

GPIF Commissioned Research

Study of ESG Information Disclosure



GPIF Commissioned Research : Study of ESG Information Disclosure

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Overview of the Research

1.1. The Backgrounds and Purposes of the Research

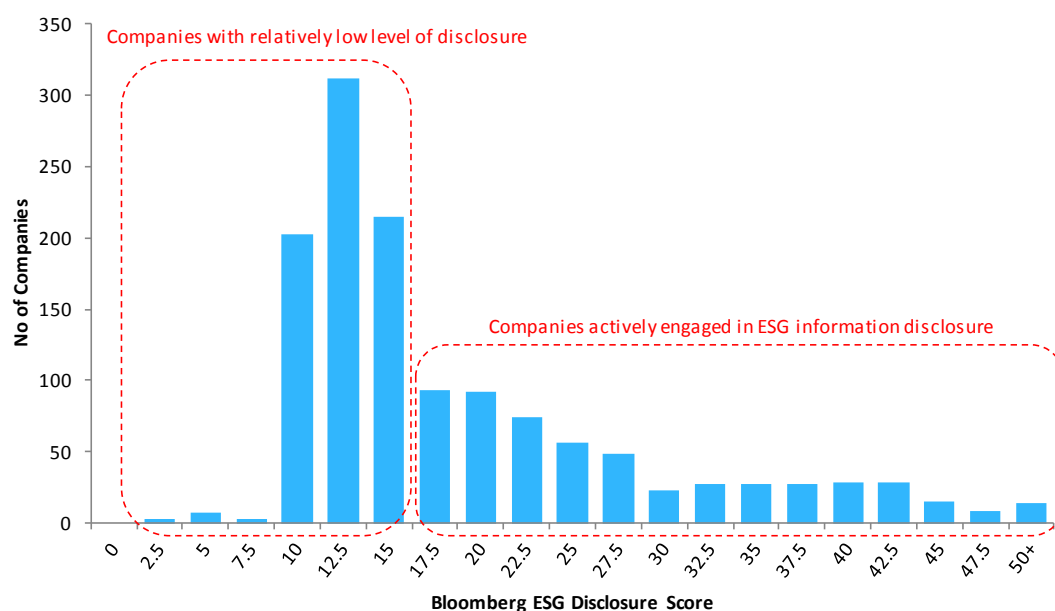
As global environmental and social issues have become more complex and severe globally in recent years, it is imperative for the Government Pension Investment Fund (GPIF) as a “universal owner”¹ to increase the long-term portfolio value as well as to improve overall financial market sustainability through the minimization of the negative externalities of these problems.

GPIF is actively engaging in various initiatives, such as the selection of ESG indices for Japanese equities, and the selection of environmental indices for Japanese and global equities, and as a basis for these activities, corporate ESG information disclosure has become critically important².

Looking at the current state of ESG information disclosure by Japanese listed companies, they could be roughly divided into two categories (Fig. 1); the one is a group of companies that actively engage in disclosure and the other is a group that have not made substantive progress. It is welcoming to see companies that are actively working on the disclosure, but for the universal owners like GPIF who hold shares in almost all major Japanese and global companies, it would be also critical to improve overall ESG information disclosure level (to raise standard) in the entire stock market, including companies with relatively poor information disclosure.

¹ “Universal owner” is a term that refers to long-term investors with large-scale assets that are invested widely across the entire capital markets. With regards to investor behavior that is a characteristic of universal owners, it is detailed in Mizuguchi T. (2017) *Responsible Investment – Change the Future by the Flow of Money* (in Japanese), Iwanami Shoten, and Hayashi T. (2017) “The Development and challenges of Universal Ownership Theory” in Kitagawa T. (Eds.) *New roadmap for the Governance Revolution* (in Japanese), Toyo Keizai Inc, pp. 215-240.

² The ESG activities conducted by GPIF are introduced in detail in their “ESG Report 2017”.

Fig1: Distribution of ESG Disclosure Scores for TOPIX Constituent Companies

Note 1: Bloomberg's ESG Disclosure Scores are being quantified between 0 to 100 points by the volume of ESG information disclosed by each company. Each sector has 100 data points.

Note 2: Data is obtained as of August 13, 2018, and missing data are excluded.

Source: Prepared by Nissay Asset Management Co., Ltd. based on Bloomberg data.

As to the background behind the big difference in ESG information disclosure by companies, in addition to differences in company size and industry factors, there seems to be persistent questions such as “Why do I need to disclose ESG information in the first place?”, or “I understand we need to disclose, but I do not know specifically what kind of ESG information should be disclosed”.

Of these questions, with regards to the former about the necessity of disclosing ESG information, there seems to be a growing awareness of the importance of addressing ESG information disclosure, since the use of ESG information by institutional investors is rapidly spreading, including the selection of ESG indices by GPIF, and also it is frequently mentioned by the media, from the viewpoint of investor relations (IR).

However, regarding the latter question about “what should be disclosed”, there is a possibility that we are not on the way towards improvement. This is because, currently, in Japan and overseas, various standards, frameworks and guidelines with regards to ESG information disclosure (hereinafter referred to as the “ESG information disclosure frameworks/standards”) have been proposed one after another, and it has been pointed out that this is causing greater confusion in ESG

information disclosure forefront³.

The major global ESG information disclosure frameworks/standards are as follows: the “GRI Standards”⁴ developed by the Global Reporting Initiative (GRI), the “SASB Standards”⁵ developed by the SASB (Sustainability Accounting Standards Board), the “International Integrated Reporting Framework”⁶ developed by the International Integrated Reporting Council (IIRC), and the recommendations prepared by the Task Force on Climate-Related Financial Disclosures (TCFD) at the request of the Financial Stability Board (FSB) (hereinafter referred to as the “TCFD Final Recommendations”).⁷ In Japan there is the “Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation - ESG Integration, Non-Financial Information Disclosure, and Intangible Assets into Investment - (Guidance for Collaborative Value Creation)”⁸ by the Ministry of Economy, Trade and Industry, and the “Environmental Reporting Guidelines”⁹ by the Ministry of the Environment.

These are created by organizations with different backgrounds that have different purposes, and are based on different design concepts. This means that there is a wide variety of details and perspectives in asking companies for information disclosure. Because of this, for the relevant people at companies who want to try and refer to these to promote ESG information disclosure, it is easy for them to have questions like “which one should be prioritized?”

In light of these circumstances, this research conducted comparative analysis of major global and Japanese ESG information disclosure frameworks/standard. By examining common parts and differences for each of the ESG information disclosure frameworks/standards, our purpose is to contribute to the considerations of “what to disclose”. As the results of this research are referenced by the relevant people at many companies, we hope to contribute to the further enhancement of ESG information disclosure by companies, and further development in the engagement and ESG investment by asset owners and asset managers utilizing ESG information.

³ In the English-speaking world, there are a jumble of ESG information disclosure frameworks/standards, and with the various alphabet abbreviations for the various disclosure frameworks/standards, this is called an “alphabet soup”. (Jorgensen, H.B. (2018) “Demystifying the ‘alphabet soup’ of reporting frameworks” <<http://www.ethicalcorp.com/demystifying-alphabet-soup-reporting-frameworks/>>)

⁴ GRI “GRI Standards” <<https://www.globalreporting.org/standards/>>

⁵ SASB “Download Current Standards” <<https://www.sasb.org/standards-overview/download-current-standards/>>

⁶ IIRC “International <IR> Framework” <<http://integratedreporting.org/resource/international-ir-framework/>>

⁷ TCFD (2017) “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017)” <<https://www.fsb-tcfd.org/publications/final-recommendations-report/>>

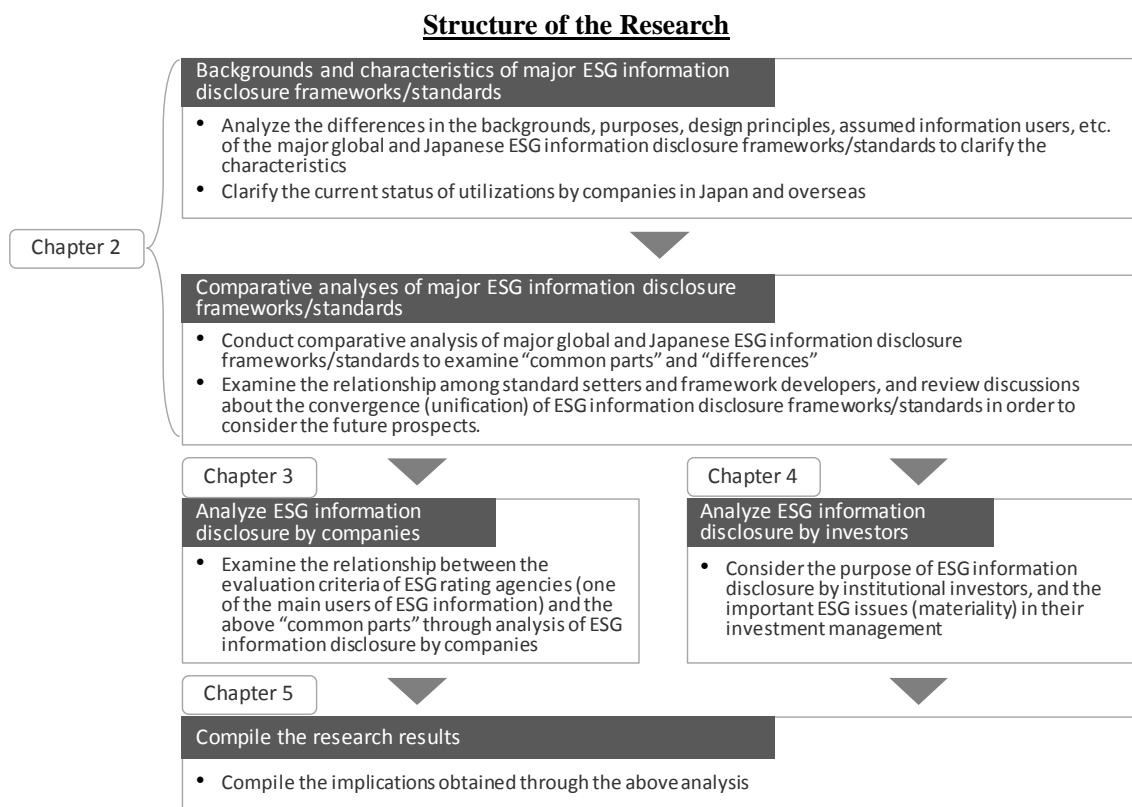
⁸ Ministry of Economy, Trade and Industry (2017) “Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation - ESG Integration, Non-Financial Information Disclosure, and Intangible Assets into Investment - (Guidance for Collaborative Value Creation)” <<http://www.meti.go.jp/press/2017/05/20170529003/20170529003-1.pdf>>

⁹ Ministry of the Environment (2018) “Environmental Reporting Guidelines 2018 version” <<http://www.env.go.jp/press/betten1rev.pdf>>

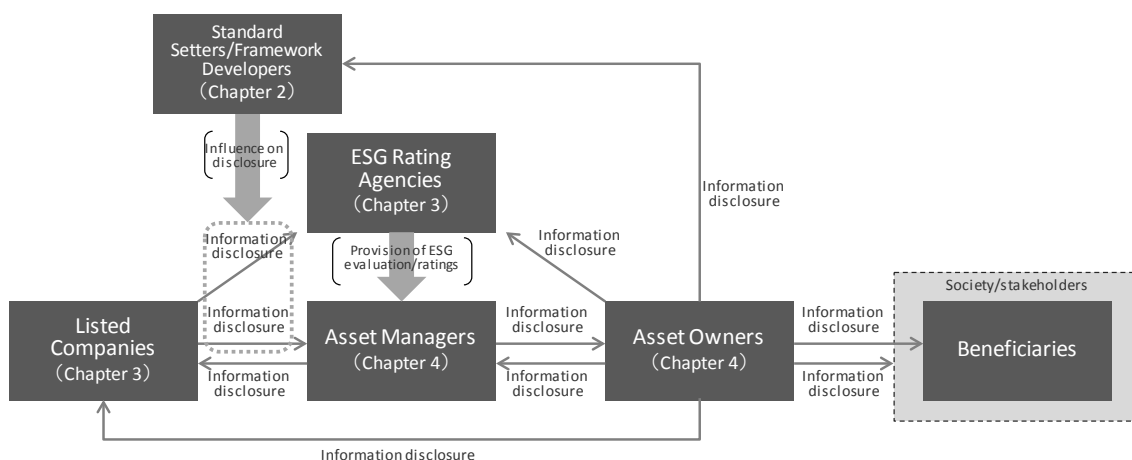
1.2. Structure of the Research

This research study consists of the following contents.

Fig2: Structure of the Research and the Major ESG Information Disclosure in the Investment Chain



Major ESG Information Disclosure in the Investment Chain



Note: This figure illustrates only publicly available ESG information disclosure such as via website, and does not include any direct information provision, etc. under closed situation.

Source: Prepared by Nissay Asset Management Co., Ltd.

1.3. Method of the Research

This research is based on field research conducted overseas (U.S., U.K., France and the Netherlands) in addition to various literature review.

In the field research, in addition to conducting interview surveys with those who are ESG information disclosure framework developers/standard setters, ESG rating agencies, asset owners, and academic experts, we also collected information by attending the SASB-sponsored symposium¹⁰ held in New York in December 2018.

Fig3: List of Contributors to the Interviews¹¹

ESG Information Disclosure Framework Developers/Standard Setters

GRI

Ms. Eszter Vitorino (Head of Capital Markets Engagement)
Mr. Frank Bergkamp (Capital Market Researcher)
Mr. Julien Parkhomenko (External Affairs and Policy Coordinator)

IIRC

Mr. Jonathan Labrey (Chief Strategy Officer)

SASB

Ms. Katie Schmitz Eulitt (Director, Investor Outreach)

TCFD

Mr. Curtis Ravenel (Global Head, Sustainable Business and Finance, Bloomberg LP)
Ms. Ani Kavookjian (Sustainable Business and Finance, Bloomberg LP)

European Commission “Technical Expert Group on Sustainable Finance (TEG)”

Mr. Nico Fettes (Head of Climetrics, CDP)

ESG Rating Agencies

FTSE Russell

Ms. Arisa Kishigami (Head of ESG, Asia Pacific)
Mr. Hiromichi Tamura (Head of Research, Asia Pacific)
Mr. Yutaka Tsuda (Senior Sales Account Manager)

MSCI

Mr. Seiichiro Uchi (Managing Director, Client Coverage)
Ms. Minako Takaba (Executive Director, Research)

Sustainalytics

Ms. Claudia Volk (Director, ESG Rating Products)
Mr. Wilco van Heteren (Director, Sector Research)
Ms. Yumi Fujita (Associate Director, Sector Research)

¹⁰ Moving the Market: SASB 2018 Symposium <<https://using.sasb.org/symposium-agenda/>>

¹¹ We would like to express our gratitude to the various people who were willing to take time out of their busy schedules to cooperate in the interview surveys.

Asset Owners**U.S.****California State Teachers' Retirement System (CalSTRS)**

Ms. Kirsty Jenkinson (Investment Director, Sustainable Investment & Stewardship Strategies)

U.K.**Universities Superannuation Scheme (USS)**

Mr. David Russell (Head of Responsible Investment)

Brunel Pension Partnership

Ms. Faith Ward (Chief Responsible Investment Officer)

France**French Reserve Fund (FRR)**

Mr. Olivier Rousseau (Executive Director)

Mr. Yves Chevalier (Executive Director)

Ms. Anne-Marie Jourdan (Chief Legal Officer and Public Relations)

Mr. Mickaël Hellier (SRI Policy Director)

French Public Service Additional Pension Scheme (ERAFP)

Ms. Pauline Lejay (Head of SRI)

The Netherlands**APG**

Ms. Claudia Kruse (Managing Director, Global Responsible Investment and Governance)

PGGM

Mr. Hans Op't Veld (Head of Responsible Investment)

Norway**Norges Bank Investment Management (NBIM)**

Mr. Wilhelm Mohn (Head of Sustainability, Corporate Governance)

Mr. Nikolai Schjold (Senior Analyst – Governance)

Academic Experts (in alphabetical order)

Dr. Costanza Consolandi (Associate Professor of Corporate Finance, University of Siena)

Dr. Robert G. Eccles (Visiting Professor of Management Practice, Saïd Business School, University of Oxford)

Dr. Casey O'Connor (Sani Scholar in Residence, Center for Business & Human Rights, Leonard N. Stern School of Business, New York University)

Note: The affiliation and position are at the time of the interview.

Comparative Analysis of the ESG Information Disclosure Frameworks/Standards¹²

2.1. The History and Characteristics of the ESG Information Disclosure Frameworks/Standards

2.1.1. Scope of the Research

From the point of view of the utilization status by companies, and the degree of attention within the society, in this research the main global and Japanese ESG information disclosure frameworks/standards listed in the following table were taken up as the scope of the research.

Fig4: List of ESG Information Disclosure Frameworks/Standards to be Surveyed

Target	Name	Type of disclosure information	Reason to be surveyed
Global companies	International Integrated Reporting Framework	Financial & ESG overall	Utilized by many companies now.
	GRI Standards	ESG overall	Long history and Utilized by many companies now.
	SASB Standards	ESG overall	Drawing attention as a novel standard first codified version of which was released in 2018.
	TCFD Final Recommendations	E (Climate change)	Drawing attention as a disclosure framework dedicated to climate-related financial information.
Japanese companies	Guidance for Collaborative Value Creation	Financial & ESG overall	Japanese companies draw attention it as a guidance defined by the Ministry of Economy, Trade and Industry.
	Environmental Reporting Guidelines 2018 version	E	Long history and has impacted on Japanese companies' environmental information disclosure.
	Annual Securities Report	Financial & ESG overall	Representative regulatory disclosure in Japan. Improvement of non-financial information is being promoted in line with the policy.

¹² The literature review and comparative analysis in this chapter were done with the cooperation of NLI Research Institute.

Corporate Governance Report	G	Representative regulatory disclosure about corporate governance in Japan.
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Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of relevant data available.

2.1.2. History and Characteristics¹³

The ESG information disclosure frameworks/standards listed in Fig. 4 have different backgrounds.

The GRI Standards, which have the longest history and target global companies, were led and formulated by CERES, an environmental NGO, launched after the Valdez oil tanker accident, which is considered to be the worst oil spill in the history of the U.S. The first version of the GRI Guidelines, the predecessor of the GRI Standards, was formulated as far back as 2000. After that, several revisions were made, and in 2016, the name was changed from GRI Guidelines to GRI Standards, along with the revision of the content, in order to clarify its position as “disclosure standards”.

In the case of the International Integrated Reporting Framework that was formulated in 2013, accounting firms and accountant groups were deeply involved in the formulation. To date, accounting firms and accountant groups have been involved in the operation of IIRC in various ways.

In the case of the SASB Standards, the first codified version of which was released in 2018, at the stage of its development, practitioners were widely asked to participate in the development of the disclosure standards industry by industry. In the end, more than 2,800 practitioners (businesses, financial analysts, consultants, etc.) were involved in the development¹⁴, and until now there is probably no other example of so many practitioners being involved in the development.

In the case of the TCFD Final Recommendations that were published in 2017, it was considered by the Task Force on Climate-Related Financial Disclosures (TCFD) established by the Financial Stability Board (FSB) at the request of the The G20 Finance Ministers and Central Bank Governors’ meeting, and it is worth noting to its unique origin relating to climate change.

In addition to that, all ESG information disclosure frameworks/standards for companies in Japan

¹³ With regards to the history and characteristics of the major global ESG information disclosure frameworks/standards, research has been done that was commissioned by Japanese government institutions, etc. As recent examples that were helpful in deepening understanding, the Ministry of Economy, Trade and Industry (2015) “FY2014 Comprehensive Research Study: Survey on the State of CSR as a Source of Competitiveness for Sustainable Growth by Companies” <http://www.meti.go.jp/meti_lib/report/2015fy/000491.pdf>; the Business Policy Forum Japan (2018) “Research Study on the State of New Era Non-Financial Information Disclosure (March 2018)” <https://www.meti.go.jp/policy/economy/keiei_innovation/kigyoukaikai/pdf/csrreports30report.pdf>; and the Business Policy Forum Japan (2012) “Research Study Report on the State of Non-Financial Information Disclosure at Companies (March 2012)” <http://www.bpfj.jp/act/download_file/8428429/95101661.pdf>.

¹⁴ SASB “KEY FACTS ABOUT SASB” <<https://using.sasb.org/wp-content/uploads/2017/12/About-SASB-Sheet-120717-v6.pdf>>

are formulated and institutionalized with the leadership of governmental bodies such as the Ministry of Economy, Trade and Industry, and the Ministry of the Environment.

For the ESG information disclosure frameworks/standards listed in Fig. 4, there are also differences in the assumptions about the users of the disclosure information, and the design concepts of the frameworks/standards.

With regards to the users of the disclosure information, they are roughly divided into two. There are ones that assume a wide range of corporate stakeholders (instead of just investors), such as consumers, workers and civil society (hereinafter referred to as “multi-stakeholders”), and there are ones that assume investors (or the financial sector overall, including investors). While the GRI Standards fall under the former, the International Integrated Reporting Framework, SASB Standards and TCFD Final Recommendations all fall under the latter. As for ESG information disclosure frameworks/standards for companies in Japan, the Environmental Reporting Guidelines assume multi-stakeholders, including investors, as users of the information, while the others are basically positioned as information disclosure for investors.

With regards to the design concepts, there are different ways of thinking with “principle-based” or “rule-based”, and with each having their advantages and disadvantages. On the one hand, principle-based is something that indicates the important principles and norms that should be respected, and since the practitioner has a lot of room for discretion, there is the advantage that it enables flexible and substantial response based on individual situations. Because it is not always clear what exactly should be done, there is an aspect that it is hard for it to be accepted by practitioners who are hesitant to work on it on their own. Rule-based is something where specific and detailed rules and regulations are predetermined. While on the one hand, there is the advantage that it is clear and easy to understand what should be done, there may be instances where strict rules and regulations end up with inflexible and superficial response.

While the International Integrated Reporting Framework is thoroughly a principle-based approach, the GRI Standards and SASB Standards have a strong rule-based flavor, which means that detailed disclosure indicators are specifically defined for each ESG issues. While the TCFD Final Recommendations have specified some indicators to be disclosed, such as greenhouse gas emissions, most of the other details are close to principle based as they just show the approach. With regards to the ESG information disclosure frameworks/standards for companies in Japan, while the Guidance for Collaborative Value Creation, and the non-financial section of the financial statement report, have a strong principle-based flavor, the Environmental Reporting Guidelines 2018 Edition, and the report on corporate governance, have a strong rule-based flavor.

Fig. 5 summarizes the main characteristics of the eight ESG information disclosure frameworks/standards in Japan and overseas that are the scope of the research in this research study, including the above content.

Fig5: The Main Backgrounds and Characteristics of the ESG Information Disclosure

Frameworks/Standards

(Most recent revision year & the country where it is based)	Key backgrounds and features
International Integrated Reporting Framework (2013/UK)	<ul style="list-style-type: none"> - Created a new form of corporate reporting, an integrated report that discloses both financial and non-financial information. - Information disclosure for investors. - Prepared based on principle-based approach without any predefined disclosure items and/or indicators. - Led by accounting organizations for the development.
GRI Standards (2018/Netherland)	<ul style="list-style-type: none"> - The first edition was published in 2000, and this is one of ESG information disclosure frameworks/standards with the longest history in the world. - Information disclosure for multi-stakeholders including investors. - Disclosure items and indicators are defined for each of economic, environmental, and social aspects pursuant to rule-based approach (however, reporting companies are not required to disclose all items and indicators, but to disclose only items that are deemed material (important) by them. - An environmental NGO leads the establishment of GRI. - The structure changed in 2015 and the Global Sustainability Standards Board (GSSB) was established as an independent standard setting body.
SASB Standards (2018/U.S.)	<ul style="list-style-type: none"> - Specific disclosure items and indicators are defined for each of 77 industries pursuant to rule-based approach (It defines that it is the company to make the final decision as to which topics are financially material.). - Information disclosure for investors. - At the development stage, they aimed at disclosure standards for US companies, but the status finally changed as disclosure standards for global companies. - For the purpose of development, practitioners were widely asked to participate in the standards consultation process, organized by sector/industry. Finally, more than 2,800 practitioners (businesses, financial analysts, consultants, etc.) were involved in the development. - SASB's governance structure includes an independent standards setting board (the SASB), along with the SASB Foundation Board which is responsible for overall administration.

TCFD Final Recommendations (2017/U.S.)	<ul style="list-style-type: none"> - Recommended disclosure of climate-related financial information in the mainstream annual financial report, etc. - Disclosure of information for financial sector including investors (Note that requiring information disclosure by financial sector as well). - Basically, it is prepared based on the principle-based approach, but it clearly states that greenhouse gas emissions should be disclosed. - Sector-specific guidance has also been developed for certain sectors that are particularly relevant to climate change. - Developed by the task force established by the Financial Stability Board (FSB).
Guidance for Collaborative Value Creation (2017/Japan)	<ul style="list-style-type: none"> - Prepared by the Ministry of Economy, Trade and Industry as a guide to organize information to be communicated to investors (business philosophy, business model, strategy, and governance, etc.) in an integrated and systematic manner and to improve the quality of information disclosure and dialogue with investors. - Prepared based on principle-based approach without any predefined disclosure items and/or indicators.
Environmental Reporting Guidelines 2018 version (2018/Japan)	<ul style="list-style-type: none"> - Since the “Environmental Report Preparation Guidelines: How to Make Easy-to-Understand Environmental Reports” was formulated in 1997, the contents have been regularly revised - The Environmental Reporting Guideline 2018 specifically illustrates indicators to be disclosed regarding the environmental impact caused by corporate activities.
Annual Securities Report (2019/Japan)	<ul style="list-style-type: none"> - Required by Financial Instruments and Exchange Act to provide sufficient information for investors to make investment decisions. - Toward the improvement of non-financial information disclosure in the annual securities report, “Principles for the Disclosure of Narrative Information,” which provide a guidance about desirable disclosure and an approach for disclosure, was published in March 2019. - Prepared based on principle-based approach with a limited predefined indicators.
Corporate Governance Report (2019/Japan)	<ul style="list-style-type: none"> - Required by the stock exchange to provide information about the status of corporate governance for investors. - Specific disclosure items and indicators regarding corporate governance are defined pursuant to rule-based approach.

Note: The most recent revision year is as of March 2019 (for the ones that have not been revised since they were published, the year that they were published is listed.)

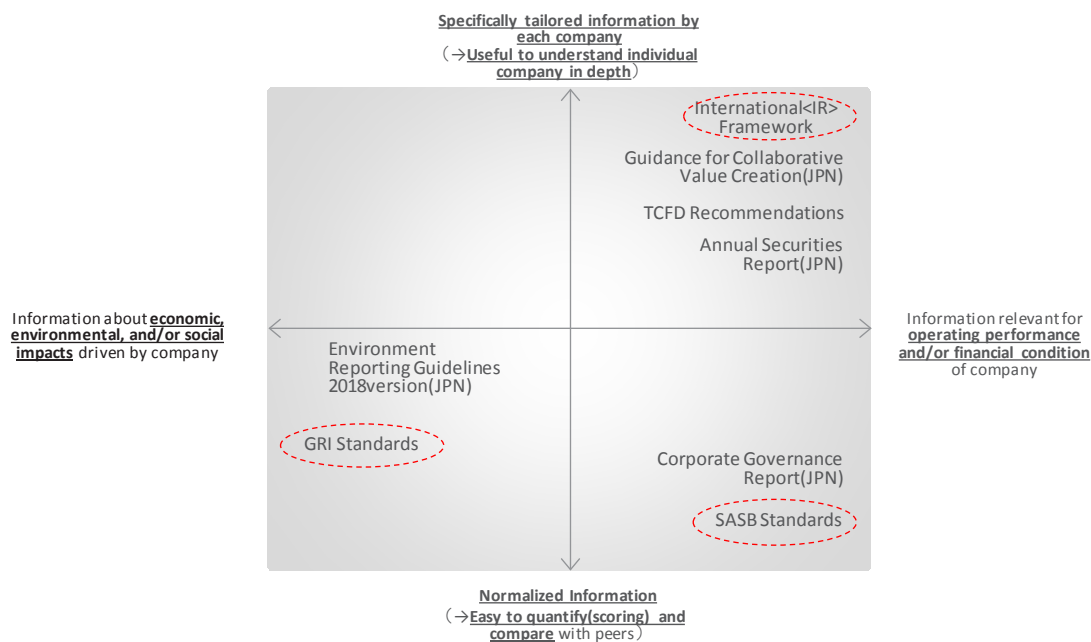
Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of relevant data available.

In order to visualize the differences in the positioning of these eight ESG information disclosure frameworks/standards, Fig. 6 is the mapping of eight frameworks/standards with the vertical axis showing the characteristics of the disclosure information, and the horizontal axis showing the purpose of the information disclosure. It can be seen that the International Integrated Reporting Framework, GRI Standards and SASB Standards, which have a high global presence, are located at opposite ends rather than being similar.

The International Integrated Reporting Framework and the SASB Standards both aim to disclose information related to the impact on operating performance and financial conditions, but the former, which is principle-based, has not set any specific disclosure items or indicators, and seeks substantial information disclosure by companies applying their own originality. Based on that philosophy, a well-prepared, integrated report will be resourceful reading for investors, and will probably help to deepen their understanding about individual companies. On the other hand, the SASB Standards, which are rule-based, have specifically set items and indicators that should be disclosed for each of 77 industries. Because standardized information disclosure is expected, for information users, disclosed information is easy to quantified (scoring) and excellent to compare with other companies in the same industry.

While the GRI Standards have adopted a rule-based approach, the information for which disclosure is required does not necessarily relate to the operating performance or financial conditions of the companies. Rather, it is seeking disclosure about the impact that companies have on the economy, environment and/or society, which makes it significantly different from other disclosure frameworks/standards.

Fig6: Mapping of Global/Japanese ESG Information Disclosure Frameworks/Standards



Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of relevant data available.

2.1.3. Status of Utilization by Companies

In this section we sort out the status of utilization by overseas and Japanese companies for the International Integrated Reporting Framework, GRI Standards, SASB Standards and TCFD Final Recommendations, which are the representatives of ESG information disclosure frameworks/standards targeting global companies.

(i) International Integrated Reporting Framework

According to an official announcement of the IIRC, more than 1,600 companies in 65 countries have issued integrated reports¹⁵.

Fig. 7 shows the number of companies that issue integrated reports within the top 100 companies by sales in each country. The graph is arranged in descending order by the number of companies that issue integrated reports among the major countries in the world. The largest number is in South Africa, which in 2010 was the first in the world to institutionalize the issuing of the integrated report by listed companies under the “comply or explain” rule. The second largest number is in Japan.

The top 10 countries include several European countries such as Spain, the Netherlands and the U.K., but North America (the U.S. and Canada) is not included. In North America it cannot be said that the issuing of integrated reports is necessarily widespread.

Fig. 8 shows the change in the number of companies that have issued integrated reports in Japan. As of the end of December 2018, 414 companies have issued integrated reports, and Japan is the country in which the integrated reports are issued the most in terms of number¹⁶. (As shown in Fig. 7, South Africa is the top when it is limited to the top 100 companies by sales, but Japan is the largest when including other listed companies.)

Furthermore, among the Japanese companies that issue integrated reports, Fig. 9 shows the breakdown of listed companies by size. About 70% of large market capitalization companies that are classified as TOPIX Core 30 or TOPIX Large 70 issue integrated reports, while it is 51% for the TOPIX Mid 400, and below 10% for other companies.

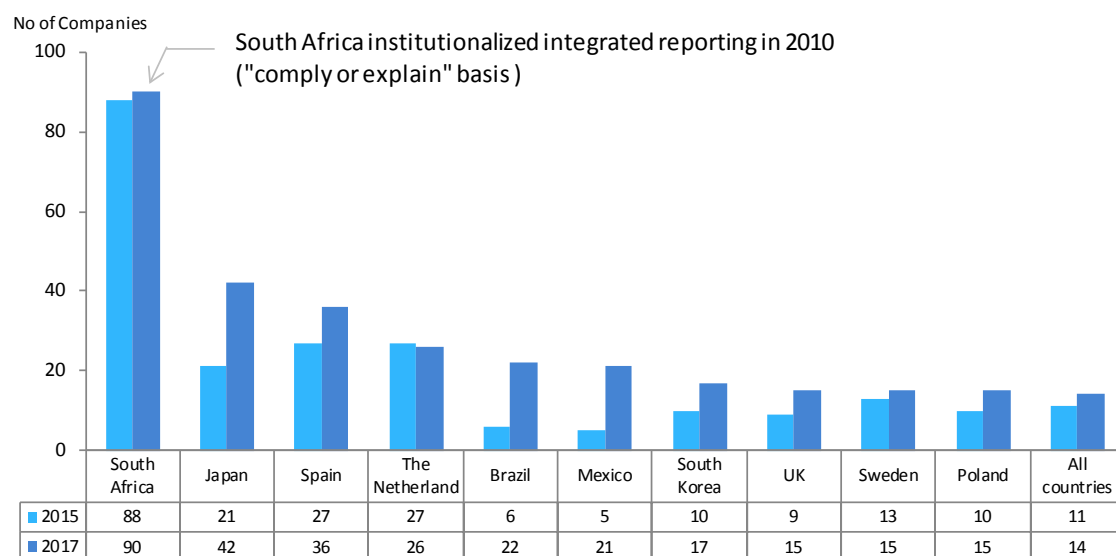
As mentioned above, while Japan issues the most integrated reports in the world, the issuance is biased to large-scale companies, and the situation is such that it has not necessarily spread to companies with relatively small market capitalization.

¹⁵ Odenwald, T. (2018) “Changing the way companies disclose, operate and think”

<<http://integratedreporting.org/news/changing-the-way-companies-disclose-operate-and-think/>>

¹⁶ Edge International, Inc. “Special Symposium International Integrated Reporting Council (IIRC) Welcomes Mr. Richard Howitt, the New CEO” <http://www.edge-intl.co.jp/library/img/s2017_40ja.pdf>.

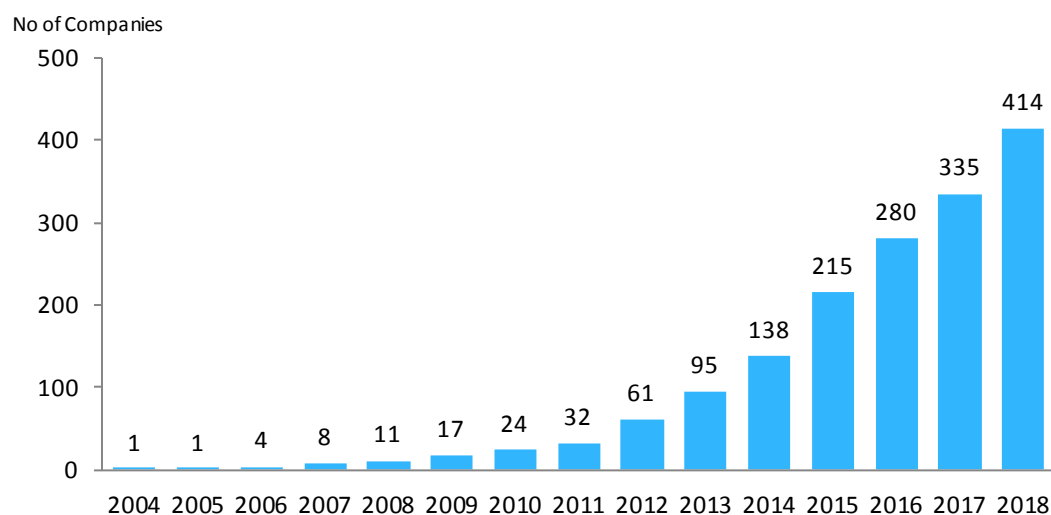
Fig7: Status for the Issuing of Integrated Reports (Global)



Note: The chart shows the number of companies issuing integrated reports out of the top 100 companies in sales in each country. "all countries" means the average of 49 countries.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of KPMG "The Road Ahead: the KPMG Survey of Corporate Responsibility Reporting 2017."

Fig8: Change in Companies Issuing Integrated Reports (Japan)



Note: The number of issuers was counted based on reports issued by Japanese companies with the expression of integrated reporting in their editorial policies or with provision of comprehensive description of financial and non-financial information inferring that preparers are aware of integrated reporting.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the Corporate Value Reporting Lab "List of Companies Issuing the "Self-declared Integrated Report in Japan (updated on February 8, 2019)".

Fig9: Breakdown by Size of Issuers (Japan; 2018)

Category	No of companies	Issuers of integrated reports	%
TOPIX Core30	30	21	70%
TOPIX Large70	70	49	70%
TOPIX Mid400	401	203	51%
TOPIX Small 1	500	74	15%
TOPIX Small 2	1,108	40	4%
Others(other markets/non-listed)	–	27	–

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the Corporate Value Reporting Lab “List of Companies Issuing the “Self-declared Integrated Report in Japan (updated on February 8, 2019).”

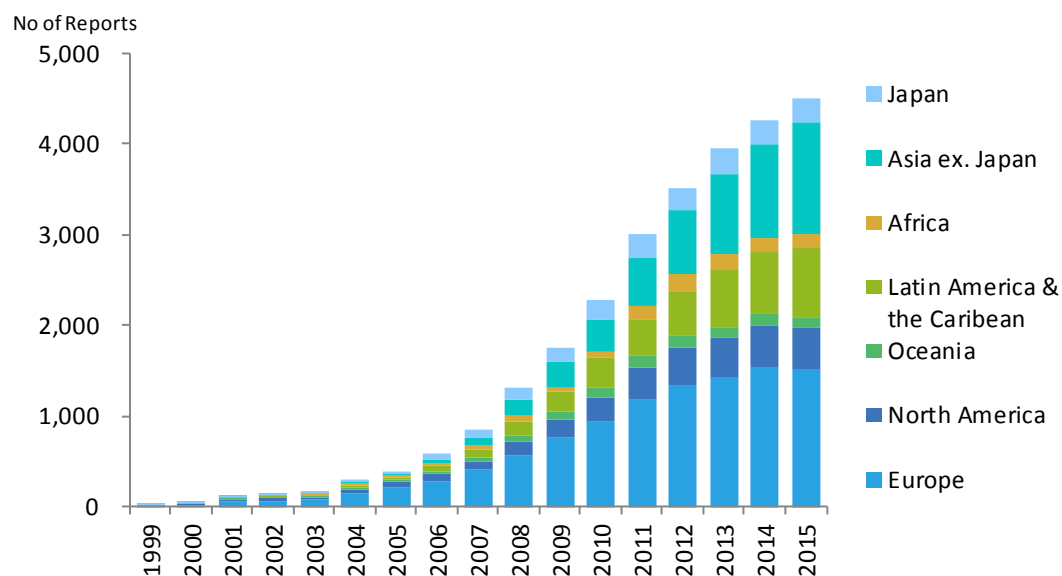
(ii) GRI Standards

The number of reports prepared in compliance with or referring to the GRI Standards, including the GRI Guidelines, registered on the GRI website¹⁷ exceeds 4,500 worldwide (2015, Fig. 10). The first version of the GRI Standards was issued in 2000, and it has the longest history among the world’s major ESG information disclosure frameworks/standards. Many companies in the world use it for ESG information disclosure.

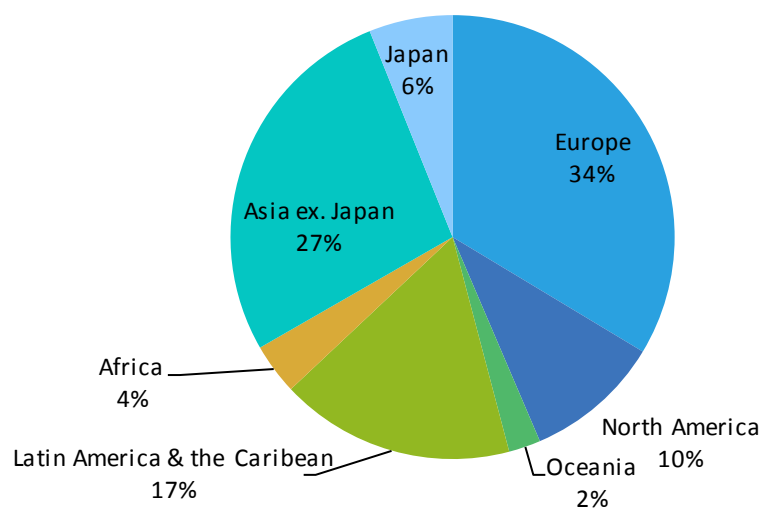
By region, Europe has the highest utilization at 34%, followed by Asia, Latin America and North America. Japan is about 6%, with 274 reports registered (Fig. 11).

Fig. 12 shows the breakdown of the 274 companies by company size. While approximately 70% of the companies in the TOPIX Core 30 and TOPIX Large 70 issue reports that comply with or refer to the GRI Guidelines or GRI Standards, the percentage is significantly lower for other size categories. The GRI Standards are mainly used by large-scale companies, and it is not widespread among companies with relatively small market capitalization

¹⁷ As of March 4th, 2019.

Fig10: Number of Reports Complying with or Referring to GRI Standards

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of GRI website.

Fig11: Breakdown by Region (2015)

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of GRI website

Fig12: Breakdown by Size of Issuers (Japan; 2015)

Category	No of companies	Issuers of GRI reports	%
TOPIX Core30	30	21	70%
TOPIX Large70	70	52	74%
TOPIX Mid400	401	130	32%
TOPIX Small 1	500	36	7%
TOPIX Small 2	1,108	16	1%
Others(other markets/non-listed)	–	19	–

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of GRI website.

(iii) SASB Standards

The first codified version of the SASB Standards was released in November 2018 after approximately six years of development. As of March 2019, 47 companies in the world have disclosed indicators defined by the SASB Standards since 2017 (Fig. 13). The 47 companies include companies that have made disclosures based on the provisional version of the SASB Standards, which was published prior to the first codified version.

The SASB Standards were originally developed with the Forms 10-K and 20-F in mind, which are U.S. regulatory disclosure documents. At this point, many companies that use these standards are U.S. companies.

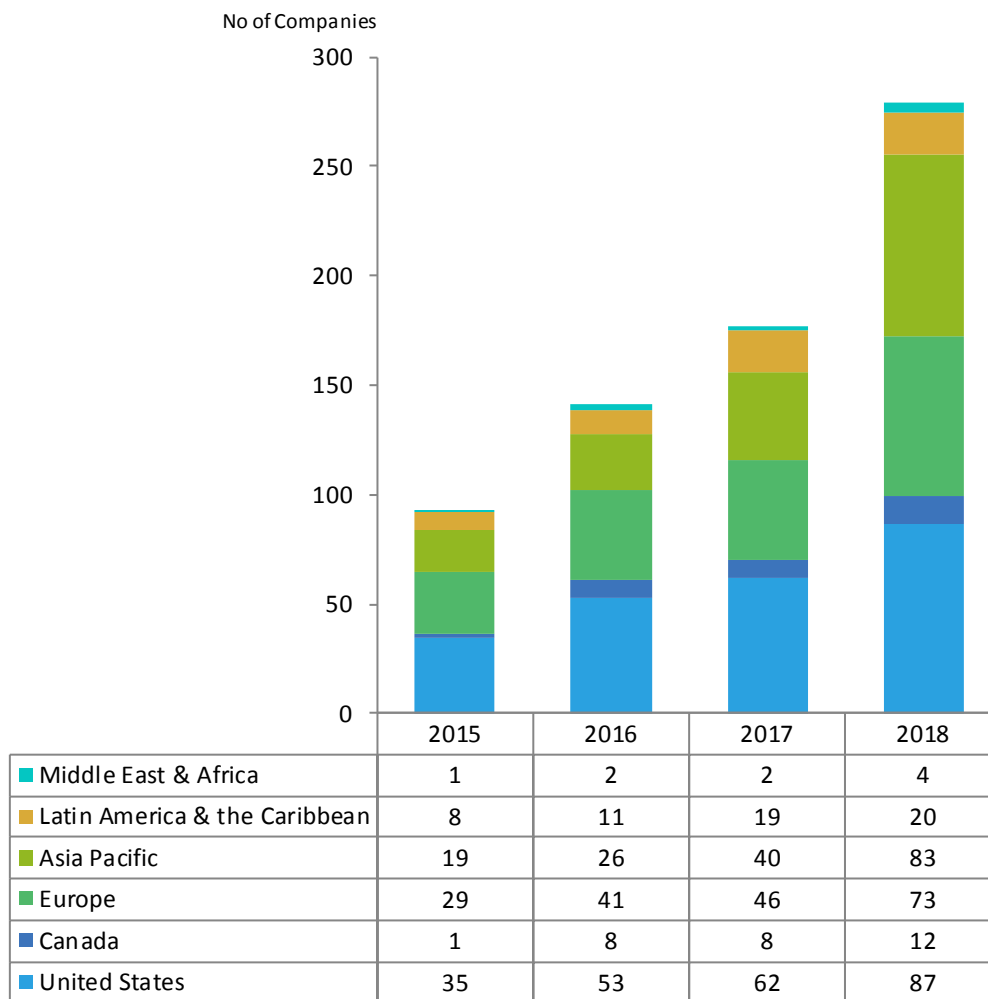
However, the current SASB Standards are not disclosure standards for U.S. companies, and they made a major policy change to become disclosure standards for global companies, and future attention is focused on their penetration among companies outside of the U.S. According to the SASB, about 69% of companies¹⁸ that have information disclosures with some reference to the SASB Standards are outside the U.S. (Fig. 14).

¹⁸ In addition to the companies that disclose indicators based on SASB Standards in Fig. 13, this includes all companies that make some reference to SASB in their disclosure information.

Fig13: Companies That Disclose Indicators Defined by SASB Standards (as of December 2018)

Apache Corp	U.S.	Kellogg Co	U.S.
ARC Resources Ltd	Canada	Kilroy Realty Corp	U.S.
ArcelorMittal	Luxembourg	Kinder Morgan Inc	U.S.
Atlantica Yield PLC	Spain	LG Chem Ltd	South Korea
Bank of Montreal	Canada	LG Household & Health Care Ltd	South Korea
BCE Inc.	Canada	Masco Corp	U.S.
Bloomberg LP	U.S.	Medtronic PLC	Ireland
Boston Properties Inc	U.S.	Merck & Co Inc	U.S.
Breckinridge Capital Advisors	U.S.	Mermaid Maritime PCL	Thailand
CBRE Group Inc.	U.S.	Mosaic Company	U.S.
Cia. De Saneamento do Parana	Brazil	Motorola Solutions Inc	U.S.
Daiwa Securities Group Inc	Japan	Nike Inc	U.S.
Diageo PLC	UK	Nippon Telegraph & Telephone Co	Japan
Digital Realty Trust Inc	U.S.	NRG Energy Inc	U.S.
Emera Inc	Canada	Peugeot SA	France
Enbridge Inc	Canada	Schneider Electric SE	France
Etsy Inc	U.S.	Shorenstein Properties LLC	U.S.
Gap Inc	U.S.	SK Telecom Co Ltd	South Korea
General Motors Co.	U.S.	Southwestern Energy Co.	U.S.
Gol Linhas Aereas Inteligentes	Brazil	Waste Management Inc	U.S.
GS Caltex Corp	South Korea	Weatherford International PLC	Switzerland
Hewlett Packard Enterprise Co.	U.S.	Westpac Banking Corp	Australia
Host Hotels & Resorts Inc	U.S.	ZAGG Inc	U.S.
JetBlue Airways Corp	U.S.		

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the data and materials provided by SASB.

Fig14: Companies That Make Some Reference to SASB in Their Information Disclosure

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the data and materials provided by SASB.

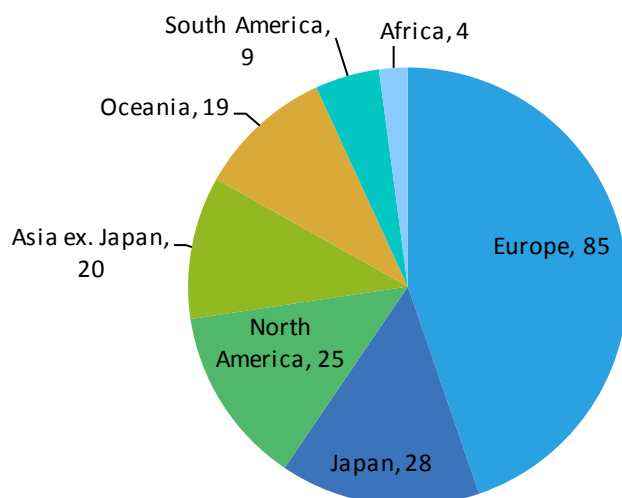
(iv) TCFD Final Recommendations

Since the TCFD Final Recommendations were published in 2017, it has succeeded in rapidly gathering supporters. As of March 4, 2019, 601 business firms, financial institutions and government agencies have become supporters of TCFD, and among these, there are 190 business firms that this research specifically pays attention to.

Fig. 15 shows a breakdown by region of the business firms that are listed as supporters. Europe has the most, followed by Japan.

There are a total of 61 institutions that are supporters in Japan, of which 28 are business firms (Chart 16).

Fig15: Breakdown of TCFD Supporters (Business Firms) by Region



Note: The count excludes professional services, voting right services, finance, government agencies and other institutions.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the TCFD website.

Fig16: List of TCFD Supporters in Japan

Industrial companies	Financial/professional services	Others
Kokusai Kogyo Co., Ltd	Mitsubishi UFJ Financial Group, Inc	Japanese Institute of Certified Public Accountants (JICPA)
Sumitomo Chemical	Mizuho Financial Group	Financial Services Agency (FSA)
Nomura Research Institute, Ltd.	MS&AD Insurance Group Holdings, Inc.	Ministry of Environment (MOE) (Japan)
Konica Minolta, Inc.	Sumitomo Mitsui Financial Group	Japanese Bankers Association
NEC Corporation	Tokio Marine	Ministry of Economy, Trade and Industry (METI)
Hitachi, Ltd.	SOMPO Holdings, Inc.	The Investment Trusts Association, Japan (JITA)
JTEKT CORPORATION	Daiwa Securities Group	Japan Investment Advisers Association (JIAA)
Mitsubishi Corporation	Development Bank of Japan	Japan Securities Dealers Association
Sekisui House, Ltd.	Nomura Holdings, Inc.	
Sumitomo Forestry Co., Ltd.	Sumitomo Mitsui Trust Holdings, Inc.	
Ricoh Company, Ltd.	THE SHIGA BANK, LTD.	
Sojitz Corporation	Nikko Asset Management	
Daiwa House Industry Co., Ltd.	Dai-ichi Life Holdings, Inc.	
Kawasaki Kisen Kaisha, Ltd.	Japan Exchange Group, Inc.	
Mitsubishi Chemical Holdings Corporation	Resona Holdings, Inc	
MARUI GROUP CO., LTD.	Government Pension Investment Fund (GPIF)	
Mitsui O.S.K. Lines, Ltd.	Nippon Life Insurance Company	
Nikon Corporation	Meiji Yasuda Life Insurance Company	
FUJIFILM Holdings Corporation	Nissay Asset Management Corporation	
Kirin Holdings Company, Limited	Rating and Investment Information, Inc.	
Mitsui & Co., Ltd	Sumitomo Mitsui Trust Asset Management Co., Ltd.	
NYKLine	CSR Design Green Investment Advisory, Co., Ltd.	
Mitsui Chemicals, Inc.	E-Square Inc.	
SEKISUI CHEMICAL CO., LTD.	Neural	
OMRON Corporation	Sophia University Endowment	
Yokogawa Electric Corporation		
Kao Corporation		
Teijin Group		

Note1: As of 4th March 2019.

Note2: Listed in the order of the date they announced to support TCFD (in alphabetical order if announced on the same date).

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the TCFD website.

2.2. Comparative Analysis of the ESG Information Disclosure Frameworks/Standards




2.2.1. The Significance of Considering the Common Points of the ESG Information Disclosure Frameworks/Standards

As confirmed in the previous section, the main global ESG information disclosure frameworks/standards that are in the scope of this research have different backgrounds, and there are various characteristics in the design concepts and the assumed information users. For that reason, while it is natural that there are differences in disclosure items and indicators set by each of the disclosure frameworks/standards, as mentioned before, one of the purposes of this research is to examine the common parts and differences. Here, before proceeding with the analysis in this chapter, we would like to confirm the meaning of considering the common points.

Today, the phrase “ESG investors” is often used in the media, but ESG investors are not necessarily homogeneous. This is because, in practice, there are many ways to utilize ESG information depending on the ESG investor¹⁹. Fig. 17 summarizes the representative ESG investment strategies, and the characteristics of the ESG information that is considered to be particularly important in each strategy.

¹⁹ For more information on the various ways in which ESG information is used by institutional investors, please refer to the case studies compiled by the CFA Institute and the UN-backed Principles for Responsible Investment (PRI). (CFA Institute, PRI (2018) “Guidance and case studies for ESG integration: equities and fixed income” <<https://www.unpri.org/download?ac=5398>>)

Fig17: ESG Investment Strategy and Information Needs

Classification	ESG Investment Strategies		Nature of information primarily required ^(Note)	Major example of relevant framework/standard
Judgmental	Fundamental analysis approach	ESG related engagement in traditional active investment	✓ Specifically tailored ESG Information useful for Fundamental analysis / corporate valuation	International <IR> Framework  SASB Standards 
		Adjustment of revenue forecasts based on ESG analysis		
		Adjustment of operating margin and/or cost forecasts based on ESG analysis		
Systematic		Adjustment of book value and/or depreciation forecasts based on ESG analysis	✓ Normalized, easy to quantify and compare ESG information relevant for companies' financial performance	GRI Standards 
		Adjustment of capital expenditure forecasts based on ESG analysis		
		Adjustment of terminal value of valuation model based on ESG Analysis		
Passive		Adjustment of beta/discount rates of valuation model based on ESG Analysis	✓ Information about economic, environmental, and/or social impacts (positive or negative) driven by company	
		Adjustment of portfolio weight based on ESG analysis		
		Smart beta/quantitative strategies utilizing ESG factors		
Others		ESG Indices		
		ESG related engagement in traditional passive investment		
		Impact Investment (※ Consideration of impact besides/instead of risk/return)		
		Socially Responsible Investment/Ethical Investment (※ Utilization of ethical/fair-based lenses)		

Note: The figure indicates only the most basic ESG information for each strategy, and thus other types of ESG information, which are not mentioned above, might be utilized.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of CFA Institute & PRI (2018) "Guidance and case studies for ESG integration: equities and fixed income" and other various data.

In so-called judgmental investing, which utilized ESG information for the fundamentals analysis of companies, it is assumed that there is a high need for ESG information useful to deepen understanding about individual companies, such as the corporate value creation process of the companies in focus, and the sources of their competitiveness. Here, priority is given to how the ESG information disclosed reflects the unique characteristics of the companies in focus, rather than ESG information with excellent comparability between companies. A representative example of ESG information disclosure frameworks/standards that meet such information needs is the International Integrated Reporting Framework (as this is just a representative example, and it does not necessarily mean that other frameworks/standards are irrelevant to judgemental investing).

Of course, investment strategies adopted by ESG investors are not limited to judgmental investing. Treating ESG characteristics as a unique equity factor, there has been a spread of smart beta and quantitative strategies to obtain systematic excess returns, or passive investment utilizing ESG ratings or ESG scores. In such investment the need for ESG information that is normalized and has excellent comparability between companies could be stronger than highly tailored ESG information

that reflects the individuality of each company²⁰. In addition, in such investment strategies, since in many cases we need to convert qualitative descriptive ESG information into quantitative data, it is also important that the ESG information be easy to quantify (scoring). The ESG information disclosure frameworks/standards particularly suitable for such information needs are the SASB Standards.

Also, recently, so-called “impact investing” has been growing. This puts emphasis on how the companies targeted for investment have an impact on the society (economic, environmental and/or social impact) in addition to the investment risk and return²¹. For investment decisions by investors who put an emphasis on impact, information is essential about the impact that companies have on the economy, the environment and/or society. It needs to be noted that at present there is no generally recognized definition regarding impact investing, but within the ESG information disclosure frameworks/standards that are the target of this research, the GRI Standards (which aim to disclose the impact that a company has on the economy, environment and society) are considered to be the most relevant to such information needs²².

Also with regards to engagement, the details are similarly diverse. In the case of engagement implemented in line with judgmental investing, highly individualized engagement themes are decided from the bottom up, and then investors approach targeted companies in conjunction with securities research and investment decisions. On the other hand, when implemented in combination with systematic or passive investment, ultimately it is independent of the investment decision, and there is a top-down decision on the engagement theme and the target companies based on a comparison between companies, etc. In addition, it is thought that engagement that is carried out in conjunction with impact investing is centered on promoting positive impact and/or aiming to reduce negative impact.

In this way, even if we only talk about “the ESG information disclosure required by investors”, it is thought that the characteristics of the information to be emphasized will differ depending on the ESG investment strategies adopted by the investors. For those in charge of, or responsible for, ESG

²⁰ For the difference between ESG information required by active investors and passive investors, refer to Iguchi G. (2018) *Effective Disclosure of financial and non-financial information for ESG investments* (in Japanese), Bessatsu Shoji Homu, No. 431. For passive investment, in many cases, ESG ratings and ESG scores from ESG rating agencies are used. In such cases, it is the ESG rating agencies, not the institutional investors, that directly evaluate and analyze the ESG information disclosed by the companies.

²¹ Impact, which means the influence on the economy, environment and society, is sometimes called “social return” in distinction from “monetary return” (Kato Y. (2018) *Research on ESG Investment: The Forefront of Theory and Practice* (in Japanese), Ittosha). With regards to the current status of impact investing in Japan, it is detailed in the Global Social Impact Investment Steering Group (GSG) Japan National Advisory Board (2018) “Current Status of Social Impact Investment in Japan” <http://impactinvestment.jp/doc/G8-2017-A4.pdf>.

²² However, while the interview surveys revealed that the GRI Standards focus more on the disclosure of things with a negative impact, impact investing is often focused on the things with a positive impact (contributing to solutions for global environmental problems or social issues). Currently, with regards to the frameworks/standards of impact disclosure in Fig. 17 are seen as the least matured. The Impact Management Project (IMP) is developing activities that aim to harmonize approaches and standards with regards to the measurement, evaluation and reporting of impact.

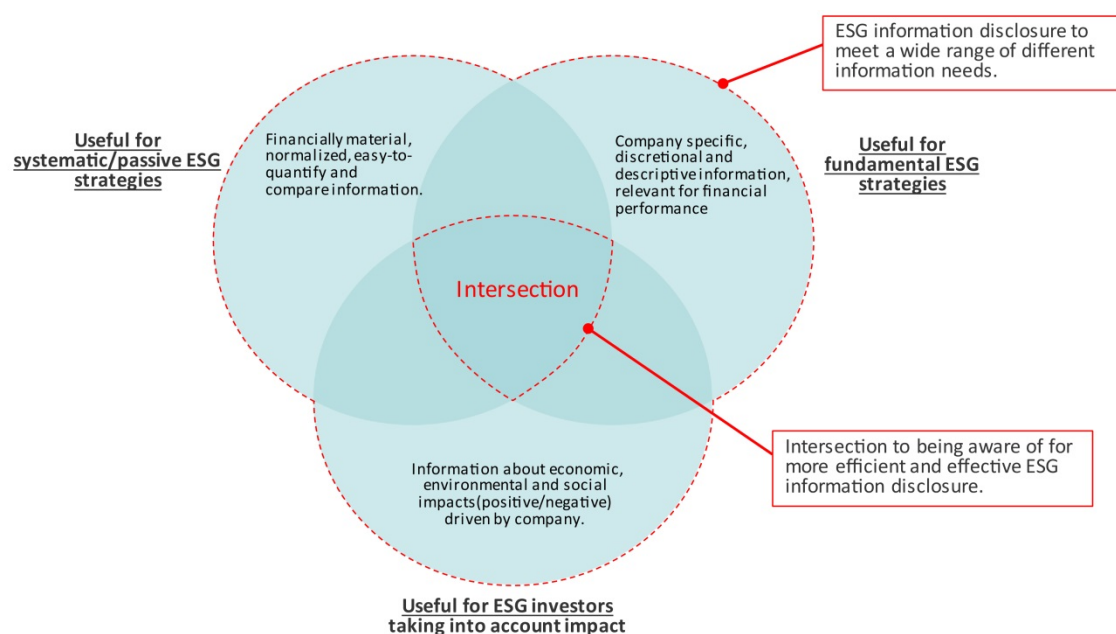
information disclosure, should sufficiently recognize the diversity of ESG investment strategies adopted by investors, and be clearly aware of the end user of disclosure information, i.e. what kind of information disclosure should be useful for what type of ESG investor.

However, while the ESG information required differs depending on the ESG investment strategies, each information are not completely independent, and there should be certain common parts (Fig. 18).

In this chapter, under the assumption that major global ESG information disclosure frameworks/standards set disclosure items and indicators that reflect the various information needs of ESG investors, we will consider the differences together with the “common parts” of disclosure items and indicators defined by the ESG information disclosure frameworks/standards.

From the perspective of corporate IR, while it is ideal to conduct ESG information disclosure so that it meets a wide range of information needs, the practical burden will also increase more as they try to meet the diverse information needs. In particular, for companies aiming for effective and efficient IR with limited resources, being aware of the “common parts” for a wide range of information needs and focusing on information disclosure from that perspective should be an effective approach.

Fig18: Difference in Nature of Information and the “Intersection”



Source: Nissay Asset Management Co., Ltd.

2.2.2. Procedures and Methods for the Comparative Analysis

From here, we will describe the procedures and methods of comparative analysis to examine the common parts and differences in ESG information disclosure frameworks/standards. Specifically, we did the three-step comparative analysis shown in Fig. 19.

First, in *Step1*, we listed the disclosure items and indicators for each of the ESG information disclosure frameworks/standards. Since the purpose of this research is to examine common parts and differences, it is important to list the items and indicators from the smallest possible level. However, the comparative analysis will be hindered when the meaning is lost on its own due to overly subdividing the disclosure items and indicators. Therefore, the items should be listed at the smallest possible level but within a range where it does not lose the meaning on its own. For the International Integrated Reporting Framework and other principle-based ones, while the disclosure items and indicators have not been set in a strict sense, the components or content elements can be listed as corresponding to disclosure items and indicators.

Next, in *Step2*, with regards to all the items and indicators listed in *Step1*, we classified (coded) based on the meaning of the content. Following are the nine classifications that were used.

Nine Classifications of the Disclosure Items and Indicators

- (i) Summary of organization or business
- (ii) Business model (limited to a comprehensive and systematic description of the entire business model)
- (iii) Message from the directors and/or management
- (iv) Communication with stakeholders
- (v) Governance (including structure, discipline and mechanism etc.)
- (vi) Identification of materiality (identification of disclosure matters)
- (vii) Recognition of ESG risks and opportunities (including recognition and prospects of financial impacts)
- (viii) Strategies and practices
- (ix) KPIs

Classifications (i) to (viii) are assumed to be disclosure mainly by qualitative descriptive information (Of course, it is conceivable that part of the descriptive information includes quantitative information.). Classification (ix) is assumed to be disclosure by quantitative information.

In the final *Step3*, we examined the common parts and differences based on the classification results.

Fig19: Procedures and Methods for the Comparative Analysis



Source: Nissay Asset Management Co., Ltd.

2.2.3. Results of the Comparative Analysis and Discussion

(i) Listing Results

As a result of *Step1*, a total of 1,307 items and indicators were obtained. Among them, those according to the SASB Standards are the largest with 981 items and indicators. This is because SASB Standards have set items and indicators for each of 77 industries and we count a gross number of items and indicators including overlapping ones. (Note that the SASB Standards define an average of only 13 items and indicators for each industry). The items and indicators set by the GRI Standards are 144²³ (Fig. 20).

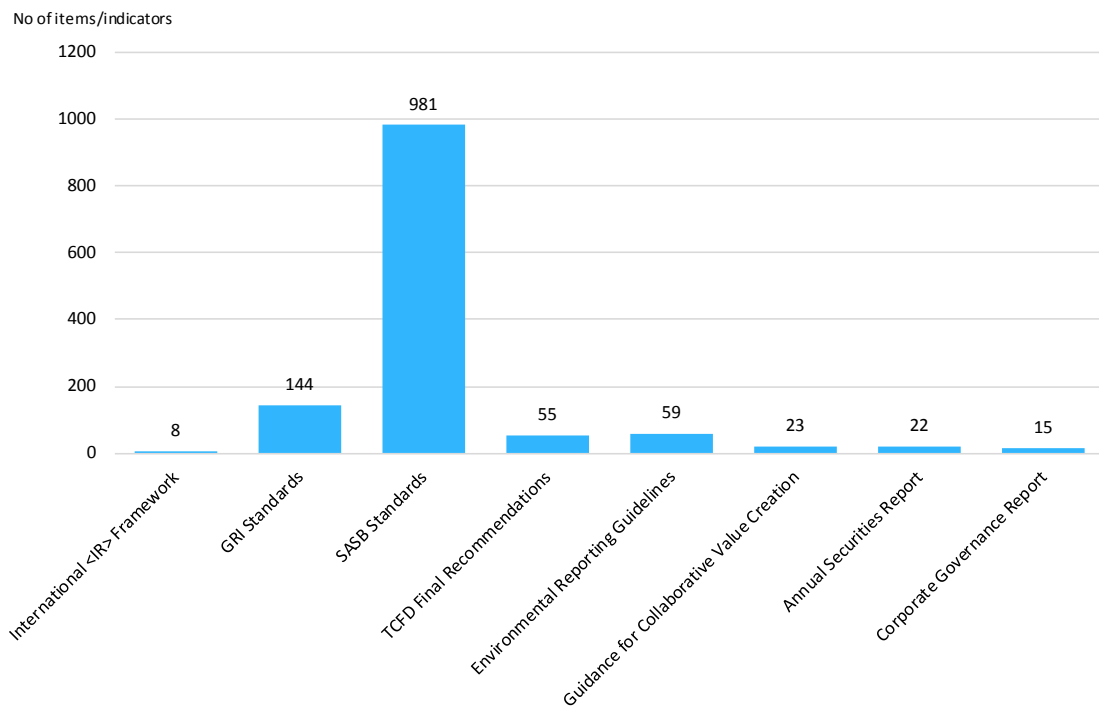
Also, based on the fact that the Environmental Reporting Guidelines and the TCFD Final Recommendations are specialized for the environment aspect, Fig. 21 shows only the items and indicators related to the environment from each of the ESG information disclosure frameworks/standards. With the disclosure items in the International Integrated Reporting Framework, for instance, they cover ESG overall, and it depends on the situation of the company whether or not environmental related information will be included. Regarding this point, Fig. 21 only extracts disclosure items and indicators that are specific to the environment. As mentioned

²³ “GRI 303: Water and Drainage” and “GRI 403: Occupational Safety and Health” are counted based on the revised version of 2018 (all others are the 2016 version).

above, the reason why the SASB Standards have the most is because the items and indicators are set for each of 77 industries, and there are 471 items and indicator that are specific to the environment.

The full list of the disclosure items and indicators is provided in Appendix 1.

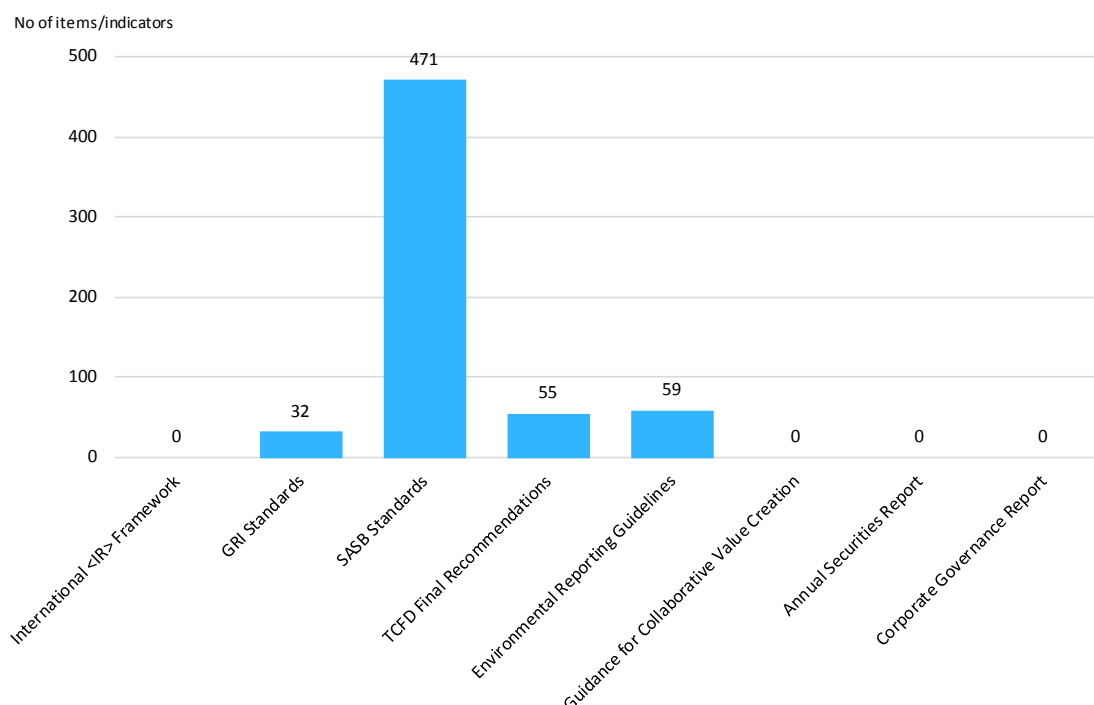
Fig20: Number of Items and Indicators Set by ESG Information Disclosure Frameworks/Standards (ESG Total)



Note: There may be some cases where same disclosure items/indicators are classified into multiple categories, and such items/indicators are redundantly counted.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of each ESG information disclosure frameworks/standards.

Fig21: Number of Items & Indicators for the ESG Information Disclosure Frameworks/Standards (Environment Only)



Note: There may be some cases where same disclosure items/indicators are classified into multiple categories, and such items/indicators are redundantly counted.

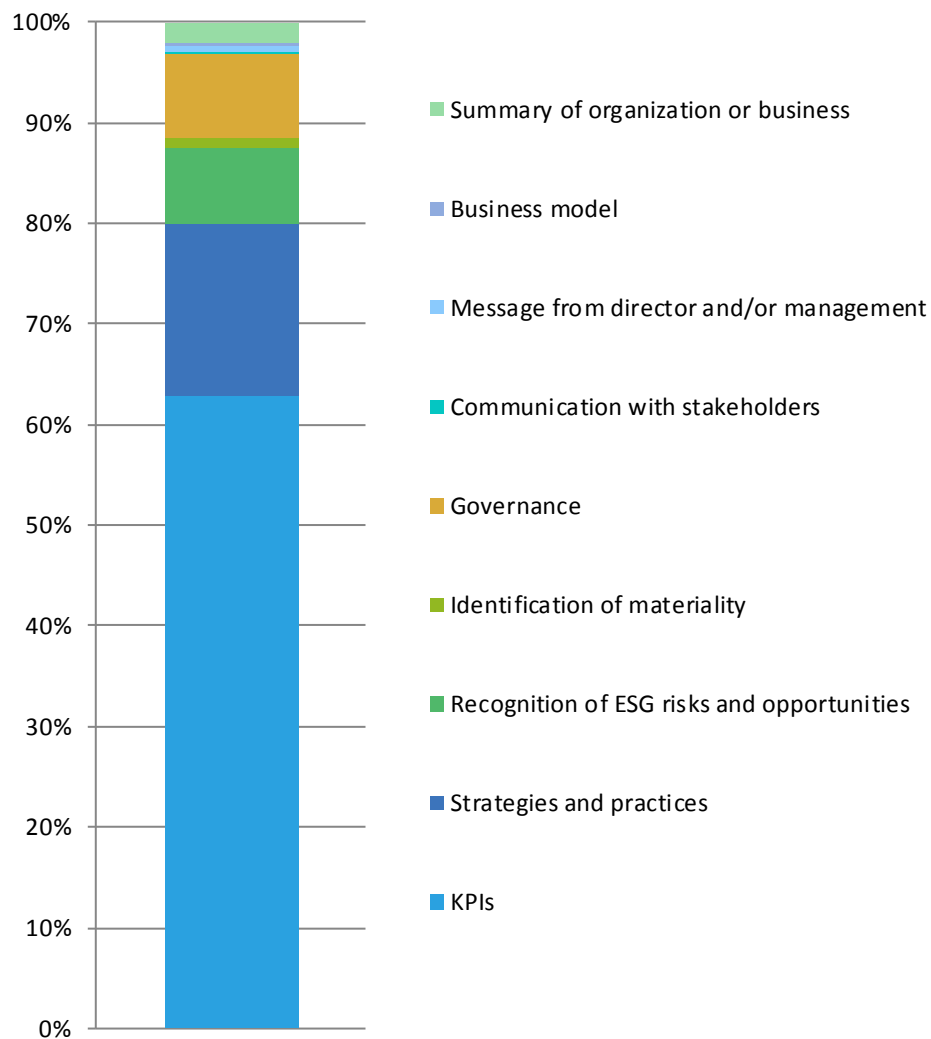
Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of each ESG information disclosure frameworks/standards.

