PROPOSED CHANGES TO PROVISIONAL STANDARDS

BASIS FOR CONCLUSIONS

Infrastructure Sector

Electric Utilities & Power Generators

Gas Utilities & Distributors

Water Utilities & Services

Waste Management

Engineering & Construction Services

Home Builders

Real Estate

Real Estate Services

Prepared by the
Sustainability Accounting Standards Board®

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Contents

Introduction

Robust and resilient sustainability accounting standards must not only address the sustainability-related risks and opportunities faced by reporting organizations, they must themselves be sustainable. That is, they must be designed to continually and systematically adapt to an ever-changing world. For this reason, the SASB engages in ongoing technical research and market consultation to ensure the maintenance of decision-useful, cost-effective standards. As changes occur in an industry's competitive context, in the broader sustainability landscape, or in the interests of the reasonable investor, this approach—bolstered by rigorous analysis and bottom-up, market-based input—is key to maintaining a set of standards that evolve to support market needs.

When potentially necessary or appropriate updates to the standards are identified by the SASB's own research or through engagement with corporate issuers, investors, or other subject matter experts, those items may be added to the SASB's Research Agenda or future Technical Agendas, indicating that such items are under review. For such items, the SASB staff prepares proposed updates intended to both incorporate its findings and to satisfy the essential concepts of sustainability accounting set forth in the *SASB Conceptual Framework*. These updates are then proposed to the SASB Standards Board for review and approval.

The Basis for Conclusions for the proposed changes to provisional standards details the SASB staff's considerations in developing the updates included in the published *2017 Technical Agenda*, helping users to better understand the updates and the reasoning behind them. The Basis for Conclusion goes hand in hand with the Exposure Draft of the standard, and highlight the specific proposed updates and associated changes per industry per sector. An explanation and rationale for each change is included herein.

About the SASB

Established in 2011, the Sustainability Accounting Standards Board (SASB) is the independent standards-setting organization for sustainability accounting standards that meet the needs of investors by fostering high-quality disclosure of material sustainability information. The standards focus on known trends and uncertainties that are reasonably likely to affect the financial condition or operating performance of a company and therefore would be required to be disclosed under Regulation S-K. The standards are designed to improve the effectiveness and comparability of corporate disclosure on material environmental, social, and governance (ESG) factors in SEC filings such as Forms 8-K,10-K, 20-F, and 40-F. Based on a rigorous process that includes evidence-based research and broad, balanced stakeholder participation, the SASB currently maintains provisional standards for 79 industries across 11 sectors.[1]

The SASB Standards Board, seated in 2017, comprises nine members, representing a diversity of key perspectives, including standards-setting, corporate reporting, and investing and financial analysis. The Standards Board is responsible for guiding the standard-setting process and for the quality of its outcomes. The SASB operates in accordance with its primary governance documents, the *SASB Rules of Procedure* and *SASB Conceptual Framework*. The *SASB Conceptual Framework* sets out the basic concepts, principles, definitions, and objectives that guide the SASB in its approach to setting standards for sustainability-related matters. The *SASB Rules of Procedure* establish the

[1] Where traditional industry classification systems group companies by sources of revenue, the SASB's approach considers the resource intensity of firms, and groups industries with like sustainability characteristics, including risks and opportunities, within SASB's Sustainable Industry Classification System™ (SICS™) found at: https://www.sasb.org/sics/. SASB has proposed a number of amendments to SICS, and the revised classification system will go into effect when the standards are codified in early 2018. Proposed changes to SICS are on SASB's website and the Updates proposed herein are based on the amended classification.

processes and practices followed by the SASB in its standard-setting activities, and in its oversight of related work undertaken by the SASB staff. The following fundamental tenets underpin the SASB's efforts:

- **Materiality-Focused:** SASB standards address the sustainability topics that are reasonably likely to have material impacts on the financial condition or operating performance of companies in an industry. In identifying sustainability topics that are reasonably likely to have material impacts, the SASB applies the definition of "materiality" established under the U.S. securities laws.[2] For more information, see the staff bulletin *SASB's Approach to Materiality for the Purpose of Standards Development*.

- **Evidence-Based:** The SASB takes an evidence-based approach to assess whether sustainability topics are likely to be of interest to the reasonable investor, and whether they are reasonably likely to have material impacts on the financial condition or operating performance of a company. Evidence is drawn from both internal research and from credible external sources, such as financial filings, earnings calls, databases of U.S. government agencies, industry research products, and academic studies, among others.

- **Market-Informed:** The SASB standards are shaped in large part by feedback from participants in the capital markets—primarily corporate issuers and mainstream investors. The SASB actively solicits input and carefully weighs all stakeholder perspectives in considering which aspects of a sustainability topic warrant standardized disclosure and in determining how to frame, describe, and measure those aspects for the purposes of standardization. The SASB's consultation efforts have involved engagement through Industry Working Groups over a four-year period with more than 2,800 experts, representing $23.4 trillion in assets under management and more than $11 trillion market capitalization. Recently, deep consultation on the provisional standards included 141 companies (along with 19 industry associations, representing hundreds of companies) and 38 institutional investors (who consulted on 271 industries). Additionally, the SASB's Investor Advisory Group (IAG) comprises 28 organizations, representing more than $20 trillion in assets under management, including BlackRock, California Public Employee's Retirement System (CalPERS), California State Teachers' Retirement System (CalSTRS), State Street Global Advisors, and others. This market feedback has played a significant role in shaping the SASB's 2017 Technical Agenda.

In its guidance and oversight role, the SASB operates in a sector committee structure, which assigns a minimum of three Standards Board members to each sector for review, discussion, and liaising with staff. The committees are structured as follows:

[2] TSC Industries, Inc. v. Northway, Inc., 426 U.S. 438 (1976).

SASB Sector Committees		
Health Care Industries: Biotechnology & Pharmaceuticals; Medical Equipment & Supplies; Health Care Delivery; Health Care Distributors; Managed Care; Drug Retailers Committee Members: Lloyd Kurtz*, Bob Hirth, Jean Rogers	**Renewable Resources & Alternative Energy** Industries: Biofuels; Solar Technology & Project Developers; Wind Technology & Project Developers; Fuel Cells & Industrial Batteries; Forestry Management; Pulp & Paper Products Committee Members: Stephanie Tang*, Jeff Hales, Kurt Kuehn	**Food & Beverage** (formerly Consumption I) Industries: Agricultural Products; Meat, Poultry, & Dairy; Processed Foods; Non-Alcoholic Beverages; Alcoholic Beverages; Tobacco; Food Retailers & Distributors; Restaurants Committee Members: Stephanie Tang*, Elizabeth Seeger, Lloyd Kurtz
Financials Industries: Commercial Banks; Investment Banking & Brokerage; Asset Management & Custody Activities; Consumer Finance; Mortgage Finance; Security & Commodity Exchanges; Insurance Committee Members: Jeff Hales*, Dan Goelzer, Verity Chegar	**Transportation** Industries: Automobiles; Auto Parts; Car Rental & Leasing; Airlines; Air Freight & Logistics; Marine Transportation; Cruise Lines; Rail Transportation; Road Transportation Committee Members: Kurt Kuehn*, Jean Rogers, Jeff Hales	**Consumer Goods** (formerly Consumption II) Industries: Apparel, Accessories & Footwear; Appliance Manufacturing; Household & Personal Products; Building Products & Furnishings; Toys & Sporting Goods; Multiline and Specialty Retailers & Distributors; E-commerce Committee Members: Elizabeth Seeger*, Stephanie Tang, Kurt Kuehn
Technology & Communications Industries: Electronic Manufacturing Services & Original Design Manufacturing; Software & IT Services; Hardware; Semiconductors; Telecommunication Services; Internet Media & Services Committee Members: Bob Hirth*, Lloyd Kurtz, Verity Chegar	**Services** Industries: Education; Professional & Commercial Services; Hotels & Lodging; Casinos & Gaming; Leisure Facilities; Advertising & Marketing; Media & Entertainment Committee Members: Dan Goelzer*, Jeff Hales, Bob Hirth	**Infrastructure** Industries: Electric Utilities & Power Generators; Gas Utilities & Distributors; Water Utilities & Services; Waste Management; Engineering & Construction Services; Home Builders; Real Estate; Real Estate Services Committee Members: Jean Rogers*, Kurt Kuehn, Verity Chegar
Extractives & Minerals Processing (formerly Non-Renewable Resources) Industries: Oil & Gas - Exploration & Production; Oil & Gas – Midstream; Oil & Gas - Refining & Marketing; Oil & Gas – Services; Coal Operations; Iron & Steel Producers; Metals & Mining; Construction Materials Committee Members: Verity Chegar*, Elizabeth Seeger, Bob Hirth	**Resource Transformation** Industries: Chemicals; Aerospace & Defense; Electrical & Electronic Equipment; Industrial Machinery & Goods; Containers & Packaging Committee Members: Lloyd Kurtz*, Dan Goelzer, Jean Rogers	** Sector chair*

The Standards Board sector committees have reviewed proposed changes to the provisional standards, based on the Technical Agenda, in anticipation of ratifying the standards in Q1 2018.

Commenting

The SASB has voted to release the Proposed Changes to Provisional Standards: Basis for Conclusions compendium and the Exposure Drafts of the standards, thus initiating a 90-day Public Comment Period. The Public Comment Period will occur from October 2, 2017, to December 31, 2017. During this time, the public may submit comments to the SASB on the proposed updates to the standards. Public comments will be evaluated in the process to ratify the standards, expected in early 2018. Further guidance on the Public Comment Period, including instructions to submit comments and accessing the Basis for Conclusions and Exposure Drafts, is available at: http://www.sasb.org/public-comment. Other questions on the SASB or the Public Comment Period may be sent to: info@sasb.org.

Proposed Changes to Provisional Standards: Basis for Conclusion Overview

The following provides a detailed description of—and rationale for—each change proposed to the SASB Provisional Standard for the industries within the Infrastructure sector. Changes may be related to content, including adding, removing, or reframing a topic or adding, removing, or revising a metric. Changes may also be technical in nature, including updates to a metric's scope, definitions, third-party references, or harmonization across SASB's standards and/or with external initiatives. Typographical and other editorial changes have not been included below but can be provided to interested parties or reviewed in the redline Public Comment Standard.

Guidance Used to Determine Proposed Updates

In preparing its proposed updates, the SASB is guided by the *Fundamental Tenets of the SASB Approach to Standards-Setting*, which are designed to better achieve the *Core Objectives of the SASB*, as established by the *SASB Conceptual Framework*.

Topic-Level Proposed Updates

Proposed updates that relate to the addition, removal, or reframing of a topic are based on the following *Principles for Topic Selection* ("Principles"), as established by the *SASB Conceptual Framework*:

- **Potential to affect corporate value**. Through research and stakeholder input, the SASB identifies topics that can or do affect operational and financial performance through three channels of impact: (1) revenues and costs, (2) assets and liabilities, and (3) cost of capital or risk profile.

- **Of interest to investors**. The SASB addresses issues likely to be of interest to investors by assessing whether a topic emerges from the "total mix" of information available through the existence of, or potential for, impacts on five factors: (1) direct financial impacts and risk; (2) legal, regulatory, and policy drivers; (3) industry norms, best practices, and competitive drivers; (4) stakeholder concerns that could lead to financial impacts; and (5) opportunities for innovation.

- **Relevant across an industry**. The SASB addresses topics that are systemic to an industry and/or represent risks and opportunities unique to the industry and which, therefore, are likely to apply to many companies within the industry.

- **Actionable by companies**. The SASB assesses whether broad sustainability trends can be translated into industry-specific topics that are within the control or influence of individual companies.

- **Reflective of stakeholder (investor and issuer) consensus**. The SASB considers whether there is consensus among issuers and investors that each disclosure topic is reasonably likely to constitute material information for most companies in the industry.

Metric-Level Proposed Updates

Proposed updates that relate to the addition, removal, or revision of a metric are based on the following *Criteria for Accounting Metrics* ("Criteria"), as established by the *SASB Conceptual Framework*:

- **Fair Representation**: A metric adequately and accurately describes performance related to the aspect of the disclosure topic it is intended to address, or is a proxy for performance on that aspect of the disclosure topic.
- **Useful**: A metric will provide useful information to companies in managing operational performance on the associated topic and to investors in performing financial analysis.
- **Applicable**: Metrics are based on definitions, principles, and methodologies that are applicable to most companies in the industry based on their typical operating context.
- **Comparable**: Metrics will yield primarily (a) quantitative data that allow for peer-to-peer benchmarking within the industry and year-on-year benchmarking for an issuer, but also (b) qualitative information that facilitates comparison of disclosure.
- **Complete**: Individually, or as a set, the metrics provide enough data and information to understand and interpret performance associated with all aspects of the sustainability topic.
- **Verifiable**: Metrics are capable of supporting effective internal controls for the purposes of data verification and assurance.
- **Aligned**: Metrics are based on those already in use by issuers or are derived from standards, definitions, and concepts already in use by issuers, governments, industry associations, and others
- **Neutral**: Metrics are free from bias and value judgment on behalf of the SASB, so that they yield an objective disclosure of performance that investors can use regardless of their worldview or outlook.
- **Distributive**: Metrics are designed to yield a discernable range of data for companies within an industry or across industries allowing users to differentiate performance on the topic or an aspect of the topic.

Technical-Protocol Proposed Updates

Proposed updates that relate to the revision of technical protocols are based on the following attributes, designed to enable the technical protocols to serve as the basis for "suitable criteria," as defined by the PCAOB's AT Section 101[3] and as referenced in the *SASB Conceptual Framework*:

- **Objectivity**: Criteria should be free from bias.
- **Measurability**: Criteria should permit reasonably consistent measurements, qualitative or quantitative, of subject matter.

[3] PCAOB, AT Section 101 – Attest Engagements

- **Completeness**: Criteria should be sufficiently complete so that those relevant factors that would alter a conclusion about subject matter are not omitted.
- **Relevance**: Criteria should be relevant to the subject matter.

Proposed Updates Related to Other Elements of Standardized Presentation

Each SASB standard is presented in a structured manner to ensure consistent application and to facilitate the cost-effective preparation of material, decision-useful information. These core objectives guide the preparation of proposed changes that involve the revision of specific elements of standardized presentation. Such revisions—including those made to general disclosure guidance, industry descriptions, topic descriptions, and activity metrics—are based on the stated objectives and key characteristics of the element, as established by the *SASB Conceptual Framework*.

INFRASTRUCTURE SECTOR

ELECTRIC UTILITIES & POWER GENERATORS INDUSTRY

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #IF0101

Prepared by the
Sustainability Accounting Standards Board®

October 2017

Proposed Changes to Provisional Standard - Basis for Conclusion

Proposed Update #11-1 – **Industry:** Electric Utilities & Power Generators; **Topic Name:** Greenhouse Gas Emissions & Energy Resource Planning

2017 Technical Agenda Item #11-1 Description

SASB is evaluating the addition of new metrics, to improve the completeness and decision-usefulness of the metrics associated with the topic, as well as the alignment with existing reporting frameworks and industry metrics.

Summary of Change – Add Metric

The SASB proposes adding a new metric, "Greenhouse gas emissions (GHG) associated with power deliveries net of power purchases and sales."

Adherence to Criteria for Accounting Metrics

The Electric Utilities & Power Generators industry provisional standard includes a topic, "Greenhouse Gas Emissions & Energy Resource Planning," that is focused on a company's performance on GHG emissions, including management of associated risks and opportunities. The metrics associated with the topic generate information on a company's Scope 1 GHG emissions, exposure to and progress concerning renewable portfolio standards (RPS), and strategy to manage Scope 1 emissions. More specifically, provisional metric IF0101-01 includes Scope 1 emissions, as well as the percentages of those emissions that are subject to emissions-reporting and/or emissions-limiting regulations. However, the metrics in the provisional standard, including IF0101-01, fail to capture a critical aspect of the topic—namely, customer perspective on GHG emissions, a distinct concept from Scope 1 emissions and one that helps inform corporate performance on the topic. Companies in the industry commonly purchase and sell power at the wholesale level, which alters the emissions-intensity of the power ultimately delivered to end-customers. Emissions associated with power deliveries, which may drastically differ from direct emissions at times (e.g., a utility that operates exclusively in transmission and delivery will see minimal Scope 1 emissions, but may still see substantial emissions that result from the power it delivers to its end-customers), are often a critical aspect of corporate performance and a focal point for customers, regulators, and other public policymakers. The proposed metric captures net emissions associated with power deliveries (regardless of whether such emissions are direct or indirect, and therefore, not merely Scope 2 emissions). Thus, the change better accomplishes the core objectives of the standard by providing investors with more complete, useful, and comparable disclosures, and aligning the standard with existing industry metrics.

