceedances. However, if a company were to receive an NOV for opacity exceedances, then that would count as one REE. • **What about events that occur over some time period?** An environmental event may be one discreet episode (e.g., a spill) or occur over a longer duration (e.g., equipment malfunction resulting in days of discharges outside of the limit), only count as one environmental event considering that the event has a beginning and an end. • **How should I account for plants or other assets where I have partial ownership?** Report events where you have equity ownership and operational control. For the purposes of this benchmarking, do not report events where responsibility and reporting is done by another party as agreed upon through management/operational contracts.	#
Environmental fines	Total amount paid for non-compliance events/violations in connection with regulation enforcement actions. If a fine was paid in the data year for a violation in a previous year, it SHOULD BE included in this total.	$

SAFETY AND HEALTH

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Public fatalities	Total number of fatalities to members of the public not in the employ of, or under contract to, the reporting company, and that occur as a result of contact with company equipment and assets, to include electric and gas. Include fatalities whether or not the company is deemed to be at fault. To include all company assets (e.g., cable, vehicles, dams) and company operations/activities. To include total number of fatalities to members of the public not in the employ of, or under contract to, the reporting company due to any of the following causes: • Electrical contact with assets • Electrical contact with unintentional energized metallic object • Collision with poles • Pole-related (collapse or maintenance) • Copper theft • Auto accidents • Drowning • Natural gas (contact with the commodity, e.g., carbon monoxide poisoning) • Other	#
Public injuries	Total number of injuries to members of the public not in the employ of, or under contract to, the reporting company, and that occur as a result of contact with the member company equipment and assets, to include electric and gas. Include injures whether or not the company is deemed to be at fault. To include all company assets (e.g., cables, vehicles, dams) and company operations/activities. To include total number of injuries to members of the public not in the employ of, or under contract to, the reporting company, due to any of the following causes: • Electrical contact with assets • Electrical contact with unintentional energized metallic object • Collision with poles • Pole-related (collapse or maintenance) • Copper theft • Auto accidents • Natural gas • Other	#
Employee fatalities	Number of employee fatalities. Record for all employees on company payroll, whether they are labor, executive, hourly, salary, part-time, seasonal, or migrant workers. Also report fatalities to those that occur to employees who are not on company payroll if you supervise these employees on a day-to-day basis. If company is organized as a sole proprietorship or partnership, the owner or partners are not considered employees for recordkeeping purposes. For temporary employees, report fatalities if you supervise these employees on a day-to-day basis. If the contractor's employee is under the day-to-day supervision of the contractor, do not report the fatality.	#
Contractor fatalities	Number of fatalities of contract employees who are under the day-to-day supervision of the contractor.	#

SAFETY AND HEALTH

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
OSHA (or regulatory equivalent) recordable incident rate for employees	**Numerator:** Number of recordable injuries or illnesses x 200,000. Injury or illness is recordable if it results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. You must also consider that a case meets the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness. Record the injuries and illnesses of all employees on the company payroll, whether they are labor, executive, hourly, salary, part-time, seasonal, or migrant workers. You also must record the recordable injuries and illnesses that occur to employees who are not on the company payroll if you supervise these employees on a day-to-day basis. If the company is organized as a sole proprietorship or partnership, the owner or partners are not considered employees for recordkeeping purposes. For temporary employees, you must record these injuries and illnesses if you supervise these employees on a day-to-day basis. If the contractor's employee is under the day-to-day supervision of the contractor, the contractor is responsible for recording the injury or illness. If you supervise the contractor employee's work on a day-to-day basis, you must record the injury or illness. **Denominator:** Number of employee labor hours worked.	Rate
OSHA (or regulatory equivalent) recordable incident rate for contractors	**Numerator:** Number of recordable injuries or illnesses x 200,000. Injury or illness is recordable if it results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. You must also consider that a case meets the general recording criteria if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness. Include employees under the day-to-day supervision of your contractor. **Denominator:** Number of contractor labor hours worked.	Rate
OSHA (or regulatory equivalent) lost-time case rate	**Numerator:** Number of Lost Time Cases x 200,000. Only report for employees of the company as defined for "Recordable incident rate for employees" metric. A lost time incident is one that resulted in an employee's inability to work the next full work day. **Denominator:** Number of employee labor hours worked.	Rate
OSHA (or regulatory equivalent) DART rate	**Numerator:** Total Number of DART incidents x 200,000. Only report for employees of company as defined for "Recordable incident rate for employees" metric. A DART incident is one that resulted in one or more Lost Days, one or more Restricted Days or that resulted in an employee transferring to a different job within the company. **Denominator:** Number of employee labor hours worked.	Rate
OSHA (or regulatory equivalent) severity rate	**Numerator:** Total number lost workdays. Only report for employees of company as defined for "Recordable incident rate for employees" metric. **Denominator:** Total number of recordable incidents.	Rate