(ii) Classification (Coding) Results

Fig. 22 shows the breakdown of the classification results for the 1,307 items and indicators listed in *Step1*. (The classification results for each of the disclosure items and indicators are listed in Appendix 1).

As a whole, more than 60% of the disclosure items and indicators are related to “KPIs”. When you add in the disclosure items and indicators related to “governance”, “recognition of ESG risks and opportunities” and “strategies and practices”, it is more than 95% overall. This reflects the breakdown of SASB Standards, which have a large number of disclosure items and indicators related to these classifications, i.e. its impact to overall results is large.

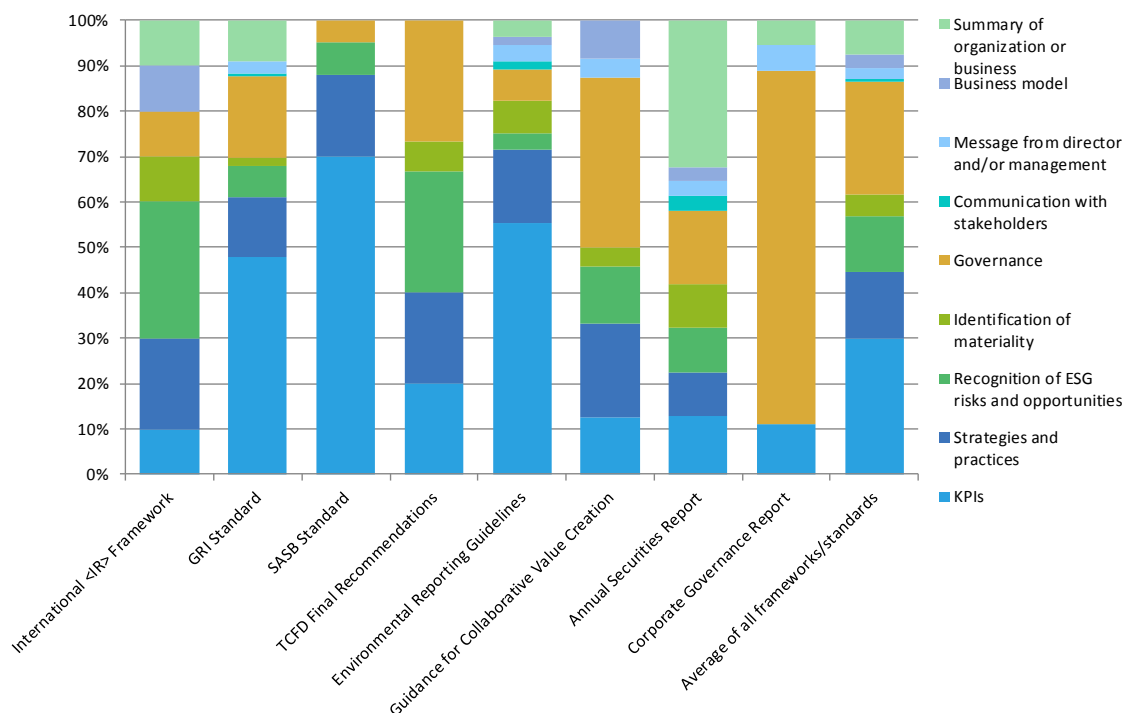
Fig. 23 shows a comparison of the classification results for the ESG information disclosure frameworks/standards. It can be confirmed that the percentages are different depending on the ESG information disclosure frameworks/standards. It is the SASB Standards that have the largest share of “KPIs”

Fig22: Proportion of Disclosure Items/Indicators (Overall)

Note: There may be some cases where single disclosure items/indicators are classified into multiple categories, and such items/indicators are counted repeatedly.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of each ESG information disclosure frameworks/standards.

Fig23: Proportion of Disclosure Items/Indicators by Frameworks/Standards



Note 1: Illustrative examples of metrics for certain sectors are not counted for TCFD final recommendations.

Note 2: There may be some cases where same disclosure items/indicators are classified into multiple categories, and such items/indicators are counted repeatedly.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of each ESG information disclosure frameworks/standards.

(iii) Results of Comparative Analysis

Based on the classification results of *Step 2*, Fig. 24 shows places where there may be common parts for the major global ESG information disclosure frameworks/standards. (More details in Appendix 2).

Among the nine classifications, five areas - “governance”, “identification of materiality”, “recognition of ESG risks and opportunities”, “strategies and practices” and “KPIs” - are laid out in each of the disclosure frameworks/standards, have commonly set certain disclosure items and indicators.

Fig. 25 shows the overview of comparative analysis by adding major ESG information disclosure frameworks/standards in Japan. With regards to the five areas mentioned earlier - “governance”, “identification of materiality”, “recognition of ESG risks and opportunities”, “strategies and practices” and “KPIs” - it can be seen that the Environmental Reporting Guidelines 2018 version and the Guidance for Collaborative Value Creation, and Annual Securities Report commonly require some kind of disclosure. Since the Corporate Governance Report, which represents one of Japan’s

mandatory disclosure, focuses on governance related matters, it can be seen that they do not have much overlap with the items that the ESG information disclosure frameworks/standards generally require for disclosure.

In addition, for the five areas that have emerged as places where common parts may exist (“governance”, “identification of materiality”, “recognition of ESG risks and opportunities”, “strategies and practices” and “KPIs”), they are each considered to be related as shown in Fig. 26. For those in charge of, or responsible for, information disclosure, it should be effective for them to be aware of the relationship of five areas and disclose supplemental information about the relationship as necessary, which would foster better understanding by information users, i.e. investor.

Fig24: Overview of Comparative Analysis for Major Global ESG Information Disclosure Frameworks/Standards

	International <IR> Framework	GRI Standards	SASB Standards	TCFD Final Recommendations
Mainly qualitative descriptive information	Summary of organization or business	○	○	—
	Business model (Comprehensive and systematic description)	○	—	—
	Message from director and/or management	—	○	—
	Communication with stakeholders	—	○	—
	Governance (Structure, discipline and mechanism etc.)	○	○	○ * Climate change only
	Identification of materiality (Identification of important ESG issues)	○	○ (Standards designed to reflect materiality by sector)	○ (Identify sectors that are more likely to be financially impacted by climate change)
	Recognition of ESG risks and opportunities (including recognition and prospects of financial impacts)	○	○	○ * Climate change only
	Utilization of climate scenario analysis	—	—	○ * Recommend that certain sectors conduct the scenario analysis
	Strategies and practices (For material issues)	○	○	○ * Climate change only
	KPIs (For material issues)	○ * Specific KPIs are not provided	○	○

Note: Disclosure items and indicators of each ESG information disclosure frameworks/standards are classified into categories considered to be most relevant. However, it does not necessarily mean that the items and indicators in each category with a circle (「○」) match exactly with each other.

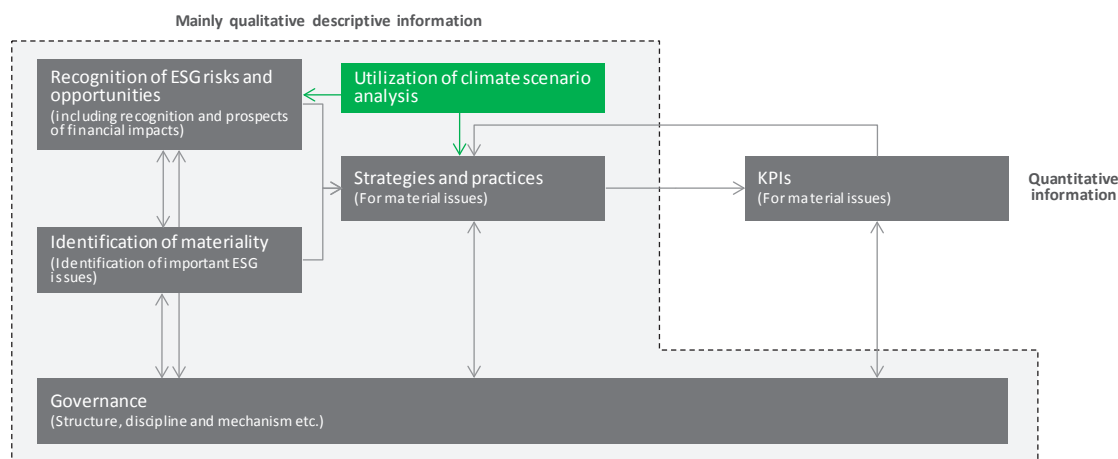
Source: Nissay Asset Management Co., Ltd.

Fig25: Overview of Comparative Analysis Results for Major Global and Japanese ESG Information Disclosure Frameworks/Standards

	International <IR> Framework	GRI Standards	SASB Standards	TCFD Final Recommendations	Guidance for Collaborative Value Creation	Environmental Reporting Guidelines	Annual Securities Report	Corporate Governance Report
Mainly qualitative descriptive information	Summary of organization or business	○	○	—	—	○ * Environment only	○	○
	Business model (Comprehensive and systematic description)	○	—	—	○	○ * Environment only	○	—
	Message from director and/or management	—	○	—	—	○ * Environment only	○	—
	Communication with stakeholders	—	○	—	○	○ * Environment only	○ * Special remarks about relationship with labor union, etc.	○
	Governance (Structure, discipline and mechanism etc.)	○	○	○ * Climate change only	○	○ * Environment only	○	○
	Identification of materiality (Identification of important ESG issues)	○	○	○ * Climate change only	○	○ * Environment only	○	—
	Recognition of ESG risks and opportunities (Including recognition and prospects of financial impacts)	○	○	○ * Climate change only	○	○ * Environment only	○	—
	Utilization of climate scenario analysis	—	—	○	—	○ * Not required to report, but referred	—	—
Quantitative information	Strategies and practices (For material issues)	○	○	○ * Climate change only	○	○ * Environment only	○	—
	KPIs (For material issues)	○ * Specific KPIs are not provided	○	○ * Climate change only	○ * Specific KPIs are not provided	○ * Environment only	○ * Provision of Specific KPIs is limited	○ * Governance only

Note: Disclosure items and indicators of each ESG information disclosure frameworks/standards are classified into categories considered to be most relevant. However, it does not necessarily mean that the items and indicators in each category with a circle (「○」) match exactly with each other.

Fig26: Relationships among Commonly Required Five Categories



Source: Nissay Asset Management Co., Ltd.

(iv) Discussions on the Common Parts

After confirming the possibility of having common parts in disclosure items and indicators related to “governance”, “identification of materiality”, “recognition of ESG risks and opportunities”, “strategies and practices” and “KPIs”, from here we will try to specifically identify the commonly required elements.

We first focus on “identification of materiality”. This is because understanding what kind of issues each of the ESG information disclosure frameworks/standards treat as important leads to a conceptual understanding of what kind of information disclosure is required from a company. Comparing the concept of materiality is an important starting point for figuring out the common parts.

Fig. 27 summarizes the definition and concept of materiality by the major global ESG information disclosure frameworks/standards.

The ESG information disclosure frameworks/standards can be broadly divided into two types. One is the GRI Standards that are aware of materiality for multi-stakeholders, including investors. And the other is the International Integrated Reporting Framework, SASB Standards and TCFD Final Report that are aware of materiality for investors (financial materiality). Since the multi-stakeholders include investors, naturally, the former has a wider range of materiality than the latter, and there is a common part between the two.

There are also differences among the three disclosure frameworks/standards that are aware of materiality for investors. Specifically, the SASB Standards are set based on the condition that there is evidence of “investor interest” and “financial impact” in setting disclosure items and indicators²⁴, which means conditions for standardization are strict. For example, while it is thought that there is little disagreement that human capital is important to the management of most companies, the SASB Standards do not set disclosure items and indicators for human capital for all industries. This is because the disclosure items and indicators are set only for the industry where clear evidence can be obtained at the present time. (Of course, there is a possibility that disclosure items and indicators will be added if new evidence is obtained due to future changes in the external environment, etc.)

On the other hand, in the case of the International Integrated Reporting Framework, there are no strict rules about the evidence like the SASB Standards. It is totally up to the companies to decide what matters should be determined as material (*“matters that substantively affect the organization’s ability to create value over the short, medium and long term.”*).

Consequently, the concept of materiality is considered to be narrower in the SASB Standards than the International Integrated Reporting Framework.

For the TCFD Final Recommendation, since they are only limited to things related to climate

²⁴ SASB (2017) “SASB CONCEPTUAL FRAMEWORK”
<<https://www.sasb.org/wp-content/uploads/2017/02/SASB-Conceptual-Framework.pdf>>

change, as a matter of course, the scope is narrower compared to the International Integrated Reporting Framework and the SASB Standards that target ESG disclosure overall.

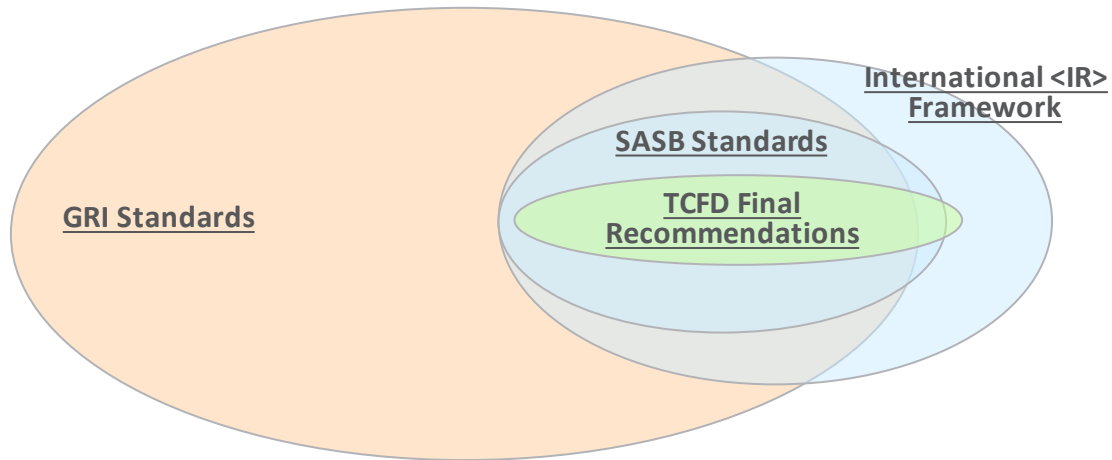
Fig. 28 illustrates the above relationships. Excluding the TCFD Final Recommendations, the concept of SASB Standards as to the materiality is positioned most in the overlapping parts (common parts). (As for why the TCFD Final Recommendations are not completely included in the SASB Standards in Fig. 28, it will be explained later.)

With regards to the materiality of the SASB Standards, Appendix 3 lists the “disclosure topics” that the SASB Standards set by industry.

Fig27: Definitions & Approaches for Materiality by the Major Global ESG Information

	Classification	Definition and Concept of Materiality
GRI Standards	Multi-stakeholder materiality (including investors)	<ul style="list-style-type: none"> - Topic that reflects a reporting organization’s significant economic, environmental and social impacts; or - Topic that substantively influences the assessments and decisions of stakeholders
International <IR> Framework	Investor materiality (Financial materiality)	Matters that substantively affect the organization’s ability to create value over the short, medium and long term
SASB Standards		<p>A minimum set of sustainability issues most likely to impact the operating performance or financial condition of the typical company in an industry, regardless of location</p> <p>* Setting disclosure items/indicators based on “evidence of investor interest” and “evidence of financial impact”</p>
TCFD Final Recommendations		<p>Material information which public companies have a legal obligation to disclose in their financial filings</p> <p>* In most G20 jurisdictions, public companies have a legal obligation to disclose material information including material climate-related information</p>

Sources: Prepared by Nissay Asset Management Co., Ltd. on the basis of "GRI 101: Foundation 2016", International Integrated Reporting Framework, SASB website, TCFD Final Recommendations and other data and materials.

Fig28: Scope of Disclosure Information based on Comparison of Materiality Concepts

Sources: Prepared by Nissay Asset Management Co., Ltd. on the basis of "GRI 101: Foundation 2016", International Integrated Reporting Framework, SASB website, TCFD Final Recommendations and other data and materials.

While the comparison of materiality concepts revealed that the most of SASB Standards could be positioned in the common parts, it is natural that some match, other do not at each disclosure item and indicator level. From here, with regards to the remaining four areas (“governance”, “recognition of ESG risks and opportunities”, “strategies and practices” and “KPIs”), we will consider the specific common points at the disclosure item and indicator level.

First, with regards to the four areas, Fig. 29 shows a comparison of what disclosure items and indicators are set by the major global ESG information disclosure frameworks/standards.

Among the four, with regards to three of them - “governance”, “recognition of ESG risks and opportunities” and “strategies and practices” - basically, cross-cutting disclosure items and indicators common to industries and ESG issues have been set, excluding the SASB Standards.

For example, with regards to “recognition of ESG risks and opportunities”, the International Integrated Reporting Framework and the GRI Standards have each set the following disclosure items.

The content elements of the International Integrated Reporting Framework with regards to “recognition of ESG risks and opportunities” (excerpt)

Content element A-2: External environment

What are the circumstances under which it operates?

Content element D-1: Risks and opportunities

What are the specific risks and opportunities that affect the organization’s ability to create value over the short, medium and long-term?

Content element G: Outlook

What challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance?

The disclosure items of the GRI Standards with regards to “recognition of ESG risks and opportunities” (excerpt)**Disclosure 102-15: Key impacts, risks, and opportunities**

- a. A description of key impacts, risks, and opportunities.

Source: IIRC “International Integrated Reporting Framework”, and GRI “GRI 102: General Disclosure Items 2016”

In contrast, the SASB Standards have set disclosure items about “recognition of ESG risks and opportunities” with regards to individually specific ESG issues for each of 77 industries (see the below box). These are more specific than the items required by the International Integrated Reporting Framework and the GRI Standards.

The disclosure items of the SASB Standards with regards to “recognition of ESG risks and opportunities” (example)**SASB Standards: Consumer Goods (Apparel, Accessories & Footwear)**

Description of environmental and social risks associated with sourcing propriety raw materials.

SASB Standards: Infrastructure (Home Builders)

Description of risks and opportunities related to incorporating resource efficiency into home design, and how benefits are communicated to customers.

Note: These are illustrations of disclosure items and indicators for two industries.

Source: SASB “Apparel, Accessories & Footwear, Sustainability Accounting Standard, Version 2018-10”, and “Home Builders, Sustainability Accounting Standard, Version 2018-10”

Besides “recognition of ESG risks and opportunities”, these trends are the same for “governance” and “strategies and practices”. As for the disclosure items that fall under these three areas, the disclosure items of the International Integrated Reporting Framework and GRI Standards are basically cross-cutting content common to sector and ESG issues, while the SASB Standards are more specific at the industry and ESG issue level. Of course, disclosures in line with the SASB Standards do not always fully meet the requirements of the International Integrated Reporting Framework and GRI Standards, but at least the specific disclosure items for each sector/industry and

ESG issue set by the SASB Standards are deemed to be common parts with the major global ESG evaluation frameworks/standards.

On the other hand, with regards to “KPIs”, in addition to the SASB Standards, the GRI Standards also set specific indicators for ESG issues, and there are a mix of common and non-common ones. Consequently, the SASB Standards do not necessarily correspond to the common points as is. It is noted that the TCFD Final Recommendations encourage disclosure of greenhouse gas emissions, and this is basically common to the GRI Standards and SASB Standards²⁵.

Summarizing above discussion, Fig. 29 shows where the common parts are located within the major global ESG information disclosure frameworks/standards. Appendix 3 shows the lists where we extracted what we regard as common part at the level of disclosure items and indicators by sector, together with simplifying the expressions and integrating similar items/indicators into a single one when there existed multiple related items/indicators. When comparing disclosure items and indicators set by each disclosure frameworks/standards one by one, we only have limited items that clearly falls either “common” or “not common”. Rather, there was a mixture of those that are considered to be partially matched, those that are considered to be related in a complex manner to three or more disclosure items and indicators, and those that are considered to be a subset (one disclosure item and indicator that is considered to be completely included in another), making for complicated relationships. Therefore, it is often difficult to clearly delineate the common parts and differences, and to precisely separate out only the common parts.

Such a fact is considered to be one of the causes of confusion about ESG information disclosure frameworks/standards. Also, this fact has given rise to discussions about an improvement in the consistency of ESG information disclosure frameworks/standards, and the convergence (unification) of their content, as will be discussed later in 2.3.1 and 2.3.2,

Again, the details listed in Appendix 3 are the result of an attempt to extract elements that are deemed to be common, but it should be noted that it does not necessarily ensure an exactingness²⁶.

²⁵ However, with regards to disclosure of Scope 3 emissions, there is a difference between the recommendations in the TCFD Final Report and the SASB Standards. This point will be explained later.

²⁶ When actually utilizing these, please also refer to the original documents for each of the ESG information disclosure frameworks/standards.

Fig29: Location of Common Parts for Major Global ESG Information Disclosure Frameworks/Standards

	International <IR> Framework	GRI Standards	SASB Standards	TCFD Final Recommendations
Focus on qualitative/descriptive information	Governance (Structure, discipline and mechanism etc.)	• General guidance applicable to all sectors/ESG issues • General disclosure items applicable to all sectors/ESG issues (Certain ESG issue-specific disclosure items are included)	• General guidance applicable to all sectors/ESG issues, and sector specific disclosure items on certain ESG issue Here are common parts	• General guidance applicable to all sectors (There are additional guidelines for certain sectors)
	Recognition of ESG risks and opportunities (including recognition and prospects of financial impacts)	• General guidance applicable to all sectors/ESG issues • General disclosure items applicable to all sectors/ESG issues (Certain ESG issue-specific disclosure items are included)	• Specific disclosure items for each sector and ESG issue Here are common parts	• General guidance applicable to all sectors (There are additional guidelines for certain sectors)
	Strategies and practices (For material issues)	• General guidance applicable to all sectors/ESG issues • General disclosure items applicable to all sectors/ESG issues (Certain ESG issue-specific disclosure items are included)	• Specific disclosure items for each sector and ESG issue Here are common parts	• General guidance applicable to all sectors (There are additional guidelines for certain sectors)
Quantitative information	KPIs (For material issues)	• General guidance applicable to all sectors/ESG issues • Specific disclosure indicators for each ESG issue	• Specific disclosure indicators for each sector and ESG issue Some of them are common parts	• General guidance applicable to all sectors • Disclosure of GHG emissions (There are examples of other KPIs for certain sectors)

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of each ESG information disclosure frameworks/standards.

Example of information disclosure by companies overseas in line with the SASB Standards

The SASB Standards, the first codified version of which was published in November 2018, are relatively new among the major global ESG information disclosure frameworks/standards, but an increasing number of companies disclose ESG information in accordance with the disclosure items and indicators set by the SASB Standards. For example, at each of JetBlue Airways, General Motors, Nike and SK Telecom, the following tables were included in their sustainability and/or annual reports. For investors who want to use the disclosure items and indicators of the SASB Standards, it also functions as a table of contents, and is considered to be highly convenient.

<Information disclosure by JetBlue (U.S.) in line with the SASB Standards>

Sustainability Disclosure Topics and Accounting Metrics

Topic	SASB Code	Metric	2017 Performance	2016 Performance	Page
Environmental Footprint of Fuel Use	TR0201-01	Gross global Scope 1 emissions	7,809,488 MT CO ₂ e	7,484,799 MT CO ₂ e	4
	TR0201-02	Description of long-term strategy or plan to manage Scope 1 emissions	2017 Report, page 6	2016 Report, page 4	6
	TR0201-03	Total fuel consumed	112.8 million gigajoules	108.2 million gigajoules	11
	TR0201-04	Notional amount of fuel hedged	Removed from SASB October 2017 Airlines Exposure Draft	47 million gallons, 2016	
Labor Relations	TR0201-05	Percentage of active workforce covered under collective-bargaining agreements	0	0	14
	TR0201-06	Number and duration of strikes and lockouts	0	0	16
Competitive Behavior	TR0201-07	Amount of legal and regulatory fines and settlements associated with anti-competitive practices	0	0	17
Accidents & Safety Management	TR0201-08	Description of implementation and outcomes of Safety Management System	2017 Report, page 19	2016 Report, page 16	19
	TR0201-09	Number of accidents	2	2	24
	TR0201-10	Number of governmental enforcement actions of aviation safety regulations	0	0	24
Customer Welfare	TA05-11-01 (optional disclosure)	American Customer Satisfaction Index Airline Ranking	1 st place	1 st place	25

Source: JetBlue “2017 Environmental Social Governance Report” pp. 3
<<https://www.jetblue.com/sustainability/reporting>>

<Information disclosure by General Motors (U.S.) in line with the SASB Standards>

SASB Index

Our 2017 report marks the first time that GM has reported to the Sustainability Accounting Standards Board framework. Currently, we do not track all metrics included in the Transportation Standards but look forward to including more data in the future.

	Metric	Category	Unit of Measure	Code	Response
Accounting Metrics	Number of vehicles produced	Quantitative	Number	TR0101-A	8,898,697 vehicles
	Number of vehicles sold	Quantitative	Number	TR0101-B	9,600,000
Topic	Metric	Category	Unit of Measure	Code	Response
Materials Efficiency & Recycling	Narrative description of Materials Efficiency & Recycling	Qualitative	The registrant's strategic approach to managing performance on material sustainability issues; • The registrant's competitive positioning; • The degree of control the registrant has; • Any measures the registrant has undertaken or plans to undertake to improve performance; and • Data for the registrant's last three completed fiscal years (when available).	N/A	Operations
	Amount of total waste from manufacturing, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	TR0101-01	GRI 306-2 Our 100 landfill-free manufacturing sites on average reuse, recycle or compost approximately 91 percent of their waste from daily operations and convert 9 percent to energy.
	Weight of end-of-life material recovered, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	TR0101-02	On average, our vehicles are approximately 85 percent recyclable and 95 percent recoverable by weight.
	Average recyclability of vehicles sold, by weight	Quantitative	Percentage (%) by sales-weighted weight (metric tons)	TR0101-03	On average, our vehicles are approximately 85 percent recyclable and 95 percent recoverable by weight

Source: General Motors "2017 Sustainability Report" pp. 170
<https://www.gmsustainability.com/_pdf/downloads/GM_2017_SR.pdf>

<Information disclosure by Nike (U.S.) in line with the SASB Standards>

SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB)

SASB is an independent, private sector standards-setting organization dedicated to enhancing the efficiency of the capital markets by fostering high-quality disclosure of material sustainability information that meets investor needs. The table below cross-references the SASB accounting metrics with where that information can be found in NIKE's FY16/17 Sustainable Business Report (SBR) and Sustainability Website.

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE	DATA	REFERENCE
MANAGEMENT OF CHEMICALS IN PRODUCTS	Description of processes to maintain compliance with restricted substances regulations	Discussion and Analysis	N/A	CN0501-01		<ul style="list-style-type: none"> SBR: Chemistry (Measure: 100% compliance with NIKE RSL) Approach to Chemistry Chemistry Playbook
	Description of processes to assess and manage risks associated with chemicals in products	Discussion and Analysis	N/A	CN0501-02		<ul style="list-style-type: none"> SBR: Chemistry (Target: Enable Zero Discharge of Hazardous Chemicals) Approach to Chemistry Chemistry Playbook
RAW MATERIAL SOURCING & INNOVATION	Discussion of environmental and social risks associated with sourcing priority materials	Discussion and Analysis	N/A	CN0501-03		<ul style="list-style-type: none"> SBR: Materials (Target: Increase use of more sustainable materials in footwear and apparel) Sustainable Materials Sustainable Materials Principles
	Percentage of raw materials third-party certified to an environmental or social sustainability standard, by standard	Quantitative	Percentage (%) by weight	CN0501-04	Materials (FY17) <ul style="list-style-type: none"> Cotton <ul style="list-style-type: none"> Organic: 8% Recycled: <1% BCI: 46% Polyester <ul style="list-style-type: none"> Recycled: 14% Corrugate <ul style="list-style-type: none"> Recycled: 84% Rubber <ul style="list-style-type: none"> Environmentally preferred rubber: 98% Foam <ul style="list-style-type: none"> Recycled EVA foam: <1% 	<ul style="list-style-type: none"> SBR: Materials (Target: Increase use of more sustainable materials in footwear and apparel) Sustainable Materials Sustainable Materials Principles
LABOR CONDITIONS IN THE SUPPLY CHAIN	Percentage of (1) tier 1 suppliers and (2) suppliers beyond tier 1 that have been audited to a labor code of conduct, percentage conducted by a third-party auditor	Quantitative	Percentage (%)	CN0501-05	100% of Tier 1 suppliers audited to Code of Conduct, which includes environmental data collection <ul style="list-style-type: none"> 4% audited by third-party auditor Suppliers beyond Tier 1 audited to Code of Conduct <ul style="list-style-type: none"> N/A. We disclose a number of strategic material suppliers (Tier 2) on our Manufacturing Map along with finished goods factories. 	<ul style="list-style-type: none"> SBR: Sustainable Sourcing (Target: Source 100% from factories that meet our definition of sustainable) NIKE's Sourcing and Manufacturing Standards
	Priority non-conformance rate and associated corrective action rate for suppliers' labor code of conduct audits	Quantitative	Rate	CN0501-06	In FY17, 9.1% of audits were rated below Bronze (non-conformance)	<ul style="list-style-type: none"> SBR: Sustainable Sourcing (Target: Source 100% from factories that meet our definition of sustainable) NIKE's Sourcing and Manufacturing Standards
	Discussion of greatest (1) labor and (2) environmental, health, and safety risks in the supply chain	Discussion and Analysis	N/A	CN0501-07		<ul style="list-style-type: none"> SBR: Issue Prioritization, Sustainable Sourcing (Target: Source 100% from factories that meet our definition of sustainable) Protecting the Environment Making Product Responsibly
ENVIRONMENTAL IMPACTS IN THE SUPPLY CHAIN	Percentage of (1) tier 1 supplier facilities and (2) supplier facilities beyond tier 1 with wastewater discharge meeting or exceeding legal requirements	Quantitative	Percentage (%)	CN0501-08	In FY17, 72.6% of focus suppliers met NIKE's wastewater quality requirements for textile dyeing and finishing processes	<ul style="list-style-type: none"> SBR: Chemistry Approach to Chemistry Chemistry Playbook
	Percentage of (1) tier 1 suppliers and (2) suppliers beyond tier 1 who have completed the Sustainable Apparel Coalition's Higg Index Facility Module assessment or equivalent environmental data collection	Quantitative	Percentage (%)	CN0501-09	100% of Tier 1 suppliers audited to Code of Conduct, which includes environmental data collection <ul style="list-style-type: none"> 4% audited by third-party auditor Suppliers beyond Tier 1 audited to Code of Conduct <ul style="list-style-type: none"> N/A. We disclose a number of strategic material suppliers (Tier 2) on our Manufacturing Map along with finished goods factories. 	<ul style="list-style-type: none"> SBR: Sustainable Sourcing (Target: Source 100% from factories that meet our definition of sustainable) NIKE's Sourcing and Manufacturing Standards

Source: Nike <https://s1.q4cdn.com/806093406/files/doc_downloads/NIKE-SASB-FY1617-SBR.pdf>

<Information disclosure by SK Telecom (South Korea) in line with the SASB Standards>

SASB INDEX

ACTIVITY METRIC				
Accounting Metric	Category	Unit	Code	Cross Reference/Direct Answer
Wireless Subscribers	Quantitative	Number	TC0301-A	pp.37, 107
Wireline Subscribers	Quantitative	Number	TC0301-B	pp.107-108
Broadband Subscribers	Quantitative	Number	TC0301-C	pp.107-108
Network traffic, percentage on cellular network, and percentage on fixed network	Quantitative	Petabytes, %	TC0301-D	p.122
Network bandwidth capacity, percentage leased	Quantitative	Mbps, %	TC0301-E	pp.55-58, 122, SK Telecom directly owns the networks in the domestic mobile telecom business; it rents lines to MVNO businesses as required by the Telecommunications Business Act

DISCLOSURE METRIC					
Topic	Accounting Metric	Category	Unit	Code	Cross Reference/Direct Answer
Environmental Foot-print of Operations	Total energy consumed, percentage grid electricity, percentage renewable energy; amount of energy consumed by (a) cellular and (b) fixed networks	Quantitative	GJ / %	TC0301-01	p.127
Data Privacy	Discussion of policies and practices relating to collection, usage, and retention of customer information and personally identifiable information	Discussion and Analysis	N/A	TC0301-02	pp.123-124
	Percentage of users whose customer information is collected for secondary purpose, percentage who have opted-in	Quantitative	%	TC0301-03	-
	Amount of legal and regulatory fines and settlements associated with customer privacy	Quantitative	KRW	TC0301-04	p.130
	Number of government or law enforcement requests for customer information, percentage resulting in disclosure	Quantitative	Number, %	TC0301-05	p.130
	Number of data security breaches and percentage involving customers' personally identifiable information	Quantitative	Number, %	TC0301-06	No information security violations
Data Security	Discussion of management approach to identifying and addressing data security risks	Discussion and Analysis	N/A	TC0301-07	pp.123-124
	Materials recovered through take back programs, percentage of recovered materials that are (a) reused, (b) recycled, and (c) landfilled	Quantitative	Weight (tons), percentage by weight	TC0301-08	pp.128-129
Product End-of-Life Management	Average interruption frequency and average interruption duration	Quantitative	Disruptions/customer, Hours/customer	TC0301-09	p.122
Managing Systemic Risks from Technology	Description of systems to provide unimpeded service during service interruptions	Discussion and Analysis	N/A	TC0301-10	pp.79-80, 122
Disruptions	Amount of legal and regulatory fines and settlements associated with anti-competitive practices	Quantitative	KRW	TC0301-11	No fines or penalties paid related to unfair competition
Fair Competition					

Source: SK Telecom “Annual Report 2017” pp. 148

<<https://www.sktelecom.com/img/eng/annual/20180705/2017SKTAReng3.pdf>>

(v) Discussions on the Differences

Having considered the common parts, we will now discuss some of the features and differences that have emerged through the comparative analysis of the major global ESG information disclosure frameworks/standards.

The International Integrated Reporting Framework does not contradict to any the other frameworks/standards

As mentioned above, the International Integrated Reporting Framework is based on a

principle-based approach, and it does not set any specific disclosure items and indicators. It is only a “framework”, and since it is different from a “standard”, it is not considered to be contradictory to the GRI Standards or SASB Standards²⁷. GRI and SASB themselves also make the assertion that the International Integrated Reporting Framework has a complementary relationship to their own standards²⁸.

Dr. Robert G. Eccles (Oxford University), a member of the IIRC Council and the former chair of SASB, points out as follows.

“The IIRC has established a high-level, principle-based framework for integrated reporting. From its inception, it was clear that it had no intention of becoming a standard setter for how specific pieces of information should be measured and reported. As that is the work of the other three organizations (note: GRI, SASB, etc.), their missions are clearly complementary to the IIRC. Each can provide input to a company about the nonfinancial information it decide to include in its integrated report”²⁹.

The ultimate goal of producing an integrated report is “to explain to providers of financial capital how an organization creates value over time”³⁰. Few investors will argue against this philosophy. It is thought that investors who utilize ESG information, especially with judgemental investing, generally have higher needs for integrated reporting by companies³¹. In order to improve corporate IR, it could be worth pursuing to produce higher quality integrated reports by effectively utilizing the disclosure items and indicators specified by the GRI Standards and SASB Standards³².

Business models disclosure is the key characteristic of the International Integrated Reporting Framework

One other characteristic of the International Integrated Reporting Framework is the fact that they require disclosure of business models. Of course, many of the disclosure items and indicators set by the GRI Standards and SASB Standards are also more or less somewhat related to the business models of companies. However, the business model disclosure required by the International

²⁷ Based on the interview surveys.

²⁸ Based on GRI “Integrated Reporting”

<<https://www.globalreporting.org/information/current-priorities/integrated-reporting/Pages/default.aspx>>, and materials provided by SASB.

²⁹ Eccles, R. G. and Krzus, M. P. (2014) *The integrated reporting movement: Meaning, momentum, motives, and materiality*. John Wiley & Sons, pp. 289.

³⁰ IIRC “International Integrated Reporting Framework”, pp. 7.

³¹ For example, GPIF seeks for investment management institutions to actively use the integrated reports, and as part of that, they compile and publish the “excellent integrated reports” and “most improved integrated reports” selected by the investment management institutions that are contracted to invest in Japanese stocks. (GPIF (2019) “Excellent Integrated Reports and Most-improved Integrated Reports selected by GPIF’s asset managers entrusted with domestic equity investment”

<https://www.gpif.go.jp/en/investment/20190304_excellent_and_most_improved_integrated_reports_2018.pdf>)

³² With regards to the disclosure of KPI, in the interview surveys, it was pointed out that as companies make disclosures in relation to their operating results and financial conditions, the usefulness of the information for investors is increased.

Integrated Reporting Framework is clearly different from other disclosure frameworks/standards. It treats business models as a “system of transforming input into outputs and outcomes” and requires comprehensive and systematic disclosure of that mechanism.

While the disclosure of business models is not commonly required by the ESG information disclosure frameworks/standards, it is useful for investors, especially for fundamentals analysis, to understand companies deeply and to improve investment decision making. That is to say, the business model disclosure has a high demand from investors who utilize ESG information, thus for corporate IR, while being aware of the common parts, when aiming to further enhance ESG information disclosure from there, it is also worthwhile to consider the disclosure of business models.

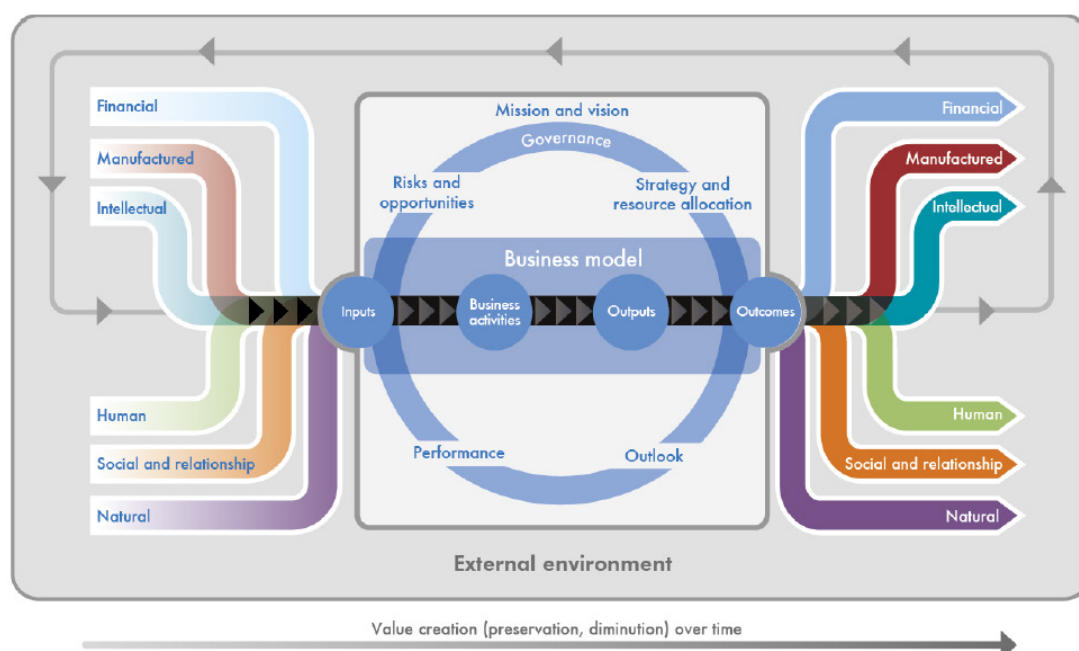
2.2

Business model disclosure in the International Integrated Reporting Framework

○ About business model

An organization’s system of transforming inputs through its business activities into outputs and outcomes that aims to fulfil the organization’s strategic purposes and create value over the short, medium and long term.

<The value creation process in the International Integrated Reporting Framework>



Source: IIRC “International Integrated Reporting Framework”, pp. 13.

○ **Components of the description**

- Key inputs
- Key business activities
- Key outputs
- Key outcomes

○ **Features that can enhance the effectiveness and readability of the description**

- Explicit identification of the key elements of the business model
- A simple diagram highlighting key elements, supported by a clear explanation of the relevance of those elements to the organization
- Narrative flow that is logical given the particular circumstances of the organization
- Identification of critical stakeholder and other (e.g., raw material) dependencies and important factors affecting the external environment
- Connection to information covered by other Content Elements, such as strategy, risks and opportunities, and performance (including KPIs and financial considerations, like cost containment and revenues)

Source: Prepared by Nissay Asset Management based on the IIRC “International Integrated Reporting Framework”.

Column 1: Business Model in Business Administration Research

Today, the phrase “business model” is regularly used in business settings, but it is a very ambiguous and abstract phrase, and its meaning may often differ depending on the user.

Such a situation seems to be similar in business administration research.

It has been pointed out that historically newspaper articles or studies dealing with business models have rapidly increased since around 1995³³. This was in the second half of the 1990s when the development of information and communications technology has led rapid spread of e-commerce. Information and communications technology has diversified the systems and methods with regards to “how do companies earn money” and “how do companies create value”. This has led researchers and practitioners to become interested in “business models”.

³³ Ghaziani, A., and Ventresca, M. J. (2005) “Keywords and cultural change: Frame analysis of business model public talk, 1975–2000” *Sociological Forum*, Vol. 20, No. 4, pp. 523-559; Zott, C., Amit, R., and Massa, L. (2011) “The business model: recent developments and future research” *Journal of management*, Vol. 37, No. 4, pp. 1019-1042

Yao Jun, an associate professor at Meiji University, has published a study about business models and information disclosure³⁴. In the study he points out that, the following trend is seen in how to look at business models in prior research, “because business models have various concepts and components, and there is not a unified view in practice and in theory, how to disclose a business model is a big challenge for companies.”³⁵

- Value is positioned in the core concept of the business model.
- The process of value creation of a company is not captured as static process, but as a dynamic process and mechanism. It shows what kind of organization and financial structure a company should attain, how a company should carry out its business activities, and how to use its resources and capabilities to realize its value.
- It explains the business activities and value creation of a company from a holistic point of view, not a specific one. It is a mechanism that includes various elements, and is a system composed of components, link dynamics and others.

The difference between the GRI Standards and the SASB Standards

The GRI Standards and the SASB Standards, which adopt a rule-based approach, both require a large amount of information disclosure related to “KPIs”. In fact, as confirmed in Fig. 23, about 70% of the disclosure items and indicators set in the SASB Standards are classified as “KPIs”, and about 50% in the GRI Standards.

However, the two standards clearly differ in their view of sustainability, and the purpose of the information disclosure (Fig. 30).

The word “sustainability” has come to be used frequently these days, but it is a word where it is easy for people to have different ideas about it. The interpretation of the word “sustainability” is often different depending on the users³⁶.

While the word “sustainability” is repeatedly used in the GRI Standards and the SASB Standards, the meaning in each is clearly different. The former uses it to mean “sustainability of the planet and social systems”, while the latter uses it to mean “corporate sustainability”.

This difference clearly appears in the differences between the disclosure items and indicators of the two standards (Fig. 30).

³⁴ Yao J. (2016) “Business Models and Corporate Reports” *The Doshisha Business Review*, Vol. 67, No. 4, pp 369-382 (in Japanese).

³⁵ Ibid, pp. 380 (in Japanese).

³⁶ The ambiguity of the word sustainability and how it is used is detailed Kawaguchi M. (2006) “What is Sustainability?” *DIR Strategic Management Research*, Vol. 9, pp 30-59.

For example, both standards have disclosure items and indicators related to energy consumption, and they both commonly seek disclosure about the amount of energy that a company consumes through its own production activities, and the proportion of renewable energy.

However, looking at the disclosure items and indicators related to energy consumption associated with the use of products and/or services by consumers/clients, the two standards are clearly different. Specifically, the GRI Standards require disclosure of “how much the environmental efficiency of the products and services improved” (= impact on the planet), while the SASB Standards require disclosure of “how many products and services were sold that had a better environmental efficiency, and/or the amount of revenue from them” (= impact on business results).

Fig30: Comparison of the GRI Standards and the SASB Standards

	GRI Standards	SASB Standards
Definition of ‘sustainability’	Development which meets the needs of the present without compromising the ability of future generations to meet their own needs (= Sustainability of the planet and social systems)	Corporate activities that maintain or enhance the ability of the company to create value over the long term (= Corporate Sustainability)
Purpose of information disclosure	Reporting organization’s economic, environmental, and/or social impacts (organization’s positive and negative contributions towards the goal of sustainable development)	Disclosure of a minimum set of sustainability issues most likely to impact the operating performance or financial condition of the typical company in an industry, regardless of location
Examples of almost common KPIs	GRI 302: Energy 2016 Disclosure 302-1 Energy consumption within the organization a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used. b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used.	SASB Standards: 27 sectors, including Steel and Chemical • (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable
Examples of different KPIs	GRI 302: Energy 2016 Disclosure 302-5 Reductions in energy requirements of	SASB Standards: Automotive • Number of (1) zero emission vehicles (ZEV), (2) hybrid vehicles, and (3)

	<p>products and services</p> <p>a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples.</p> <p>b. Basis for calculating reductions in energy consumption, such as base year or baseline including the rationale for choosing it.</p> <p>c. Standards, methodologies, assumptions, and/or calculation tools used.</p>	<p>plug-in hybrid vehicles sold</p> <p>SASB Standards: Automotive Parts</p> <ul style="list-style-type: none"> • Revenue from products designed to increase fuel efficiency and/or reduce emissions
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Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of GRI Standards, SASB Standards, and other various materials.

The SASB Standards are an “implementation tool” of the TCFD Final Recommendations

With regards to the relationship between the TCFD Final Recommendations and the SASB Standards, SASB has pointed out that the content of the TCFD Final Recommendations is a framework that shows basic concepts, and it does not set individually specified disclosure items and indicators. The SASB Standards can play a role as the “implementation tool” when companies conduct information disclosure in line with the TCFD Final Report.³⁷

That is to say, both the SASB Standards and the TCFD Final Recommendations seek financially material information disclosure that helps investors³⁸ make economic decisions. The two are said to be complementary, not contradictory.

But this does not mean that there are no differences between the two.

Fig. 31 shows the mapping of TCFD Final Recommendations and the SASB Standards. There are three main differences between the two as follows.

- The first difference is that, with regards to the recommendations for “Governance” and “Risk Management” in the TCFD Final Recommendations, it should be disclosed regardless of whether it is financially material or not. In addition, with regards to “Strategy” and “Metrics and Targets” as well, it requires disclosure for all companies belonging to the “non-financial

³⁷ SASB (2017) “Frequently Asked Questions: Understanding How SASB Standards and TCFD Recommendations are Complementary”
<<https://www.fsb-tcfd.org/wp-content/uploads/2017/12/SASB-SASB-Standards-TCFD-Recommendations-FAQ-14-Dec-2017.pdf>>

³⁸ However, for the TCFD Final Report, the entire financial sector, including investors, is positioned as the user of the disclosure information.

group”³⁹ whose revenue exceed \$1.0 billion. On the other hand, SASB Standards set disclosure items and indicators only with regards to industries where it is financially material. On this point, since TCFD “cautions organizations against prematurely concluding that climate-related risks and opportunities are not material”⁴⁰, it requires disclosure regardless of whether it is financially material or not. Similarly, even for large companies that are part of the non-financial group, given the size of greenhouse gas emissions and the high degree of dependence on water resources, etc., they are uniformly required to disclose as it is likely to be material in financial terms.

- The second difference is with regards to climate scenario analysis. Climate scenario analysis is one of the biggest features of the TCFD Final Recommendations. The SASB Standards also require climate scenario analysis on specific matters for certain industries (to be explained later), but it can be said that the requirements of the SASB Standards are narrow compared to the TCFD Final Recommendations, which require climate scenario analysis for a wider range of companies.
- The third difference is with regards to disclosure of the Scope 3 emissions⁴¹. While the TCFD Final Recommendations require disclosure of the Scope 3 emissions if appropriate, the SASB Standards basically do not require disclosure of the Scope 3 emissions. Also, while the TCFD Final Recommendations require disclosure of the Scope 2 emissions, in the case of the SASB Standards, there are minor differences as disclosure is required in the form of the amount of energy consumed.

While there are some clear differences between the two, the differences are not such that the complementary relationship between the two is impaired. The first codified version of the SASB Standards was published after the TCFD Final Recommendations was published in June 2017, and it was developed with an awareness of the contents of the TCFD Final Recommendations.

³⁹ In the TCFD Final Recommendations, the non-financial group is defined as the sectors which are more likely to be financially impacted by climate change. Specifically, it consists of the industries for energy, transportation, materials and buildings, agriculture, food, and forest products.

⁴⁰ TCFD (2017) pp. 33-34.

⁴¹ Greenhouse gas emissions are classified according to the scope of activity as follows. Scope 1 refers to direct emissions of greenhouse gases by companies themselves, Scope 2 refers to indirect emissions associated with the use of electricity, heat, and steam supplied by others, and Scope 3 refers to indirect emissions other than Scope 2.

Fig31: Mapping of the TCFD Final Recommendations and the SASB Standards

Recommended disclosures by TCFD		Targeted organization for disclosure by TCFD	Relevant disclosure items/indicators defined by SASB
Governance	a) Describe the board's oversight of climate-related risks and opportunities.	All organizations should disclose regardless of whether financially material or not	○
	b) Describe management's role in assessing and managing climate-related risks and opportunities.		○
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Organizations should disclose if financially material . However, all non-financial group with more than \$1 billion revenue should be disclosed	○
	b) Describe the impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.		○
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.		△ (partially addressed)
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks.	All organizations should disclose regardless of whether financially material or not	○
	b) Describe the organization's processes for managing climate-related risks.		○
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.		○
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.	Organizations should disclose if financially material . However, all non-financial group with more than \$1 billion revenue should be disclosed	○
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.		△ (partially addressed)
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.		○

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the contents described in TCFD Final Recommendations, SASB website and SASB Symposium (New York, December 2018) and the interview surveys.

Climate scenario analysis and the SASB Standards

The TCFD Final Recommendations require disclosure of climate scenario analysis for all companies where climate change is financially material, and all companies belonging to the non-financial group with more than \$1.0 billion revenue regardless of whether it is material or not. However, the SASB Standards require 12 out of 77 industries to perform and disclose climate scenario analysis for specific matters (Fig. 32). While limited to certain industries, for companies that fall under these industries, in terms of dealing with climate scenario analysis for TCFD disclosure, the details of the SASB Standards would be helpful.

Fig32: Mapping of the TCFD Final Recommendations and the SASB Standards Regarding Climate Scenario Analysis

TCFD Final Recommendations		SASB Standards	
Sector more likely to be financially impacted by climate change		SASB industry (subsector) corresponding to TCFD sector	Outline of proposed climate scenario analysis
Financial sector	Banks	Commercial Banks	Analysis of climate-related risks impacting on commercial and industrial credit portfolios
	Insurance Companies	Investment Banking & Brokerage	Analysis of climate-related risks impacting on investment banking and brokerage activities
	Asset Owners	Insurance	Analysis of climate-related risks impacting on investment portfolios
	Asset Managers	n/a	Analysis of probable maximum loss of insured products from weather related natural catastrophes
	Asset Managers	Asset Management & Custody Activities	Analysis of climate-related risks impacting on investment portfolios
Non-financial group	Energy		
	Oil and Gas	Oil & Gas – Exploration & Production	Sensitivity analysis of hydrocarbon reserve levels to future price projection scenarios that account for a price on carbon emissions
	Coal	Coal Operations	Sensitivity analysis of coal reserve levels to future price projection scenarios that account for a price on carbon emissions
	Electric Utilities	n/a	
	Transportation		
	Air Freight	n/a	
	Passenger Air Transportation	n/a	
	Maritime Transportation	n/a	
	Rail Transportation	n/a	
	Trucking Services	n/a	
	Automobiles and Components	n/a	
	Materials and Buildings		
	Metals and Mining	n/a	
	Chemicals	n/a	
	Construction Materials	n/a	
	Capital Goods	n/a	
	Real Estate Management and Development	Home Builders	Analysis of extreme weather, water shortage and tighter regulations impacting on regional infrastructure, local economy, business, etc.
		Real Estate	Analysis of extreme weather, water shortage and tighter regulations impacting on regional infrastructure, local economy, tenant demand, etc.
		Engineering & Construction Services	Analysis of backlog for hydrocarbon-related projects, renewable energy projects, and non-energy projects associated with climate change mitigation.
	Agriculture, Food and Forest Products		
	Beverages	n/a	
	Agriculture	Agricultural Products	Analysis of climate changes impacting on principal crops
	Packaged Foods and Meats	Meat, Poultry & Dairy	Analysis of climate changes impacting on feed sourcing
	Paper and Forest Products	Forestry Management	Analysis of climate changes impacting on forest management and timber production

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of TCFD Final Recommendations and SASB Standards.

Recommendations of the disclosure regarding the climate scenario analysis in the SASB Standards

Among the industries for which the SASB Standards require climate scenario analysis (Fig. 32), the details of the recommendations are introduced below for Oil and Gas – Exploration & Production and Coal Operation industries in the Extractive & Minerals Processing sector, and the Insurance industry in the Financial sector.

■ Oil and Gas – Exploration & Production and Coal Operation

For these industries, the SASB Standards recommend sensitivity analysis disclosure with regards to how will the economically recoverable reserves of oil, gas and coal resources owned by the companies be affected by future climate change (current reserves of underground resources that can be mined and are economically profitable).

The climate scenarios sought by the SASB Standards are three scenarios by the International Energy Agency (IEA). They are the “Current Policies Scenario” that assumes that only current and established policies are implemented, the “New Policies Scenario” that assumes that climate change

measures declared by each country will be implemented, and the “Sustainable Development Scenario” that assumes that the policies necessary to keep the global temperature rise to within 2°C will be implemented. The SASB Standards recommend that companies disclose the proven reserves and probable reserves they hold by using a table like the following.

<Disclosure format example for the SASB Standards>

Price case	Proven reserves			Probable reserves		
Scenario	Oil (MMbbls)	Gas (MMscf)	Product A (measure)	Oil (MMbbls)	Gas (MMscf)	Product A (measure)
Current Policies Scenario						
New Policies Scenario						
Sustainable Development Scenario						

Source: Provisional translation by Nissay Asset Management based on the SASB “Oil & Gas – Exploration & Production, Sustainability Accounting Standard, Version 2018-10” pp. 38.

Price case	Proven reserves		Probable reserves	
Scenario	Coal (tons)	Product A (measure)	Coal (tons)	Product A (measure)
Current Policies Scenario				
New Policies Scenario				
Sustainable Development Scenario				

Source: Provisional translation by Nissay Asset Management based on the SASB “Coal Operations, Sustainability Accounting Standard, Version 2018-10” pp. 32.

■ **Insurance**

With regards to insurance companies, the SASB Standards recommend disclosure of Probable Maximum Loss (PML) regarding the risk for the occurrence of natural disasters associated with climate change, etc.

Specifically, for at least three cases where the probability of occurrence is 2% (1-in-50), 1% (1-in-100), and 0.4% (1-in-250), using the following table, it requires disclosure of both the gross PML before the reinsurance deductible, and the net PML after the reinsurance deductible. At that time, it is recommended to also include the climate scenarios based on the TCFD Final Recommendations.

<Disclosure format example for the SASB Standards>

Gross PML

	1-in-50	1-in-100	1-in-250
Hurricanes(Typhoons)			
Tornadoes			
Tsunamis			
Floods			
Droughts			
Extreme Heat			
Winter Weather			

Net PML

	1-in-50	1-in-100	1-in-250
Hurricanes(Typhoons)			
Tornadoes			
Tsunamis			
Floods			
Droughts			
Extreme Heat			
Winter Weather			

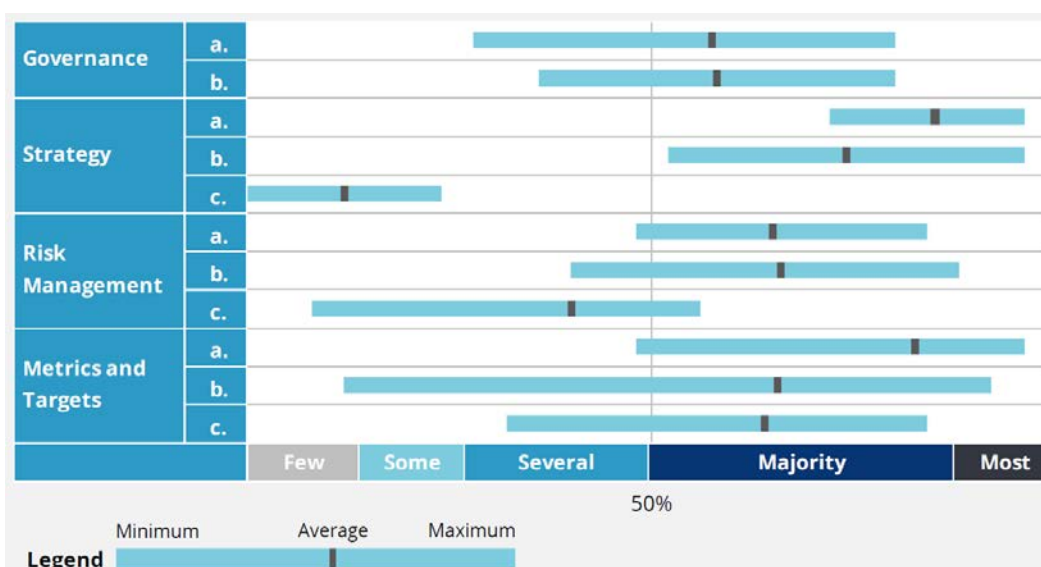
Source: Provisional translation by Nissay Asset Management based on the SASB “Insurance, Sustainability Accounting Standard, Version 2018-10” pp. 20.

Examples of disclosure of climate scenario analysis by Japanese and overseas companies

In September 2018, the TCFD published its first “Status Report”⁴² since it released the Final Recommendations. With regards to each of the TCFD recommendations, the report looks at the status of disclosure by companies.

The below table shows the results of a survey targeting the 200 major companies belonging to the “non-financial group”⁴³ that TCFD has identified as being part of sectors that are particularly likely to have a financial impact from climate change (regardless of whether they have stated support for the TCFD). This survey is the only analysis of the presence or absence of relevant information disclosure, and it should be noted that the content (degree) of the disclosure is not considered, but for many of the large companies that have a strong relationship with climate change, it can be seen that they have already disclosed certain information related to the TCFD recommendations.

<Disclosure status for each of the TCFD Final Recommendations (200 companies)>



Note: For the details of a, b and c in the table, refer to Fig. 31.

Source: TCFD (2018) pp. 9

However, there are recommended items where the disclosures are clearly less, such as disclosures with regards to climate scenario analysis (Strategy c in the table). From such a fact, climate scenario analysis can be seen as an unprecedented new attempt by many companies trying to address the TCFD Final Recommendations.

Below, we introduce examples of disclosures by companies in Japan and overseas with regards to climate scenario analysis.

⁴² TCFD (2018) “Task Force on Climate-related Financial Disclosures: 2018 Status Report”

<<https://www.fsb-tcfd.org/wp-content/uploads/2018/08/FINAL-2018-TCFD-Status-Report-092518.pdf>>

⁴³ See footnote 39.

■ Bloomberg L.P.

Bloomberg, a leading financial information services company, has done analysis about the impact on their business of two scenarios - a scenario where the rise in global temperatures can be kept to within 2°C as a result of climate change mitigations, and a scenario where temperatures rise more than 2°C.

In addition to explaining the potential consequences of both scenarios, the analysis results also show the size of the quantitative impact on the company's revenue and expenses, as well as the timeline until the impact becomes apparent.

<Disclosure example of climate scenario analysis by Bloomberg>

2° Celsius scenario				
Risks	Policy and Legal	Impact quantification	Time line	Potential result
Transition		<7% impact on business	Europe: 1-3 years Other: 4-10 years	Our current initiative to transition all of the energy used in our offices and data centers to renewable sources will limit the impact of any policy changes that may increase the cost of greenhouse gas emissions.
	Technology	<7% impact on costs associated with renewable energy technology	4-7 years	Advances in technology would not present a material risk to our business. If advances occur faster than anticipated and the price for renewable energy drops, we may be locked into higher-than-market rates for our current contracts. However, with 11% of our business currently run on renewable energy, we will be transitioning the majority of our business under the new market prices. While we may be able to complete the transition sooner, this would not significantly impact costs.
	Market	20% increase in sustainable business- and finance-related R&D	1-7 years	Demand for financial tools and data for markets such as oil and gas will decrease as global demand for these commodities declines. To hedge this risk, we must stay ahead of client preferences and invest more in the near term to advance the development of our renewable market tools.
	Reputation	<1% impact on business	7-10 years	As a current leader in corporate sustainability, our reputational risk is low; however, if we do not work to match our sustainability-related climate offerings with market changes, we could risk losing this position.
Physical	Acute	10% increase in capital investment at key facilities	1-10 years	Bloomberg has already prepared data centers and offices to withstand severe weather events and has formulated plans to ensure the safety of our employees and continuity of services to our customers should such events occur. These preparations include investing in wind-resistant buildings, additional fuel tanks and more resilient construction for key facilities and will continue as we add new locations.
	Chronic	<1% of an impact on business	4-7 years	Chronic climate changes such as increases in sea level and global temperature will be less impactful than in more extreme scenarios. Additionally, our business is not water-intensive, centered in climate-stressed regions or reliant on outdoor labor.
Limited mitigation scenario				
Risks	Policy and Legal	Impact quantification	Time line	Potential result
Transition		No discernible quantified impact	Europe: 1-3 years Other: 4-10 years	Policy changes may happen at different times across different geographies. Regardless, we will continue our path toward renewable operations and do not anticipate meaningful impact.
	Technology	<5% decrease in costs avoided from using renewable energy technology	4-7 years	Renewable technology will not advance as far, and renewable energy prices may not continue to decline as they have over the last decade. Costs avoided from using renewable energy may be tempered or take longer to realize.
	Market	Revenue loss mitigated by other market changes	4-10 years	If the renewable market does not grow as much as we anticipate, there is a risk that our current tools and planned investment will not generate as much revenue as projected. Increased demand for other tools that help deal with heightened physical risk will mitigate revenue changes.
	Reputation	No discernible quantified impact	1-10 years	Even in the absence of policies to promote a low-carbon economy, Bloomberg will continue to incorporate sustainability into our business and business offerings, so we do not anticipate reputational risk.
Physical	Acute	10% increase in capital investment at key facilities	1-10 years	Businesses may experience losses in productivity or working days due to severe weather events. While our contingency plans protect against a loss in revenue due to such events, increased spending on resiliency beyond what is described in a 2° Celsius scenario could be necessary.
	Chronic	<1% of an impact on business	4-7 years	The majority of Bloomberg's business dealings and operations are not in areas that are stressed by water or extreme temperatures; our own business is not resource-intensive, so chronic changes are not likely to have a large impact.
Opportunities				
Resource efficiency and energy source	Impact quantification	Time line	Potential result	
	Additional \$0 million in avoided energy costs	4-7 years	Renewable energy prices may stagnate, but climate stress may cause non-renewable resources to increase in price, ultimately leading to greater cost avoidance from our renewable operations.	
Products and services	20% increase in revenue from sustainable finance products	1-7 years	Our clients invested in markets such as real estate and insurance will need new products to analyze drastic market changes. We currently offer tools such as MAPS, a geo-intelligence resource that helps investors analyze physical climate change risks, and we will continue to develop products to capture increased demand.	
Markets	10% increase in revenue from tools for sustainable markets	4-7 years	As markets such as real estate and commodities become more volatile, the need for timely, transparent data and market-driven news could potentially increase; however, this will not have a significant impact on our business, which already provides solutions for volatile markets.	
Resilience	No discernible quantified impact	1-10 years	Our current resiliency practices have led us to build and renovate our buildings to extremely high physical stress standards. If climate change continues on its current path, this investment in resilient infrastructure may increase the value of the real estate assets we own.	

Source: Bloomberg "Impact Report 2017" pp. 20-21.

<<https://data.bloomberglp.com/company/sites/39/2018/07/Bloomberg-Sustainability-Impact-Report-2017-Web-3.pdf>>

■ Chevron Corporation

The U.S. energy giant Chevron Corporation did scenario analysis on the resilience of its business portfolio using the "Sustainable Development Scenario" by the International Energy Agency (IEA). Specifically, using crude oil and natural gas supply and demand forecasts under this scenario, it calculated the expected future prices for crude oil and natural gas. For the upstream businesses, such as exploration, development, drilling and transportation, and the downstream and chemical businesses, such as refining and production, they analyzed short-term (within 10 years) and long-term (after 10 years) impacts.

As a result of the analysis, for example, in the upstream business, while the rise in crude oil prices is controlled in the short term, there is progress in utilizing existing oil fields and investments for

cost reductions. In addition, high returns can be expected with relatively low risk by utilizing existing oil fields. Also, while crude oil prices will continue to be sluggish in the long run, it shows an outlook that profits are not necessarily affected as the total investment cost is reduced as well.

<Disclosure example of climate scenario analysis by the Chevron Corporation>

3.4 testing resilience of chevron's portfolio against the IEA's SDS

refined product supply and margins

Declining demand for transportation fuels in the SDS would require lower refinery runs and widespread rationalization in regions most impacted by demand declines. Margins would be pressured until sufficient capacity rationalization occurred to allow rebalancing of the market. Gasoline demand would decline more than would diesel and jet fuel demand, causing a decline in cracking margins for refineries that are optimized to maximize gasoline production. Flexible refineries that can shift production to diesel and jet fuel may gain a competitive edge.

In the first decade of the SDS, there would be a continuing need to create higher-value products from heavier feedstocks through advanced processing technologies like coking. Longer-term, declines in crude runs could limit feedstock availability to these process units, further eroding complex refining margins. In a perfectly competitive world, the least-efficient and -profitable refineries would rationalize, leaving a balanced market. However, given the strategic nature of refining, nonfinancial factors could prolong the overcapacity. Integration of our Upstream and Downstream value chains could become more important to maximizing enterprise value.

portfolio test

We tested our portfolio against the prices we projected under the IEA's SDS. Given Chevron's strategic focus on Upstream's most competitive assets and its actions to align Downstream & Chemicals around integrated and higher-margin activities, our portfolio is resilient, as measured against the SDS.

short-term impact (0-10 years)

Upstream: Our portfolio is diverse in maturity, geography and asset class. In the next few years, we are scheduled to complete the majority of the capital spending on a number of major capital projects, including the Kazakhstan Future Growth Project, Gorgon and Wheatstone. Although lower prices can mean less total cash flow, the Kazakhstan Future Growth Project, Gorgon and Wheatstone will generate cash even in an environment that lacks substantial price growth and will produce resources for decades to come. The base business in Kazakhstan delivers strong earnings and cash generation. Deepwater assets in the Gulf of Mexico and Nigeria and heavy oil in California also generate significant cash and earnings.

Having a presence in different countries enables us to make portfolio decisions that are best aligned with overall economic

conditions. A strong Upstream base business acts as insurance against scenarios in which demand can be satisfied through reinvestment in existing assets. For investment decisions, limited price growth in the IEA's SDS would favor the development of brownfield opportunities and lower-cost, short-cycle capital investments versus long-cycle capital projects. Brownfield projects leverage previous investments and infrastructure and typically deliver relatively high-return, low-risk outcomes while returning cost of capital at oil prices of less than \$40/barrel. Gorgon, Wheatstone and Kazakhstan will also present opportunities for future brownfield investments.

In addition to brownfield opportunities on existing assets, shorter-cycle, higher-return investments would be favored. The Permian Basin is a strong, short-cycle capital investment opportunity that gives Chevron the flexibility to adjust to changing market conditions. In 2017, we provided guidance for an internal rate of return on Permian investments of more than 30 percent, at \$50/barrel (West Texas Intermediate). The typical profile of cumulative cash flow from production enables capital to be recovered quickly.

A diverse portfolio mitigates risk and enables us to take advantage of new opportunities that may arise from climate-induced changes in industry economics.

Downstream & Chemicals: The Downstream portion of our business is resilient in the short term due to actions we have taken to increase feedstock flexibility, such as our recent investments in Richmond, California, and Singapore. We have made targeted investments to strengthen our fuels value chains in our refining and marketing business, focusing on higher-return segments, such as lubricants, additives and petrochemicals, and divesting assets that did not strategically fit our portfolio, such as refineries in the United Kingdom, New Zealand and South Africa. The sale of the latter is currently underway.

Similar to Upstream, our Downstream assets benefit from having made the majority of their capital investments in the past, including completion of the Richmond Refinery Modernization Project, which is expected in 2019.

Petrochemical demand is expected to grow even in the IEA's SDS, which will help maintain earnings from the chemical business.

A diversified business helps mitigate earnings decline in the short term, but overall investment would likely be curtailed.

Source: Chevron "Climate change resilience a framework for decision making" pp. 33.

<<https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf>>

■ Kirin Holdings

Kirin Holdings, a leading beverage producer, has done scenario analysis using scenarios set out by the Intergovernmental Panel on Climate Change (IPCC) - the Representative Concentration Pathways (RCP) scenarios⁴⁴ and the Shared Socioeconomic Pathways (SSP) scenarios⁴⁵. Specifically, focusing on the physical risks that increase with the progress of climate change, it quantitatively analyzed the impact on major agricultural products used in its products.