Supporting Analysis

Electric utilities commonly purchase and/or sell wholesale power, which impacts the GHG emissions intensity of the electricity ultimately delivered to customers. The measurement of Scope 1 emissions (IF0101-01) is useful for assessing the generation portfolio, however, it does not account for emissions associated with power purchases and sales. The proposed metric, which focuses on net emissions (i.e., adjusted for power purchases and sales), measures the emissions that result from power delivered to customers regardless of whether the utility generated these emissions directly. This measurement is crucial given that electric utilities generate 56 percent of electricity in the U.S., indicating that Scope 1 alone will fail to capture the level of emissions associated with power deliveries. These emissions are often generated by independent power producers, which are responsible for 39 percent of the electricity generated in the U.S. The proposed metric adjusts not only for power purchases, but also for power sales on the wholesale market. The end result is a metric that communicates the emissions-intensity of the actual power delivered to end-customers.

Several companies in the industry operate exclusively as transmission and distribution utilities, which generally have minimal Scope 1 emissions, as these firms do not operate power generation facilities. Many other companies in the industry both generate and purchase additional power to help meet customer needs, or to help meet other objectives, regulatory or otherwise. For example, a major utility's 2016 Form 10-K states that the company either generated or procured 68,441 GWh of electricity in 2016. Of that total, 43 percent was generated by the company, while the remainder was obtained from third parties through various structures and agreements.[4] While, generally speaking, Scope 1 emissions capture those emissions resulting from utility-owned generation facilities, the proposed metric takes into account emissions that come from power purchased from third parties (while also adjusting for sales on the wholesale market). The 10-K continues to discuss California's RPS, which requires 33 percent of retail sales of electricity to be derived from renewable sources between 2017 and 2020, and increases to 50 percent between 2028 and 2030 (the company plans to reach 55 percent in the years thereafter). Obtaining electricity from third parties is a crucial element of the company's GHG emissions management strategy and overall regulatory compliance strategy, indicating that the proposed metric focused on GHG emissions associated with power deliveries to end-customers provides useful information.

Further research regarding industry-specific regulatory risks associated with GHG emissions continues to demonstrate that, well beyond an isolated utility or two, companies in the industry are exposed to GHG emissions-related risks and opportunities based on the emissions-intensity of the power purchased and delivered to customers (in addition to direct GHG emissions). For example, 30 states in the U.S. currently have RPS requirements, which generally focus on emissions associated with power deliveries. Additionally, customers are often interested in the emissions-intensity of the power they consume for various reasons—economic, environmental, or otherwise. Recent research reports indicate that households and businesses could either shift away from grid electricity consumption[5]—or increase reliance on the grid and grid electricity[6]—based on GHG emissions from the perspective of the customer, (i.e., emissions associated with power deliveries, consistent with the proposed metric) among other factors. Ultimately, the proposed metric will make considerable strides in providing investors with useful and comparable information that helps in assessing these regulatory and end-customer demand-related risks, as well as an understanding of overall performance on the disclosure topic.

Lastly, the proposed metric increases alignment with existing industry metrics—namely, the Electric Power Research Institute's (EPRI) guidance based on a multi-year collaborative project with the industry to identify metrics for benchmarking performance on sustainability issues. The resulting 2016 Technical Report, "Metrics to Benchmark Sustainability Performance for the Electric Power Industry," includes a metric focused on "Total CO2 emissions rate for power deliveries," which is essentially a normalized version of the metric proposed to be added to the standard.[7] Furthermore, the proposed metric is generally aligned with the GRI G4 Electric Utilities Sector Supplement and The Climate Registry's General Reporting Protocol 2.1.

[4] PG&E Corporation, FY2016 Form 10-K for the Period Ending December 31, 2016 (filed February 16, 2017), p. 14.

[5] "The Economics of Grid Defection," Rocky Mountain Institute, Homer Energy, CohnReznick, Think Energy, February 2014, p. 16.

[6] Jurgen Weiss, Ryan Hledik, Michael Hagerty, Will Gorman, "Electrification: Emerging Opportunities for Utility Growth," The Brattle Group, 2017.

[7] M. Scott, J. Fox., "Metrics to Benchmark Sustainability Performance for the Electric Power Industry," 2016 Technical Report, EPRI, October 2016.

Stakeholder Consultation

Investors: Numerous investors unanimously supported the addition of the metric as GHG emissions-related risks and opportunities are related to both a company's generation portfolio (captured by Scope 1 emissions) and, separately, the net emissions associated with power deliveries (captured by the newly proposed metric).

Issuers: Nearly all issuers concurred with the need to distinguish between direct emissions and emissions associated with power deliveries. Some issuers expressed concerns related to standardizing the methodology behind the metric due to power purchases, sales, and delivery complexities, in addition to challenges related to timeliness of data and costs of implementation.

Benefits

Improves the SASB standard: The proposed metric captures significant GHG performance data not sufficiently captured by the provisional standard, thus providing a more complete and comparable measure of corporate performance on the topic.

Improves decision-usefulness: The proposed metric provides useful information related to the disclosure topic, including further enabling the assessment of risks and opportunities stemming from regulations and customer preferences.

Improves alignment: The proposed metric is aligned with The Climate Registry's General Reporting Protocol 2.1, including The Electric Sector Power Sector Protocol. The EPRI produces a set of metrics to measure the sustainability performance of electric power companies, including twelve focused on GHG emissions, one of which is a normalized version of the proposed metric ("Total CO2 emissions rate for power deliveries"). The GRI G4 Electric Utilities Sector Supplement also contains a similar metric that is a normalized version of net emissions, adjusted for purchased power.

Proposed Update #11-2 – **Industry:** Electric Utilities & Power Generators; **Topic Name:** Water Management

2017 Technical Agenda Item #11-2 Description

SASB is evaluating a revision to the water quality metric IF0101-06[8] to improve its decision-usefulness.

Summary of Change – Revise Technical Protocol

The SASB proposes revising the technical protocol for metric IF0101-06, "Number of incidents of non-compliance with water quality and/or quantity permits, standards, and regulations," to limit the scope of incidents of non-compliance to exclusively those that result in a formal enforcement action.

Adherence to Criteria for Accounting Metrics

The Electric Utilities & Power Generators industry provisional standard includes a disclosure topic, Water Management, that is centered on corporate performance and strategy concerning water-related risks and opportunities. The metrics associated with the topic focus on water consumption, water scarcity, effluent, and regulatory compliance. More specifically, metric IF0101-06 is designed to capture a company's performance on meeting local-, state-, or federal-level water quality regulations, including regulations on water discharges. Performance on incidents of non-compliance are an indication of the strength of a company's overall water quality management, its ability to comply with regulation, and its exposure to potential operational impacts associated with non-compliance, including costs related to permitting, penalties, remediation, and capital expenditures. However, the current metric scope, as defined in the technical protocol, is excessively broad as it states, "[a]n incident of non-compliance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.)." Incidents of non-compliance vary widely in terms of the nature and severity of impact, and they may or may not result in enforcement actions.

Given the broadly-defined scope of non-compliance incidents, the provisional metric does not provide fair representation of corporate performance on the topic and it is less likely to be cost-effective. The proposed revision to the technical protocol for the metric will limit the scope of non-compliance incidents exclusively to those that result in formal enforcement actions, ultimately improving the signal-to-noise ratio by focusing on those incidents more likely to indicate operational or financial impacts. This proposed revision would improve the representativeness and cost-effectiveness of the metric, as well as the comparability and usefulness of the information it generates.

Supporting Analysis

Water regulations in the U.S., Canada, and many international regions address the quality of water discharges from power generation facilities. Companies are typically required to obtain federal- or state-level permits that allow for the discharge of a certain amount of water over a given period of time. Incidents of non-compliance with water regulations may be the result of a variety of events relating to water quality management, including the failure to meet a reporting deadline or a water discharge above permit limits. The magnitude of the regulatory response will vary depending on the nature of the non-compliance. For example, failure to meet a reporting deadline may result in a non-compliance notice or warning letter with little to no financial impact for the issuer. An effluent regulation

[8] IF0101-06: Number of incidents of non-compliance with water quality and/or quantity permits, standards, and regulations

exceedance however, could result in a company being issued a formal enforcement action, resulting in remediation costs, fines, and/or reputational damage.

Formal enforcement actions, as defined[9] by the U.S. Environmental Protection Agency (EPA) and some state agencies, are statutorily recognized actions to address a violation or threatened violation of water regulations, policy, or orders, and include administrative penalty orders, administrative orders, and judicial actions, among others. These types of enforcement actions can result in financial penalties and remediation requirements, and can be indicative of overall management of water issues over time. Conversely, non-compliance incidents that result in informal enforcement actions–for example, an inspection, phone call, or violation letter—may be issued when no actual violation has occurred, and are significantly less likely to generate financial impacts for companies. Correspondingly, formal enforcement actions are less common than informal actions. According to EPA data, of 5,102 U.S. facilities that received notices of non-compliance with water regulation, only 519 resulted in formal enforcement actions.[10]

The provisional metric requires companies to report incidents of non-compliance regardless of whether they result in a formal enforcement action. Reporting all incidents of non-compliance does not distinguish between the severity of incidents and the resulting potential for financial impacts to the registrant. This creates an undue cost burden for the registrant related to data collection, tracking, and reporting, and adversely affects the usefulness and fair representation of the resulting disclosures.

As incidents that result in formal enforcement actions are more likely to generate financial impacts on the registrant, they are a relevant indicator for measuring performance on the management of water quality. Thus, the proposed revision confines the metric's scope to incidents that result in formal enforcement actions, thereby directly improving the representativeness, comparability, and usefulness of the information generated by the standard, and better adhering to the core objectives of the standard.

Additionally, the proposed SASB metric is aligned with federal and state water quality regulations that employ formal enforcement actions, as well as reporting guidelines including the CDP Water Information Request.

Stakeholder Consultation

Investors: A limited number of investors provided general input on the proposed revision, though not specifically within the context of the Electric Utilities & Power Generators provisional industry standard. This input broadly supported the revision, based on improvements to the decision-usefulness of resulting disclosures.

Issuers: A limited number of issuers provided general input on the proposed revision, though not specifically within the context of the Electric Utilities & Power Generators provisional industry standard. This input constituted general support for revising the scope of this metric to focus on notices of violation that result in enforcement actions. as doing so improves the decision-usefulness of the metric.

Others: Several subject matter experts commented that the proposed change would more accurately reflect performance on the aspect of the topic related to regulatory compliance.

[9] "Informal and Formal Actions, Summary of Guidance and Portrayal on EPA Websites," United States Environmental Protection Agency, modified July 1, 2010, accessed September 5, 2017, https://www.epa.gov/sites/production/files/2013-11/documents/actiondefs.pdf.

[10] "Analyze Trends: State Water Dashboard," Enforcement and Compliance History Online, https://echo.epa.gov/trends/comparative-maps-dashboards/state-water-dashboard?view=performance&state=National.

Benefits

Improves the SASB standard: The proposed change would result in disclosures more consistent with the guiding criteria of fair representation and comparability.

Improves decision-usefulness: By focusing on incidents of non-compliance that resulted in formal enforcement actions, the proposed change would improve the usefulness of information generated by the standard as it improves the signal-to-noise ratio.

Improves cost-effectiveness: The proposed change narrows the scope of disclosure to a more specific (and more meaningful) subset of non-compliance incidents, thereby improving the cost-effectiveness of the standard.

Improves alignment: The proposed revision will align the SASB standard with existing reporting protocols and regulatory reporting requirements.

Proposed Update #11-3 – **Industry:** Electric Utilities & Power Generators; **Topic Name:** Community Impacts of Project Siting

2017 Technical Agenda Item #11-3 Description

SASB is evaluating the removal of the topic, including the corresponding metrics IF0101-10[11] and IF0101-11[12], to improve the cost-effectiveness and materiality of the standard.

Summary of Change – Remove Topic and Metrics

The SASB proposes removing the provisional topic, Community Impacts of Project Siting, from the standard, along with the corresponding metrics:

- IF0101-10: Number of projects requiring environmental or social modification, percentage of modifications resulting from formal public interventions or protests
- IF0101-11: Discussion of community engagement processes to identify and mitigate concerns regarding project environmental and community impacts

Adherence to Principles for Topic Selection

This topic, included in the provisional standard, relates to the sustainability impacts of new project development on the surrounding communities—including both negative environmental and social impacts—and the financial consequences of poor performance. The proposal to remove the topic, and the corresponding metrics, is based on a lack of evidence demonstrating systematic relevance across the industry, as well as on stakeholder input.

Supporting Analysis

Half of electric utility capital expenditures (CapEx) are allocated to transmission and distribution (T&D) infrastructure, and one-third is spent on power generation. T&D CapEx is primarily directed to physical upgrades of infrastructure and grid modernization projects. These projects enhance the resilience and reliability of the grid, while enabling greater potential to incorporate renewables and distributed energy resources. Nearly two-thirds of power generation capital spending goes to renewables, while one-third is spent on natural gas generation. According to surveys of industry executives, the top three capital investment opportunities for utilities include utility-scale renewables, demand-side management, and distributed generation. Alternatively, since 2014, well under 5 percent of the industry's CapEx has been allocated to coal power or other fossil fuel-based sources, excluding natural gas. As a result, while the industry spends significant levels of CapEx ($99 billion in 2015), this spending is primarily directed toward projects that enable a cleaner, smarter, more resilient and reliable grid. Therefore, the nature of the industry's new project development is generally not invasive (or significantly less invasive) to communities, and does not typically generate substantial negative sustainability-related impacts on communities.

Overall, the industry's capital investment and project development is radically different than in years past, when new projects were often invasive and harmful to the environment and local community health. While there are a limited number of flagship examples of community opposition to new projects (including opposition to utility-scale

[11] IF0101-10: Number of projects requiring environmental or social modification, percentage of modifications resulting from formal public interventions or protests

[12] IF0101-11: Discussion of community engagement processes to identify and mitigate concerns regarding project environmental and community impacts

renewables and new transmission lines), the nature and frequency of such meaningful, well-founded opposition has dramatically diminished. As a result, there is a lack of sufficient evidence to demonstrate widespread negative environmental and social impacts to communities arising from new project siting and development, or to indicate systematic relevance across the industry. Thus, corresponding financial impacts are also less frequent and severe.

Current Form 10-K disclosures implicitly support this conclusion of the lack of systematic relevance and significance of the information generated by the disclosure topic. Only 18 percent of the industry provides 10-K (or 20-F) disclosures on the topic, which is the lowest of the 10 disclosure topics in the industry's provisional standard, and drastically lower than the industry average of 72 percent across all 10 topics—indicating that the vast majority of companies in the industry do not view disclosures related to the topic as appropriate 10-K disclosures. Ultimately, while the topic is likely to contain material information for a subset of companies in the industry, it does not adhere to the principal of systematic relevance across the industry.

Stakeholder Consultation

Investors: Numerous investors expressed views that this topic is the least important of the 10 disclosure topics in the provisional standard. Investors commonly stated that while successful project development is an important aspect of performance, the topic's focus on limited local opposition to such projects risks misrepresenting performance. Investors also stated that current industry project development clearly enhances the sustainability performance of utilities the majority of the time. No investors expressed any meaningful level of support for the two metrics associated with the topic and generally supported their removal.

Issuers: Issuers unanimously and strongly agreed with the removal of this topic. They pointed to extensive industry disclosures of rare events that materially impacted value, but stressed that the topic does not systematically contain material information across the industry.

Benefits

Improves the SASB standard: The removal of the topic and the associated metrics improves the standard based on the lack of sufficient evidence to justify a reasonable likelihood of material impacts, as well as its limited relevance across the industry. In addition, the proposed revision reflects investor and issuer views.