SKILLED WORKFORCE AVAILABILITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Progression planning – early career	Percentage of employees under the age of 30	%
Progression planning – mid-career	Percentage of employees aged 30–50.	%
Progression planning – mature career	Percentage of employees aged 51 and over.	%
Share of workforce eligible to retire within 5 years	Percentage of employees eligible to retire within 5 years. Eligibility to retire as defined by the company's individual retirement policies. In the absence of company policy, reporting should default to Social Security requirements that identify retirement age as between 65 and 67 depending on birth year.	%
Employee turnover rate	**Numerator:** Employees who leave voluntarily (including retirement). **Denominator:** Average number of employees over the year. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	%
Training for career advancement (per employee)	**Numerator:** Total hours training to include leadership and skills-based training provided in the classroom (company facility), online, and documented on-the-job. Count BOTH required (e.g. OSHA-required, sexual-harassment, etc.) and professional development (leadership, conflict resolution, etc.) training hours. **Denominator:** Average number of employees. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	hours / employee
Continuing education contributions (per employee)	**Numerator:** Dollars committed to continuing education of employees pursuing degrees or certifications outside of the company. Financial contributions of a company to employees pursuing careers or certifications outside the company. Criteria for inclusion is based on individual company policy and procedures (e.g., If a particular certification costs $1000.00 and company A's policy is to cover 80% and company B's policy is to cover 50%, they should report $800.00 and $500.00, respectively). **Denominator:** Average number of employees. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	$ / employee
Recruitment – partnerships and program success rate	**Numerator:** Number of recruitment partnerships and programs to engage and recruit potential employees from whom employees were hired during the data year. **Denominator:** Number of recruitment partnerships and programs. Count partnerships and programs with academia, trade schools, co-ops, and non-governmental organizations active during the data year with the intent to engage and recruit potential employees by furthering education and skills development in areas relevant to the electric power industry.	%
Recruitment – partnerships and program employee hire rate	**Numerator:** Potential employees. **Denominator:** Number of employees hired in the data year.	%

SUPPLY CHAIN

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Percent spend with diverse suppliers	**Numerator:** Dollars spent with diverse suppliers (women-, minority-, LGBT-, veteran-, and service-disabled veteran-owned businesses) during the data year. Only count dollars spent with direct suppliers; money spent with diverse sub-contractors should not be counted for the purposes of this metric. **Denominator:** Total dollars spent in data year for materials and services. DO NOT include dollars spent to procure fuel for electricity generation or real estate.	%
Percent spend with Tier 1 Suppliers that Responded to a Sustainability Survey	**Numerator:** Spend on materials and services provided by a supplier that has responded to a sustainability-focused supplier survey. A sustainability-focused supplier survey can include a company-specific survey, or an external survey administered by a third party. **Denominator:** Total spend in data year for materials and services from Tier 1 suppliers. Tier 1 suppliers as defined by the reporting company.	%