<Disclosure example of climate scenario analysis by Kirin Holdings>

Radiative forcing (W/m ²)	Range of rise in annual average temperature	RCP scenario	Socio-economic scenario			Impact of climate change on Kirin Group's major agricultural products
			SSP1 Sustainable development	SSP2 Moderate	SSP3 Unwanted world	
8.5	4.3°C (3.2~5.4°C)	RCP8.5			Group Scenario 3 Import costs: Large Low-cost products/healthcare needs: Large Agricultural impact: Large Water risk: Large Beverage consumption in summer: Increase	Barley: 10% or more decline in winter barley yields and 20% or more decline in spring barley yields Maize: 20% or more decline in yields Rice: Quality deterioration throughout all of Japan Tea: 40% or more decline in yields Hops/wine grapes: Major decline in yields, movement of areas suitable for cultivation, devastating in some areas Raw milk: Major decline in yields and major increase in costs due to heat stress
7						
6	2.8°C (2.0~3.7°C)	RCP6.0		Group Scenario 2 Stratified society Moderate market expansion Regional impact on agriculture by product: Large Regional water risk: Large Procurement cost of agricultural products grown in cool climates: Increase		Barley: 10% decline in winter barley yields and 20% decline in spring barley yields Maize: 20% decline in yields Rice: Quality deterioration throughout all of Japan Tea: Decline in yields at altitudes of 600 m or lower Hops/Wine grapes: Decline in yields, movement of areas suitable for cultivation, devastating in some areas Raw milk: Decline in yields and increase in costs due to heat stress
4.5	2.4°C (1.7~3.2°C)	RCP4.5				
3.7						
2.6	1.6°C (0.9~2.3°C)	RCP2.6 = 2°C scenario	Group Scenario 1 Mitigation/adaptation and curtailing of physical risks through international cooperation Spread of renewable energy Strengthening of greenhouse gas emission restrictions in agriculture sector Orientation toward human rights, health, and sustainability Reduction of food loss			Barley: Less than 5% decline in winter barley yields and 10% decline in spring barley yields Maize: 20% decline in yields Rice: Quality deterioration throughout all of Japan Tea/Hops/Wine grapes: Regional impact
Outline of SSP			Population: Low Income: High Energy technology: High Regulation: Strong Global economy	Population: Medium Income: Medium Energy technology: Medium Regulation: Medium Partial global economy	Population: High Income: Low Energy technology: Low Regulation: Weak Anti-globalism	

Source: Kirin Holdings "Environmental Report 2018" pp. 76.

<<https://www.kirinholdings.co.jp/english/csv/report/env/pdf/environmental2018e.pdf>>

■ Mitsubishi Corporation

Mitsubishi Corporation, a major trading company, conducted scenario analysis targeting its fossil fuel-related businesses (power generation and related businesses, natural gas, LNG, coal for general use, coking coal and copper) that are considered to be particularly affected by climate change.

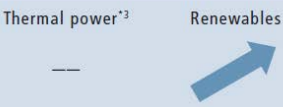
⁴⁴ The "RCP scenarios" are four scenarios selected as representative of the stabilization levels of future greenhouse gas concentrations and the paths to them.

⁴⁵ The "SSP Scenarios" are five scenarios representative of the dual axis of mitigation measures against climate change, and the degree of difficulty for adaptation measures.

Specifically, it did the analysis using two scenarios - the “NDC Scenario” by the International Energy Agency (IEA), which assumes that the greenhouse gas reduction targets submitted by each country to the United Nations will be achieved, and the “Sustainable Development Scenario”, which assumes that the temperature increase can be kept to within 2°C. With regards to both scenarios, after showing at five levels the range of changes in demand from the present to 2030 (large increase, increase, remaining at the same level, decrease, and large decrease), their recognition of the business environment, and policies and initiatives are each explained.

<Disclosure example of climate scenario analysis by the Mitsubishi Corporation>

Power Generation and Related Businesses

Awareness of the business environment under the NDC Scenario	Awareness of the business environment under the 2°C Scenario
 <p>Thermal power^{*3} Renewables</p> <p>^{*3} Demand trajectory and trends related to thermal power differ depending on fuel type, generation method and country/region.</p>	 <p>Thermal power^{*4} Renewables</p> <p>^{*4} Based on the Sustainable Development Scenario of the IEA World Energy Outlook 2017.</p>
<p>With the introduction of government subsidies and technological advancements, opportunities are anticipated for businesses such as renewable energy and clean gas-fired power generation. However, given the nature of power generation being produced locally for local consumption, MC feels it is important to continue managing businesses by responding to the policies, etc. of each country and region.</p> <p>For thermal power generation, business opportunities for gas-fired power, which has a lower environmental impact, are also anticipated to increase. The demand from Asia for LNG and demand in North America for natural gas are expected to grow.</p> <p>With regard to renewable energy, as the expansion of renewables progresses together with the proactive deployment of renewable technologies in Europe, with a focus on offshore wind, the grid configuration and supply of power will change. As a result, opportunities are anticipated for energy transmission and businesses that regulate the supply and demand for power such as battery storage and VPP (virtual power plant) businesses.</p>	<p>Under a 2°C Scenario, it is believed that policies to capture renewable energy as a main power source will become mainstream. It will be necessary to promote deregulation and technological innovation to construct an energy system that is not only sound environmentally, but economically and socially as well.</p> <p>Regarding this point, MC understands the need for multifaceted initiatives involving technologies that support the expansion of renewable energy while maintaining safe and stable supplies of power (energy storage, hydrogen, transmission technology and energy trading).</p> <p>Furthermore, MC recognizes that trends towards decentralization of the energy system driven by the spread of renewable energy, batteries and other technologies along with movements around thermal power generation, including next-generation types, may vary greatly in terms of timing and content depending on the status of government regulation and technological innovation, as well as the country or region.</p>
Policies / Initiatives	
<p>In line with the expansion of renewable energy and accompanying policies, MC will optimize its portfolio throughout the electric power value chain while taking into account the characteristics of each country and region.</p> <p>As of the end of September 2018, the total electricity generation capacity worldwide is approximately 5.7 GW, and the length of transmission cables in the power transmission business has reached a cumulative total of roughly 1,000km (with about 5 GW transmission capacity).</p> <p>In the thermal power generation business, in addition to facilitating collaboration between its gas-fired power generation business, which uses a fuel source with a lower environmental footprint, and its upstream natural gas business, MC is also strengthening its power trading function. Furthermore, in Japan, MC is promoting comprehensive energy-efficient electric power supply businesses (on-site cogeneration business) for local communities and manufacturing plants.</p> <p>In the renewable energy business, in addition to aiming to achieve at least 20% renewable energy in its power generation business (by 2030, based on generation amount), MC is promoting businesses that support the proliferation of renewable energy, including energy transmission and storage-related businesses.</p> <p>In Europe, where the active deployment of renewable energy continues to progress, all of MC's power generation activities involve renewable energy, with a focus on offshore wind. Moreover, MC proactively engages in new business opportunities including a virtual power plant (VPP) business that utilizes Lawson convenience stores as well as an off-grid distributed renewable energy project in Africa.</p> <p>Furthermore, for the trading of components, MC has a policy to use best available technology (BAT) to the extent possible.</p>	

Source: Mitsubishi Corporation “ESG Data Book 2018” pp. 30-31.

<<https://www.mitsubishicorp.com/jp/en/ir/library/esg/pdf/esgdata/2018/all.pdf>>

2.3. The Way Forward for the ESG Information Disclosure Frameworks/Standards

In the previous section, we considered the common parts and differences in the major global ESG information disclosure frameworks/standards. As a result of that, it is clear that on a conceptual level there are certain common parts for the ESG information disclosure frameworks/standards. But at the level of individual disclosure items and indicators, there is a mixture of those that are considered to be partially matched, those that are considered to be related in a complex manner to three or more disclosure items and indicators, and those that are considered to be a subset (one disclosure item and indicator that is considered to be completely included in another). So we found that it is often difficult to definitely delineate the common parts and differences.

Will such complex relationships between the ESG information disclosure frameworks/standards progress towards more simple ones in the future? Furthermore, will we move towards a convergence (unification) of the content as seen in the (financial) accounting standards?

At the present time, it is difficult to give an answer for these questions with conviction, but in order to provide a starting point for thinking about these questions, in this section, we will sort out the movement to improve consistency in the ESG information disclosure frameworks/standards, and discuss about the points that have become clear through the interviews with the experts.

2.3.1. Movement toward collaboration by the ESG Information Disclosure Framework Developers/Standard Setters

(i) Current Relationships of Framework Developers/Standard Setters

Fig. 33 illustrates the current relationships of the major global ESG information disclosure framework developers/standard setters.

The GRI, established in 1997, was one of the founding members of the IIRC established in 2010⁴⁶, and in 2013, an MOU was signed⁴⁷ with the IIRC to further strengthen their collaborative relationship. The IIRC signed an MOU⁴⁸ with the SASB in 2013 to strengthen their collaborative relationship, and in addition to that they have common executive personnel. In comparison to other framework developers/standard setters, the TCFD is much more of a voluntary organization than an official organization, and while they have not signed MOUs with other organizations, TCFD has common executive personnel with the SASB, and the SASB asserts that there is a complementary relationship between the TCFD Final Recommendations as stated above.

⁴⁶ A4S, GRI (2010) "Press Release: Formation of the International Integrated Reporting Committee(IIRC)" <<http://integratedreporting.org/wp-content/uploads/2011/03/Press-Release1.pdf>>

⁴⁷ GRI, IIRC (2013) "Memorandum of Understanding: dated on 01 February 2013"

<http://integratedreporting.org/wp-content/uploads/2013/02/MoU-IIRC-GRI-20130201-1.pdf?dm_i=4J5,1BERL,2NHPCK,4GJ8M,1>

⁴⁸ IIRC, SASB (2013) "MEMORANDUM OF UNDERSTANDING dated 12/17/2013"

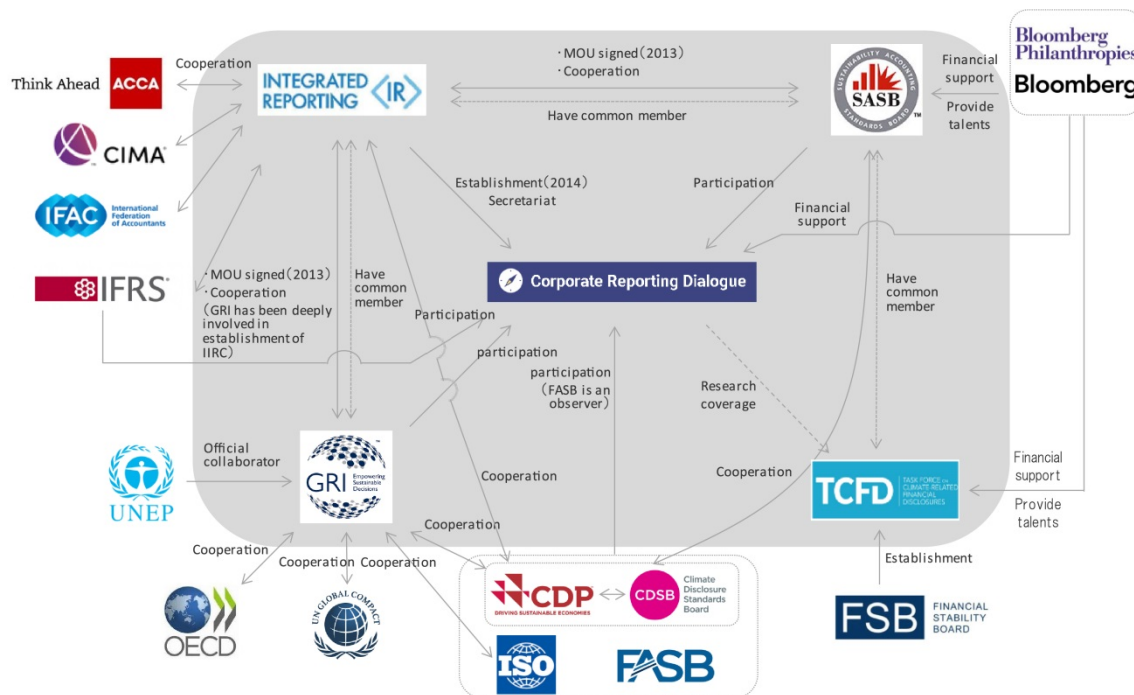
<<http://integratedreporting.org/wp-content/uploads/2014/01/MoU-IIRC-SASB-Final.pdf>>

In addition, looking at related organizations other than the framework developers/standard setters, the GRI has close relationships with international institutions such as the United Nations Environment Program (UNEP), the United Nations Global Compact (UNGC) and the Organization for Economic Co-operation and Development (OECD). On the other hand, the IIRC has close relationships with accountant groups such as the UK's Association of Chartered Certified Accountants (ACCA), the UK's Chartered Institute of Management Accountants (CIMA) and the International Federation of Accountants (IFAC). The SASB and TCFD receive funding and personnel support from Bloomberg (including Bloomberg Philanthropies), and with regards to TCFD, the fact that it has a close relationship with the Financial Stability Board (FSB) is a feature not seen with other disclosure standards.

Thus it can be seen that each of the major global ESG information disclosure framework developers/standard setters have certain collaborative relationships, and have unique relationships with other organizations with different backgrounds.

While the SASB and GRI cannot confirm an external collaborative relationship such as the signing of an MOU, at the SASB Symposium (New York) held in December 2018, Mr. Eric Hespenheide, the chairman of the GRI board, and Mr. Matthew Welch, the president of the SASB foundation, were on the same stage, and made a joint speech about the complementarity of both standards.

Fig33: Relationship Map of ESG Information Disclosure Framework Developers/Standard Setters



Note: Only the main relationships listed.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of relevant data available.

(ii) Better Alignment Project

Under these circumstances, activities are underway to improve the consistency of the major global ESG information disclosure frameworks/standards. Specifically, there is an initiative called the “Corporate Reporting Dialogue” (CRD)⁴⁹ that is led by the IIRC, and was launched in 2014. Besides the GRI and the SASB that are covered in this research, the CDP (former Carbon Disclosure Project), the Climate Disclosure Standards Board (CDSB), the International Organization for Standardization (ISO), the International Financial Reporting Standards (IFRS), and the U.S. Financial Accounting Standards Board (FASB) participate in this (Fig. 33).

Following is an overview of the CRD and their main activities until now.

⁴⁹ IIRC (2014) “CORPORATE REPORTING DIALOGUE”
<<http://integratedreporting.org/wp-content/uploads/2014/06/Corporate-Reporting-Dialogue.pdf>>

Outline of CRD and its History

- CRD was launched at the ICGN (International Corporate Governance Network) annual meeting held in 2014 (the secretariat is headed by IIRC).
- Principle aims of CRD are as follows:
 - To communicate about the direction, content and ongoing development of reporting frameworks, standards and related requirements;
 - To identify practical ways and means by which respective frameworks, standards and related requirements can be aligned and rationalized; and
 - To share information and express a common voice on areas of mutual interest, and where possible, will engage key regulators.
- Eight organizations, including CDP, CDSB, GRI, IIRC, ISO (International Organization for Standardization), SASB, IFRS (International Financial Reporting Standards), and FASB (Financial Accounting Standards Board) participate in CRD. (* FASB is an observer)
- The chair of CRD is Ian Mackintosh, who is an IIRC Ambassador. KPMG's Wim Bartels serves CRD Programme Lead.
- In 2015, CRD officially released an aerial view on the relationship between International <IR> Framework and the major global ESG information disclosure standards, etc.
- In 2016, CRD published a comparative analysis on materiality of the major global ESG disclosure standards, etc. and financial accounting standards.
- In October 2018, PRI, ICGN, CFA Institute, UNEP-FI and others officially announced a discussion paper⁵⁰ requiring the standard setters to coordinate with each other.
- Following the discussion paper above, CRD launched Better Alignment Project in November 2018. (details in the next box)

Source: Prepared by Nissay Asset Management based on the CRD website and various other materials.

⁵⁰ Douma, K., and Dallas, G. (2018) "Investor Agenda for Corporate Esg Reporting: A Discussion Paper by Global Investor Organisations On Corporate Esg Reporting"
<https://www.icgn.org/sites/default/files/ESG%20Reporting%20Discussion%20Paper%20FINAL_1.pdf>

Of particular interest for this research is the Better Alignment Project, which the CRD announced the launch of in November 2018. In this project, the plan is to work on improving consistency by identifying the common parts and differences of the ESG information disclosure frameworks/standards.

Through the examination of this research, it is clear that on a conceptual level, there are certain common parts for the major global ESG information disclosure frameworks/standards. But at the level of individual disclosure items and indicators, there was a mixture of those that are considered to be partially matched, those that are considered to be related in a complex manner to three or more disclosure items and indicators, and those that are considered to be a subset (one disclosure item and indicator that is considered to be completely included in another). So we found that it is often difficult to definitely delineate the common parts and differences.

In addition, the fact that the SASB Standards are defined industry by industry, while the GRI Standards are a set of disclosure items and indicators common to all industries, makes it more difficult to identify common parts and differences.

Considering these facts, it is extremely important to clarify what is common to disclosure standards, and what are different at the disclosure item and indicator level, in addition to the conceptual level so as to improve user convenience and the sense of satisfaction for the ESG information disclosure frameworks/standards. From this point of view, the expectations placed on the Better Alignment Project seem extremely large⁵¹.

Outline of Better Alignment Project

- Over the next two years, CRD plans (i) to identify commonalities and differences of disclosure standards, aiming to make the overlapping parts consistent, and (ii) to identify the relationships between non-financial indicators and financial results, deliberating on approach how they should be included in the report.
- Funding support has been given by Bloomberg Philanthropies. Also, full-time staff for the project were allocated.
- CDP, CDSB, GRI, IIRC and SASB participate in the project.
- In the first half of the project, CRD plans to take about one year to compile a report on how to use existing ESG information disclosure standards, etc. such as SASB and GRI Standards, with the aim to encourage companies to disclose information in line with TCFD Final

⁵¹ In the interview surveys as well, from the same point of view, we heard from many asset owners about their expectations for the Better Alignment Project.

Recommendations (to be officially announced in September 2019). As part of the study, analysis will also be made on the relationship among ESG information disclosure standards, etc. participated in the project, such as the relationship between SASB and GRI Standards.

- In the second half of the project, over the remaining year, CRD plans to discuss how financial accounting standards should incorporate disclosure of non-financial information based on the results obtained in the first half.

Source: Prepared by Nissay Asset Management based on CRD (2018) “Corporate Reporting Dialogue: Better Alignment Project”

<<http://corporatereportingdialogue.com/wp-content/uploads/2018/11/Corporate-Reporting-Dialogue-Better-Alignment-Project.pdf>>, <<http://corporatereportingdialogue.com/wp-content/uploads/2018/11/Frequently-asked-Questions-Corporate-Reporting-Dialogue.pdf>>.

2.3

2.3.2. Discussions about Convergence (Unification)

In the previous section, we looked at the trend to improve consistency for the ESG information disclosure frameworks/standards, but this is based on the premise that existing ESG information disclosure frameworks/standards will continue to co-exist for the time being. However, in the longer term, the possibility of mergers or the weeding out of ESG information disclosure frameworks/standards cannot be ruled out.

With regards to this point, in a green paper published in October 2018 by Professor Richard Barker and Dr. Robert G. Eccles of Oxford University⁵², they considered a scenario where things progress with market-driven convergence, and a scenario where things progress with regulation-driven convergence.

(i) Market-Driven Convergence

Market-driven convergence is a scenario in which “de facto standards” are eventually established and converge through free market competition by the ESG information disclosure frameworks/standards. In fact, in the business world, companies are fiercely competing to achieve de facto standards in various areas of technology. While companies that have the de facto standards will benefit greatly, companies that lose the battle are often forced to withdraw from the market.

However, for the major global ESG information disclosure framework developers/standard setters, none of them are profit organizations and they are all non-governmental organizations (NGOs). Generally in the non-profit sector, organizational mergers aimed at improving economies of scale

⁵² Barker, R. and Eccles, R. G. (2018) “Should FASB and IASB be responsible for setting standards for nonfinancial information?: Green Paper” <https://www.sbs.ox.ac.uk/sites/default/files/2018-10/Green%20Paper_0.pdf>

and/or operational efficiency are less likely to happen⁵³. In addition, “customers” in the competition of the ESG information disclosure frameworks/standards correspond to “investors”, but because the general investors currently do not necessarily have a clear recognition of the need for ESG information, it cannot be denied that it might be difficult for a weeding out of the ESG information disclosure frameworks/standards to proceed through competition.

The ESG information disclosure framework developers/standard setters have different size of budget, numbers of staff and office locations (Fig. 34). Furthermore, their sponsors vary widely and different laws apply to the non-profit sector in each country. It is thought that it is not always easy for a non-profit organization that has grown above a certain size to merge with another non-profit organization that does not necessarily have the same mission and/or values⁵⁴.

In addition, in order to gather supporters and obtain funding for activities, it is necessary to clearly differentiate from other ESG information disclosure frameworks/standards, and from this point of view as well, it has been pointed out there are certain hurdles with regards to them mutually harmonizing⁵⁵.

For a company that works on information disclosure using the ESG information disclosure frameworks/standards, keeping in mind the possibility that it will be difficult for a weeding out to progress through free market competition, it is thought to be important to regularly consider which disclosure frameworks/standards are appropriate to use, and to review them as necessary.

Fig34: Overview of the ESG Information Disclosure Framework Developers/Standard Setters

	GRI	IIRC	SASB	TCFD
Headquarters	Amsterdam	London	San Francisco	New York
Founded	1997	2010	2011	2016
Budget (\$ million)	14	2.2	8	n/a
Employees	87	20	38	n/a
Characteristics	Standard	Framework	Standard	Framework

Note: The TCFD, compared to the other organizations listed in the figure, is more like a non-official organization.

Source: Extracted from Barker and Eccles (2018) pp. 16.

(ii) Regulation-Driven Convergence

Apart from market-driven, there is also the possibility that the progress of convergence will be regulation-driven. In fact, regulations with regards to ESG information disclosure have been reported

⁵³ Ibid.

⁵⁴ Based on the interview surveys.

⁵⁵ Ibid.

to be on the rise globally⁵⁶.

In recent years, with regards to legislation, Europe has been particularly active. The EU Non-Financial Reporting Directive (2014/95/EU) (NFRD), which is enacted in December 2014,⁵⁷ applies to companies and financial institutions listed within the EU with more than 500 employees. From 2018 onward they are obligated to disclose non-financial information in their annual report with regards to such things as environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters, to the extent necessary to understand the impact on development, performance, position and activities of the relevant corporate group. Furthermore, based on Article 2 of the same directive, in June 2017, the European Commission published the Non-Binding Guidelines (NBGs)⁵⁸ which showed the methodology for the disclosure of non-financial information. To fulfill the disclosure obligation, it is possible to use existing ESG information disclosure frameworks/standards such as the International Integrated Reporting Framework, the GRI Standards and the SASB Standards.

In addition, a report⁵⁹ by the European Commission's "Technical Expert Group on Sustainable Finance" (TEG), compiled in January 2018, requested that the European Commission revise the aforementioned June 2017 guideline to reflect the contents of TCFD Final Recommendations.

In the above-mentioned study⁶⁰ by Professor Barker and Dr. Eccles of Oxford University, while referring to cases where global convergence of (financial) accounting standards has been promoted policy-wise, with regards to disclosure standards for ESG information as well, they raised the issue that regulation-driven convergence needs to be promoted. Specifically, it has been called for debate about incorporating ESG information disclosure standards into (financial) accounting standards by the IASB and the FASB⁶¹. As mentioned above, a discussion related to this point is also planned in the Better Alignment Project being initiated by the CRD. If specific ESG information disclosure frameworks/standards are incorporated into existing regulatory frameworks, it is expected that the relationships and competitive landscapes of ESG information disclosure framework developers/standard setters will change dramatically. The future trend is something to watch closely.

⁵⁶ KPMG, GRI, UNEP, and Centre for Corporate Governance in Africa (2016) "Carrots & Sticks: Global trends in sustainability reporting regulation and policy"

<<https://assets.kpmg/content/dam/kpmg/pdf/2016/05/carrots-and-sticks-may-2016.pdf>>

⁵⁷ The formal name is "Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups" <<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32014L0095>>.

⁵⁸ European Commission (2017) "Communication from the Commission — Guidelines on non-financial reporting (methodology for reporting non-financial information)"

<[https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52017XC0705\(01\)](https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52017XC0705(01))>

⁵⁹ European Commission (2019) "Technical expert group on sustainable finance report on climate-related disclosures" <https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190110-sustainable-finance-teg-report-climate-related-disclosures_en.pdf>

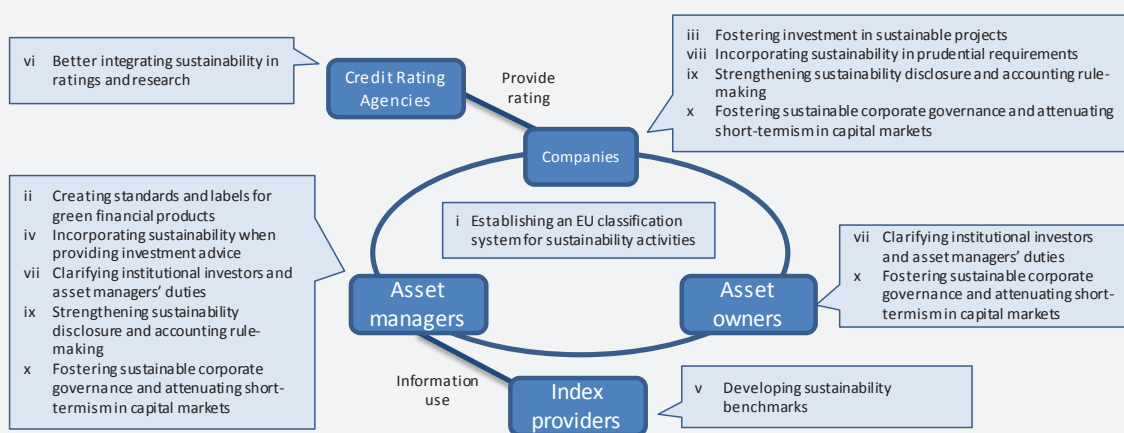
⁶⁰ Barker and Eccles (2018)

⁶¹ With regards to these points in question, in December 2018, a debate was held at the Oxford Union, bringing together stakeholders and experts. (Rowe, O. (2019) "Nonfinancial reporting: The big debate"

<<https://www.fm-magazine.com/news/2019/jan/corporate-sustainability-reporting-201920383.html>>)

Column 2: The Trend of the European Commission's "Action Plan on Sustainable Finance"

On the back of the Paris Agreement coming into effect, and the adoption of the Sustainable Development Goals (SDGs) at the United Nations, the European Commission is intensifying policy action towards the complete penetration of sustainable finance. In March 2018, an action plan entitled "Action Plan on Sustainable Finance"⁶² was adopted and published, and with regards to 10 specific items, a plan and timeline for policy measures, including legislative action, was announced. The contents of the action plan are extremely comprehensive, and there is a strong intention to make drastic changes in the overall capital market system.

<Overview of the Action Plan on Sustainable Finance>

Note: The numbers (i) to (x) show the items of the action plan.

Source: Prepared by Nissay Asset Management based on the European Commission (2018).

With regards to ESG information disclosure by companies, particular attention is focused on the development of the EU-wide classification system (sustainable taxonomy) to determine whether certain economic activities by companies are environmentally sustainable, as well as reflecting the details of the TCFD Final Recommendations in the Non-Binding Guidelines (NBGs) that were formulated based on the Non-Financial Reporting Directive (NFRD) which have already come into effect.

All of this is being considered by the Technical Expert Group on Sustainable Finance (TEG), which was established by the European Commission. The members of TEG include those who are ESG information disclosure framework developers/standard setters, such as Mr. Curtis Ravenel, who serves as a TCFD secretariat and a member of the SASB Foundation Board, and Ms. Eszter Vitorino of the GRI.

TEG compiled a report⁶³ regarding the revision of the NBGs in January 2018, and after analyzing the relationship between the NFRD disclosure requirement elements and the TCFD Final Recommendations (the next figure), it proposed the NBGs to be revised, including the

⁶² European Commission (2018) "Action Plan: Financing Sustainable Growth"
<https://ec.europa.eu/info/publications/180308-action-plan-sustainable-growth_en>

⁶³ European Commission (2019)

implementation and disclosure of climate scenario analysis recommended by the TCFD. In response to the report by TEG, the European Commission is expected to proceed with a revision of the NBGs in due course. While the NBGs are not legally binding, in Europe the contents of the TCFD Final Recommendations are likely to be positioned within the regulatory disclosure framework.

In addition, for the sustainable taxonomy that is being developed simultaneously by TEG, it is expected that the TCFD Final Recommendations will have an impact on how European companies disclose information. The TCFD Final Recommendations seek information disclosure about the risks and opportunities related to climate change. But if in the future business activities that fall under mitigation or adaptation measures for climate change, and those that do not fall under such measures, are clearly delineated based on EU-wide classification system, it will probably become difficult for business management to ignore this classifications system. The possibility cannot be ruled out that future extreme cases may emerge where business that has been regarded as an opportunity until now would completely change into a risk factor if the business is judged to be “non-sustainable” based on the taxonomy.

<Mapping of the NFRD Disclosure Requirement Elements and the TCFD Final Report>

TCFD Recommended Disclosures		NFRD Elements				
		Business Model	Policies and Due Diligence Processes	Outcomes	Principal Risks and Their Management	Key Performance Indicators
Governance	a) Board's oversight					
	b) Management's role					
Strategy	a) Climate-related risks and opportunities					
	b) Impact of climate-related risks and opportunities					
	c) Resilience of the organization's strategy	①		②	③	
Risk Mgmt.	a) Processes for identifying and assessing					
	b) Processes for managing					
	c) Integration into overall risk management					
Metrics & Targets	a) Metrics used to assess					
	b) GHG emissions					
	c) Targets					

Three NFRD Elements relate to TCFD Strategy c) on strategic resilience, taking climate-related scenarios into account

- ① Companies may refer to scenarios as part of "business model" if they inform its strategy related to environment and climate
- ② Companies may refer to scenarios as part of "outcomes" if they provide material information and inform management decisions
- ③ Companies may refer to scenarios as part of "risk management" if they are considered risk management tools that reflect climate-related risks and opportunities

Source: European Commission (2019) pp. 14.

Column 3: Toward Building an Effective Ecosystem for ESG Information Disclosure

With the jumble of ESG information disclosure frameworks/standards becoming more complex, there have been a series of discussions pointing out the need to promote and coordinate communication by the framework developers/standard setters.

One example of these is “Seeking Return on ESG: Advancing the Reporting Ecosystem to Unlock Impact for Business and Society”, a proposal report compiled by the World Economic Forum (WEF) in January 2019 in collaboration with Allianz SE and the Boston Consulting Group.

In this report, the overall structure of ESG information disclosure is named the “ESG reporting ecosystem”, which includes ESG information disclosure framework developers (IIRC and TCFD) and standard setters (GRI and SASB), as well as ESG rating agencies and data providers that evaluate and analyze disclosure information. In order to build a more effective ecosystem, the report suggests that the following actions are necessary.

- ① Improve the transparency of the entire ecosystem (such as alleviating duplication of activity and unintentional conflicts).
- ② Enable effective and active cross-system interactions (such as incorporating more of the end user’s needs).
- ③ Stricter harmonization of methodologies for measuring KPIs related to ESG (such as enhance the comparability of KPIs to help the decision making of investors and others).

Also, besides these three points:

- How close should the ESG information disclosure system come to financial reporting (for example, such things as how to introduce disclosure regulations, and the method of audits or third-party warranties with regards to ESG information disclosure).
- The impact of fund flows (such as membership fees, subsidies and donation) on activities in the ecosystem (such as if they lead to the development of the whole system, or if there are any inefficiencies).
- The impact of new technologies on the ecosystem, such as Artificial Intelligence.

These are the points that needs to be discussed in the future.

This proposal report by the World Economic Forum is only positioned as the first step. In the future, more discussion on this is expected to proceed towards the “Sustainable Development Impact Summit 2019” and the 2020 annual general meeting of the World Economic Forum.

Analysis of Corporate Disclosure Status on the Common Parts of ESG Information Disclosure Frameworks/Standards

3.1. Purpose of the Analysis

In Chapter 2, comparative analysis of major global ESG information disclosure frameworks/standards is performed, and examined the common parts as shown in Appendix 3. The common parts are considered to be corresponding to the common parts of various information needs by ESG investors. Regarding to this point, in this chapter we directly refer to the primary information, i.e. corporate ESG information disclosure to analyze the relationship between corporate information disclosure regarding the common parts and the evaluation of ESG rating agencies, that perform ESG evaluation/analysis.

3.2. Selection of Companies to be Surveyed

Even if the organization is called as ESG rating agency, its methodology of the ESG evaluation is likely to be different from other agencies. In fact, it has been pointed out that the results of ESG evaluations for the same company often differ among ESG rating agencies⁶⁴. In this research, ESG evaluation based on publicly available information by FTSE Russell and MSCI is used⁶⁵, and from the perspective of grasping the general relationship, we compared the companies that received high evaluation and low evaluation from both agencies.

Specifically, as of the end of December 2018, 671 Japanese companies received ESG ratings from both agencies. From these 671, a total of 117 companies were extracted - where both agencies have given a rating of the top 20% or the bottom 20%.

Furthermore, after classifying⁶⁶ the 117 companies into 11 sectors of SASB, we selected a pair of comparable companies (pair companies) for each sector, one each with high and low ESG ratings.

In order to select pairs of companies with similar business and company size, we set two conditions and select companies which satisfy both conditions for each sector. However, for the sector in which there is no combination of companies that satisfy both conditions, priority is given to

⁶⁴ GPIF points out that the ranking of ESG ratings for Japanese companies by FTSE Russell and MSCI remain modestly correlated. (GPIF (2017) "GPIF Selected ESG Indices" <https://www.gpif.go.jp/en/investment/pdf/ESG_indices_selected.pdf>) In addition, this low correlation coefficient is the ESG for is not just a phenomenon limited to Japanese companies, and the same applies to overseas companies as well. According to a research team at the Massachusetts Institute of Technology, the correlation coefficient of the ranking by five major ESG rating agencies is as low as 0.1 to 0.15. (MIT Sloan School of Management, Sustainability Initiative. "Aggregate Confusion" <<http://mitsloan.mit.edu/sustainability/aggregateconfusion>>)

⁶⁵ For analysis of this chapter, ESG evaluation results were received from FTSE Russell and MSCI through GPIF, who was the commissioner of this research. I would like to take this opportunity to express my appreciation.

⁶⁶ 11 sectors are Consumer Goods, Extractives & Minerals Processing, Financials, Food & Beverage, Health Care, Infrastructure, Renewable Resources & Alternative Energy, Resource Transformation, Services, Technology & Communications, and Transportation. Classification was conducted by Nissay Asset Management.

the satisfaction of condition 1, and regarding condition 2, we select companies that were as close category as possible (e.g. Large70 and Mid400, Mid400 and Small1, etc.). Also, from the viewpoint of obtaining enough number of samples for the analysis, even if condition 1 did not hold, a combination of companies judged qualitatively as having a similar business were selected as a pair companies.

In addition, for companies with low evaluations, apart from information disclosed, there is a possibility that evaluations have been lowered due to the occurrence or detection of corporate misconducts, so this was confirmed through the latest media coverage, to make sure no severe corporate misconducts and such were reported⁶⁷. In addition, when there were multiple candidate companies for pair companies, we selected a combination of companies with the smallest difference in ESG disclosure score by Bloomberg.

(Condition 1) Business condition: Sub-Industry of the Global Industry Classification Standard (GICS) is the same

(Condition 2) Company size condition: TOPIX New Index division (Core30, Large70, Mid400, Small1, and Small2) is the same⁶⁸

After the selection as above, finally we obtained 18 companies in 9 sectors⁶⁹.

⁶⁷ See Note 1 in Fig. 1.

⁶⁸ Constituents of TOPIX are classified according to market capitalization and liquidity, with Core30 and Large70 as “large cap stock”, Mid400 as “medium cap stock”, and Small1 and Small2 as “small cap stock”.

⁶⁹ Of the 18 companies in 9 sectors, the combinations satisfying both conditions 1 and 2 were 4 companies in 2 sectors; and the combination satisfying only condition 1 was 8 companies in 4 sectors, and combination that did not satisfy both conditions 1 and 2 but were close in business type were 6 companies in 3 sectors. In the two sectors of Renewable Resources & Alternative Energy and Services, the business contents of each company differed greatly, and it was judged that it was difficult to select pair companies.

Fig35: List of Surveyed Companies

SASB sector	Company	Evaluation by ESG rating agencies	GICS Sub-Industry	TOPIX category
Consumer Goods	A	Top 20%	Apparel Retail	Large70
	B	Bottom 20%	Apparel Retail	Mid400
Extractives & Minerals Processing	C	Top 20%	Steel	Mid400
	D	Bottom 20%	Steel	Mid400
Financials	E	Top 20%	Diversified Banks	Large70
	F	Bottom 20%	Regional Banks	Mid400
Food & Beverage	G	Top 20%	Packaged Foods & Meats	Mid400
	H	Bottom 20%	Packaged Foods & Meats	Small 1
Health Care	I	Top 20%	Health Care Equipment	Large70
	J	Bottom 20%	Health Care Supplies	Mid400
Infrastructure	K	Top 20%	Homebuilding	Large70
	L	Bottom 20%	Homebuilding	Mid400
Resource Transformation	M	Top 20%	Construction Machinery & Heavy Trucks	Mid400
	N	Bottom 20%	Construction Machinery & Heavy Trucks	Mid400
Technology & Communications	O	Top 20%	Electronic Equipment & Instruments	Mid400
	P	Bottom 20%	Electronic Equipment & Instruments	Small 1
Transportation	Q	Top 20%	Automobile Manufacturers	Core30
	R	Bottom 20%	Auto Parts & Equipment	Small 1
All sector average		Top 20%	-	-
		Bottom 20%	-	-

Source: Nissay Asset Management Co., Ltd.

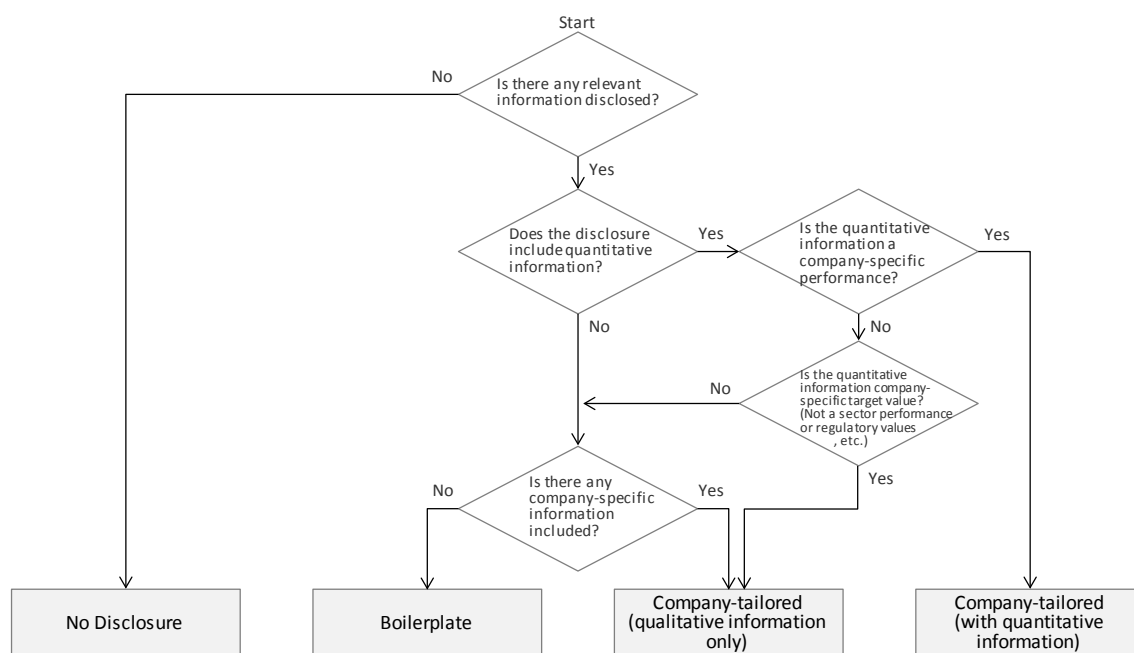
3.3. Methodology

In relation to the common parts by sector shown in Appendix 3, we analyzed to what extent 18 companies in the 9 sectors selected in the previous section actually disclosed information⁷⁰.

Specifically, for the descriptive information on “governance”, “recognition of ESG risks and opportunities” or “strategies and practices”, according to the flow chart in Fig. 36, the disclosure status of each company classification was made into four categories: “company-tailored (with quantitative information)”, “company-tailored (qualitative information only)”, “boilerplate” and “no disclosure”.

⁷⁰ Survey was implemented on disclosure information as of January 2019.

Fig36: Classification Flow of the Disclosure Status of Descriptive Information



Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of SASB “The State of Disclosure 2017” pp. 8.
<https://www.sasb.org/wp-content/uploads/2017/12/2017State-of-Disclosure-Report-web.pdf>

About “KPIs” which is quantitative information, the disclosure status of each company was classified into three categories of “disclosed”, “partially disclosed” and “no disclosure”.

In addition, we also surveyed the state of reference for the major global ESG information disclosure frameworks/standards that are surveyed in this research.

3.4. Results and Discussions

Fig. 37 and 38 summarize the disclosure status of “governance”, “recognition of ESG risks and opportunities” or “strategies and practices” as well as of “KPIs”. For both types of information, there is a difference in disclosure of information between companies with high ESG rating and low rating.

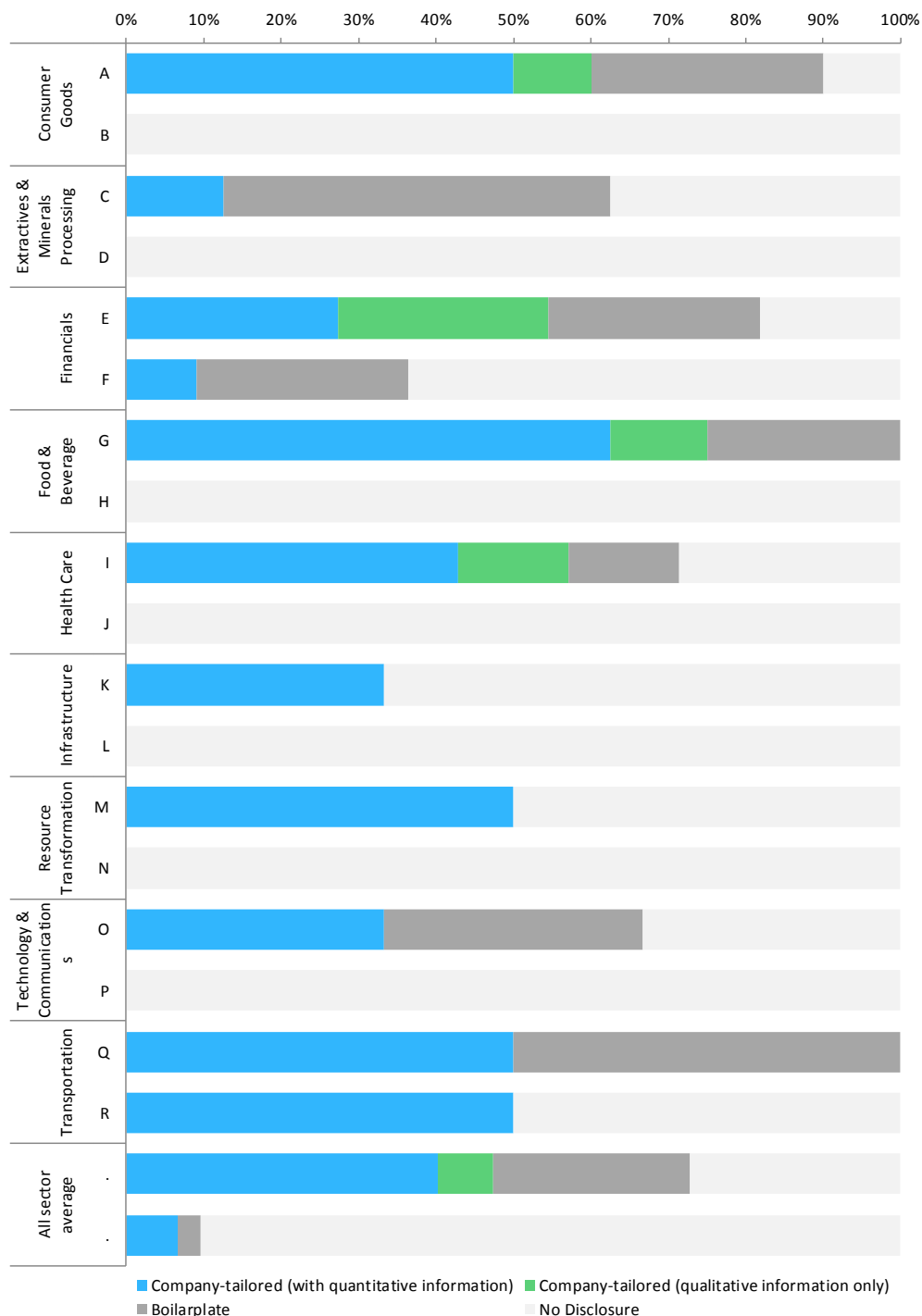
For descriptive information on “governance”, “recognition of ESG risks and opportunities” or “strategy and practice”, for a company with a high ESG evaluation, company-tailored descriptions were disclosed for an average of 47% of relevant disclosure items of the common parts. On the other hand, companies with low ESG ratings averaged about 7%.

With regards to “KPIs”, in companies with high ESG evaluation, about 76% of relevant disclosure of the common parts indicators were disclosed (including partial disclosure) on average, compared with low-rated companies, where the average disclosure was only about 11% (including partial disclosures).

Fig. 39 summarizes the state of reference to ESG information disclosure frameworks/standards of each company. For companies with high ESG rating, they are likely to issue integrated reports and/or prepare reports by referring to the GRI standards, while for companies with low ESG ratings, there was little mention towards ESG information disclosure frameworks/standards.

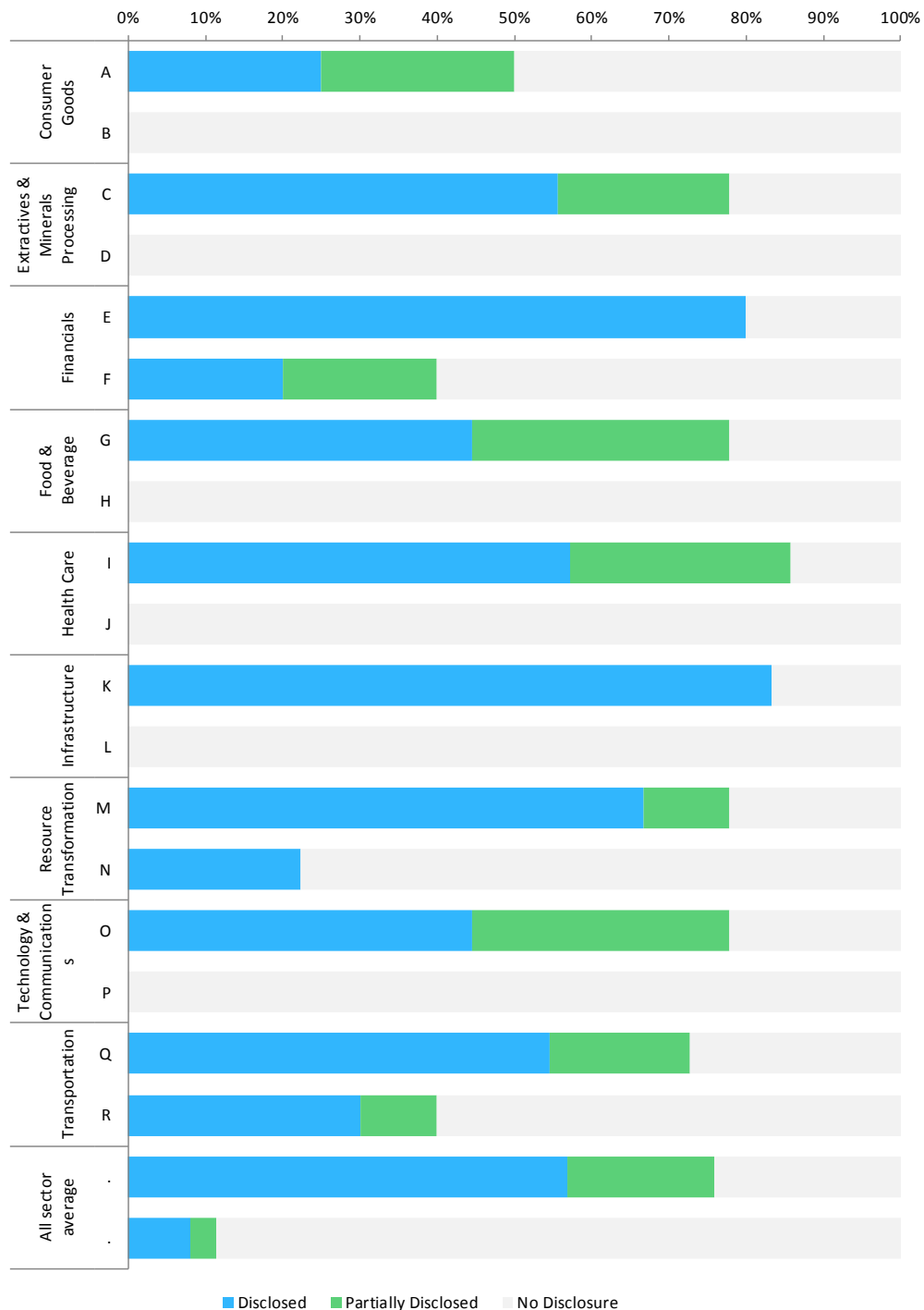
It is important to note that the analysis in this chapter is limited in the number of samples. Also, it is a cross-sectional analysis at one point. Thus, we cannot conclude the causality, but the analysis results suggested that enhancing ESG information disclosure while keeping in mind common parts of the major global ESG information disclosure frameworks/standards may contribute to the improvement of evaluation by ESG rating agencies.

Fig37: Disclosure Status of Descriptive Information on “Governance”, “Recognition of ESG Risks and Opportunities” or “Strategies and Practices.” (Ratio of the Number of Disclosed Items to the Total Number of Applicable Ones)



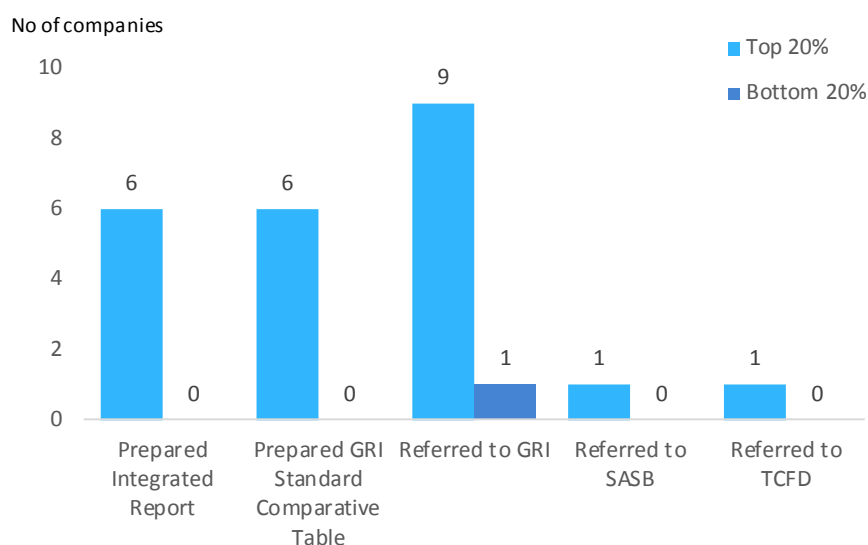
Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the disclosure information of each company.

Fig38: Disclosure Status of “KPIs.” (Ratio of the Number of Disclosed Indicators to the Total Number of Applicable Ones)



Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the disclosure information of each company.

Fig39: Reference to ESG Information Disclosure Frameworks/Standards



Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of the disclosure information of each company.

Voices of the major global ESG rating agencies regarding ESG information disclosure frameworks/standards

As part of the research, we interviewed the persons in charge of ESG evaluation at FTSE Russell, MSCI, and Sustainalytics about the ESG information disclosure frameworks/standards. The main opinions and comments obtained through the interview are as follows.

The following contents do not mean that they are common views of the persons in charge of the above three agencies. Rather, there are contradictory opinions and comments. Also, only the main opinions and comments are listed, and do not guarantee their comprehensiveness.

(About the major global ESG information disclosure frameworks/standards)

- *Although we do not directly reflect on our own evaluation criteria with reference to ESG information disclosure frameworks/standards, in the process of obtaining input to the evaluation criteria from external experts, we obtain inputs based on the global trend.*
- *Based on the publication of the TCFD Final Recommendations, we revised some of the evaluation items related to climate change based on the recommendations.*

- *In determining ESG issues to be evaluated, in addition to the results of materiality analysis disclosed by companies based on GRI Standards, SASB Standards are also referred to as knowledge in the industries (We also check the relevance between our ESG evaluation framework and the ESG issues defined by the SASB Standards.).*
- *In some cases, ESG evaluation may be customized and organized in accordance with the recommendations of the TCFD based on requests from institutional investors who are clients.*

(About sector classification of ESG evaluation)

- *The ESG evaluation uses a finer sector classification than the SASB sector classification (77 industries), and changes the items to be evaluated depending on the sector. Furthermore, even for companies that belong to the same sector, the evaluation items are adjusted for each company (if necessary) according to the business content, the country or region in which it operates, or the occurrence of controversies.*

(About the number of evaluation items of ESG evaluation)

- *Although the number of ESG issues to be evaluated varies depending on the sector, etc., evaluation items are more narrowed down in terms of materiality than the SASB Standards that set 13 disclosure items/indicators per industry on average.*
- *Although the ESG issues to be evaluated differ depending on the sector, the ESG issues that are broader than the SASB Standards are evaluated using not only quantitative indicators but also qualitative disclosures.*

(Other)

- *The information disclosed by a company does not necessarily determine all ESG evaluations. It is a part of the whole based on the analysis of business risk, evaluation of controversies, etc.*
- *What is more important than the disclosure is the content of the company's efforts. If there is no content in the first place, information cannot be disclosed. We are telling companies that we want them to look at the initiative itself instead of focusing just on disclosure.*

ESG Information Disclosure by Institutional Investors

4.1. ESG Information Disclosure by Asset Owners

This section addresses ESG information disclosure by asset owners.

In recent years, there has been a trend towards the enhancement of information disclosure on ESG investment by pension funds, especially by public pension funds with a large AUM, who are called “universal owners”. Specifically, there are pension funds where a chapter or section about ESG investment is included in the annual report, or a separate report exclusively dedicated to ESG investment is prepared and published along with the annual report. In addition to the annual report, there are also examples where enhanced information disclosure is on the website.

The asset owners who literally owns the asset, are positioned upstream of the investment chain (the flow of investment funds from the clients / beneficiary to the investee company), and the impact on the entire investment chain is extremely large. The policies and ideas regarding ESG investment by asset owners have a great influence on the activities of (including prospective) entrusted asset managers, and the ESG rating agencies and (including prospective) investee companies as well.

Also in Japan, it has been pointed out that in addition to the introduction of the stewardship code in 2014 and the Japanese version of the corporate governance code in 2015, the GPIF’s PRI signature in 2015 was crucial to expanding interest in ESG investment in Japan. The movement of asset owners, particularly universal owners that have larger AUM, has always been of high interest to the various players in the investment chain.

The structure of this section is as follows.

Firstly, in 4.1.1, we report the survey results on the status of ESG information disclosure in major pension funds in the world, and in 4.1.2, report the results of an interview survey on the motivation of major pension funds in the world for ESG disclosure (including assumed user of disclosure information). Furthermore, in 4.1.3, we report the analysis of important ESG issues (materiality) that the world’s major pension funds consider important for their investment management.

4.1.1. Status of ESG Information Disclosure by Asset Owners

The pension fund to be surveyed was selected by the following process.

Specifically, out of “The World’s 300 largest pension funds”,⁷¹ published annually by Wills Towers Watson, we extracted 45 funds that are within the top 30 in terms of assets or classified as a sovereign pension fund. From that, by excluding 4 Japanese funds and adding 2 that we conducted interviews about ESG information disclosure, we surveyed 43 funds. The total assets of the 43 funds account for about 40% of the total assets of the top 300 pension funds.

Fig. 40 summarizes the list of 43 pension funds surveyed, the PRI signature status of each fund, and the status of ESG information disclosure (for comparison, Japanese funds within the top 30 or Japanese sovereign pension funds are also included in the figure).

Certain information disclosure about ESG investment was confirmed in 28 out of 43 funds surveyed. Furthermore, among these funds, it has been seen that 15 funds have published an annual report exclusively dedicated to ESG investment. Of the 43 funds, 23 are PRI signatories, and certain information disclosure regarding ESG investment was carried out in all these 23 funds.

⁷¹ Wills Towers Watson (2018) “The world’s 300 largest pension funds – year ended 2017”
<https://www.thinkingaheadinstitute.org/-/media/Pdf/TAI/Research-Ideas/PI-300_2017.pdf>

Fig40 List of Pension Funds to be Surveyed and Status of PRI Signature / ESG Information Disclosure

AUM Rank	Fund Name	Country	Total Assets in US\$ million	PRI signatory	ESG-related info. disclosure	ESG-focused annual report
1	Government Pension Investment	Japan	1,443,554	○	○	○
2	Government Pension Fund	Norway	1,063,456	○	○	○
3	National Pension	South Korea	582,938	○	○	-
4	Federal Retirement Thrift	U. S.	531,489	-	-	-
5	ABP	Netherlands	494,796	○	○	○
6	National Social Security	China	456,853	-	-	-
7	California Public Employees	U. S.	336,684	○	○	*
8	Canada Pension	Canada	283,454	○	○	○
9	Central Provident Fund	Singapore	269,133	-	-	-
10	PFZW	Netherlands	235,995	○	○	○
11	California State Teachers	U. S.	216,193	○	○	○
12	Local Government Officials	Japan	209,880	-	○	-
13	New York State Common	U. S.	201,263	○	○	○
14	Employees Provident Fund	Malaysia	200,265	-	○	-
15	New York City Retirement	U. S.	189,794	○	○	-
16	Florida State Board	U. S.	167,900	-	-	-
17	Ontario Teachers	Canada	150,730	○	○	○
18	Texas Teachers	U. S.	146,326	-	-	-
19	Employees' Provident	India	134,272	-	-	-
20	GEPF	South Africa	133,944	○	○	-
21	ATP	Denmark	129,741	○	○	○
22	Boeing	U. S.	121,717	-	-	-
23	New York State Teachers	U. S.	115,637	-	-	-
24	AT&T	U. S.	113,582	-	-	-
25	Wisconsin Investment Board	U. S.	109,960	-	-	-
26	Future Fund	Australia	108,545	-	○	-
27	North Carolina	U. S.	106,946	-	-	-
28	National Federation of Mutual Aid	Japan	106,629	-	○	-
29	Pension Fund Association	Japan	105,204	○	○	-
30	Washington State Board	U. S.	104,260	-	○	○
35	Labor Pension Fund	Taiwan	96,539	-	○	○
41	Universities Superannuation	U.K.	81,078	○	○	-
56	Public Institute for Social Security	Kuwait	70,710	-	-	-
61	National Wealth Fund	Russia	65,076	-	-	-
93	AP Fonden 7	Sweden	46,966	○	○	○
95	FRR	France	43,698	○	○	○
97	AP Fonden 3	Sweden	43,083	○	○	-
99	AP Fonden 4	Sweden	43,001	○	○	○
102	AP Fonden 2	Sweden	41,826	○	○	-
110	AP Fonden 1	Sweden	39,874	○	○	○
131	ERAFP	France	34,694	○	○	-
174	Social Insurance Funds	Vietnam	26,820	-	-	-
180	Ireland Strategic Investment	Ireland	26,469	○	○	-
189	New Zealand Superannuation	New Zealand	24,420	○	○	-
196	State Pension	Finland	23,513	○	○	-
230	Fonds de Compensation	Luxembourg	19,655	-	○	-
241	FEFSS	Portugal	18,930	-	-	-

Note 1: As of February 2019.

Note 2: With regards to the information disclosure status, we only surveyed disclosures in English.

Note 3: * denotes the publication of ESG-focused annual report only in the past.

Note 4: We did not survey Japan's four funds, but listed them for comparison.

Source: Prepared by Nissay Asset Management based on Wills Towers Watson (2018), the PRI website and the disclosures of each fund.

4.1.2. Motivations of ESG Information Disclosure by Asset Owners

What is the motivation for many of the major global pension funds to actively disclose information on ESG investments? In this regard, among the survey targets listed in Fig. 40, we conducted interview surveys with U.S. and European pension funds that are signatories of PRI and believed to have actively disclosed information on ESG investment (the interviewees are shown in Fig. 3).

It should be noted that the number of interviews is not necessarily many, but as a result of interviews, the major pension funds in the world are not always motivated to disclose ESG information for a single reason, and were a mixture of “accountability” “transparency” and “influence”.

The first “accountability” is that ESG information disclosure is performed in order to fulfill the accountability to beneficiaries (in the case of sovereign pension funds, the supervisory authorities, etc.). In other words, beneficiaries are assumed as readers of disclosure information, and when preparing disclosure materials, they post as much information as possible that may be of interest to the beneficiaries, and considering the fact that not all beneficiaries have a wealth of specialized knowledge, they avoid technical expressions, and make efforts to use plain expressions that are easily understood.

The second “transparency” is not necessarily limited to the beneficiaries as recipients of the disclosed information, but is disclosing information to a wider society and stakeholders. Although the organizational characteristics and the situation of the funds we interviewed were differ from one another, many of them are (quasi-)governmental institutions, and consider it is important to enhance transparency for society and stakeholders. There are many non-profit organizations such as NGOs focusing on the movement of asset owners, especially in Europe, and one of the pension funds we interviewed has actively disclosed the challenges faced (for instance, investment decisions when financial returns and social returns are in conflict), in preparation to communicate with NGOs, etc.

The third “influence” has a different viewpoint from “transparency” and “accountability”, and as a responsible investor, disclosure aims to encourage investment managers and ESG rating agencies to strengthen their efforts, or promote enhancement of ESG information disclosures by companies, so as to influence others. Especially in a pension fund that has diversified investments across capital markets, such as universal owners, while holding shares in thousands of companies, their capacity to engage in individual company one-by-one will be limited due to their limited resources. Therefore, the idea to influence wider companies simultaneously has come in. As mentioned above, because the movement of pension funds with large AUM attracts the attention of people within the investment chains, they could have a broader impact on asset managers, ESG rating agencies, and even investee companies through information disclosure.

Furthermore, regarding “influence”, in recent years, attention has been drawn to collective actions

(e.g. collective engagement, etc.) by asset owners and investment managers. With the funds where interviews were conducted, there were funds who were clearly aware of other institutional investors as readers of disclosed information. By revealing what philosophies and principles the fund is based on, and what kind of activities are conducted, and what kind of effects/results are expected, this will enlighten other institutional investors, and is hoped that it will lead to collaboration with other institutional investors who can share values and investment horizon.

With regard to the disclosure vehicle on which information is disclosed regarding “transparency” and “accountability”, because it is closely related to the disclosure of investment activities and results, it is thought that many of the disclosure is done through the annual report (including the separate annual report exclusively dedicated to ESG investment). On the other hand, “Influence” is not necessarily limited to the description in the annual report. Rather, there can be various disclosure vehicles and approaches, including publication of position papers which stated the expectations towards companies, and/or the views regarding specific ESG issues for the investment management.

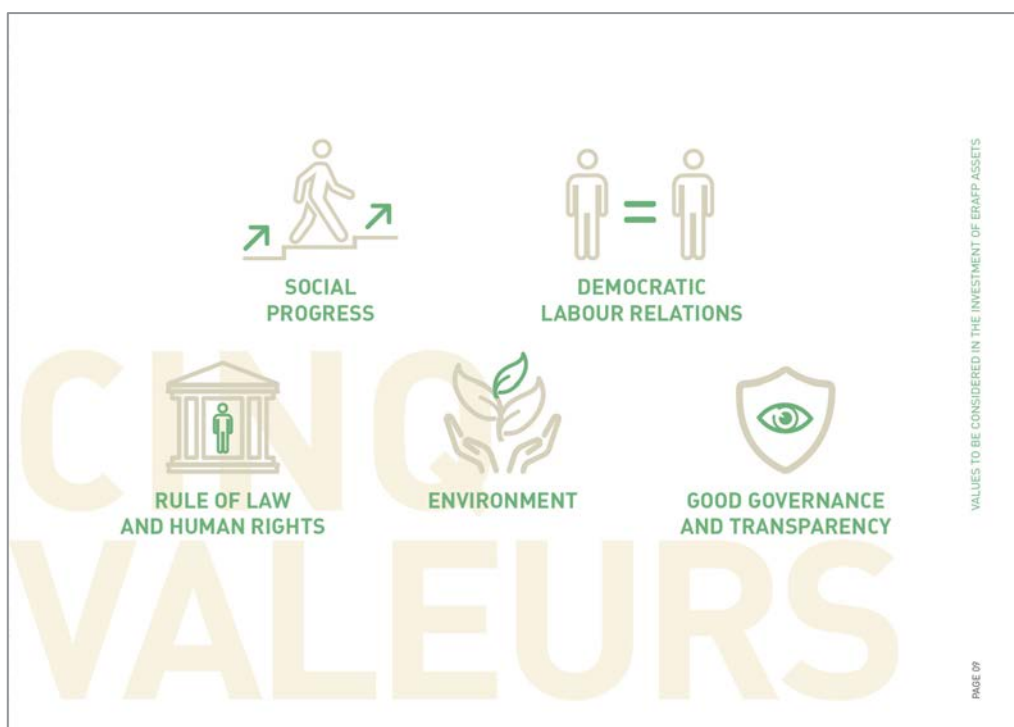
Some of the funds have prepared an annual report dedicated to ESG investment of more than 100 pages, but from the viewpoints of readability and understandability for readers, there were also funds that did not prepare a separate annual report dedicated to ESG investment, and was committed to incorporating all the necessary information into a single annual report as an integrated report⁷². Since there is currently no established solution on what kind of information disclosure is the best, it is important to build up good practices by exploring better way of disclosure with the consideration of the situation in which the fund is placed, as well as who and what to tell.

Examples of ESG information disclosure aiming for “influence”

ERAFP (French Public Service Additional Pension Scheme) has formulated and published the “SRI Charter” since its establishment in 2005. In this SRI Charter, five common “values” that are applicable to all asset class investment of the fund are defined: “the rule of law and human rights”, “social progress”, “democratic employment practices”, “global environment”, “good governance and transparency”, and corporate evaluation criteria are shown for each. These five values and evaluation criteria are presented to the entrusted asset managers, and ERAFP itself evaluates investee companies independently using the ESG rating agencies and uses it for monitoring of the entrusted asset managers.

⁷² Based on the interview surveys.

<ERAPF's SRI Charter (partial excerpt)>



RULE OF LAW AND HUMAN RIGHTS



In order to assess the extent to which issuers comply with the various essential principles of the rule of law, and their contribution to the respect and promotion of human rights, ERAFP is guided by three major principles:

- 1 – The absence of discrimination, in all its forms;
- 2 – Freedom of opinion and of expression and respect for all other fundamental rights;
- 3 – Responsible management of the supply chain, with the particular aim of preventing forbidden forms of labour, and in particular the worst forms of child labour¹.

With specific regard to States, in addition to their level of adherence to and implementation of international agreements (UN and ILO in particular), ERAFP takes into account three other principles:

- rejection of the death penalty;
- rejection of the use of child soldiers;
- rejection of the practice of torture.

1. As defined in UN Convention no.182.

VALUES TO BE CONSIDERED IN THE INVESTMENT OF ERAFP ASSETS

PAGE 11

Source: ERAFP “SRI Charter - 2016” pp.9 & 11

<https://www.rafp.fr/en/sites/rafp_en/files/publication/file/rafp-charte_isr-2016-uk-web-page.pdf>

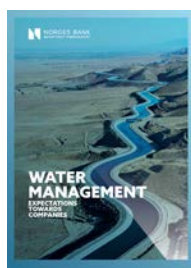
The Norges Bank Investment Management (NBIM), which manages investment of the Government Pension Fund - Global (GPGF), has published a series of documents called “Expectation Documents”, which formulate expectations towards investee companies regarding specific ESG issues within the mandate set by the Ministry of Finance, the governing authority of GPGF. These Expectation Documents are intended for board members of investee companies as the main readers, and it describes in detail the contents of how a company should address specific ESG issues and what should be disclosed. By specifically expressing what they expect from companies, it is hoped that this will improve the practices and information disclosure of companies and ultimately lead to raising the effectiveness of the fund’s ESG investment.

At the same time, the Expectation Documents are also used as criteria for judgement when NBIM evaluates the company, and it is presumed that it also plays a role as a communication tool with the investee company.

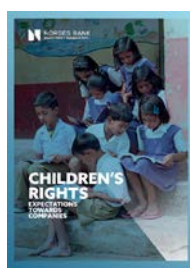
As of March 2019, the Expectation Documents are as follows: three related to the environment (“Water Management” “Ocean Sustainability” “Climate Change Strategy”), four related to the society (“Human Rights” “Children’s Rights” “Tax and Transparency” “Anti-corruption”) have been formulated.

<Seven Expectation Documents published by NBIM>

Environment
related



Society
related



Source: NBIM Website

<Contents on “human rights” in the expected documents by NBIM (excerpt)>

A.

Integrate human rights considerations in business strategy and planning

- Companies should make a public commitment regarding the respect of human rights, including with regard to supply chains and other business relationships.
- Companies should adopt strategies and policies based on emerging industry standards and good practices addressing human rights. Strategies and policies should be appropriate to company size, sector, operational context, ownership and structure.⁷
- Companies should understand the business implications of human rights issues and integrate findings within their strategic business planning.
- Companies should regularly consider whether their remuneration, incentive systems, and wider company culture integrate sustainable business practices appropriately. Employees and contractors must be made aware of company strategy and policies.
- Companies should consider putting in place a mechanism for third-party expert input into their human rights strategies and policies. This should not replace appropriate internal processes, roles and responsibilities.

B.

Integrate human rights into risk management

- Companies should conduct ongoing human rights due diligence, based on the perspective of those who may be negatively impacted. They should strive to identify actual and potential negative impact on relevant human rights in relation to all aspects of a business operation.
- Human Rights due diligence efforts should be guided by the severity of the potential adverse impact on human rights and practical considerations such as company size, sector, operational context, and business structure.
- Company policies should include measures to address salient⁸ human rights risks, including, as appropriate, through cessation, prevention and mitigation of potential human rights abuses.⁹
- Companies should carry out relevant impact and risk assessments prior to for example making significant investments in new business activities, agreeing mergers and acquisitions, entering into new countries, regions or locations and establishing new business relationships.
- Companies should have an adequate supply chain management system in place, including policies for detecting and preventing supply chain human rights abuses, monitoring systems, contractual clauses, incentives and corrective instruments, such as formal or non-formal education and training.

Source: NBIM “Human Rights: Expectation Toward Companies” pp. 3

<<https://www.nbim.no/contentassets/0ff34e35ba1a44c3b6c2039466ccbec7/human-rights-expectations-document2.pdf>>

4.1.3. ESG Issues (Materiality) that Asset Owners Place Importance on for Investment

Among the three main motives for asset owners to disclose ESG information, regarding “influence”, we investigate the disclosure of ESG issues (materiality) that the major global pension funds consider important in their investment management.

Specifically, in Fig. 40, for the 28 funds⁷³ for which certain information disclosure regarding ESG investment has been confirmed, the most recent annuals report published as of February 2019 (including separate annual reports dedicated to ESG investments) and information disclosed on the website are surveyed, and information that is considered to indicate materiality was extracted and classified by environment, social and governance categories. The findings are listed in Fig. 41 to 43.

With regard to those related to environmental (E), a large number of references to climate change have been made (17 out of 18 funds for which any reference to environmental issues has been identified have clear reference to climate change). Beside the climate changes, there are also references to environmental issues such as water scarcity, energy efficiency, air pollution and waste management (Fig. 41).

As for those related to social (S), most frequent references are seen in human rights, including the rights of children and workers, followed by issues related to occupational health and safety and the working conditions. There are also references to issues such as supply chain management and customer satisfaction in some funds (Fig. 42).