Cost effective: The removal of the topic and the associated metrics will reduce the costs of implementing the standard, a significant benefit as the provisional standard is approximately twice as long as the average SASB industry standard (with 10 disclosure topics).

Proposed Update #11-4 – **Industry:** Electric Utilities & Power Generators; **Topic Name:** Energy Affordability

2017 Technical Agenda Item #11-4 Description

SASB is evaluating the addition of a new topic, including new metrics, based on the potential for performance on this topic to affect corporate value, and to improve the materiality and decision-usefulness of the standard.

Summary of Change – Add Topic and Metrics:

The SASB proposes adding the disclosure topic Energy Affordability, including the following corresponding metrics:

- Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers
- Typical monthly electric bill for residential customers for 1) 500 kWh and 2) 1,000 kWh of electricity delivered per month
- Number of residential customer electric disconnections for non-payment, percentage reconnected within 30 days

Furthermore, the SASB proposes revising one activity metric and adding a new activity metric:

- Revise activity metric, IF0101-A, "Number of (1) residential and (2) commercial customers served," to incorporate a third customer category, industrial customers
- Add new activity metric, "Total electricity delivered to (1) residential, (2) commercial, (3) industrial, (4) all other retail customers, and (5) wholesale customers"

Description of Topic

The de facto objective of regulated electric utilities is to provide reliable, affordable, and sustainable electricity. Companies in the industry are tasked with managing these potentially competing priorities to maintain favorable relations with customers and regulators—and ultimately to earn appropriate returns for shareholders. The affordability of energy is particularly challenging for companies to balance, as it often conflicts with other core objectives. Utility energy bills are widely perceived to be increasingly unaffordable for low-income customers (affordability is determined by both the net cost of energy bills and the underlying customer economics). Ensuring that utility bills are affordable is crucial for utilities working to build trust (intangible asset value) with regulators and customers. Quality of regulatory relations is a key value driver for utilities, and one of the more closely analyzed issues by investment analysts. The willingness of regulators to grant rate requests, rate structure modifications, cost recovery, and allowed returns is a primary determinant of financial performance and investment risk. Effectively managing affordability may enable utilities to invest more capital, favorably revise rate structures, and increase allowed returns. Furthermore, utilities that do not effectively manage affordability are increasingly exposed to customers defecting from the grid (or at a minimum, reducing reliance on the grid) by implementing distributed energy resources or pursuing other alternative energy sources (e.g., industrial customers' use of combined heat and power). Managing affordability involves operating an efficient business with a well-thought-out, long-term perspective and strategy, as well as working closely with regulators and public policymakers on rate structures and, potentially, bill-assistance programs. While the precise nature of financial impacts of affordability are largely determined by utilities' business models and rate structures, affordability is a critical business issue for utilities to manage in terms of maintaining (and growing) customer bases, building intangible asset value, creating investment and return opportunities, and ultimately delivering shareholder returns.

The EIA projects that electricity prices will average 2.5 percent annual increases through 2050. More importantly, a challenge in affordability is the dispersion of rates (and ultimately affordability) across geographies and income groups. For example, while the national average electricity rate (cents per kWh) is 12.9, hydroelectricity-rich Washington state averages only 9.28, while the rate is as high as 29.04 in Hawaii and averages 19.13 in the six states that makeup the New England region. More specifically, U.S households spend an average of 3.5 percent of income on utility energy bills. (Utility energy bills include both electricity and gas; electricity bills are responsible for 69 percent of this figure, while gas bills are responsible for 31 percent, on average). However, low-income households (the bottom 20 percent) spend an average of 7.2 percent of household income on utility energy bills. Meanwhile, in dozens of counties across the U.S., households below 50 percent of the federal poverty level spend more than half of household income on utility energy bills. Industry experts consider spending more than 6 percent of household income on utilities to be unaffordable. The "affordability gap" (the amount spent on energy utility bills in excess of 6 percent of household income) is estimated to be $41 billion. Furthermore, affordability has been worsening over time—the Home Energy Affordability Gap Index indicates that affordability has worsened by 6.6 percent from 2011 to 2015. In addition to a strain on finances, affordability challenges may present safety issues when utility disconnections occur, primarily due to extreme weather conditions.

Energy affordability may be measured by assessing average rates and rate growth, typical bills and bill growth, as well as the frequency and duration of disconnections—all in the context of the underlying economics of the customer population, as well as relevant factors such as bill-assistance programs. Assessing performance in these contexts may be approached with a wide variety of normalization factors, often based on publicly available metrics concerning the underlying economics of the customer population. (For example, utility regulators often assess dozens of normalized metrics to help inform their view on utility performance on affordability). More specifically, company performance in this area can be analyzed in a cost-beneficial way through the following direct or indirect performance metrics:

- Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers
- Typical monthly electric bill for residential customers for 1) 500 kWh and 2) 1,000 kWh of electricity delivered per month Typical monthly bill for residential customers by 1) total bill, and 2) bill per 1,000 kWh
- Number of residential customer electric disconnections for non-payment, percentage reconnected within 30 days

In conjunction with the proposed performance metrics, the SASB has proposed revising an activity metric and adding a new activity metric, as described above, to facilitate normalization and enable a better understanding of performance on the topic.

Evidence

The provision of reliable, affordable, and sustainable electricity by regulated electric utilities is a complex objective that requires comprehensive interactions with, and approvals by, utility regulators. These regulators (typically state utility commissions in the U.S.), are paramount to utility performance and success. As Moody's Regulated Electric and Gas Utilities Rating Methodology states, "the regulatory environment and how the utility adapts to that environment are the most important credit considerations … Utility rates are set in a political/regulatory process rather than a competitive or free-market process; thus, the Regulatory Framework is a key determinant of the success of [a] utility."[13] Consequently, investors must seek to assess utility performance and strategy in the context of the objectives

[13] "Rating Methodology: Regulated Electric and Gas Utilities," Moody's, December 23, 2014; p. 52.

of utility regulators. The National Regulatory Research Institute discusses the complexities utility regulators face in the research report, "Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives":

> Legal precedent dictates that commissions must set reasonable rates that allow a prudent utility to operate successfully, maintain its financial integrity, attract capital, and compensate its investors in line with actual risks. 'Fair and reasonable' rates: (1) provide affordable service to the vast majority of customers, (2) include only the prudent costs of a utility, (3) reflect the utility's cost of serving different classes of customers and of providing different services, (4) allow the utility to receive sufficient revenues to attract new capital and satisfy minimum financial standards, (5) prohibit undue discrimination against any customer class or service (e.g., rates should never fall below short-run marginal cost), and (6) in competitive markets, are any price that is voluntarily transacted between a buyer and a seller.[14]

The proposed disclosure topic, centered on this challenging component of providing affordable service, represents a key value driver in the industry, as evidenced by its inclusion in the key objectives of utility regulators. NERA Economic Consulting sums up this relationship in terms of the cost of equity for utilities by stating, "Getting the cost of equity (CoE) right is one of the key tasks of the regulatory process; setting it too low threatens utilities' ability to attract capital, yet regulators have to balance this risk with preserving customer interest and keeping bills affordable."[15] Ultimately, the actions of utility regulators, including determinations on rate cases, capital investment, allowed returns, and many other factors, drive utility investment risk and return. Rate cases themselves—which virtually always have implications for the affordability of energy—are viewed as "economic events because they affect the intrinsic value of the utility," and are known to impact utility equity prices.[16] Overall, the performance of companies in executing these objectives is crucial for building trust (intangible asset value) between utilities and their regulators and customers.

Sell-side research reports on companies in the industry commonly include updates and/or analysis of the status of relations and open items with regulators (e.g., rate cases). Strong corporate performance on the affordability of electricity adds intangible asset value and increases the likelihood of favorable future regulatory decisions, while poor performance presents substantial risk to the intangible asset value of such relations with regulators. Analyst insights on the topic often discuss the aspect of affordability in terms of an opportunity for additional capital investment (to help drive performance on other industry objectives, such as reliability and resilience), which then offers the potential to increase revenues, earnings, and, ultimately, shareholder returns.

An analysis of corporate disclosures indicates that 100 percent of the largest companies that operate as regulated utilities discuss regulatory risk and the ratemaking process as key risk factors in their 10-K filings. For example, a major integrated electric and gas utility states in their Form 10-K that their "financial results primarily depend on the outcomes of regulatory and ratemaking proceedings … [such] proceedings can be affected by many factors, including the Utility's reputation … potential rate impacts; increasing levels of regulatory review; changes in the political, regulatory, or legislative environments; and the opinions of the Utility's regulators, consumer and other stakeholder organizations, and customers, about the Utility's ability to provide safe, reliable, and affordable electric and gas services."[17] The company has additionally included the component of performance on energy affordability in its

[14] Ken Costello, "Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives," National Regulatory Research Institute, Report No. 14-03; April 2014.

[15] Dr. Richard Hern, "The Cost of Equity for Utilities – An International Perspective," NERA Economic Consulting, May 10, 2017, http://www.nera.com/publications/archive/2017/the-cost-of-equity-for-utilities--an-international-perspective-.html

[16] Wallace N. Davidson, III, "The Effect of Rate Cases on Public Utility Stock Returns;" The Journal of Financial Research, Vol. VII, No. 1, spring 1984.

[17] PG&E Corporation, FY2016 Form 10-K for the Period Ending December 31, 2016 (filed February 16, 2017), p. 29.

methodology for executive compensation, in an effort to align the interests of officers with the company's shareholders.[18]

Strong corporate performance on energy affordability is increasingly important given the potential for customers to seek alternatives to grid energy based on price—which may increase risk to utility revenues and earnings. Recent research reports indicate that grid parity (i.e., when the prices of alternative energy sources are equal to, or less than, the price of power purchased from the grid) has arrived in areas like Hawaii, and will arrive for tens of millions of additional customers in states including California and New York by 2020. While rooftop solar is often discussed in conjunction with grid defections, grid parity typically arrives sooner for commercial than residential customers.[19] A recent report from Bloomberg New Energy Finance (BNEF), "Why Industrials Are Powering Onsite, Ditching the Grid," states:

> Increasingly, commercial and industrial energy consumers are turning to onsite renewable energy supply as an alternative to, or back-up for, traditional grid power. In the U.S. alone, more than 2 gigawatts of onsite renewable energy were installed or financed at commercial and industrial premises in 2016, including retail, manufacturing and financial companies—with 83% being solar PV, according to BNEF data. Using the solar power generated during daylight hours can significantly reduce the amount of grid power needed at those times.

The report continues to state that onsite commercial or industrial power is pursued for several reasons, including "concern about rising power prices" and "avoiding the use of the grid at peak demand."[20] Overall, industry financial research generally indicates that risks related to grid defections should be taken into account because marginal impacts have already occurred and are likely to continue to occur, though "the possibility that there will be a widespread movement of electric utility customers to sever themselves from the grid is remote."[21] Regardless, this risk (and opportunity) for utilities further supports the importance of the financial implications of energy affordability.

Stakeholder Consultation

Investors: More than six institutional investors strongly expressed strong support for the inclusion of the topic, Energy Affordability, while only one investor was hesitant to support the addition (primarily based on a desire to narrow the breadth of the standard). Investor views generally centered on the impacts generated by regulatory relations and decision-making (a risk and opportunity), as well as the potential upside of capital investment opportunities or other financial incentives. Furthermore, investors concurred with industry views that affordability is a critical element in the analysis of trade-offs involving both reliability and clean energy. The framing of the issue, including the development of associated metrics, was continually considered to be important given the issue's two-sided nature (i.e., affordability is about striving for an appropriate rate balance, as opposed to minimizing short-term costs) and the geographic disparity among corporate approaches to the issue.

Issuers: Several large-cap issuers within the industry expressed views on the importance of the topic, Energy Affordability, while no issuers viewed it as immaterial to financial performance. However, all issuers consulted on the topic adopted a conservative approach concerning the ability of a limited set of metrics to accurately capture corporate performance on a complex topic. Issuers listed the wide variety of metrics and approaches used to assess

[18] PG&E Corporation, Schedule 14A, filed April 18, 2017.

[19] "The Economics of Grid Defection," Rocky Mountain Institute, accessed August 30, 2017, https://www.rmi.org/wp-content/uploads/2017/04/RMIGridDefectionFull_2014-05-1-1.pdf

[20] Bryony Collins, "Why Industrials Are Powering Onsite, Ditching the Grid," Bloomberg New Energy Finance, August 2, 2017.

[21] Moodys rating methodology

affordability and inform rate cases (and of interest to customers and regulators), but strongly cautioned that no single metric, nor small set of metrics, could be implemented to measure performance across the entire industry. High-level affordability metrics are heavily impacted by a utility's customer base, energy assets and access, regulatory structure, and business model, among many other factors. Thus, while issuers overwhelmingly support the concept of affordability as a material factor, they also express reservations about standardizing performance on this complex topic with a limited set of metrics.

Benefits

Improves the SASB standard: The inclusion of Energy Affordability addresses a meaningful shortfall in the provisional standard. The topic is a critical element of the framework to evaluate sustainability performance in the industry and is a source of significant direct and indirect financial impacts. Overall, incorporating the topic into the standard will help to generate standardized, material information.

Proposed Update #11-5 – **Industry:** Electric Utilities & Power Generators; **Topic Name:** End-Use Efficiency & Demand

2017 Technical Agenda Item #11-5 Description

SASB is evaluating the addition of new metrics to improve the decision-usefulness and completeness of the metrics associated with the topic.

Summary of Change – Add Metric

The SASB proposes adding a new metric to the topic, End-Use Efficiency & Demand, "Percentage of electric utility revenues from rate structures that (1) are decoupled or (2) contain a lost revenue adjustment mechanism (LRAM)."

Adherence to Criteria for Accounting Metrics

The existing topic, End-Use Efficiency & Demand, is largely focused on utility rate structures and incentives, including how these rate structures position utilities to financially benefit or risk value in an environment with increasing energy efficiency and other demand reductions needs. The current metrics focus on energy efficiency gains and the smart grid. However, the current metrics do not capture a critical element of the topic related to rate structures. There is a structural divide between whether rates are volumetric (where utility revenues are directly connected to customer energy consumption) or decoupled (meaning that, generally, utility revenues are not directly linked to customer consumption). Decoupled rates remove the "throughput incentive" of volumetric rates in order to enable utilities to pursue, and potentially financially benefit from, energy efficiency and demand reductions—or at least mitigate risks related to efficiency and demand reductions. The proposed metric, which is focused on the percentage of utility revenues derived from decoupled rate structures, will better accomplish the core objectives of the standard by providing investors with a more complete, comparable, useful, and distributive view of company performance on the disclosure topic.

Supporting Analysis

Analysis reveals that 100 percent of companies in the industry that operate as regulated utilities provide 10-K disclosures on rate structures and/or rate cases, often including specific disclosures on decoupling and/or energy efficiency and related incentives. However, the level of specificity of these disclosures varies widely, and standardization is virtually non-existent. For example, a review of the 10-K disclosures of the 10 largest companies in the Electric Utilities & Power Generators industry yielded more than 20 different metrics related to this topic, indicating a need for standardization. This supports the case that incorporating a metric to standardize rate structures, as they relate to energy efficiency, would provide more complete, comparable, and useful disclosures.

Research demonstrates that decoupled rate structures, and to a certain extent, loss revenue adjustment mechanisms (LRAMs), remove utility incentives to maximize end-customer consumption, and generally offer the utility a greater ability to financially benefit from energy efficiency and demand reductions. For example, research from The Brattle Group, a major utilities consulting firm, has clearly pointed to stabilizing effects on revenue (and potentially earnings) due to decoupling policies, while explicitly citing the resulting ability for utilities to pursue energy efficiency objectives: "… decoupling removes the throughput disincentive for utilities to pursue energy efficiency programs. As energy efficiency programs have expanded since 2007, that incentive alignment benefit has been important."[22]

[22] Joe Wharton and Michael Vilbert, "Decoupling and the Cost of Capital," *The Electricity Journal*; Aug./Sept. 2015, Vol. 28, Issue 7, pp. 19-28.