WASTE

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Coal combustion products recycled intensity	**Numerator:** The amount of coal combustion products (CCPs) – fly ash, bottom ash, boiler slag, flue gas desulfurization materials, scrubber bi-product - diverted from disposal into beneficial uses, including being sold. Include any CCP that is generated during the data year and stored for beneficial use in a future year. Only include CCP generated at company equity-owned facilities. For the purposes of this metric, beneficial use is defined using the April 2015 CCR disposal rule: The beneficial use of CCR definition is comprised of four criteria: • The CCR must provide a functional benefit • The CCR must substitute for the use of a virgin material • Meets product specifications and/or design standards • When unencapsulated use of CCR involves placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate, and provide documentation upon request, that environmental releases to groundwater, surface water, soil, and air are comparable to or lower than those from analogous products made without CCR, or that releases will be below relevant regulatory and health-based benchmarks for human and ecological receptors. If no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information. **Denominator:** Total tons of CCP generated during the data year.	%
Low-level radioactive waste disposal rate	**Numerator:** cubic feet disposed from company-owned nuclear facilities (not including decommissioning waste), including Class A, B, and C radioactive waste as defined by the Nuclear Regulatory Commission (NRC). **Denominator:** Net, company, equity-owned nuclear power generation.	ft^3 /MWh

WASTE

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Hazard waste disposal rate	**Numerator:** Tons of hazardous waste, as defined by the Resource Conservation and Recovery Act (RCRA) disposed of to a Treatment Storage and Disposal (TSD) facility. Methods of disposal include disposing to landfill, surface impoundment, waste pile, and land treatment units. Hazardous wastes include either listed wastes (F, K, P and U lists) or characteristic wastes (wastes which exhibit at least one of the following characteristics - ignitability, corrosivity, reactivity, toxicity). If the reporting organization is an international business, a regulatory equivalent to the RCRA definition may be substituted for the purposes of this reporting. Hazardous waste sent for incineration SHOULD BE counted UNLESS the waste is being burned for significant energy and material recovery, with waste treatment being a secondary benefit. Hazardous waste which is recycled should NOT be reported for this metric (e.g., hazardous waste that is blended in fuel would NOT be counted for this metric. Do not include PCB, used oil, or asbestos disposal in this metric. If a waste is not identified at the federal level as hazardous, but IS identified as hazardous within the state your facility is located, the waste SHOULD be included in this metric. If no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information. **Denominator:** Total operating revenues.	Tons/$M
Universal waste generated	**Numerator:** Tons of universal waste, as defined by 40 C.F.R. 273 including batteries, pesticides, mercury-containing equipment (including many thermostats), and lamps containing mercury (e.g., fluorescent lamps, including compact fluorescent lamps), generated. If reporting organization is an international business, a regulatory equivalent for 40 C.F.R. 273 may be substituted for the purposes of this reporting. If a waste is not identified at the federal level as universal, but IS identified as universal within the state your facility is located, the waste SHOULD be included in this metric. If no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information. **Denominator:** Total operating revenues.	Tons/$M
Non-hazardous municipal solid waste diversion rate	**Numerator:** Non-hazardous municipal solid waste as defined by EPA diverted during the data year. For the purposes of this metric, “diverted” includes waste recycled, repurposed, or otherwise handled so as not to enter a landfill. If reporting organization is an international business, a regulatory equivalent for the EPA definition may be substituted for the purpose of this metric. If no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information. **Denominator:** Total tons of non-hazardous municipal solid waste generated during the data year.	%