For governance (G), many mention anti-corruption and remuneration. In addition, some funds also refer to the problem of cyber security (Fig. 43).

However, there are not many funds that prepare individual documents and make detailed descriptions about materiality, such as NBIM’s “Expected Documents” and ERAPF’s “SRI Charter” mentioned above, but in many cases disclosure is made by providing representative ESG issues to be focused (including examples) in the annual report and/or the website of the fund.

Therefore, with regard to the ESG issues, it is not clear in most cases from what perspective each fund analyzes and evaluates companies using what kind of indicators, but at least at the level of the ESG issues mentioned, most of them are overlapped with the common parts of the major global ESG information disclosure frameworks/standards compiled in Appendix 3. From the above, we should be able to understand that there is not a large gap in the issue level between the ESG issues focused on by the major global information disclosure frameworks/standards and the ESG issues that the major global pension funds consider important in the investment management.

⁷³ However, for GPFG, ABP, and PFZW, we also surveyed the information disclosure by NBIM, APG, and PGGM, which are in charge of investment management for these funds.

Fig41: Environmental (E) Issues that the Major Global Pension Funds Place Importance on for Investment

AUM Rank	Fund Name	Country	Attribute	Referred environmental issue
2	Government Pension Fund	Norway	Expectation documents(provided by NBIM)	climate change strategy water management ocean sustainability
5	ABP	Netherlands	Position paper	climate change and energy sector investment
7	California Public Employees	U. S.	Examples of engagement program themes	climate change natural resource availability
8	Canada Pension	Canada	Description of ESG factors	climate change and GHG emissions energy efficiency air and water pollution water scarcity biodiversity
10	PFZW	Netherlands	Focus areas	climate change, pollution and emissions water scarcity food security
11	California State Teachers	U. S.	ESG risk factors	climate change resource efficiency
13	New York State Common	U. S.	Sustainability investment themes	climate and environment resource efficiency pollution and waste management sustainable infrastructure
17	Ontario Teachers	Canada	Focus areas	climate change product lifecycle water & waste CO2 reporting
21	ATP	Denmark	Thematic engagement	water
26	Future Fund	Australia	Examples of ESG factors	climate change
30	Washington State Board	U. S.	Examples of ESG factors	climate change
41	Universities Superannuation	U.K.	Examples of ESG matters	climate change
93	AP Fonden 7	Sweden	Portfolio focus	environmental performance management solution to water problems solution to climate and environmental problems
97	AP Fonden 3	Sweden	Special consideration in our stewardship	environment and climate change water treatment and water-related infrastructure
99	AP Fonden 4	Sweden	Focus areas	climate and environment
102	AP Fonden 2	Sweden	Focus areas	climate
180	Ireland Strategic Investment	Ireland	ESG risks and opportunities	climate change risk and resilience
196	State Pension	Finland	Key points	pollution and decay climate change

Note: The disclosure information judged to be equivalent to the materiality of each fund is listed as extracted from the original text. (In addition, terms that refer to environmental issues in general, such as “environment”, have been omitted.)

Source: Prepared by Nissay Asset Management based on Wills Towers Watson (2018) and the websites of each fund.

Fig42: Social (S) Issues that the Major Global Pension Funds Place Importance on for Investment

AUM Rank	Fund Name	Country	Attribute	Referred social issue
2	Government Pension Fund	Norway	Expectation documents(provided by NBIM)	human rights children's rights
7	California Public Employees	U. S.	Examples of engagement program	fair labour practices health and safety responsible contracting diversity
8	Canada Pension	Canada	Description of ESG factors	human rights local impact and employment child labour working conditions health and safety
10	PFZW	Netherlands	Focus areas	healthcare human rights
11	California State Teachers	U. S.	ESG risk factors	respect for human rights respect for civil liberties respect for cultural and ethnic identities respect for property rights respect for political rights discrimination based on race, sex, disability, language or social status worker rights human health
13	New York State Common	U. S.	Sustainability investment themes	education demographic empowerment health and wellbeing financial inclusion
17	Ontario Teachers	Canada	Focus areas	health, safety & engagement
21	ATP	Denmark	Thematic engagement	child labour
26	Future Fund	Australia	Examples of ESG factors	human and labour rights occupational health and safety supply chain risks
30	Washington State Board	U. S.	Examples of ESG factors	pay equality labor practices human diversity
41	Universities Superannuation	U.K.	Examples of ESG matters	human rights health and safety human capital practices consumer satisfaction supply chain management consumer and public health social impacts of corporate activity stakeholder relations
95	FRR	France	SRI principles	basic human and worker rights quality of human resource management consumer and fair trade practices
97	AP Fonden 3	Sweden	Special consideration in our stewardship	human rights
102	AP Fonden 2	Sweden	Focus areas	diversity
131	ERAFF	France	Five values	social progress democratic labour relations rule of law and human rights
180	Ireland Strategic Investment	Ireland	ESG risks and opportunities	labour relations
189	New Zealand Superannuation	New Zealand	Examples of ESG factors	health and workplace safety employee relations
196	State Pension	Finland	Key points	safety human rights labour rights

Note: The disclosure information judged to be equivalent to the materiality of each fund is listed as extracted from the original text. (In addition, terms that refer to social issues in general, such as “social issues”, have been omitted.)

Source: Prepared by Nissay Asset Management based on Wills Towers Watson (2018) and the websites of each fund.

Fig43: Governance (G) Issues that the Major Global Pension Funds Place Importance on for Investment

AUM Rank	Fund Name	Country	Attribute	Referred governance issue
2	Government Pension Fund	Norway	Expectation documents(provided by NBIM)	anti-corruption
5	ABP	Netherlands	Position paper	tax and transparency
7	California Public Employees	U. S.	Examples of engagement program	remuneration
8	Canada Pension	Canada	Description of ESG factors	alignment of interests
				risk management practices
				anticorruption
				alignment of interests
				executive compensation
				board independence and effectiveness
17	Ontario Teachers	Canada	Focus areas	shareholder rights
				cybersecurity
				board effectiveness
26	Future Fund	Australia	Examples of ESG factors	corruption
41	Universities Superannuation	U.K.	Examples of ESG matters	cybersecurity
				succession planning
				executive remuneration
				bribery & corruption risk management
97	AP Fonden 3	Sweden	Special consideration in our stewardship	anti-corruption
110	AP Fonden 1	Sweden	Ownership policy	remuneration
196	State Pension	Finland	Key points	anti-corruption
				corporate law
				competition law
				taxation

Note: The disclosure information judged to be equivalent to the materiality of each fund is listed as extracted from the original text. (In addition, governance issues that have nothing to do with ESG information disclosure have been omitted even if they were mentioned.)

Source: Prepared by Nissay Asset Management based on Wills Towers Watson (2018) and the websites of each fund.

In addition, when the asset owner tries to have “influence” over the entire investment chain, in addition to the method of directly referring to the materiality in the disclosure data, indirect ways to encourage ESG-related practices and information disclosure to a wide range of companies could be found through interaction with the ESG information disclosure framework developers/standard setters. In relation to this point, Fig. 44 summarizes the status of participation or involvement in the major global ESG information disclosure frameworks/standards by the 43 funds⁷⁴ in Fig. 40. Looking at this, TCFD has received largest number of involvement, i.e. 18 funds (of which 2 are also members of the TCFD) are expressing their support for the TCFD and being named as a supporter as well. It can be seen that the TCFD Final Recommendations have made relatively significant penetration to the major global pension funds.

Next to TCFD in terms of number is SASB. There are nine funds that are involved in the “Investor Advisory Group (IAG)”⁷⁵ established by SASB or participate in the SASB Alliance. Other than that, funds directly participating in IIRC and GRI are limited. As the number of participating or involved institutional investors varies depending on the scheme of ESG information disclosure

⁷⁴ Ibid.

⁷⁵ IAG is organized by the world's leading asset owners and managers. For details, see SASB “Supporters” <<https://www.sasb.org/investor-use/supporters/>>

frameworks/standards, it is not always appropriate to simply compare the numbers. However, it can be said that SASB Standards have received a certain level of support and attracted interest from the major global pension funds⁷⁶.

Fig44: Participation and Involvement in ESG Information Disclosure Frameworks/Standards by Major Global Pension Funds

AUM Rank	Fund Name	Country	IIRC Council	IIRC Ambassadors	GRI Board of Directors	GSSB Member	SASB IAG/ Alliance	TCFD Member	TCFD Supporter
1	Government Pension Investment	Japan	-	-	-	-	-	-	O
2	Government Pension Fund	Norway	-	-	-	-	O(NBIM)	-	O(NBIM)
3	National Pension	South Korea	-	-	-	-	-	-	-
4	Federal Retirement Thrift	U. S.	-	-	-	-	-	-	-
5	ABP	Netherlands	O(APG)	O(APG)	-	-	O(APG)	-	O
6	National Social Security	China	-	-	-	-	-	-	-
7	California Public Employees	U. S.	-	-	-	-	O	-	O
8	Canada Pension	Canada	-	-	-	-	O	O	O
9	Central Provident Fund	Singapore	-	-	-	-	-	-	-
10	PFZW	Netherlands	-	-	-	-	O(PGGM)	O(PGGM)	O
11	California State Teachers	U. S.	-	-	O	-	O	-	O
12	Local Government Officials	Japan	-	-	-	-	-	-	-
13	New York State Common	U. S.	-	-	-	-	-	-	O
14	Employees Provident Fund	Malaysia	-	-	-	-	-	-	-
15	New York City Retirement	U. S.	-	-	-	-	O	-	O
16	Florida State Board	U. S.	-	-	-	-	-	-	-
17	Ontario Teachers	Canada	-	-	-	-	O	-	O
18	Texas Teachers	U. S.	-	-	-	-	-	-	-
19	Employees' Provident	India	-	-	-	-	-	-	-
20	GEPI	South Africa	-	-	-	-	-	-	-
21	ATP	Denmark	-	-	-	-	O	-	O
22	Boeing	U. S.	-	-	-	-	-	-	-
23	New York State Teachers	U. S.	-	-	-	-	-	-	-
24	AT&T	U. S.	-	-	-	-	-	-	-
25	Wisconsin Investment Board	U. S.	-	-	-	-	-	-	-
26	Future Fund	Australia	-	-	-	-	-	-	-
27	North Carolina	U. S.	-	-	-	-	-	-	-
28	National Federation of Mutual Aid	Japan	-	-	-	-	-	-	-
29	Pension Fund Association	Japan	-	-	-	-	-	-	-
30	Washington State Board	U. S.	-	-	-	-	-	-	-
35	Labor Pension Fund	Taiwan	-	-	-	-	-	-	-
41	Universities Superannuation	U.K.	-	-	-	-	-	-	O
56	Public Institute for Social Security	Kuwait	-	-	-	-	-	-	-
61	National Wealth Fund	Russia	-	-	-	-	-	-	-
93	AP Fonden 7	Sweden	-	-	-	-	-	-	O
95	FRR	France	-	-	-	-	-	-	O
97	AP Fonden 3	Sweden	-	-	-	-	-	-	O
99	AP Fonden 4	Sweden	-	-	-	-	-	-	O
102	AP Fonden 2	Sweden	-	-	-	-	-	-	O
110	AP Fonden 1	Sweden	-	-	-	-	-	-	O
131	ERAFP	France	-	-	-	-	-	-	O
174	Social Insurance Funds	Vietnam	-	-	-	-	-	-	-
180	Ireland Strategic Investment	Ireland	-	-	-	-	-	-	-
189	New Zealand Superannuation	New Zealand	-	-	-	-	-	-	-
196	State Pension	Finland	-	-	-	-	-	-	-
230	Fonds de Compensation	Luxembourg	-	-	-	-	-	-	-
241	FEFSS	Portugal	-	-	-	-	-	-	-

Note: As of March 2019 (does not include past participation).

Source: Prepared by Nissay Asset Management based on Wills Towers Watson (2018), and the websites of IIRC, GRI, SASB and TCFD.

⁷⁶ In the interview survey, the SASB Standard is currently positioned as a disclosure standard for global companies, but was published in November 2018 because development has been advanced with the inclusion in regulatory disclosure documents in the United States in mind. Because of this, there were expectations for further development, as it still contains disclosure items and indicators that are difficult to apply to companies outside the United States.

Fig45: Participation and Involvement in ESG Information Disclosure Frameworks/Standards by Major Global Pension Funds (by Area)

	IIRC Council	IIRC Ambassadors	GRI Board of Directors	GSSB Member	SASB IAG/ Alliance	TCFD Member	TCFD Supporter
Europe	1	1			4	1	12
North America			1		5	1	6
Japan							1
Others							

Note: As of March 2019 (does not include past participation).

Source: Prepared by Nissay Asset Management based on Wills Towers Watson (2018), and the websites of IIRC, GRI, SASB and TCFD.

Portfolio materiality analysis using SASB Standards

The Ontario Teachers' Pension Plan (OTPP) analyzes materiality in the portfolios of listed and unlisted equities using materiality set by the SASB Standard by industries/sectors.

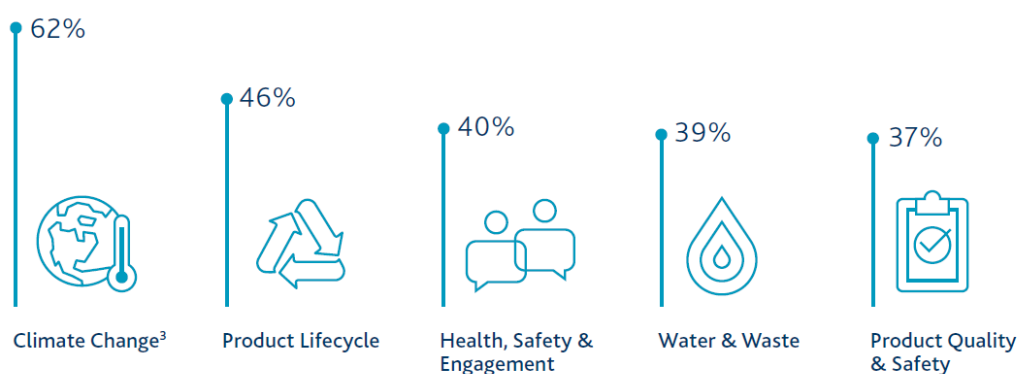
As a result, the environmental and social issue that had the highest proportion of material companies in the portfolio was about 62% (based on total market value held) of "climate change". However, it was not taken into consideration here that companies that fall under this 62% actually do address climate change. Following "climate change", the percentage of material companies were high for "product lifecycle" at 46%, "health, safety & engagement" at 40%, "water & waste" at 39%, and "product quality & safety" at 37%.

<Portfolio materiality analysis using SASB Standards>

PORTFOLIO MATERIALITY ASSESSMENT

To inform our integration and engagement efforts, we conduct an assessment of our public and private equity portfolios to identify the most significant environmental and social factor exposures using the SASB Materiality Map as a guide. Based on this materiality assessment, climate change is a material ESG factor for 62% of our holdings by market value. Note that this analysis does not indicate how companies are managing these risks, only that this is a material factor for them.

Top 5 Environmental and Social Issues²



² Source: internal analysis, public and private portfolio companies, as at Dec. 31, 2017, using SASB risk categories.

³ Climate change includes emissions, and fuel and energy management.

Source: Ontario Teachers "2017 Responsible Investing Report" pp. 7.

<<https://www.otpp.com/documents/10179/786418/Responsible+Investing+Report/b61561d3-c285-4f2e-bebc-0aa252bf4ff6>>

4.1.4. Section Summary

In this section, the survey focused on ESG disclosure in major asset funded pension funds in the world. The key findings are as follows.

First, most of the major global pension funds surveyed, that are mainly PRI signatories, have disclosed information about ESG investment, and there are many pension funds who publish separate annual reports which are exclusively dedicated to ESG investment.

Interview surveys were conducted with these funds about their motivations for ESG information disclosure, and it is revealed that there are the three major motivations (“to fulfill accountability”, “to increase transparency” and “to exert influence”). In particular, in the case of a fund that is a (quasi-)governmental institution, in addition to accountability to beneficiaries, it is regarded important to disclose information to increase transparency to a wider society and stakeholders. Some of the funds have worked to improve transparency in terms of promoting communication and collaboration with other institutional investors. It is confirmed that in large pension funds that are called universal owners, information disclosure is performed as a means to have an impact on asset managers, ESG rating agencies, and investee companies.

With regard to “influence” through information disclosure, we also investigated the status of disclosure regarding ESG issues (materiality) that each fund places importance on for investment. As a result, typical ESG issues mentioned by many of the funds are climate change for the environmental aspect, human rights, and occupational health and safety for the social aspect, and anti-corruption and remuneration for the governance aspect. These issues are generally included in the ESG issues covered by the major global ESG information disclosure frameworks/standards.

In addition, Surveys were conducted on the status of participation and involvement of each fund in the major global ESG information disclosure frameworks/standards, and we found that the TCFD has gained the most widespread support. With respect to disclosure standards other than TCFD, we have seen that SASB Standards has gained a certain level of support mainly in North America and Europe.

In addition, disclosure vehicles and approaches to information disclosure by the funds are diverse. As for the annual report, there is the idea that it would be more convenient to incorporate all the necessary information into a single annual report, and others where the funds have focused on preparing a separate annual report exclusively dedicated to ESG investment content. In addition, regarding materiality for the investment management, while there are a small number of funds publishing position papers that state funds’ expectations towards companies, and/or the views regarding specific ESG issues for the investment management, there are others who only briefly described this in annual reports and/or on their website.

With regard to ESG information disclosure by asset owners, including pension funds, there is only limited history, and no established solution at present, but it is considered important to build up good practices by exploring better ways of disclosure by referring to the cases reported in this research.

4.2. ESG Information Disclosure by Asset Managers

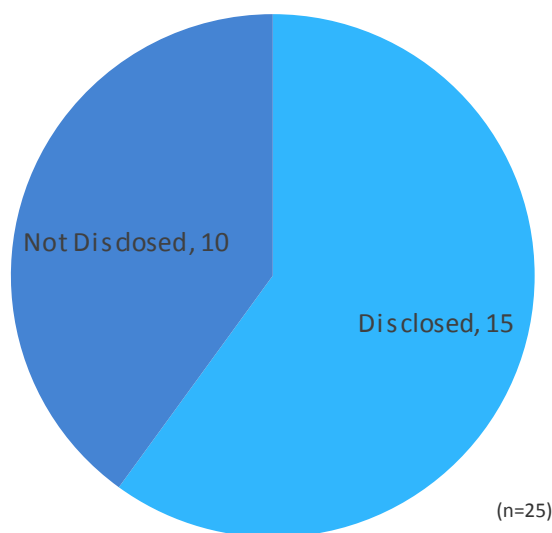
Finally, we will take up ESG information disclosure by asset managers. As shown on Fig. 2, asset managers are positioned between the companies and the asset owners in the investment chain.

In the past, it has been rare for asset managers to disclose information in a form that can be viewed by anyone, such as posting on a website, except for those required by laws or regulations. Of course, although various reports and information provision are carried out individually to asset owners that are customers, for example, based on individual contractual relationships, such communication is not generally publicized. With regard to relationships with companies, although investors have asked companies to enhance information disclosure, there has been little information disclosure from asset managers to companies.

However, in recent years, we have seen an increased number of asset managers that disclose information to the public by posting on the website, including the publication of the stewardship activities report annually.

Fig. 46 shows the presence or absence of information disclosure on ESG issues (materiality) that are mentioned as important within the investment management process by the asset managers. The asset managers are among those hired by GPIF, and actually the 25 asset managers that responded to the questionnaire survey conducted by GPIF in March 2019. In the questionnaire survey, 15 out of 25 asset managers (60%) answered that they have “disclosed”.

Fig46: Disclosure Status of ESG Issues (Materiality) that Asset Managers Place Importance on for Investment



Note : Samples are 25 external asset managers entrusted by GPIF, who answered questionnaire survey conducted in March 2019.

Source: Prepared by Nissay Asset Management based on questionnaire survey.

In the questionnaire survey, there are questions about the reason for disclosure to the asset managers that answered “disclosed”, and about the reasons for non-disclosure about the management organization that answered “not disclosed”. Fig. 47 summarizes the main reasons for both disclosure and non-disclosure.

The most common reason for disclosure is the improvement in the effectiveness of dialogue (engagement) through the promotion of understanding with the investee company, and it can be said that the answer contents are conscious of the company as the recipient of the disclosure information. On the other hand, only a few responses are conscious of customers (asset owners) as recipients of disclosed information. This should be due to the fact that, with the asset owner who is the customer, it is common that the interaction is performed individually on the contractual relationship.

The most common reason for non-disclosure is that it is difficult to show it uniformly because the important ESG issues vary from company to company. In judgmental investing in particular, as summarized in Fig. 17, useful ESG information is needed to deepen the understanding of individual companies, and the contents are considered to vary depending on the characteristics of the company, therefore the explanation that it is difficult to show uniformly is considered to have a certain validity.

Even if it is disclosed, it will be in the form of disclosing representative cases.

In addition to the annual stewardship activities report, there were various disclosure vehicles such as stewardship policies, ESG investment and/or engagement policies, descriptions on the website, etc.

Summarizing the above, it has been found that the efforts of asset managers to disclose materiality in the investment management have shown a certain spread, and that the investee company is mainly perceived as the recipient of the disclosure information. However, depending on the investment strategy/methodology adopted by the asset managers, they may be uncomfortable in indicating specific ESG issues, it may be considered as one of good ideas to explain in detail the perspective on ESG issues, the perspective of analysis and evaluation, and the methodology used for making investment decisions.

Fig47: Reason for Disclosure / Reason for Non-Disclosure

Reason for disclosure (only main answers posted)

- To enhance the effectiveness of dialogue (engagement) through understanding building by investee companies. (5 asset managers)
- To increase transparency. (2 asset managers)
- To promote understanding by clients/asset owners (1 asset manager)
-

Reason for non-disclosure (only main answers posted)

- It is difficult to show a uniform set of ESG issues, since the importance of ESG issues varies across companies. (5 asset managers)
* 2 out of 5 asset managers state that they are considering ESG issues for fundamental analysis as a reason for varying ESG issues.
- Do not consider any specific ESG issues because of the investment strategy based on a mathematical technique. (1 asset managers)
- Disclosure of a uniform set of ESG issues might discourage investee companies to examine their materiality on their own.
- Materiality is reported directly to clients/asset owners. (1 asset managers)

Note: Regarding “reasons for disclosure” and “reason for non-disclosure”, questionnaire surveys are conducted using a free-form method. The content described above is a summary of the main response content and is not the original text of the response content by the asset managers.

Source: prepared by Nissay Asset Management based on survey results

Key findings and recommendations of the research

This research focused on ESG disclosure in the investment chain and analyzed it from various perspectives. Specifically, in Chapter 2, we clarify the backgrounds and characteristics of the major global ESG information disclosure frameworks/standards, as well as the utilization status by companies in Japan and overseas. Also, we examine “common parts” and “differences” of each disclosure frameworks/standards. Chapter 3 analyzes the relationship between the “common parts” and the evaluations of major global ESG rating agencies. Chapter 4 focuses on ESG information disclosure by institutional investors, and conducts surveys on the motivations of major global pension funds to disclose ESG information, and disclosure status of ESG issues that are material to the investment management.

The key findings of this research are as follows.

Relationship between ESG investment strategies and information needs

Today, ESG investment strategies adopted by investors are becoming more diverse, and the needs of ESG information would vary according to the strategies. Specifically, the following relationships are revealed.

- For investors who use ESG information in judgmental strategies, there are higher needs of ESG information that is useful for in-depth understanding of individual companies, and the International Integrated Reporting Framework can be seen as a representative example of the ESG information disclosure framework/standard that meets such information needs.
- For investors who use ESG information in systematic and passive investment strategies, there are higher needs of ESG information that is easy to quantify and compare, and the SASB Standards can be seen as a representative example of standards that meets such information needs.
- With regard to impact investments, there would be higher needs of information on the impact that a company has on the economy, environment, and/or society, and the GRI Standards could be the most relevant standard. However, GRI Standards focuses more on the disclosure of negative impact, and it is pointed out that the disclosure items/indicators for positive impact that many impact investors seek for are in the developing stage at most at present.

“Common parts” and “differences” of the ESG information disclosure frameworks/standards

It is suggested that the “common parts” that are extracted in this research overlap to a certain extent with the evaluation items of the major global ESG rating agencies and the “common parts” are also related to the ESG issues that are regarded as material for the investment management by

the major global pension funds. To enhance ESG information disclosure with being aware of the “common parts” would contribute to more effective and efficient corporate IR practices.

In addition, regarding the “difference”, the following points are clarified.

- The International Integrated Reporting Framework does not contradict to any other ESG information disclosure frameworks/standards. Rather, it is considered to be a complementary relationship. In other words, it could be worth pursuing to produce a higher quality integrated report by effectively utilizing the disclosure items/indicators specified by other disclosure standards such as SASB standards.
- The distinctive features of the International Integrated Reporting Framework is that it requires comprehensive and systematic disclosure of business models, and such information could be required especially by investors who use ESG information in judgmental investment strategies.
- Although both GRI and SASB repeatedly use the word “sustainability” in their standards, the meaning in each is clearly different as the former uses it to mean “sustainability of the planet and social systems”, while the latter uses it to mean “corporate sustainability”. Furthermore, the purposes of information disclosure are clearly different: the GRI Standards are aiming for “disclosure of impact on economy, environment, and/or society driven by companies”, while the SASB Standards are aiming for “disclosure of information which is relevant for operating performance and/or financial conditions of company”. Such differences result in the differences in disclosure items/indicators set by each standard.
- The specific disclosure items/indicators for each industry defined by the SASB Standards are considered to be useful for companies when disclose information in line with TCFD Final Recommendations, including climate scenario analysis.

Enhance consistency and convergence of frameworks/standards

One of the features of this research is that the comparative analysis is carried out not only at the conceptual level, but also at the individual disclosure items/indicators’ level for the major global ESG information disclosure frameworks/standards. The analysis reveals that the disclosure items/indicators for each standard have a very intricate relationship with each other, which make it difficult to extract the “common parts” precisely.

This fact would cause a greater confusion in corporate ESG information disclosure forefront, and also prompt initiatives such as the Better Alignment Project to enhance consistency, as well as discussions regarding convergence of frameworks/standards.

There are two possible scenarios for the convergence: market-driven and regulatory-driven convergence. It has been pointed out that the market driven convergence would less probable and regulatory approach would be necessary, since framework developers and standard setters are generally non-profit organizations (NGOs), and thus selection or organizational merger throught free market competition is less likely to occur.

ESG information disclosure by major global pension funds

It has become evident that various forms of ESG information disclosure practices including publication of a separate annual report exclusively dedicated to ESG investment are increasing among the major global pension funds.

Motivation for such disclosure can be classified into three: “accountability”, “transparency”, and “influence”. Regarding “influence”, pension funds, especially universal owners, disclose materiality for their investment management so as to influence external asset managers and/or investee companies. Such disclosure practices could play an important role in the investment chain.

In addition, pension funds, especially for ones with larger AUM, tend to engage with framework developers/standard setters directly. In particular, it is observed that TCFD Final Recommendations have achieved the widest support, and also SASB Standards are gaining attention and support from the pension funds.

Based on the above findings, the key recommendations of this research are as follows. It is hoped that the progress of these efforts will lead to the advancement of ESG investment, and hence the well-functioning investment chain.

Recommendations for Companies (Investor Relations)

- Companies should enrich their understanding about the diversified ESG investment strategies, and the fact that different strategy has different ESG information needs.
- Companies that are not actively working on ESG information disclosure at present should first embark ESG information disclosure by referring to the “common parts” of ESG information disclosure frameworks/standards.
- Companies that are already actively engaging in ESG information disclosure should advance disclosure beyond the “common parts,” by being aware of the information needs of ESG investors as end-users of disclosed information.

Recommendations for GPIF/Asset Owners

- Universal owners should disclose appropriate ESG information from the perspectives not only of “accountability” and “transparency,” but also “influence (influencing on external asset managers behavior and disclosure practices of investee companies throughout disclosure processes) ”.
- As GPIF is not allowed to engage in any single company, ESG information disclosure should be utilized actively as an alternative ‘tool’ for engagement.
- Showing materiality for asset owners – important ESG factors for their investment management – would provide insights for companies that are questioning “what kind of ESG information should be disclosed?”, in the sea of ESG information disclosure

frameworks/standards. In that sense, GPIF should consider disclosure of materiality as other major global asset owners do.

- Framework developers/standard setters are non-profit organizations (NGOs), and it would be less likely to result in shakeout or be incentivized for organizational mergers through competition as with profit seeking organizations. Hence, asset owners should consider engaging with framework developers/standard setters toward better commonality and advancement of frameworks/standards.
- Asset owners should encourage entrusted asset managers to support above activities.

Recommendations for Framework Developers/Standard Setters

- In order to enhance the convenience for framework/standard users, framework developers/standard setters should increase their efforts to improve consistency, as well as to clarify common parts and differences at the individual disclosure item and indicator levels.

Appendix
1

List of Disclosure Items and Indicators of ESG Information Disclosure Frameworks/ Standards and Classification Results

- *List of Content Elements of International Integrated Reporting Framework*
- *List of Disclosure Items/Indicators of GRI Standards*
- *List of Accounting Metrics of SASB Standards*
- *List of Recommended Disclosures of TCFD Final Recommendations*
- *List of Contents of Guidance for Collaborative Value Creation*
- *List of Disclosure Items and KPIs of Environmental Reporting Guidelines 2018 version*
- *List of Contents of Annual Securities Report*
- *List of Contents of Corporate Governance Report*

List of Content Elements of International Integrated Reporting Framework

Content Element	Outline	Disclosure Information Category							
		Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
A Organizational overview and external environment	What does the organization do and what are the circumstances under which it operates?	✓						✓	
B Governance	How does the organization's governance structure support its ability to create value in the short, medium and long term?					✓			
C Business model	What is the organization's business model?		✓						
D Risks and opportunities	What are the specific risks and opportunities that affect the organization's ability to create value over the short, medium and long term, and how is the organization dealing with them?							✓	✓
E Strategy and resource allocation	Where does the organization want to go and how does it intend to get there?								✓
F Performance	To what extent has the organization achieved its strategic objectives for the period and what are its outcomes in terms of effects on the capitals?								
G Outlook	What challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance?							✓	
H Basis of preparation and presentation	How does the organization determine what matters to include in the integrated report and how are such matters quantified or evaluated?						✓		

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of International Integrated Reporting Framework.

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
Universal	GRI 102: General Disclosures 2016	1. Organizational profile									
		Disclosure 102-1 Name of the organization	a. Name of the organization.	✓							
		Disclosure 102-2 Activities, brands, products, and services	a. A description of the organization's activities. b. Primary brands, products, and services, including an explanation of any products or services that are banned in certain markets.	✓							
		Disclosure 102-3 Location of headquarters	a. Location of the organization's headquarters.	✓							
		Disclosure 102-4 Location of operations	a. Number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report.	✓							
		Disclosure 102-5 Ownership and legal form	a. Nature of ownership and legal form.	✓							
		Disclosure 102-6 Markets served	a. Markets served, including: i. geographic locations where products and services are offered; ii. sectors served; iii. types of customers and beneficiaries.	✓							
		Disclosure 102-7 Scale of the organization	a. Scale of the organization, including: i. total number of employees; ii. total number of operations; iii. net sales (for private sector organizations) or net revenues (for public sector organizations); iv. total capitalization (for private sector organizations) broken down in terms of debt and equity; v. quantity of products or services provided.	✓							
		Disclosure 102-8 Information on employees and other workers	a. Total number of employees by employment contract (permanent and temporary), by gender. b. Total number of employees by employment contract (permanent and temporary), by region. c. Total number of employees by employment type (full-time and part-time), by gender. d. Whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed by workers who are not employees. e. Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c (such as seasonal variations in the tourism or agricultural industries). f. An explanation of how the data have been compiled, including any assumptions made.	✓							

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs
1	List of Disclosure Items and Indicators of ESG Information Disclosure Frameworks/Standards and Classification Results	Disclosure 102-9 Supply chain	a. A description of the organization's supply chain, including its main elements as they relate to the organization's activities, primary brands, products, and services.	✓							
		Disclosure 102-10 Significant changes to the organization and its supply chain	a. Significant changes to the organization's size, structure, ownership, or supply chain, including: i. Changes in the location of, or changes in, operations, including facility openings, closings, and expansions; ii. Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations); iii. Changes in the location of suppliers, the structure of the supply chain, or relationships with suppliers, including selection and termination.	✓							
		Disclosure 102-11 Precautionary Principle or approach	a. Whether and how the organization applies the Precautionary Principle or approach.	✓							
		Disclosure 102-12 External initiatives	a. A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses.	✓							
		Disclosure 102-13 Membership of associations	a. A list of the main memberships of industry or other associations, and national or international advocacy organizations.	✓							
		2. Strategy									
		Disclosure 102-14 Statement from senior decision-maker	a. A statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability.				✓				
		Disclosure 102-15 Key impacts, risks, and opportunities	a. A description of key impacts, risks, and opportunities.							✓	
		3. Ethics and integrity									
		Disclosure 102-16 Values, principles, standards, and norms of behavior	a. A description of the organization's values, principles, standards, and norms of behavior.					✓			
		Disclosure 102-17 Mechanisms for advice and concerns about ethics	a. A description of internal and external mechanisms for: i. seeking advice about ethical and lawful behavior, and organizational integrity; ii. reporting concerns about unethical or unlawful behavior, and organizational integrity.					✓			
		4. Governance									
		Disclosure 102-18 Governance structure	a. Governance structure of the organization, including committees of the highest governance body. b. Committees responsible for decision-making on economic, environmental, and social topics.					✓			

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
		Disclosure 102-19 Delegating authority	a. Process for delegating authority for economic, environmental, and social topics from the highest governance body to senior executives and other employees.					✓		
		Disclosure 102-20 Executive-level responsibility for economic, environmental, and social topics	a. Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics. b. Whether post holders report directly to the highest governance body.					✓		
		Disclosure 102-21 Consulting stakeholders on economic, environmental, and social topics	a. Processes for consultation between stakeholders and the highest governance body on economic, environmental, and social topics. b. If consultation is delegated, describe to whom it is delegated and how the resulting feedback is provided to the highest governance body.					✓		
		Disclosure 102-22 Composition of the highest governance body and its committees	a. Composition of the highest governance body and its committees by: i. executive or non-executive; ii. independence; iii. tenure on the governance body; iv. number of each individual's other significant positions and commitments, and the nature of the commitments; v. gender; vi. membership of under-represented social groups; vii. competencies relating to economic, environmental, and social topics; viii. stakeholder representation.					✓		
		Disclosure 102-23 Chair of the highest governance body	a. Whether the chair of the highest governance body is also an executive officer in the organization. b. If the chair is also an executive officer, describe his or her function within the organization's management and the reasons for this arrangement.					✓		
		Disclosure 102-24 Nominating and selecting the highest governance body	a. Nomination and selection processes for the highest governance body and its committees. b. Criteria used for nominating and selecting highest governance body members, including whether and how: i. stakeholders (including shareholders) are involved; ii. diversity is considered; iii. independence is considered; iv. expertise and experience relating to economic, environmental, and social topics are considered.					✓		
		Disclosure 102-25 Conflicts of interest	a. Processes for the highest governance body to ensure conflicts of interest are avoided and managed. b. Whether conflicts of interest are disclosed to stakeholders, including, as a minimum: i. Cross-board membership; ii. Cross-shareholding with suppliers and other stakeholders; iii. Existence of controlling shareholder; iv. Related party disclosures.					✓		

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
		Disclosure 102-26 Role of highest governance body in setting purpose, values, and strategy	a. Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics.					✓				
		Disclosure 102-27 Collective knowledge of highest governance body	a. Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental, and social topics.					✓				
		Disclosure 102-28 Evaluating the highest governance body's performance	a. Processes for evaluating the highest governance body's performance with respect to governance of economic, environmental, and social topics. b. Whether such evaluation is independent or not, and its frequency. c. Whether such evaluation is a self-assessment. d. Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental, and social topics, including, as a minimum, changes in membership and organizational practice.					✓				
		Disclosure 102-29 Identifying and managing economic, environmental, and social impacts	a. Highest governance body's role in identifying and managing economic, environmental, and social topics and their impacts, risks, and opportunities – including its role in the implementation of due diligence processes. b. Whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental, and social topics and their impacts, risks, and opportunities.					✓				
		Disclosure 102-30 Effectiveness of risk management processes	a. Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental, and social topics.					✓				
		Disclosure 102-31 Review of economic, environmental, and social topics	a. Frequency of the highest governance body's review of economic, environmental, and social topics and their impacts, risks, and opportunities.					✓				
		Disclosure 102-32 Highest governance body's role in sustainability reporting	a. The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material topics are covered.					✓				
		Disclosure 102-33 Communicating critical concerns	a. Process for communicating critical concerns to the highest governance body.					✓				
		Disclosure 102-34 Nature and total number of critical concerns	a. Total number and nature of critical concerns that were communicated to the highest governance body. b. Mechanism(s) used to address and resolve critical concerns.					✓				
		Disclosure 102-35 Remuneration policies	a. Remuneration policies for the highest governance body and senior executives for the following types of remuneration: i. Fixed pay and variable pay, including									

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
			performance-based pay, equity-based pay, bonuses, and deferred or vested shares; ii. Sign-on bonuses or recruitment incentive payments; iii. Termination payments; iv. Clawbacks; v. Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees. b. How performance criteria in the remuneration policies relate to the highest governance body's and senior executives' objectives for economic, environmental, and social topics.					✓		
		Disclosure 102-36 Process for determining remuneration	a. Process for determining remuneration. b. Whether remuneration consultants are involved in determining remuneration and whether they are independent of management. c. Any other relationships that the remuneration consultants have with the organization.					✓		
		Disclosure 102-37 Stakeholders' involvement in remuneration	a. How stakeholders' views are sought and taken into account regarding remuneration. b. If applicable, the results of votes on remuneration policies and proposals.					✓		
		Disclosure 102-38 Annual total compensation ratio	a. Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.					✓		
		Disclosure 102-39 Percentage increase in annual total compensation ratio	a. Ratio of the percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.					✓		
		5. Stakeholder engagement								
		Disclosure 102-40 List of stakeholder groups	a. A list of stakeholder groups engaged by the organization.			✓				
		Disclosure 102-41 Collective bargaining agreements	a. Percentage of total employees covered by collective bargaining agreements.							✓
		Disclosure 102-42 Identifying and selecting stakeholders	a. The basis for identifying and selecting stakeholders with whom to engage.			✓				
		Disclosure 102-43 Approach to stakeholder engagement	a. The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.			✓				

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
		Disclosure 102-44 Key topics and concerns raised	a. Key topics and concerns that have been raised through stakeholder engagement, including: i. how the organization has responded to those key topics and concerns, including through its reporting; ii. the stakeholder groups that raised each of the key topics and concerns.			✓						
	6. Reporting practice											
		Disclosure 102-45 Entities included in the consolidated financial statements	a. A list of all entities included in the organization's consolidated financial statements or equivalent documents. b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.					✓				
		Disclosure 102-46 Defining report content and topic Boundaries	a. An explanation of the process for defining the report content and the topic Boundaries. b. An explanation of how the organization has implemented the Reporting Principles for defining report content.						✓			
		Disclosure 102-47 List of material topics	a. A list of the material topics identified in the process for defining report content.						✓			
		Disclosure 102-48 Restatements of information	a. The effect of any restatements of information given in previous reports, and the reasons for such restatements.	n/a								
		Disclosure 102-49 Changes in reporting	a. Significant changes from previous reporting periods in the list of material topics and topic Boundaries.	n/a								
		Disclosure 102-50 Reporting period	a. Reporting period for the information provided.	n/a								
		Disclosure 102-51 Date of most recent report	a. If applicable, the date of the most recent previous report.	n/a								
		Disclosure 102-52 Reporting cycle	a. Reporting cycle.	n/a								
		Disclosure 102-53 Contact point for questions regarding the report	a. The contact point for questions regarding the report or its contents.	n/a								
		Disclosure 102-54 Claims of reporting in accordance with the GRI Standards	a. The claim made by the organization, if it has prepared a report in accordance with the GRI Standards, either: i. 'This report has been prepared in accordance with the GRI Standards: Core option'; ii. 'This report has been prepared in accordance with the GRI Standards: Comprehensive option'.	n/a								
		Disclosure 102-55 GRI content index	a. The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report. b. For each disclosure, the content index shall include: i. the number of the disclosure (for disclosures covered by the GRI Standards); ii. the page number(s) or URL(s) where the information can be found, either	n/a								

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
			within the report or in other published materials; iii. if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made.							
		Disclosure 102-56 External assurance	a. A description of the organization's policy and current practice with regard to seeking external assurance for the report. b. If the report has been externally assured: i. A reference to the external assurance report, statements, or opinions. If not included in the assurance report accompanying the sustainability report, a description of what has and what has not been assured and on what basis, including the assurance standards used, the level of assurance obtained, and any limitations of the assurance process; ii. The relationship between the organization and the assurance provider; iii. Whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report.	n/a						
	GRI 103: Management Approach 2016	Disclosure 103-1 Explanation of the material topic and its Boundary	a. An explanation of why the topic is material. b. The Boundary for the material topic, which includes a description of: i. where the impacts occur; ii. the organization's involvement with the impacts. For example, whether the organization has caused or contributed to the impacts, or is directly linked to the impacts through its business relationships. c. Any specific limitation regarding the topic Boundary.						✓	
		Disclosure 103-2 The management approach and its components	a. An explanation of how the organization manages the topic. b. A statement of the purpose of the management approach. c. A description of the following, if the management approach includes that component: i. Policies ii. Commitments iii. Goals and targets iv. Responsibilities v. Resources vi. Grievance mechanisms vii. Specific actions, such as processes, projects, programs and initiatives							✓
		Disclosure 103-3 Evaluation of the management approach	a. An explanation of how the organization evaluates the management approach, including: i. the mechanisms for evaluating the effectiveness of the management approach; ii. the results of the evaluation of the management approach; iii. any related adjustments to the management approach.							✓
Economic	GRI 201: Economic Performance 2016	Disclosure 201-1 Direct economic value generated and distributed	a. Direct economic value generated and distributed (EVG&D) on an accruals basis, including the basic components for the organization's global operations as listed below. If data are presented on							

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
			a cash basis, report the justification for this decision in addition to reporting the following basic components: i. Direct economic value generated: revenues; ii. Economic value distributed: operating costs, employee wages and benefits, payments to providers of capital, payments to government by country, and community investments; iii. Economic value retained: 'direct economic value generated' less 'economic value distributed'. b. Where significant, report EVG&D separately at country, regional, or market levels, and the criteria used for defining significance.									✓
	Disclosure 201-2 Financial implications and other risks and opportunities due to climate change	a. Risks and opportunities posed by climate change that have the potential to generate substantive changes in operations, revenue, or expenditure, including: i. a description of the risk or opportunity and its classification as either physical, regulatory, or other; ii. a description of the impact associated with the risk or opportunity; iii. the financial implications of the risk or opportunity before action is taken; iv. the methods used to manage the risk or opportunity; v. the costs of actions taken to manage the risk or opportunity.							✓	✓		
	Disclosure 201-3 Defined benefit plan obligations and other retirement plans	a. If the plan's liabilities are met by the organization's general resources, the estimated value of those liabilities. b. If a separate fund exists to pay the plan's pension liabilities: i. the extent to which the scheme's liabilities are estimated to be covered by the assets that have been set aside to meet them; ii. the basis on which that estimate has been arrived at; iii. when that estimate was made. c. If a fund set up to pay the plan's pension liabilities is not fully covered, explain the strategy, if any, adopted by the employer to work towards full coverage, and the timescale, if any, by which the employer hopes to achieve full coverage. d. Percentage of salary contributed by employee or employer. e. Level of participation in retirement plans, such as participation in mandatory or								✓	✓	
	Disclosure 201-4 Financial assistance received from government	a. Total monetary value of financial assistance received by the organization from any government during the reporting period, including: i. tax relief and tax credits; ii. subsidies; iii. investment grants, research and development grants, and other relevant types of grant; iv. awards; v. royalty holidays; vi. financial assistance from Export Credit Agencies (ECAs); vii. financial incentives; viii. other financial benefits received or receivable from any government for any operation.									✓	

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs, Strategies and practices
			b. The information in 201-4-a by country. c. Whether, and the extent to which, any government is present in the share-holding structure.								
	GRI 202: Market Presence 2016	Disclosure 202-1 Ratios of standard entry level wage by gender compared to local minimum wage	a. When a significant proportion of employees are compensated based on wages subject to minimum wage rules, report the relevant ratio of the entry level wage by gender at significant locations of operation to the minimum wage. b. When a significant proportion of other workers (excluding employees) performing the organization's activities are compensated based on wages subject to minimum wage rules, describe the actions taken to determine whether these workers are paid above the minimum wage. c. Whether a local minimum wage is absent or variable at significant locations of operation, by gender. In circumstances in which different minimums can be used as a reference, report which minimum wage is being used. d. The definition used for 'significant locations of operation'.								✓
		Disclosure 202-2 Proportion of senior management hired from the local community	a. Percentage of senior management at significant locations of operation that are hired from the local community. b. The definition used for 'senior management'. c. The organization's geographical definition of 'local'. d. The definition used for 'significant locations of operation'.								✓
	GRI 203: Indirect Economic Impacts 2016	Disclosure 203-1 Infrastructure investments and services supported	a. Extent of development of significant infrastructure investments and services supported. b. Current or expected impacts on communities and local economies, including positive and negative impacts where relevant. c. Whether these investments and services are commercial, in-kind, or pro bono engagements.								✓
		Disclosure 203-2 Significant indirect economic impacts	a. Examples of significant identified indirect economic impacts of the organization, including positive and negative impacts. b. Significance of the indirect economic impacts in the context of external benchmarks and stakeholder priorities, such as national and international standards, protocols, and policy agendas.								✓
	GRI 204: Procurement Practices 2016	Disclosure 204-1 Proportion of spending on local suppliers	a. Percentage of the procurement budget used for significant locations of operation that is spent on suppliers local to that operation (such as percentage of products and services purchased locally). b. The organization's geographical definition of 'local'. c. The definition used for 'significant locations of operation'.								✓
	GRI 205: Anti-corruption 2016	Disclosure 205-1 Operations assessed for risks related to corruption	a. Total number and percentage of operations assessed for risks related to corruption. b. Significant risks related to corruption identified through the risk assessment.							✓	✓

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
		Disclosure 205-2 Communication and training about anti-corruption policies and procedures	<div>a. Total number and percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to, broken down by region.</div> <div>b. Total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to, broken down by employee category and region.</div> <div>c. Total number and percentage of business partners that the organization's anti-corruption policies and procedures have been communicated to, broken down by type of business partner and region. Describe if the organization's anti-corruption policies and procedures have been communicated to any other persons or organizations.</div> <div>d. Total number and percentage of governance body members that have received training on anti-corruption, broken down by region.</div> <div>e. Total number and percentage of employees that have received training on anti-corruption, broken down by employee category and region.</div>								✓	
		Disclosure 205-3 Confirmed incidents of corruption and actions taken	<div>a. Total number and nature of confirmed incidents of corruption.</div> <div>b. Total number of confirmed incidents in which employees were dismissed or disciplined for corruption.</div> <div>c. Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption.</div> <div>d. Public legal cases regarding corruption brought against the organization or its employees during the reporting period and the outcomes of such cases.</div>								✓	
	GRI 206: Anti-competitive Behavior 2016	Disclosure 206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	<div>a. Number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in which the organization has been identified as a participant.</div> <div>b. Main outcomes of completed legal actions, including any decisions or judgments.</div>									✓
	Environment	GRI 301: Materials 2016	Disclosure 301-1 Materials used by weight or volume	<div>a. Total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting period, by:<div>i. non-renewable materials used;</div><div>ii. renewable materials used.</div></div>								
Disclosure 301-2 Recycled input materials used			<div>a. Percentage of recycled input materials used to manufacture the organization's primary products and services.</div>									✓
Disclosure 301-3 Reclaimed products and their packaging materials			<div>a. Percentage of reclaimed products and their packaging materials for each product category.</div> <div>b. How the data for this disclosure have been collected.</div>									✓
GRI 302: Energy 2016		Disclosure 302-1 Energy consumption within the organization	<div>a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used.</div> <div>b. Total fuel consumption within the</div>									

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
			organization from renewable sources, in joules or multiples, and including fuel types used. c. In joules, watt-hours or multiples, the total: i. electricity consumption ii. heating consumption iii. cooling consumption iv. steam consumption d. In joules, watt-hours or multiples, the total: i. electricity sold ii. heating sold iii. cooling sold iv. steam sold e. Total energy consumption within the organization, in joules or multiples. f. Standards, methodologies, assumptions, and/or calculation tools used. g. Source of the conversion factors used.							✓
		Disclosure 302-2 Energy consumption outside of the organization	a. Energy consumption outside of the organization, in joules or multiples. b. Standards, methodologies, assumptions, and/or calculation tools used. c. Source of the conversion factors used.							✓
		Disclosure 302-3 Energy intensity	a. Energy intensity ratio for the organization. b. Organization-specific metric (the denominator) chosen to calculate the ratio. c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all. d. Whether the ratio uses energy consumption within the organization, outside of it, or both.							✓
		Disclosure 302-4 Reduction of energy consumption	a. Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples. b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all. c. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it. d. Standards, methodologies, assumptions, and/or calculation tools used.							✓
		Disclosure 302-5 Reductions in energy requirements of products and services	a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples. b. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it. c. Standards, methodologies, assumptions, and/or calculation tools used.							✓
GRI 303: Water and Effluents 2018		Disclosure 303-1 Interactions with water as a shared resource	a. A description of how the organization interacts with water, including how and where water is withdrawn, consumed, and discharged, and the water-related impacts caused or contributed to, or directly linked to the organization's activities, products or services by a business relationship (e.g., impacts caused by runoff). b. A description of the approach used to identify water-related impacts, including the scope of assessments, their time-							

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
			frame, and any tools or methodologies used. c. A description of how water-related impacts are addressed, including how the organization works with stakeholders to steward water as a shared resource, and how it engages with suppliers or customers with significant water-related impacts. d. An explanation of the process for setting any water-related goals and targets that are part of the organization's management approach, and how they relate to public policy and the local context of each area with water stress.						✓	✓	
		Disclosure 303-2 Management of water discharge-related impacts	a. A description of any minimum standards set for the quality of effluent discharge, and how these minimum standards were determined, including: i. how standards for facilities operating in locations with no local discharge requirements were determined; ii. any internally developed water quality standards or guidelines; iii. any sector-specific standards considered; iv. whether the profile of the receiving waterbody was considered.							✓	
		Disclosure 303-3 Water withdrawal	a. Total water withdrawal from all areas in megaliters, and a breakdown of this total by the following sources, if applicable: i. Surface water; ii. Groundwater; iii. Seawater; iv. Produced water; v. Third-party water. b. Total water withdrawal from all areas with water stress in megaliters, and a breakdown of this total by the following sources, if applicable: i. Surface water; ii. Groundwater; iii. Seawater; iv. Produced water; v. Third-party water, and a breakdown of this total by the withdrawal sources listed in i-iv. c. A breakdown of total water withdrawal from each of the sources listed in Disclosures 303-3-a and 303-3-b in megaliters by the following categories: i. Freshwater (≤1,000 mg/L Total Dissolved Solids); ii. Other water (>1,000 mg/L Total Dissolved Solids). d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.							✓	
		Disclosure 303-4 Water discharge	a. Total water discharge to all areas in megaliters, and a breakdown of this total by the following types of destination, if applicable: i. Surface water; ii. Groundwater; iii. Seawater; iv. Third-party water, and the volume of this total sent for use to other organizations, if applicable. b. A breakdown of total water discharge to all areas in megaliters by the following categories:								

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
			i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids); ii. Other water ($> 1,000$ mg/L Total Dissolved Solids). c. Total water discharge to all areas with water stress in megaliters, and a breakdown of this total by the following categories: i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids); ii. Other water ($> 1,000$ mg/L Total Dissolved Solids). d. Priority substances of concern for which discharges are treated, including: i. how priority substances of concern were defined, and any international standard, authoritative list, or criteria used; ii. the approach for setting discharge limits for priority substances of concern; iii. number of incidents of non-compliance with discharge limits. e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.							✓
		Disclosure 303-5 Water consumption	a. Total water consumption from all areas in megaliters. b. Total water consumption from all areas with water stress in megaliters. c. Change in water storage in megaliters, if water storage has been identified as having a significant water-related impact. d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modeled, or sourced from direct measurements, and the approach taken for this, such as the use of any sector-specific factors.							✓
	GRI 304: Biodiversity 2016	Disclosure 304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	a. For each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas, the following information: i. Geographic location; ii. Subsurface and underground land that may be owned, leased, or managed by the organization; iii. Position in relation to the protected area (in the area, adjacent to, or containing portions of the protected area) or the high biodiversity value area outside protected areas; iv. Type of operation (office, manufacturing or production, or extractive); v. Size of operational site in km ² (or another unit, if appropriate); vi. Biodiversity value characterized by the attribute of the protected area or area of high biodiversity value outside the protected area (terrestrial, freshwater, or maritime ecosystem); vii. Biodiversity value characterized by listing of protected status (such as IUCN Protected Area Management Categories, Ramsar Convention, national legislation).							✓

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
GRI 305: Emissions 2016		Disclosure 304-2 Significant impacts of activities, products, and services on biodiversity	<p>a. Nature of significant direct and indirect impacts on biodiversity with reference to one or more of the following:</p> <ul style="list-style-type: none">i. Construction or use of manufacturing plants, mines, and transport infrastructure;ii. Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources);iii. Introduction of invasive species, pests, and pathogens;iv. Reduction of species;v. Habitat conversion;vi. Changes in ecological processes outside the natural range of variation (such as salinity or changes in groundwater level). <p>b. Significant direct and indirect positive and negative impacts with reference to the following:</p> <ul style="list-style-type: none">i. Species affected;ii. Extent of areas impacted;iii. Duration of impacts;iv. Reversibility or irreversibility of the impacts.								✓
		Disclosure 304-3 Habitats protected or restored	<p>a. Size and location of all habitat areas protected or restored, and whether the success of the restoration measure was or is approved by independent external professionals.</p> <p>b. Whether partnerships exist with third parties to protect or restore habitat areas distinct from where the organization has overseen and implemented restoration or protection measures.</p> <p>c. Status of each area based on its condition at the close of the reporting period.</p> <p>d. Standards, methodologies, and assumptions used.</p>								✓
		Disclosure 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	<p>a. Total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk:</p> <ul style="list-style-type: none">i. Critically endangeredii. Endangerediii. Vulnerableiv. Near threatenedv. Least concern								✓
		Disclosure 305-1 Direct (Scope 1) GHG emissions	<p>a. Gross direct (Scope 1) GHG emissions in metric tons of CO2 equivalent.</p> <p>b. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all.</p> <p>c. Biogenic CO2 emissions in metric tons of CO2 equivalent.</p> <p>d. Base year for the calculation, if applicable, including:</p> <ul style="list-style-type: none">i. the rationale for choosing it;ii. emissions in the base year;iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. <p>e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.</p> <p>f. Consolidation approach for emissions; whether equity share, financial control, or operational control.</p> <p>g. Standards, methodologies, assumptions, and/or calculation tools used.</p>								✓

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
		Disclosure 305-2 Energy indirect (Scope 2) GHG emissions	<ul style="list-style-type: none">a. Gross location-based energy indirect (Scope 2) GHG emissions in metric tons of CO2 equivalent.b. If applicable, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO2 equivalent.c. If available, the gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all.d. Base year for the calculation, if applicable, including:<ul style="list-style-type: none">i. the rationale for choosing it;ii. emissions in the base year;iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.f. Consolidation approach for emissions; whether equity share, financial control, or operational control.g. Standards, methodologies, assumptions, and/or calculation tools used.								✓	
		Disclosure 305-3 Other indirect (Scope 3) GHG emissions	<ul style="list-style-type: none">a. Gross other indirect (Scope 3) GHG emissions in metric tons of CO2 equivalent.b. If available, the gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all.c. Biogenic CO2 emissions in metric tons of CO2 equivalent.d. Other indirect (Scope 3) GHG emissions categories and activities included in the calculation.e. Base year for the calculation, if applicable, including:<ul style="list-style-type: none">i. the rationale for choosing it;ii. emissions in the base year;iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.f. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.g. Standards, methodologies, assumptions, and/or calculation tools used.								✓	
		Disclosure 305-4 GHG emissions intensity	<ul style="list-style-type: none">a. GHG emissions intensity ratio for the organization.b. Organization-specific metric (the denominator) chosen to calculate the ratio.c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).d. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all.									✓
		Disclosure 305-5 Reduction of GHG emissions	<ul style="list-style-type: none">a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent.b. Substances included in the calculation.c. Source of the emission factors used.d. Standards, methodologies, assumptions, and/or calculation tools used.									✓
		Disclosure 305-6 Emissions of ozone-depleting substances	<ul style="list-style-type: none">a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent.b. Substances included in the calculation.									✓

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
GRI 306: Effluents and Waste 2016		(ODS)	c. Source of the emission factors used. d. Standards, methodologies, assumptions, and/or calculation tools used.									
		Disclosure 305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	a. Significant air emissions, in kilograms or multiples, for each of the following: i. NOX ii. SOX iii. Persistent organic pollutants (POP) iv. Volatile organic compounds (VOC) v. Hazardous air pollutants (HAP) vi. Particulate matter (PM) vii. Other standard categories of air emissions identified in relevant regulations b. Source of the emission factors used. c. Standards, methodologies, assumptions, and/or calculation tools used.								✓	
		Disclosure 306-1 Water discharge by quality and destination	a. Total volume of planned and unplanned water discharges by: i. destination; ii. quality of the water, including treatment method; iii. whether the water was reused by another organization. b. Standards, methodologies, and assumptions used.								✓	
		Disclosure 306-2 Waste by type and disposal method	a. Total weight of hazardous waste, with a breakdown by the following disposal methods where applicable: i. Reuse ii. Recycling iii. Composting iv. Recovery, including energy recovery v. Incineration (mass burn) vi. Deep well injection vii. Landfill viii. On-site storage ix. Other (to be specified by the organization) b. Total weight of non-hazardous waste, with a breakdown by the following disposal methods where applicable: i. Reuse ii. Recycling iii. Composting iv. Recovery, including energy recovery v. Incineration (mass burn) vi. Deep well injection vii. Landfill viii. On-site storage ix. Other (to be specified by the organization) c. How the waste disposal method has been determined: i. Disposed of directly by the organization, or otherwise directly confirmed ii. Information provided by the waste disposal contractor iii. Organizational defaults of the waste disposal contractor								✓	
		Disclosure 306-3 Significant spills	a. Total number and total volume of recorded significant spills. b. The following additional information for each spill that was reported in the organization's financial statements: i. Location of spill; ii. Volume of spill; iii. Material of spill, categorized by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of wastes (soil or water surfaces), spills of chemicals (mostly soil or water								✓	

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
			surfaces), and other (to be specified by the organization). c. Impacts of significant spills.								
		Disclosure 306-4 Transport of hazardous waste	a. Total weight for each of the following: i. Hazardous waste transported ii. Hazardous waste imported iii. Hazardous waste exported iv. Hazardous waste treated b. Percentage of hazardous waste shipped internationally. c. Standards, methodologies, and assumptions used.								✓
		Disclosure 306-5 Water bodies affected by water discharges and/or runoff	a. Water bodies and related habitats that are significantly affected by water discharges and/or runoff, including information on: i. the size of the water body and related habitat; ii. whether the water body and related habitat is designated as a nationally or internationally protected area; iii. the biodiversity value, such as total number of protected species.						✓		
		GRI 307: Environmental Compliance 2016	Disclosure 307-1 Non-compliance with environmental laws and regulations a. Significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of: i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. b. If the organization has not identified any non-compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient.								✓
		GRI 308: Supplier Environmental Assessment 2016	Disclosure 308-1 New suppliers that were screened using environmental criteria Disclosure 308-2 Negative environmental impacts in the supply chain and actions taken a. Number of suppliers assessed for environmental impacts. b. Number of suppliers identified as having significant actual and potential negative environmental impacts. c. Significant actual and potential negative environmental impacts identified in the supply chain. d. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment. e. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why.								✓
Social	GRI 401: Employment 2016	Disclosure 401-1 New employee hires and employee turnover	a. Total number and rate of new employee hires during the reporting period, by age group, gender and region. b. Total number and rate of employee turnover during the reporting period, by age group, gender and region.								✓

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs
1		Disclosure 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	<ul style="list-style-type: none"> a. Benefits which are standard for full-time employees of the organization but are not provided to temporary or part-time employees, by significant locations of operation. These include, as a minimum: <ul style="list-style-type: none"> i. life insurance; ii. health care; iii. disability and invalidity coverage; iv. parental leave; v. retirement provision; vi. stock ownership; vii. others. b. The definition used for 'significant locations of operation'. 								✓
		Disclosure 401-3 Parental leave	<ul style="list-style-type: none"> a. Total number of employees that were entitled to parental leave, by gender. b. Total number of employees that took parental leave, by gender. c. Total number of employees that returned to work in the reporting period after parental leave ended, by gender. d. Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work, by gender. e. Return to work and retention rates of employees that took parental leave, by gender. 								✓
	GRI 402: Labor/Management Relations 2016	Disclosure 402-1 Minimum notice periods regarding operational changes	<ul style="list-style-type: none"> a. Minimum number of weeks' notice typically provided to employees and their representatives prior to the implementation of significant operational changes that could substantially affect them. b. For organizations with collective bargaining agreements, report whether the notice period and provisions for consultation and negotiation are specified in collective agreements. 								✓
	GRI 403: Occupational Health and Safety 2018	Disclosure 403-1 Occupational health and safety management system	<ul style="list-style-type: none"> a. A statement of whether an occupational health and safety management system has been implemented, including whether: <ul style="list-style-type: none"> i. the system has been implemented because of legal requirements and, if so, a list of the requirements; ii. the system has been implemented based on recognized risk management and/or management system standards/guidelines and, if so, a list of the standards/guidelines. b. A description of the scope of workers, activities, and workplaces covered by the occupational health and safety management system, and an explanation of whether and, if so, why any workers, activities, or workplaces are not covered. 					✓			
		Disclosure 403-2 Hazard identification, risk assessment, and incident investigation	<ul style="list-style-type: none"> a. A description of the processes used to identify work-related hazards and assess risks on a routine and non-routine basis, and to apply the hierarchy of controls in order to eliminate hazards and minimize risks, including: <ul style="list-style-type: none"> i. how the organization ensures the quality of these processes, including the competency of persons who carry them out; ii. how the results of these processes are used to evaluate and continually improve the occupational health and safety management system. 								

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs Strategies and practices
			<p>b. A description of the processes for workers to report work-related hazards and hazardous situations, and an explanation of how workers are protected against reprisals.</p> <p>c. A description of the policies and processes for workers to remove themselves from work situations that they believe could cause injury or ill health, and an explanation of how workers are protected against reprisals.</p> <p>d. A description of the processes used to investigate work-related incidents, including the processes to identify hazards and assess risks relating to the incidents, to determine corrective actions using the hierarchy of controls, and to determine improvements needed in the occupational health and safety management system.</p>							✓	✓
		Disclosure 403-3 Occupational health services	a. A description of the occupational health services' functions that contribute to the identification and elimination of hazards and minimization of risks, and an explanation of how the organization ensures the quality of these services and facilitates workers' access to them.								✓
		Disclosure 403-4 Worker participation, consultation, and communication on occupational health and safety	<p>a. A description of the processes for worker participation and consultation in the development, implementation, and evaluation of the occupational health and safety management system, and for providing access to and communicating relevant information on occupational health and safety to workers.</p> <p>b. Where formal joint management-worker health and safety committees exist, a description of their responsibilities, meeting frequency, decision-making authority, and whether and, if so, why any workers are not represented by these committees.</p>								✓
		Disclosure 403-5 Worker training on occupational health and safety	a. A description of any occupational health and safety training provided to workers, including generic training as well as training on specific work-related hazards, hazardous activities, or hazardous situations.								✓
		Disclosure 403-6 Promotion of worker health	<p>a. An explanation of how the organization facilitates workers' access to non-occupational medical and healthcare services, and the scope of access provided.</p> <p>b. A description of any voluntary health promotion services and programs offered to workers to address major non-work-related health risks, including the specific health risks addressed, and how the organization facilitates workers' access to these services and programs.</p>								✓
		Disclosure 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	a. A description of the organization's approach to preventing or mitigating significant negative occupational health and safety impacts that are directly linked to its operations, products or services by its business relationships, and the related hazards and risks.								✓

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs Strategies and practices
1	List of Disclosure Items and Indicators of ESG Information Disclosure Frameworks/Standards and Classification Results	Disclosure 403-8 Workers covered by an occupational health and safety management system	<ul style="list-style-type: none"> a. If the organization has implemented an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines: <ul style="list-style-type: none"> i. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system; ii. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been internally audited; iii. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been audited or certified by an external party. b. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded. c. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used. 								✓
		Disclosure 403-9 Work-related injuries	<ul style="list-style-type: none"> a. For all employees: <ul style="list-style-type: none"> i. The number and rate of fatalities as a result of work-related injury; ii. The number and rate of high-consequence work-related injuries (excluding fatalities); iii. The number and rate of recordable work-related injuries; iv. The main types of work-related injury; v. The number of hours worked. b. For all workers who are not employees but whose work and/or workplace is controlled by the organization: <ul style="list-style-type: none"> i. The number and rate of fatalities as a result of work-related injury; ii. The number and rate of high-consequence work-related injuries (excluding fatalities); iii. The number and rate of recordable work-related injuries; iv. The main types of work-related injury; v. The number of hours worked. c. The work-related hazards that pose a risk of high-consequence injury, including: <ul style="list-style-type: none"> i. how these hazards have been determined; ii. which of these hazards have caused or contributed to high-consequence injuries during the reporting period; iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls. d. Any actions taken or underway to eliminate other work-related hazards and minimize risks using the hierarchy of controls. e. Whether the rates have been calculated based on 200,000 or 1,000,000 hours worked. f. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded. 								✓

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				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
			<p>g. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>								
		Disclosure 403-10 Work-related ill health	<p>a. For all employees:</p> <p>i. The number of fatalities as a result of work-related ill health;</p> <p>ii. The number of cases of recordable work-related ill health;</p> <p>iii. The main types of work-related ill health.</p> <p>b. For all workers who are not employees but whose work and/or workplace is controlled by the organization:</p> <p>i. The number of fatalities as a result of work-related ill health;</p> <p>ii. The number of cases of recordable work-related ill health;</p> <p>iii. The main types of work-related ill health.</p> <p>c. The work-related hazards that pose a risk of ill health, including:</p> <p>i. how these hazards have been determined;</p> <p>ii. which of these hazards have caused or contributed to cases of ill health during the reporting period;</p> <p>iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls.</p> <p>d. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded.</p> <p>e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>							✓	
	GRI 404: Training and Education 2016	Disclosure 404-1 Average hours of training per year per employee	<p>a. Average hours of training that the organization's employees have undertaken during the reporting period, by:</p> <p>i. gender;</p> <p>ii. employee category.</p>								✓
		Disclosure 404-2 Programs for upgrading employee skills and transition assistance programs	<p>a. Type and scope of programs implemented and assistance provided to upgrade employee skills.</p> <p>b. Transition assistance programs provided to facilitate continued employability and the management of career endings resulting from retirement or termination of employment.</p>							✓	✓
		Disclosure 404-3 Percentage of employees receiving regular performance and career development reviews	<p>a. Percentage of total employees by gender and by employee category who received a regular performance and career development review during the reporting period.</p>								✓
	GRI 405: Diversity and Equal Opportunity 2016	Disclosure 405-1 Diversity of governance bodies and employees	<p>a. Percentage of individuals within the organization's governance bodies in each of the following diversity categories:</p> <p>i. Gender;</p> <p>ii. Age group: under 30 years old, 30-50 years old, over 50 years old;</p> <p>iii. Other indicators of diversity where relevant (such as minority or vulnerable groups).</p> <p>b. Percentage of employees per employee category in each of the following diversity categories:</p> <p>i. Gender;</p>								✓

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Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
			<div>ii. Age group: under 30 years old, 30-50 years old, over 50 years old;</div> <div>iii. Other indicators of diversity where relevant (such as minority or vulnerable groups).</div>									
		Disclosure 405-2 Ratio of basic salary and remuneration of women to men	<div>a. Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation.</div> <div>b. The definition used for 'significant locations of operation'.</div>								✓	
	GRI 406: Non-discrimination 2016	Disclosure 406-1 Incidents of discrimination and corrective actions taken	<div>a. Total number of incidents of discrimination during the reporting period.</div> <div>b. Status of the incidents and actions taken with reference to the following:<div><div>i. Incident reviewed by the organization;</div><div>ii. Remediation plans being implemented;</div><div>iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes;</div><div>iv. Incident no longer subject to action.</div></div></div>								✓	
	GRI 407: Freedom of Association and Collective Bargaining 2016	Disclosure 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	<div>a. Operations and suppliers in which workers' rights to exercise freedom of association or collective bargaining may be violated or at significant risk either in terms of:<div><div>i. type of operation (such as manufacturing plant) and supplier;</div><div>ii. countries or geographic areas with operations and suppliers considered at risk.</div></div></div> <div>b. Measures taken by the organization in the reporting period intended to support rights to exercise freedom of association and collective bargaining.</div>						✓	✓		
	GRI 408: Child Labor 2016	Disclosure 408-1 Operations and suppliers at significant risk for incidents of child labor	<div>a. Operations and suppliers considered to have significant risk for incidents of:<div><div>i. child labor;</div><div>ii. young workers exposed to hazardous work.</div></div></div> <div>b. Operations and suppliers considered to have significant risk for incidents of child labor either in terms of:<div><div>i. type of operation (such as manufacturing plant) and supplier;</div><div>ii. countries or geographic areas with operations and suppliers considered at risk.</div></div></div> <div>c. Measures taken by the organization in the reporting period intended to contribute to the effective abolition of child labor.</div>						✓	✓		
	GRI 409: Forced or Compulsory Labor 2016	Disclosure 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	<div>a. Operations and suppliers considered to have significant risk for incidents of forced or compulsory labor either in terms of:<div><div>i. type of operation (such as manufacturing plant) and supplier;</div><div>ii. countries or geographic areas with operations and suppliers considered at risk.</div></div></div> <div>b. Measures taken by the organization in the reporting period intended to contribute to the elimination of all forms of forced or compulsory labor.</div>						✓	✓		
	GRI 410: Security	Disclosure 410-1 Security	a. Percentage of security personnel who have received formal training in the									

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs, Strategies and practices
	Practices 2016	personnel trained in human rights policies or procedures	organization's human rights policies or specific procedures and their application to security. b. Whether training requirements also apply to third-party organizations providing security personnel.								✓
	GRI 411: Rights of Indigenous Peoples 2016	Disclosure 411-1 Incidents of violations involving rights of indigenous peoples	a. Total number of identified incidents of violations involving the rights of indigenous peoples during the reporting period. b. Status of the incidents and actions taken with reference to the following: i. Incident reviewed by the organization; ii. Remediation plans being implemented; iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes; iv. Incident no longer subject to action.								✓
	GRI 412: Human Rights Assessment 2016	Disclosure 412-1 Operations that have been subject to human rights reviews or impact assessments	a. Total number and percentage of operations that have been subject to human rights reviews or human rights impact assessments, by country.								✓
		Disclosure 412-2 Employee training on human rights policies or procedures	a. Total number of hours in the reporting period devoted to training on human rights policies or procedures concerning aspects of human rights that are relevant to operations. b. Percentage of employees trained during the reporting period in human rights policies or procedures concerning aspects of human rights that are relevant to operations.								✓
		Disclosure 412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	a. Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening. b. The definition used for 'significant investment agreements'.								✓
	GRI 413: Local Communities 2016	Disclosure 413-1 Operations with local community engagement, impact assessments, and development programs	a. Percentage of operations with implemented local community engagement, impact assessments, and/or development programs, including the use of: i. social impact assessments, including gender impact assessments, based on participatory processes; ii. environmental impact assessments and ongoing monitoring; iii. public disclosure of results of environmental and social impact assessments; iv. local community development programs based on local communities' needs; v. stakeholder engagement plans based on stakeholder mapping; vi. broad based local community consultation committees and processes that include vulnerable groups; vii. works councils, occupational health and safety committees and other worker representation bodies to deal								✓ ✓

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category								
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
			with impacts; viii. formal local community grievance processes.									
		Disclosure 413-2 Operations with significant actual and potential negative impacts on local communities	a. Operations with significant actual and potential negative impacts on local communities, including: i. the location of the operations; ii. the significant actual and potential negative impacts of operations.						✓			
	GRI 414: Supplier Social Assessment 2016	Disclosure 414-1 New suppliers that were screened using social criteria	a. Percentage of new suppliers that were screened using social criteria.								✓	
		Disclosure 414-2 Negative social impacts in the supply chain and actions taken	a. Number of suppliers assessed for social impacts. b. Number of suppliers identified as having significant actual and potential negative social impacts. c. Significant actual and potential negative social impacts identified in the supply chain. d. Percentage of suppliers identified as having significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment. e. Percentage of suppliers identified as having significant actual and potential negative social impacts with which relationships were terminated as a result of assessment, and why.								✓	
	GRI 415: Public Policy 2016	Disclosure 415-1 Political contributions	a. Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country and recipient/beneficiary. b. If applicable, how the monetary value of in-kind contributions was estimated.								✓	
	GRI 416: Customer Health and Safety 2016	Disclosure 416-1 Assessment of the health and safety impacts of product and service categories	a. Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.								✓	
		Disclosure 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services within the reporting period, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.								✓	
	GRI 417: Marketing and Labeling 2016	Disclosure 417-1 Requirements for product and service information and labeling	a. Whether each of the following types of information is required by the organization's procedures for product and service information and labeling: i. The sourcing of components of the product or service;									

List of Disclosure Items/Indicators of GRI Standards

Category	Name	Disclosure item	Reporting requirements	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
			ii. Content, particularly with regard to substances that might produce an environmental or social impact; iii. Safe use of the product or service; iv. Disposal of the product and environmental or social impacts; v. Other (explain). b. Percentage of significant product or service categories covered by and assessed for compliance with such procedures.								✓
		Disclosure 417-2 Incidents of non-compliance concerning product and service information and labeling	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labeling, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.								✓
		Disclosure 417-3 Incidents of non-compliance concerning marketing communications	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.								✓
		GRI 418: Customer Privacy 2016	Disclosure 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data								✓
	GRI 419: Socioeconomic Compliance 2016	Disclosure 419-1 Non-compliance with laws and regulations in the social and economic area	a. Significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area in terms of: i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. b. If the organization has not identified any non-compliance with laws and/or regulations, a brief statement of this fact is sufficient. c. The context against which significant fines and non-monetary sanctions were incurred.								✓

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of International Integrated Reporting Framework.