Credit analysts consider decoupled rate structures to be an important component of financial analysis, and generally view them in a favorable light. For example, a 2014 Moody's research report on regulated electric and gas utilities stated, "Moody's notes that over the last five years the predictability and stability of utility cash flows has generally increased as ratemaking mechanisms become more commonplace. These include revenue decoupling and riders to regulatory agreements, which help utilities recover costs faster."[23] In fact, the formal Moody's Regulated Electric and Gas Utilities Rating Methodology explicitly cites the growth of decoupled rate structures as a notable positive in terms of credit risk. "On an overall basis in the U.S. over the past several years, we have noted some incremental positive regulatory trends, including greater use of formula rates, trackers and riders, and (primarily for natural gas utilities) de-coupling of returns from volumetric sales." The rating methodology continues to explain how volumetric (i.e., non-decoupled rates) may increase risk. "Falling demand for electricity or natural gas may negatively impact margins and debt service protection measures, especially when rates are designed such that a substantial portion of fixed costs is in theory recovered through volumetric charges."[24] Furthermore, S&P credit analysts also view decoupling as generally positive, citing more revenue and cash flow predictability, reduced earnings volatility, and lower costs due to the more frequent filing of rate cases under traditional rate structures.

Rate structures are commonly an area of interest in equity research reports in the industry. A recent JP Morgan equity analyst report that summarized the rate structures of all major U.S. utilities (electric and gas utilities) included whether decoupled rate structures had been implemented.[25] Overall, investor views on rate structures and decoupling strongly indicate that the proposed metric would add to the usefulness and completeness of disclosures related to the topic. Importantly, while the proposed metric provides useful information to investment analysts, the interpretation of that information is complex and dynamic, and doesn't distinguish between positive or negative performance. Relatedly, rate structures are, generally, a result of interactions between utility rate-case proposals, utility regulators, and public policy overall.

More than a dozen states have electric utilities that use a form of decoupled rate structures, while many utilities and states maintain traditional cost-of-service ratemaking (volumetric rates). The dispersion of rate structures supports the concept that the proposed metric will yield distributed disclosures, further aiding the comparability and usefulness of the proposed metric.

Stakeholder Consultation

Investors: Numerous investors expressed strong support for the proposed metric based on the prevailing view that it is a positive step toward measuring the types of rate structures used by utilities. No investors expressed disagreement with the proposed metric, though some did state that more granular, nuanced disclosures would be necessary to significantly drive the usefulness of rate structure disclosures forward (i.e., the proposed metric is relatively high-level). However, these investors did not express consistent views regarding the greater detail or nuance that should be standardized by the proposed metric (or additional new metrics).

Issuers: Issuers did not express uniform views on the proposed metric. Although numerous issuers unanimously expressed views on the significance of rate structures and their impact on energy efficiency (and very general agreement with the disclosure topic, though not necessarily the associated metrics), views varied on the appropriateness of and potential to implement standardized metrics to capture corporate performance on the topic,

[23] "Outlook for US regulated utilities is stable," Moody's, February 20, 2014, https://www.moodys.com/research/Moodys-Outlook-for-US-regulated-utilities-is-stable--PR_293245.
[24] "Rating Methodology: Regulated Electric and Gas Utilities." Moody's, December 23, 2014, p. 52.
[25] "U.S. Utilities & Power Outlook;" J.P. Morgan, December 16, 2016.

and ultimately add value to existing disclosures. Views ranged from mild support for the proposed metric to strong opposition based on a lack of corporate control over rate structures and oversimplification of a complex topic.

Benefits

Improves the SASB standard: The proposed metric captures a significant aspect of performance on the topic that is not sufficiently captured by the provisional standard—namely, how rate structures impact the ability of utilities to pursue energy efficiency and other demand reductions, including financial implications. This aspect of performance is crucial for providing a more complete, comparable, and distributive measure of corporate performance on the topic.

Improves decision-usefulness: The proposed metric significantly benefits the decision-usefulness of the information generated by the standard, as existing corporate disclosures are highly variable (i.e., non-standardized), yet investors are overwhelmingly interested in standardized disclosures on this topic, to aid in investment analysis.

Proposed Update #11-6 – **Industry:** Electric Utilities & Power Generators; **Topic Name:** Management of the Legal & Regulatory Environment

2017 Technical Agenda Item #11-6 Description

SASB is evaluating revisions to the topic, including suitability of the corresponding metrics IF0101-19[26], IF0101-20[27], IF0101-21[28], to improve the cost-effectiveness and materiality of the standard.

Summary of Change – Remove Topic and Metrics

The SASB proposes removing the provisional topic, Management of the Legal & Regulatory Environment, from the standard, along with the corresponding metrics:

- IF0101-19: Discussion of policies and processes to identify and manage potential ethical violations resulting from interactions with utility commissions
- IF0101-20: Amount of legal and regulatory fines and settlements associated with allegations of violations resulting from interactions with utility commissions
- IF0101-21: Discussion of positions on the regulatory and political environment related to environmental and social factors and description of efforts to manage risks and opportunities presented

As a result of the above, the SASB also proposes a related revision to the provisional topic, Greenhouse Gas Emissions & Energy Resource Planning, to incorporate the element of engagement with regulators in the context of GHG emissions and energy resource planning. This results in a proposed revision to provisional metric IF0101-02, "Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emission-reduction targets, and an analysis of performance against those targets," to incorporate the element of compliance with emissions regulations, as well as strategies to attain such regulatory compliance, into the technical protocol.

Adherence to Principles for Topic Selection & Criteria for Metrics Development

The provisional topic, Management of the Legal & Regulatory Environment, is focused on how utilities engage with regulators and policymakers to influence regulations and policies to align shareholder interests with long-term societal interests, or the lack thereof, as well as how interactions with regulators are conducted in an ethical manner. Provisional metric IF0101-19 (proposed for removal) relates to the former aspect of political and regulatory relations and influence, while two other provisional metrics, IF0101-20 and IF0101-21 (also proposed for removal), relate to the latter aspect of ethical engagement with regulators. The proposal to remove the topic along with the three corresponding metrics is based on a lack of industry-specific evidence that demonstrates the topic's potential to affect corporate value in a manner that is systematically relevant across the industry. While the topic may in fact contain material information for various companies in the industry, it does not meet the fundamental tenets of the SASB standards, which require an industry-specific, evidence-based approach, as established by the *SASB Conceptual*

[26] IF0101-19: Discussion of policies and processes to identify and manage potential ethical violations resulting from interactions with utility commissions

[27] IF0101-20: Amount of legal and regulatory fines and settlements associated with allegations of violations resulting from interactions with utility commissions

[28] IF0101-21: Discussion of positions on the regulatory and political environment related to environmental and social factors and description of efforts to manage risks and opportunities presented

Framework. Furthermore, the removal of the topic and corresponding metrics will improve the cost-effectiveness of the standard.

However, the aspect of regulator and policymaker interactions does meet the above stated fundamental tenets of the SASB standards when examined specifically within the context of a limited number of underlying sustainability topics that are currently included in the provisional standard. In other words, while the broadly defined topic of Management of the Legal & Regulatory Environment does not have an adequate body of industry-specific evidence of financial impact, the aspect of interactions with regulators and policymakers does meet this threshold when applied to a subset of underlying sustainability topics. As a result, this aspect of interactions with regulators and policymakers is proposed for inclusion within the provisional topic, GHG Emissions & Energy Resource Planning. The proposed topic revision improves its potential to affect corporate value and relevance across the industry. This proposal results in a revision to the provisional metric IF0101-02 to incorporate both compliance with emissions regulations, and strategies to attain regulatory compliance, which may include interactions with regulators, including participating in or influencing the legislative or regulatory process. This proposed revision improves the completeness of the metrics associated with the topic, while also providing useful information on corporate strategies concerning emissions- or energy source-related regulations.

Supporting Analysis

The Electric Utilities & Power Generators industry is subject to numerous sustainability-related regulations and a rapidly changing regulatory environment. While companies in the industry regularly participate in the regulatory and legislative process, industry-specific evidence that demonstrates that the broadly-defined topic generates direct financial impacts systematically across the industry is insufficient. Such industry-specific evidence of financial impact is required for the inclusion of a topic in the standards, as established by the *SASB Conceptual Framework*. As a result, while the topic may in fact contain material information for certain companies within the industry, the SASB does not view the very broadly-defined provisional topic, Management of the Legal & Regulatory Environment, as one that adequately meets the "principles for topic selection" as established by the *SASB Conceptual Framework*.

While the SASB proposes the removal of the broadly-defined topic, aspects of the topic are appropriate for inclusion in the underlying sustainability topics in the provisional standard. For example, the provisional topic, "End-Use Efficiency & Demand," includes an element focused on interactions with regulators to promote rate structures that align utilities' financial incentives with long-term societal objectives. "Companies that perform well on [the topic by] working with regulators to align financial incentives may be better positioned over the long-term to outperform on risk-adjusted returns. Working with regulators in this regard to continue the growth of potentially favorable alternative rate designs, such as decoupling, and other programs designed to promote end-use efficiency and demand reductions, may increase the stability of long-term revenues, provide additional revenue opportunities, and drive down the cost of capital as a result of risk reductions."[29] As a result, the standard accurately communicates that the disclosure of strategies for regulatory compliance, participation, and influence is appropriate within the context of specific disclosure topics when supported by industry-specific evidence of financial impact, while this proposal removes the broadly defined topic centered on overall regulatory or legislative influence as a standalone disclosure topic in and of itself.

In a structurally similar manner, the SASB proposes refining the topic, GHG Emissions & Energy Resource Planning, to explicitly include interactions with regulators and policymakers within the context of GHG emissions or energy resource-related regulations. Evidence presented in the *SASB Electric Utilities Research Brief* in conjunction with the

[29] "SASB Electric Utilities Research Brief," Sustainability Accounting Standards Board, March 2016; p. 34

topic proposed for removal, is in fact relevant in demonstrating the financial impacts associated with interactions with regulators and policymakers in the context of GHG emissions and energy resource planning (in addition to the context of the disclosure topic, End-Use Efficiency & Demand).[30]

Furthermore, virtually 100 percent of the Forms 10-K filed by companies that operate regulated electric utilities with company-owned power generation facilities provide disclosures on risks related to GHG emissions regulations while referencing the importance of regulatory interactions (or "regulatory recovery," which generally requires interactions with regulators through rate cases or other means). For example, a major utility's 2016 Form 10-K included the following:

> In 2016, the [company's] power plants emitted approximately 107 million tons of CO_2. Future CO_2 emissions will be influenced by variables that include compliance with new or existing regulations, economic conditions that affect electricity demand and the technologies deployed to generate the electricity necessary to meet the customer demand.
>
> The [company and its subsidiaries] have taken actions that have resulted in a reduction of CO_2 emissions over time. Actions have included the retirement of 47 coal-fired EGUs with a combined generating capacity of 5,425 MW. Much of that capacity has been replaced with state-of-the-art highly efficient natural gas-fired generation that produces far fewer CO2 emissions per unit of electricity generated. Between 2005 and 2016, the [company and its subsidiaries] have collectively lowered the CO_2 emissions from their electricity generation by approximately 30 percent, which lowers the exposure to any future mandatory CO_2 emission reduction requirements or carbon tax, whether as a result of federal legislation, the final CPP regulation or other as yet unknown emission reduction requirement. Under any future scenario involving mandatory CO_2 limitations, the [the company and its subsidiaries] would plan to seek recovery of their compliance costs through appropriate regulatory mechanisms.[31]

The Form 10-K continues to state that GHG emissions-related regulations are increasing the cost of operating coal-fired generation plants, which could lead to asset retirements earlier than the end of their useful lives. As a result, the company "continues to evaluate the need to retire generating facilities and plans to seek regulatory recovery, where appropriate, for amounts that have not been recovered upon asset retirements. However, recovery is subject to future regulatory approval, including the recovery of carrying costs on remaining book values, and therefore cannot be assured." This supports the proposed approach of directly incorporating regulatory (and legislative) interactions, participation, and influence within the GHG emissions-related topic, and its associated metrics, as opposed to a broadly defined topic on overall regulatory strategy. As a result, the proposed refinement to the topic, GHG Emissions & Energy Resource Planning, will improve the topic's potential to affect corporate value and relevance across the industry.

Overall, the interactions between companies in the industry and their regulators (primarily, state public utility commissions, but also at the federal level) within the context of GHG emissions and energy resource planning,

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[30] For example, evidence provided in the *SASB Electric Utilities Research Brief* (March 2016) related to New York State's Reforming the Energy Vision plan supports the importance of utility-regulator interactions concerning emissions reductions, among other issues (p. 42). Further supporting evidence is provided directly in the context of the "GHG Emissions & Energy Resource Planning" topic, including the following discussion: "It is also important to note that, in regulated markets, company planning relating to this issue is ultimately beholden to the regulator approving the budget for proposed projects. However, companies that adopt long-term strategies in this area and that are able to effectively communicate these needs to their utilities commission will be in a superior long-term position to lower related risks for their shareholders" (p. 15).

[31] Duke Energy Corporation, FY2016 Form 10-K for the Period Ending December 31, 2016 (filed February 24, 2017), p. 81.

including corporate strategies on such regulatory matters, are a critical aspect of corporate performance with a direct link to financial impact. As a result, expanding the scope of metric IF0101-02 to incorporate regulatory interactions and regulatory strategies concerning emissions- or energy source-related regulations will improve the completeness of the metrics associated with the topic, while providing additional useful information.

Separately, an additional aspect of the topic proposed for removal (Management of the Legal & Regulatory Environment) is focused on ethical interactions between utilities and state public utility commissions. This aspect has an insufficient body of evidence, and as a result, fails to establish its systematic relevance across the industry and its impact on value. Companies domiciled in the U.S. that constitute the Electric Utilities & Power Generators industry have experienced two significant examples of ethical violations relating to ex parte communications with utility commissioners in recent history (both cited in the *SASB Electric Utilities Industry Research Brief*). These incidents, involving were significant events that eroded reputational value and led to direct costs. However, the inclusion of this aspect of ethical communications with regulators within the standard based solely on two historical incidents is unwarranted. Furthermore, industry research does not indicate that the risk of ex parte communications is increasing. Lastly, a review of corporate disclosures indicates that they are extensive and robust in the rare event of a significant violation (e.g., the Form 10-K disclosures provided by one of the companies involved in such an ex parte incident included multiple pages of discussion and analysis related to the incident).

Stakeholder Consultation

Investors: Numerous investors supported the materiality of corporate strategies, participation, and influence in the regulatory and legislative process. Some investors suggested that both qualitative and quantitative disclosures related to political lobbying, alignment with shareholder interests, and regulatory influence are decision-useful. However, while investors often expressed that the topic is broadly applicable to all types of political and regulatory influence, some investor input was generally supportive of a refined focus on such disclosures within the underlying sustainability topics where the issue is most likely to contain material information (consistent with the proposed approach). Separately, investors categorically failed to express interest in standardizing corporate disclosures on ethical violations in the context of communications with utility commissioners. While most investors were aware of one or two of the significant examples that have occurred, investors observed that standardized metrics would not add value to investment analysis, as these disclosures would not constitute material information for nearly all companies in the industry.

Issuers: Multiple issuers expressed agreement with the proposal to remove the topic "Management of the Legal & Regulatory Environment" and the corresponding metrics from the standard. No issuers expressed opposition to limiting or removing the topic. While issuers did not necessarily express disagreement with disclosures focused on general regulatory strategies (or on ethical violations relating to communications with utility commissioners), issuers believed the inclusion of the topic did not add values, as it is overly broad. Specifically, on the aspect of ethical communications with regulators, the consensus issuer view was that in the rare event of such a violation, corporate disclosures would be extensive and robust given the legal nature of the issue, and thus, unlikely to be influenced by the standard.

Benefits

Improves the SASB standard: The removal of the topic and the associated metrics will improve the standard based on the lack of sufficient industry-specific evidence of financial impact that justifies the topic's inclusion. The resulting standard will better adhere to the fundamental tenets of the SASB standards. Additionally, focusing on the most likely

material aspects of regulatory interactions and influence specifically within the appropriate, underlying topics will improve the specificity (and materiality) of the resulting disclosures.

Improves cost-effectiveness: The removal of the topic and the associated metrics will improve the cost-effectiveness of the standard, as the standard is shorter, and thus, less costly to implement.