WASTE

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Non-hazardous industrial waste diversion rate	**Numerator:** Non-hazardous industrial solid waste - Including construction and demolition (C&D) waste, scrap metal, wood (including poles) and soil – diverted during the data year. For the purposes of this metric, "diverted" includes waste recycled, repurposed, or otherwise handled so as not to enter a landfill. Do not include liquids (e.g., oil) or items that are sold through auction. If no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information. As CCR/CCPs are captured through a separate metric, they should not be included in the non-hazardous waste diversion rate metric. **Denominator:** Total tons of non-hazardous industrial waste generated during the data year.	%
Facility energy consumption rate (area)	**Numerator:** kBTU of energy consumed by company facilities. Include facilities that house administrative or support functions including, but not limited to, office buildings, warehouses, and maintenance buildings. Energy consumption calculations should reflect SOURCE energy. Further guidance on calculation can be found in the US Environmental Protection Agency's documents: • Energy Star Portfolio Manager Technical Reference: Thermal Energy Conversions (2015) • Energy Star Portfolio Manager Technical Reference: Source Energy (2018) **Denominator:** Square footage of facilities for which energy consumption is reported.	kBTU/ft^2
Facility energy consumption rate (employee)	**Numerator:** kBTU of energy consumed by company facilities. Include facilities that house administrative or support functions including, but not limited to, office buildings, warehouses, and maintenance buildings. Energy consumption calculations should reflect SOURCE energy. Further guidance on calculation can be found in the US Environmental Protection Agency's documents: • Energy Star Portfolio Manager Technical Reference: Thermal Energy Conversions (2015) • Energy Star Portfolio Manager Technical Reference: Source Energy (2018) **Denominator:** Number of employees that report to the facilities for which energy consumption is reported.	%
Total number of non-compliance waste events	Total number of administrative and performance non-compliance events/deviations from federal, state/provincial, or local waste regulations in data year. For the purposes of benchmarking, an "administrative non-compliance event/deviation" is defined as a non-compliance event that does not require an official or formal agency-issued violation, or immediate corrective action (e.g., filing incomplete paperwork or missing a submission due date; examples of incomplete submittals may include missing required copies of lab results or forms not acknowledged by the appropriate signatory). A "performance non-compliance event/deviation" is defined as a non-compliance event that requires an official or formal agency-issued violation (e.g., an NOV), or immediate corrective action (e.g., being cited for improperly disposing of a special or hazardous waste and/or having to find and remove special or hazardous waste from a landfill for proper disposal). Verbal warnings and letters of warning should not be counted. For the purposes of benchmarking, administrative and performance events will be reported as separate data inputs but summed to calculate non-compliance. Non-compliance related to manifests SHOULD be included for the purposes of this metric. If a non-compliance event/deviation is excused due to a force majeure or equipment malfunction in the data year by your regulatory authority, it does not need to be counted for this metric.	#

WATER

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Total number of water permit non-compliance events/violations	Sum of administrative and performance non-compliance events/deviations of federal, state/provincial, or local water quality permits during data year. See "administrative non-compliance event" and "performance non-compliance event" metrics descriptions for additional details.	#
Water permit violation rate	**Numerator:** Number of water permits violated. See "administrative non-compliance event/violation" and "performance non-compliance event/violation" metrics descriptions for additional details. **Denominator:** Number of water quality permits.	# violations / # permits
Water permit non-compliance rate	**Numerator:** Sum of administrative and performance non-compliance events/deviations of federal, state/provincial, or local water quality permits during data year, as reported on a DMR. See "administrative water permit non-compliance events" and "performance water permit non-compliance events" metrics for additional details. **Denominator:** Number of water quality permits.	# permits violated / # permits
Freshwater consumption rate – fossil fuel generation	**Numerator:** Gallons of freshwater consumed for company, equity-owned fossil fuel generation. "Freshwater" includes water sourced from fresh surface water, groundwater, rain water, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. Water consumption is defined as water that is not returned to the original water source after being withdrawn, including evaporation to the atmosphere. **Denominator:** Company, equity-owned total net generation from fossil fuel.	Gallons/ MWh
Freshwater consumption rate – nuclear generation	**Numerator:** Gallons of freshwater consumed for company, equity-owned nuclear generation. "Freshwater" includes water sourced from fresh surface water, groundwater, rainwater, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. Water consumption is defined as water that is not returned to the original water source after being withdrawn, including evaporation to the atmosphere. **Denominator:** Company, equity-owned total net generation from nuclear	Gallons/ MWh
Freshwater consumption rate – all generation	**Numerator:** Gallons of fresh water consumed for ALL company, equity-owned generation. "Freshwater" includes water sourced from fresh surface water, groundwater, rainwater, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. Water consumption is defined as water that is not returned to the original water source after being withdrawn, including evaporation to the atmosphere. **Denominator:** Company, equity-owned total net generation from all electric generation	Gallons/ MWh