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category									
								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Consumer Goods	Apparel, Accessories & Footwear	Social Capital	Product Quality & Safety	Management of Chemicals in Products	CG-AA-250a.1	Discussion of processes to maintain compliance with restricted substances regulations	n/a						✓				
Consumer Goods	Apparel, Accessories & Footwear	Social Capital	Product Quality & Safety	Management of Chemicals in Products	CG-AA-250a.2	Discussion of processes to assess and manage risks and/or hazards associated with chemicals in products	n/a	✓							✓	✓	
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Supply Chain Management	Environmental Impacts in the Supply Chain	CG-AA-430a.1	Percentage of (1) Tier 1 supplier facilities and (2) supplier facilities beyond Tier 1 in compliance with wastewater discharge permits and/or contractual agreements	Percentage (%)	✓									✓
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Supply Chain Management	Environmental Impacts in the Supply Chain	CG-AA-430a.2	Percentage of (1) Tier 1 supplier facilities and (2) supplier facilities beyond Tier 1 that have completed the Sustainable Apparel Coalition's Higg Facility Environmental Module (Higg FEM) assessment or an equivalent environmental data assessment	Percentage (%)	✓									✓
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Supply Chain Management	Labor Conditions in the Supply Chain	CG-AA-430b.1	Percentage of (1) Tier 1 supplier facilities and (2) supplier facilities beyond Tier 1 that have been audited to a labor code of conduct, (3) percentage of total audits conducted by a third-party auditor	Percentage (%)										✓
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Supply Chain Management	Labor Conditions in the Supply Chain	CG-AA-430b.2	Priority non-conformance rate and associated corrective action rate for suppliers' labor code of conduct audits	Rate										✓
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Supply Chain Management	Labor Conditions in the Supply Chain	CG-AA-430b.3	Description of the greatest (1) labor and (2) environmental, health, and safety risks in the supply chain	n/a								✓		
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Materials Sourcing & Efficiency	Raw Materials Sourcing	CG-AA-440a.1	Description of environmental and social risks associated with sourcing priority raw materials	n/a	✓							✓		
Consumer Goods	Apparel, Accessories & Footwear	Business Model & Innovation	Materials Sourcing & Efficiency	Raw Materials Sourcing	CG-AA-440a.2	Percentage of raw materials third-party certified to an environmental and/or social sustainability standard, by standard	Percentage (%) by weight	✓									✓
Consumer Goods	Appliance Manufacturing	Social Capital	Product Quality & Safety	Product Safety	CG-AM-250a.1	Number of (1) recalls issued and (2) total units recalled	Number										✓
Consumer Goods	Appliance Manufacturing	Social Capital	Product Quality & Safety	Product Safety	CG-AM-250a.2	Discussion of process to identify and manage safety risks associated with the use of its products	n/a								✓	✓	
Consumer Goods	Appliance Manufacturing	Social Capital	Product Quality & Safety	Product Safety	CG-AM-250a.3	Total amount of monetary losses as a result of legal proceedings associated with product safety	Reporting currency										✓
Consumer Goods	Appliance Manufacturing	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Environmental Impacts	CG-AM-410a.1	Percentage of eligible products by revenue certified to the ENERGY STAR® program	Percentage (%) by revenue	✓									✓
Consumer Goods	Appliance Manufacturing	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Environmental Impacts	CG-AM-410a.2	Percentage of eligible products certified to an Association of Home Appliance Manufacturers (AHAM) sustainability standard	Percentage (%) by revenue	✓									✓
Consumer Goods	Appliance Manufacturing	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Environmental Impacts	CG-AM-410a.3	Description of efforts to manage products' end-of-life impacts	n/a	✓								✓	
Consumer Goods	Building Products & Furnishings	Environment	Energy Management	Energy Management in Manufacturing	CG-BF-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Consumer Goods	Building Products & Furnishings	Social Capital	Product Quality & Safety	Management of Chemicals in Products	CG-BF-250a.1	Discussion of processes to assess and manage risks and/or hazards associated with chemicals in products	n/a	✓							✓	✓	
Consumer Goods	Building Products & Furnishings	Social Capital	Product Quality & Safety	Management of Chemicals in Products	CG-BF-250a.2	Percentage of eligible products meeting volatile organic compound (VOC) emissions and content standards	Percentage (%) by revenue										✓
Consumer Goods	Building Products & Furnishings	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Environmental Impacts	CG-BF-410a.1	Description of efforts to manage product lifecycle impacts and meet demand for sustainable products	n/a	✓								✓	
Consumer Goods	Building Products & Furnishings	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Environmental Impacts	CG-BF-410a.2	(1) Weight of end-of-life material recovered, (2) percentage of recovered materials recycled	Metric tons (t), Percentage (%) by weight	✓									✓
Consumer Goods	Building Products & Furnishings	Business Model & Innovation	Supply Chain Management	Wood Supply Chain Management	CG-BF-430a.1	(1) Total weight of wood fiber materials purchased, (2) percentage from third-party certified forestlands, (3) percentage by standard, and (4) percentage certified to other wood fiber standards, (5) percentage by standard	Metric tons (t), Percentage (%) by weight	✓									✓

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID		Accounting metic	Unit of measure	Disclosure Information Category									
									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Consumer Goods	E-Commerce	Environment	Energy Management	Hardware Infrastructure Energy & Water Management	CG-EC-130a.1		(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Consumer Goods	E-Commerce	Environment	Energy Management	Hardware Infrastructure Energy & Water Management	CG-EC-130a.2		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Consumer Goods	E-Commerce	Environment	Energy Management	Hardware Infrastructure Energy & Water Management	CG-EC-130a.3		Discussion of the integration of environmental considerations into strategic planning for data center needs	n/a	✓					✓				
Consumer Goods	E-Commerce	Social Capital	Customer Privacy	Data Privacy & Advertising Standards	CG-EC-220a.1		Number of users whose information is used for secondary purposes	Number										✓
Consumer Goods	E-Commerce	Social Capital	Customer Privacy	Data Privacy & Advertising Standards	CG-EC-220a.2		Description of policies and practices relating to behavioral advertising and user privacy	n/a									✓	
Consumer Goods	E-Commerce	Social Capital	Data Security	Data Security	CG-EC-230a.1		Description of approach to identifying and addressing data security risks	n/a							✓	✓		
Consumer Goods	E-Commerce	Social Capital	Data Security	Data Security	CG-EC-230a.2		(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected	Number, Percentage (%)										✓
Consumer Goods	E-Commerce	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	CG-EC-330a.1		Employee engagement as a percentage	Percentage (%)										✓
Consumer Goods	E-Commerce	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	CG-EC-330a.2		(1) Voluntary and (2) involuntary turnover rate for all employees	Rate										✓
Consumer Goods	E-Commerce	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	CG-EC-330a.3		Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	Percentage (%)										✓
Consumer Goods	E-Commerce	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	CG-EC-330a.4		Percentage of technical employees who are H-1B visa holders	Percentage (%)										✓
Consumer Goods	E-Commerce	Business Model & Innovation	Product Design & Lifecycle Management	Product Packaging & Distribution	CG-EC-410a.1		Total greenhouse gas (GHG) footprint of product shipments	Metric tons (t) CO2-e	✓									✓
Consumer Goods	E-Commerce	Business Model & Innovation	Product Design & Lifecycle Management	Product Packaging & Distribution	CG-EC-410a.2		Discussion of strategies to reduce the environmental impact of product delivery	n/a	✓								✓	
Consumer Goods	Household & Personal Products	Environment	Water & Wastewater Management	Water Management	CG-HP-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Consumer Goods	Household & Personal Products	Environment	Water & Wastewater Management	Water Management	CG-HP-140a.2		Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓						✓	✓		
Consumer Goods	Household & Personal Products	Social Capital	Product Quality & Safety	Product Environmental, Health, and Safety Performance	CG-HP-250a.1		Revenue from products that contain REACH substances of very high concern (SVHC)	Reporting currency										✓
Consumer Goods	Household & Personal Products	Social Capital	Product Quality & Safety	Product Environmental, Health, and Safety Performance	CG-HP-250a.2		Revenue from products that contain substances on the California DTSC Candidate Chemicals List	Reporting currency										✓
Consumer Goods	Household & Personal Products	Social Capital	Product Quality & Safety	Product Environmental, Health, and Safety Performance	CG-HP-250a.3		Discussion of process to identify and manage emerging materials and chemicals of concern	n/a							✓	✓		
Consumer Goods	Household & Personal Products	Social Capital	Product Quality & Safety	Product Environmental, Health, and Safety Performance	CG-HP-250a.4		Revenue from products designed with green chemistry principles	Reporting currency										✓
Consumer Goods	Household & Personal Products	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	CG-HP-410a.1		(1) Total weight of packaging, (2) percentage made from recycled and/or renewable materials, and (3) percentage that is recyclable, reusable, and/or compostable	Metric tons (t), Percentage (%)	✓									✓
Consumer Goods	Household & Personal Products	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	CG-HP-410a.2		Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Consumer Goods	Household & Personal Products	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Palm Oil Supply Chain	CG-HP-430a.1		Amount of palm oil sourced, percentage certified through the Roundtable on Sustainable Palm Oil (RSPO) supply chains as (a) Identity Preserved, (b) Segregated, (c) Mass Balance, or (d) Book & Claim	Metric tons (t), Percentage (%)	✓									✓

List of Accounting Metics of SASB Standards

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Consumer Goods	Multiline and Specialty Retailers & Distributors	Environment	Energy Management	Energy Management in Retail & Distribution	CG-MR-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Social Capital	Data Security	Data Security	CG-MR-230a.1	Description of approach to identifying and addressing data security risks	n/a								✓	✓	
Consumer Goods	Multiline and Specialty Retailers & Distributors	Social Capital	Data Security	Data Security	CG-MR-230a.2	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of customers affected	Number, Percentage (%)										✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	CG-MR-310a.1	(1) Average hourly wage and (2) percentage of in-store employees earning minimum wage, by region	Reporting currency, Percentage (%)										✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	CG-MR-310a.2	(1) Voluntary and (2) involuntary turnover rate for in-store employees	Rate										✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	CG-MR-310a.3	Total amount of monetary losses as a result of legal proceedings associated with labor law violations	Reporting currency										✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Human Capital	Employee Engagement, Diversity & Inclusion	Workforce Diversity & Inclusion	CG-MR-330a.1	Percentage of gender and racial/ethnic group representation for (1) management and (2) all other employees	Percentage (%)										✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Human Capital	Employee Engagement, Diversity & Inclusion	Workforce Diversity & Inclusion	CG-MR-330a.2	Total amount of monetary losses as a result of legal proceedings associated with employment discrimination	Reporting currency										✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Business Model & Innovation	Product Design & Lifecycle Management	Product Sourcing, Packaging & Marketing	CG-MR-410a.1	Revenue from products third-party certified to environmental and/or social sustainability standards	Reporting currency	✓									✓
Consumer Goods	Multiline and Specialty Retailers & Distributors	Business Model & Innovation	Product Design & Lifecycle Management	Product Sourcing, Packaging & Marketing	CG-MR-410a.2	Discussion of processes to assess and manage risks and/or hazards associated with chemicals in products	n/a	✓							✓	✓	
Consumer Goods	Multiline and Specialty Retailers & Distributors	Business Model & Innovation	Product Design & Lifecycle Management	Product Sourcing, Packaging & Marketing	CG-MR-410a.3	Discussion of strategies to reduce the environmental impact of packaging	n/a	✓								✓	
Consumer Goods	Toys & Sporting Goods	Social Capital	Product Quality & Safety	Chemical & Safety Hazards of Products	CG-TS-250a.1	Number of (1) recalls and (2) total units recalled	Number										✓
Consumer Goods	Toys & Sporting Goods	Social Capital	Product Quality & Safety	Chemical & Safety Hazards of Products	CG-TS-250a.2	Number of Letters of Advice (LOA) received	Number										✓
Consumer Goods	Toys & Sporting Goods	Social Capital	Product Quality & Safety	Chemical & Safety Hazards of Products	CG-TS-250a.3	Total amount of monetary losses as a result of legal proceedings associated with product safety	Reporting currency										✓
Consumer Goods	Toys & Sporting Goods	Social Capital	Product Quality & Safety	Chemical & Safety Hazards of Products	CG-TS-250a.4	Discussion of processes to assess and manage risks and/or hazards associated with chemicals in products	n/a	✓							✓	✓	
Consumer Goods	Toys & Sporting Goods	Business Model & Innovation	Supply Chain Management	Labor Conditions in the Supply Chain	CG-TS-430a.1	Number of facilities audited to a social responsibility code of conduct	Number										✓
Consumer Goods	Toys & Sporting Goods	Business Model & Innovation	Supply Chain Management	Labor Conditions in the Supply Chain	CG-TS-430a.2	Direct suppliers' social responsibility audit (1) non-conformance rate and (2) associated corrective action rate for (a) priority non-conformances and (b) other non-conformances	Rate										✓
Extractives & Minerals Processing	Construction Materials	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-CM-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Extractives & Minerals Processing	Construction Materials	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-CM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Construction Materials	Environment	Air Quality	Air Quality	EM-CM-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) dioxins/furans, (5) volatile organic compounds (VOCs), (6) polycyclic aromatic hydrocarbons (PAHs), and (7) heavy metals	Metric tons (t)	✓									✓
Extractives & Minerals Processing	Construction Materials	Environment	Energy Management	Energy Management	EM-CM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage alternative, (4) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Extractives & Minerals Processing	Construction Materials	Environment	Water & Wastewater Management	Water Management	EM-CM-140a.1	(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓

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									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Extractives & Minerals Processing	Construction Materials	Environment	Waste & Hazardous Materials Management	Waste Management	EM-CM-150a.1		Amount of waste generated, percentage hazardous, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Construction Materials	Environment	Ecological Impacts	Biodiversity Impacts	EM-CM-160a.1		Description of environmental management policies and practices for active sites	n/a	✓								✓	
Extractives & Minerals Processing	Construction Materials	Environment	Ecological Impacts	Biodiversity Impacts	EM-CM-160a.2		Terrestrial acreage disturbed, percentage of impacted area restored	Acres (ac), Percentage (%)	✓									✓
Extractives & Minerals Processing	Construction Materials	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-CM-320a.1		(1) Total recordable incident rate (TRIR) and (2) near miss frequency rate (NMFR) for (a) full-time employees and (b) contract employees	Rate										✓
Extractives & Minerals Processing	Construction Materials	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-CM-320a.2		Number of reported cases of silicosis	Number										✓
Extractives & Minerals Processing	Construction Materials	Business Model & Innovation	Product Design & Lifecycle Management	Product Innovation	EM-CM-410a.1		Percentage of products that qualify for credits in sustainable building design and construction certifications	Percentage (%) by annual sales revenue	✓									✓
Extractives & Minerals Processing	Construction Materials	Business Model & Innovation	Product Design & Lifecycle Management	Product Innovation	EM-CM-410a.2		Total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production	Reporting currency, Percentage (%)	✓									✓
Extractives & Minerals Processing	Construction Materials	Leadership & Governance	Competitive Behavior	Pricing Integrity & Transparency	EM-CM-520a.1		Total amount of monetary losses as a result of legal proceedings associated with cartel activities, price fixing, and anti-trust activities	Reporting currency										✓
Extractives & Minerals Processing	Coal Operations	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-CO-110a.1		Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Extractives & Minerals Processing	Coal Operations	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-CO-110a.2		Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Coal Operations	Environment	Water & Wastewater Management	Water Management	EM-CO-140a.1		(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Extractives & Minerals Processing	Coal Operations	Environment	Water & Wastewater Management	Water Management	EM-CO-140a.2		Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Extractives & Minerals Processing	Coal Operations	Environment	Waste & Hazardous Materials Management	Waste Management	EM-CO-150a.1		Number of tailings impoundments, broken down by MSHA hazard potential	Number	✓									✓
Extractives & Minerals Processing	Coal Operations	Environment	Ecological Impacts	Biodiversity Impacts	EM-CO-160a.1		Description of environmental management policies and practices for active sites	n/a	✓								✓	
Extractives & Minerals Processing	Coal Operations	Environment	Ecological Impacts	Biodiversity Impacts	EM-CO-160a.2		Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Percentage (%)	✓									✓
Extractives & Minerals Processing	Coal Operations	Environment	Ecological Impacts	Biodiversity Impacts	EM-CO-160a.3		Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Percentage (%)	✓									✓
Extractives & Minerals Processing	Coal Operations	Social Capital	Human Rights & Community Relations	Rights of Indigenous Peoples	EM-CO-210a.1		Percentage of (1) proved and (2) probable reserves in or near indigenous land	Percentage (%)										✓
Extractives & Minerals Processing	Coal Operations	Social Capital	Human Rights & Community Relations	Rights of Indigenous Peoples	EM-CO-210a.2		Discussion of engagement processes and due diligence practices with respect to the management of indigenous rights	n/a								✓	✓	
Extractives & Minerals Processing	Coal Operations	Social Capital	Human Rights & Community Relations	Community Relations	EM-CO-210b.1		Discussion of process to manage risks and opportunities associated with community rights and interests	n/a									✓	
Extractives & Minerals Processing	Coal Operations	Social Capital	Human Rights & Community Relations	Community Relations	EM-CO-210b.2		Number and duration of non-technical delays	Number, Days										✓
Extractives & Minerals Processing	Coal Operations	Human Capital	Labor Practices	Labor Relations	EM-CO-310a.1		Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Percentage (%)										✓
Extractives & Minerals Processing	Coal Operations	Human Capital	Labor Practices	Labor Relations	EM-CO-310a.2		Number and duration of strikes and lockouts	Number, Days										✓
Extractives & Minerals Processing	Coal Operations	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-CO-320a.1		(1) MSHA All-Incidence rate, (2) fatality rate, and (3) near miss frequency rate (NMFR)	Rate										✓

List of Accounting Metrics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metric	Unit of measure	Disclosure Information Category									
								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Extractives & Minerals Processing	Coal Operations	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-CO-320a.2	Discussion of management of accident and safety risks and long-term health and safety risks	n/a									✓	
Extractives & Minerals Processing	Coal Operations	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-CO-420a.1	Sensitivity of coal reserve levels to future price projection scenarios that account for a price on carbon emissions	Million metric tons (Mt)	✓							✓		
Extractives & Minerals Processing	Coal Operations	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-CO-420a.2	Estimated carbon dioxide emissions embedded in proven coal reserves	Metric tons (t) CO2-e	✓									✓
Extractives & Minerals Processing	Coal Operations	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-CO-420a.3	Discussion of how price and demand for coal and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets	n/a	✓					✓				
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-EP-110a.1	Gross global Scope 1 emissions, percentage methane, percentage covered under emissions-limiting regulations	Metric tons CO2-e (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-EP-110a.2	Amount of gross global Scope 1 emissions from: (1) flared hydrocarbons, (2) other combustion, (3) process emissions, (4) other vented emissions, and (5) fugitive emissions	Metric tons CO2-e	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-EP-110a.3	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Air Quality	Air Quality	EM-EP-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM10)	Metric tons (t)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Water & Wastewater Management	Water Management	EM-EP-140a.1	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Water & Wastewater Management	Water Management	EM-EP-140a.2	Volume of produced water and flowback generated; percentage (1) discharged, (2) injected, (3) recycled; hydrocarbon content in discharged water	Thousand cubic meters (m³), Percentage (%), Metric tons (t)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Water & Wastewater Management	Water Management	EM-EP-140a.3	Percentage of hydraulically fractured wells for which there is public disclosure of all fracturing fluid chemicals used	Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Water & Wastewater Management	Water Management	EM-EP-140a.4	Percentage of hydraulic fracturing sites where ground or surface water quality deteriorated compared to a baseline	Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Ecological Impacts	Biodiversity Impacts	EM-EP-160a.1	Description of environmental management policies and practices for active sites	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Ecological Impacts	Biodiversity Impacts	EM-EP-160a.2	Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume impacting shorelines with ESI rankings 8-10, and volume recovered	Number, Barrels (bbls)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Environment	Ecological Impacts	Biodiversity Impacts	EM-EP-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Social Capital	Human Rights & Community Relations	Security, Human Rights & Rights of Indigenous Peoples	EM-EP-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Percentage (%)										✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Social Capital	Human Rights & Community Relations	Security, Human Rights & Rights of Indigenous Peoples	EM-EP-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	Percentage (%)										✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Social Capital	Human Rights & Community Relations	Security, Human Rights & Rights of Indigenous Peoples	EM-EP-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	n/a								✓	✓	
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Social Capital	Human Rights & Community Relations	Community Relations	EM-EP-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	n/a									✓	
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Social Capital	Human Rights & Community Relations	Community Relations	EM-EP-210b.2	Number and duration of non-technical delays	Number, Days										✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-EP-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, (3) near miss frequency rate (NMFR), and (4) average hours of health, safety, and emergency response training for (a) full-time employees, (b) contract employees, and (c) short-service employees	Rate, Hours (h)										✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-EP-320a.2	Discussion of management systems used to integrate a culture of safety throughout the exploration and production lifecycle	n/a						✓				
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-EP-420a.1	Sensitivity of hydrocarbon reserve levels to future price projection scenarios that account for a price on carbon emissions	Million barrels (MMbbls), Million standard cubic feet (MMscf)	✓							✓		
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-EP-420a.2	Estimated carbon dioxide emissions embedded in proved hydrocarbon reserves	Metric tons (t) CO2-e	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-EP-420a.3	Amount invested in renewable energy, revenue generated by renewable energy sales	Reporting currency	✓									✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Business Model & Innovation	Business Model Resilience	Reserves Valuation & Capital Expenditures	EM-EP-420a.4	Discussion of how price and demand for hydrocarbons and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets	n/a	✓					✓				
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Leadership & Governance	Business Ethics	Business Ethics & Transparency	EM-EP-510a.1	Percentage of (1) proved and (2) probable reserves in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Percentage (%)										✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Leadership & Governance	Business Ethics	Business Ethics & Transparency	EM-EP-510a.2	Description of the management system for prevention of corruption and bribery throughout the value chain	n/a						✓				
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Leadership & Governance	Management of the Legal & Regulatory Environment	Management of the Legal & Regulatory Environment	EM-EP-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Leadership & Governance	Critical Incident Risk Management	Critical Incident Risk Management	EM-EP-540a.1	Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1)	Rate										✓
Extractives & Minerals Processing	Oil & Gas – Exploration & Production	Leadership & Governance	Critical Incident Risk Management	Critical Incident Risk Management	EM-EP-540a.2	Description of management systems used to identify and mitigate catastrophic and tail-end risks	n/a						✓				
Extractives & Minerals Processing	Iron & Steel Producers	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-IS-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Extractives & Minerals Processing	Iron & Steel Producers	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-IS-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Iron & Steel Producers	Environment	Air Quality	Air Emissions	EM-IS-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) manganese (MnO), (6) lead (Pb), (7) volatile organic compounds (VOCs), and (8) polycyclic aromatic hydrocarbons (PAHs)	Metric tons (t)	✓									✓
Extractives & Minerals Processing	Iron & Steel Producers	Environment	Energy Management	Energy Management	EM-IS-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Extractives & Minerals Processing	Iron & Steel Producers	Environment	Energy Management	Energy Management	EM-IS-130a.2	(1) Total fuel consumed, (2) percentage coal, (3) percentage natural gas, (4) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Extractives & Minerals Processing	Iron & Steel Producers	Environment	Water & Wastewater Management	Water Management	EM-IS-140a.1	(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Extractives & Minerals Processing	Iron & Steel Producers	Environment	Waste & Hazardous Materials Management	Waste Management	EM-IS-150a.1	Amount of waste generated, percentage hazardous, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Iron & Steel Producers	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-IS-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) full-time employees and (b) contract employees	Rate										✓
Extractives & Minerals Processing	Iron & Steel Producers	Business Model & Innovation	Supply Chain Management	Supply Chain Management	EM-IS-430a.1	Discussion of the process for managing iron ore and/or coking coal sourcing risks arising from environmental and social issues	n/a	✓								✓	

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-MD-110a.1	Gross global Scope 1 emissions, percentage methane, percentage covered under emissions-limiting regulations	Metric tons CO2-e (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-MD-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	Air Quality	Air Quality	EM-MD-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM10)	Metric tons (t)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	Ecological Impacts	Ecological Impacts	EM-MD-160a.1	Description of environmental management policies and practices for active operations	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	Ecological Impacts	Ecological Impacts	EM-MD-160a.2	Percentage of land owned, leased, and/or operated within areas of protected conservation status or endangered species habitat	Percentage (%) by acreage	✓									✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	Ecological Impacts	Ecological Impacts	EM-MD-160a.3	Terrestrial acreage disturbed, percentage of impacted area restored	Acres (ac), Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Environment	Ecological Impacts	Ecological Impacts	EM-MD-160a.4	Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume in Unusually Sensitive Areas (USAs), and volume recovered	Number, Barrels (bbls)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Leadership & Governance	Competitive Behavior	Competitive Behavior	EM-MD-520a.1	Total amount of monetary losses as a result of legal proceedings associated with federal pipeline and storage regulations	Reporting currency										✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	EM-MD-540a.1	Number of reportable pipeline incidents, percentage significant	Number, Percentage (%)										✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	EM-MD-540a.2	Percentage of (1) natural gas and (2) hazardous liquid pipelines inspected	Percentage (%)										✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	EM-MD-540a.3	Number of (1) accident releases and (2) non-accident releases (NARs) from rail transportation	Number										✓
Extractives & Minerals Processing	Oil & Gas – Midstream	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	EM-MD-540a.4	Discussion of management systems used to integrate a culture of safety and emergency preparedness throughout the value chain and throughout project lifecycles	n/a						✓				
Extractives & Minerals Processing	Metals & Mining	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-MM-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-MM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Metals & Mining	Environment	Air Quality	Air Quality	EM-MM-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Metric tons (t)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Energy Management	Energy Management	EM-MM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Water & Wastewater Management	Water Management	EM-MM-140a.1	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Water & Wastewater Management	Water Management	EM-MM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Waste & Hazardous Materials Management	Waste & Hazardous Materials Management	EM-MM-150a.1	Total weight of tailings waste, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Waste & Hazardous Materials Management	Waste & Hazardous Materials Management	EM-MM-150a.2	Total weight of mineral processing waste, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Waste & Hazardous Materials Management	Waste & Hazardous Materials Management	EM-MM-150a.3	Number of tailings impoundments, broken down by MSHA hazard potential	Number	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Ecological Impacts	Biodiversity Impacts	EM-MM-160a.1	Description of environmental management policies and practices for active sites	n/a	✓								✓	

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Extractives & Minerals Processing	Metals & Mining	Environment	Ecological Impacts	Biodiversity Impacts	EM-MM-160a.2	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Environment	Ecological Impacts	Biodiversity Impacts	EM-MM-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Percentage (%)	✓									✓
Extractives & Minerals Processing	Metals & Mining	Social Capital	Human Rights & Community Relations	Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Percentage (%)										✓
Extractives & Minerals Processing	Metals & Mining	Social Capital	Human Rights & Community Relations	Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	Percentage (%)										✓
Extractives & Minerals Processing	Metals & Mining	Social Capital	Human Rights & Community Relations	Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	n/a								✓	✓	
Extractives & Minerals Processing	Metals & Mining	Social Capital	Human Rights & Community Relations	Community Relations	EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	n/a									✓	
Extractives & Minerals Processing	Metals & Mining	Social Capital	Human Rights & Community Relations	Community Relations	EM-MM-210b.2	Number and duration of non-technical delays	Number, Days										✓
Extractives & Minerals Processing	Metals & Mining	Human Capital	Labor Practices	Labor Relations	EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Percentage (%)										✓
Extractives & Minerals Processing	Metals & Mining	Human Capital	Labor Practices	Labor Relations	EM-MM-310a.2	Number and duration of strikes and lockouts	Number, Days										✓
Extractives & Minerals Processing	Metals & Mining	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-MM-320a.1	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Rate										✓
Extractives & Minerals Processing	Metals & Mining	Leadership & Governance	Business Ethics	Business Ethics & Transparency	EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain	n/a						✓				
Extractives & Minerals Processing	Metals & Mining	Leadership & Governance	Business Ethics	Business Ethics & Transparency	EM-MM-510a.2	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Metric tons (t) saleable										✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-RM-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	GHG Emissions	Greenhouse Gas Emissions	EM-RM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	Air Quality	Air Quality	EM-RM-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) H2S, and (5) volatile organic compounds (VOCs)	Metric tons (t)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	Air Quality	Air Quality	EM-RM-120a.2	Number of refineries in or near areas of dense population	Number	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	Water & Wastewater Management	Water Management	EM-RM-140a.1	(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	Water & Wastewater Management	Water Management	EM-RM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	Waste & Hazardous Materials Management	Hazardous Materials Management	EM-RM-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Environment	Waste & Hazardous Materials Management	Hazardous Materials Management	EM-RM-150a.2	(1) Number of underground storage tanks (USTs), (2) number of UST releases requiring cleanup, and (3) percentage in states with UST financial assurance funds	Number, Percentage (%)	✓									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-RM-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) full-time employees and (b) contract employees	Rate										✓

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Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID		Accounting metric	Unit of measure	Disclosure Information Category								
									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-RM-320a.2		Discussion of management systems used to integrate a culture of safety	n/a						✓			
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Business Model & Innovation	Product Design & Lifecycle Management	Product Specifications & Clean Fuel Blends	EM-RM-410a.1		Percentage of Renewable Volume Obligation (RVO) met through: (1) production of renewable fuels, (2) purchase of "separated" renewable identification numbers (RIN)	Percentage (%)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Business Model & Innovation	Product Design & Lifecycle Management	Product Specifications & Clean Fuel Blends	EM-RM-410a.2		Total addressable market and share of market for advanced biofuels and associated infrastructure	Reporting currency, Percentage (%)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Leadership & Governance	Competitive Behavior	Pricing Integrity & Transparency	EM-RM-520a.1		Total amount of monetary losses as a result of legal proceedings associated with price fixing or price manipulation	Reporting currency									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Leadership & Governance	Management of the Legal & Regulatory Environment	Management of the Legal & Regulatory Environment	EM-RM-530a.1		Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	n/a	✓							✓	
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Leadership & Governance	Critical Incident Risk Management	Critical Incident Risk Management	EM-RM-540a.1		Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1) and lesser consequence (Tier 2)	Rate									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Leadership & Governance	Critical Incident Risk Management	Critical Incident Risk Management	EM-RM-540a.2		Challenges to Safety Systems indicator rate (Tier 3)	Rate									✓
Extractives & Minerals Processing	Oil & Gas – Refining & Marketing	Leadership & Governance	Critical Incident Risk Management	Critical Incident Risk Management	EM-RM-540a.3		Discussion of measurement of Operating Discipline and Management System Performance through Tier 4 Indicators	n/a						✓			
Extractives & Minerals Processing	Oil & Gas – Services	Environment	GHG Emissions	Emissions Reduction Services & Fuels Management	EM-SV-110a.1		Total fuel consumed, percentage renewable, percentage used in: (1) on-road equipment and vehicles and (2) off-road equipment	Gigajoules (GJ), Percentage (%)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Services	Environment	GHG Emissions	Emissions Reduction Services & Fuels Management	EM-SV-110a.2		Discussion of strategy or plans to address air emissions-related risks, opportunities, and impacts	n/a	✓							✓	
Extractives & Minerals Processing	Oil & Gas – Services	Environment	GHG Emissions	Emissions Reduction Services & Fuels Management	EM-SV-110a.3		Percentage of engines in service that meet Tier 4 compliance for non-road diesel engine emissions	Percentage (%)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Services	Environment	Water & Wastewater Management	Water Management Services	EM-SV-140a.1		(1) Total volume of fresh water handled in operations, (2) percentage recycled	Thousand cubic meters (m³), Percentage (%)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Services	Environment	Water & Wastewater Management	Water Management Services	EM-SV-140a.2		Discussion of strategy or plans to address water consumption and disposal-related risks, opportunities, and impacts	n/a	✓							✓	
Extractives & Minerals Processing	Oil & Gas – Services	Environment	Waste & Hazardous Materials Management	Chemicals Management	EM-SV-150a.1		Volume of hydraulic fracturing fluid used, percentage hazardous	Thousand cubic meters (m³), Percentage (%)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Services	Environment	Waste & Hazardous Materials Management	Chemicals Management	EM-SV-150a.2		Discussion of strategy or plans to address chemical-related risks, opportunities, and impacts	n/a	✓							✓	
Extractives & Minerals Processing	Oil & Gas – Services	Environment	Ecological Impacts	Ecological Impact Management	EM-SV-160a.1		Average disturbed acreage per (1) oil and (2) gas well site	Acres (ac)	✓								✓
Extractives & Minerals Processing	Oil & Gas – Services	Environment	Ecological Impacts	Ecological Impact Management	EM-SV-160a.2		Discussion of strategy or plan to address risks and opportunities related to ecological impacts from core activities	n/a	✓							✓	
Extractives & Minerals Processing	Oil & Gas – Services	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-SV-320a.1		(1) Total recordable incident rate (TRIR), (2) fatality rate, (3) near miss frequency rate (NMFR), (4) total vehicle incident rate (TVIR), and (5) average hours of health, safety, and emergency response training for (a) full-time employees, (b) contract employees, and (c) short-service employees	Rate									✓
Extractives & Minerals Processing	Oil & Gas – Services	Human Capital	Employee Health & Safety	Workforce Health & Safety	EM-SV-320a.2		Description of management systems used to integrate a culture of safety throughout the value chain and project lifecycle	n/a						✓			
Extractives & Minerals Processing	Oil & Gas – Services	Leadership & Governance	Business Ethics	Business Ethics & Payments Transparency	EM-SV-510a.1		Amount of net revenue in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Reporting currency									✓

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									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Extractives & Minerals Processing	Oil & Gas – Services	Leadership & Governance	Business Ethics	Business Ethics & Payments Transparency	EM-SV-510a.2		Description of the management system for prevention of corruption and bribery throughout the value chain	n/a						✓				
Extractives & Minerals Processing	Oil & Gas – Services	Leadership & Governance	Management of the Legal & Regulatory Environment	Management of the Legal & Regulatory Environment	EM-SV-530a.1		Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	n/a	✓								✓	
Extractives & Minerals Processing	Oil & Gas – Services	Leadership & Governance	Critical Incident Risk Management	Critical Incident Risk Management	EM-SV-540a.1		Description of management systems used to identify and mitigate catastrophic and tail-end risks	n/a						✓				
Food & Beverage	Alcoholic Beverages	Environment	Energy Management	Energy Management	FB-AB-130a.1		(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Alcoholic Beverages	Environment	Water & Wastewater Management	Water Management	FB-AB-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Food & Beverage	Alcoholic Beverages	Environment	Water & Wastewater Management	Water Management	FB-AB-140a.2		Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Food & Beverage	Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Responsible Drinking & Marketing	FB-AB-270a.1		Percentage of total advertising impressions made on individuals at or above the legal drinking age	Percentage (%)										✓
Food & Beverage	Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Responsible Drinking & Marketing	FB-AB-270a.2		Number of incidents of non-compliance with industry or regulatory labeling and/or marketing codes	Number										✓
Food & Beverage	Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Responsible Drinking & Marketing	FB-AB-270a.3		Total amount of monetary losses as a result of legal proceedings associated with marketing and/or labeling practices	Reporting currency										✓
Food & Beverage	Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Responsible Drinking & Marketing	FB-AB-270a.4		Description of efforts to promote responsible consumption of alcohol	n/a									✓	
Food & Beverage	Alcoholic Beverages	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	FB-AB-410a.1		(1) Total weight of packaging, (2) percentage made from recycled and/or renewable materials, and (3) percentage that is recyclable, reusable, and/or compostable	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Alcoholic Beverages	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	FB-AB-410a.2		Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Food & Beverage	Alcoholic Beverages	Business Model & Innovation	Supply Chain Manage-ment	Environmental & Social Impacts of Ingredient Supply Chain	FB-AB-430a.1		Suppliers' social and environmental responsibility audit (1) non-confor-mance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate	✓									✓
Food & Beverage	Alcoholic Beverages	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-AB-440a.1		Percentage of beverage ingredients sourced from regions with High or Extremely High Baseline Water Stress	Percentage (%) by cost	✓									✓
Food & Beverage	Alcoholic Beverages	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-AB-440a.2		List of priority beverage ingredients and description of sourcing risks due to environmental and social considerations	n/a	✓							✓		
Food & Beverage	Agricultural Products	Environment	GHG Emissions	Greenhouse Gas Emissions	FB-AG-110a.1		Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Food & Beverage	Agricultural Products	Environment	GHG Emissions	Greenhouse Gas Emissions	FB-AG-110a.2		Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Food & Beverage	Agricultural Products	Environment	GHG Emissions	Greenhouse Gas Emissions	FB-AG-110a.3		Fleet fuel consumed, percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Agricultural Products	Environment	Energy Management	Energy Management	FB-AG-130a.1		(1) Operational energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Agricultural Products	Environment	Water & Wastewater Management	Water Management	FB-AG-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Food & Beverage	Agricultural Products	Environment	Water & Wastewater Management	Water Management	FB-AG-140a.2		Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Food & Beverage	Agricultural Products	Environment	Water & Wastewater Management	Water Management	FB-AG-140a.3		Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	Number	✓									✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Food & Beverage	Agricultural Products	Social Capital	Product Quality & Safety	Food Safety	FB-AG-250a.1	Global Food Safety Initiative (GFSI) audit (1) non-conformance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate										✓
Food & Beverage	Agricultural Products	Social Capital	Product Quality & Safety	Food Safety	FB-AG-250a.2	Percentage of agricultural products sourced from suppliers certified to a Global Food Safety Initiative (GFSI) recognized food safety certification program	Percentage (%) by cost										✓
Food & Beverage	Agricultural Products	Social Capital	Product Quality & Safety	Food Safety	FB-AG-250a.3	(1) Number of recalls issued and (2) total amount of food product recalled	Number, Metric tons (t)										✓
Food & Beverage	Agricultural Products	Human Capital	Employee Health & Safety	Workforce Health & Safety	FB-AG-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) seasonal and migrant employees	Rate										✓
Food & Beverage	Agricultural Products	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Ingredient Supply Chain	FB-AG-430a.1	Percentage of agricultural products sourced that are certified to a third-party environmental and/or social standard, and percentages by standard	Percentage (%) by cost	✓									✓
Food & Beverage	Agricultural Products	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Ingredient Supply Chain	FB-AG-430a.2	Suppliers' social and environmental responsibility audit (1) non-conformance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate	✓									✓
Food & Beverage	Agricultural Products	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Ingredient Supply Chain	FB-AG-430a.3	Discussion of strategy to manage environmental and social risks arising from contract growing and commodity sourcing	n/a	✓								✓	
Food & Beverage	Agricultural Products	Business Model & Innovation	Supply Chain Management	GMO Management	FB-AG-430b.1	Discussion of strategies to manage the use of genetically modified organisms (GMOs)	n/a									✓	
Food & Beverage	Agricultural Products	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-AG-440a.1	Identification of principal crops and description of risks and opportunities presented by climate change	n/a	✓							✓		
Food & Beverage	Agricultural Products	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-AG-440a.2	Percentage of agricultural products sourced from regions with High or Extremely High Baseline Water Stress	Percentage (%) by cost	✓									✓
Food & Beverage	Food Retailers & Distributors	Environment	GHG Emissions	Fleet Fuel Management	FB-FR-110a.1	Fleet fuel consumed, percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Food Retailers & Distributors	Environment	GHG Emissions	Air Emissions from Refrigeration	FB-FR-110b.1	Gross global Scope 1 emissions from refrigerants	Metric tons (t) CO2-e	✓									✓
Food & Beverage	Food Retailers & Distributors	Environment	GHG Emissions	Air Emissions from Refrigeration	FB-FR-110b.2	Percentage of refrigerants consumed with zero ozone-depleting potential	Percentage (%) by weight	✓									✓
Food & Beverage	Food Retailers & Distributors	Environment	GHG Emissions	Air Emissions from Refrigeration	FB-FR-110b.3	Average refrigerant emissions rate	Percentage (%)	✓									✓
Food & Beverage	Food Retailers & Distributors	Environment	Energy Management	Energy Management	FB-FR-130a.1	(1) Operational energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Food Retailers & Distributors	Environment	Waste & Hazardous Materials Management	Food Waste Management	FB-FR-150a.1	Amount of food waste generated, percentage diverted from the waste stream	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Data Security	Data Security	FB-FR-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of customers affected	Number, Percentage (%)										✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Data Security	Data Security	FB-FR-230a.2	Description of approach to identifying and addressing data security risks	n/a								✓	✓	
Food & Beverage	Food Retailers & Distributors	Social Capital	Product Quality & Safety	Food Safety	FB-FR-250a.1	High-risk food safety violation rate	Rate										✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Product Quality & Safety	Food Safety	FB-FR-250a.2	(1) Number of recalls, (2) number of units recalled, (3) percentage of units recalled that are private-label products	Number, Percentage (%)										✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Customer Welfare	Product Health & Nutrition	FB-FR-260a.1	Revenue from products labeled and/or marketed to promote health and nutrition attributes	Reporting currency										✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Customer Welfare	Product Health & Nutrition	FB-FR-260a.2	Discussion of the process to identify and manage products and ingredients related to nutritional and health concerns among consumers	n/a								✓	✓	

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Food & Beverage	Food Retailers & Distributors	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-FR-270a.1	Number of incidents of non-compliance with industry or regulatory labeling and/or marketing codes	Number										✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-FR-270a.2	Total amount of monetary losses as a result of legal proceedings associated with marketing and/or labeling practices	Reporting currency										✓
Food & Beverage	Food Retailers & Distributors	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-FR-270a.3	Revenue from products labeled as (1) containing genetically modified organisms (GMOs) and (2) non-GMO	Reporting currency										✓
Food & Beverage	Food Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	FB-FR-310a.1	(1) Average hourly wage and (2) percentage of in-store and distribution center employees earning minimum wage, by region	Reporting currency, Percentage (%)										✓
Food & Beverage	Food Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	FB-FR-310a.2	Percentage of active workforce covered under collective bargaining agreements	Percentage (%)										✓
Food & Beverage	Food Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	FB-FR-310a.3	(1) Number of work stoppages and (2) total days idle	Number, Days idle										✓
Food & Beverage	Food Retailers & Distributors	Human Capital	Labor Practices	Labor Practices	FB-FR-310a.4	Total amount of monetary losses as a result of legal proceedings associated with: (1) labor law violations and (2) employment discrimination	Reporting currency										✓
Food & Beverage	Food Retailers & Distributors	Business Model & Innovation	Supply Chain Management	Management of Environmental & Social Impacts in the Supply Chain	FB-FR-430a.1	Revenue from products third-party certified to environmental or social sustainability sourcing standards	Reporting currency	✓									✓
Food & Beverage	Food Retailers & Distributors	Business Model & Innovation	Supply Chain Management	Management of Environmental & Social Impacts in the Supply Chain	FB-FR-430a.2	Percentage of revenue from (1) eggs that originated from a cage-free environment and (2) pork produced without the use of gestation crates	Percentage (%) by revenue	✓									✓
Food & Beverage	Food Retailers & Distributors	Business Model & Innovation	Supply Chain Management	Management of Environmental & Social Impacts in the Supply Chain	FB-FR-430a.3	Discussion of strategy to manage environmental and social risks within the supply chain, including animal welfare	n/a	✓								✓	
Food & Beverage	Food Retailers & Distributors	Business Model & Innovation	Supply Chain Management	Management of Environmental & Social Impacts in the Supply Chain	FB-FR-430a.4	Discussion of strategies to reduce the environmental impact of packaging	n/a	✓								✓	
Food & Beverage	Meat, Poultry & Dairy	Environment	GHG Emissions	Greenhouse Gas Emissions	FB-MP-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Environment	GHG Emissions	Greenhouse Gas Emissions	FB-MP-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Food & Beverage	Meat, Poultry & Dairy	Environment	Energy Management	Energy Management	FB-MP-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Environment	Water & Wastewater Management	Water Management	FB-MP-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Environment	Water & Wastewater Management	Water Management	FB-MP-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Food & Beverage	Meat, Poultry & Dairy	Environment	Water & Wastewater Management	Water Management	FB-MP-140a.3	Number of incidents of non-compliance with water quality permits, standards, and regulations	Number	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Environment	Ecological Impacts	Land Use & Ecological Impacts	FB-MP-160a.1	Amount of animal litter and manure generated, percentage managed according to a nutrient management plan	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Environment	Ecological Impacts	Land Use & Ecological Impacts	FB-MP-160a.2	Percentage of pasture and grazing land managed to Natural Resources Conservation Service (NRCS) conservation plan criteria	Percentage (%) by hectares	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Environment	Ecological Impacts	Land Use & Ecological Impacts	FB-MP-160a.3	Animal protein production from concentrated animal feeding operations (CAFOs)	Metric tons (t)	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Social Capital	Product Quality & Safety	Food Safety	FB-MP-250a.1	Global Food Safety Initiative (GFSI) audit (1) non-conformance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate										✓
Food & Beverage	Meat, Poultry & Dairy	Social Capital	Product Quality & Safety	Food Safety	FB-MP-250a.2	Percentage of supplier facilities certified to a Global Food Safety Initiative (GFSI) food safety certification program	Percentage (%)										✓

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Food & Beverage	Meat, Poultry & Dairy	Social Capital	Product Quality & Safety	Food Safety	FB-MP-250a.3	(1) Number of recalls issued and (2) total weight of products recalled	Number, Metric tons (t)										✓
Food & Beverage	Meat, Poultry & Dairy	Social Capital	Product Quality & Safety	Food Safety	FB-MP-250a.4	Discussion of markets that ban imports of the entity's products	n/a								✓		
Food & Beverage	Meat, Poultry & Dairy	Social Capital	Customer Welfare	Antibiotic Use in Animal Production	FB-MP-260a.1	Percentage of animal production that received (1) medically important antibiotics and (2) not medically important antibiotics, by animal type	Percentage (%) by weight										✓
Food & Beverage	Meat, Poultry & Dairy	Human Capital	Employee Health & Safety	Workforce Health & Safety	FB-MP-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate	Rate										✓
Food & Beverage	Meat, Poultry & Dairy	Human Capital	Employee Health & Safety	Workforce Health & Safety	FB-MP-320a.2	Description of efforts to assess, monitor, and mitigate acute and chronic respiratory health conditions	n/a								✓	✓	
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Product Design & Lifecycle Management	Animal Care & Welfare	FB-MP-410a.1	Percentage of pork produced without the use of gestation crates	Percentage (%) by weight										✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Product Design & Lifecycle Management	Animal Care & Welfare	FB-MP-410a.2	Percentage of cage-free shell egg sales	Percentage (%)										✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Product Design & Lifecycle Management	Animal Care & Welfare	FB-MP-410a.3	Percentage of production certified to a third-party animal welfare standard	Percentage (%) by weight										✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Animal Supply Chain	FB-MP-430a.1	Percentage of livestock from suppliers implementing the Natural Resources Conservation Service (NRCS) conservation plan criteria or the equivalent	Percentage (%) by weight	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Animal Supply Chain	FB-MP-430a.2	Percentage of supplier and contract production facilities verified to meet animal welfare standards	Percentage (%)										✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Materials Sourcing & Efficiency	Animal & Feed Sourcing	FB-MP-440a.1	Percentage of animal feed sourced from regions with High or Extremely High Baseline Water Stress	Percentage (%) by weight	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Materials Sourcing & Efficiency	Animal & Feed Sourcing	FB-MP-440a.2	Percentage of contracts with producers located in regions with High or Extremely High Baseline Water Stress	Percentage (%) by contract value	✓									✓
Food & Beverage	Meat, Poultry & Dairy	Business Model & Innovation	Materials Sourcing & Efficiency	Animal & Feed Sourcing	FB-MP-440a.3	Discussion of strategy to manage opportunities and risks to feed sourcing and livestock supply presented by climate change	n/a	✓								✓	
Food & Beverage	Non-Alcoholic Beverages	Environment	GHG Emissions	Fleet Fuel Management	FB-NB-110a.1	Fleet fuel consumed, percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Non-Alcoholic Beverages	Environment	Energy Management	Energy Management	FB-NB-130a.1	(1) Operational energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Non-Alcoholic Beverages	Environment	Water & Wastewater Management	Water Management	FB-NB-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Food & Beverage	Non-Alcoholic Beverages	Environment	Water & Wastewater Management	Water Management	FB-NB-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Food & Beverage	Non-Alcoholic Beverages	Social Capital	Customer Welfare	Health & Nutrition	FB-NB-260a.1	Revenue from (1) zero- and low-calorie, (2) no-added-sugar, and (3) artificially sweetened beverages	Reporting currency										✓
Food & Beverage	Non-Alcoholic Beverages	Social Capital	Customer Welfare	Health & Nutrition	FB-NB-260a.2	Discussion of the process to identify and manage products and ingredients related to nutritional and health concerns among consumers	n/a								✓	✓	
Food & Beverage	Non-Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-NB-270a.1	Percentage of advertising impressions (1) made on children and (2) made on children promoting products that meet dietary guidelines	Percentage (%)										✓
Food & Beverage	Non-Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-NB-270a.2	Revenue from products labeled as (1) containing genetically modified organisms (GMOs) and (2) non-GMO	Reporting currency										✓
Food & Beverage	Non-Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-NB-270a.3	Number of incidents of non-compliance with industry or regulatory labeling and/or marketing codes	Number										✓
Food & Beverage	Non-Alcoholic Beverages	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-NB-270a.4	Total amount of monetary losses as a result of legal proceedings associated with marketing and/or labeling practices	Reporting currency										✓

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Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category									
								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Food & Beverage	Non-Alcoholic Beverages	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	FB-NB-410a.1	(1) Total weight of packaging, (2) percentage made from recycled and/or renewable materials, and (3) percentage that is recyclable, reusable, and/or compostable	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Non-Alcoholic Beverages	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	FB-NB-410a.2	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Food & Beverage	Non-Alcoholic Beverages	Business Model & Innovation	Supply Chain Manage-ment	Environmental & Social Impacts of Ingredient Supply Chain	FB-NB-430a.1	Suppliers' social and environmental responsibility audit (1) non-confor-mance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate	✓									✓
Food & Beverage	Non-Alcoholic Beverages	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-NB-440a.1	Percentage of beverage ingredients sourced from regions with High or Extremely High Baseline Water Stress	Percentage (%) by cost	✓									✓
Food & Beverage	Non-Alcoholic Beverages	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-NB-440a.2	List of priority beverage ingredients and description of sourcing risks due to environmental and social considerations	n/a	✓							✓		
Food & Beverage	Processed Foods	Environment	Energy Management	Energy Management	FB-PF-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Processed Foods	Environment	Water & Wastewater Management	Water Management	FB-PF-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Food & Beverage	Processed Foods	Environment	Water & Wastewater Management	Water Management	FB-PF-140a.2	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	Number	✓									✓
Food & Beverage	Processed Foods	Environment	Water & Wastewater Management	Water Management	FB-PF-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Food & Beverage	Processed Foods	Social Capital	Product Quality & Safety	Food Safety	FB-PF-250a.1	Global Food Safety Initiative (GFSI) audit (1) non-conformance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate										✓
Food & Beverage	Processed Foods	Social Capital	Product Quality & Safety	Food Safety	FB-PF-250a.2	Percentage of ingredients sourced from Tier 1 supplier facilities certified to a Global Food Safety Initiative (GFSI) recognized food safety certification program	Percentage (%) by cost										✓
Food & Beverage	Processed Foods	Social Capital	Product Quality & Safety	Food Safety	FB-PF-250a.3	(1) Total number of notices of food safety violation received, (2) percentage corrected	Number, Percentage (%)										✓
Food & Beverage	Processed Foods	Social Capital	Product Quality & Safety	Food Safety	FB-PF-250a.4	(1) Number of recalls issued and (2) total amount of food product recalled	Number, Metric tons (t)										✓
Food & Beverage	Processed Foods	Social Capital	Customer Welfare	Health & Nutrition	FB-PF-260a.1	Revenue from products labeled and/or marketed to promote health and nutrition attributes	Reporting currency										✓
Food & Beverage	Processed Foods	Social Capital	Customer Welfare	Health & Nutrition	FB-PF-260a.2	Discussion of the process to identify and manage products and ingre-dients related to nutritional and health concerns among consumers	n/a								✓	✓	
Food & Beverage	Processed Foods	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-PF-270a.1	Percentage of advertising impressions (1) made on children and (2) made on children promoting products that meet dietary guidelines	Percentage (%)										✓
Food & Beverage	Processed Foods	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-PF-270a.2	Revenue from products labeled as (1) containing genetically modified organisms (GMOs) and (2) non-GMO	Reporting currency										✓
Food & Beverage	Processed Foods	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-PF-270a.3	Number of incidents of non-compliance with industry or regulatory labeling and/or marketing codes	Number										✓
Food & Beverage	Processed Foods	Social Capital	Selling Practices & Product Labeling	Product Labeling & Marketing	FB-PF-270a.4	Total amount of monetary losses as a result of legal proceedings associated with labeling and/or marketing practices	Reporting currency										✓
Food & Beverage	Processed Foods	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	FB-PF-410a.1	(1) Total weight of packaging, (2) percentage made from recycled and/or renewable materials, and (3) percentage that is recyclable, reusable, and/or compostable	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Processed Foods	Business Model & Innovation	Product Design & Lifecycle Management	Packaging Lifecycle Management	FB-PF-410a.2	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Food & Beverage	Processed Foods	Business Model & Innovation	Supply Chain Manage-ment	Environmental & Social Impacts of Ingredient Supply Chain	FB-PF-430a.1	Percentage of food ingredients sourced that are certified to third-party environmental and/or social standards, and percentages by standard	Percentage (%) by cost	✓									✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Food & Beverage	Processed Foods	Business Model & Innovation	Supply Chain Management	Environmental & Social Impacts of Ingredient Supply Chain	FB-PF-430a.2	Suppliers' social and environmental responsibility audit (1) non-conformance rate and (2) associated corrective action rate for (a) major and (b) minor non-conformances	Rate	✓									✓
Food & Beverage	Processed Foods	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-PF-440a.1	Percentage of food ingredients sourced from regions with High or Extremely High Baseline Water Stress	Percentage (%) by cost	✓									✓
Food & Beverage	Processed Foods	Business Model & Innovation	Materials Sourcing & Efficiency	Ingredient Sourcing	FB-PF-440a.2	List of priority food ingredients and discussion of sourcing risks due to environmental and social considerations	n/a	✓							✓		
Food & Beverage	Restaurants	Environment	Energy Management	Energy Management	FB-RN-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Food & Beverage	Restaurants	Environment	Water & Wastewater Management	Water Management	FB-RN-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Food & Beverage	Restaurants	Environment	Waste & Hazardous Materials Management	Food & Packaging Waste Management	FB-RN-150a.1	(1) Total amount of waste, (2) percentage food waste, and (3) percentage diverted	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Restaurants	Environment	Waste & Hazardous Materials Management	Food & Packaging Waste Management	FB-RN-150a.2	(1) Total weight of packaging, (2) percentage made from recycled and/or renewable materials, and (3) percentage that is recyclable, reusable, and/or compostable	Metric tons (t), Percentage (%)	✓									✓
Food & Beverage	Restaurants	Social Capital	Product Quality & Safety	Food Safety	FB-RN-250a.1	(1) Percentage of restaurants inspected by a food safety oversight body, (2) percentage receiving critical violations	Percentage (%)										✓
Food & Beverage	Restaurants	Social Capital	Product Quality & Safety	Food Safety	FB-RN-250a.2	(1) Number of recalls issued and (2) total amount of food product recalled	Number, Metric tons (t)										✓
Food & Beverage	Restaurants	Social Capital	Product Quality & Safety	Food Safety	FB-RN-250a.3	Number of confirmed foodborne illness outbreaks, percentage resulting in U.S. Centers for Disease Control and Prevention (CDC) investigation	Number, Percentage (%)										✓
Food & Beverage	Restaurants	Social Capital	Customer Welfare	Nutritional Content	FB-RN-260a.1	(1) Percentage of meal options consistent with national dietary guidelines and (2) revenue from these options	Percentage (%), Reporting currency										✓
Food & Beverage	Restaurants	Social Capital	Customer Welfare	Nutritional Content	FB-RN-260a.2	(1) Percentage of children's meal options consistent with national dietary guidelines for children and (2) revenue from these options	Percentage (%), Reporting currency										✓
Food & Beverage	Restaurants	Social Capital	Customer Welfare	Nutritional Content	FB-RN-260a.3	Number of advertising impressions made on children, percentage promoting products that meet national dietary guidelines for children	Number, Percentage (%)										✓
Food & Beverage	Restaurants	Human Capital	Labor Practices	Labor Practices	FB-RN-310a.1	(1) Voluntary and (2) involuntary turnover rate for restaurant employees	Rate										✓
Food & Beverage	Restaurants	Human Capital	Labor Practices	Labor Practices	FB-RN-310a.2	(1) Average hourly wage, by region and (2) percentage of restaurant employees earning minimum wage, by region	Reporting currency, Percentage (%)										✓
Food & Beverage	Restaurants	Human Capital	Labor Practices	Labor Practices	FB-RN-310a.3	Total amount of monetary losses as a result of legal proceedings associated with (1) labor law violations and (2) employment discrimination	Reporting currency										✓
Food & Beverage	Restaurants	Business Model & Innovation	Supply Chain Management	Supply Chain Management & Food Sourcing	FB-RN-430a.1	Percentage of food purchased that (1) meets environmental and social sourcing standards and (2) is certified to third-party environmental and/or social standards	Percentage (%) by cost	✓									✓
Food & Beverage	Restaurants	Business Model & Innovation	Supply Chain Management	Supply Chain Management & Food Sourcing	FB-RN-430a.2	Percentage of (1) eggs that originated from a cage-free environment and (2) pork that was produced without the use of gestation crates	Percentage (%) by number, Percentage (%) by weight										✓
Food & Beverage	Restaurants	Business Model & Innovation	Supply Chain Management	Supply Chain Management & Food Sourcing	FB-RN-430a.3	Discussion of strategy to manage environmental and social risks within the supply chain, including animal welfare	n/a	✓								✓	
Food & Beverage	Tobacco	Social Capital	Customer Welfare	Public Health	FB-TB-260a.1	(1) Gross revenue and (2) revenue net of excise taxes from (a) non-tobacco nicotine products and (b) heated tobacco products	Reporting currency										✓
Food & Beverage	Tobacco	Social Capital	Customer Welfare	Public Health	FB-TB-260a.2	Discussion of the process to assess risks and opportunities associated with "tobacco harm reduction" products	n/a								✓		

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Food & Beverage	Tobacco	Social Capital	Selling Practices & Product Labeling	Marketing Practices	FB-TB-270a.1	Total amount of monetary losses as a result of legal proceedings associated with marketing, labeling, and/or advertising practices	Reporting currency										✓
Food & Beverage	Tobacco	Social Capital	Selling Practices & Product Labeling	Marketing Practices	FB-TB-270a.2	Description of the company's marketing policy and relevant positions on Articles 11 and 13 of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC)	n/a									✓	
Financials	Asset Management & Custody Activities	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-AC-270a.1	(1) Number and (2) percentage of covered employees with a record of investment-related investigations, consumer-initiated complaints, private civil litigations, or other regulatory proceedings	Number, Percentage (%)										✓
Financials	Asset Management & Custody Activities	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-AC-270a.2	Total amount of monetary losses as a result of legal proceedings associated with marketing and communication of financial product-related information to new and returning customers	Reporting currency										✓
Financials	Asset Management & Custody Activities	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-AC-270a.3	Description of approach to informing customers about products and services	n/a									✓	
Financials	Asset Management & Custody Activities	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Diversity & Inclusion	FN-AC-330a.1	Percentage of gender and racial/ethnic group representation for (1) executive management, (2) non-executive management, (3) professionals, and (4) all other employees	Percentage (%)										✓
Financials	Asset Management & Custody Activities	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Management & Advisory	FN-AC-410a.1	Amount of assets under management, by asset class, that employ (1) integration of environmental, social, and governance (ESG) issues, (2) sustainability themed investing, and (3) screening	Reporting currency	✓									✓
Financials	Asset Management & Custody Activities	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Management & Advisory	FN-AC-410a.2	Description of approach to incorporation of environmental, social, and governance (ESG) factors in investment and/or wealth management processes and strategies	n/a	✓							✓	✓	
Financials	Asset Management & Custody Activities	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Management & Advisory	FN-AC-410a.3	Description of proxy voting and investee engagement policies and procedures	n/a	✓								✓	
Financials	Asset Management & Custody Activities	Leadership & Governance	Business Ethics	Business Ethics	FN-AC-510a.1	Total amount of monetary losses as a result of legal proceedings associated with fraud, insider trading, anti-trust, anti-competitive behavior, market manipulation, malpractice, or other related financial industry laws or regulations	Reporting currency										✓
Financials	Asset Management & Custody Activities	Leadership & Governance	Business Ethics	Business Ethics	FN-AC-510a.2	Description of whistleblower policies and procedures	n/a						✓				
Financials	Asset Management & Custody Activities	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-AC-550a.1	Percentage of open-end fund assets under management by category of liquidity classification	Percentage (%)										✓
Financials	Asset Management & Custody Activities	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-AC-550a.2	Description of approach to incorporation of liquidity risk management programs into portfolio strategy and redemption risk management	n/a									✓	
Financials	Asset Management & Custody Activities	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-AC-550a.3	Total exposure to securities financing transactions	Reporting currency										✓
Financials	Asset Management & Custody Activities	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-AC-550a.4	Net exposure to written credit derivatives	Reporting currency										✓
Financials	Commercial Banks	Social Capital	Data Security	Data Security	FN-CB-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of account holders affected	Number, Percentage (%)										✓
Financials	Commercial Banks	Social Capital	Data Security	Data Security	FN-CB-230a.2	Description of approach to identifying and addressing data security risks	n/a								✓	✓	
Financials	Commercial Banks	Social Capital	Access & Affordability	Financial Inclusion & Capacity Building	FN-CB-240a.1	(1) Number and (2) amount of loans outstanding qualified to programs designed to promote small business and community development	Number, Reporting currency										✓
Financials	Commercial Banks	Social Capital	Access & Affordability	Financial Inclusion & Capacity Building	FN-CB-240a.2	(1) Number and (2) amount of past due and nonaccrual loans qualified to programs designed to promote small business and community development	Number, Reporting currency										✓

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Financials	Commercial Banks	Social Capital	Access & Affordability	Financial Inclusion & Capacity Building	FN-CB-240a.3	Number of no-cost retail checking accounts provided to previously unbanked or underbanked customers	Number										✓
Financials	Commercial Banks	Social Capital	Access & Affordability	Financial Inclusion & Capacity Building	FN-CB-240a.4	Number of participants in financial literacy initiatives for unbanked, underbanked, or underserved customers	Number										✓
Financials	Commercial Banks	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Credit Analysis	FN-CB-410a.1	Commercial and industrial credit exposure, by industry	Reporting currency	✓									✓
Financials	Commercial Banks	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Credit Analysis	FN-CB-410a.2	Description of approach to incorporation of environmental, social, and governance (ESG) factors in credit analysis	n/a	✓							✓	✓	
Financials	Commercial Banks	Leadership & Governance	Business Ethics	Business Ethics	FN-CB-510a.1	Total amount of monetary losses as a result of legal proceedings associated with fraud, insider trading, anti-trust, anti-competitive behavior, market manipulation, malpractice, or other related financial industry laws or regulations	Reporting currency										✓
Financials	Commercial Banks	Leadership & Governance	Business Ethics	Business Ethics	FN-CB-510a.2	Description of whistleblower policies and procedures	n/a						✓				
Financials	Commercial Banks	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-CB-550a.1	Global Systemically Important Bank (G-SIB) score, by category	Basis points (bps)										✓
Financials	Commercial Banks	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-CB-550a.2	Description of approach to incorporation of results of mandatory and voluntary stress tests into capital adequacy planning, long-term corporate strategy, and other business activities	n/a									✓	
Financials	Consumer Finance	Social Capital	Customer Privacy	Customer Privacy	FN-CF-220a.1	Number of account holders whose information is used for secondary purposes	Number										✓
Financials	Consumer Finance	Social Capital	Customer Privacy	Customer Privacy	FN-CF-220a.2	Total amount of monetary losses as a result of legal proceedings associated with customer privacy	Reporting currency										✓
Financials	Consumer Finance	Social Capital	Data Security	Data Security	FN-CF-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of account holders affected	Number, Percentage (%)										✓
Financials	Consumer Finance	Social Capital	Data Security	Data Security	FN-CF-230a.2	Card-related fraud losses from (1) card-not-present fraud and (2) card-present and other fraud	Reporting currency										✓
Financials	Consumer Finance	Social Capital	Data Security	Data Security	FN-CF-230a.3	Description of approach to identifying and addressing data security risks	n/a								✓	✓	
Financials	Consumer Finance	Social Capital	Selling Practices & Product Labeling	Selling Practices	FN-CF-270a.1	Percentage of total remuneration for covered employees that is variable and linked to the amount of products and services sold	Percentage (%)										✓
Financials	Consumer Finance	Social Capital	Selling Practices & Product Labeling	Selling Practices	FN-CF-270a.2	Approval rate for (1) credit and (2) pre-paid products for applicants with FICO scores above and below 660	Percentage (%)										✓
Financials	Consumer Finance	Social Capital	Selling Practices & Product Labeling	Selling Practices	FN-CF-270a.3	(1) Average fees from add-on products, (2) average APR, (3) average age of accounts, (4) average number of trade lines, and (5) average annual fees for pre-paid products, for customers with FICO scores above and below 660	Reporting currency, Percentage (%), Months, Number, Reporting currency										✓
Financials	Consumer Finance	Social Capital	Selling Practices & Product Labeling	Selling Practices	FN-CF-270a.4	(1) Number of complaints filed with the Consumer Financial Protection Bureau (CFPB), (2) percentage with monetary or non-monetary relief, (3) percentage disputed by consumer, (4) percentage that resulted in investigation by the CFPB	Number, Percentage (%)										✓
Financials	Consumer Finance	Social Capital	Selling Practices & Product Labeling	Selling Practices	FN-CF-270a.5	Total amount of monetary losses as a result of legal proceedings associated with selling and servicing of products	Reporting currency										✓
Financials	Security & Commodity Exchanges	Business Model & Innovation	Product Design & Lifecycle Management	Promoting Transparent & Efficient Capital Markets	FN-EX-410a.1	(1) Number and (2) average duration of (a) halts related to public release of information and (b) pauses related to volatility	Number, Minutes										✓
Financials	Security & Commodity Exchanges	Business Model & Innovation	Product Design & Lifecycle Management	Promoting Transparent & Efficient Capital Markets	FN-EX-410a.2	Percentage of trades generated from automated trading systems	Percentage (%)										✓