INFRASTRUCTURE SECTOR

GAS UTILITIES & DISTRIBUTORS INDUSTRY

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #IF0102

Prepared by the
Sustainability Accounting Standards Board®

October 2017

Proposed Changes to Provisional Standard - Basis for Conclusion

Proposed Update #11-7 – **Industry:** Gas Utilities & Distributors; **Topic Name:** Integrity of Gas Delivery Infrastructure

2017 Technical Agenda Item #11-7 Description

SASB is evaluating the addition of a new topic, including new metrics, based on the potential for performance on this topic to affect corporate value, and to improve the materiality and decision-usefulness of the standard.

Summary of Change – Revise Topic

The SASB proposes revising the provisional disclosure topic, "Operational Safety, Emergency Preparedness, and Response," to remove the aspect of emergency preparedness, retain the focus on the management of safety risks stemming from gas distribution infrastructure, and add the related aspect of GHG emissions stemming from gas distribution infrastructure. The proposed revision results in renaming the topic to "Integrity of Gas Delivery Infrastructure," as well as making the following corresponding proposed changes to the metrics associated with the topic:

- Remove provisional metric IF0102-03: "Average response time for gas emergencies"
- Add new metric: "Percentage of gas (1) transmission and (2) distribution pipelines inspected"
- Revise provisional metric IF0102-05 from "Discussion of management systems used to integrate a culture of safety and emergency preparedness throughout project lifecycles" to "Discussion of efforts to manage the integrity of gas delivery infrastructure, including risks related to safety and emissions"

Furthermore, the SASB proposes revising activity metric, IF0102-C, from "Length of distribution pipelines" to "Length of (1) transmission and (2) distribution pipelines."

Description of Topic

Operating a vast network of gas pipelines, equipment, and storage facilities requires a multifaceted, long-term approach to ensuring the integrity of such infrastructure, and the management of related risks. While customers depend on constantly available gas supplies, companies are tasked with managing substantial risks that result from operating gas distribution networks. Gas distribution networks and related infrastructure generate substantial, inherent risks related to human health (and property), as well as GHG emissions. Aging infrastructure, inadequate monitoring and maintenance, and other operational factors may lead to gas leaks that result in safety-related risks, as well as fugitive emissions. Companies in the industry generally operate gas distribution pipelines and other infrastructure that presents risks of incidents such as combustion, resulting in fires or explosions that can be particularly severe in urban areas where companies often operate. Furthermore, gas leaks also result in fugitive emissions (methane), causing adverse environmental impacts. Regulated gas utilities generally incur no direct costs for leaking gas, as the cost of gas is typically passed directly to customers. However, gas leaks that result in safety-related risks and/or fugitive emissions may financially impact companies through a variety of regulatory, legal, and product demand channels. Accidents, particularly fatal accidents, can result in claims of negligence against companies, leading to costly court battles and fines. GHG emissions may lead to increased regulatory scrutiny—a critical element directly connected to financial performance, given the importance of regulatory relations—and potentially fines and penalties. Importantly, regulated gas utilities can also financially benefit from opportunities for capital investments designed to improve performance and mitigate risks related to safety and emissions. These capital investments may lead to higher

rate bases, ultimately benefiting the company and its shareholders. Companies seek to manage such risks through pipeline replacements, regular inspections and monitoring, employee training, investments in technology, and other strategies—all typically done by working closely with regulators. In many parts of the country, concerns about aging infrastructure have caused companies in the industry to look for ways to expedite the replacement approval process, especially in cases where pipelines are located near densely populated areas.

Gas utilities are generally required by law to inspect gas pipelines and infrastructure to manage safety risks, and potentially fugitive emissions. Although utilities can typically pass approved capital costs on to customers and benefit from the allowed rate of return for investments, if regulators consider failing infrastructure to be a result of the company's own mismanagement, the recovery of such costs may not be permitted. Regulators may also be reluctant to increase costs to ratepayers over affordability concerns. To ease the regulatory friction in upgrading infrastructure, some utilities have proposed Targeted Infrastructure Replacement Fund programs (TIRFs), which allow for the recovery of capital costs for specific types of projects between rate cases. These programs have been increasingly approved by utilities commissions. In areas where these programs have not been implemented, the capital repayment structure for these upgrades and repairs is usually made in the general rate case.[32]

Since utilities do not typically bear the costs of lost gas themselves, and may incur risks in the ability to recover capital or operational costs designed to manage such leaks, utilities may be less likely to be incentivized to monitor and address gas leaks if they do not pose an immediate safety risk. However, methane, the primary component of fugitive emissions, is a greenhouse gas that is 84 times more potent than carbon dioxide over a 20-year time frame.[33] A report by California Air Resources Board and California Public Utilities Commission (CPUC) stated that California natural gas utilities leaked about 6.6 billion cubic feet of their product into the air in 2015.[34]

Although the regulatory emphasis is traditionally more focused on safety risks stemming from gas distribution networks, environmental impacts of fugitive emissions are increasingly recognized by regulatory bodies. For example, the CPUC approved a settlement with a major California utility earlier this year, calling for the company to use advanced technologies to address environmental factors together with safety issues when fixing gas leaks.[35] The CPUC also announced a rule in June 2017 aiming to cut 40 percent of the GHGs emitted from leaking pipelines and gas distribution networks by 2030.[36]

Corporate performance on the topic of managing safety risks and fugitive emissions is generally managed through similar strategies and approaches. The performance metrics, including those the SASB is proposing to retain, revise, or add to the topic, focus on pipeline materials, pipeline inspections, pipeline incidents and regulatory violations, and management strategy as it relates to the integrity of gas delivery infrastructure—all of which are generally applicable

[32] Craig Aubuchon and Paul Hibbard, "Summary of Quantifiable Benefits and Costs Related to Select Targeted Infrastructure Replacement Programs," Analysis Group, January 2013, accessed March 18, 2015, http://www.platts.com/latest-news/electric-power/boston/florida-bill-would-ban-electric-utilities-from-21876470.

[33] Ilissa Ocko, "Methane and CO2: Why climate action means addressing both," Environmental Defense Fund, August 12, 2015, https://www.edf.org/blog/2015/08/12/methane-and-co2-why-climate-action-means-addressing-both.

[34] California Air Resources Board and California Public Utilities Commission, Joint Staff Annual Report on Analysis of June 17, 2016 Utilities' Reports and Commission Staff Proposal on Best Practices into the Record and Seeking Comments, January 19, 2017, http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M172/K518/172518969.PDF.

[35] Amanda Johnson, "Recent California decision indicates utility's willingness to address climate pollution," Environmental Defense Fund, May 26, 2017, http://blogs.edf.org/energyexchange/2017/05/26/recent-california-decision-indicates-utilitys-willingness-to-address-climate-pollution/.

[36] "Decision Approving Natural Gas Leak Abatement Program Consistent With Senate Bill 1371," The California Public Utilities Commission, Decision June 15, 2017, Date of Issuance June 19, 2017, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M190/K740/190740714.PDF.

to safety- and emissions-related risks. Company performance in this area can be analyzed in a cost-beneficial way through the following direct or indirect performance metrics:

- Number of (1) reportable pipeline incidents, (2) Corrective Action Orders (CAO), and (3) Notices of Probable Violation (NOPV)
- Percentage of distribution pipeline that is (1) cast and/or wrought iron and (2) unprotected steel
- Percentage of gas (1) transmission and (2) distribution pipelines inspected
- Discussion of efforts to manage the integrity of gas delivery infrastructure, including risks related to safety and emissions

In conjunction with the proposed and revised performance metrics, the SASB has proposed revising an activity metric, as described above, to facilitate normalization and enable a better understanding of performance on the topic.

Evidence

In the U.S., Gas distribution line accidents have resulted in more than 120 deaths and were responsible for more than $775 million in damages between 2004 and 2014.[37] During this period, there was an annual average of 28 serious incidents, which are defined as events that include a fatality or an injury requiring in-patient hospitalization. While still a serious issue for the industry, these incidents have been trending downward recently, which is partially due to technological advances, increasing industry engagement in this area, and regulation. Between 2012 and 2014, the gas distribution industry companies averaged 23 incidents per year.[38] However, aging pipelines could mean this downward trend may not continue over the long term without effective actions to strengthen the pipe infrastructure. Upgrade costs can vary significantly by location. For example, in Pittsburgh, it costs roughly $1 million per mile to replace distribution lines; in New York City, it costs $10 million per mile.[39] Often, the riskier that a utility is perceived to be (in regards to its safety record), the more likely it will face challenges in raising capital, given potential increases in regulatory uncertainty around cost recovery, making these needed upgrades costlier or potentially prohibitively expensive without regulatory intervention.

Operational safety management has implications for the cost structure of gas utilities. Companies that are found negligent in accidents can incur costs and fines that potentially cannot be passed on to customers. Accidents can lead to legal and regulatory actions that could result in extraordinary expenses, contingent liabilities, an increase in insurance costs, and an increase in a company's cost of capital. While the probability of these events is low, their impact, however, can be significant, raising costs and cutting into the otherwise stable returns for investors. In late 2015, a major utility discovered a large-scale natural gas leak at a storage facility. The leak resulted in approximately 109,000 tons of methane emissions (2.1 million tons of CO_2), and was the largest-known such leak in U.S. history. As a result, the company recorded an estimated cost of $780 million related to the leak in its 2016 10-K; 70 percent which was used to temporarily relocate the affected local residents. The estimate did not include unsettled damage claims, fines, penalties, costs to clean additional homes, as required by the Department of Public Health, and any potential future legal costs.[40] In addition, the leaking well was permanently sealed and the company has not injected

[37] Mike Wereschagin, "Decrepit Pa. Natural Gas Utility Pipelines Years from Upgrade," Pittsburgh Tribune-Review, November 1, 2014, accessed April 22, 2015, http://triblive.com/news/editorspicks/6961708-74/gas-distribution-iron.

[38] Author's calculation from "PHMSA Pipeline Incidents: 1995–2014," Pipeline and Hazardous Materials Safety Administration, updated April 27, 2015, accessed April 27, 2015, https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages.

[39] Mike Wereschagin, "Decrepit Pa. Natural Gas Utility Pipelines Years from Upgrade." Pittsburgh Tribune-Review, November 1, 2014, accessed April 22, 2015, http://triblive.com/news/editorspicks/6961708-74/gas-distribution-iron.

[40] Sempra Energy, FY2016 Form 10-K for the Period Ending December 31, 2016, (filed February 28, 2017), p. 601.

natural gas into its storage facility since the accident.[41] Aside from direct legal and regulatory costs, the company publicly committed to offsetting the entire volume of GHGs that were released in connection with the incident without passing the costs onto ratepayers. Gas leaks that lead to safety incidents can potentially be even more costly: In April 2015, the California PUC imposed a $1.6 billion penalty on a major utility for a severe explosion in San Bruno, California in 2010.[42] Both of these examples are very complex in terms of the net, direct financial impact, given insurance recovery, finalizing settlement negotiations with regulators and affected parties, and rate case impacts. However, these incidents lead to meaningful declines in brand value and trust with customers and regulators that will have impacts for the foreseeable future.

Stringent new standards increase utilities' risk of not being able to pass costs of leaked gas on to customers. In 2014, California passed Senate Bill No. 1371 Natural Gas: Leakage Abatement, which asks the PUC to adjust the amount that utilities can charge customers based on actual leakage volumes.[43] This means that the utilities may no longer recover the costs of gas that leaks from their pipes. The PUC has been working on implementing the bill, though the complexities involved with estimating volumes of gas leakage and determining appropriate financial impacts have resulted in no actual financial impacts to date, and there is an ongoing implementation and stakeholder consultation period.

On the other hand, notable financial opportunities stem from the investment of capital into monitoring, maintaining, and replacing pipelines and other gas distribution network infrastructure when regulators approve these capital investments, because they create a higher rate base and ultimately higher returns for shareholders. For example, on December 16, 2016, The New York Public Service Commission approved a pipes replacement plan for a large distributor of natural gas in the Northeast, to use advanced leak detection and quantification technologies in order to maximize the environmental and ratepayer benefits of a three-year, $3 billion capital investment program.[44]

Investors have generally demonstrated meaningful interest in GHG emissions generated by the gas utilities industry. The PRI coordinated a global group of 30 leading institutional investors that oversees more than $3 trillion and announced a new, global initiative to encourage oil and gas companies, including gas utilities, to improve methane emissions management.[45] Numerous companies in the industry acknowledge investor interest in the topic in their sustainability reports (in addition to acknowledging the potential impacts from this issue in 10-K filings). Some of these companies provide specific disclosures on fugitive emissions. For example, a major utility's 2015 sustainability report provides metrics-based disclosures on fugitive emissions and emissions resulting from the Aliso Canyon incident, while stating that "… some investors are evaluating their investment decisions based on a company's carbon dioxide emissions."[46]

[41] Sempra Energy, FY2016 Form 10-K for the Period Ending December 31, 2016, p. 15.

[42] Ann Saphir, "California state regulator imposes $1.6 bln penalty on PG&E," Reuters, April 9, 2015, http://www.reuters.com/article/usa-pipeline-california-idUSL2N0X61W520150409.

[43] California Legislative Information, Senate Bill No.1371, September 21, 2014, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB1371.

[44] "EDF Methane Mapping Partnerships Accelerate Technological Advances in Gas Utility Sector," EDF Energy Exchange, Environmental Defense Fund, January 8, 2017, http://www.theenergycollective.com/edfenergyex/2395819/edf-methane-mapping-partnerships-accelerate-technological-advances-in-gas-utility-sector.

[45] Mark Brownstein, "Smart Money: Top Investors Press Oil & Gas Companies To Tackle Methane Emissions," Forbes, May 9, 2017, https://www.forbes.com/sites/edfenergyexchange/2017/05/09/smart-money-top-investors-press-oil-gas-companies-to-tackle-methane-emissions/#658303c22f6f.

[46] Sempra 2015 Sustainability Report

Stakeholder Consultation

Investors: Numerous large, mainstream investors expressed interest in, and often strong support for, the potential inclusion of GHG emissions within the standard. No investors communicated a lack of interest in this topic (related to both safety and emissions) or a view that the topic is unimportant. Investors generally stated that they acknowledged the complications of assessing the financial impact for regulated gas utilities, but often view the issue as an important element of operational performance, regulatory risk, and investment opportunity. Along these lines, investors often volunteered that they believe the topic offers considerable financial opportunity for companies, depending on the status of regulatory relations, given that considerable capital investments are typically involved in improving performance on the topic. A limited number of investors also expressed interest in the inclusion of a quantitative fugitive emissions metric, while also recognizing the severe challenges surrounding the collection, reporting, and standardization of this data.

Issuers: Multiple issuers provided input on the potential inclusion of GHG emissions within the standard. These views generally expressed that, while companies believe the topic is important to manage, the aspect related to GHG emissions is often overemphasized. This view was communicated with data on the portion of fugitive emissions resulting from gas distribution networks relative to other industries and overall societal emissions. Issuer views were unanimous and robust in regard to the inappropriateness of a quantitative metric designed to capture (or estimate) the amount of fugitive emissions, including potential proxies such as lost and unaccounted for gas (which the SASB has not proposed). Lastly, input was received from issuers and industry groups during the provisional standards-setting process, which opposed the inclusion of GHG emissions in the standard, largely due to the assertion that performance on the topic does not have a substantial financial impact.

Benefits

Improves the SASB standard: The revised topic, which focuses on the operational performance of gas distribution infrastructure, including the resulting safety-related risks and GHG emissions-related risks, improves the standard by capturing an element of the topic that was not included in the provisional standard, but is likely to contain material information. More specifically, the proposed metrics better focus on how companies in the industry are performing in terms of their management of gas distribution infrastructure, which will yield more complete and comparable information.

Improves decision-usefulness: The revised topic, and the proposed metrics, provide investors with more decision-useful information on how an issuer manages the risks and opportunities associated with its gas pipelines and distribution infrastructure.

Proposed Update #11-8 – **Industry:** Gas Utilities & Distributors; **Topic Name:** Energy Affordability

2017 Technical Agenda Item #11-8 Description

SASB is evaluating the addition of a new topic, including new metrics, based on the potential for performance on this topic to affect corporate value, and to improve the materiality and decision-usefulness of the standard.