WATER

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Total water consumption rate – all generation	**Numerator:** Volume of water (fresh and degraded) consumed for ALL company, equity-owned generation. "Freshwater" includes water sourced from fresh surface water, groundwater, rainwater, and fresh municipal water. "Degraded water" refers to water that has undergone degeneration of quality (e.g. stormwater runoff, agricultural runoff, saline ground water, mine runoff, produced water from fuel extraction, and treated wastewater). Water consumption is defined as water that is not returned to the original water source after being withdrawn, including evaporation to the atmosphere. **Denominator:** Company, equity-owned total net generation from all electric generation.	Gallons/ MWh
Non-generation operations water consumption rate (area)	**Numerator:** Gallons of fresh water consumed by company facilities. Include facilities that house administrative or support functions including, but not limited to, office buildings, warehouses, and maintenance buildings. You should NOT include generating facilities, even if they may contain offices and/or administrative support. EXCLUDE water consumed for electricity generation. Include any water consumed for the purposes of landscaping. "Freshwater" includes water sourced from fresh surface water, groundwater, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. **Denominator:** Area of non-generating facilities for which water consumption is reported as well as any square footage (meters) of outdoor landscaping irrigated by the water reflected in the numerator.	Gallons/ft^2
Non-generation operations water consumption rate (employee)	**Numerator:** Gallons of fresh water consumed by company facilities. Include facilities that house administrative or support functions including, but not limited to, office buildings, warehouses, and maintenance buildings. You should NOT include generating facilities, even if they may contain offices and/or administrative support. EXCLUDE water consumed for electricity generation. Include any water consumed for the purposes of landscaping. "Freshwater" includes water sourced from fresh surface water, groundwater, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. **Denominator:** Number of employees that report to the non-generation facilities for which water consumption is reported.	Gallons/ empl.
Freshwater withdrawal rate – fossil fuel generation	**Numerator:** Gallons of fresh water withdrawn for company, equity-owned fossil fuel generation. Include water sourced from fresh surface water, groundwater, rainwater, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. Information on organizational water withdrawal may be drawn from water meters, water bills, calculations derived from other available water data or (if neither water meters, bills or reference data exist) the organization's own estimates. **Denominator:** Company, equity-owned total net generation from fossil fuel.	Gallons/ MWh

WATER

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Freshwater withdrawal rate – nuclear generation	**Numerator:** Gallons of fresh water withdrawn for company, equity-owned nuclear generation. Include water sourced from fresh surface water, groundwater, rainwater, and fresh municipal water. Do NOT include recycled, reclaimed, or gray water. Information on organizational water withdrawal may be drawn from water meters, water bills, calculations derived from other available water data or (if neither water meters, bills or reference data exist) the organization's own estimates. **Denominator:** Company, equity-owned total net generation from nuclear.	Gallons/MWh
Freshwater withdrawal rate – all generation	**Numerator:** Gallons of fresh water withdrawn for all generation. Include water sourced from fresh surface water, groundwater, rainwater, and municipal water. Information on organizational water withdrawal may be drawn from water meters, water bills, calculations derived from other available water data or (if neither water meters, bills or reference data exist) the organization's own estimates. **Denominator:** Company, equity-owned total net generation from all electric generation.	Gallons/MWh
Total water withdrawal rate – all generation	Volume of water (fresh and degraded) withdrawn for ALL company, equity-owned generation. "Freshwater" includes water sourced from fresh surface water, groundwater, rainwater, and fresh municipal water. "Degraded water" refers to water that has undergone degeneration of quality (e.g. stormwater runoff, agricultural runoff, saline ground water, mine runoff, produced water from fuel extraction, and treated wastewater). Information on organizational water withdrawal may be drawn from water meters, water bills, calculations derived from other available water data or (if neither water meters nor bills or reference data exist) the organization's own estimates. **Denominator:** Company, equity-owned total net generation from all electric generation.	Gallons/MWh