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Financials	Security & Commodity Exchanges	Business Model & Innovation	Product Design & Lifecycle Management	Promoting Transparent & Efficient Capital Markets	FN-EX-410a.3		Description of alert policy regarding timing and nature of public release of information	n/a						✓				
Financials	Security & Commodity Exchanges	Business Model & Innovation	Product Design & Lifecycle Management	Promoting Transparent & Efficient Capital Markets	FN-EX-410a.4		Description of policy to encourage or require listed companies to publicly disclose environmental, social, and governance (ESG) information	n/a	✓							✓		
Financials	Security & Commodity Exchanges	Leadership & Governance	Business Ethics	Managing Conflicts of Interest	FN-EX-510a.1		Total amount of monetary losses as a result of legal proceedings associated with fraud, insider trading, anti-trust, anti-competitive behavior, market manipulation, malpractice, or other related financial industry laws or regulations	Reporting currency									✓	
Financials	Security & Commodity Exchanges	Leadership & Governance	Business Ethics	Managing Conflicts of Interest	FN-EX-510a.2		Discussion of processes for identifying and assessing conflicts of interest	n/a						✓				
Financials	Security & Commodity Exchanges	Leadership & Governance	Systemic Risk Management	Managing Business Continuity & Technology Risks	FN-EX-550a.1		(1) Number of significant market disruptions and (2) duration of downtime	Number, Hours (h)									✓	
Financials	Security & Commodity Exchanges	Leadership & Governance	Systemic Risk Management	Managing Business Continuity & Technology Risks	FN-EX-550a.2		(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of customers affected	Number, Percentage (%)									✓	
Financials	Security & Commodity Exchanges	Leadership & Governance	Systemic Risk Management	Managing Business Continuity & Technology Risks	FN-EX-550a.3		Description of efforts to prevent technology errors, security breaches, and market disruptions	n/a						✓				
Financials	Investment Banking & Brokerage	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Diversity & Inclusion	FN-IB-330a.1		Percentage of gender and racial/ethnic group representation for (1) executive management, (2) non-executive management, (3) professionals, and (4) all other employees	Percentage (%)									✓	
Financials	Investment Banking & Brokerage	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Banking & Brokerage Activities	FN-IB-410a.1		Revenue from (1) underwriting, (2) advisory, and (3) securitization transactions incorporating integration of environmental, social, and governance (ESG) factors, by industry	Reporting currency	✓								✓	
Financials	Investment Banking & Brokerage	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Banking & Brokerage Activities	FN-IB-410a.2		(1) Number and (2) total value of investments and loans incorporating integration of environmental, social, and governance (ESG) factors, by industry	Number, Reporting currency	✓								✓	
Financials	Investment Banking & Brokerage	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Banking & Brokerage Activities	FN-IB-410a.3		Description of approach to incorporation of environmental, social, and governance (ESG) factors in investment banking and brokerage activities	n/a	✓						✓	✓		
Financials	Investment Banking & Brokerage	Leadership & Governance	Business Ethics	Business Ethics	FN-IB-510a.1		Total amount of monetary losses as a result of legal proceedings associated with fraud, insider trading, anti-trust, anti-competitive behavior, market manipulation, malpractice, or other related financial industry laws or regulations	Reporting currency									✓	
Financials	Investment Banking & Brokerage	Leadership & Governance	Business Ethics	Business Ethics	FN-IB-510a.2		Description of whistleblower policies and procedures	n/a						✓				
Financials	Investment Banking & Brokerage	Leadership & Governance	Business Ethics	Professional Integrity	FN-IB-510b.1		(1) Number and (2) percentage of covered employees with a record of investment-related investigations, consumer-initiated complaints, private civil litigations, or other regulatory proceedings	Number, Percentage (%)									✓	
Financials	Investment Banking & Brokerage	Leadership & Governance	Business Ethics	Professional Integrity	FN-IB-510b.2		Number of mediation and arbitration cases associated with professional integrity, including duty of care, by party	Number									✓	
Financials	Investment Banking & Brokerage	Leadership & Governance	Business Ethics	Professional Integrity	FN-IB-510b.3		Total amount of monetary losses as a result of legal proceedings associated with professional integrity, including duty of care	Reporting currency									✓	
Financials	Investment Banking & Brokerage	Leadership & Governance	Business Ethics	Professional Integrity	FN-IB-510b.4		Description of approach to ensuring professional integrity, including duty of care	n/a						✓				
Financials	Investment Banking & Brokerage	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-IB-550a.1		Global Systemically Important Bank (G-SIB) score, by category	Basis points (bps)									✓	

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Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category									
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Financials	Investment Banking & Brokerage	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-IB-550a.2	Description of approach to incorporation of results of mandatory and voluntary stress tests into capital adequacy planning, long-term corporate strategy, and other business activities	n/a									✓	
Financials	Investment Banking & Brokerage	Leadership & Governance	Systemic Risk Management	Employee Incentives & Risk Taking	FN-IB-550b.1	Percentage of total remuneration that is variable for Material Risk Takers (MRTs)	Percentage (%)										✓
Financials	Investment Banking & Brokerage	Leadership & Governance	Systemic Risk Management	Employee Incentives & Risk Taking	FN-IB-550b.2	Percentage of variable remuneration of Material Risk Takers (MRTs) to which malus or clawback provisions were applied	Percentage (%)										✓
Financials	Investment Banking & Brokerage	Leadership & Governance	Systemic Risk Management	Employee Incentives & Risk Taking	FN-IB-550b.3	Discussion of policies around supervision, control, and validation of traders' pricing of Level 3 assets and liabilities	n/a						✓				
Financials	Insurance	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-IN-270a.1	Total amount of monetary losses as a result of legal proceedings associated with marketing and communication of insurance product-related information to new and returning customers	Reporting currency										✓
Financials	Insurance	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-IN-270a.2	Complaints-to-claims ratio	Rate										✓
Financials	Insurance	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-IN-270a.3	Customer retention rate	Rate										✓
Financials	Insurance	Social Capital	Selling Practices & Product Labeling	Transparent Information & Fair Advice for Customers	FN-IN-270a.4	Description of approach to informing customers about products	n/a									✓	
Financials	Insurance	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Management	FN-IN-410a.1	Total invested assets, by industry and asset class	Reporting currency	✓									✓
Financials	Insurance	Business Model & Innovation	Product Design & Lifecycle Management	Incorporation of Environmental, Social, and Governance Factors in Investment Management	FN-IN-410a.2	Description of approach to incorporation of environmental, social, and governance (ESG) factors in investment management processes and strategies	n/a	✓							✓	✓	
Financials	Insurance	Business Model & Innovation	Product Design & Lifecycle Management	Policies Designed to Incentivize Responsible Behavior	FN-IN-410b.1	Net premiums written related to energy efficiency and low carbon technology	Reporting currency	✓									✓
Financials	Insurance	Business Model & Innovation	Product Design & Lifecycle Management	Policies Designed to Incentivize Responsible Behavior	FN-IN-410b.2	Discussion of products and/or product features that incentivize health, safety, and/or environmentally responsible actions and/or behaviors	n/a	✓								✓	
Financials	Insurance	Business Model & Innovation	Physical Impacts of Climate Change	Environmental Risk Exposure	FN-IN-450a.1	Probable Maximum Loss (PML) of insured products from weather-related natural catastrophes	Reporting currency	✓							✓		
Financials	Insurance	Business Model & Innovation	Physical Impacts of Climate Change	Environmental Risk Exposure	FN-IN-450a.2	Total amount of monetary losses attributable to insurance payouts from (1) modeled natural catastrophes and (2) non-modeled natural catastrophes, by type of event and geographic segment (net and gross of reinsurance)	Reporting currency	✓									✓
Financials	Insurance	Business Model & Innovation	Physical Impacts of Climate Change	Environmental Risk Exposure	FN-IN-450a.3	Description of approach to incorporation of environmental risks into (1) the underwriting process for individual contracts and (2) the management of firm-level risks and capital adequacy	n/a	✓								✓	
Financials	Insurance	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-IN-550a.1	Exposure to derivative instruments by category: (1) total potential exposure to non-centrally cleared derivatives, (2) total fair value of acceptable collateral posted with the Central Clearinghouse, and (3) total potential exposure to centrally cleared derivatives	Reporting currency										✓
Financials	Insurance	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-IN-550a.2	Total fair value of securities lending collateral assets	Reporting currency										✓
Financials	Insurance	Leadership & Governance	Systemic Risk Management	Systemic Risk Management	FN-IN-550a.3	Description of approach to managing capital- and liquidity-related risks associated with systemic non-insurance activities	n/a									✓	
Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Lending Practices	FN-MF-270a.1	(1) Number and (2) value of residential mortgages of the following types: (a) Hybrid or Option Adjustable-rate Mortgages (ARM), (b) Prepayment Penalty, (c) Higher Rate, (d) Total, by FICO scores above or below 660	Number, Reporting currency										✓

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Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Lending Practices	FN-MF-270a.2	(1) Number and (2) value of (a) residential mortgage modifications, (b) foreclosures, and (c) short sales or deeds in lieu of foreclosure, by FICO scores above and below 660	Reporting currency										✓
Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Lending Practices	FN-MF-270a.3	Total amount of monetary losses as a result of legal proceedings associated with communications to customers or remuneration of loan originators	Reporting currency										✓
Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Lending Practices	FN-MF-270a.4	Description of remuneration structure of loan originators	n/a						✓				
Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Discriminatory Lending	FN-MF-270b.1	(1) Number, (2) value, and (3) weighted average Loan-to-Value (LTV) ratio of mortgages issued to (a) minority and (b) all other borrowers, by FICO scores above and below 660	Number, Reporting currency, Percentage (%)										✓
Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Discriminatory Lending	FN-MF-270b.2	Total amount of monetary losses as a result of legal proceedings associated with discriminatory mortgage lending	Reporting currency										✓
Financials	Mortgage Finance	Social Capital	Selling Practices & Product Labeling	Discriminatory Lending	FN-MF-270b.3	Description of policies and procedures for ensuring nondiscriminatory mortgage origination	n/a									✓	
Financials	Mortgage Finance	Business Model & Innovation	Physical Impacts of Climate Change	Environmental Risk to Mortgaged Properties	FN-MF-450a.1	(1) Number and (2) value of mortgage loans in 100-year flood zones	Number, Reporting currency	✓									✓
Financials	Mortgage Finance	Business Model & Innovation	Physical Impacts of Climate Change	Environmental Risk to Mortgaged Properties	FN-MF-450a.2	(1) Total expected loss and (2) Loss Given Default (LGD) attributable to mortgage loan default and delinquency due to weather-related natural catastrophes, by geographic region	Reporting currency, Percentage (%)	✓									✓
Financials	Mortgage Finance	Business Model & Innovation	Physical Impacts of Climate Change	Environmental Risk to Mortgaged Properties	FN-MF-450a.3	Description of how climate change and other environmental risks are incorporated into mortgage origination and underwriting	n/a	✓					✓				
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Human Rights & Community Relations	Safety of Clinical Trial Participants	HC-BP-210a.1	Discussion, by world region, of management process for ensuring quality and patient safety during clinical trials	n/a									✓	
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Human Rights & Community Relations	Safety of Clinical Trial Participants	HC-BP-210a.2	Number of FDA Sponsor Inspections related to clinical trial management and pharmacovigilance that resulted in: (1) Voluntary Action Indicated (VAI) and (2) Official Action Indicated (OAI)	Number										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Human Rights & Community Relations	Safety of Clinical Trial Participants	HC-BP-210a.3	Total amount of monetary losses as a result of legal proceedings associated with clinical trials in developing countries	Reporting currency										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Access & Affordability	Access to Medicines	HC-BP-240a.1	Description of actions and initiatives to promote access to health care products for priority diseases and in priority countries as defined by the Access to Medicine Index	n/a									✓	
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Access & Affordability	Access to Medicines	HC-BP-240a.2	List of products on the WHO List of Prequalified Medicinal Products as part of its Prequalification of Medicines Programme (PQP)	n/a								✓		
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Access & Affordability	Affordability & Pricing	HC-BP-240b.1	Number of settlements of Abbreviated New Drug Application (ANDA) litigation that involved payments and/or provisions to delay bringing an authorized generic product to market for a defined time period	Number										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Access & Affordability	Affordability & Pricing	HC-BP-240b.2	Percentage change in: (1) average list price and (2) average net price across U.S. product portfolio compared to previous year	Percentage (%)										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Access & Affordability	Affordability & Pricing	HC-BP-240b.3	Percentage change in: (1) list price and (2) net price of product with largest increase compared to previous year	Percentage (%)										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Product Quality & Safety	Drug Safety	HC-BP-250a.1	List of products listed in the Food and Drug Administration's (FDA) MedWatch Safety Alerts for Human Medical Products database	n/a								✓		
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Product Quality & Safety	Drug Safety	HC-BP-250a.2	Number of fatalities associated with products as reported in the FDA Adverse Event Reporting System	Number										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Product Quality & Safety	Drug Safety	HC-BP-250a.3	Number of recalls issued, total units recalled	Number										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Product Quality & Safety	Drug Safety	HC-BP-250a.4	Total amount of product accepted for take-back, reuse, or disposal	Metric tons (t)										✓

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Health Care	Biotechnology & Pharmaceuticals	Social Capital	Product Quality & Safety	Drug Safety	HC-BP-250a.5	Number of FDA enforcement actions taken in response to violations of current Good Manufacturing Practices (cGMP), by type	Number										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Customer Welfare	Counterfeit Drugs	HC-BP-260a.1	Description of methods and technologies used to maintain traceability of products throughout the supply chain and prevent counterfeiting	n/a									✓	
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Customer Welfare	Counterfeit Drugs	HC-BP-260a.2	Discussion of process for alerting customers and business partners of potential or known risks associated with counterfeit products	n/a									✓	
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Customer Welfare	Counterfeit Drugs	HC-BP-260a.3	Number of actions that led to raids, seizure, arrests, and/or filing of criminal charges related to counterfeit products	Number										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Selling Practices & Product Labeling	Ethical Marketing	HC-BP-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false marketing claims	Reporting currency										✓
Health Care	Biotechnology & Pharmaceuticals	Social Capital	Selling Practices & Product Labeling	Ethical Marketing	HC-BP-270a.2	Description of code of ethics governing promotion of off-label use of products	n/a						✓				
Health Care	Biotechnology & Pharmaceuticals	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Development & Retention	HC-BP-330a.1	Discussion of talent recruitment and retention efforts for scientists and research and development personnel	n/a									✓	
Health Care	Biotechnology & Pharmaceuticals	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Development & Retention	HC-BP-330a.2	(1) Voluntary and (2) involuntary turnover rate for: (a) executives/senior managers, (b) mid-level managers, (c) professionals, and (d) all others	Rate										✓
Health Care	Biotechnology & Pharmaceuticals	Business Model & Innovation	Supply Chain Management	Supply Chain Management	HC-BP-430a.1	Percentage of (1) entity's facilities and (2) Tier I suppliers' facilities participating in the Rx-360 International Pharmaceutical Supply Chain Consortium audit program or equivalent third-party audit programs for integrity of supply chain and ingredients	Percentage (%)										✓
Health Care	Biotechnology & Pharmaceuticals	Leadership & Governance	Business Ethics	Business Ethics	HC-BP-510a.1	Total amount of monetary losses as a result of legal proceedings associated with corruption and bribery	Reporting currency										✓
Health Care	Biotechnology & Pharmaceuticals	Leadership & Governance	Business Ethics	Business Ethics	HC-BP-510a.2	Description of code of ethics governing interactions with health care professionals	n/a						✓				
Health Care	Health Care Distributors	Environment	GHG Emissions	Fleet Fuel Management	HC-DI-110a.1	Payload fuel economy	Gallons, Tons (U.S.), Miles	✓									✓
Health Care	Health Care Distributors	Environment	GHG Emissions	Fleet Fuel Management	HC-DI-110a.2	Description of efforts to reduce the environmental impact of logistics	n/a	✓								✓	
Health Care	Health Care Distributors	Social Capital	Product Quality & Safety	Product Safety	HC-DI-250a.1	Total amount of monetary losses as a result of legal proceedings associated with product safety	Reporting currency										✓
Health Care	Health Care Distributors	Social Capital	Product Quality & Safety	Product Safety	HC-DI-250a.2	Description of efforts to minimize health and safety risks of products sold associated with toxicity/chemical safety, high abuse potential, or delivery	n/a									✓	
Health Care	Health Care Distributors	Social Capital	Customer Welfare	Counterfeit Drugs	HC-DI-260a.1	Description of methods and technologies used to maintain traceability of products throughout the distribution chain and prevent counterfeiting	n/a									✓	
Health Care	Health Care Distributors	Social Capital	Customer Welfare	Counterfeit Drugs	HC-DI-260a.2	Discussion of due diligence process to qualify suppliers of drug products and medical equipment and devices	n/a								✓	✓	
Health Care	Health Care Distributors	Social Capital	Customer Welfare	Counterfeit Drugs	HC-DI-260a.3	Discussion of process for alerting customers and business partners of potential or known risks associated with counterfeit products	n/a									✓	
Health Care	Health Care Distributors	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	HC-DI-410a.1	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Health Care	Health Care Distributors	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	HC-DI-410a.2	Amount (by weight) of products accepted for take-back and reused, recycled, or donated	Metric tons (t)	✓									✓
Health Care	Health Care Distributors	Leadership & Governance	Business Ethics	Business Ethics	HC-DI-510a.1	Description of efforts to minimize conflicts of interest and unethical business practices	n/a						✓				
Health Care	Health Care Distributors	Leadership & Governance	Business Ethics	Business Ethics	HC-DI-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery, corruption, or other unethical business practices	Reporting currency										✓
Health Care	Drug Retailers	Environment	Energy Management	Energy Management in Retail	HC-DR-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓

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Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category										KPIs Strategies and practices Recognition of ESG risks and opportunities Identification of materiality	Communication with stakeholders	Governance
								Environment	Summary of organization or business	Business model	Message from director and/or management	Materiality	Identification of materiality	Recognition of ESG risks and opportunities	Identification of materiality	Communication with stakeholders	Governance			
Health Care	Drug Retailers	Social Capital	Data Security	Data Security & Privacy	HC-DR-230a.1	Description of policies and practices to secure customers' protected health information (PHI) records and other personally identifiable information (PII)	n/a													
Health Care	Drug Retailers	Social Capital	Data Security	Data Security & Privacy	HC-DR-230a.2	(1) Number of data breaches, (2) percentage involving (a) personally identifiable information (PII) only and (b) protected health information (PHI), (3) number of customers affected in each category, (a) PII only and (b) PHI	Number, Percentage (%)													
Health Care	Drug Retailers	Social Capital	Data Security	Data Security & Privacy	HC-DR-230a.3	Total amount of monetary losses as a result of legal proceedings associated with data security and privacy	Reporting currency													
Health Care	Drug Retailers	Social Capital	Product Quality & Safety	Drug Supply Chain Integrity	HC-DR-250a.1	Description of efforts to reduce the occurrence of compromised drugs within the supply chain	n/a													
Health Care	Drug Retailers	Social Capital	Product Quality & Safety	Drug Supply Chain Integrity	HC-DR-250a.2	Number of drug recalls issued, total units recalled, percentage for private-label products	Number, Percentage (%)													
Health Care	Drug Retailers	Social Capital	Customer Welfare	Management of Controlled Substances	HC-DR-260a.1	Percentage of controlled substance prescriptions dispensed for which a prescription drug monitoring program (PDMP) database was queried	Percentage (%)													
Health Care	Drug Retailers	Social Capital	Customer Welfare	Management of Controlled Substances	HC-DR-260a.2	Total amount of monetary losses as a result of legal proceedings associated with controlled substances	Reporting currency													
Health Care	Drug Retailers	Social Capital	Customer Welfare	Patient Health Outcomes	HC-DR-260b.1	First fill adherence rate	Percentage (%)													
Health Care	Drug Retailers	Social Capital	Customer Welfare	Patient Health Outcomes	HC-DR-260b.2	Description of policies and practices to prevent prescription dispensing errors	n/a													
Health Care	Drug Retailers	Social Capital	Customer Welfare	Patient Health Outcomes	HC-DR-260b.3	Total amount of monetary losses as a result of legal proceedings associated with prescription dispensing errors	Reporting currency													
Health Care	Health Care Delivery	Environment	Energy Management	Energy Management	HC-DY-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓												
Health Care	Health Care Delivery	Environment	Waste & Hazardous Materials Management	Waste Management	HC-DY-150a.1	Total amount of medical waste, percentage (a) incinerated, (b) recycled or treated, and (c) landfilled	Metric tons (t)	✓												
Health Care	Health Care Delivery	Environment	Waste & Hazardous Materials Management	Waste Management	HC-DY-150a.2	Total amount of: (1) hazardous and (2) non-hazardous pharmaceutical waste, percentage (a) incinerated, (b) recycled or treated, and (c) landfilled	Metric tons (t), Percentage (%)	✓												
Health Care	Health Care Delivery	Social Capital	Data Security	Patient Privacy & Electronic Health Records	HC-DY-230a.1	Percentage of patient records that are Electronic Health Records (EHR) that meet "meaningful use" requirements	Percentage (%)													
Health Care	Health Care Delivery	Social Capital	Data Security	Patient Privacy & Electronic Health Records	HC-DY-230a.2	Description of policies and practices to secure customers' protected health information (PHI) records and other personally identifiable information (PII)	n/a													
Health Care	Health Care Delivery	Social Capital	Data Security	Patient Privacy & Electronic Health Records	HC-DY-230a.3	(1) Number of data breaches, (2) percentage involving (a) personally identifiable information (PII) only and (b) protected health information (PHI), (3) number of customers affected in each category, (a) PII only and (b) PHI	Number, Percentage (%)													
Health Care	Health Care Delivery	Social Capital	Data Security	Patient Privacy & Electronic Health Records	HC-DY-230a.4	Total amount of monetary losses as a result of legal proceedings associated with data security and privacy	Reporting currency													
Health Care	Health Care Delivery	Social Capital	Access & Affordability	Access for Low-Income Patients	HC-DY-240a.1	Discussion of strategy to manage the mix of patient insurance status	n/a													
Health Care	Health Care Delivery	Social Capital	Access & Affordability	Access for Low-Income Patients	HC-DY-240a.2	Amount of Medicare Disproportionate Share Hospital (DSH) adjustment payments received	Reporting currency													
Health Care	Health Care Delivery	Social Capital	Product Quality & Safety	Quality of Care & Patient Satisfaction	HC-DY-250a.1	Average Hospital Value-Based Purchasing Total Performance Score and domain score, across all facilities	Number													
Health Care	Health Care Delivery	Social Capital	Product Quality & Safety	Quality of Care & Patient Satisfaction	HC-DY-250a.2	Number of Serious Reportable Events (SREs) as defined by the National Quality Forum (NQF)	Number													
Health Care	Health Care Delivery	Social Capital	Product Quality & Safety	Quality of Care & Patient Satisfaction	HC-DY-250a.3	Hospital-Acquired Condition (HAC) Score per hospital	Number													

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Health Care	Health Care Delivery	Social Capital	Product Quality & Safety	Quality of Care & Patient Satisfaction	HC-DY-250a.4	Excess readmission ratio per hospital	Ratio										✓
Health Care	Health Care Delivery	Social Capital	Product Quality & Safety	Quality of Care & Patient Satisfaction	HC-DY-250a.5	Magnitude of readmissions payment adjustment as part of the Hospital Readmissions Reduction Program (HRRP)	Reporting currency										✓
Health Care	Health Care Delivery	Social Capital	Customer Welfare	Management of Controlled Substances	HC-DY-260a.1	Description of policies and practices to manage the number of prescriptions issued for controlled substances	n/a									✓	
Health Care	Health Care Delivery	Social Capital	Customer Welfare	Management of Controlled Substances	HC-DY-260a.2	Percentage of controlled substance prescriptions written for which a prescription drug monitoring program (PDMP) database was queried	Percentage (%)										✓
Health Care	Health Care Delivery	Social Capital	Selling Practices & Product Labeling	Pricing & Billing Transparency	HC-DY-270a.1	Description of policies or initiatives to ensure that patients are adequately informed about price before undergoing a procedure	n/a									✓	
Health Care	Health Care Delivery	Social Capital	Selling Practices & Product Labeling	Pricing & Billing Transparency	HC-DY-270a.2	Discussion of how pricing information for services is made publicly available	n/a						✓				
Health Care	Health Care Delivery	Social Capital	Selling Practices & Product Labeling	Pricing & Billing Transparency	HC-DY-270a.3	Number of the entity's 25 most common services for which pricing information is publicly available, percentage of total services performed (by volume) that these represent	Number, Percentage (%)										✓
Health Care	Health Care Delivery	Human Capital	Employee Health & Safety	Employee Health & Safety	HC-DY-320a.1	(1) Total recordable incident rate (TRIR) and (2) days away, restricted, or transferred (DART) rate	Rate										✓
Health Care	Health Care Delivery	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Development & Retention	HC-DY-330a.1	(1) Voluntary and (2) involuntary turnover rate for: (a) physicians, (b) non-physician health care practitioners, and (c) all other employees	Rate										✓
Health Care	Health Care Delivery	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Development & Retention	HC-DY-330a.2	Description of talent recruitment and retention efforts for health care practitioners	n/a									✓	
Health Care	Health Care Delivery	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Impacts on Human Health & Infrastructure	HC-DY-450a.1	Description of policies and practices to address: (1) the physical risks due to an increased frequency and intensity of extreme weather events and (2) changes in the morbidity and mortality rates of illnesses and diseases, associated with climate change	n/a	✓								✓	
Health Care	Health Care Delivery	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Impacts on Human Health & Infrastructure	HC-DY-450a.2	Percentage of health care facilities that comply with the Centers for Medicare and Medicaid Services (CMS) Emergency Preparedness Rule	Percentage (%)	✓									✓
Health Care	Health Care Delivery	Leadership & Governance	Business Ethics	Fraud & Unnecessary Procedures	HC-DY-510a.1	Total amount of monetary losses as a result of legal proceedings associated with Medicare and Medicaid fraud under the False Claims Act	Reporting currency										✓
Health Care	Managed Care	Social Capital	Data Security	Customer Privacy & Technology Standards	HC-MC-230a.1	Description of policies and practices to secure customers' protected health information (PHI) records and other personally identifiable information (PII)	n/a									✓	
Health Care	Managed Care	Social Capital	Data Security	Customer Privacy & Technology Standards	HC-MC-230a.2	(1) Number of data breaches, (2) percentage involving (a) personally identifiable information (PII) only and (b) protected health information (PHI), (3) number of customers affected in each category, (a) PII only and (b) PHI	Number, Percentage (%)										✓
Health Care	Managed Care	Social Capital	Data Security	Customer Privacy & Technology Standards	HC-MC-230a.3	Total amount of monetary losses as a result of legal proceedings associated with data security and privacy	Reporting currency										✓
Health Care	Managed Care	Social Capital	Access & Affordability	Access to Coverage	HC-MC-240a.1	Medical Loss Ratio (MLR)	Ratio										✓
Health Care	Managed Care	Social Capital	Access & Affordability	Access to Coverage	HC-MC-240a.2	Total amount of rebates accrued and paid due to non-compliance with the Patient Protection and Affordable Care Act for Medical Loss Ratio (MLR)	Reporting currency										✓
Health Care	Managed Care	Social Capital	Access & Affordability	Access to Coverage	HC-MC-240a.3	Percentage of proposed rate increases receiving "not unreasonable" designation from Health and Human Services (HHS) review or state review	Percentage (%)										✓
Health Care	Managed Care	Social Capital	Product Quality & Safety	Plan Performance	HC-MC-250a.1	Average Medicare Advantage plan rating for each of the following plan types: (1) HMO, (2) local PPO, (3) regional PPO, (4) PFFS, and (5) SNP	Number										✓
Health Care	Managed Care	Social Capital	Product Quality & Safety	Plan Performance	HC-MC-250a.2	Enrollee retention rate by plan type, including: (1) HMO, (2) local PPO, (3) regional PPO, (4) PFFS, and (5) SNP	Rate										✓

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Health Care	Managed Care	Social Capital	Product Quality & Safety	Plan Performance	HC-MC-250a.3	Percentage of claims denied that were appealed by customers and ultimately reversed	Percentage (%)										✓
Health Care	Managed Care	Social Capital	Product Quality & Safety	Plan Performance	HC-MC-250a.4	Plan enrollee grievance rate	Rate										✓
Health Care	Managed Care	Social Capital	Customer Welfare	Improved Outcomes	HC-MC-260a.1	Percentage of enrollees in wellness programs by type: (1) diet and nutrition, (2) exercise, (3) stress management, (4) mental health, (5) smoking or alcohol cessation, or (6) other	Percentage (%)										✓
Health Care	Managed Care	Social Capital	Customer Welfare	Improved Outcomes	HC-MC-260a.2	Total coverage for preventive health services with no cost sharing for the enrollees, total coverage for preventive health services requiring cost-sharing by the enrollee, percentage of enrollees receiving Initial Preventive Physical Examinations (IPEE) or Annual Wellness Visits (AWV)	Reporting currency, Percentage (%)										✓
Health Care	Managed Care	Social Capital	Customer Welfare	Improved Outcomes	HC-MC-260a.3	Number of customers receiving care from Accountable Care Organizations or enrolled in Patient-Centered Medical Home programs	Number										✓
Health Care	Managed Care	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Impacts on Human Health	HC-MC-450a.1	Discussion of the strategy to address the effects of climate change on business operations and how specific risks presented by changes in the geographic incidence, morbidity, and mortality of illnesses and diseases are incorporated into risk models	n/a	✓					✓			✓	
Health Care	Medical Equipment & Supplies	Social Capital	Access & Affordability	Affordability & Pricing	HC-MS-240a.1	Ratio of weighted average rate of net price increases (for all products) to the annual increase in the U.S. Consumer Price Index	Ratio										✓
Health Care	Medical Equipment & Supplies	Social Capital	Access & Affordability	Affordability & Pricing	HC-MS-240a.2	Description of how price information for each product is disclosed to customers or to their agents	n/a						✓				
Health Care	Medical Equipment & Supplies	Social Capital	Product Quality & Safety	Product Safety	HC-MS-250a.1	Number of recalls issued, total units recalled	Number										✓
Health Care	Medical Equipment & Supplies	Social Capital	Product Quality & Safety	Product Safety	HC-MS-250a.2	List of products listed in the FDA's MedWatch Safety Alerts for Human Medical Products database	n/a								✓		
Health Care	Medical Equipment & Supplies	Social Capital	Product Quality & Safety	Product Safety	HC-MS-250a.3	Number of fatalities related to products as reported in the FDA Manufacturer and User Facility Device Experiencedatabase	Number										✓
Health Care	Medical Equipment & Supplies	Social Capital	Product Quality & Safety	Product Safety	HC-MS-250a.4	Number of FDA enforcement actions taken in response to violations of current Good Manufacturing Practices (cGMP), by type	Number										✓
Health Care	Medical Equipment & Supplies	Social Capital	Selling Practices & Product Labeling	Ethical Marketing	HC-MS-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false marketing claims	Reporting currency										✓
Health Care	Medical Equipment & Supplies	Social Capital	Selling Practices & Product Labeling	Ethical Marketing	HC-MS-270a.2	Description of code of ethics governing promotion of off-label use of products	n/a						✓				
Health Care	Medical Equipment & Supplies	Business Model & Innovation	Product Design & Lifecycle Management	Product Design & Lifecycle Management	HC-MS-410a.1	Discussion of process to assess and manage environmental and human health considerations associated with chemicals in products, and meet demand for sustainable products	n/a	✓							✓	✓	
Health Care	Medical Equipment & Supplies	Business Model & Innovation	Product Design & Lifecycle Management	Product Design & Lifecycle Management	HC-MS-410a.2	Total amount of products accepted for take-back and reused, recycled, or donated, broken down by: (1) devices and equipment and (2) supplies	Metric tons (t)	✓									✓
Health Care	Medical Equipment & Supplies	Business Model & Innovation	Supply Chain Management	Supply Chain Management	HC-MS-430a.1	Percentage of (1) entity's facilities and (2) Tier I suppliers' facilities participating in third-party audit programs for manufacturing and product quality	Percentage (%)										✓
Health Care	Medical Equipment & Supplies	Business Model & Innovation	Supply Chain Management	Supply Chain Management	HC-MS-430a.2	Description of efforts to maintain traceability within the distribution chain	n/a									✓	
Health Care	Medical Equipment & Supplies	Business Model & Innovation	Supply Chain Management	Supply Chain Management	HC-MS-430a.3	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Health Care	Medical Equipment & Supplies	Leadership & Governance	Business Ethics	Business Ethics	HC-MS-510a.1	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Reporting currency										✓
Health Care	Medical Equipment & Supplies	Leadership & Governance	Business Ethics	Business Ethics	HC-MS-510a.2	Description of code of ethics governing interactions with health care professionals	n/a						✓				
Infrastructure	Engineering & Construction Services	Environment	Ecological Impacts	Environmental Impacts of Project Development	IF-EN-160a.1	Number of incidents of non-compliance with environmental permits, standards, and regulations	Number	✓									✓

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									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Infrastructure	Engineering & Construction Services	Environment	Ecological Impacts	Environmental Impacts of Project Development	IF-EN-160a.2		Discussion of processes to assess and manage environmental risks associated with project design, siting, and construction	n/a	✓							✓	✓	
Infrastructure	Engineering & Construction Services	Social Capital	Product Quality & Safety	Structural Integrity & Safety	IF-EN-250a.1		Amount of defect- and safety-related rework costs	Reporting currency										✓
Infrastructure	Engineering & Construction Services	Social Capital	Product Quality & Safety	Structural Integrity & Safety	IF-EN-250a.2		Total amount of monetary losses as a result of legal proceedings associated with defect- and safety-related incidents	Reporting currency										✓
Infrastructure	Engineering & Construction Services	Human Capital	Employee Health & Safety	Workforce Health & Safety	IF-EN-320a.1		(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Rate										✓
Infrastructure	Engineering & Construction Services	Business Model & Innovation	Product Design & Lifecycle Management	Lifecycle Impacts of Buildings & Infrastructure	IF-EN-410a.1		Number of (1) commissioned projects certified to a third-party multi-attribute sustainability standard and (2) active projects seeking such certification	Number	✓									✓
Infrastructure	Engineering & Construction Services	Business Model & Innovation	Product Design & Lifecycle Management	Lifecycle Impacts of Buildings & Infrastructure	IF-EN-410a.2		Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	n/a	✓					✓				
Infrastructure	Engineering & Construction Services	Business Model & Innovation	Product Design & Lifecycle Management	Climate Impacts of Business Mix	IF-EN-410b.1		Amount of backlog for (1) hydrocarbon-related projects and (2) renewable energy projects	Reporting currency	✓									✓
Infrastructure	Engineering & Construction Services	Business Model & Innovation	Product Design & Lifecycle Management	Climate Impacts of Business Mix	IF-EN-410b.2		Amount of backlog cancellations associated with hydrocarbon-related projects	Reporting currency	✓									✓
Infrastructure	Engineering & Construction Services	Business Model & Innovation	Product Design & Lifecycle Management	Climate Impacts of Business Mix	IF-EN-410b.3		Amount of backlog for non-energy projects associated with climate change mitigation	Reporting currency	✓									✓
Infrastructure	Engineering & Construction Services	Leadership & Governance	Business Ethics	Business Ethics	IF-EN-510a.1		(1) Number of active projects and (2) backlog in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Number, Reporting currency										✓
Infrastructure	Engineering & Construction Services	Leadership & Governance	Business Ethics	Business Ethics	IF-EN-510a.2		Total amount of monetary losses as a result of legal proceedings associated with charges of (1) bribery or corruption and (2) anti-competitive practices	Reporting currency										✓
Infrastructure	Engineering & Construction Services	Leadership & Governance	Business Ethics	Business Ethics	IF-EN-510a.3		Description of policies and practices for prevention of (1) bribery and corruption, and (2) anti-competitive behavior in the project bidding processes	n/a						✓				
Infrastructure	Electric Utilities & Power Generators	Environment	GHG Emissions	Greenhouse Gas Emissions & Energy Resource Planning	IF-EU-110a.1		(1) Gross global Scope 1 emissions, percentage covered under (2) emissions-limiting regulations, and (3) emissions-reporting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Infrastructure	Electric Utilities & Power Generators	Environment	GHG Emissions	Greenhouse Gas Emissions & Energy Resource Planning	IF-EU-110a.2		Greenhouse gas (GHG) emissions associated with power deliveries	Metric tons (t) CO2-e	✓									✓
Infrastructure	Electric Utilities & Power Generators	Environment	GHG Emissions	Greenhouse Gas Emissions & Energy Resource Planning	IF-EU-110a.3		Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Infrastructure	Electric Utilities & Power Generators	Environment	GHG Emissions	Greenhouse Gas Emissions & Energy Resource Planning	IF-EU-110a.4		(1) Number of customers served in markets subject to renewable portfolio standards (RPS) and (2) percentage fulfillment of RPS target by market	Number, Percentage (%)	✓									✓
Infrastructure	Electric Utilities & Power Generators	Environment	Air Quality	Air Quality	IF-EU-120a.1		Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) lead (Pb), and (5) mercury (Hg); percentage of each in or near areas of dense population	Metric tons (t), Percentage (%)	✓									✓
Infrastructure	Electric Utilities & Power Generators	Environment	Water & Wastewater Management	Water Management	IF-EU-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Infrastructure	Electric Utilities & Power Generators	Environment	Water & Wastewater Management	Water Management	IF-EU-140a.2		Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	Number	✓									✓
Infrastructure	Electric Utilities & Power Generators	Environment	Water & Wastewater Management	Water Management	IF-EU-140a.3		Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Infrastructure	Electric Utilities & Power Generators	Environment	Waste & Hazardous Materials Management	Coal Ash Management	IF-EU-150a.1		Amount of coal combustion residuals (CCR) generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓

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									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance			
Infrastructure	Electric Utilities & Power Generators	Environment	Waste & Hazardous Materials Management	Coal Ash Management	IF-EU-150a.2		Total number of coal combustion residual (CCR) impoundments, broken down by hazard potential classification and structural integrity assessment	Number	✓								✓
Infrastructure	Electric Utilities & Power Generators	Social Capital	Access & Affordability	Energy Affordability	IF-EU-240a.1		Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers	Rate									✓
Infrastructure	Electric Utilities & Power Generators	Social Capital	Access & Affordability	Energy Affordability	IF-EU-240a.2		Typical monthly electric bill for residential customers for (1) 500 kWh and (2) 1,000 kWh of electricity delivered per month	Reporting currency									✓
Infrastructure	Electric Utilities & Power Generators	Social Capital	Access & Affordability	Energy Affordability	IF-EU-240a.3		Number of residential customer electric disconnections for non-pay- ment, percentage reconnected within 30 days	Number, Percentage (%)									✓
Infrastructure	Electric Utilities & Power Generators	Social Capital	Access & Affordability	Energy Affordability	IF-EU-240a.4		Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	n/a							✓		
Infrastructure	Electric Utilities & Power Generators	Human Capital	Employee Health & Safety	Workforce Health & Safety	IF-EU-320a.1		(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	Rate									✓
Infrastructure	Electric Utilities & Power Generators	Business Model & Innovation	Business Model Resilience	End-Use Efficiency & Demand	IF-EU-420a.1		Percentage of electric utility revenues from rate structures that (1) are decoupled and (2) contain a lost revenue adjustment mechanism (LRAM)	Percentage (%)	✓								✓
Infrastructure	Electric Utilities & Power Generators	Business Model & Innovation	Business Model Resilience	End-Use Efficiency & Demand	IF-EU-420a.2		Percentage of electric load served by smart grid technology	Percentage (%) by megawatt hours (MWh)	✓								✓
Infrastructure	Electric Utilities & Power Generators	Business Model & Innovation	Business Model Resilience	End-Use Efficiency & Demand	IF-EU-420a.3		Customer electricity savings from efficiency measures, by market	Megawatt hours (MWh)	✓								✓
Infrastructure	Electric Utilities & Power Generators	Leadership & Governance	Critical Incident Risk Management	Nuclear Safety & Emer- gency Management	IF-EU-540a.1		Total number of nuclear power units, broken down by U.S. Nuclear Regulatory Commission (NRC) Action Matrix Column	Number									✓
Infrastructure	Electric Utilities & Power Generators	Leadership & Governance	Critical Incident Risk Management	Nuclear Safety & Emer- gency Management	IF-EU-540a.2		Description of efforts to manage nuclear safety and emergency preparedness	n/a						✓		✓	
Infrastructure	Electric Utilities & Power Generators	Leadership & Governance	Systemic Risk Manage- ment	Grid Resiliency	IF-EU-550a.1		Number of incidents of non-compliance with physical and/or cyberse- curity standards or regulations	Number									✓
Infrastructure	Electric Utilities & Power Generators	Leadership & Governance	Systemic Risk Manage- ment	Grid Resiliency	IF-EU-550a.2		(1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI), and (3) Customer Average Interruption Duration Index (CAIDI), inclusive of major event days	Minutes, Number									✓
Infrastructure	Gas Utilities & Distributors	Social Capital	Access & Affordability	Energy Affordability	IF-GU-240a.1		Average retail gas rate for (1) residential, (2) commercial, (3) industrial customers, and (4) transportation services only	Rate									✓
Infrastructure	Gas Utilities & Distributors	Social Capital	Access & Affordability	Energy Affordability	IF-GU-240a.2		Typical monthly gas bill for residential customers for (1) 50 MMBtu and (2) 100 MMBtu of gas delivered per year	Reporting currency									✓
Infrastructure	Gas Utilities & Distributors	Social Capital	Access & Affordability	Energy Affordability	IF-GU-240a.3		Number of residential customer gas disconnections for non-payment, percentage reconnected within 30 days	Number, Percentage (%)									✓
Infrastructure	Gas Utilities & Distributors	Social Capital	Access & Affordability	Energy Affordability	IF-GU-240a.4		Discussion of impact of external factors on customer affordability of gas, including the economic conditions of the service territory	n/a							✓		
Infrastructure	Gas Utilities & Distributors	Business Model & Innovation	Business Model Resilience	End-Use Efficiency	IF-GU-420a.1		Percentage of gas utility revenues from rate structures that (1) are decoupled or (2) contain a lost revenue adjustment mechanism (LRAM)	Percentage (%)	✓								✓
Infrastructure	Gas Utilities & Distributors	Business Model & Innovation	Business Model Resilience	End-Use Efficiency	IF-GU-420a.2		Customer gas savings from efficiency measures by market	Million British Thermal Units (MMBtu)	✓								✓
Infrastructure	Gas Utilities & Distributors	Leadership & Governance	Critical Incident Risk Management	Integrity of Gas Delivery Infrastructure	IF-GU-540a.1		Number of (1) reportable pipeline incidents, (2) Corrective Action Orders (CAO), and (3) Notices of Probable Violation (NOPV)	Number									✓
Infrastructure	Gas Utilities & Distributors	Leadership & Governance	Critical Incident Risk Management	Integrity of Gas Delivery Infrastructure	IF-GU-540a.2		Percentage of distribution pipeline that is (1) cast and/or wrought iron and (2) unprotected steel	Percentage (%) by length									✓
Infrastructure	Gas Utilities & Distributors	Leadership & Governance	Critical Incident Risk Management	Integrity of Gas Delivery Infrastructure	IF-GU-540a.3		Percentage of gas (1) transmission and (2) distribution pipelines inspected	Percentage (%) by length									✓

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Infrastructure	Gas Utilities & Distributors	Leadership & Governance	Critical Incident Risk Management	Integrity of Gas Delivery Infrastructure	IF-GU-540a.4		Description of efforts to manage the integrity of gas delivery infrastruc- ture, including risks related to safety and emissions	n/a							✓				
Infrastructure	Home Builders	Environment	Ecological Impacts	Land Use & Ecological Impacts	IF-HB-160a.1		Number of (1) lots and (2) homes delivered on redevelopment sites	Number	✓										✓
Infrastructure	Home Builders	Environment	Ecological Impacts	Land Use & Ecological Impacts	IF-HB-160a.2		Number of (1) lots and (2) homes delivered in regions with High or Extremely High Baseline Water Stress	Number	✓										✓
Infrastructure	Home Builders	Environment	Ecological Impacts	Land Use & Ecological Impacts	IF-HB-160a.3		Total amount of monetary losses as a result of legal proceedings associated with environmental regulations	Reporting currency	✓										✓
Infrastructure	Home Builders	Environment	Ecological Impacts	Land Use & Ecological Impacts	IF-HB-160a.4		Discussion of process to integrate environmental considerations into site selection, site design, and site development and construction	n/a	✓						✓				
Infrastructure	Home Builders	Human Capital	Employee Health & Safety	Workforce Health & Safety	IF-HB-320a.1		(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Rate											✓
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Design for Resource Efficiency	IF-HB-410a.1		(1) Number of homes that obtained a certified HERS® Index Score and (2) average score	Number, Index score	✓										✓
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Design for Resource Efficiency	IF-HB-410a.2		Percentage of installed water fixtures certified to WaterSense® specifications	Percentage (%)	✓										✓
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Design for Resource Efficiency	IF-HB-410a.3		Number of homes delivered certified to a third-party multi-attribute green building standard	Number	✓										✓
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Design for Resource Efficiency	IF-HB-410a.4		Description of risks and opportunities related to incorporating resource efficiency into home design, and how benefits are communicated to customers	n/a	✓							✓			
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Community Impacts of New Developments	IF-HB-410b.1		Description of how proximity and access to infrastructure, services, and economic centers affect site selection and development decisions	n/a							✓				
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Community Impacts of New Developments	IF-HB-410b.2		Number of (1) lots and (2) homes delivered on infill sites	Number											✓
Infrastructure	Home Builders	Business Model & Innovation	Product Design & Lifecycle Management	Community Impacts of New Developments	IF-HB-410b.3		(1) Number of homes delivered in compact developments and (2) average density	Number											✓
Infrastructure	Home Builders	Business Model & Innovation	Business Model Resilience	Climate Change Adaptation	IF-HB-420a.1		Number of lots located in 100-year flood zones	Number	✓										✓
Infrastructure	Home Builders	Business Model & Innovation	Business Model Resilience	Climate Change Adaptation	IF-HB-420a.2		Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks	n/a	✓							✓	✓		
Infrastructure	Real Estate	Environment	Energy Management	Energy Management	IF-RE-130a.1		Energy consumption data coverage as a percentage of total floor area, by property subsector	Percentage (%) by floor area	✓										✓
Infrastructure	Real Estate	Environment	Energy Management	Energy Management	IF-RE-130a.2		(1) Total energy consumed by portfolio area with data coverage, (2) percentage grid electricity, and (3) percentage renewable, by property subsector	Gigajoules (GJ), Percentage (%)	✓										✓
Infrastructure	Real Estate	Environment	Energy Management	Energy Management	IF-RE-130a.3		Like-for-like percentage change in energy consumption for the portfolio area with data coverage, by property subsector	Percentage (%)	✓										✓
Infrastructure	Real Estate	Environment	Energy Management	Energy Management	IF-RE-130a.4		Percentage of eligible portfolio that (1) has an energy rating and (2) is certified to ENERGY STAR, by property subsector	Percentage (%) by floor area	✓										✓
Infrastructure	Real Estate	Environment	Energy Management	Energy Management	IF-RE-130a.5		Description of how building energy management considerations are integrated into property investment analysis and operational strategy	n/a	✓						✓				
Infrastructure	Real Estate	Environment	Water & Wastewater Management	Water Management	IF-RE-140a.1		Water withdrawal data coverage as a percentage of (1) total floor area and (2) floor area in regions with High or Extremely High Baseline Water Stress, by property subsector	Percentage (%) by floor area	✓										✓
Infrastructure	Real Estate	Environment	Water & Wastewater Management	Water Management	IF-RE-140a.2		(1) Total water withdrawn by portfolio area with data coverage and (2) percentage in regions with High or Extremely High Baseline Water Stress, by property subsector	Thousand cubic meters (m³), Percentage (%)	✓										✓
Infrastructure	Real Estate	Environment	Water & Wastewater Management	Water Management	IF-RE-140a.3		Like-for-like percentage change in water withdrawn for portfolio area with data coverage, by property subsector	Percentage (%)	✓										✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Infrastructure	Real Estate	Environment	Water & Wastewater Management	Water Management	IF-RE-140a.4	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Infrastructure	Real Estate	Business Model & Innovation	Product Design & Lifecycle Management	Management of Tenant Sustainability Impacts	IF-RE-410a.1	(1) Percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements and (2) associated leased floor area, by property subsector	Percentage (%) by floor area, Square feet (ft²)	✓									✓
Infrastructure	Real Estate	Business Model & Innovation	Product Design & Lifecycle Management	Management of Tenant Sustainability Impacts	IF-RE-410a.2	Percentage of tenants that are separately metered or submetered for (1) grid electricity consumption and (2) water withdrawals, by property subsector	Percentage (%) by floor area	✓									✓
Infrastructure	Real Estate	Business Model & Innovation	Product Design & Lifecycle Management	Management of Tenant Sustainability Impacts	IF-RE-410a.3	Discussion of approach to measuring, incentivizing, and improving sustainability impacts of tenants	n/a	✓								✓	
Infrastructure	Real Estate	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Adaptation	IF-RE-450a.1	Area of properties located in 100-year flood zones, by property subsector	Square feet (ft²)	✓									✓
Infrastructure	Real Estate	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Adaptation	IF-RE-450a.2	Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks	n/a	✓							✓	✓	
Infrastructure	Real Estate Services	Business Model & Innovation	Product Design & Lifecycle Management	Sustainability Services	IF-RS-410a.1	Revenue from energy and sustainability services	Reporting currency	✓									✓
Infrastructure	Real Estate Services	Business Model & Innovation	Product Design & Lifecycle Management	Sustainability Services	IF-RS-410a.2	(1) Floor area and (2) number of buildings under management provided with energy and sustainability services	Square feet (ft²), Number	✓									✓
Infrastructure	Real Estate Services	Business Model & Innovation	Product Design & Lifecycle Management	Sustainability Services	IF-RS-410a.3	(1) Floor area and (2) number of buildings under management that obtained an energy rating	Square feet (ft²), Number	✓									✓
Infrastructure	Real Estate Services	Leadership & Governance	Business Ethics	Transparent Information & Management of Conflict of Interest	IF-RS-510a.1	Brokerage revenue from dual agency transactions	Reporting currency										✓
Infrastructure	Real Estate Services	Leadership & Governance	Business Ethics	Transparent Information & Management of Conflict of Interest	IF-RS-510a.2	Revenue from transactions associated with appraisal services	Reporting currency										✓
Infrastructure	Real Estate Services	Leadership & Governance	Business Ethics	Transparent Information & Management of Conflict of Interest	IF-RS-510a.3	Total amount of monetary losses as a result of legal proceedings associated with professional integrity, including duty of care	Reporting currency										✓
Infrastructure	Waste Management	Environment	GHG Emissions	Greenhouse Gas Emissions	IF-WM-110a.1	(1) Gross global Scope 1 emissions, percentage covered under (2) emissions-limiting regulations, and (3) emissions-reporting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Infrastructure	Waste Management	Environment	GHG Emissions	Greenhouse Gas Emissions	IF-WM-110a.2	(1) Total landfill gas generated, (2) percentage flared, (3) percentage used for energy	Million British Thermal Units (MMBtu), Percentage (%)	✓									✓
Infrastructure	Waste Management	Environment	GHG Emissions	Greenhouse Gas Emissions	IF-WM-110a.3	Discussion of long-term and short-term strategy or plan to manage Scope 1 and lifecycle emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Infrastructure	Waste Management	Environment	GHG Emissions	Fleet Fuel Management	IF-WM-110b.1	(1) Fleet fuel consumed, (2) percentage natural gas, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Infrastructure	Waste Management	Environment	GHG Emissions	Fleet Fuel Management	IF-WM-110b.2	Percentage of alternative fuel vehicles in fleet	Percentage (%)	✓									✓
Infrastructure	Waste Management	Environment	Air Quality	Air Quality	IF-WM-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Metric tons (t)	✓									✓
Infrastructure	Waste Management	Environment	Air Quality	Air Quality	IF-WM-120a.2	Number of facilities in or near areas of dense population	Number	✓									✓
Infrastructure	Waste Management	Environment	Air Quality	Air Quality	IF-WM-120a.3	Number of incidents of non-compliance associated with air emissions	Number	✓									✓
Infrastructure	Waste Management	Environment	Waste & Hazardous Materials Management	Management of Leachate & Hazardous Waste	IF-WM-150a.1	(1) Total Toxic Release Inventory (TRI) releases, (2) percentage released to water	Metric tons (t), Percentage (%)	✓									✓
Infrastructure	Waste Management	Environment	Waste & Hazardous Materials Management	Management of Leachate & Hazardous Waste	IF-WM-150a.2	Number of corrective actions implemented for landfill releases	Number	✓									✓

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Infrastructure	Waste Management	Environment	Waste & Hazardous Materials Management	Management of Leachate & Hazardous Waste	IF-WM-150a.3	Number of incidents of non-compliance associated with environmental impacts	Number	✓									✓
Infrastructure	Waste Management	Human Capital	Labor Practices	Labor Practices	IF-WM-310a.1	Percentage of active workforce covered under collective bargaining agreements	Percentage (%)										✓
Infrastructure	Waste Management	Human Capital	Labor Practices	Labor Practices	IF-WM-310a.2	(1) Number of work stoppages and (2) total days idle	Number, Days idle										✓
Infrastructure	Waste Management	Human Capital	Employee Health & Safety	Workforce Health & Safety	IF-WM-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees	Rate										✓
Infrastructure	Waste Management	Human Capital	Employee Health & Safety	Workforce Health & Safety	IF-WM-320a.2	Safety Measurement System BASIC percentiles for: (1) Unsafe Driving, (2) Hours-of-Service Compliance, (3) Driver Fitness, (4) Controlled Substances/Alcohol, (5) Vehicle Maintenance, and (6) Hazardous Materials Compliance	Percentile										✓
Infrastructure	Waste Management	Human Capital	Employee Health & Safety	Workforce Health & Safety	IF-WM-320a.3	Number of road accidents and incidents	Number										✓
Infrastructure	Waste Management	Business Model & Innovation	Business Model Resilience	Recycling & Resource Recovery	IF-WM-420a.1	(1) Amount of waste incinerated, (2) percentage hazardous, (3) percentage used for energy recovery	Metric tons (t), Percentage (%)	✓									✓
Infrastructure	Waste Management	Business Model & Innovation	Business Model Resilience	Recycling & Resource Recovery	IF-WM-420a.2	Percentage of customers receiving (1) recycling and (2) composting services, by customer type	Percentage (%)	✓									✓
Infrastructure	Waste Management	Business Model & Innovation	Business Model Resilience	Recycling & Resource Recovery	IF-WM-420a.3	Amount of material (1) recycled, (2) composted, and (3) processed as waste-to-energy	Metric tons (t)	✓									✓
Infrastructure	Waste Management	Business Model & Innovation	Business Model Resilience	Recycling & Resource Recovery	IF-WM-420a.4	Amount of electronic waste collected, percentage recovered through recycling	Metric tons (t), Percentage (%)	✓									✓
Infrastructure	Water Utilities & Services	Environment	Energy Management	Energy Management	IF-WU-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Infrastructure	Water Utilities & Services	Environment	Water & Wastewater Management	Distribution Network Efficiency	IF-WU-140a.1	Water main replacement rate	Rate	✓									✓
Infrastructure	Water Utilities & Services	Environment	Water & Wastewater Management	Distribution Network Efficiency	IF-WU-140a.2	Volume of non-revenue real water losses	Thousand cubic meters (m³)	✓									✓
Infrastructure	Water Utilities & Services	Environment	Water & Wastewater Management	Effluent Quality Manage-ment	IF-WU-140b.1	Number of incidents of non-compliance associated with water effluent quality permits, standards, and regulations	Number	✓									✓
Infrastructure	Water Utilities & Services	Environment	Water & Wastewater Management	Effluent Quality Manage-ment	IF-WU-140b.2	Discussion of strategies to manage effluents of emerging concern	n/a	✓								✓	
Infrastructure	Water Utilities & Services	Social Capital	Access & Affordability	Water Affordability & Access	IF-WU-240a.1	Average retail water rate for (1) residential, (2) commercial, and (3) industrial customers	Rate										✓
Infrastructure	Water Utilities & Services	Social Capital	Access & Affordability	Water Affordability & Access	IF-WU-240a.2	Typical monthly water bill for residential customers for 10 Ccf of water delivered per month	Reporting currency										✓
Infrastructure	Water Utilities & Services	Social Capital	Access & Affordability	Water Affordability & Access	IF-WU-240a.3	Number of residential customer water disconnections for non-payment, percentage reconnected within 30 days	Number, Percentage (%)										✓
Infrastructure	Water Utilities & Services	Social Capital	Access & Affordability	Water Affordability & Access	IF-WU-240a.4	Discussion of impact of external factors on customer affordability of water, including the economic conditions of the service territory	n/a								✓		
Infrastructure	Water Utilities & Services	Social Capital	Product Quality & Safety	Drinking Water Quality	IF-WU-250a.1	Number of (1) acute health-based, (2) non-acute health-based, and (3) non-health-based drinking water violations	Number										✓
Infrastructure	Water Utilities & Services	Social Capital	Product Quality & Safety	Drinking Water Quality	IF-WU-250a.2	Discussion of strategies to manage drinking water contaminants of emerging concern	n/a									✓	
Infrastructure	Water Utilities & Services	Business Model & Innovation	Business Model Resilience	End-Use Efficiency	IF-WU-420a.1	Percentage of water utility revenues from rate structures that are designed to promote conservation and revenue resilience	Percentage (%)	✓									✓
Infrastructure	Water Utilities & Services	Business Model & Innovation	Business Model Resilience	End-Use Efficiency	IF-WU-420a.2	Customer water savings from efficiency measures, by market	Cubic meters (m³)	✓									✓

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Infrastructure	Water Utilities & Services	Business Model & Innovation	Materials Sourcing & Efficiency	Water Supply Resilience	IF-WU-440a.1	Total water sourced from regions with High or Extremely High Baseline Water Stress, percentage purchased from a third party	Thousand cubic meters (m³), Percentage (%)	✓									✓
Infrastructure	Water Utilities & Services	Business Model & Innovation	Materials Sourcing & Efficiency	Water Supply Resilience	IF-WU-440a.2	Volume of recycled water delivered to customers	Thousand cubic meters (m³)	✓									✓
Infrastructure	Water Utilities & Services	Business Model & Innovation	Materials Sourcing & Efficiency	Water Supply Resilience	IF-WU-440a.3	Discussion of strategies to manage risks associated with the quality and availability of water resources	n/a	✓								✓	
Infrastructure	Water Utilities & Services	Business Model & Innovation	Physical Impacts of Climate Change	Network Resiliency & Impacts of Climate Change	IF-WU-450a.1	Wastewater treatment capacity located in 100-year flood zones	Cubic meters (m³) per day	✓									✓
Infrastructure	Water Utilities & Services	Business Model & Innovation	Physical Impacts of Climate Change	Network Resiliency & Impacts of Climate Change	IF-WU-450a.2	(1) Number and (2) volume of sanitary sewer overflows (SSO), (3) percentage of volume recovered	Number, Cubic meters (m³), Percentage (%)	✓									✓
Infrastructure	Water Utilities & Services	Business Model & Innovation	Physical Impacts of Climate Change	Network Resiliency & Impacts of Climate Change	IF-WU-450a.3	(1) Number of unplanned service disruptions, and (2) customers affected, each by duration category	Number	✓									✓
Infrastructure	Water Utilities & Services	Business Model & Innovation	Physical Impacts of Climate Change	Network Resiliency & Impacts of Climate Change	IF-WU-450a.4	Description of efforts to identify and manage risks and opportunities related to the impact of climate change on distribution and wastewater infrastructure	n/a	✓							✓	✓	
Renewable Resources & Alternative Energy	Biofuels	Environment	Air Quality	Air Quality	RR-BI-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), (4) particulate matter (PM10), and (5) hazardous air pollutants (HAPs)	Metric tons (t)	✓									✓
Renewable Resources & Alternative Energy	Biofuels	Environment	Air Quality	Air Quality	RR-BI-120a.2	Number of incidents of non-compliance associated with air quality permits, standards, and regulations	Number	✓									✓
Renewable Resources & Alternative Energy	Biofuels	Environment	Water & Wastewater Management	Water Management in Manufacturing	RR-BI-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Biofuels	Environment	Water & Wastewater Management	Water Management in Manufacturing	RR-BI-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Renewable Resources & Alternative Energy	Biofuels	Environment	Water & Wastewater Management	Water Management in Manufacturing	RR-BI-140a.3	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Renewable Resources & Alternative Energy	Biofuels	Business Model & Innovation	Product Design & Lifecycle Management	Lifecycle Emissions Balance	RR-BI-410a.1	Lifecycle greenhouse gas (GHG) emissions, by biofuel type	Grams of CO2-e per megajoule (MJ)	✓									✓
Renewable Resources & Alternative Energy	Biofuels	Business Model & Innovation	Supply Chain Management	Sourcing & Environmental Impacts of Feedstock Production	RR-BI-430a.1	Discussion of strategy to manage risks associated with environmental impacts of feedstock production	n/a	✓								✓	
Renewable Resources & Alternative Energy	Biofuels	Business Model & Innovation	Supply Chain Management	Sourcing & Environmental Impacts of Feedstock Production	RR-BI-430a.2	Percentage of biofuel production third-party certified to an environmental sustainability standard	Percentage (%) of gallons	✓									✓
Renewable Resources & Alternative Energy	Biofuels	Leadership & Governance	Management of the Legal & Regulatory Environment	Management of the Legal & Regulatory Environment	RR-BI-530a.1	Amount of subsidies received through government programs	Reporting currency										✓
Renewable Resources & Alternative Energy	Biofuels	Leadership & Governance	Management of the Legal & Regulatory Environment	Management of the Legal & Regulatory Environment	RR-BI-530a.2	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	n/a	✓								✓	
Renewable Resources & Alternative Energy	Biofuels	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	RR-BI-540a.1	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Number, Rate										✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Environment	Energy Management	Energy Management	RR-FC-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓

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Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Human Capital	Employee Health & Safety	Workforce Health & Safety	RR-FC-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate	Rate										✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Human Capital	Employee Health & Safety	Workforce Health & Safety	RR-FC-320a.2	Description of efforts to assess, monitor, and reduce exposure of workforce to human health hazards	n/a								✓	✓	
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product Efficiency	RR-FC-410a.1	Average storage capacity of batteries, by product application and technology type	Specific energy (Wh/kg)	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product Efficiency	RR-FC-410a.2	Average energy efficiency of fuel cells as (1) electrical efficiency and (2) thermal efficiency, by product application and technology type	Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product Efficiency	RR-FC-410a.3	Average battery efficiency as coulombic efficiency, by product application and technology type	Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product Efficiency	RR-FC-410a.4	Average operating lifetime of fuel cells, by product application and technology type	Hours (h)	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product Efficiency	RR-FC-410a.5	Average operating lifetime of batteries, by product application and technology type	Number of cycles	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-FC-410b.1	Percentage of products sold that are recyclable or reusable	Percentage (%) by weight	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-FC-410b.2	Weight of end-of-life material recovered, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-FC-410b.3	Description of approach to manage use, reclamation, and disposal of hazardous materials	n/a	✓								✓	
Renewable Resources & Alternative Energy	Fuel Cells & Industrial Batteries	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RR-FC-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Renewable Resources & Alternative Energy	Forestry Management	Environment	Ecological Impacts	Ecosystem Services & Impacts	RR-FM-160a.1	Area of forestland certified to a third-party forest management standard, percentage certified to each standard	Acres (ac), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Forestry Management	Environment	Ecological Impacts	Ecosystem Services & Impacts	RR-FM-160a.2	Area of forestland with protected conservation status	Acres (ac)	✓									✓
Renewable Resources & Alternative Energy	Forestry Management	Environment	Ecological Impacts	Ecosystem Services & Impacts	RR-FM-160a.3	Area of forestland in endangered species habitat	Acres (ac)	✓									✓
Renewable Resources & Alternative Energy	Forestry Management	Environment	Ecological Impacts	Ecosystem Services & Impacts	RR-FM-160a.4	Description of approach to optimizing opportunities from ecosystem services provided by forestlands	n/a	✓								✓	
Renewable Resources & Alternative Energy	Forestry Management	Social Capital	Human Rights & Community Relations	Rights of Indigenous Peoples	RR-FM-210a.1	Area of forestland in indigenous land	Acres (ac)										✓
Renewable Resources & Alternative Energy	Forestry Management	Social Capital	Human Rights & Community Relations	Rights of Indigenous Peoples	RR-FM-210a.2	Description of engagement processes and due diligence practices with respect to human rights, indigenous rights, and the local community	n/a								✓	✓	
Renewable Resources & Alternative Energy	Forestry Management	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Adaptation	RR-FM-450a.1	Description of strategy to manage opportunities for and risks to forest management and timber production presented by climate change	n/a	✓								✓	
Renewable Resources & Alternative Energy	Pulp & Paper Products	Environment	GHG Emissions	Greenhouse Gas Emissions	RR-PP-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Renewable Resources & Alternative Energy	Pulp & Paper Products	Environment	GHG Emissions	Greenhouse Gas Emissions	RR-PP-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	

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Renewable Resources & Alternative Energy	Pulp & Paper Products	Environment	Air Quality	Air Quality	RR-PP-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SO2, (3) volatile organic compounds (VOCs), (4) particulate matter (PM), and (5) hazardous air pollutants (HAPs)	Metric tons (t)	✓									✓
Renewable Resources & Alternative Energy	Pulp & Paper Products	Environment	Energy Management	Energy Management	RR-PP-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage from biomass, (4) percentage from other renewable energy, (5) total self-generated energy	Gigajoules (GJ), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Pulp & Paper Products	Environment	Water & Wastewater Management	Water Management	RR-PP-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Pulp & Paper Products	Environment	Water & Wastewater Management	Water Management	RR-PP-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Renewable Resources & Alternative Energy	Pulp & Paper Products	Business Model & Innovation	Supply Chain Management	Supply Chain Management	RR-PP-430a.1	Percentage of wood fiber sourced from (1) third-party certified forestlands and percentage to each standard and (2) meeting other fiber sourcing standards and percentage to each standard	Percentage (%) by weight	✓									✓
Renewable Resources & Alternative Energy	Pulp & Paper Products	Business Model & Innovation	Supply Chain Management	Supply Chain Management	RR-PP-430a.2	Amount of recycled and recovered fiber procured	Metric tons (t)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Energy Management	Energy Management in Manufacturing	RR-ST-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Water & Wastewater Management	Water Management in Manufacturing	RR-ST-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Water & Wastewater Management	Water Management in Manufacturing	RR-ST-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RR-ST-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RR-ST-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	Number, Kilograms (kg)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Ecological Impacts	Ecological Impacts of Project Development	RR-ST-160a.1	Number and duration of project delays related to ecological impacts	Number, Days	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Environment	Ecological Impacts	Ecological Impacts of Project Development	RR-ST-160a.2	Description of efforts in solar energy system project development to address community and ecological impacts	n/a	✓								✓	
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Management of Energy Infrastructure Integration & Related Regulations	RR-ST-410a.1	Description of risks associated with integration of solar energy into existing energy infrastructure and discussion of efforts to manage those risks	n/a	✓							✓		
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Management of Energy Infrastructure Integration & Related Regulations	RR-ST-410a.2	Description of risks and opportunities associated with energy policy and its impact on the integration of solar energy into existing energy infrastructure	n/a	✓							✓		
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-ST-410b.1	Percentage of products sold that are recyclable or reusable	Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-ST-410b.2	Weight of end-of-life material recovered, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-ST-410b.3	Percentage of products by revenue that contain IEC 62474 declarable substances, arsenic compounds, antimony compounds, or beryllium compounds	Percentage (%)	✓									✓
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Product End-of-life Management	RR-ST-410b.4	Description of approach and strategies to design products for high-value recycling	n/a	✓								✓	

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Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RR-ST-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Renewable Resources & Alternative Energy	Solar Technology & Project Developers	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RR-ST-440a.2	Description of the management of environmental risks associated with the polysilicon supply chain	n/a	✓								✓	
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Human Capital	Employee Health & Safety	Workforce Health & Safety	RR-WT-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Rate										✓
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Ecological Impacts of Project Development	RR-WT-410a.1	Average A-weighted sound power level of wind turbines, by wind turbine class	dB(A)	✓									✓
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Ecological Impacts of Project Development	RR-WT-410a.2	Backlog cancellations associated with community or ecological impacts	Reporting currency	✓									✓
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Product Design & Lifecycle Management	Ecological Impacts of Project Development	RR-WT-410a.3	Description of efforts to address ecological and community impacts of wind energy production through turbine design	n/a	✓								✓	
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RR-WT-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency	RR-WT-440b.1	Top five materials consumed, by weight	Metric tons (t)	✓									✓
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency	RR-WT-440b.2	Average top head mass per turbine capacity, by wind turbine class	Metric tons per megawatts (t/MW)	✓									✓
Renewable Resources & Alternative Energy	Wind Technology & Project Developers	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency	RR-WT-440b.3	Description of approach to optimize materials efficiency of wind turbine design	n/a	✓								✓	
Resource Transformation	Aerospace & Defense	Environment	Energy Management	Energy Management	RT-AE-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Aerospace & Defense	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-AE-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Resource Transformation	Aerospace & Defense	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-AE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	Number, Kilograms (kg)	✓									✓
Resource Transformation	Aerospace & Defense	Social Capital	Data Security	Data Security	RT-AE-230a.1	(1) Number of data breaches, (2) percentage involving confidential information	Number, Percentage (%)										✓
Resource Transformation	Aerospace & Defense	Social Capital	Data Security	Data Security	RT-AE-230a.2	Description of approach to identifying and addressing data security risks in (1) company operations and (2) products	n/a								✓	✓	
Resource Transformation	Aerospace & Defense	Social Capital	Product Quality & Safety	Product Safety	RT-AE-250a.1	Number of recalls issued, total units recalled	Number										✓
Resource Transformation	Aerospace & Defense	Social Capital	Product Quality & Safety	Product Safety	RT-AE-250a.2	Number of counterfeit parts detected, percentage avoided	Number, Percentage (%)										✓
Resource Transformation	Aerospace & Defense	Social Capital	Product Quality & Safety	Product Safety	RT-AE-250a.3	Number of Airworthiness Directives received, total units affected	Number										✓
Resource Transformation	Aerospace & Defense	Social Capital	Product Quality & Safety	Product Safety	RT-AE-250a.4	Total amount of monetary losses as a result of legal proceedings associated with product safety	Reporting currency										✓
Resource Transformation	Aerospace & Defense	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Emissions in Use-phase	RT-AE-410a.1	Revenue from alternative energy-related products	Reporting currency	✓									✓
Resource Transformation	Aerospace & Defense	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Emissions in Use-phase	RT-AE-410a.2	Description of approach and discussion of strategy to address fuel economy and greenhouse gas (GHG) emissions of products	n/a	✓								✓	
Resource Transformation	Aerospace & Defense	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RT-AE-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	