Summary of Change – Add Topic and Metrics:

The SASB proposes adding the disclosure topic, Energy Affordability, including the following, corresponding metrics:

- Average retail gas rate for 1) residential, 2) commercial, 3) industrial customers, and 4) transportation services only
- Typical monthly gas bill for residential customers for 1) 50 MMBtu and 2) 100 MMBtu of gas delivered per year
- Number of residential customer gas disconnections for non-payment, percentage re-connected within 30 days

Furthermore, the SASB proposes revising two activity metrics:

- Revise activity metric, IF0102-A, from "Number of (1) residential and (2) commercial customers served" to "Number of (1) residential, (2) commercial, and (3) industrial customers served"
- Revise activity metric, IF0102-B, from "Amount of natural gas delivered, percentage delivered to (1) residential customers, (2) commercial customers, (3) industrial customers, and (4) transferred to a third-party" to "Amount of natural gas delivered to (1) residential, (2) commercial, and (3) industrial customers, and (4) transferred to a third-party"

Description of Topic

The de facto objective of regulated gas utilities is to deliver natural gas to customers in a safe, reliable, and environmentally responsible manner. Companies in the industry are tasked with managing these potentially competing priorities to maintain favorable relations with customers and regulators—and ultimately to earn appropriate returns for shareholders. The affordability of energy, from the utility customer perspective, is particularly challenging to balance, as it often conflicts with other core objectives. Utility energy bills are widely perceived to be increasingly more expensive for low income customers (affordability is determined by both the net cost of energy bills and the underlying economics of customers). Playing a role in ensuring that utility bills are affordable is crucial for utilities in building trust (intangible asset value) with regulators and customers. Quality of regulatory relations is a key value driver for utilities, and one of the more closely analyzed issues by investment analysts. Regulators' willingness, or lack thereof, to grant rate requests, rate structure modifications, cost recovery, and allowed returns is a primary determinant of financial performance and investment risk. Effectively managing affordability may give utilities the opportunity to invest more capital, favorably revise rate structures, and increase allowed returns. Furthermore, utilities that do not effectively manage affordability are increasingly exposed to customers obtaining energy supplies from means other than natural gas (or reducing energy needs) by pursuing alternative energy sources (e.g., industrial customers' use of combined heat and power). Managing affordability involves operating an efficient business with a well-thought-out, long-term perspective and strategy, as well as working closely with regulators and public policymakers on rate structures and, potentially, bill-assistance programs. While the precise nature of financial impacts

of affordability are largely determined by utility business models and rate structures, affordability is a critical business issue for utilities to manage in terms of maintaining (and growing) customer bases, building intangible asset value, creating investment and return opportunities, and ultimately delivering shareholder returns.

The EIA projects that natural gas delivered to end-customers will average 3.6 percent annual price increases through 2050. More importantly, the dispersion of rates (and ultimately affordability) across geographies and income groups provides another challenge. More specifically, U.S households spend an average of 3.5 percent of income on utility energy bills. (Utility energy bills include both electricity and gas; electricity bills are responsible for 69 percent of this figure, while gas bills are responsible for 31%, or $664 per year, on average). However, low income households (the bottom 20 percent) spend an average of 7.2% of household income on utility energy bills. in dozens of counties across the U.S., the bottom 50 percent of the federal poverty level spends more than half of household income on utility energy bills. Industry experts generally consider spending more than 6 percent of household income on utility energy bills to be unaffordable. The "affordability gap" (the amount spent on energy utility bills in excess of 6 percent of household income) is estimated to be $41 billion. Furthermore, affordability has been worsening over time – the Home Energy Affordability Gap Index indicates that affordability has worsened by 6.6 percent from 2011 to 2015. In addition to a strain on finances, affordability challenges may present safety issues when utility disconnections occur, primarily due to extreme weather conditions.

Approximately 41 percent of the average gas bill is a direct result of the cost of gas itself; utilities have little control over it, and it is generally a pure pass-through cost, meaning the utility neither profits from nor subsidizes it. The utility, however, does manage costs related to safely and reliably delivering gas to customers, which include significant infrastructure capital costs, as well as operating and maintenance costs. Thus, performance on the efficiency of operations is a large determinant of customer costs. In addition, utilities influence affordability by working with regulators on rate structures and bill assistance programs. For example, the amount of revenue utilities collect through "customer charges" (or fixed charges as opposed to consumption-based charges) averages $11.25 for residential customers, or about 19% of the total bill. This percentage influences affordability as it impacts the bill total, which the customer is able to control through changes in consumption, a particularly relevant factor for low income households.

Lastly, customers may shift their energy mix away from gas, based on the economics of alternatives. The EIA forecasts the residential sector to increase consumption by only 0.1% per year through 2050. However, this will largely be dependent on the economics of both gas prices and energy alternatives, an area that is in flux given the rise of distributed energy resources (e.g., rooftop solar) and energy storage. However, this risk is mitigated by natural gas supply forecasts, as well as its relatively favorable environmental profile compared to energy supplied from electricity grids reliant on coal-fired generation.

Energy affordability may be measured by assessing average rates and rate growth and average bills and bill growth, as well as the frequency and duration of disconnections—all in the context of the underlying economics of the customer population, as well as relevant factors such as bill assistance programs. Assessing performance in these contexts may be approached with a wide variety of normalization factors, often based on publicly available metrics concerning the underlying economics of the customer population (for example, utility regulators often assess dozens of normalized metrics to help inform the assessment of utility performance on affordability). More specifically, company performance in this area can be analyzed in a cost-beneficial way through the following direct or indirect performance metrics:

- Average retail gas rate for 1) residential, 2) commercial, 3) industrial customers, and 4) transportation services only

- Typical monthly gas bill for residential customers for 1) 50 MMBtu and 2) 100 MMBtu of gas delivered per year
- Number of residential customer gas disconnections for non-payment, percentage re-connected within 30 days

In conjunction with the proposed performance metrics, the SASB has proposed revising two activity metrics, as described above, to facilitate normalization and enable a better understanding of performance on the topic.

Evidence

The provision of safe, reliable, and environmentally responsible gas by regulated gas utilities is a complex objective that requires comprehensive interactions with, and approvals by, utility regulators. These regulators (typically, state utility commissions in the U.S.), are paramount to the performance and success of utilities. As the Moody's Regulated Electric and Gas Utilities Rating Methodology states, "the regulatory environment and how the utility adapts to that environment are the most important credit considerations…Utility rates are set in a political/regulatory process rather than a competitive or free-market process; thus, the Regulatory Framework is a key determinant of the success of [a] utility."[47] Consequently, investors must assess utility performance and strategy in the context of the objectives of utility regulators. The National Regulatory Research Institute discusses the complexities utility regulators face in the research report, "Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives:"

> Legal precedent dictates that commissions must set reasonable rates that allow a prudent utility to operate successfully, maintain its financial integrity, attract capital, and compensate its investors in line with actual risks. 'Fair and reasonable' rates: (1) provide affordable service to the vast majority of customers, (2) include only the prudent costs of a utility, (3) reflect the utility's cost of serving different classes of customers and of providing different services, (4) allow the utility to receive sufficient revenues to attract new capital and satisfy minimum financial standards, (5) prohibit undue discrimination against any customer class or service (e.g., rates should never fall below short-run marginal cost), and (6) in competitive markets, are any price that is voluntarily transacted between a buyer and a seller.[48]

The proposed disclosure topic, centered on this challenging component of providing affordable service, represents a key value driver in the industry, as evidenced by its inclusion in the key objectives of utility regulators. NERA Economic Consulting sums up this relationship in terms of the cost of equity for utilities by stating, "Getting the cost of equity (CoE) right is one of the key tasks of the regulatory process; setting it too low threatens utilities' ability to attract capital, yet regulators have to balance this risk with preserving customer interest and keeping bills affordable."[49] Ultimately, the actions of utility regulators, including determinations on rate cases, capital investment, allowed returns, and many other factors, drive utility investment risk and return. Rate cases themselves—which virtually always have implications for the affordability of energy—are viewed as "economic events because they affect the intrinsic value of the utility," and are known to impact utility equity prices.[50] Overall, the performance of companies in executing these objectives is crucial for building trust (intangible asset value) between utilities and their regulators and customers.

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[47] "Rating Methodology: Regulated Electric and Gas Utilities," Moody's, December 23, 2014, p. 52.

[48] Ken Costello, "Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objective," National Regulatory Research Institute, Report No. 14-03, April 2014.

[49] Dr. Richard Hern, "The Cost of Equity for Utilities – An International Perspective," NERA Economic Consulting, May 10, 2017, http://www.nera.com/publications/archive/2017/the-cost-of-equity-for-utilities--an-international-perspective-.html.

[50] Wallace N. Davidson III, "The Effect of Rate Cases on Public Utility Stock Returns," The Journal of Financial Research, Vol. VII, No. 1, Spring 1984.

Sell-side research reports on companies in the industry commonly include updates and/or analysis of the status of relations and open items with regulators (e.g., rate cases). Strong corporate performance on the affordability of gas adds intangible asset value and increases the likelihood of favorable future regulatory decisions, while poor performance presents substantial risk to the intangible asset value of relations with regulators. Analyst insights on the topic often discuss the aspect of affordability in terms of an opportunity for additional capital investment (to help drive performance on other industry objectives, such as safety, reliability, and resilience), which then offers the potential to increase revenues, earnings, and ultimately shareholder returns.

An analysis of corporate disclosures indicates that 100 percent of the largest companies that operate as regulated utilities discuss regulatory risk and the ratemaking process as key risk factors in their 10-K filings. For example, a major integrated electric and gas utility states in their Form 10-K that their "financial results primarily depend on the outcomes of regulatory and ratemaking proceedings … [such] proceedings can be affected by many factors, including the Utility's reputation … potential rate impacts; increasing levels of regulatory review; changes in the political, regulatory, or legislative environments; and the opinions of the Utility's regulators, consumer and other stakeholder organizations, and customers, about the Utility's ability to provide safe, reliable, and affordable electric and gas services."[51] The company has additionally included the component of performance on energy affordability in its methodology for executive compensation, in an effort to align the interests of officers with the company's shareholders.[52]

Stakeholder Consultation

Investors: More than six institutional investors provided input on the proposed change, all of whom expressed strong support for the inclusion of the topic "Energy Affordability." Investor views generally centered on the impacts of the issue generated by regulatory relations and decision-making (a risk and opportunity), as well as the potential upside of capital investment opportunities or other financial incentives. Furthermore, investors concurred with industry views that affordability is a critical element in the analysis of trade-offs involving both reliability and safety. The framing of the issue, including the development of associated metrics, was continually referenced as important given the issue's two-sided nature (i.e., affordability is about striving for an appropriate balance in rates as opposed to minimizing short-term costs) and the geographic disparity among corporate approaches to the issue.

Issuers: Several large-cap issuers that operate in the industry expressed views on the importance of the topic "Energy Affordability," while no issuers viewed it as immaterial to financial performance. However, all issuers consulted on the topic adopted a conservative approach concerning the ability of a limited set of metrics to accurately capture corporate performance on a complex topic. Issuers listed the wide variety of metrics and approaches used to assess affordability and inform rate cases (which are also of interest to customers and regulators), but strongly cautioned that no single metric, nor small set of metrics, could be implemented to measure performance across the entire industry. High-level affordability metrics are heavily impacted by utility customer base, energy assets and access, regulatory structure, and business model, among many other factors. Thus, while issuers overwhelmingly support the concept of affordability as a material factor, issuers also express significant reservations on standardizing performance on this complex topic with a limited set of metrics.

[51] PG&E Corporation, FY2016 Form 10-K for the Period Ending December 31, 2016 (filed February 16, 2017), p. 29.

[52] PG&E Corporation, Schedule 14A, filed April 18, 2017.

Benefits

Improves the SASB standard: The inclusion of the "Energy Affordability" topic addresses a meaningful shortfall in the provisional standard. The topic is a critical element of the framework to evaluate sustainability performance in the industry and is a source of significant direct and indirect financial impacts. Overall, incorporating the topic into the standard will help in generating standardized, material information.

Proposed Update #11-9 – **Industry:** Gas Utilities & Distributors; **Topic Name:** End-Use Efficiency

2017 Technical Agenda Item #11-9 Description

SASB is evaluating the addition of new metrics to improve the decision-usefulness and completeness of the metrics associated with the topic.

Summary of Change – Add Metric:

The SASB proposes adding a new metric to the topic End-Use Efficiency: "Percentage of gas utility revenues from rate structures that (1) are decoupled or (2) contain a lost revenue adjustment mechanism (LRAM)."

Adherence to Criteria for Accounting Metrics

The existing topic, "End-Use Efficiency," is largely focused on utility rate structures and incentives, including how these rate structures position utilities to financially benefit or risk value in an environment with increasing energy efficiency needs and other demand reductions. The current metrics focuses on gas savings from efficiency measures. However, the current metric does not capture a critical element of the topic related to rate structures. There is a structural divide between whether rates are volumetric (where utility revenues are directly connected to customer gas consumption) or decoupled (meaning that, generally, utility revenues are not directly linked to customer consumption). Decoupled rates remove the throughput incentive of volumetric rates to enable utilities to pursue, and potentially financially benefit from, energy efficiency and demand reductions—or at least mitigate risks related to efficiency and demand reductions. The proposed metric, which focuses on the percentage of utility revenues derived from decoupled rate structures, will better accomplish the core objectives of the standard by providing investors with a more complete, comparable, useful, and distributive view of company performance on the disclosure topic.

Supporting Analysis

Analysis reveals that 100 percent of companies in the industry that operate as regulated utilities provide 10-K disclosures on rate structures and/or rate cases—often including specific disclosures on decoupling and/or energy efficiency and related incentives. However, the level of specificity of these disclosures varies widely, and standardization is virtually non-existent. For example, a review of the 10-K disclosures of many of the largest companies that operate in the Gas Utilities & Distributors industry yielded numerous different metrics related to this topic, indicating a need for standardization. This issue supports the case that incorporating a metric to standardize rate structures as they relate to energy efficiency would provide more complete, comparable, and useful disclosures.

Research demonstrates that decoupled rate structures, and to a certain extent, loss revenue adjustment mechanisms (LRAMs), remove utility incentives for maximizing end-customer consumption, and generally offer the utility a greater ability to benefit financially from energy efficiency and demand reductions (and consequently, less of an ability to benefit from increased volumes of energy consumption). For example, research from The Brattle Group, a major utilities consulting firm, has clearly pointed to stabilizing effects on revenue (and potentially earnings) due to decoupling policies, while explicitly citing the resulting ability for utilities to pursue energy efficiency objectives.

"…decoupling removes the throughput disincentive for utilities to pursue energy efficiency programs. As energy efficiency programs have expanded since 2007, that incentive alignment benefit has been important."[53]

Credit analysts consider decoupled rate structures to be an important component of financial analysis, and generally view these structures in a favorable light. For example, a 2014 Moody's research report on regulated electric and gas utilities stated, "Moody's notes that over the last five years the predictability and stability of utility cash flows has generally increased as ratemaking mechanisms become more commonplace. These include revenue decoupling and riders to regulatory agreements, which help utilities recover costs faster."[54] In fact, the formal Moody's Regulated Electric and Gas Utilities Rating Methodology explicitly cites the growth of decoupled rate structures as a notable positive in terms of credit risk. "On an overall basis in the U.S. over the past several years, we have noted some incremental positive regulatory trends, including greater use of formula rates, trackers and riders, and (primarily for natural gas utilities) de-coupling of returns from volumetric sales." The rating methodology continues on to explain how volumetric (i.e., non-decoupled rates) may increase risk. "Falling demand for electricity or natural gas may negatively impact margins and debt service protection measures, especially when rates are designed such that a substantial portion of fixed costs is in theory recovered through volumetric charges."[55] Furthermore, S&P credit analysts also view decoupling to be generally positive, citing more revenue and cash flow predictability, less earnings volatility, and lower costs due to the more frequent filing of rate cases under traditional rate structures.