WORKFORCE DIVERSITY, INCLUSION AND EQUAL OPPORTUNITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Minority share of the workforce	**Numerator:** Number of employees who meet the definition for minority. Minority employees are defined as the smaller part of a group. A group within a country or state that differs in race, religion or national origin from the dominant group. Minority is used to mean four particular groups who share a race, color or national origin. These groups are: (1) American Indian or Alaskan Native. A person having origins in any of the original peoples of North America, and who maintain their culture through a tribe or community; (2) Asian or Pacific Islander. A person having origins in any of the original people of the Far East, Southeast Asia, India, or the Pacific Islands. These areas include, for example, China, India, Korea, the Philippine Islands, and Samoa; (3) Black (except Hispanic). A person having origins in any of the black racial groups of Africa; (4) Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. Report consistent with your EEO1 filing to the U.S. Equal Employment Opportunity Commission. If an international company, report consistent with a regulatory-equivalent filing. **Denominator:** Average number of employees in the data year.	%

WORKFORCE DIVERSITY, INCLUSION AND EQUAL OPPORTUNITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Minority share of executive/senior level officials	**Numerator:** Number of employees who meet the definitions for minority and Executive/Senior Level Officials and Managers. Minority employees are defined as the smaller part of a group. A group within a country or state that differs in race, religion or national origin from the dominant group. Minority is used to mean four particular groups who share a race, color or national origin. These groups are: (1) American Indian or Alaskan Native. A person having origins in any of the original peoples of North America, and who maintain their culture through a tribe or community; (2) Asian or Pacific Islander. A person having origins in any of the original people of the Far East, Southeast Asia, India, or the Pacific Islands. These areas include, for example, China, India, Korea, the Philippine Islands, and Samoa; (3) Black (except Hispanic). A person having origins in any of the black racial groups of Africa; (4) Hispanic. A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. Report consistent with your EEO1 filing to the U.S. Equal Employment Opportunity Commission. If an international company, report consistent with a regulatory-equivalent filing. Executive/Senior Level Officials and Managers are defined as individuals who plan, direct and formulate policies, set strategy and provide the overall direction of enterprises/organizations for the development and delivery of products or services, within the parameters approved by boards of directors or other governing bodies. Residing in the highest levels of organizations, these executives plan, direct or coordinate activities with the support of subordinate executives and staff managers. They include, in larger organizations, those individuals within two reporting levels of the CEO, whose responsibilities require frequent interaction with the CEO. Examples of these kinds of managers are: chief executive officers, chief operating officers, chief financial officers, line of business heads, presidents or executive vice presidents of functional areas or operating groups, chief information officers, chief human resources officers, chief marketing officers, chief legal officers, management directors and managing partners. **Denominator:** Total number of Executive/Senior Level Officials and Managers.	%
Minority share of career development advancements	**Numerator:** Number of employees who meet the definitions for minority and career development advancement. Minority employees are defined as the smaller part of a group. A group within a country or state that differs in race, religion or national origin from the dominant group. Minority is used to mean four particular groups who share a race, color or national origin: 1. **American Indian or Alaskan Native.** A person having origins in any of the original peoples of North America, and who maintain their culture through a tribe or community; 2. **Asian or Pacific Islander.** A person having origins in any of the original people of the Far East, Southeast Asia, India, or the Pacific Islands. These areas include, for example, China, India, Korea, the Philippine Islands, and Samoa; 3. **Black (except Hispanic).** A person having origins in any of the black racial groups of Africa; 4. **Hispanic.** A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. Career development is defined as the overlap of the organization's needs with the individual employee's career interests. It can also be described as an ongoing process of gaining knowledge and improving skills that allows an employee, when in alignment with the organization's needs and individual career interests, the opportunity to advance their career. **Denominator:** Total number of promotions or lateral moves intended for career development.	%
Women share of the workforce	**Numerator:** Number of employees who identify as female. **Denominator:** Average number of employees in the data year. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	%