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Resource Transformation	Aerospace & Defense	Leadership & Governance	Business Ethics	Business Ethics	RT-AE-510a.1		Total amount of monetary losses as a result of legal proceedings associated with incidents of corruption, bribery, and/or illicit international trade	Reporting currency										✓
Resource Transformation	Aerospace & Defense	Leadership & Governance	Business Ethics	Business Ethics	RT-AE-510a.2		Revenue from countries ranked in the "E" or "F" Band of Transparency International's Government Defence Anti-Corruption Index	Reporting currency										✓
Resource Transformation	Aerospace & Defense	Leadership & Governance	Business Ethics	Business Ethics	RT-AE-510a.3		Discussion of processes to manage business ethics risks throughout the value chain	n/a						✓				
Resource Transformation	Chemicals	Environment	GHG Emissions	Greenhouse Gas Emissions	RT-CH-110a.1		Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Resource Transformation	Chemicals	Environment	GHG Emissions	Greenhouse Gas Emissions	RT-CH-110a.2		Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Resource Transformation	Chemicals	Environment	Air Quality	Air Quality	RT-CH-120a.1		Air emissions of the following pollutants: (1) NOX (excluding N2O), (2) SOX, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Metric tons (t)	✓									✓
Resource Transformation	Chemicals	Environment	Energy Management	Energy Management	RT-CH-130a.1		(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Chemicals	Environment	Water & Wastewater Management	Water Management	RT-CH-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Resource Transformation	Chemicals	Environment	Water & Wastewater Management	Water Management	RT-CH-140a.2		Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Resource Transformation	Chemicals	Environment	Water & Wastewater Management	Water Management	RT-CH-140a.3		Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Resource Transformation	Chemicals	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-CH-150a.1		Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Resource Transformation	Chemicals	Social Capital	Human Rights & Community Relations	Community Relations	RT-CH-210a.1		Discussion of engagement processes to manage risks and opportunities associated with community interests	n/a									✓	
Resource Transformation	Chemicals	Human Capital	Employee Health & Safety	Workforce Health & Safety	RT-CH-320a.1		(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Rate										✓
Resource Transformation	Chemicals	Human Capital	Employee Health & Safety	Workforce Health & Safety	RT-CH-320a.2		Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	n/a								✓	✓	
Resource Transformation	Chemicals	Business Model & Innovation	Product Design & Lifecycle Management	Product Design for Use-phase Efficiency	RT-CH-410a.1		Revenue from products designed for use-phase resource efficiency	Reporting currency	✓									✓
Resource Transformation	Chemicals	Business Model & Innovation	Product Design & Lifecycle Management	Safety & Environmental Stewardship of Chemicals	RT-CH-410b.1		(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	Percentage (%) by revenue, Percentage (%)	✓									✓
Resource Transformation	Chemicals	Business Model & Innovation	Product Design & Lifecycle Management	Safety & Environmental Stewardship of Chemicals	RT-CH-410b.2		Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	n/a	✓								✓	
Resource Transformation	Chemicals	Business Model & Innovation	Product Design & Lifecycle Management	Genetically Modified Organisms	RT-CH-410c.1		Percentage of products by revenue that contain genetically modified organisms (GMOs)	Percentage (%) by revenue										✓
Resource Transformation	Chemicals	Leadership & Governance	Management of the Legal & Regulatory Environment	Management of the Legal & Regulatory Environment	RT-CH-530a.1		Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	n/a	✓								✓	
Resource Transformation	Chemicals	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	RT-CH-540a.1		Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Number, Rate										✓
Resource Transformation	Chemicals	Leadership & Governance	Critical Incident Risk Management	Operational Safety, Emergency Preparedness & Response	RT-CH-540a.2		Number of transport incidents	Number										✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Resource Transformation	Containers & Packaging	Environment	GHG Emissions	Greenhouse Gas Emissions	RT-CP-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Environment	GHG Emissions	Greenhouse Gas Emissions	RT-CP-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Resource Transformation	Containers & Packaging	Environment	Air Quality	Air Quality	RT-CP-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM)	Metric tons (t)	✓									✓
Resource Transformation	Containers & Packaging	Environment	Energy Management	Energy Management	RT-CP-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Environment	Water & Wastewater Management	Water Management	RT-CP-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Environment	Water & Wastewater Management	Water Management	RT-CP-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Resource Transformation	Containers & Packaging	Environment	Water & Wastewater Management	Water Management	RT-CP-140a.3	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Resource Transformation	Containers & Packaging	Environment	Waste & Hazardous Materials Management	Waste Management	RT-CP-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Social Capital	Product Quality & Safety	Product Safety	RT-CP-250a.1	Number of recalls issued, total units recalled	Number									✓	
Resource Transformation	Containers & Packaging	Social Capital	Product Quality & Safety	Product Safety	RT-CP-250a.2	Discussion of process to identify and manage emerging materials and chemicals of concern	n/a								✓	✓	
Resource Transformation	Containers & Packaging	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-CP-410a.1	Percentage of raw materials from: (1) recycled content, (2) renewable resources, and (3) renewable and recycled content	Percentage (%) by weight	✓									✓
Resource Transformation	Containers & Packaging	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-CP-410a.2	Revenue from products that are reusable, recyclable, and/or compostable	Reporting currency	✓									✓
Resource Transformation	Containers & Packaging	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-CP-410a.3	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Resource Transformation	Containers & Packaging	Business Model & Innovation	Supply Chain Management	Supply Chain Management	RT-CP-430a.1	Total wood fiber procured, percentage from certified sources	Metric tons (t), Percentage (%)										✓
Resource Transformation	Containers & Packaging	Business Model & Innovation	Supply Chain Management	Supply Chain Management	RT-CP-430a.2	Total aluminum purchased, percentage from certified sources	Metric tons (t), Percentage (%)										✓
Resource Transformation	Electrical & Electronic Equipment	Environment	Energy Management	Energy Management	RT-EE-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-EE-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-EE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	Number, Kilograms (kg)	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Social Capital	Product Quality & Safety	Product Safety	RT-EE-250a.1	Number of recalls issued, total units recalled	Number										✓
Resource Transformation	Electrical & Electronic Equipment	Social Capital	Product Quality & Safety	Product Safety	RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	Reporting currency										✓
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Percentage (%) by revenue	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-EE-410a.2	Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	Percentage (%) by revenue	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	Reporting currency	✓									✓

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Resource Transformation	Containers & Packaging	Environment	GHG Emissions	Greenhouse Gas Emissions	RT-CP-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) CO2-e, Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Environment	GHG Emissions	Greenhouse Gas Emissions	RT-CP-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Resource Transformation	Containers & Packaging	Environment	Air Quality	Air Quality	RT-CP-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM)	Metric tons (t)	✓									✓
Resource Transformation	Containers & Packaging	Environment	Energy Management	Energy Management	RT-CP-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Environment	Water & Wastewater Management	Water Management	RT-CP-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Environment	Water & Wastewater Management	Water Management	RT-CP-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	✓							✓	✓	
Resource Transformation	Containers & Packaging	Environment	Water & Wastewater Management	Water Management	RT-CP-140a.3	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Number	✓									✓
Resource Transformation	Containers & Packaging	Environment	Waste & Hazardous Materials Management	Waste Management	RT-CP-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Resource Transformation	Containers & Packaging	Social Capital	Product Quality & Safety	Product Safety	RT-CP-250a.1	Number of recalls issued, total units recalled	Number									✓	
Resource Transformation	Containers & Packaging	Social Capital	Product Quality & Safety	Product Safety	RT-CP-250a.2	Discussion of process to identify and manage emerging materials and chemicals of concern	n/a								✓	✓	
Resource Transformation	Containers & Packaging	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-CP-410a.1	Percentage of raw materials from: (1) recycled content, (2) renewable resources, and (3) renewable and recycled content	Percentage (%) by weight	✓									✓
Resource Transformation	Containers & Packaging	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-CP-410a.2	Revenue from products that are reusable, recyclable, and/or compostable	Reporting currency	✓									✓
Resource Transformation	Containers & Packaging	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-CP-410a.3	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	n/a	✓								✓	
Resource Transformation	Containers & Packaging	Business Model & Innovation	Supply Chain Management	Supply Chain Management	RT-CP-430a.1	Total wood fiber procured, percentage from certified sources	Metric tons (t), Percentage (%)										✓
Resource Transformation	Containers & Packaging	Business Model & Innovation	Supply Chain Management	Supply Chain Management	RT-CP-430a.2	Total aluminum purchased, percentage from certified sources	Metric tons (t), Percentage (%)										✓
Resource Transformation	Electrical & Electronic Equipment	Environment	Energy Management	Energy Management	RT-EE-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-EE-150a.1	Amount of hazardous waste generated, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Environment	Waste & Hazardous Materials Management	Hazardous Waste Management	RT-EE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	Number, Kilograms (kg)	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Social Capital	Product Quality & Safety	Product Safety	RT-EE-250a.1	Number of recalls issued, total units recalled	Number										✓
Resource Transformation	Electrical & Electronic Equipment	Social Capital	Product Quality & Safety	Product Safety	RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	Reporting currency										✓
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Percentage (%) by revenue	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-EE-410a.2	Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	Percentage (%) by revenue	✓									✓
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	Reporting currency	✓									✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Resource Transformation	Electrical & Electronic Equipment	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Resource Transformation	Electrical & Electronic Equipment	Leadership & Governance	Business Ethics	Business Ethics	RT-EE-510a.1	Description of policies and practices for prevention of: (1) corruption and bribery and (2) anti-competitive behavior	n/a						✓				
Resource Transformation	Electrical & Electronic Equipment	Leadership & Governance	Business Ethics	Business Ethics	RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Reporting currency										✓
Resource Transformation	Electrical & Electronic Equipment	Leadership & Governance	Business Ethics	Business Ethics	RT-EE-510a.3	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Resource Transformation	Industrial Machinery & Goods	Environment	Energy Management	Energy Management	RT-IG-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Resource Transformation	Industrial Machinery & Goods	Human Capital	Employee Health & Safety	Employee Health & Safety	RT-IG-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	Rate										✓
Resource Transformation	Industrial Machinery & Goods	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Emissions in Use-phase	RT-IG-410a.1	Sales-weighted fleet fuel efficiency for medium- and heavy-duty vehicles	Gallons per 1,000 ton-miles	✓									✓
Resource Transformation	Industrial Machinery & Goods	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Emissions in Use-phase	RT-IG-410a.2	Sales-weighted fuel efficiency for non-road equipment	Gallons per hour	✓									✓
Resource Transformation	Industrial Machinery & Goods	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Emissions in Use-phase	RT-IG-410a.3	Sales-weighted fuel efficiency for stationary generators	Watts per gallon	✓									✓
Resource Transformation	Industrial Machinery & Goods	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Emissions in Use-phase	RT-IG-410a.4	Sales-weighted emissions of: (1) nitrogen oxides (NOx) and (2) particulate matter (PM) for: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road medium- and heavy-duty engines, and (d) other non-road diesel engines	Grams per kilowatt-hour	✓									✓
Resource Transformation	Industrial Machinery & Goods	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	RT-IG-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Resource Transformation	Industrial Machinery & Goods	Business Model & Innovation	Materials Sourcing & Efficiency	Remanufacturing Design & Services	RT-IG-440b.1	Revenue from remanufactured products and remanufacturing services	Reporting currency	✓									✓
Services	Advertising & Marketing	Social Capital	Customer Privacy	Data Privacy	SV-AD-220a.1	Discussion of policies and practices relating to behavioral advertising and consumer privacy	n/a									✓	
Services	Advertising & Marketing	Social Capital	Customer Privacy	Data Privacy	SV-AD-220a.2	Percentage of online advertising impressions that are targeted to custom audiences	Percentage (%) by revenue										✓
Services	Advertising & Marketing	Social Capital	Customer Privacy	Data Privacy	SV-AD-220a.3	Total amount of monetary losses as a result of legal proceedings associated with consumer privacy	Reporting currency										✓
Services	Advertising & Marketing	Social Capital	Selling Practices & Product Labeling	Advertising Integrity	SV-AD-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false, deceptive, or unfair advertising	Reporting currency										✓
Services	Advertising & Marketing	Social Capital	Selling Practices & Product Labeling	Advertising Integrity	SV-AD-270a.2	Percentage of campaigns reviewed for adherence with the Advertising Self-Regulatory Council (ASRC) procedures, percentage of those in compliance	Percentage (%) by revenue										✓
Services	Advertising & Marketing	Social Capital	Selling Practices & Product Labeling	Advertising Integrity	SV-AD-270a.3	Percentage of campaigns that promote alcohol or tobacco products	Percentage (%) by revenue										✓
Services	Advertising & Marketing	Human Capital	Employee Engagement, Diversity & Inclusion	Workforce Diversity & Inclusion	SV-AD-330a.1	Percentage of gender and racial/ethnic group representation for (1) management, (2) professionals, and (3) all other employees	Percentage (%)										✓
Services	Casinos & Gaming	Environment	Energy Management	Energy Management	SV-CA-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Services	Casinos & Gaming	Social Capital	Customer Welfare	Responsible Gaming	SV-CA-260a.1	Percentage of gaming facilities that implement the Responsible Gambling Index	Percentage (%) by revenue										✓
Services	Casinos & Gaming	Social Capital	Customer Welfare	Responsible Gaming	SV-CA-260a.2	Percentage of online gaming operations that implement the National Council on Problem Gambling (NCPG) Internet Responsible Gambling Standards	Percentage (%) by revenue										✓
Services	Casinos & Gaming	Human Capital	Employee Health & Safety	Smoke-free Casinos	SV-CA-320a.1	Percentage of gaming floor where smoking is allowed	Percentage (%) of gaming floor area										✓

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									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Services	Casinos & Gaming	Human Capital	Employee Health & Safety	Smoke-free Casinos	SV-CA-320a.2		Percentage of gaming staff who work in areas where smoking is allowed	Percentage (%) of man-hours										✓
Services	Casinos & Gaming	Leadership & Governance	Business Ethics	Internal Controls on Money Laundering	SV-CA-510a.1		Description of anti-money laundering policies and practices	n/a						✓				
Services	Casinos & Gaming	Leadership & Governance	Business Ethics	Internal Controls on Money Laundering	SV-CA-510a.2		Total amount of monetary losses as a result of legal proceedings associated with money laundering	Reporting currency										✓
Services	Education	Social Capital	Data Security	Data Security	SV-ED-230a.1		Description of approach to identifying and addressing data security risks	n/a								✓	✓	
Services	Education	Social Capital	Data Security	Data Security	SV-ED-230a.2		Description of policies and practices relating to collection, usage, and retention of student information	n/a									✓	
Services	Education	Social Capital	Data Security	Data Security	SV-ED-230a.3		(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of students affected	Number, Percentage (%)										✓
Services	Education	Social Capital	Customer Welfare	Quality of Education & Gainful Employment	SV-ED-260a.1		Graduation rate	Percentage (%)										✓
Services	Education	Social Capital	Customer Welfare	Quality of Education & Gainful Employment	SV-ED-260a.2		On-time completion rate	Percentage (%)										✓
Services	Education	Social Capital	Customer Welfare	Quality of Education & Gainful Employment	SV-ED-260a.3		Job placement rate	Percentage (%)										✓
Services	Education	Social Capital	Customer Welfare	Quality of Education & Gainful Employment	SV-ED-260a.4		(1) Debt-to-annual earnings rate and (2) debt-to-discretionary income rate	Percentage (%)										✓
Services	Education	Social Capital	Customer Welfare	Quality of Education & Gainful Employment	SV-ED-260a.5		Program cohort default rate	Percentage (%)										✓
Services	Education	Social Capital	Selling Practices & Product Labeling	Marketing & Recruiting Practices	SV-ED-270a.1		Description of policies to assure disclosure of key performance statistics to prospective students in advance of collecting any fees and discussion of outcomes	n/a									✓	
Services	Education	Social Capital	Selling Practices & Product Labeling	Marketing & Recruiting Practices	SV-ED-270a.2		Total amount of monetary losses as a result of legal proceedings associated with advertising, marketing, and mandatory disclosures	Reporting currency										✓
Services	Education	Social Capital	Selling Practices & Product Labeling	Marketing & Recruiting Practices	SV-ED-270a.3		(1) Instruction and student services expenses and (2) marketing and recruiting expenses	Reporting currency										✓
Services	Education	Social Capital	Selling Practices & Product Labeling	Marketing & Recruiting Practices	SV-ED-270a.4		Revenue from: (1) Title IV funding, (2) GI Bill funding, and (3) private student loans	Reporting currency										✓
Services	Hotels & Lodging	Environment	Energy Management	Energy Management	SV-HL-130a.1		(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Services	Hotels & Lodging	Environment	Water & Wastewater Management	Water Management	SV-HL-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Services	Hotels & Lodging	Environment	Ecological Impacts	Ecological Impacts	SV-HL-160a.1		Number of lodging facilities located in or near areas of protected conservation status or endangered species habitat	Number	✓									✓
Services	Hotels & Lodging	Environment	Ecological Impacts	Ecological Impacts	SV-HL-160a.2		Description of environmental management policies and practices to preserve ecosystem services	n/a	✓								✓	
Services	Hotels & Lodging	Human Capital	Labor Practices	Labor Practices	SV-HL-310a.1		(1) Voluntary and (2) involuntary turnover rate for lodging facility employees	Rate										✓
Services	Hotels & Lodging	Human Capital	Labor Practices	Labor Practices	SV-HL-310a.2		Total amount of monetary losses as a result of legal proceedings associated with labor law violations	Reporting currency										✓
Services	Hotels & Lodging	Human Capital	Labor Practices	Labor Practices	SV-HL-310a.3		(1) Average hourly wage and (2) percentage of lodging facility employees earning minimum wage, by region	Reporting currency, Percentage (%)										✓
Services	Hotels & Lodging	Human Capital	Labor Practices	Labor Practices	SV-HL-310a.4		Description of policies and programs to prevent worker harassment	n/a									✓	
Services	Hotels & Lodging	Business Model & Innovation	Physical Impacts of Climate Change	Climate Change Adaptation	SV-HL-450a.1		Number of lodging facilities located in 100-year flood zones	Number	✓									✓

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									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Services	Leisure Facilities	Environment	Energy Management	Energy Management	SV-LF-130a.1		(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓								✓	
Services	Leisure Facilities	Social Capital	Product Quality & Safety	Customer Safety	SV-LF-250a.1		(1) Fatality rate and (2) injury rate for customers	Rate									✓	
Services	Leisure Facilities	Social Capital	Product Quality & Safety	Customer Safety	SV-LF-250a.2		Percentage of facilities inspected for safety, percentage of facilities that failed inspection	Percentage (%)									✓	
Services	Leisure Facilities	Human Capital	Employee Health & Safety	Workforce Safety	SV-LF-320a.1		(1) Total recordable incident rate (TRIR) and (2) near miss frequency rate (NMFR) for (a) permanent employees and (b) seasonal employees	Rate									✓	
Services	Media & Entertainment	Social Capital	Customer Welfare	Media Pluralism	SV-ME-260a.1		Percentage of gender and racial/ethnic group representation for (1) management, (2) professionals, and (3) all other employees	Percentage (%)									✓	
Services	Media & Entertainment	Social Capital	Customer Welfare	Media Pluralism	SV-ME-260a.2		Description of policies and procedures to ensuring pluralism in news media content	n/a								✓		
Services	Media & Entertainment	Social Capital	Selling Practices & Product Labeling	Journalistic Integrity & Sponsorship Identification	SV-ME-270a.1		Total amount of monetary losses as a result of legal proceedings associated with libel or slander	Reporting currency									✓	
Services	Media & Entertainment	Social Capital	Selling Practices & Product Labeling	Journalistic Integrity & Sponsorship Identification	SV-ME-270a.2		Revenue from embedded advertising	Reporting currency									✓	
Services	Media & Entertainment	Social Capital	Selling Practices & Product Labeling	Journalistic Integrity & Sponsorship Identification	SV-ME-270a.3		Description of approach for ensuring journalistic integrity of news programming related to: (1) truthfulness, accuracy, objectivity, fairness, and accountability, (2) independence of content and/or transparency of potential bias, and (3) protection of privacy and limitation of harm	n/a						✓				
Services	Media & Entertainment	Leadership & Governance	Competitive Behavior	Intellectual Property Protection & Media Piracy	SV-ME-520a.1		Description of approach to ensuring intellectual property (IP) protection	n/a						✓				
Services	Professional & Commercial Services	Social Capital	Data Security	Data Security	SV-PS-230a.1		Description of approach to identifying and addressing data security risks	n/a							✓	✓		
Services	Professional & Commercial Services	Social Capital	Data Security	Data Security	SV-PS-230a.2		Description of policies and practices relating to collection, usage, and retention of customer information	n/a								✓		
Services	Professional & Commercial Services	Social Capital	Data Security	Data Security	SV-PS-230a.3		(1) Number of data breaches, (2) percentage involving customers' confidential business information (CBI) or personally identifiable information (PII), (3) number of customers affected	Number, Percentage (%)									✓	
Services	Professional & Commercial Services	Human Capital	Employee Engagement, Diversity & Inclusion	Workforce Diversity & Engagement	SV-PS-330a.1		Percentage of gender and racial/ethnic group representation for (1) executive management and (2) all other employees	Percentage (%)									✓	
Services	Professional & Commercial Services	Human Capital	Employee Engagement, Diversity & Inclusion	Workforce Diversity & Engagement	SV-PS-330a.2		(1) Voluntary and (2) involuntary turnover rate for employees	Rate									✓	
Services	Professional & Commercial Services	Human Capital	Employee Engagement, Diversity & Inclusion	Workforce Diversity & Engagement	SV-PS-330a.3		Employee engagement as a percentage	Percentage (%)									✓	
Services	Professional & Commercial Services	Leadership & Governance	Business Ethics	Professional Integrity	SV-PS-510a.1		Description of approach to ensuring professional integrity	n/a						✓				
Services	Professional & Commercial Services	Leadership & Governance	Business Ethics	Professional Integrity	SV-PS-510a.2		Total amount of monetary losses as a result of legal proceedings associated with professional integrity	Reporting currency									✓	
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Environment	Water & Wastewater Management	Water Management	TC-ES-140a.1		(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓								✓	
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Environment	Waste & Hazardous Materials Management	Waste Management	TC-ES-150a.1		Amount of hazardous waste from manufacturing, percentage recycled	Metric tons (t), Percentage (%)	✓								✓	
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Human Capital	Labor Practices	Labor Practices	TC-ES-310a.1		(1) Number of work stoppages and (2) total days idle	Number, Days idle									✓	
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Human Capital	Employee Health & Safety	Labor Conditions	TC-ES-320a.1		(1) Total recordable incident rate (TRIR) and (2) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees	Rate									✓	

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Human Capital	Employee Health & Safety	Labor Conditions	TC-ES-320a.2	Percentage of (1) entity's facilities and (2) Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	Percentage (%)										✓
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Human Capital	Employee Health & Safety	Labor Conditions	TC-ES-320a.3	(1) Non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent and (2) associated corrective action rate for (a) priority non-conformances and (b) other non-conformances, broken down for (i) the entity's facilities and (ii) the entity's Tier 1 supplier facilities	Rate										✓
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-ES-410a.1	Weight of end-of-life products and e-waste recovered, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Technology & Communications	Electronic Manufacturing Services & Original Design Manufacturing	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	TC-ES-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Technology & Communications	Hardware	Social Capital	Data Security	Product Security	TC-HW-230a.1	Description of approach to identifying and addressing data security risks in products	n/a								✓	✓	
Technology & Communications	Hardware	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Diversity & Inclusion	TC-HW-330a.1	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	Percentage (%)										✓
Technology & Communications	Hardware	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-HW-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Percentage (%)	✓									✓
Technology & Communications	Hardware	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-HW-410a.2	Percentage of eligible products, by revenue, meeting the requirements for EPEAT registration or equivalent	Percentage (%)	✓									✓
Technology & Communications	Hardware	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-HW-410a.3	Percentage of eligible products, by revenue, meeting ENERGY STAR® criteria	Percentage (%)	✓									✓
Technology & Communications	Hardware	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-HW-410a.4	Weight of end-of-life products and e-waste recovered, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Technology & Communications	Hardware	Business Model & Innovation	Supply Chain Management	Supply Chain Management	TC-HW-430a.1	Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	Percentage (%)	✓									✓
Technology & Communications	Hardware	Business Model & Innovation	Supply Chain Management	Supply Chain Management	TC-HW-430a.2	Tier 1 suppliers' (1) non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent, and (2) associated corrective action rate for (a) priority non-conformances and (b) other non-conformances	Rate	✓									✓
Technology & Communications	Hardware	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	TC-HW-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Technology & Communications	Internet Media & Services	Environment	Energy Management	Environmental Footprint of Hardware Infrastructure	TC-IM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Technology & Communications	Internet Media & Services	Environment	Energy Management	Environmental Footprint of Hardware Infrastructure	TC-IM-130a.2	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Technology & Communications	Internet Media & Services	Environment	Energy Management	Environmental Footprint of Hardware Infrastructure	TC-IM-130a.3	Discussion of the integration of environmental considerations into strategic planning for data center needs	n/a	✓					✓				
Technology & Communications	Internet Media & Services	Social Capital	Customer Privacy	Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.1	Description of policies and practices relating to behavioral advertising and user privacy	n/a									✓	
Technology & Communications	Internet Media & Services	Social Capital	Customer Privacy	Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.2	Number of users whose information is used for secondary purposes	Number										✓
Technology & Communications	Internet Media & Services	Social Capital	Customer Privacy	Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.3	Total amount of monetary losses as a result of legal proceedings associated with user privacy	Reporting currency										✓
Technology & Communications	Internet Media & Services	Social Capital	Customer Privacy	Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.4	(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure	Number, Percentage (%)										✓

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								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Technology & Communications	Internet Media & Services	Social Capital	Customer Privacy	Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.5	List of countries where core products or services are subject to government-required monitoring, blocking, content filtering, or censoring	n/a								✓		
Technology & Communications	Internet Media & Services	Social Capital	Customer Privacy	Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.6	Number of government requests to remove content, percentage compliance with requests	Number, Percentage (%)										✓
Technology & Communications	Internet Media & Services	Social Capital	Data Security	Data Security	TC-IM-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected	Number, Percentage (%)										✓
Technology & Communications	Internet Media & Services	Social Capital	Data Security	Data Security	TC-IM-230a.2	Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	n/a								✓	✓	
Technology & Communications	Internet Media & Services	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	TC-IM-330a.1	Percentage of employees that are foreign nationals	Percentage (%)										✓
Technology & Communications	Internet Media & Services	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	TC-IM-330a.2	Employee engagement as a percentage	Percentage (%)										✓
Technology & Communications	Internet Media & Services	Human Capital	Employee Engagement, Diversity & Inclusion	Employee Recruitment, Inclusion & Performance	TC-IM-330a.3	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	Percentage (%)										✓
Technology & Communications	Internet Media & Services	Leadership & Governance	Competitive Behavior	Intellectual Property Protection & Competitive Behavior	TC-IM-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Technology & Communications	Semiconductors	Environment	GHG Emissions	Greenhouse Gas Emissions	TC-SC-110a.1	(1) Gross global Scope 1 emissions and (2) amount of total emissions from perfluorinated compounds	Metric tons (t) CO2-e	✓									✓
Technology & Communications	Semiconductors	Environment	GHG Emissions	Greenhouse Gas Emissions	TC-SC-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Technology & Communications	Semiconductors	Environment	Energy Management	Energy Management in Manufacturing	TC-SC-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Technology & Communications	Semiconductors	Environment	Water & Wastewater Management	Water Management	TC-SC-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓
Technology & Communications	Semiconductors	Environment	Waste & Hazardous Materials Management	Waste Management	TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Technology & Communications	Semiconductors	Human Capital	Employee Health & Safety	Employee Health & Safety	TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	n/a								✓	✓	
Technology & Communications	Semiconductors	Human Capital	Employee Health & Safety	Employee Health & Safety	TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	Reporting currency										✓
Technology & Communications	Semiconductors	Human Capital	Employee Engagement, Diversity & Inclusion	Recruiting & Managing a Global & Skilled Workforce	TC-SC-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	Percentage (%)										✓
Technology & Communications	Semiconductors	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-SC-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Percentage (%)	✓									✓
Technology & Communications	Semiconductors	Business Model & Innovation	Product Design & Lifecycle Management	Product Lifecycle Management	TC-SC-410a.2	Processor energy efficiency at a system-level for: (1) servers, (2) desktops, and (3) laptops	Various, by product category	✓									✓
Technology & Communications	Semiconductors	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓							✓		
Technology & Communications	Semiconductors	Leadership & Governance	Competitive Behavior	Intellectual Property Protection & Competitive Behavior	TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Technology & Communications	Software & IT Services	Environment	Energy Management	Environmental Footprint of Hardware Infrastructure	TC-SI-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Technology & Communications	Software & IT Services	Environment	Energy Management	Environmental Footprint of Hardware Infrastructure	TC-SI-130a.2	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m³), Percentage (%)	✓									✓

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Technology & Communications	Software & IT Services	Environment	Energy Management	Environmental Footprint of Hardware Infrastructure	TC-SI-130a.3		Discussion of the integration of environmental considerations into strategic planning for data center needs	n/a	✓						✓			
Technology & Communications	Software & IT Services	Social Capital	Customer Privacy	Data Privacy & Freedom of Expression	TC-SI-220a.1		Description of policies and practices relating to behavioral advertising and user privacy	n/a									✓	
Technology & Communications	Software & IT Services	Social Capital	Customer Privacy	Data Privacy & Freedom of Expression	TC-SI-220a.2		Number of users whose information is used for secondary purposes	Number										✓
Technology & Communications	Software & IT Services	Social Capital	Customer Privacy	Data Privacy & Freedom of Expression	TC-SI-220a.3		Total amount of monetary losses as a result of legal proceedings associated with user privacy	Reporting currency										✓
Technology & Communications	Software & IT Services	Social Capital	Customer Privacy	Data Privacy & Freedom of Expression	TC-SI-220a.4		(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure	Number, Percentage (%)										✓
Technology & Communications	Software & IT Services	Social Capital	Customer Privacy	Data Privacy & Freedom of Expression	TC-SI-220a.5		List of countries where core products or services are subject to govern-ment-required monitoring, blocking, content filtering, or censoring	n/a								✓		
Technology & Communications	Software & IT Services	Social Capital	Data Security	Data Security	TC-SI-230a.1		(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected	Number, Percentage (%)										✓
Technology & Communications	Software & IT Services	Social Capital	Data Security	Data Security	TC-SI-230a.2		Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	n/a								✓	✓	
Technology & Communications	Software & IT Services	Human Capital	Employee Engagement, Diversity & Inclusion	Recruiting & Managing a Global, Diverse & Skilled Workforce	TC-SI-330a.1		Percentage of employees that are (1) foreign nationals and (2) located offshore	Percentage (%)										✓
Technology & Communications	Software & IT Services	Human Capital	Employee Engagement, Diversity & Inclusion	Recruiting & Managing a Global, Diverse & Skilled Workforce	TC-SI-330a.2		Employee engagement as a percentage	Percentage (%)										✓
Technology & Communications	Software & IT Services	Human Capital	Employee Engagement, Diversity & Inclusion	Recruiting & Managing a Global, Diverse & Skilled Workforce	TC-SI-330a.3		Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	Percentage (%)										✓
Technology & Communications	Software & IT Services	Leadership & Governance	Competitive Behavior	Intellectual Property Protection & Competitive Behavior	TC-SI-520a.1		Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Technology & Communications	Software & IT Services	Leadership & Governance	Systemic Risk Manage-ment	Managing Systemic Risks from Technology Disruptions	TC-SI-550a.1		Number of (1) performance issues and (2) service disruptions; (3) total customer downtime	Number, Days										✓
Technology & Communications	Software & IT Services	Leadership & Governance	Systemic Risk Manage-ment	Managing Systemic Risks from Technology Disruptions	TC-SI-550a.2		Description of business continuity risks related to disruptions of operations	n/a								✓		
Technology & Communications	Telecommunication Services	Environment	Energy Management	Environmental Footprint of Operations	TC-TL-130a.1		(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Technology & Communications	Telecommunication Services	Social Capital	Customer Privacy	Data Privacy	TC-TL-220a.1		Description of policies and practices relating to behavioral advertising and customer privacy	n/a									✓	
Technology & Communications	Telecommunication Services	Social Capital	Customer Privacy	Data Privacy	TC-TL-220a.2		Number of customers whose information is used for secondary purposes	Number										✓
Technology & Communications	Telecommunication Services	Social Capital	Customer Privacy	Data Privacy	TC-TL-220a.3		Total amount of monetary losses as a result of legal proceedings associated with customer privacy	Reporting currency										✓
Technology & Communications	Telecommunication Services	Social Capital	Customer Privacy	Data Privacy	TC-TL-220a.4		(1) Number of law enforcement requests for customer information, (2) number of customers whose information was requested, (3) percentage resulting in disclosure	Number, Percentage (%)										✓
Technology & Communications	Telecommunication Services	Social Capital	Data Security	Data Security	TC-TL-230a.1		(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of customers affected	Number, Percentage (%)										✓
Technology & Communications	Telecommunication Services	Social Capital	Data Security	Data Security	TC-TL-230a.2		Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	n/a								✓	✓	
Technology & Communications	Telecommunication Services	Business Model & Innovation	Materials Sourcing & Efficiency	Product End-of-life Management	TC-TL-440a.1		(1) Materials recovered through take back programs, percentage of recovered materials that were (2) reused, (3) recycled, and (4) landfilled	Metric tons (t), Percentage (%)	✓									✓

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Technology & Communications	Telecommunication Services	Leadership & Governance	Competitive Behavior	Competitive Behavior & Open Internet	TC-TL-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Technology & Communications	Telecommunication Services	Leadership & Governance	Competitive Behavior	Competitive Behavior & Open Internet	TC-TL-520a.2	Average actual sustained download speed of (1) owned and commercially-associated content and (2) non-associated content	Megabits per second (Mbps)										✓
Technology & Communications	Telecommunication Services	Leadership & Governance	Competitive Behavior	Competitive Behavior & Open Internet	TC-TL-520a.3	Description of risks and opportunities associated with net neutrality, paid peering, zero rating, and related practices	n/a								✓		
Technology & Communications	Telecommunication Services	Leadership & Governance	Systemic Risk Management	Managing Systemic Risks from Technology Disruptions	TC-TL-550a.1	(1) System average interruption frequency and (2) customer average interruption duration	Disruptions per customer, Hours per customer										✓
Technology & Communications	Telecommunication Services	Leadership & Governance	Systemic Risk Management	Managing Systemic Risks from Technology Disruptions	TC-TL-550a.2	Discussion of systems to provide unimpeded service during service interruptions	n/a									✓	
Transportation	Air Freight & Logistics	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-AF-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Transportation	Air Freight & Logistics	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-AF-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Air Freight & Logistics	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-AF-110a.3	Fuel consumed by (1) road transport, percentage (a) natural gas and (b) renewable, and (2) air transport, percentage (a) alternative and (b) sustainable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Air Freight & Logistics	Environment	Air Quality	Air Quality	TR-AF-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Air Freight & Logistics	Human Capital	Labor Practices	Labor Practices	TR-AF-310a.1	Percentage of drivers classified as independent contractors	Percentage (%)										✓
Transportation	Air Freight & Logistics	Human Capital	Labor Practices	Labor Practices	TR-AF-310a.2	Total amount of monetary losses as a result of legal proceedings associated with labor law violations	Reporting currency										✓
Transportation	Air Freight & Logistics	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-AF-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Rate										✓
Transportation	Air Freight & Logistics	Business Model & Innovation	Supply Chain Management	Supply Chain Management	TR-AF-430a.1	Percentage of carriers with BASIC percentiles above the FMCSA intervention threshold	Percentage (%)										✓
Transportation	Air Freight & Logistics	Business Model & Innovation	Supply Chain Management	Supply Chain Management	TR-AF-430a.2	Total greenhouse gas (GHG) footprint across transport modes	Metric tons (t) CO2-e per tonkilometer	✓									✓
Transportation	Air Freight & Logistics	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AF-540a.1	Description of implementation and outcomes of a Safety Management System	n/a						✓				
Transportation	Air Freight & Logistics	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AF-540a.2	Number of aviation accidents	Number										✓
Transportation	Air Freight & Logistics	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AF-540a.3	Number of road accidents and incidents	Number										✓
Transportation	Air Freight & Logistics	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AF-540a.4	Safety Measurement System BASIC percentiles for: (1) Unsafe Driving, (2) Hours-of-Service Compliance, (3) Driver Fitness, (4) Controlled Substances/Alcohol, (5) Vehicle Maintenance, and (6) Hazardous Materials Compliance	Percentile										✓
Transportation	Airlines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-AL-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Transportation	Airlines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-AL-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Airlines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-AL-110a.3	(1) Total fuel consumed, (2) percentage alternative, (3) percentage sustainable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Airlines	Human Capital	Labor Practices	Labor Practices	TR-AL-310a.1	Percentage of active workforce covered under collective bargaining agreements	Percentage (%)										✓

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Transportation	Airlines	Human Capital	Labor Practices	Labor Practices	TR-AL-310a.2	(1) Number of work stoppages and (2) total days idle	Number, Days idle										✓
Transportation	Airlines	Leadership & Governance	Competitive Behavior	Competitive Behavior	TR-AL-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Transportation	Airlines	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AL-540a.1	Description of implementation and outcomes of a Safety Management System	n/a						✓				
Transportation	Airlines	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AL-540a.2	Number of aviation accidents	Number										✓
Transportation	Airlines	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-AL-540a.3	Number of governmental enforcement actions of aviation safety regulations	Number										✓
Transportation	Auto Parts	Environment	Energy Management	Energy Management	TR-AP-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Auto Parts	Environment	Waste & Hazardous Materials Management	Waste Management	TR-AP-150a.1	(1) Total amount of waste from manufacturing, (2) percentage hazardous, (3) percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Transportation	Auto Parts	Social Capital	Product Quality & Safety	Product Safety	TR-AP-250a.1	Number of recalls issued, total units recalled	Number										✓
Transportation	Auto Parts	Business Model & Innovation	Product Design & Lifecycle Management	Design for Fuel Efficiency	TR-AP-410a.1	Revenue from products designed to increase fuel efficiency and/or reduce emissions	Reporting currency	✓									✓
Transportation	Auto Parts	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	TR-AP-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Transportation	Auto Parts	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency	TR-AP-440b.1	Percentage of products sold that are recyclable	Percentage (%)	✓									✓
Transportation	Auto Parts	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency	TR-AP-440b.2	Percentage of input materials from recycled or remanufactured content	Percentage (%)	✓									✓
Transportation	Auto Parts	Leadership & Governance	Competitive Behavior	Competitive Behavior	TR-AP-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Transportation	Automobiles	Social Capital	Product Quality & Safety	Product Safety	TR-AU-250a.1	Percentage of vehicle models rated by NCAP programs with an overall 5-star safety rating, by region	Percentage (%)										✓
Transportation	Automobiles	Social Capital	Product Quality & Safety	Product Safety	TR-AU-250a.2	Number of safety-related defect complaints, percentage investigated	Number, Percentage (%)										✓
Transportation	Automobiles	Social Capital	Product Quality & Safety	Product Safety	TR-AU-250a.3	Number of vehicles recalled	Number										✓
Transportation	Automobiles	Human Capital	Labor Practices	Labor Practices	TR-AU-310a.1	Percentage of active workforce covered under collective bargaining agreements	Percentage (%)										✓
Transportation	Automobiles	Human Capital	Labor Practices	Labor Practices	TR-AU-310a.2	(1) Number of work stoppages and (2) total days idle	Number, Days idle										✓
Transportation	Automobiles	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Use-phase Emissions	TR-AU-410a.1	Sales-weighted average passenger fleet fuel economy, by region	Mpg, L/km, gCO /km, km/L	✓									✓
Transportation	Automobiles	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Use-phase Emissions	TR-AU-410a.2	Number of (1) zero emission vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles sold	Number	✓									✓
Transportation	Automobiles	Business Model & Innovation	Product Design & Lifecycle Management	Fuel Economy & Use-phase Emissions	TR-AU-410a.3	Discussion of strategy for managing fleet fuel economy and emissions risks and opportunities	n/a	✓								✓	
Transportation	Automobiles	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Sourcing	TR-AU-440a.1	Description of the management of risks associated with the use of critical materials	n/a	✓								✓	
Transportation	Automobiles	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency & Recycling	TR-AU-440b.1	Total amount of waste from manufacturing, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Transportation	Automobiles	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency & Recycling	TR-AU-440b.2	Weight of end-of-life material recovered, percentage recycled	Metric tons (t), Percentage (%)	✓									✓
Transportation	Automobiles	Business Model & Innovation	Materials Sourcing & Efficiency	Materials Efficiency & Recycling	TR-AU-440b.3	Average recyclability of vehicles sold	Percentage (%) by salesweighted metric tons (t)	✓									✓

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID		Accounting metic	Unit of measure	Disclosure Information Category								KPIs Strategies and practices Recognition of ESG risks and opportunities Identification of materiality Governance Communication with stakeholders Message from director and/or management Business model Summary of organization or business Environment
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.1		Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓								✓
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.2		Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.3		(1) Total energy consumed, (2) percentage heavy fuel oil, (3) percentage onshore power supply (OPS), (4) percentage renewable	Gigajoules (GJ), Percentage (%)	✓								✓
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.4		Average Energy Efficiency Design Index (EEDI) for new ships	Grams of CO2 per ton-nautical mile	✓								✓
Transportation	Cruise Lines	Environment	Air Quality	Air Quality	TR-CL-120a.1		Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	Metric tons (t)	✓								✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.1		Total amount of ship waste discharged to the environment, percentage treated prior to discharge	Metric tons (t), Percentage (%)	✓								✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.2		Percentage of fleet implementing ballast water (1) exchange and (2) treatment	Percentage (%)	✓								✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.3		Cruise duration in marine protected areas or areas of protected conservation status	Number of travel days	✓								✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.4		Number of notices of violations received for dumping	Number	✓								✓
Transportation	Cruise Lines	Social Capital	Product Quality & Safety	Customer Health & Safety	TR-CL-250a.1		Number of alleged crime incidents involving passengers or employees	Number									✓
Transportation	Cruise Lines	Social Capital	Product Quality & Safety	Customer Health & Safety	TR-CL-250a.2		Fleet average CDC Vessel Sanitation Program inspection score, percentage of inspections failed	Number, Percentage (%)									✓
Transportation	Cruise Lines	Social Capital	Product Quality & Safety	Customer Health & Safety	TR-CL-250a.3		(1) Serious injuries per million passengers and (2) number of voyages with a gastrointestinal illness count exceeding 2%	Rate, Number									✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.1		Average hourly wage for seafarers, by region	Reporting currency									✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.2		Percentage of seafarers working maximum hours	Percentage (%)									✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.3		Percentage of seafarers paid for overtime	Percentage (%)									✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.4		Total amount of monetary losses as a result of legal proceedings associated with labor law violations	Reporting currency									✓
Transportation	Cruise Lines	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-CL-320a.1		Seafarer lost time incident rate (LTIR)	Rate									✓
Transportation	Cruise Lines	Leadership & Governance	Critical Incident Risk Management	Accident Management	TR-CL-540a.1		Number of Conditions of Class or Recommendations	Number									✓
Transportation	Cruise Lines	Leadership & Governance	Critical Incident Risk Management	Accident Management	TR-CL-540a.2		Number of port state control (1) deficiencies and (2) detentions	Number									✓
Transportation	Cruise Lines	Leadership & Governance	Critical Incident Risk Management	Accident Management	TR-CL-540a.3		Number of marine casualties, percentage classified as very serious	Number									✓
Transportation	Car Rental & Leasing	Social Capital	Product Quality & Safety	Customer Safety	TR-CR-250a.1		Percentage of rental fleet vehicles rated by NCAP programs with an overall 5-star safety rating, by region	Percentage (%)									✓
Transportation	Car Rental & Leasing	Social Capital	Product Quality & Safety	Customer Safety	TR-CR-250a.2		Number of vehicles recalled	Number									✓
Transportation	Car Rental & Leasing	Business Model & Innovation	Product Design & Lifecycle Management	Fleet Fuel Economy & Utilization	TR-CR-410a.1		Rental day-weighted average rental fleet fuel economy, by region	Mpg, L/km, gCO /km, km/L	✓								✓
Transportation	Car Rental & Leasing	Business Model & Innovation	Product Design & Lifecycle Management	Fleet Fuel Economy & Utilization	TR-CR-410a.2		Fleet utilization rate	Rate									✓
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.1		Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓								✓

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category									
								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.3	(1) Total energy consumed, (2) percentage heavy fuel oil, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.4	Average Energy Efficiency Design Index (EEDI) for new ships	Grams of CO2 per ton-nautical mile	✓									✓
Transportation	Marine Transportation	Environment	Air Quality	Air Quality	TR-MT-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Marine Transportation	Environment	Ecological Impacts	Ecological Impacts	TR-MT-160a.1	Shipping duration in marine protected areas or areas of protected conservation status	Number of travel days	✓									✓
Transportation	Marine Transportation	Environment	Ecological Impacts	Ecological Impacts	TR-MT-160a.2	Percentage of fleet implementing ballast water (1) exchange and (2) treatment	Percentage (%)	✓									✓
Transportation	Marine Transportation	Environment	Ecological Impacts	Ecological Impacts	TR-MT-160a.3	(1) Number and (2) aggregate volume of spills and releases to the environment	Number, Cubic meters (m³)	✓									✓
Transportation	Marine Transportation	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-MT-320a.1	Lost time incident rate (LTIR)	Rate										✓
Transportation	Marine Transportation	Leadership & Governance	Business Ethics	Business Ethics	TR-MT-510a.1	Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Number										✓
Transportation	Marine Transportation	Leadership & Governance	Business Ethics	Business Ethics	TR-MT-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Reporting currency										✓
Transportation	Marine Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-MT-540a.1	Number of marine casualties, percentage classified as very serious	Number, Percentage (%)										✓
Transportation	Marine Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-MT-540a.2	Number of Conditions of Class or Recommendations	Number										✓
Transportation	Marine Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-MT-540a.3	Number of port state control (1) deficiencies and (2) detentions	Number										✓
Transportation	Rail Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RA-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Transportation	Rail Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RA-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Rail Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RA-110a.3	Total fuel consumed, percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Rail Transportation	Environment	Air Quality	Air Quality	TR-RA-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O) and (2) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Rail Transportation	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-RA-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	Rate										✓
Transportation	Rail Transportation	Leadership & Governance	Competitive Behavior	Competitive Behavior	TR-RA-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.1	Number of accidents and incidents	Number										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.2	Number of (1) accident releases and (2) non-accident releases (NARs)	Number										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.3	Number of Federal Railroad Administration (FRA) Recommended Violation Defects	Number										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.4	Frequency of internal railway integrity inspections	Rate										✓
Transportation	Road Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RO-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category									
								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.3	(1) Total energy consumed, (2) percentage heavy fuel oil, (3) percentage onshore power supply (OPS), (4) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Cruise Lines	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-CL-110a.4	Average Energy Efficiency Design Index (EEDI) for new ships	Grams of CO2 per ton-nautical mile	✓									✓
Transportation	Cruise Lines	Environment	Air Quality	Air Quality	TR-CL-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.1	Total amount of ship waste discharged to the environment, percentage treated prior to discharge	Metric tons (t), Percentage (%)	✓									✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.2	Percentage of fleet implementing ballast water (1) exchange and (2) treatment	Percentage (%)	✓									✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.3	Cruise duration in marine protected areas or areas of protected conservation status	Number of travel days	✓									✓
Transportation	Cruise Lines	Environment	Ecological Impacts	Discharge Management & Ecological Impacts	TR-CL-160a.4	Number of notices of violations received for dumping	Number	✓									✓
Transportation	Cruise Lines	Social Capital	Product Quality & Safety	Customer Health & Safety	TR-CL-250a.1	Number of alleged crime incidents involving passengers or employees	Number										✓
Transportation	Cruise Lines	Social Capital	Product Quality & Safety	Customer Health & Safety	TR-CL-250a.2	Fleet average CDC Vessel Sanitation Program inspection score, percentage of inspections failed	Number, Percentage (%)										✓
Transportation	Cruise Lines	Social Capital	Product Quality & Safety	Customer Health & Safety	TR-CL-250a.3	(1) Serious injuries per million passengers and (2) number of voyages with a gastrointestinal illness count exceeding 2%	Rate, Number										✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.1	Average hourly wage for seafarers, by region	Reporting currency										✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.2	Percentage of seafarers working maximum hours	Percentage (%)										✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.3	Percentage of seafarers paid for overtime	Percentage (%)										✓
Transportation	Cruise Lines	Human Capital	Labor Practices	Labor Practices	TR-CL-310a.4	Total amount of monetary losses as a result of legal proceedings associated with labor law violations	Reporting currency										✓
Transportation	Cruise Lines	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-CL-320a.1	Seafarer lost time incident rate (LTIR)	Rate										✓
Transportation	Cruise Lines	Leadership & Governance	Critical Incident Risk Management	Accident Management	TR-CL-540a.1	Number of Conditions of Class or Recommendations	Number										✓
Transportation	Cruise Lines	Leadership & Governance	Critical Incident Risk Management	Accident Management	TR-CL-540a.2	Number of port state control (1) deficiencies and (2) detentions	Number										✓
Transportation	Cruise Lines	Leadership & Governance	Critical Incident Risk Management	Accident Management	TR-CL-540a.3	Number of marine casualties, percentage classified as very serious	Number										✓
Transportation	Car Rental & Leasing	Social Capital	Product Quality & Safety	Customer Safety	TR-CR-250a.1	Percentage of rental fleet vehicles rated by NCAP programs with an overall 5-star safety rating, by region	Percentage (%)										✓
Transportation	Car Rental & Leasing	Social Capital	Product Quality & Safety	Customer Safety	TR-CR-250a.2	Number of vehicles recalled	Number										✓
Transportation	Car Rental & Leasing	Business Model & Innovation	Product Design & Lifecycle Management	Fleet Fuel Economy & Utilization	TR-CR-410a.1	Rental day-weighted average rental fleet fuel economy, by region	Mpg, L/km, gCO /km, km/L	✓									✓
Transportation	Car Rental & Leasing	Business Model & Innovation	Product Design & Lifecycle Management	Fleet Fuel Economy & Utilization	TR-CR-410a.2	Fleet utilization rate	Rate										✓
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID	Accounting metic	Unit of measure	Disclosure Information Category									
								Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.3	(1) Total energy consumed, (2) percentage heavy fuel oil, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Marine Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-MT-110a.4	Average Energy Efficiency Design Index (EEDI) for new ships	Grams of CO2 per ton-nautical mile	✓									✓
Transportation	Marine Transportation	Environment	Air Quality	Air Quality	TR-MT-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Marine Transportation	Environment	Ecological Impacts	Ecological Impacts	TR-MT-160a.1	Shipping duration in marine protected areas or areas of protected conservation status	Number of travel days	✓									✓
Transportation	Marine Transportation	Environment	Ecological Impacts	Ecological Impacts	TR-MT-160a.2	Percentage of fleet implementing ballast water (1) exchange and (2) treatment	Percentage (%)	✓									✓
Transportation	Marine Transportation	Environment	Ecological Impacts	Ecological Impacts	TR-MT-160a.3	(1) Number and (2) aggregate volume of spills and releases to the environment	Number, Cubic meters (m³)	✓									✓
Transportation	Marine Transportation	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-MT-320a.1	Lost time incident rate (LTIR)	Rate										✓
Transportation	Marine Transportation	Leadership & Governance	Business Ethics	Business Ethics	TR-MT-510a.1	Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Number										✓
Transportation	Marine Transportation	Leadership & Governance	Business Ethics	Business Ethics	TR-MT-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Reporting currency										✓
Transportation	Marine Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-MT-540a.1	Number of marine casualties, percentage classified as very serious	Number, Percentage (%)										✓
Transportation	Marine Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-MT-540a.2	Number of Conditions of Class or Recommendations	Number										✓
Transportation	Marine Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-MT-540a.3	Number of port state control (1) deficiencies and (2) detentions	Number										✓
Transportation	Rail Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RA-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓
Transportation	Rail Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RA-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Rail Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RA-110a.3	Total fuel consumed, percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Rail Transportation	Environment	Air Quality	Air Quality	TR-RA-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O) and (2) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Rail Transportation	Human Capital	Employee Health & Safety	Employee Health & Safety	TR-RA-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	Rate										✓
Transportation	Rail Transportation	Leadership & Governance	Competitive Behavior	Competitive Behavior	TR-RA-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.1	Number of accidents and incidents	Number										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.2	Number of (1) accident releases and (2) non-accident releases (NARs)	Number										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.3	Number of Federal Railroad Administration (FRA) Recommended Violation Defects	Number										✓
Transportation	Rail Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RA-540a.4	Frequency of internal railway integrity inspections	Rate										✓
Transportation	Road Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RO-110a.1	Gross global Scope 1 emissions	Metric tons (t) CO2-e	✓									✓

List of Accounting Metics of SASB Standards

Sector	Industry	ESG Issue Category	ESG Issue	Disclosure Topic	ID		Accounting metic	Unit of measure	Disclosure Information Category									
									Environment	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices	KPIs
Transportation	Road Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RO-110a.2		Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	✓								✓	
Transportation	Road Transportation	Environment	GHG Emissions	Greenhouse Gas Emissions	TR-RO-110a.3		(1) Total fuel consumed, (2) percentage natural gas, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	✓									✓
Transportation	Road Transportation	Environment	Air Quality	Air Quality	TR-RO-120a.1		Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, and (3) particulate matter (PM10)	Metric tons (t)	✓									✓
Transportation	Road Transportation	Human Capital	Employee Health & Safety	Driver Working Conditions	TR-RO-320a.1		(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Rate										✓
Transportation	Road Transportation	Human Capital	Employee Health & Safety	Driver Working Conditions	TR-RO-320a.2		(1) Voluntary and (2) involuntary turnover rate for all employees	Rate										✓
Transportation	Road Transportation	Human Capital	Employee Health & Safety	Driver Working Conditions	TR-RO-320a.3		Description of approach to managing short-term and long-term driver health risks	n/a									✓	
Transportation	Road Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RO-540a.1		Number of road accidents and incidents	Number										✓
Transportation	Road Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RO-540a.2		Safety Measurement System BASIC percentiles for: (1) Unsafe Driving, (2) Hours-of-Service Compliance, (3) Driver Fitness, (4) Controlled Substances/Alcohol, (5) Vehicle Maintenance, and (6) Hazardous Materials Compliance	Percentile										✓
Transportation	Road Transportation	Leadership & Governance	Critical Incident Risk Management	Accident & Safety Management	TR-RO-540a.3		(1) Number and (2) aggregate volume of spills and releases to the environment	Number, Cubic meters (m³)	✓									✓

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of SASB Standards(VERSION 2018-10).

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
Governance: Disclose the organization's governance around climate-related risks and opportunities.	a) Describe the board's oversight of climate-related risks and opportunities.	All sectors	<p>In describing the board's oversight of climate-related issues, organizations should consider including a discussion of the following:</p> <ul style="list-style-type: none"> – processes and frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues, – whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans as well as setting the organization's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions, and divestitures, and – how the board monitors and oversees progress against goals and targets for addressing climate-related issues. 					✓			
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	All sectors	<p>In describing management's role related to the assessment and management of climate-related issues, organizations should consider including the following information:</p> <ul style="list-style-type: none"> – whether the organization has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues, – a description of the associated organizational structure(s), – processes by which management is informed about climate-related issues, and – how management (through specific positions and/or management committees) monitors climate-related issues. 					✓			
	Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	All sectors	<p>Organizations should provide the following information:</p> <ul style="list-style-type: none"> – a description of what they consider to be the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the organization's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms, – a description of the specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the organization, and – a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organization. 						✓		

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.		Organizations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate. In describing climate-related issues, organizations should refer to Tables 1 and 2.								
		Banks	Banks should describe significant concentrations of credit exposure to carbon-related assets. Additionally, banks should consider disclosing their climate-related risks (transition and physical) in their lending and other financial intermediary business activities.								
		All sectors	Building on recommended disclosure (a), organizations should discuss how identified climate-related issues have affected their businesses, strategy, and financial planning. Organizations should consider including the impact on their businesses and strategy in the following areas: – Products and services – Supply chain and/or value chain – Adaptation and mitigation activities – Investment in research and development – Operations (including types of operations and location of facilities) Organizations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritized. Organizations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time. Organizations should also consider including in their disclosures the impact on financial planning in the following areas: – Operating costs and revenues – Capital expenditures and capital allocation – Acquisitions or divestments – Access to capital If climate-related scenarios were used to inform the organization's strategy and financial planning, such scenarios should be described.					✓	✓		
		Insurance Companies	Insurance companies should describe the potential impacts of climate-related risks and opportunities, as well as provide supporting quantitative information where available, on their core businesses, products, and services, including: – information at the business division, sector, or geography levels; – how the potential impacts influence client, cedent, or broker selection; and – whether specific climate-related products or competencies are under development, such as insurance of green infrastructure, specialty climate-related risk advisory services, and climate-related client engagement.								

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
		Asset Owners	Asset owners should describe how climate-related risks and opportunities are factored into relevant investment strategies. This could be described from the perspective of the total fund or investment strategy or individual investment strategies for various asset classes.								
		Asset Managers	Asset managers should describe how climate-related risks and opportunities are factored into relevant products or investment strategies. Asset managers should also describe how each product or investment strategy might be affected by the transition to a lower-carbon economy.								
		Energy	Organizations should consider discussing how climate-related risks and opportunities are integrated into their (1) current decision making and (2) strategy formulation, including planning assumptions and objectives around climate change mitigation, adaptation, or opportunities such as: – Research and development (R&D) and adoption of new technology. – Existing and committed future activities such as investments, restructuring, write-downs, or impairment of assets. – Critical planning assumptions around legacy assets, for example, strategies to lower carbon-, energy-, and/or water-intensive operations. – How GHG emissions, energy, and water issues, if applicable, are considered in capital planning and allocation; this could include a discussion of major acquisitions and divestments, joint-ventures, and investments in technology, innovation, and new business areas in light of changing climate-related risks and opportunities. – The organization’s flexibility in positioning/repositioning capital to address emerging climate-related risks and opportunities.								
		Transportation	Same as above								
		Materials and Buildings	Same as above								
		Ag, Food, and Forest Products	Same as above								
		c) Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower	All sectors								Organizations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organization, scenarios consistent with increased physical climate-related risks. Organizations should consider discussing:

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
	scenario.		<ul style="list-style-type: none"> – where they believe their strategies may be affected by climate-related risks and opportunities; – how their strategies might change to address such potential risks and opportunities; and – the climate-related scenarios and associated time horizon(s) considered. <p>Refer to Section D for information on applying scenarios to forward-looking analysis.</p>							
		Insurance Companies	<p>Insurance companies that perform climate-related scenario analysis on their underwriting activities should provide the following information:</p> <ul style="list-style-type: none"> – description of the climate-related scenarios used, including the critical input parameters, assumptions and considerations, and analytical choices. In addition to a 2°C scenario, insurance companies with substantial exposure to weather-related perils should consider using a greater than 2°C scenario to account for physical effects of climate change and – time frames used for the climate-related scenarios, including short-, medium-, and long-term milestones. 							
		Asset Owners	<p>Asset owners that perform scenario analysis should consider providing a discussion of how climate-related scenarios are used, such as to inform investments in specific assets.</p>							
		Energy	<p>Organizations with more than one billion U.S. dollar equivalent (USDE) in annual revenue should consider conducting more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios, including a 2°C or lower scenario and, where relevant to the organization, scenarios consistent</p> <p>with increased physical climate-related risks.</p> <p>Organizations should consider discussing the implications of different policy assumptions, macro-economic trends, energy pathways, and technology assumptions used in publicly available climate-related scenarios to assess the resilience of their strategies.</p> <p>For the climate-related scenarios used, organizations should consider providing information on the following factors to allow investors and others to understand how conclusions were drawn from scenario analysis:</p> <ul style="list-style-type: none"> – Critical input parameters, assumptions, and analytical choices for the climate-related scenarios used, particularly as they relate to key areas such as policy assumptions, energy deployment pathways, technology pathways, and related timing assumptions. – Potential qualitative or quantitative 							

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
			financial implications of the climate-related scenarios, if any.								
		Transportation	Same as above								
		Materials and Buildings	Same as above								
		Ag, Food, and Forest Products	Same as above								
Risk Management: Disclose how the organization identifies, assesses, and manages climate-related risks.	a) Describe the organization's processes for identifying and assessing climate-related risks.	All sectors	<p>Organizations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how organizations determine the relative significance of climate-related risks in relation to other risks.</p> <p>Organizations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered.</p> <p>Organizations should also consider disclosing the following:</p> <ul style="list-style-type: none"> – processes for assessing the potential size and scope of identified climate-related risks and – definitions of risk terminology used 					✓	✓		
		Banks	<p>Banks should consider characterizing their climate-related risks in the context of traditional banking industry risk categories such as credit risk, market risk, liquidity risk, and operational risk.</p> <p>Banks should also consider describing any risk classification frameworks used (e.g., the Enhanced Disclosure Task Force's framework for defining "Top and Emerging Risks").</p>								
		Insurance Companies	<p>Insurance companies should describe the processes for identifying and assessing climate-related risks on re-/insurance portfolios by geography, business division, or product segments, including the following risks:</p> <ul style="list-style-type: none"> – physical risks from changing frequencies and intensities of weather-related perils, – transition risks resulting from a reduction in insurable interest due to a decline in value, changing energy costs, or implementation of carbon regulation, and – liability risks that could intensify due to a possible increase in litigation. 								
		Asset Owners	Asset owners should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset owners' ability to assess climate-related risks.								

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
	b) Describe the organization's processes for managing climate-related risks.	Asset Managers	Asset managers should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks in order to improve data availability and asset managers' ability to assess climate-related risks. Asset managers should also describe how they identify and assess material climate-related risks for each product or investment strategy. This might include a description of the resources and tools used in the process.								
		All sectors	Organizations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, organizations should describe their processes for prioritizing climate-related risks, including how materiality determinations are made within their organizations. In describing their processes for managing climate-related risks, organizations should address the risks included in Tables 1 and 2, as appropriate.								✓
		Insurance Companies	Insurance companies should describe key tools or instruments, such as risk models, used to manage climate-related risks in relation to product development and pricing. Insurance companies should also describe the range of climate-related events considered and how the risks generated by the rising propensity and severity of such events are managed.								
		Asset Owners	Asset owners should describe how they consider the positioning of their total portfolio with respect to the transition to a lower-carbon energy supply, production, and use. This could include explaining how asset owners actively manage their portfolios' positioning in relation to this transition.								
		Asset Managers	Asset managers should describe how they manage material climate-related risks for each product or investment strategy.								
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	All sectors	Organizations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.					✓			
Metrics and Targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its	All sectors	Organizations should provide the key metrics used to measure and manage climate-related risks and opportunities, as described in Tables 1 and 2. Organizations should consider including metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable.								✓

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
such information is material.	strategy and risk management process.		<p>Where climate-related issues are material, organizations should consider describing whether and how related performance metrics are incorporated into remuneration policies.</p> <p>Where relevant, organizations should provide their internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy.</p> <p>Metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organizations should provide a description of the methodologies used to calculate or estimate climate-related metrics.</p>							
		Banks	<p>Banks should provide the metrics used to assess the impact of (transition and physical) climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term. Metrics provided may relate to credit exposure, equity and debt holdings, or trading positions, broken down by:</p> <ul style="list-style-type: none"> – Industry – Geography – Credit quality (e.g., investment grade or non-investment grade, internal rating system) – Average tenor <p>Banks should also provide the amount and percentage of carbon-related assets relative to total assets as well as the amount of lending and other financing connected with climate-related opportunities.</p>							
		Insurance Companies	Insurance companies should provide aggregated risk exposure to weather-related catastrophes of their property business (i.e., annual aggregated expected losses from weather-related catastrophes) by relevant jurisdiction.							
		Asset Owners	<p>Asset owners should describe metrics used to assess climate-related risks and opportunities in each fund or investment strategy. Where relevant, asset owners should also describe how these metrics have changed over time.</p> <p>Where appropriate, asset owners should provide metrics considered in investment decisions and monitoring.</p>							
		Asset Managers	<p>Asset managers should describe metrics used to assess climate-related risks and opportunities in each product or investment strategy. Where relevant, asset managers should also describe how these metrics have changed over time.</p> <p>Where appropriate, asset managers should provide metrics considered in investment decisions and monitoring.</p>							
		Energy	For all relevant metrics, organizations should consider providing historical trends and forward-looking projections (by							

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category							
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	Strategies and practices
			relevant country and/or jurisdiction, business line, or asset type). Organizations should also consider disclosing metrics that support their scenario analysis and strategic planning process and that are used to monitor the organization's business environment from a strategic and risk management perspective. Organizations should consider providing key metrics related to GHG emissions, energy, water, land use, and, if relevant, investments in climate adaptation and mitigation that address potential financial aspects of shifting demand, expenditures, asset valuation, and cost of financing. Illustrative examples of metrics for each of the four non-financial groups are provided in the tables listed below. – Energy Group: Table 3 – Transportation Group: Table 4 – Materials and Buildings Group: Table 5 – Agriculture, Food, and Forest Group: Table 6								
		Transportation	Same as above								
		Materials and Buildings	Same as above								
		Ag, Food, and Forest Products	Same as above								
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	All sectors	Organizations should provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks. GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across organizations and jurisdictions. As appropriate, organizations should consider providing related, generally accepted industry-specific GHG efficiency ratios. GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, organizations should provide a description of the methodologies used to calculate or estimate the metrics.							✓	✓
		Asset Owners	Asset owners should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each fund or investment strategy. In addition, asset owners should provide other metrics they believe are useful for decision making along with a description of the methodology used. See Table 2 for common carbon footprinting and exposure metrics, including weighted average carbon intensity.								
		Asset Managers	Asset managers should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each product or investment strategy.								

List of Recommended Disclosures of TCFD Final Recommendations

Area	Recommended Disclosure	Sector	Guidance	Disclosure Information Category						
				Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities
			In addition, asset managers should provide other metrics they believe are useful for decision making along with a description of the methodology used. See Table 2 for common carbon footprinting and exposure metrics, including weighted average carbon intensity.							
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	All sectors	<p>Organizations should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with anticipated regulatory requirements or market constraints or other goals.</p> <p>Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions through the entire product life cycle, or net revenue goals for products and services designed for a lower-carbon economy.</p> <p>In describing their targets, organizations should consider including the following:</p> <ul style="list-style-type: none"> – whether the target is absolute or intensity based, – time frames over which the target applies, – base year from which progress is measured, and – key performance indicators used to assess progress against targets. <p>Where not apparent, organizations should provide a description of the methodologies used to calculate targets and measures.</p>							✓

出所：気候関連財務情報開示タスクフォースの勧告：最終報告書（サステナビリティ日本フォーラム、私訳、2018年10月）をもとにニッセイアセットが作成

List of Contents of Guidance for Collaborative Value Creation

Content	Disclosure Information Category							
	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs Strategies and practices
1. Values								
1.1. Corporate Philosophy and Vision					✓			✓
1.2. Relationship with Society						✓	✓	
2. Business Model								
2.1. Position in the Competitive Landscape								
2.1.1. Position in the Value Chain		✓						
2.1.2. Differentiating Factors								
2.2. Essential Elements for Ensuring Competitive Advantage								
2.2.1. Management Resources/Intangible Assets		✓						
2.2.2. Relationships with Stakeholders to Support Competitive Advantage								
2.2.3. Profit Structure/Drivers								
3. Sustainability/Growth								
3.1. Recognition of ESG Factors							✓	
3.2. Relationships with Key Stakeholders			✓					
3.3. Risk in a Changing Environment								
3.3.1. Speed and Impact of Technological Change							✓	
3.3.2. Country Risk								
3.3.3. Cross-Border Risk								
4. Strategy								
4.1. Improving Company Positions within the Value Chain								✓
4.2. Securing and Enhancing Management Resources and Intangible Assets								
4.2.1. Investment in Human Capital								
4.2.2. Investment in Technology (Intellectual Capital)								
4.2.2.1. R&D Investment								✓
4.2.2.2. IT/Software Investment								
4.2.3. Investment in Brand and Customer Loyalty								
4.2.4. Organizations								
4.2.5. Investment to Accelerate Growth								
4.3. Strategy for ESG Integration								✓
4.4. Capital Allocation Strategy								
4.4.1. Business Portfolio Management, including Exit Strategies								✓
4.4.2. Measuring Intangible Assets and Monitoring Investment Returns								
5. Performance and Key Performance Indicators (KPIs)								
5.1. Financial Performance								
5.1.1. Management Discussion and Analysis (MD&A)	n/a							
5.1.2. Creation of Economic and Shareholder Value								
5.2. Setting Strategic KPIs								✓
5.3. Designing Linkages between Corporate Value Creation and Specific KPIs								✓
5.4. Awareness of Cost of Capital					✓			
5.5. Progress Evaluation								✓
6. Governance								
6.1. Ensuring the Strength of the Board					✓			
6.2. Skill and Diversity of CEOs and Senior Executives					✓			
6.3. Skill and Diversity of Non-Executive Directors					✓			
6.4. Monitoring Strategic Decisions					✓			
6.5. Shareholder Return Policies					✓			
6.6. Compensation Policies					✓			
6.7. Reviewing Board Effectiveness and Identifying Priority Issues					✓			

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation (Guidance for Collaborative Value Creation).

List of Disclosure Items and KPIs of Environmental Reporting Guidelines 2018 version

Chapter	Section	Items to be stated, performance evaluation index	Disclosure Information Category							
			Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs
Chapter 1 Basic information on environmental reporting	1. Basic requirements for environmental reporting	Reporting company	n/a							
		Reporting period	n/a							
		Standard / guideline, etc.	n/a							
		Overview of environment report	n/a							
	2. Changes in major KPIs	Changes in major KPIs								✓
Chapter 2 Described matters for environmental reporting	1. Commitment of managers	Commitment of managers in relation to important environmental issues				✓				
	2. Governance	Governance structure of reporting company					✓			
		Person responsible for management of important environmental issues					✓			
		Role of board of directors and business execution organization in managing important environmental issues					✓			
	3. Situation of stakeholder engagement	Policy dealing with stakeholders			✓					
		Overview of implemented stakeholder engagement			✓					
	4. Risk management	Identification, evaluation and handling method of risk							✓	
		Positioning of the above method in the company-wide risk management					✓			
	5. Business model	Business model of reporting company		✓						
	6. Value chain management	Overview of value chain	✓							
		Method, targets and performance of green procurement								✓
		Situation of environmental-friendly products/services	✓							
	7. Long-term vision	Long-term vision								✓
		Time horizon of long-term vision								✓
		Reason for selecting that time horizon								✓
	8. Strategy	Business strategy of reporting company for realization of a sustainable society								✓
	9. Method to identify important environmental issues	Procedure in reporting company to identify important environmental issues						✓		
		List of identified important environmental issues						✓		
		Reason why the identified environmental issues are determined important						✓		
		Boundary of important environmental issues						✓		
	10. Important environmental issues for reporting company	Policy and action plan								✓
		Target and performance by KPIs								✓
		Calculation methods of KPIs								✓
		Boundary of KPIs								✓
		If the financial impact of risks / opportunities is large, the amount of impact and calculation methods							✓	
		If the reporting contents are granted a guarantee by an independent third party, the guarantee report.	n/a							
Reference material Major environmental issues and their performance evaluation indicators	1. Climate change	Greenhouse effect gas emissions								✓
		Scope 1 emission amount								✓
		Scope 2 emission amount								✓
		Scope 3 emission amount								✓

Chapter	Section	Items to be stated, performance evaluation index	Disclosure Information Category							
			Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs, Strategies and practices
	2. Water resources	Basic unit								
		Greenhouse gas emission rate								✓
		Energy used								
		Details of the energy used and total used energy amount								✓
		Percentage of renewable energy included in the total energy usage amount								✓
		Water resource input								✓
		Base unit of water resource input								✓
		Emission rate								✓
		If business locations and supply chains exist in areas with high water stress, then the status of the water stress								✓
		3. Biodiversity								
		Impact of business activities on biodiversity								✓
		Situation and degree of business activity dependent on biodiversity								✓
		Business activities contributing to the conservation of biodiversity								✓
		Status of collaboration with external stakeholders								✓
		4. Resource circulation								
		Input of resources								
		Input of the resources which are not renewable								✓
		Input of renewable resources								✓
		Amount of recycling material								✓
		Recycling use ratio (-amount of recycling material / amount of input resources)								✓
		Disposal of resources								
		Total emissions of waste etc.								✓
		Final emission of waste etc.								✓
		5. Chemical substances								
		Stored chemicals								✓
		Emission amount of chemicals								✓
		Transfer amount of chemicals								✓
		Handling amount of chemicals (usage)								✓
		6. Pollution prevention								
		Overall								
		Status of compliance with regulations and ordinances								✓
		Air conservation								
		Emission levels of air pollution control items, air pollutant emissions								✓
		Water pollution								
		Effluent concentration of water control items, water pollution load								✓
		Soil contamination								
		Status of soil contamination								✓

Source: Created by Nissay Asset Management based on Environmental Reporting Guidelines 2018 version

List of Contents of Annual Securities Report

Content	Disclosure Information Category *							
	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs Strategies and practices
Part 1 【Information on Securities】								
Part 2 【Information on the Company】								
Chapter 1 【Overview of the Company】								
1 【Selected Financial Data】	n/a							
2 【History】	✓							
3 【Business Overview】	✓							
4 【Affiliated Companies】	✓							
5 【Employees】	✓		✓					✓
Chapter 2 【Operating and Financial Review and Prospects】								
1 【Management Policies, Operating Environment, and Management Issues】		✓		✓		✓	✓	✓
2 【Risk Factors】						✓	✓	✓
3 【Management's Discussion and Analysis of Financial Position, Operating Results and Cash Flows】						✓	✓	✓
4 【Material Contracts】	✓							
5 【Research & Development】	✓							
Chapter 3 【Equipment and Facilities】								
1 【Overview of Capital Expenditures】	✓							
2 【Major Equipment and Facilities】	✓							
3 【Plans for New Additions or Disposals】	✓							
Chapter 4 【Corporate Information】								
1 【Status on the Shares】					✓			
2 【Acquisition of Treasury Stock and Other Related Status】					✓			
3 【Shareholder Return Policy】					✓			
4 【Corporate Governance】					✓			✓
Chapter 5 【Financial Information】								
1 【Consolidated Financial Statements】	n/a							
2 【Others】	n/a							
Chapter 6 【Outline Regarding the Administration of the Stock】								
Chapter 7 【Reference Information of Reporting Company】								
1 【Information on the Parent Company】	✓				✓			
2 【Other Reference information】	n/a							

* The table indicate that relevant information categories for each disclosure context. However, it does not necessarily mean that the corresponding information is disclosure by every company.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of "Cabinet Office Ordinance on the Disclosure of Corporate Affairs, etc." and "Principles for the Disclosure of Narrative Information."