Rate structures are commonly an area of interest in industry equity research reports. A recent JP Morgan equity analyst report summarized the rate structures of all major U.S. utilities (electric and gas utilities), including whether decoupled rate structures had been implemented.[56] Overall, investor views on rate structures and decoupling strongly indicate that the proposed metric would add to the usefulness and completeness of disclosures related to the topic. Importantly, while the proposed metric provides useful information to investment analysts, the interpretation of that information is complex and dynamic—and not simply binary in terms of indicating positive or negative performance. It should also be noted that rate structures are generally a result of interactions between utility rate-case proposals, utility regulators, and public policy overall.

More than 25 states have gas utilities that use a form of decoupled rate structures, while many utilities and states maintain traditional cost-of-service ratemaking, or typically, volumetric rates. The dispersion of rate structures supports the concept that the proposed metric will yield distributed disclosures, further aiding the comparability and usefulness of the proposed metric.

Stakeholder Consultation

Investors: Numerous investors expressed strong support for the proposed metric based on the prevailing view that it is a positive step toward measuring the types of rate structures utilities use. No investors expressed disagreement with the proposed metric, though some did state that more granular, nuanced disclosures would be necessary to significantly drive the usefulness of rate structure disclosures forward (i.e., the proposed metric is relatively high-level). However, these investors did not express consistent views regarding the greater detail or nuance that should be standardized by the proposed metric (or any additional new metrics).

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[53] Joe Wharton and Michael Vilbert, "Decoupling and the Cost of Capital," *The Electricity Journal*, Aug./Sept. 2015, Vol. 28, Issue 7, pp. 19-28.

[54] "Outlook for US regulated utilities is stable," Moody's; February 20, 2014, https://www.moodys.com/research/Moodys-Outlook-for-US-regulated-utilities-is-stable--PR_293245

[55] "Rating Methodology: Regulated Electric and Gas Utilities," Moody's, December 23, 2014, p. 52.

[56] "U.S. Utilities & Power Outlook," J.P. Morgan, December 16, 2016.

Issuers: Issuers did not express uniform views on the proposed metric. Although numerous issuers unanimously expressed views on the significance of rate structures and their impact on energy efficiency—and very general agreement with the disclosure topic (though not necessarily the associated metric)—these views varied on the appropriateness of and potential to implement standardized metrics to capture corporate performance on the topic, and ultimately add value to existing disclosures. Views ranged from mild support for the proposed metric to strong opposition based on reasons including lack of corporate control over rate structures and oversimplification of a complex topic.

Benefits

Improves the SASB standard: The proposed metric captures a significant aspect of performance on the topic that is not sufficiently included in the provisional standard—namely, how rate structures impact the ability of utilities to pursue energy efficiency and other demand reductions, and the financial implications of those issues. This aspect of performance is crucial for providing a more complete, comparable, and distributive measure of corporate performance on the topic.

Improves decision-usefulness: The proposed metric significantly benefits the decision-usefulness of the information generated by the standard, as existing corporate disclosures are highly variable (i.e., non-standardized), yet investors are overwhelmingly interested in standardized disclosures on this topic, to aid investment analysis.

INFRASTRUCTURE SECTOR

WATER UTILITIES & SERVICES INDUSTRY

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #IF0103

Prepared by the
Sustainability Accounting Standards Board®

October 2017

Proposed Changes to Provisional Standard - Basis for Conclusion

Proposed Update #11-10 – **Industry:** Water Utilities & Services; **Topic Name:** Effluent Quality Management

2017 Technical Agenda Item #11-10 Description

SASB is evaluating revisions to metric IF0103-02[57] to improve its decision-usefulness.

Summary of Change – Revise Technical Protocol

The SASB proposes revising the technical protocol for metric IF0103-02, "Number of incidents of non-compliance with water effluent quality permits, standards, and regulations," to limit the scope of incidents of non-compliance exclusively to those that result in a formal enforcement action.

Adherence to Criteria for Accounting Metrics

The Water Utilities & Services industry provisional standard includes a disclosure topic, Effluent Quality Management, that is centered on corporate performance and strategy related to effluent-related risks and opportunities. The metrics associated with the topic focus on strategies to manage effluents of emerging concern, including compliance with related regulations. More specifically, metric IF0103-02 is designed to capture a company's performance on meeting local-, state-, or federal-level water quality regulations, including regulations on wastewater treatment and discharges. Performance on incidents of non-compliance are an indication of the strength of a company's overall water quality management, its ability to comply with regulation, and its exposure to potential operational impacts associated with non-compliance, including costs related to permitting, penalties, remediation, and capital expenditures. However, the current metric scope, as defined in the technical protocol, is excessively broad, as it states, "[a]n incident of non-compliance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.)." Incidents of non-compliance vary widely in terms of the nature and severity of their impact, and they may or may not result in enforcement actions.

Given the broadly-defined scope of non-compliance incidents, the provisional metric does not provide fair representation of corporate performance on the topic and it is less likely to be cost-effective. The proposed revision to the technical protocol for the metric will limit the scope of non-compliance incidents exclusively to those that result in formal enforcement actions, ultimately improving the signal-to-noise ratio by focusing on those incidents that are more likely to indicate operational or financial impacts. This proposed revision would improve the representativeness and cost-effectiveness of the metric, as well as the comparability and usefulness of the information it generates.

Supporting Analysis

Water regulations in the U.S., Canada, and many international regions address the quality of water discharges from wastewater treatment facilities. Companies are generally required to obtain state or federal-level permits that allow them to discharge a certain amount (and quality) of wastewater over a given period. Incidents of non-compliance with water and wastewater regulations may be the result of a variety of events related to water quality management, including failure to meet a reporting deadline, or a water discharge above permit limits. The magnitude of the regulatory response will vary depending on the nature of the non-compliance. For example, failure to meet a reporting deadline may result in a non-compliance notice or warning letter with little to no financial impact for the issuer. An effluent regulation exceedance could, however, result in a formal enforcement action, leading to remediation costs, fines, and/or reputational damage.

[57] IF0103-02: Number of incidents of non-compliance with water effluent quality permits, standards, and regulations

Formal enforcement actions, as defined[58] by the EPA and some state agencies, are statutorily recognized actions to address a violation or threatened violation of water regulations, policy, or orders, and include administrative penalty orders, administrative orders, and judicial actions, among others. These types of enforcement actions can result in financial penalties and remediation requirements, and can be indicative of overall management of water issues over time. Conversely, non-compliance incidents that result in informal enforcement actions—for example, an inspection, phone call, or violation letter—may be issued when no actual violation has occurred, and are significantly less likely to generate financial impacts for companies. Formal enforcement actions are also less common than informal actions. According to EPA data, of 5,102 U.S. facilities that received notices of non-compliance from water regulators, only 519 resulted in formal enforcement actions.[59]

The provisional metric requires reporting of incidents of non-compliance regardless of whether they result in a formal enforcement action. Reporting all incidents of non-compliance does not distinguish between the severity of the incident and the potential financial impact. This creates an undue cost burden for the registrant related to data collection, tracking, and reporting, and adversely affects the usefulness and fair representation of the resulting disclosures.

As incidents that result in formal enforcement actions are more likely to generate financial impacts, they are a more relevant indicator for performance on water quality management. Thus, the proposed revision confines the metric's scope to incidents that result in formal enforcement actions, thereby directly improving the representativeness, comparability, and usefulness of the information generated by the standard, and better adhering to the core objectives of the standard.

Additionally, the proposed SASB metric is aligned with federal and state water quality regulations that employ formal enforcement actions, as well as reporting guidelines such as the CDP Water Information Request.

Stakeholder Consultation

Investors: A limited number of investors provided input on the proposed revision. This input broadly supported the revision, based on improvements to the decision-usefulness of resulting disclosures.

Issuers: A limited number of issuers provided input on the proposed revision. This input constituted general support for revising the scope of this metric to focus on notices of violation that result in enforcement actions, as doing so improves the decision-usefulness of the metric.

Others: Several subject matter experts commented that the proposed change would more accurately reflect performance related to regulatory compliance.

Benefits

Improves the SASB standard: The proposed change would result in disclosures that are more consistent with the guiding criteria of fair representation and comparability.

[58] "Informal and Formal Actions, Summary of Guidance and Portrayal on EPA Websites," modified, July 1, 2010, accessed September 5, 2017, https://www.epa.gov/sites/production/files/2013-11/documents/actiondefs.pdf.

[59] "Analyze Trends: State Water Dashboard," https://echo.epa.gov/trends/comparative-maps-dashboards/state-water-dashboard?view=performance&state=National.

Improves decision-usefulness: By focusing on incidents of non-compliance that resulted in formal enforcement action, the proposed change would improve the usefulness of information generated by the standard as it improves the signal-to-noise ratio.

Improves cost-effectiveness: The proposed change narrows the scope of disclosure to a more specific (and more meaningful) subset of non-compliance incidents, thereby improving the cost-effectiveness of the standard.

Improves alignment: The proposed revision will align the SASB standard with existing reporting protocols and regulatory reporting requirements.

Proposed Update #11-11 – **Industry:** Water Utilities & Services; **Topic Name:** Fair Pricing & Access

2017 Technical Agenda Item #11-11 Description

SASB is evaluating the suitability of the topic name.

Summary of Change – Revise Topic Name

The SASB proposes renaming the provisional topic, changing it from "Fair Pricing & Access" to "Water Affordability & Access."

Supporting Rationale

"Fair Pricing & Access," the topic name used in the provisional standard, may be perceived as an implicit value judgment because of the inclusion of the word "fair." A core objective of the standard is to generate decision-useful information. As established in the SASB Conceptual Framework, the "decision-usefulness of sustainability information is enhanced when it" meets numerous criteria, including neutrality. While the proposed change will not impact the information generated by the standard, the presentation of such information may be enhanced by removing terminology that could be perceived as lacking neutrality.

Benefits

Improves the SASB standard: The proposed revision improves the neutrality of the standard.

Proposed Update #11-12: **Industry:** Water Utilities & Services; **Topic Name:** Fair Pricing & Access

2017 Technical Agenda Item #11-12 Description

SASB is evaluating revisions to the topic, including the corresponding metrics IF0103-09[60] and IF0103-10[61], to improve the materiality and decision-usefulness of the standard.

Summary of Change – Revise Metrics

The SASB proposes removing the following provisional metrics:

- IF0103-09: Number of formal customer complaints regarding pricing of and/or access to water received, percentage withdrawn
- IF0103-10: Discussion of how considerations of fair pricing and access are integrated into determinations of rate structures

And replacing them with the following proposed metrics:

- Average retail water rate for (1) residential, (2) commercial, and (3) industrial customers
- Typical monthly water bill for residential customers
- Number of residential customer water disconnections for non-payment, percentage re-connected within 30 days

Furthermore, the SASB proposes revising one activity metric, IF0103-A

- Revise activity metric, IF0103-A, "Number of (1) residential and (2) commercial customers served," to incorporate a third customer category, industrial customers.
- Revise activity metric, IF0103-B, "Volume of water delivered and percentage purchased from a third party" to "Total water delivered to (1) residential, (2) commercial, (3) industrial, and (4) all other customers"
- Add new activity metric, "Total water sourced, percentage by source type"

Adherence to Criteria for Accounting Metrics

The Water Utilities & Services industry provisional standard includes a topic, "Fair Pricing & Access" (separately proposed to be renamed "Water Affordability & Access"), with associated metrics intended to describe a company's performance and strategy on providing water to customers at rates that are considered affordable for customers, but also sufficient enough for utilities to provide safe, reliable services and earn appropriate returns for shareholders. More specifically, metric IF0103-09 focuses on customer complaints related to pricing and access to water, while metric IF0103-10 is designed to provide a structured management discussion and analysis on how water pricing and access considerations are integrated into rate structures. However, these metrics do not generate disclosures that are complete and useful, and that fairly represent performance. The proposed metrics focus on rates for water delivered to customers, average residential bills, and residential disconnections. The proposed metrics better accomplish the

[60] IF0103-09: Number of formal customer complaints regarding pricing of and/or access to water received, percentage withdrawn

[61] IF0103-10: Discussion of how considerations of fair pricing and access are integrated into determinations of rate structures

core objectives of the standard by offering investors a more decision-useful and complete set of disclosures that more fairly represent corporate performance.

In conjunction with the proposed performance metrics, the SASB has proposed revising two activity metrics and adding a new activity metric, as described above, to facilitate normalization and enable a better understanding of performance on the topic.

Supporting Analysis

Water utilities and their regulators are tasked with providing safe, reliable, and affordable water services to customers. Accomplishing these objectives is a complex objective that requires comprehensive interactions with and approvals by utility regulators. These regulators are paramount to utility performance and success. Consequently, investors must seek to assess utility performance and strategy in the context of regulator objectives. The National Regulatory Research Institute discusses the complexities utility regulators face in the research report "Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives."

> Legal precedent dictates that commissions must set reasonable rates that allow a prudent utility to operate successfully, maintain its financial integrity, attract capital, and compensate its investors in line with actual risks. 'Fair and reasonable' rates: (1) provide affordable service to the vast majority of customers, (2) include only the prudent costs of a utility, (3) reflect the utility's cost of serving different classes of customers and of providing different services, (4) allow the utility to receive sufficient revenues to attract new capital and satisfy minimum financial standards, (5) prohibit undue discrimination against any customer class or service (e.g., rates should never fall below short-run marginal cost), and (6) in competitive markets, are any price that is voluntarily transacted between a buyer and a seller.[62]

The disclosure topic, centered on this challenging component of providing affordable service, represents a key value driver in the industry, as evidenced by its inclusion in utility regulators' key objectives. NERA Economic Consulting sums up this relationship in terms of the cost of equity for utilities by stating, "Getting the cost of equity (CoE) right is one of the key tasks of the regulatory process; setting it too low threatens utilities' ability to attract capital, yet regulators have to balance this risk with preserving customer interest and keeping bills affordable."[63] Ultimately, the actions of utility regulators, including determinations on rate cases, capital investment, allowed returns, and many other factors, drive utility investment risk and return. Rate cases themselves—which virtually always have implications for the affordability of energy—are viewed as "economic events because they affect the intrinsic value of the utility," and are known to impact utility equity prices.[64] Overall, a company's ability to execute on these objectives is crucial for building trust (intangible asset value) between utilities and their regulators and customers.

The proposed metrics more precisely focus on the aspects of affordability and access that regulators assess in forming determinations that ultimately impact utility financial performance. Water prices and bills are a major focal point for utility regulators, along with disconnections. Rising water prices coupled with stagnated median income has raised serious concerns about affordability. More specifically, U.S households spend an average of 2.4 percent of income on water bills. According to the EPA, the affordability threshold for combined water and waste water services is 4.5 percent. A recent study from Michigan State University found that 11.9 percent of American families cannot afford

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[62] Ken Costello, "Alternative Rate Mechanisms and Their Compatibility with State Utility Commission Objectives," National Regulatory Research Institute, Report No. 14-03, April 2014.

[63] Dr. Richard Hern, "The Cost of Equity for Utilities – An International Perspective," NERA Economic Consulting, May 10, 2017, http://www.nera.com/publications/archive/2017/the-cost-of-equity-for-utilities--an-international-perspective-.html

[64] Wallace N. Davidson III, "The Effect of Rate Cases on Public Utility Stock Returns," The Journal of Financial Research, Vol. VII, No. 1, spring 1984.

their water bills based on this threshold. Since the City of Detroit began a campaign to shut off water for delinquent residents in 2014, around 83,000 residences have experienced water shut offs. Between 2010 and 2015, residential water prices have risen by 30% in 30 major US cities. The MSU study found that if this trend continues over the next five years, 36% of American families will have trouble affording their water bills. This estimate is considered conservative given that the American Water Works Association estimated that the nation needs to spend more than $1 trillion to replace its aging water systems in the next 25 years—capital that may need to be primarily derived from water utility customers.

As a result, the provisional metric IF0103-09 places a focus on customer complaints—which are still a relevant factor for utilities and their regulators, though, as noted in the proposed metrics, a more guided focus on water prices, bills and disconnections is more likely to provide more complete and useful disclosures that also are more likely to fairly represent utility performance. Furthermore, metric IF0103-09 may be perceived as biased in that affordability is two sided; measuring customer complaints exclusively risks focusing on excessive rates while not taking into account rate adequacy (which impacts long-term affordability).