WORKFORCE DIVERSITY, INCLUSION AND EQUAL OPPORTUNITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Employee diversity: women share of executive or senior level officials	**Numerator:** Number of employees who identify as female and meet the definition of Executive/Senior Level Officials and Managers. Executive/Senior Level Officials and Managers are defined as individuals who plan, direct and formulate policies, set strategy and provide the overall direction of enterprises/organizations for the development and delivery of products or services, within the parameters approved by boards of directors or other governing bodies. Residing in the highest levels of organizations, these executives plan, direct or coordinate activities with the support of subordinate executives and staff managers. They include, in larger organizations, those individuals within two reporting levels of the CEO, whose responsibilities require frequent interaction with the CEO. Examples of these kinds of managers are chief executive officers, chief operating officers, chief financial officers, line of business heads, presidents or executive vice presidents of functional areas or operating groups, chief information officers, chief human resources officers, chief marketing officers, chief legal officers, management directors and managing partners. **Denominator:** Total number of Executive/Senior Level Officials and Managers.	%
Employee diversity: women share of career development advancements	**Numerator:** Number of employees who identify as female and meet the definition of career development advancement. Career development is defined as the overlap of the organization's needs with the individual employee's career interests. It can also be described as an ongoing process of gaining knowledge and improving skills that allows an employee, when in alignment with the organization's needs and individual career interests, the opportunity to advance their career. **Denominator:** Total number of promotions or lateral moves intended for career development.	%
Military workforce	**Numerator:** Employees that are active military or veteran status. **Denominator:** Average number of employees in the data year. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	%
Women share of executive/senior level officials	**Numerator:** Number of employees who identify as female and meet the definition of Executive/Senior Level Officials and Managers. Executive/Senior Level Officials and Managers are defined as individuals who plan, direct and formulate policies, set strategy and provide the overall direction of enterprises/organizations for the development and delivery of products or services, within the parameters approved by boards of directors or other governing bodies. Residing in the highest levels of organizations, these executives plan, direct or coordinate activities with the support of subordinate executives and staff managers. They include, in larger organizations, those individuals within two reporting levels of the CEO, whose responsibilities require frequent interaction with the CEO. Examples of these kinds of managers are: chief executive officers, chief operating officers, chief financial officers, line of business heads, presidents or executive vice presidents of functional areas or operating groups, chief information officers, chief human resources officers, chief marketing officers, chief legal officers, management directors and managing partners. **Denominator:** Total number of Executive/Senior Level Officials and Managers.	%
Women share of career development advancements (promotions or strategic lateral moves)	**Numerator:** Number of employees who identify as female and meet the definition of career development advancement. Career development is defined as the overlap of the organization's needs with the individual employee's career interests. It can also be described as an ongoing process of gaining knowledge and improving skills that allows an employee, when in alignment with the organization's needs and individual career interests, the opportunity to advance their career. **Denominator:** Total number of promotions or lateral moves intended for career development.	%

WORKFORCE DIVERSITY, INCLUSION AND EQUAL OPPORTUNITY

METRIC NAME	DESCRIPTION/BOUNDARY	UNITS
Military share of workforce	**Numerator:** Employees that are active military or veteran status. **Denominator:** Average number of employees in the data year. Average number of employees should be calculated aligned with Bureau of Labor Statistics methodology (last updated 2018).	%
Minority share of Board members	**Numerator:** Number of employees who meet the definitions for minority and Board member. **Denominator:** Number of Board members.	%
Women share of Board members	**Numerator:** Number of Board members who identify as female. **Denominator:** Number of Board members.	%

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.

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