Furthermore, utilities with a high level of exposure to industrial customers and a more concentrated customer base are subject to higher revenue risks, given that large customers may seek alternative options, including relocating facilities. A Moody's research report on Regulated Water Utilities stated that "Issuers that have no exposure to volume or customer concentration risk and are thus effectively immune from revenue volatility risks typically score Aaa". This indicates that utilities with higher revenue risks typically score lower and are likely to have higher cost of capital. The proposed metrics enable a high-level analysis of water rates by customer type, which provides useful information when assessing customer type-specific risks.

Existing corporate disclosures confirm the limited applicability of the existing quantitative metric. While 17% of the industry provides metrics-based disclosure, none of these disclosures include customer complaints. This indicates concerns over the cost-effectiveness of the provisional metric the SASB has proposed to be removed, IF0103-09. Alternatively, companies in the industry focus disclosures on rates, rate growth, and rate structure (see "End-Use Efficiency" for the inclusion of rate structures within the standard).

Stakeholder Consultation

Investors: The SASB obtained input from a very limited number of investors on the proposed revision within the context of the Water Utilities & Services industry; however, the prevailing view was that the proposed revision generates more useful information for investment analysis. Additional input from the broader utilities space further supports the revised metrics.

Issuers: The SASB obtained input from a limited number of issuers, which generally communicated the challenges associated with the existing metrics, and thus, would support their removal. However, input on any proposed revisions was not obtained from issuers within the industry, with the exception of one utility who commented on the appropriateness of measuring customer disconnections. Meanwhile, broader input received in the provisional standards development process clearly indicated the importance of water affordability.

Benefits

Improves the SASB standard: The proposed replacement of the current metrics will improve the standard by better adhering to the criteria for metrics development, including, completeness, usefulness, and fair representation.

Improves cost-effectiveness: The removal of the quantitative metric IF0103-09 will significantly enhance the cost-effectiveness of the standard, as the metric is often not tracked by companies in the industry, and compliance may involve substantial costs.

Proposed Update #11-13 – **Industry:** Water Utilities & Services; **Topic Name:** End-Use Efficiency

2017 Technical Agenda Item #11-13 Description

SASB is evaluating the addition of new metrics to improve the decision-usefulness and completeness of the metrics associated with the topic.

Summary of Change – Add Metric

The SASB proposes adding a new metric to the topic, End-Use Efficiency: "Percentage of water utility revenues from rate structures that (1) are decoupled or (2) contain a lost revenue adjustment mechanism (LRAM)."

Adherence to Criteria for Accounting Metrics

The existing topic, "End-Use Efficiency," is largely focused on utility rate structures and incentives, including how these rate structures position utilities to financially benefit or risk value in an environment with increasing water efficiency needs and other demand reductions. The current metric focuses on water efficiency gains. However, the current metric does not capture a critical element of the topic related to rate structures. There is a structural divide between whether rates are volumetric (where utility revenues are directly connected to customer water consumption) or decoupled (meaning that, generally, utility revenues are not directly linked to customer consumption). Decoupled rates remove the throughput incentive of volumetric rates in order to enable utilities to pursue, and potentially financially benefit from, water efficiency and demand reductions—or at least mitigate risks related to efficiency and demand reductions. The proposed metric, which focuses on the percentage of utility revenues derived from decoupled rate structures, will better accomplish the core objectives of the standard by providing investors with a more complete, comparable, useful, and distributive view of company performance on the disclosure topic.

Supporting Analysis

Analysis reveals that 100 percent of companies in the industry that operate as regulated utilities provide 10-K disclosures on rate structures and/or rate cases—often including specific disclosures on decoupling and/or water efficiency and related incentives. However, the level of specificity of such disclosures varies widely, and standardization is virtually non-existent. For example, a review of disclosures of the largest companies that operate in the Water Utilities & Services industry yielded numerous different metrics related to this topic, indicating a need for standardization. This supports the case that incorporating a metric to standardize rate structures, as they relate to water efficiency, would provide more complete, comparable, and useful disclosures.

Research demonstrates that decoupled rate structures, and to a certain extent, loss revenue adjustment mechanisms (LRAMs), remove utility incentives to maximize end-customer consumption, and generally offer the utility a greater financial benefit from water efficiency and demand reductions (and consequently, a reduced ability to benefit from increased volumes of water consumption). For example, an Ernst & Young report on the US water sector states that "The decoupling of utilities' fixed cost recovery from the volume of water sold could potentially enable new investments in demand-side efficiency and conservation. With decoupling, utility revenues are based on a regulatory revenue target rather than on sales, with periodic rate adjustments to compensate for actual revenues that are above

or below the target. By assuring that utility revenues will not decline as a result of efficiency measures, decoupling removes the incentive to promote higher-quantity sales and the disincentive to invest in both demand-side and supply-side conservation."[65]

The financial implications cited above are of note—decoupled rate structures are known to improve the stability of utility revenues. According to an article in the *Journal AWWA*, "With decoupling, these swings in utility revenues and customer bills [arising out of end-customer efficiency gains or economic trends] are moderated because the decoupling arrangement ensures stable utility revenues…"[66]

This direct financial impact created by decoupled rate structures leads equity and credit analysts to commonly incorporate such information into analysis, thereby supporting the case that the proposed metric will provide useful information. For example, a Fitch research note published in 2015 in conjunction with the California drought discusses the financial risks related to mandated cuts to end-customer water consumption. The note directly addresses the implications of decoupled rate structures. "Utilities that have decoupled revenues from water sales through a number of mechanisms will likely sustain their credit quality during this emergency compliance order."[67] Similarly, an equity research report by Hilliard Lyons on a company in the industry points to "low cyclicality under usual circumstances due to revenue decoupling." Importantly, while the proposed metric provides useful information for investment analysts, the interpretation of that information is complex and dynamic, and not simply binary in terms of positive or negative performance. Related to this, it should be noted that rate structures are, generally, a result of interactions between utility rate case proposals, utility regulators, and public policy.

Five states in the U.S. have water utilities that use a form of decoupled rate structures, while many utilities and states maintain traditional cost-of-service ratemaking, or typically, volumetric rates.[68] The dispersion of rate structures supports the concept that the proposed metric will yield distributed disclosures, further aiding the comparability and usefulness of the proposed metric.

Stakeholder Consultation

Investors: Numerous investors expressed strong support for the proposed metric across the multiple utilities industries, based on the prevailing view that it is a positive step towards measuring the types of rate structures used by utilities; however, it should be noted that investor input on the proposed metric in the Water Utilities & Distributors industry was more limited than in the Electric & Power Generators industry and the Gas Utilities & Distributors industry.[69] No investors expressed disagreement with the proposed metric, though some did state that more granular, nuanced disclosures would be necessary to significantly drive the usefulness of rate structure disclosures forward (i.e., the proposed metric is relatively high-level). However, these investors did not express consistent views regarding the greater detail or nuance that should be standardized by the proposed metric (or additional new metrics).

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[65] "The US water sector on the verge of transformation," Global Cleantech Center white paper, http://www.ey.com/Publication/vwLUAssets/Cleantech_Water_Whitepaper/$FILE/Cleantech-Water-Whitepaper.pdf .

[66] Douglas S. Kenney, "Understanding utility disincentives to water conservation as a means of adapting to climate change pressures," http://wwa.colorado.edu/publications/pdfs/2014.01.pdf

[67] "California Water Credits May Struggle with New Rules," Fitch Ratings, modified May 8, 2015, accessed September 5, 2017. https://www.fitchratings.com/gws/en/fitchwire/fitchwirearticle/California-Water-Credits?pr_id=984349

[68] "Alternative Regulation and Ratemaking Approaches for Water Companies," National Association of Water Companies, http://www.nawc.org/uploads/documents-and-publications/documents/NAWC_Brattle_AltReg_Ratemaking_Approaches_102013.pdf

[69] A report from The Brattle Group, a major utilities consulting firm, titled, "The Impact of Revenue Decoupling on the Cost of Capital for Electric Utilities: An Empirical Investigation, noted the similarities on this topic of decoupling across electricity, gas, and water utilities: "There are many similarities and common lessons for decoupling policy development in the electric, natural gas, and private water service industries."

Issuers: A limited number of issuers in the industry provided input on the proposed metric. The general sentiment mirrored that of the input from electricity and gas utilities—issuers generally agreed on the significance of rate structures and their impact on energy efficiency, and expressed very general agreement with the disclosure topic (though not necessarily the associated metric). These views varied on the appropriateness and potential to implement standardized metrics to capture corporate performance on the topic and ultimately add value to existing disclosures. Views ranged from mild support for the proposed metric to strong opposition based on reasons that include lack of corporate control over rate structures and oversimplification of a complex topic.

Benefits

Improves the SASB standard: The proposed metric captures a significant aspect of performance on the topic that is not sufficiently captured by the provisional standard; namely, how rate structures impact the utilities' ability to pursue energy efficiency and other demand reductions, and related financial implications. This aspect of performance is crucial for providing a more complete, comparable, and distributive measure of corporate performance on the topic.

Improves decision-usefulness: The proposed metric significantly benefits the decision-usefulness of the information generated by the standard, as existing corporate disclosures are highly variable (i.e., non-standardized), yet investors are overwhelmingly interested in standardized disclosures on this topic for investment analysis.

INFRASTRUCTURE SECTOR

WASTE MANAGEMENT INDUSTRY

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #IF0201

Prepared by the
Sustainability Accounting Standards Board®

October 2017

Proposed Changes to Provisional Standard - Basis for Conclusion

Proposed Update #11-14 – **Industry:** Waste Management; **Topic Name:** Management of Leachate & Hazardous Waste

2017 Technical Agenda Item #11-14 Description

SASB is evaluating revisions to metric IF0201-11[70] to improve its decision-usefulness.

Summary of Change – Revise Metric

The SASB proposes revising metric IF0201-11, "Number of incidents of non-compliance associated with environmental impacts," to limit the scope of incidents of non-compliance to exclusively those that result in a formal enforcement action.

Adherence to Criteria for Accounting Metrics

The Waste Management industry provisional standard includes a disclosure topic, "Management of Leachate & Hazardous Waste," that is centered on corporate performance and strategy concerning leachate and hazardous waste. The metrics associated with the topic focus on the measurement of hazardous waste, as well as overall regulatory compliance concerning the management of leachate and hazardous waste. More specifically, metric IF0201-11 is designed to capture a company's performance on meeting local-, state-, or federal-level environmental regulations, including leachate regulations. Performance on incidents of non-compliance are an indication of the strength of a company's overall water quality management, its ability to comply with regulation, and its exposure to potential operational impacts associated with non-compliance, including costs related to permitting, penalties, remediation, and capital expenditures. However, the current metric scope, as defined in the technical protocol, is excessively broad, as it states that "[a]n incident of non-compliance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.)." Incidents of non-compliance vary widely in terms of the nature and severity of impact, and they may or may not result in enforcement actions.

Given the broadly-defined scope of non-compliance incidents, the provisional metric does not provide fair representation of corporate performance on the topic and is less likely to be cost-effective. The proposed revision to the technical protocol for the metric will limit the scope of non-compliance incidents exclusively to those that result in formal enforcement actions, ultimately, improving the signal-to-noise ratio by focusing on those incidents more likely to indicate operational or financial impacts. This proposed revision would improve the representativeness and cost-effectiveness of the metric, as well as the comparability and usefulness of the information it generates.

Supporting Analysis

Regulations in the U.S., Canada, and many international regions address the quality and quantity of leachate from landfills. Companies are generally required to obtain federal-, state-, or local-level permits that allow for the discharge of a certain amount of leachate over a given period of time. Incidents of non-compliance with regulations may be the result of a variety of events, including the failure to meet a reporting deadline or a discharge above permit limits. The magnitude of the regulatory response will vary depending on the nature of the non-compliance. For example, failure to meet a reporting deadline may result in a non-compliance notice or warning letter with little to no financial impact. A leachate quality shortfall could, however, result in a company being issued a formal enforcement action, leading to remediation costs, fines, and/or reputational damage.

[70] IF0201-11: Number of incidents of non-compliance associated with environmental impacts

Formal enforcement actions, as defined[71] by the EPA and some state agencies, are statutorily recognized actions to address a violation or threatened violation of water regulations, policy, or orders, and include administrative penalty orders, administrative orders, and judicial actions, among others. These types of enforcement actions can result in financial penalties and remediation requirements, and can be indicative of overall management of the topic over time. Conversely, non-compliance incidents that result in informal enforcement actions–for example, an inspection, phone call, or violation letter—may be issued when no actual violation has occurred, and are significantly less likely to generate financial impacts on companies. Correspondingly, formal enforcement actions are less common than informal actions. According to EPA data, of the 5,102 U.S. facilities that received notices of non-compliance with water regulation, only 519 resulted in formal enforcement actions.[72]

The provisional metric requires reporting of incidents of non-compliance regardless of whether they result in a formal enforcement action. Reporting all incidents of non-compliance does not distinguish between the severity of incidents and the resulting potential for financial impacts. This creates an undue cost burden for the registrant related to data collection, tracking, and reporting, and adversely affects the usefulness and fair representation of the resulting disclosures.

As incidents that result in formal enforcement actions are more likely to generate financial impacts, they are a relevant indicator to measure performance on the management of water quality. Thus, the proposed revision confines the metric's scope to incidents that result in formal enforcement actions, thereby directly improving the representativeness, comparability, and usefulness of the information generated by the standard, and better adhering to the core objectives of the standard.

Additionally, the proposed SASB metric is aligned with federal and state water quality regulations that employ formal enforcement actions as well as reporting guidelines such as the CDP Water Information Request.

Stakeholder Consultation

Investors: A limited number of investors provided input on the proposed revision. This input broadly supported the revision, based on improvements to the decision-usefulness of resulting disclosures.

Issuers: A limited number of issuers provided input on the proposed revision. This input constituted general support for revising the scope of this metric to focus on notices of violation that result in enforcement actions, as doing so improves the decision-usefulness of the metric.

Others: Several subject matter experts commented that the proposed change would more accurately reflect performance on the aspect of the topic related to regulatory compliance.

Benefits

Improves the SASB standard: The proposed change would result in disclosures that are more consistent with the guiding criteria of fair representation and comparability.

[71] "Informal and Formal Actions, Summary of Guidance and Portrayal on EPA Websites," Environmental Protection Agency, modified July 1, 2010, accessed September 5, 2017, https://www.epa.gov/sites/production/files/2013-11/documents/actiondefs.pdf.

[72] "Analyze Trends: State Water Dashboard," Enforcement and Compliance History Online, https://echo.epa.gov/trends/comparative-maps-dashboards/state-water-dashboard?view=performance&state=National.

Improves decision-usefulness: By focusing on incidents of non-compliance that result in formal enforcement actions, the proposed change would improve the usefulness of information generated by the standard, as it improves the signal-to-noise ratio.

Improves cost-effectiveness: The proposed change narrows the scope of disclosure to a more specific (and more meaningful) subset of non-compliance incidents, thereby improving the cost-effectiveness of the standard.

Improves alignment: The proposed revision will align the SASB standard with existing reporting protocols and regulatory reporting requirements.

INFRASTRUCTURE SECTOR

ENGINEERING & CONSTRUCTION SERVICES INDUSTRY

Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #IF0301

Prepared by the
Sustainability Accounting Standards Board®

October 2017

Proposed Changes to Provisional Standard - Basis for Conclusion

Proposed Update #11-15 – **Industry:** Engineering & Construction Services; **Topic Name:** Business Ethics & Bidding Integrity

2017 Technical Agenda Item #11-15 Description

The SASB is evaluating the suitability of the topic name.

Summary of Change – Revise Topic Name

The SASB proposes renaming the provisional topic, changing it from "Business Ethics & Bidding Integrity" to "Business Ethics."

Supporting Rationale

Business Ethics & Bidding Integrity, the topic name used in the provisional standard, is unnecessarily complex. The concept of bidding integrity is a subset of business ethics. The proposed topic name, Business Ethics, is more concise, while still adequately describing the disclosure topic. While the proposed change will not impact the information generated by the standard, the presentation of the information may be enhanced by removing terminology that is unnecessarily complex.

Benefits

Improves the SASB standard: The proposed revision improves the clarity of the standard.