List of Contents of Corporate Governance Report

Content	Disclosure Information Category *							
	Summary of organization or business	Business model	Message from director and/or management	Communication with stakeholders	Governance	Identification of materiality	Recognition of ESG risks and opportunities	KPIs Strategies and practices
I. Basic Views on Corporate Governance, Capital Structure, Corporate Attributes, and Other Basic Information								
■ 1. Basic Views								
(1) Reasons for Non-compliance with Principles of Japan's Corporate Governance Code								
(2) Disclosure Based on Principles of Japan's Corporate Governance Code								
■ 2. Capital Structure								
(1) Percentage of Foreign Shareholders								
(2) Status of Major Shareholders					✓			
(3) Controlling Shareholder (except for Parent Company)								
(4) Parent Company								
(5) Supplementary Explanation								
■ 3. Corporate Attributes								
(1) Listed Stock Market and Market Division								
(2) Fiscal Year-End								
(3) Sector Classification								✓
(4) Number of Employees (consolidated) as of the End of the Previous Fiscal Year								
(5) Revenue (consolidated) for the Previous Fiscal Year								
(6) Number of Consolidated Subsidiaries as of the End of the Previous Fiscal Year								
■ 4. Policy on Measures to Protect Minority Shareholders in Conducting Transactions with Controlling Shareholder					✓			
■ 5. Special Circumstances which may have Material Impact on Corporate Governance					✓			
II. Business Management Organization and Other Corporate Governance Systems regarding Decision Making, Execution of Business, and Oversight								
■ 1. Organizational Composition and Operation								
(1) Organization Form								
(2) Directors								
(3) Auditors(Kansayaku) *For companies with board of company auditors								
(3) Audit committee *For companies with audit and supervisory committee								
(4) Voluntary Establishment of Committee *Same as above								
(3) Committees For companies with nominating committee, etc.								
(4) Executive Officers (Shikkoyaku) *Same as above								
(5) Auditing Structure *Same as above								
(4) Independent Directors								✓
(5) Incentives								
(6) Remuneration for Directors/Executive Officers								
(7) Supporting System for Outside Directors								
(8) Persons holding advisory positions (sodanyaku, komon, etc.) after retiring as representative director and president, etc.								
■ 2. Matters on Functions of Business Execution, Auditing, Oversight, Nomination, and Remuneration Decisions (Overview of Current Corporate Governance System)								
■ 3. Reasons for Adoption of Current Corporate Governance System								
III. Implementation of Measures for Shareholders and Other Stakeholders								
■ 1. Measures to Vitalize the General Shareholders Meeting and Smooth Exercise of Voting Rights					✓			
■ 2. IR Activities					✓			
■ 3. Measures to Ensure Due Respect for Stakeholders			✓		✓			
IV. Matters Related to the Internal Control System								
■ 1. Basic Views on Internal Control System and the Progress of System Development								
■ 2. Fundamental Approach to Eliminating Anti-Social Forces and State of Related Efforts					✓			
V. Other								
■ 1. Adoption of Anti-Takeover Measures					✓			
■ 2. Other Matters Concerning Corporate Governance System								

* The table indicate that relevant information categories for each disclosure context. However, it does not necessarily mean that the corresponding information is disclosure by every company.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of "Preparation Guidelines for Corporate Governance Reports."

Appendix
2

Comparative Analysis for ESG Information Disclosure Frameworks/ Standards (detailed version)

Disclosure Information Category	Global				Japan			
	International <IR> Framework	GRI Standards	SASB Standards	TCFD Final Recommendations	Guidance for Collaborative Value Creation	Environmental Reporting Guidelines 2018 version	Annual Securities Report	Corporate Governance Report
Summary of organization or business	Content Element A-1 Organizational overview (What does the organization do?)	Disclosure 102-1 Name of the organization Disclosure 102-2 Activities, brands, products, and services Disclosure 102-3 Location of headquarters Disclosure 102-4 Location of operations Disclosure 102-5 Ownership and legal form Disclosure 102-6 Markets served Disclosure 102-7 Scale of the organization Disclosure 102-8 Information on employees and other workers Disclosure 102-9 Supply chain Disclosure 102-10 Significant changes to the organization and its supply chain Disclosure 102-11 Precautionary Principle or approach Disclosure 102-12 External initiatives Disclosure 102-13 Membership of associations					Chapter 1【Overview of the Company】 2【History】 3【Business Overview】 4【Affiliated Companies】 5【Employees】 Chapter 2【Operating and Financial Review and Prospects】 4【Material Contracts】 5【Research & Development】 Chapter 3【Equipment and Facilities】 1【Overview of Capital Expenditures】 2【Major Equipment and Facilities】 3【Plans for New Additions or Disposals】 Chapter 7【Reference Information of Reporting Company】 1【Information on the Parent Company】	I. Basic Views on Corporate Governance, Capital Structure, Corporate Attributes, and Other Basic Information ■ 3. Corporate Attributes
Environmentally related including climate change						Chapter 2 6. Value chain management • Overview of value chain • Situation of environmental-friendly products/services		
Business model (Comprehensive and systematic description)	Content Element C Business model (What is the organization's business model?)				2. Business Model 2.1. Position in the Competitive Landscape 2.2. Essential Elements for Ensuring Competitive Advantage		Chapter 2【Operating and Financial Review and Prospects】 1【Management Policies, Operating Environment, and Management Issues】	
Environmentally related including climate change						Chapter 2 5. Business model • Business model of reporting company		
Message from director and/or management		Disclosure 102-14 Statement from senior decision-maker					Chapter 2【Operating and Financial Review and Prospects】 1【Management Policies, Operating Environment, and Management Issues】 (reshown)	
Environmentally related including climate change						Chapter 2 1. Commitment of managers • Commitment of managers in relation to important environmental issues		
Communication with stakeholders	※ White it is not included in the content elements, the integrated report as a whole is positioned as providing information on the relationship between the organization and key stakeholders.	Disclosure 102-40 List of stakeholder groups Disclosure 102-42 Identifying and selecting stakeholders Disclosure 102-43 Approach to stakeholder engagement Disclosure 102-44 Key topics and concerns raised			3. Sustainability/Growth 3.2. Relationships with Key Stakeholders		Chapter 1【Overview of the Company】 5【Employees】 (reshown)	III. Implementation of Measures for Shareholders and Other Stakeholders ■ 3. Measures to Ensure Due Respect for Stakeholders
Environmentally related including climate change						Chapter 2 3. Situation of stakeholder engagement • Policy dealing with stakeholders • Overview of implemented stakeholder engagement		
Governance (Structure, discipline and mechanism etc.)	Content Element B Governance (How does the organization's governance structure support its ability to create value in the short, medium and long term?)	Disclosure 102-16 Values, principles, standards, and norms of behavior Disclosure 102-17 Mechanisms for advice and concerns about ethics Disclosure 102-18 Governance structure Disclosure 102-19 Delegating authority Disclosure 102-20 Executive-level responsibility for economic, environmental, and social topics Disclosure 102-21 Consulting stakeholders on economic, environmental, and social topics Disclosure 102-22 Composition of the highest governance body and its committees Disclosure 102-23 Chair of the highest governance body Disclosure 102-24 Nominating and selecting the highest governance body Disclosure 102-25 Conflicts of interest Disclosure 102-26 Role of highest governance body in setting purpose, values, and strategy Disclosure 102-27 Collective knowledge of highest governance body Disclosure 102-28 Evaluating the highest governance body's performance Disclosure 102-29 Identifying and managing economic, environmental, and social impacts Disclosure 102-30 Effectiveness of risk management processes Disclosure 102-31 Review of economic, environmental, and social topics Disclosure 102-32 Highest governance body's role in sustainability reporting Disclosure 102-33 Communicating critical concerns Disclosure 102-34 Nature and total number of critical concerns Disclosure 102-35 Remuneration policies Disclosure 102-36 Process for determining remuneration Disclosure 102-37 Stakeholders' involvement in remuneration Disclosure 102-38 Annual total compensation ratio Disclosure 102-39 Percentage increase in annual total compensation ratio Disclosure 102-45 Entities included in the consolidated financial statements Disclosure 403-1 Occupational health and safety management system	*See Appendix 1 In addition, general guidance about governance applicable to all sectors/ESG issues are provided in "SASB Standards Application Guidance"		1. Values 1.1. Corporate Philosophy and Vision 5. Performance and Key Performance Indicators (KPIs) 5.4. Awareness of Cost of Capital 6. Governance 6.1. Ensuring the Strength of the Board 6.2. Skill and Diversity of CEOs and Senior Executives 6.3. Skill and Diversity of Non-Executive Directors 6.4. Monitoring Strategic Decisions 6.5. Shareholder Return Policies 6.6. Compensation Policies 6.7. Reviewing Board Effectiveness and Identifying Priority Issues	Chapter 4【Corporate Information】 1【Status on the Shares】 2【Acquisition of Treasury Stock and Other Related Status】 3【Shareholder Return Policy】 4【Corporate Governance】 Chapter 7【Reference Information of Reporting Company】 1【Information on the Parent Company】 (reshown)	I. Basic Views on Corporate Governance, Capital Structure, Corporate Attributes, and Other Basic Information ■ 1. Basic Views ■ 2. Capital Structure ■ 4. Policy on Measures to Protect Minority Shareholders in Conducting Transactions with Controlling Shareholder ■ 5. Special Circumstances which may have Material Impact on Corporate Governance II. Business Management Organization and Other Corporate Governance Systems regarding Decision Making, Execution of Business, and Oversight ■ 1. Organizational Composition and Operation ■ 2. Matters on Functions of Business Execution, Auditing, Oversight, Nomination, and Remuneration Decisions (Overview of Current Corporate Governance System) ■ 3. Reasons for Adoption of Current Corporate Governance System III. Implementation of Measures for Shareholders and Other Stakeholders ■ 1. Measures to Vitalize the General Shareholders Meeting and Smooth Exercise of Voting Rights ■ 2. IR Activities ■ 3. Measures to Ensure Due Respect for Stakeholders (reshown) IV. Matters Related to the Internal Control System ■ 1. Basic Views on Internal Control System and the Progress of System Development ■ 2. Fundamental Approach to Eliminating Anti-Social Forces and State of Related Efforts V. Other ■ 1. Adoption of Anti-Takeover Measures ■ 2. Other Matters Concerning Corporate Governance System	
Environmentally related including climate change			*See Appendix 1	G. a) Describe the board's oversight of climate-related risks and opportunities. G. b) Describe management's role in assessing and managing climate-related risks and opportunities. R. a) Describe the organization's processes for identifying and assessing climate-related risks. R. c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.		Chapter 2 2. Governance • Governance structure of reporting company • Person responsible for management of important environmental issues • Role of board of directors and business execution organization in managing important environmental issues Chapter 2 4. Risk management • Positioning of the above method in the company-wide risk management		
Identification of materiality (Identification of important ESG issues)	Content Element H Basis of preparation and presentation (How does the organization determine what matters to include in the integrated report and how are such matters quantified or evaluated?)	Disclosure 102-46 Defining report content and topic Boundaries Disclosure 102-47 List of material topics Disclosure 103-1 Explanation of the material topic and its Boundary	※The standards themselves define disclosure topics for each 77 industry by reflecting materiality of industry (it defines that it is the company to make the final decision as to which topic are financially material.).	R. a) Describe the organization's processes for identifying and assessing climate-related risks. (reshown) * Supplementary guidance are issued for certain sectors which are more likely to be financially impacted by climate change. ...	1. Values 1.2. Relationship with Society	Chapter 2 9. Method to identify important environmental issues • Procedure in reporting company to identify important environmental issues • List of identified important environmental issues • Reason why the identified environmental issues are determined important • Boundary of important environmental issues	Chapter 2【Operating and Financial Review and Prospects】 1【Management Policies, Operating Environment, and Management Issues】 (reshown) 2【Risk Factors】 3【Management's Discussion and Analysis of Financial Position, Operating Results and Cash Flows】	
Definition of materiality	Matters that substantively affect the organization's ability to create value over the short, medium and long term.	Topic that reflects a reporting organization's significant economic, environmental and social impacts; or that substantively influences the assessments and decisions of stakeholders.	A minimum set of sustainability issues most likely to impact the operating performance or financial condition of the typical company in an industry, regardless of location.	Material information which public companies have a legal obligation to disclose in their financial filings. * In most G20 jurisdictions, public companies have a legal obligation to disclose material information including material climate-related information.	Items relevant to their business models.	Environmental issues, where business activities have a significant impact directly (company's production activities) and/or indirectly (upstream and/or downstream of company's value chain), to be addressed by companies in order to grow on a short, medium, and long-term in a sustainable society	Materiality of narrative information disclosure should be determined whether or not it is important for investors' decision makings.	

Disclosure Information Category	Global				Japan			
	International <IR> Framework	GRI Standards	SASB Standards	TCFD Final Recommendations	Guidance for Collaborative Value Creation	Environmental Reporting Guidelines 2018 version	Annual Securities Report	Corporate Governance Report
Recognition of ESG risks and opportunities (including recognition and prospects of financial impacts)	Content Element A-2 External environment (What are the circumstances under which it operates?) Content Element D-1 Risks and opportunities (What are the specific risks and opportunities that affect the organization's ability to create value over the short, medium and long term?) Content Element G Outlook (What challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance?)	Disclosure 102-15 Key impacts, risks, and opportunities Disclosure 205-1 Operations assessed for risks related to corruption Disclosure 403-2 Hazard identification, risk assessment, and incident investigation Disclosure 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk Disclosure 408-1 Operations and suppliers at significant risk for incidents of child labor Disclosure 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor Disclosure 413-2 Operations with significant actual and potential negative impacts on local communities	<i>*See Appendix 1</i>		1. Values 1.2. Relationship with Society (reshown) 3. Sustainability/Growth 3.1. Recognition of ESG Factors 3.3. Risk in a Changing Environment		Chapter 2【Operating and Financial Review and Prospects】 1【Management Policies, Operating Environment, and Management Issues】(reshown) 2【Risk Factors】(reshown) 3【Management's Discussion and Analysis of Financial Position, Operating Results and Cash Flows】(reshown)	
Environmentally related including climate change		Disclosure 201-2 Financial implications and other risks and opportunities due to climate change Disclosure 303-1 Interactions with water as a shared resource Disclosure 306-5 Water bodies affected by water discharges and/or runoff	<i>*See Appendix 1</i>	S_a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. S_b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. M_b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.		4. Risk management • Identification, evaluation and handling method of risk 10. Important environmental issues for reporting company • If the financial impact of risks / opportunities is large, the amount of impact and calculation methods		
Utilization of climate scenario analysis			<i>* SASB Standards recommend that 12 out of 77 industries conduct climate scenario analysis on the specific matters</i>	S_c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.		<i>* While it is not included in the disclosure matters, the guideline points out that "it is necessary to be aware of in information disclosure in the future, since the scenario analysis is recommended by TCFD".</i>		
Strategies and practices (For material issues)	Content Element D-2 Dealt with Risks and opportunities (How is the organization dealing with them?) Content Element E Strategy and resource allocation (Where does the organization want to go and how does it intend to get there?)	Disclosure 103-2 The management approach and its components Disclosure 103-3 Evaluation of the management approach Disclosure 201-3 Defined benefit plan obligations and other retirement plans Disclosure 203-1 Infrastructure investments and services supported Disclosure 403-2 Hazard identification, risk assessment, and incident investigation (reshown) Disclosure 403-3 Occupational health services Disclosure 403-4 Worker participation, consultation, and communication on occupational health and safety Disclosure 403-5 Worker training on occupational health and safety Disclosure 403-6 Promotion of worker health Disclosure 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships Disclosure 404-2 Programs for upgrading employee skills and transition assistance programs (reshown) Disclosure 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk (reshown) Disclosure 408-1 Operations and suppliers at significant risk for incidents of child labor (reshown) Disclosure 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor (reshown) Disclosure 413-1 Operations with local community engagement, impact assessments, and development programs (reshown) Disclosure 417-1 Requirements for product and service information and labeling	<i>*See Appendix 1</i>		1. Values 1.1. Corporate Philosophy and Vision (reshown) 4. Strategy 4.1. Improving Company Positions within the Value Chain 4.2. Securing and Enhancing Management Resources and Intangible Assets 4.3. Strategy for ESG Integration 4.4. Capital Allocation Strategy		Chapter 2【Operating and Financial Review and Prospects】 1【Management Policies, Operating Environment, and Management Issues】(reshown) 2【Risk Factors】(reshown) 3【Management's Discussion and Analysis of Financial Position, Operating Results and Cash Flows】(reshown)	
Environmentally related including climate change		Disclosure 201-2 Financial implications and other risks and opportunities due to climate change (reshown) Disclosure 303-1 Interactions with water as a shared resource (reshown) Disclosure 303-2 Management of water discharge-related impacts	<i>*See Appendix 1</i>	S_b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. (reshown) R_b) Describe the organization's processes for managing climate-related risks.		Chapter 2 6. Value chain management • Method, targets and performance of green procurement Chapter 2 7. Long-term vision • Long-term vision • Time horizon of long-term vision • Reason for selecting that time horizon Chapter 2 8. Strategy • Business strategy of reporting company for realization of a sustainable society Chapter 2 10. Important environmental issues of reporting company • Policy and action plan • Target and performance by KPIs • Calculation methods of KPIs • Boundary of KPIs		
KPIs (For material issues)	Content Element F Performance (To what extent has the organization achieved its strategic objectives for the period and what are its outcomes in terms of effects on the capitals?)	Disclosure 102-41 Collective bargaining agreements <i>* In addition, individual standards for economic, environmental and social aspects define specific KPIs</i>	<i>*See Appendix 1</i>		5. Performance and Key Performance Indicators (KPIs) 5.2. Setting Strategic KPIs 5.3. Designing Linkages between Corporate Value Creation and Specific KPIs 5.5. Progress Evaluation		Chapter 1【Overview of the Company】 5【Employees】(reshown) Chapter 2【Operating and Financial Review and Prospects】 1【Management Policies, Operating Environment, and Management Issues】(reshown) 3【Management's Discussion and Analysis of Financial Position, Operating Results and Cash Flows】(reshown) Chapter 4【Corporate Information】 4【Corporate Governance】(reshown)	I. Basic Views on Corporate Governance, Capital Structure, Corporate Attributes, and Other Basic Information ■ 3. Corporate Attributes (reshown) II. Business Management Organization and Other Corporate Governance Systems regarding Decision Making, Execution of Business, and Oversight ■ 1. Organizational Composition and Operation (reshown)
Environmentally related including climate change			<i>*See Appendix 1</i>	M_a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. M_b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. (reshown) M_c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.		Chapter 1 2. Changes in major KPIs • Changes in major KPIs Chapter 2 10. Important environmental issues of reporting company • Target and performance by KPIs (reshown) Chapter 2 6. Value chain management • Method, targets and performance of green procurement (reshown)		
Others (Disclosed information that do not fall under any of the above)		Disclosure 102-48 Restatements of information Disclosure 102-49 Changes in reporting Disclosure 102-50 Reporting period Disclosure 102-51 Date of most recent report Disclosure 102-52 Reporting cycle Disclosure 102-53 Contact point for questions regarding the report Disclosure 102-54 Claims of reporting in accordance with the GRI Standards Disclosure 102-55 GRI content index Disclosure 102-56 External assurance			5. Performance and Key Performance Indicators (KPIs) 5.1. Financial Performance	Chapter 1 1. Basic requirements for environmental reporting • Reporting company • Reporting period • Standard / guideline etc. • Overview of environmental report Chapter 2 10. Important environmental issues of reporting company • If the reporting contents are granted a guarantee by an independent third party, the guarantee report.	Chapter 1【Overview of the Company】 1【Selected Financial Data】 Chapter 5【Financial Information】 1【Consolidated Financial Statements】 2【Others】 Chapter 6【Outline Regarding the Administration of the Stock】 Chapter 7【Reference Information of Reporting Company】 2【Other Reference information】	

Note1: Disclosure items and indicators of each ESG information disclosure frameworks/standards are classified into the 10 categories considered to be most relevant. However, it does not necessarily mean that the items and indicators in each category with a circle match exactly with each other.

Note2: For the TCFD column, G=Governance, S=Strategy, R=Risk management, and M=Metrics and Targets.

Source: Prepared by Nissay Asset Management Co., Ltd. on the basis of each ESG information disclosure frameworks/standards and other various data.

Appendix 3

Provisional Common Parts by Sector^{*}

(i) Consumer Goods

Industry:

Apparel, Accessories & Footwear / Appliance Manufacturing / Building Products & Furnishings / E-Commerce / Household & Personal Products / Multiline and Specialty Retailers & Distributors / Toys & Sporting Goods

Overview of ESG issues related to sectors

In the consumer goods sector, ESG issues such as the safety issues of products including the potential effects of chemical substances used in products, the environmental impacts through the product lifecycle, waste generation from packaging materials, and environmental and labor issues within the supply chain are deeply related.

In addition, labor practices are an important issue especially for retailers and distributors, and data security and environmental impact by the data centers such as energy consumption and water use are also significant issues for e-commerce and other related businesses.

The SASB Standards set out the following disclosure topics for each industry of the consumer goods sector.

Fig: List of disclosure topics in the consumer goods sector in SASB Standards

Industry	Disclosed topic
Apparel, Accessories & Footwear	<ul style="list-style-type: none"> - Management of Chemicals in Products - Labor Conditions in the Supply Chain - Environmental Impacts in the Supply Chain - Raw Materials Sourcing
Appliance Manufacturing	<ul style="list-style-type: none"> - Product Safety - Product Lifecycle Environmental Impacts
Building Products & Furnishings	<ul style="list-style-type: none"> - Energy Management in Manufacturing - Management of Chemicals in Products - Product Lifecycle Environmental Impacts - Wood Supply Chain Management
E-Commerce	<ul style="list-style-type: none"> - Hardware Infrastructure Energy & Water Management - Data Privacy & Advertising Standards - Data Security - Employee Recruitment, Inclusion & Performance - Product Packaging & Distribution

^{*} As discussed in 2.2.3 (iv), it is clear that on a conceptual level there are certain common parts for the ESG information disclosure frameworks/standards surveyed in this research, but at the level of individual disclosure items and indicators, we found that it is often difficult to definitely delineate the common parts and differences. The common parts shown in this appendix are the result of an attempt to extract elements that are deemed to be common, but it should be noted that it does not necessarily ensure an exactingness. When actually utilizing these, please also refer to the original documents for each of the ESG information disclosure frameworks/standards.

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Household & Personal Products	<ul style="list-style-type: none"> - Water Management - Product Environmental, Health, and Safety Performance - Packaging Lifecycle Management - Environmental & Social Impacts of Palm Oil Supply Chain
Multiline and Specialty Retailers & Distributors	<ul style="list-style-type: none"> - Energy Management in Retail & Distribution - Data Security - Labor Practices - Workforce Diversity & Inclusion - Product Sourcing, Packaging & Marketing
Toys & Sporting Goods	<ul style="list-style-type: none"> - Chemical & Safety Hazards of Products - Labor Conditions in the Supply Chain

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the consumer goods sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the consumer goods sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> ▪ Description of process to assess and efforts to manage risks regarding product safety, including chemicals and emerging materials contained in the products ▪ Description of process for legal and regulatory compliance regarding the use of chemicals for manufacturing of products ▪ Description of practices to reduce environmental impacts of product lifecycle and reduce end-of-life wastes ▪ Description of practices to reduce environmental impacts of packaging ▪ Description of practices to reduce environmental impacts of product delivery ▪ Description of practices to identify and address data security risks ▪ Description of policies and practices relating to behavioral advertising and consumer privacy ▪ Description of the integration of environmental consideration into data center planning ▪ Description of risks related to water withdrawal and discharge, and effort to manage them ▪ Description of environmental and social risks such as occupational health and safety

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the consumer goods sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the consumer goods sector (quantitative information)

Indicator (quantitative information)
• Energy consumption and the percentage of renewable energy
• GHG emissions associated with product delivery
• Water withdrawal and consumption, percentage in regions with high water stress
• Amount of end-of-life products collected, and percentage recycled
• Volume of packing materials used, of which recycled materials are used
• Employee turnover rate
• Employee engagement, percentage to the total number of employees
• Diversity of management and employees (gender, minorities, etc.)
• Average wage of in-store employees, and comparison to the minimum wage in the location
• Percentage of suppliers evaluated and/or audited from the environmental/social aspects (including the percentage of suppliers that meet the environmental/social standards, and/or that have obtained third-party certification)
• Number of products recalled and details thereof
• Number and details of violations of environmental regulations, product safety, personal information

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 202: Market Presence 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 308: Supplier Environmental Assessment 2016
- GRI 404: Training and Education 2016
- GRI 405: Diversity and Equal Opportunity 2016
- GRI 414: Supplier Social Assessment 2016
- GRI 416: Customer Health and Safety 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Apparel, Accessories & Footwear, Sustainability Accounting Standard, Version 2018-10
- SASB, Appliance Manufacturing, Sustainability Accounting Standard, Version 2018-10
- SASB, Building Products & Furnishings, Sustainability Accounting Standard, Version 2018-10
- SASB, E-Commerce, Sustainability Accounting Standard, Version 2018-10
- SASB, Household & Personal Products, Sustainability Accounting Standard, Version 2018-10
- SASB, Multiline and Specialty Retailers & Distributors, Sustainability Accounting Standard, Version 2018-10
- SASB, Toys & Sporting Goods, Sustainability Accounting Standard, Version 2018-10

(ii) Extractives & Minerals Processing

Industry:

Coal Operations / Construction Materials / Iron & Steel Producers / Metals & Mining / Oil & Gas – Exploration & Production / Oil & Gas – Midstream / Oil & Gas – Refining & Marketing / Oil & Gas – Services

Overview of ESG issues related to sectors

The extractives and minerals processing sector have large environmental impacts associated with their operations, and is closely related to ESG issues such as greenhouse gas emissions, air pollution, water resource consumption, waste generation, and negative impacts on biodiversity.

On the social aspects, workplace health and safety is an important issue, and the negative impacts on local communities such as indigenous peoples at extractive sites of various resources is also an issue.

In addition, there are also concerns about the long-term effects of climate change on business activities which are highly dependent on fossil fuels such as coal, oil and gas. The negative impacts on business activities associated with the introduction and strengthening of various laws and regulations including environmental regulations and risk management of critical incidents are also important issues.

The SASB Standards set out the following disclosure topics for each industry of the extractives and minerals processing sector.

Fig: List of disclosure topics in the extractives & minerals processing sector in SASB Standards

Industry	Disclosed topic
Coal Operations	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Water Management - Waste Management - Biodiversity Impacts - Rights of Indigenous Peoples - Community Relations - Labor Relations - Workforce Health & Safety - Reserves Valuation & Capital Expenditures
Construction Materials	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Energy Management - Water Management - Waste Management - Biodiversity Impacts - Workforce Health & Safety - Product Innovation - Pricing Integrity & Transparency
Iron & Steel Producers	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Emissions - Energy Management - Water Management - Waste Management

	<ul style="list-style-type: none"> - Workforce Health & Safety - Supply Chain Management
Metals & Mining	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Energy Management - Water Management - Waste & Hazardous Materials Management - Biodiversity Impacts - Security, Human Rights & Rights of Indigenous Peoples - Community Relations - Labor Relations - Workforce Health & Safety - Business Ethics & Transparency
Oil & Gas – Exploration & Production	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Water Management - Biodiversity Impacts - Security, Human Rights & Rights of Indigenous Peoples - Community Relations - Workforce Health & Safety - Reserves Valuation & Capital Expenditures - Business Ethics & Transparency - Management of the Legal & Regulatory Environment - Critical Incident Risk Management
Oil & Gas – Midstream	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Ecological Impacts - Competitive Behavior - Operational Safety, Emergency Preparedness & Response
Oil & Gas – Refining & Marketing	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Water Management - Hazardous Materials Management - Workforce Health & Safety - Product Specifications & Clean Fuel Blends - Pricing Integrity & Transparency - Management of the Legal & Regulatory Environment - Critical Incident Risk Management
Oil & Gas – Services	<ul style="list-style-type: none"> - Emissions Reduction Services & Fuels Management - Water Management Services - Chemicals Management - Ecological Impact Management - Workforce Health & Safety - Business Ethics & Payments Transparency - Management of the Legal & Regulatory Environment - Critical Incident Risk Management

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the extractives and minerals processing sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the extractives & minerals processing sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> • Description of how price and demand for hydrocarbon/coal and/or climate regulation influence the capital expenditure strategy for exploration, acquisition and development of assets • Sensitivity analysis of hydrocarbon/coal reserve levels to future price projection scenarios that account for a price on carbon emission • Description of environmental management policies and practices at extractive sites • Description of strategies/plans for addressing risks and opportunities related to ecological impacts • Description of the process for managing iron ore and/or coking coal sourcing risks arising from environmental and social issues. • Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets • Description of strategies/plans for addressing risks, opportunities and impacts related to air pollutant emissions • Description of strategies/plans for addressing risks, opportunities and impacts related to water withdrawal and discharge • Description of strategies/plans for addressing risks, opportunities and impacts related to the use of chemical substances • Description of the management system used to integrate a culture of safety, and emergency preparedness • Description of practices to manage risks related to workforce health and safety • Description of the management system to prevent corruption and bribery • Description of the management system to identify and mitigate the catastrophic accident risks • Description of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry • Description of the process to manage risks and opportunities related to community rights and interests • Description of due diligence mechanisms / processes with respect to human rights, indigenous rights and operations in areas of conflict

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the extractives and minerals processing sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the extractives & minerals processing sector (quantitative information)

Indicator (quantitative information)
• Air pollutants emissions (PM, NO _x , SO _x , VOCs, etc.)
• Percentage of reserves (including probable ones) located in or near areas with high biodiversity value, and status of restored
• Number and volume of environmental spills
• Number and details of violations of environmental regulations
• Energy consumption and the percentage of renewable energy
• Direct GHG emissions (scope 1) and percentage methane for oil and gas (exploration and production, and midstream)
• Volume of waste generated, and percentage recycled
• Water withdrawal and consumption, percentage in regions with high water stress
• Metrics for work-related injuries (such as rate of lost-worktime injuries)
• Percentage of workers covered by collective bargaining agreements in coal or metals and mining
• Percentage of sites located in countries with high risk of corruption
• Amount of monetary losses as a result of anti-competitive behavior
• Percentage of reserves (proved and probable reserves) in or near indigenous land

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 102: General Disclosures 2016
- GRI 205: Anti-corruption 2016
- GRI 206: Anti-competitive Behavior 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 304: Biodiversity 2016
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 403: Occupational Health and Safety 2018
- GRI 411: Rights of Indigenous Peoples 2016
- SASB, Coal Operations, Sustainability Accounting Standard, Version 2018-10
- SASB, Construction Materials, Sustainability Accounting Standard, Version 2018-10
- SASB, Iron & Steel Producers, Sustainability Accounting Standard, Version 2018-10
- SASB, Metals & Mining, Sustainability Accounting Standard, Version 2018-10
- SASB, Oil & Gas – Exploration & Production, Sustainability Accounting Standard, Version 2018-10
- SASB, Oil & Gas – Midstream, Sustainability Accounting Standard, Version 2018-10
- SASB, Oil & Gas – Refining & Marketing, Sustainability Accounting Standard, Version 2018-10
- SASB, Oil & Gas – Services, Sustainability Accounting Standard, Version 2018-10

(iii) Financials

Industry:

Asset Management & Custody Activities / Commercial Banks / Consumer Finance / Insurance / Investment Banking & Brokerage / Mortgage Finance / Security & Commodity Exchanges

Overview of ESG issues related to sectors

In the financials sector, there is a growing concern about the potential effects of climate change on lending, underwriting and/or investment management. So it is becoming more important to consider ESG factors in such decision-makings. Also, since the financial crisis in 2008, there has been a growing interest in systemic risk preparedness, including capital adequacy of financial institutions and management of liquidity risk. In addition, in light of the tightening of financial regulations in Japan and overseas, effective whistleblower system, prevention of conflicts of interest, and ensuring the professional integrity as a financial expert are also important topics.

The SASB Standards set out the following disclosure topics for each industry of the financials sector.

Fig: List of disclosure topics in the financials sector in SASB Standards

Industry	Disclosed topic
Asset Management & Custody Activities	<ul style="list-style-type: none"> - Transparent Information & Fair Advice for Customers - Employee Diversity & Inclusion - Incorporation of Environmental, Social, and Governance Factors in Investment Management & Advisory - Business Ethics - Systemic Risk Management
Commercial Banks	<ul style="list-style-type: none"> - Data Security - Financial Inclusion & Capacity Building - Incorporation of Environmental, Social, and Governance Factors in Credit Analysis - Business Ethics - Systemic Risk Management
Consumer Finance	<ul style="list-style-type: none"> - Customer Privacy - Data Security - Selling Practices
Insurance	<ul style="list-style-type: none"> - Transparent Information & Fair Advice for Customers - Incorporation of Environmental, Social, and Governance Factors in Investment Management - Policies Designed to Incentivize Responsible Behavior - Environmental Risk Exposure - Systemic Risk Management
Investment Banking & Brokerage	<ul style="list-style-type: none"> - Employee Diversity & Inclusion - Incorporation of Environmental, Social, and Governance Factors in Investment Banking & Brokerage Activities - Professional Integrity - Business Ethics - Systemic Risk Management - Employee Incentives & Risk Taking
Mortgage Finance	<ul style="list-style-type: none"> - Lending Practices - Discriminatory Lending - Environmental Risk to Mortgaged Properties

Security & Commodity Exchanges

- Promoting Transparent & Efficient Capital Markets
- Managing Conflicts of Interest
- Managing Business Continuity & Technology Risks

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the financials sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

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Fig: Main disclosure items for the financials sector (descriptive information)

Disclosure item (descriptive information)
• Description of incorporation of ESG factors in credit analysis, investment banking and brokerage activities, investment management (including proxy voting and engagement) or investment advisory
• Description of incorporation of environmental risks into the underwriting process for individual contracts, and the management of firm-level risks and capital adequacy
• Description of how climate change and other environmental risks are incorporated into mortgage origination and underwriting
• Description of insurance products and/or its features that incentivize customers to take health, safety and/or environmentally responsible actions and/or behaviors
• Description of whistleblower policies and procedures
• Description of practices to ensure professional integrity
• Description of policies around supervision, control and validation of traders' pricing of Level 3 assets and liabilities
• Description of management of capital- and liquidity-related risks
• Description of incorporation of results of stress tests into long-term corporate strategies, etc.
• Description of practices to identify and address data security risks
• Description of policies and procedures for ensuring nondiscriminatory mortgage originations
• Description of remuneration structure of loan origination
• Description of practices to inform customers about products and services
• Description of alert policy regarding timing and nature of public release of information
• Description of policy of security exchange to encourage or require listed companies to publicly disclose ESG information
• Description of processes for identifying and assessing conflicts of interest in security and commodity exchange
• Description of practices to prevent technology errors, security breaches and market disruptions

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the financials sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the financials sector (quantitative information)

Indicator (quantitative information)
▪ Diversity of management and employees (gender, minorities, etc.)
▪ Contributions to the local community, such as providing financial services to small business and communities in the region
▪ Provision of financial services to minorities
▪ Number and details of violations, if any, against laws and regulations of anti-competitive behavior, market manipulation and other financial matters, advertisement, personal information protection, customer privacy protection and others
▪ Number of complaints from customers, number of administrative disposition

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 203: Indirect Economic Impacts 2016
- GRI 206: Anti-competitive Behavior 2016
- GRI 405: Diversity and Equal Opportunity 2016
- GRI 406: Non-discrimination 2016
- GRI 411: Rights of Indigenous Peoples 2016
- GRI 413: Local Communities 2016
- GRI 417: Marketing and Labeling 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Asset Management & Custody Activities Standard, Sustainability Accounting Standard, Version 2018-10
- SASB, Commercial Banks, Sustainability Accounting Standard, Version 2018-10
- SASB, Consumer Finance, Sustainability Accounting Standard, Version 2018-10
- SASB, Insurance, Sustainability Accounting Standard, Version 2018-10
- SASB, Investment Banking, Sustainability Accounting Standard, Version 2018-10
- SASB, Mortgage, Sustainability Accounting Standard, Version 2018-10
- SASB, Security Commodity, Sustainability Accounting Standard, Version 2018-10

(iv) Food & Beverage

Industry:

Agricultural Products / Alcoholic Beverages / Food Retailers & Distributors / Meat, Poultry & Dairy / Non-Alcoholic Beverages / Processed Foods / Restaurants / Tobacco

Overview of ESG issues related to sectors

The food and beverage sector is closely related to environmental issues such as greenhouse gas emissions in product manufacturing, processing and distribution, energy consumption and water resource consumption. The relationship between business activities and climate change is also strong, and there is a growing concern about the adverse effects in accordance with the use of water resources and raw materials and feeds sourcing. Furthermore, waste of containers and packages, environmental and labor issues within the supply chain, etc. are important issues.

On the social aspects, in addition to food safety and health issues including obesity, there are issues such as food waste and the responsible labeling and marketing of products. Labor practices are important, especially for food retailers, distributors and restaurants. Data security is becoming important in retail industries due to the spread of electronic payments.

In addition, concerns regarding the use of genetically modified organizations (GMOs) and animal welfare of livestock within the supply chain are growing especially in overseas consumers. There are also controversies related to the marketing practices of certain products such as alcohol and tobaccos.

The SASB Standards set out the following disclosure topics for each industry of the food and beverage sector.

Fig: List of disclosure topics in the food and beverage sector in SASB Standards

Industry	Disclosed topic
Agricultural Products	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Energy Management - Water Management - Food Safety - Workforce Health & Safety - GMO Management - Environmental & Social Impacts of Ingredient Supply Chain - Ingredient Sourcing
Alcoholic Beverages	<ul style="list-style-type: none"> - Energy Management - Water Management - Responsible Drinking & Marketing - Packaging Lifecycle Management - Environmental & Social Impacts of Ingredient Supply Chain - Ingredient Sourcing
Food Retailers & Distributors	<ul style="list-style-type: none"> - Air Emissions from Refrigeration - Fleet Fuel Management - Energy Management - Food Waste Management - Data Security - Food Safety - Product Health & Nutrition

	<ul style="list-style-type: none"> - Product Labeling & Marketing - Labor Practices - Management of Environmental & Social Impacts in the Supply Chain
Meat, Poultry & Dairy	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Energy Management - Water Management - Land Use & Ecological Impacts - Food Safety - Antibiotic Use in Animal Production - Workforce Health & Safety - Animal Care & Welfare - Environmental & Social Impacts of Animal Supply Chain - Animal & Feed Sourcing
Non-Alcoholic Beverages	<ul style="list-style-type: none"> - Fleet Fuel Management - Energy Management - Water Management - Health & Nutrition - Product Labeling & Marketing - Packaging Lifecycle Management - Environmental & Social Impacts of Ingredient Supply Chain - Ingredient Sourcing
Processed Foods	<ul style="list-style-type: none"> - Energy Management - Water Management - Food Safety - Health & Nutrition - Product Labeling & Marketing - Packaging Lifecycle Management - Environmental & Social Impacts of Ingredient Supply Chain - Ingredient Sourcing
Restaurants	<ul style="list-style-type: none"> - Energy Management - Water Management - Food & Packaging Waste Management - Food Safety - Nutritional Content - Labor Practices - Supply Chain Management & Food Sourcing
Tobacco	<ul style="list-style-type: none"> - Public Health - Marketing Practices

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “*governance*,” “*recognition of risks and opportunities*” and “*strategies and practices*”]

Regarding descriptive information on “*governance*,” “*recognition of risks and opportunities*” “*strategies and practices*”, following disclosure items are mainly recommended for the food and beverage sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the food and beverage sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> • Description of the environmental and social risks associated with the sourcing of raw materials for foods and/or beverages • Description of risks and opportunities associated with climate change in the sourcing of agricultural and livestock products, and practices to address them • Description of practices to reduce environmental and social risks within the supply chain (including animal welfare) • Description of practices to reduce environmental impacts of packaging • Description of the strategies for using genetically modified organisms(GMOs) • Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets • Description of risks related to water withdrawal and discharge, and effort to manage them • Description of efforts to assess, monitor and improve workforce health in meat, poultry and dairy • Description of the process to identify and reflect consumers health concerns to food products • Description of the process to identify risks and opportunities associated with "tobacco harm reduction" products • Description of the entity's marketing policy against the WHO Framework Convention on Tobacco Control • Description of the market that ban imports of the entity's livestock products • Description of practices to identify and address data security risks • Description of efforts to promote responsible consumption of alcohol

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the food and beverages sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the food and beverages sector (quantitative information)

Indicator (quantitative information)
<ul style="list-style-type: none"> • Volume of packing materials used, of which recycled materials are used • Percentage of suppliers that are evaluated or audited from the environmental/social aspects (e.g. percentage of suppliers that meet the environmental and/or social standards, or that have obtained third-party certification) • Percentage of farms located in or near areas with high biodiversity value • Energy consumption and the percentage of renewable energy • Direct GHG emissions (scope 1) • Volume of food waste generated, and percentage recycled • Water withdrawal and consumption, percentage in regions with high water stress • Metrics for work-related injuries (such as rate of lost-worktime injuries) • Percentage of workers covered by collective bargaining agreements in food retailers and distributors • Number of products recalled and details thereof • Number and details of violations, if any, against laws and regulations of environmental protection, personal information protection, advertisement and indication and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 102: General Disclosures 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 304: Biodiversity 2016
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 308: Supplier Environmental Assessment 2016
- GRI 403: Occupational Health and Safety 2018
- GRI 414: Supplier Social Assessment 2016
- GRI 416: Customer Health and Safety 2016
- GRI 417: Marketing and Labeling 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Agricultural Products, Sustainability Accounting Standard, Version 2018-10
- SASB, Alcoholic Beverages, Sustainability Accounting Standard, Version 2018-10
- SASB, Food Retailers & Distributors, Sustainability Accounting Standard, Version 2018-10
- SASB, Meat, Poultry & Dairy, Sustainability Accounting Standard, Version 2018-10
- SASB, Non-Alcoholic Beverages, Sustainability Accounting Standard, Version 2018-10
- SASB, Processed Foods, Sustainability Accounting Standard, Version 2018-10
- SASB, Restaurants, Sustainability Accounting Standard, Version 2018-10
- SASB, Tobacco, Sustainability Accounting Standard, Version 2018-10

(v) Health Care

Industry:

Biotechnology & Pharmaceuticals / Drug Retailers / Health Care Delivery / Health Care Distributors / Managed Care / Medical Equipment & Supplies

Overview of ESG issues related to sectors

In the healthcare sector, safety of pharmaceuticals and medical devices is an important issue, and dealing with unethical business practices such as corruption and bribery is also an industry-wide issue. In addition, counterfeit drugs are spreading within the distribution chain, effective measures to prevent the distribution are required for the industry. Data security is also becoming an important due to the computerization of personal privacy information such as medical records of patients (as customers). Also, companies' efforts on the access to health care have received increased attention, mainly in overseas.

The relation with environmental issues is a relatively weak in the healthcare sector except for the energy consumption in the drug stores, and greenhouse gas emissions in the healthcare distribution chain.

The SASB Standards set out the following disclosure topics for each industry of the healthcare sector.

Fig: List of disclosure topics in the healthcare sector in SASB Standards

Industry	Disclosed topic
Biotechnology & Pharmaceuticals	<ul style="list-style-type: none"> - Safety of Clinical Trial Participants - Access to Medicines - Affordability & Pricing - Drug Safety - Counterfeit Drugs - Ethical Marketing - Employee Recruitment, Development & Retention - Supply Chain Management - Business Ethics
Drug Retailers	<ul style="list-style-type: none"> - Energy Management in Retail - Data Security & Privacy - Drug Supply Chain Integrity - Patient Health Outcomes - Management of Controlled Substances
Health Care Delivery	<ul style="list-style-type: none"> - Energy Management - Waste Management - Patient Privacy & Electronic Health Records - Access for Low-Income Patients - Quality of Care & Patient Satisfaction - Management of Controlled Substances - Pricing & Billing Transparency - Employee Health & Safety - Employee Recruitment, Development & Retention - Climate Change Impacts on Human Health & Infrastructure - Fraud & Unnecessary Procedures
Health Care Distributors	<ul style="list-style-type: none"> - Fleet Fuel Management - Product Safety

	<ul style="list-style-type: none"> - Counterfeit Drugs - Product Lifecycle Management - Business Ethics
Managed Care	<ul style="list-style-type: none"> - Customer Privacy & Technology Standards - Access to Coverage - Plan Performance - Improved Outcomes - Climate Change Impacts on Human Health
Medical Equipment & Supplies	<ul style="list-style-type: none"> - Affordability & Pricing - Product Safety - Ethical Marketing - Product Design & Lifecycle Management - Supply Chain Management - Business Ethics

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the healthcare sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the healthcare sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> ▪ Description of policies and practices to address the physical risks due to an increased frequency and intensity of extreme weather events, and changes in the morbidity and mortality rates of illness and diseases associated with climate change in medical institution ▪ Description of the effects of climate change on business operations, and how specific risks presented by changes in the geographic incidences, morbidity, and mortality of illness and diseases are incorporated into risk model ▪ Description of process to assess and manage environmental and human health considerations associated with chemicals in medical products, and meet demand for sustainable products ▪ Description of practices to reduce the environmental impact of packaging in health care distribution ▪ Description of the risk management associated with the use of critical materials in medical equipment ▪ Description of practices to maintain traceability within the distribution chain of medical equipment ▪ Description of practices to reduce the environmental impact of logistics in health care distribution ▪ Description of talent recruitment and retention efforts for health care professionals such as research and development ▪ Description of code of ethics governing interactions with health care professionals ▪ Description of practices to prevent conflicts of interest and unethical business practices ▪ Description of practices to improve insurance application for patients in medical institutions ▪ Description of practices and initiatives to promote access to medicines for priority diseases and in priority countries defined by “Access to Medicine Index”

- List of products on the WHO List of Prequalified Medicinal Products as part of its Prequalification of Medicines Programme
- Description of how price information for each product is disclosed to customers or to their agents
- Description of methods and technologies used to maintain traceability of products throughout the distribution/supply chain and prevent counterfeiting
- Description of process for alerting customers and business partners of potential or known risks associated with counterfeit products
- Description of due diligence process to quality suppliers of drug products and medical equipment in health care distribution
- Description of policies and practices to manage the number of prescriptions issued for controlled substances in medical institutions
- Description of policies and practices to prevent prescription dispensing errors in medical institutions
- Description of policies and practices to secure customers' personally identifiable information
- Description of management process for ensuring quality and patient safety during clinical trials (by world region)
- List of products listed in the US FDA's MedWatch Safety Alerts for Human Medical Products database
- Description of practices to reduce the occurrence of compromised drugs within the supply chain in drug retailers
- Description of practices to minimize health and safety risks of products sold associated with toxicity/chemical safety, high abuse potential, or delivery in health care distribution
- Description of code of ethics governing promotion of off-label use of medical products
- Description of policies and initiatives to ensure that patients are adequately informed about price before undergoing a procedure in medical institutions
- Discussion of how pricing information for services is made publicly available in medical institutions

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the healthcare sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the healthcare sector (quantitative information)

Indicator (quantitative information)
▪ Amount of reused and recycled through take-back of medical equipment
▪ Percentage of suppliers that are evaluated or audited from the environmental/social aspects (e.g. percentage of suppliers that meet the environmental and/or social standards, or that have obtained a third-party certification)
▪ Energy consumption and the percentage of renewable energy
▪ Payload fuel economy in health care distribution
▪ Amount of medical waste generated, and percentage recycled and landfilled
▪ Employee turnover rate
▪ Metrics for work-related injuries (such as rate of lost-worktime injuries)
▪ Number of products recalled and details thereof
▪ Number and details of violations, if any, against laws and regulations of health care, data security, personal information protection, marketing and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 205: Anti-corruption 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 308: Supplier Environmental Assessment 2016
- GRI 414: Supplier Social Assessment 2016
- GRI 416: Customer Health and Safety 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Biotechnology & Pharmaceuticals, Sustainability Accounting Standard, Version 2018-10
- SASB, Drug Retailers, Sustainability Accounting Standard, Version 2018-10
- SASB, Health Care Delivery, Sustainability Accounting Standard, Version 2018-10
- SASB, Health Care Distributors, Sustainability Accounting Standard, Version 2018-10
- SASB, Managed Care, Sustainability Accounting Standard, Version 2018-10
- SASB, Medical Equipment & Supplies, Sustainability Accounting Standard, Version 2018-10

(vi) Infrastructure

Industry:

Electric Utilities & Power Generators / Engineering & Construction Services / Gas Utilities & Distributors / Home Builders / Real Estate / Real Estate Services / Waste Management / Water Utilities & Services

Overview of ESG issues related to sectors

The infrastructure sector consists of industries with different business contents, and each industry has its own ESG issues.

On the environmental aspects, issues that are closely related to electric utility companies are greenhouse gas emissions, air pollutants emissions, consumption of water resources, and generation of coal ash waste. Construction, home building and real estate industries are closely related to the issues such as land use associated with site selection and development, and the environmental impact associated with the operation of buildings. In the waste management businesses, the treatment of greenhouse gas emissions, air pollutants emissions and generation of waste including hazardous substances in the operation is an important theme. In the water utility business, consumption of water resource is an important issue.

In addition, there are many industries in the sector that are closely related to climate change, and it is also necessary to adapt to the impacts that climate change may have on development projects, home building, real estate assets, water utilities, etc.

On the social aspects, ensuring workplace health and safety, including prevention of industrial accidents is especially required for the electric utility business, engineering, construction and housing construction. In addition, ensuring the robustness of various infrastructures is also an important theme.

The SASB Standards set out the following disclosure topics for each industry of the infrastructure sector.

Fig: List of disclosure topics in the infrastructure sector in SASB Standards

Industry	Disclosed topic
Electric Utilities & Power Generators	<ul style="list-style-type: none"> - Greenhouse Gas Emissions & Energy Resource Planning - Air Quality - Water Management - Coal Ash Management - Energy Affordability - Workforce Health & Safety - End-Use Efficiency & Demand - Nuclear Safety & Emergency Management - Grid Resiliency
Engineering & Construction Services	<ul style="list-style-type: none"> - Environmental Impacts of Project Development - Structural Integrity & Safety - Workforce Health & Safety - Climate Impacts of Business Mix - Lifecycle Impacts of Buildings & Infrastructure - Business Ethics

Gas Utilities & Distributors	<ul style="list-style-type: none"> - Energy Affordability - End-Use Efficiency - Integrity of Gas Delivery Infrastructure
Home Builders	<ul style="list-style-type: none"> - Land Use & Ecological Impacts - Workforce Health & Safety - Community Impacts of New Developments - Design for Resource Efficiency - Climate Change Adaptation
Real Estate	<ul style="list-style-type: none"> - Energy Management - Water Management - Management of Tenant Sustainability Impacts - Climate Change Adaptation
Real Estate Services	<ul style="list-style-type: none"> - Sustainability Services - Transparent Information & Management of Conflict of Interest
Waste Management	<ul style="list-style-type: none"> - Fleet Fuel Management - Greenhouse Gas Emissions - Air Quality - Management of Leachate & Hazardous Waste - Labor Practices - Workforce Health & Safety - Recycling & Resource Recovery
Water Utilities & Services	<ul style="list-style-type: none"> - Energy Management - Effluent Quality Management - Distribution Network Efficiency - Water Affordability & Access - Drinking Water Quality - End-Use Efficiency - Water Supply Resilience - Network Resiliency & Impacts of Climate Change

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “*governance*,” “*recognition of risks and opportunities*” and “*strategies and practices*”]

Regarding descriptive information on “*governance*,” “*recognition of risks and opportunities*” “*strategies and practices*”, following disclosure items are mainly recommended for the infrastructure sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the infrastructure sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> ▪ Description of climate change risk exposure analysis, and strategies for mitigating risks in home and real estate
<ul style="list-style-type: none"> ▪ Description of practices to identify and manage risks and opportunities related to the impact of climate change on distribution and wastewater infrastructure in water utilities and services
<ul style="list-style-type: none"> ▪ Description of strategies to manage risks associated with the quality and availability of water resources in water utilities and services
<ul style="list-style-type: none"> ▪ Description of how proximity and access to infrastructure, services and economic centers

affect site selection and development decisions in home builders

- Description of risks and opportunities related to incorporating resource efficiency into home design, and how benefits are communicated to customers in home builders
- Description of process to incorporate operational-phase energy and water efficiency considerations into project planning and design in engineering and construction services
- Description of approach to measuring, incentivizing and improving sustainability impacts of tenants in real estate
- Description of processes to assess and manage environmental risks, and integrate its considerations into site selection, site design, site development and construction in engineering and construction services
- Description of how building energy management considerations are integrated into property investment analysis and operational strategy in real estate
- Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets in electric utilities and power generators, and real estate
- Description of strategies to manage drinking water and effluents contaminants of emerging concern in water utilities and services
- Description of risks related to water withdrawal and discharge, and effort to manage them
- Description of policies and practices for prevention of bribery and corruption, and anti-competitive behavior in the project bidding in engineering and construction services
- Description of efforts to manage the integrity of gas delivery infrastructure, including risks related to safety and emissions
- Description of efforts to manage nuclear safety and emergency preparedness
- Description of impact of external factors on customer affordability (affordable pricing) of electricity, gas, and water, including economic conditions of the service territory

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the infrastructure sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the infrastructure sector (quantitative information)

Indicator (quantitative information)
▪ Amount of waste collected in waste management, and percentage recycled and percentage used for energy recovery
▪ Water withdrawal and consumption in water utilities, percentage in regions with high water stress
▪ Air pollutants emissions (PM, NOx, SOx, VOCs, etc.)
▪ Energy consumption and the percentage of renewable energy
▪ Change (the amount of reduction) in energy consumption in real estate assets
▪ Direct GHG emissions (scope 1)
▪ Volume of waste and hazardous materials generated, and percentage recycled and landfilled
▪ Metrics for work-related injuries (such as rate of lost-worktime injuries)
▪ Percentage of workers covered by collective bargaining agreements
▪ Number of active projects in countries with high risk of corruption in engineering and construction services
▪ Number and details of violations, if any, against laws and regulations of environmental protection, cybersecurity, corruption and bribery, anti-competitive behavior and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators.

- GRI 102: General Disclosures 2016
- GRI 205: Anti-corruption 2016
- GRI 206: Anti-competitive Behavior 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 403: Occupational Health and Safety 2018
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Electric Utilities & Power Generators, Sustainability Accounting Standard, Version 2018-10
- SASB, Engineering & Construction Services, Sustainability Accounting Standard, Version 2018-10
- SASB, Gas Utilities & Distributors, Sustainability Accounting Standard, Version 2018-10
- SASB, Home Builders, Sustainability Accounting Standard, Version 2018-10
- SASB, Real Estate, Sustainability Accounting Standard, Version 2018-10
- SASB, Real Estate Services, Sustainability Accounting Standard, Version 2018-10
- SASB, Waste Management, Sustainability Accounting Standard, Version 2018-10
- SASB, Water Utilities & Services, Sustainability Accounting Standard, Version 2018-10

(vii) Renewable Resources & Alternative Energy

Industry:

Biofuels / Forestry Management / Fuel Cells & Industrial Batteries / Pulp & Paper Products / Solar Technology & Project Developers / Wind Technology & Project Developers

Overview of ESG issues related to sectors

The renewable resources and alternative energy sector is closely related to issues such as energy consumption associated with manufacturing, water resource management and environmental considerations within the supply chain including raw materials sourcing. In forest management and solar/wind energy project development, the ecological impact is also a closely related issue.

On the social aspects, ensuring workplace health and safety is an important theme in industries including biofuel, fuel cells, industrial batteries, wind energy.

The SASB Standards set out the following disclosure topics for each industry of the renewable resources and alternative energy sector.

Fig: List of disclosure topics in the renewable resources & alternative energy sector in SASB Standards

Industry	Disclosed topic
Biofuels	<ul style="list-style-type: none"> - Air Quality - Water Management in Manufacturing - Lifecycle Emissions Balance - Sourcing & Environmental Impacts of Feedstock Production - Management of the Legal & Regulatory Environment - Operational Safety, Emergency Preparedness & Response
Forestry Management	<ul style="list-style-type: none"> - Ecosystem Services & Impacts - Rights of Indigenous Peoples - Climate Change Adaptation
Fuel Cells & Industrial Batteries	<ul style="list-style-type: none"> - Energy Management - Workforce Health & Safety - Product Efficiency - Product End-of-life Management - Materials Sourcing
Pulp & Paper Products	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Energy Management - Water Management - Supply Chain Management
Solar Technology & Project Developers	<ul style="list-style-type: none"> - Energy Management in Manufacturing - Water Management in Manufacturing - Hazardous Waste Management - Ecological Impacts of Project Development - Product End-of-life Management - Management of Energy Infrastructure Integration & Related Regulations - Materials Sourcing
Wind Technology & Project Developers	<ul style="list-style-type: none"> - Workforce Health & Safety - Ecological Impacts of Project Development - Materials Efficiency - Materials Sourcing

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the renewable energy & alternative energy sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the renewable energy & alternative energy sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> ▪ Description of practices for design to reduce environmental loads (materials efficiency of wind turbine, and recyclability of fuel cells and/or industrial batteries) ▪ Description of the risk management associated with the use of critical materials ▪ Description of practices to manage risks associated with environmental impacts of raw materials sourcing ▪ Description of strategy to manage opportunities and risks associated with forest management and timber production presented by climate change ▪ Description of practices in solar energy system project development to address community and ecological impacts ▪ Description of risks and opportunities associated with energy policy and its impact on the integration of solar energy into existing energy infrastructure ▪ Description of risks associated with integration of solar energy into exiting energy infrastructure, and efforts to manage those risks ▪ Description of approach to manage use, reclamation and disposal of hazardous materials ▪ Description of approach to optimizing opportunities from ecosystem services provided by forestlands ▪ Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets ▪ Description of risks related to water withdrawal and discharge, and effort to manage them ▪ Description of practices to assess, monitor and reduce exposure of workforce to human health hazards ▪ Description of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry ▪ Description of engagement processes and due diligence practices with respect to human rights, indigenous rights, and the local community

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the renewable energy & alternative energy sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the renewable energy & alternative energy sector (quantitative information)

Indicators (quantitative information)
• Volume of raw material used
• Volume of end-of-life material recovered, and percentage recycled
• Air pollutants emissions (PM, NO _x , SO _x , VOCs, etc.)
• Number of incidents of non-compliance associated with environmental laws/regulations
• Area of forestland in endangered species habitat, and with protected conservation
• Energy consumption and the percentage of renewable energy
• Direct GHG emissions (scope 1)
• Lifecycle GHG emissions (from raw materials sourcing to power generation)
• Percentage of suppliers that are evaluated or audited from the environmental aspects (e.g. percentage of suppliers that meet the environmental standards, or that have obtained a third-party certification)
• Number and volume of environmental spills
• Water withdrawal and consumption, percentage in regions with high water stress
• Metrics for work-related injuries (such as rate of lost-worktime injuries)
• Amount of financial assistance such as subsidies received by government

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 201: Economic Performance 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 304: Biodiversity 2016
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 403: Occupational Health and Safety 2018
- SASB, Biofuels, Sustainability Accounting Standard, Version 2018-10
- SASB, Forestry Management, Sustainability Accounting Standard, Version 2018-10
- SASB, Fuel Cells & Industrial Batteries, Sustainability Accounting Standard, Version 2018-10
- SASB, Pulp & Paper Products, Sustainability Accounting Standard, Version 2018-10
- SASB, Solar Technology & Project Developers, Sustainability Accounting Standard, Version 2018-10
- SASB, Wind Technology & Project Developers, Sustainability Accounting Standard, Version 2018-10

(viii) Resource Transformation

Industry:

Aerospace & Defense / Chemicals / Containers & Packaging / Electrical & Electronic Equipment / Industrial Machinery & Goods

Overview of ESG issues related to sectors

The resource transformation sector is closely related to issues such as energy consumption associated with manufacturing, waste generation, product safety and environmental impact in the product lifecycle. In addition, greenhouse gas emissions, air pollutants emissions and consumption of water resources are also important issues, especially in the chemical industry and the container and packaging industry. Furthermore, in some industries such as aerospace and defense industries, data security issues as well as business ethics issues such as corruption and bribery, and anti-competitive behavior are also important themes.

The SASB Standards set out the following disclosure topics for each industry of the resource transformation sector.

Fig: List of disclosure topics in the resource transformation sector in SASB Standards

Industry	Disclosed topic
Aerospace & Defense	<ul style="list-style-type: none"> - Energy Management - Hazardous Waste Management - Data Security - Product Safety - Fuel Economy & Emissions in Use-phase - Materials Sourcing - Business Ethics
Chemicals	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Energy Management - Water Management - Hazardous Waste Management - Community Relations - Workforce Health & Safety - Safety & Environmental Stewardship of Chemicals - Genetically Modified Organisms - Product Design for Use-phase Efficiency - Management of the Legal & Regulatory Environment - Operational Safety, Emergency Preparedness & Response
Containers & Packaging	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Energy Management - Water Management - Waste Management - Product Safety - Product Lifecycle Management - Supply Chain Management
Electrical & Electronic Equipment	<ul style="list-style-type: none"> - Energy Management - Hazardous Waste Management - Product Safety - Product Lifecycle Management

	<ul style="list-style-type: none"> - Materials Sourcing - Business Ethics
Industrial Machinery & Goods	<ul style="list-style-type: none"> - Energy Management - Employee Health & Safety - Fuel Economy & Emissions in Use-phase - Materials Sourcing - Remanufacturing Design & Services

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the resource transformation sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the resource transformation sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> • Description of the risk management associated with the use of critical materials • Description of strategy and approach to address fuel economy and GHG emissions of products in aerospace and defense • Description of practices to reduce environmental impacts of packaging • Description of strategy to manage chemicals of concern, and develop alternatives with reduced human and/or environmental impact • Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets in chemicals • Description of risks related to water withdrawal and discharge, and effort to manage them in chemicals, and containers and packaging • Description of policies and efforts for prevention of corruption and bribery, and anti-competitive behavior • Description of processes to manage business ethics risks throughout the value chain in aerospace and defense • Description of practices to assess, monitor and reduce exposure of employees and contract workers to long-term (chronic) health risks in chemicals • Description of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the chemical industry • Description of practices to identify and address data security risks in company operations and products in aerospace and defense • Description of engagement processes to manage risks and opportunities associated with community interests in chemicals • Description of process to identify and manage emerging materials and chemicals of concerns in containers and packaging

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the resource transformation sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the resource transformation sector (quantitative information)

Indicators (quantitative information)
<ul style="list-style-type: none"> Percentage of recycled input materials and renewable materials used in containers and packaging Percentage of certified materials in aluminum and wood fiber procurement in containers and packaging Air pollutants emissions (PM, NOx, SOx, VOCs, etc.) Energy consumption and the percentage of renewable energy Direct GHG emissions (scope 1) Volume of waste generated, and percentage recycled Water withdrawal and consumption, percentage in regions with high water stress Number and volume of environmental spills Metrics for work-related injuries (such as rate of lost-worktime injuries) Number of products recalled and details thereof Number and details of violations, if any, against laws and regulations of anti-competitive behavior, corruption and bribery, data security, product safety and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators.

- GRI 205: Anti-corruption 2016
- GRI 206: Anti-competitive Behavior 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 308: Supplier Environmental Assessment 2016
- GRI 403: Occupational Health and Safety 2018
- GRI 414: Supplier Social Assessment 2016
- GRI 416: Customer Health and Safety 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Aerospace & Defense, Sustainability Accounting Standard, Version 2018-10
- SASB, Chemicals, Sustainability Accounting Standard, Version 2018-10
- SASB, Containers & Packaging, Sustainability Accounting Standard, Version 2018-10
- SASB, Electrical & Electronic Equipment, Sustainability Accounting Standard, Version 2018-10
- SASB, Industrial Machinery & Goods, Sustainability Accounting Standard, Version 2018-10

(ix) Services

Industry:

Advertising & Marketing / Casinos & Gaming / Education / Hotels & Lodging / Leisure Facilities / Media & Entertainment / Professional & Commercial Services

Overview of ESG issues related to sectors

The service sector consists of industries with different business contents, and each industry has its own ESG issues.

Data security and privacy are one of the most important issues in advertising/marketing, education, and professional/commercial services. In advertising/marketing and professional/commercial services, human resources is particularly important, and hence enhancement of workplace diversity is also important. In hotels and lodging facilities, labor practices including proper wage levels have become an issue, and in leisure facilities, safety measures for customers as well as workers are important. In casino and gaming, it is also required to consider measures against money laundering and gambling addiction.

On the environmental aspects, energy consumption is an important issue for businesses that own facilities such as casinos, accommodation facilities, leisure facilities, etc., and for leisure facilities, negative ecological impact associated with the development of tourist spots and the climate change adaptation are also closely related issues.

The SASB Standards set out the following disclosure topics for each industry of the service sector.

Fig: List of disclosure topics in the service sector in SASB Standards

Industry	Disclosed topic
Advertising & Marketing	<ul style="list-style-type: none"> - Data Privacy - Advertising Integrity - Workforce Diversity & Inclusion
Casinos & Gaming	<ul style="list-style-type: none"> - Energy Management - Responsible Gaming - Smoke-free Casinos - Internal Controls on Money Laundering
Education	<ul style="list-style-type: none"> - Data Security - Quality of Education & Gainful Employment - Marketing & Recruiting Practices
Hotels & Lodging	<ul style="list-style-type: none"> - Energy Management - Water Management - Ecological Impacts - Labor Practices - Climate Change Adaptation
Leisure Facilities	<ul style="list-style-type: none"> - Energy Management - Customer Safety - Workforce Safety
Media & Entertainment	<ul style="list-style-type: none"> - Media Pluralism - Journalistic Integrity & Sponsorship Identification - Intellectual Property Protection & Media Piracy
Professional & Commercial Services	<ul style="list-style-type: none"> - Data Security - Workforce Diversity & Engagement - Professional Integrity

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the service sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the service sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> • Description of environmental management policies and policies to preserve ecosystem services • Description of policies and initiatives to prevent harassment of workers in accommodation facilities • Description of anti-money laundering policies and practices • Description of policies to ensure professional integrity • Description of policies to ensure intellectual property protection • Description of policies and practices relating to behavioral advertising and consumer privacy • Description of policies and practices to secure pluralism in news media contents • Description of approach for ensuring journalistic integrity of news programming related to: (1) truthfulness, accuracy, objectivity, fairness, and accountability, (2) independence of content and/or transparency of potential bias, and (3) protection of privacy and limitation of harm • Description of practices to identify and address data security risks • Description of policies and practices relating to collection, usage and retention of information about customers • Description of policies assure disclosure of key performance statistics to prospective students in advance of collecting any fees and discussion of outcomes

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the service sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the service sector (quantitative information)

Indicator (quantitative information)
<ul style="list-style-type: none"> • Percentage of lodging facilities located in or near areas with high biodiversity value • Energy consumption in casinos, accommodations and leisure facilities, and the percentage of renewable energy • Water withdrawal and consumption in accommodation facilities, percentage in regions with high water stress • Employee turnover rate • Employee engagement in professional and commercial services, percentage to the total number of employees • Diversity of management and employees (gender, minorities, etc.) • Metrics for work-related injuries in leisure facilities (such as rate of lost-worktime injuries) • Customer fatality and injury rate at leisure facilities • Percentage of facilities inspected for safety in leisure facilities • Average wage of lodging facility employees, and comparison to the minimum wage in the location

- Number and details of violations, if any, against laws and regulations of data security, personal information protection, labor, money laundering, slander, advertisement and indication and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 202: Market Presence 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 304: Biodiversity 2016
- GRI 403: Occupational Health and Safety 2018
- GRI 405: Diversity and Equal Opportunity 2016
- GRI 416: Customer Health and Safety 2016
- GRI 417: Marketing and Labeling 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Advertising & Marketing, Sustainability Accounting Standard, Version 2018-10
- SASB, Casinos & Gaming, Sustainability Accounting Standard, Version 2018-10
- SASB, Education, Sustainability Accounting Standard, Version 2018-10
- SASB, Hotels & Lodging, Sustainability Accounting Standard, Version 2018-10
- SASB, Leisure Facilities, Sustainability Accounting Standard, Version 2018-10
- SASB, Media & Entertainment, Sustainability Accounting Standard, Version 2018-10
- SASB, Professional & Commercial Services, Sustainability Accounting Standard, Version 2018-10

(x) Technology & Communications

Industry:

Electronic Manufacturing Services & ODM / Hardware / Internet Media & Services / Semiconductors / Software & IT Services / Telecommunication Services

Overview of ESG issues related to sectors

In the technology and communications sectors, environmental impacts such as electricity consumption of hardware infrastructure including data centers in the ICT related businesses are important issues. Also, especially in the Internet and other IT related businesses, recruitment and retention of skilled engineers globally are also important themes. In addition, the importance of data security and privacy protection in products and services is also increasing. Intellectual property protection and fair competition are also important themes.

In the electronic manufacturing service/ODM, hardware and semiconductors, environmental impact in the product lifecycle and risk management associated with raw materials sourcing are important. In addition, for semiconductors, environmental impact of the manufacturing process such as greenhouse gas emission, water use, waste generation, etc. are also an important issue.

The SASB Standards set out the following disclosure topics for each industry of the technology and communications sector.

Fig: List of disclosure topics in the technology & communications sector in SASB Standards

Industry	Disclosed topic
Electronic Manufacturing Services & ODM	<ul style="list-style-type: none"> - Water Management - Waste Management - Labor Practices - Labor Conditions - Product Lifecycle Management - Materials Sourcing
Hardware	<ul style="list-style-type: none"> - Product Security - Employee Diversity & Inclusion - Product Lifecycle Management - Supply Chain Management - Materials Sourcing
Internet Media & Services	<ul style="list-style-type: none"> - Environmental Footprint of Hardware Infrastructure - Data Privacy, Advertising Standards & Freedom of Expression - Data Security - Employee Recruitment, Inclusion & Performance - Intellectual Property Protection & Competitive Behavior
Semiconductors	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Energy Management in Manufacturing - Water Management - Waste Management - Employee Health & Safety - Recruiting & Managing a Global & Skilled Workforce - Product Lifecycle Management - Materials Sourcing - Intellectual Property Protection & Competitive Behavior

Software & IT Services	<ul style="list-style-type: none"> - Environmental Footprint of Hardware Infrastructure - Data Privacy & Freedom of Expression - Data Security - Recruiting & Managing a Global, Diverse & Skilled Workforce - Intellectual Property Protection & Competitive Behavior - Managing Systemic Risks from Technology Disruptions
Telecommunication Services	<ul style="list-style-type: none"> - Environmental Footprint of Operations - Data Privacy - Data Security - Product End-of-life Management - Competitive Behavior & Open Internet - Managing Systemic Risks from Technology Disruptions

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the technology and communication sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the technology & communications sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> • Description of the risk management associated with the use of critical materials • Description of the integration of environmental consideration into data center planning • Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets • Description of practices to assess, monitor and reduce exposure of workforce to human health hazards in semiconductors • Description of risks and opportunities associated with net neutrality, paid peering, zero rating and related practices in telecommunication services • Description of business continuity risks related to disruptions of operations in IT services, etc. • Description of policies and practices relating to behavioral advertising and user privacy in IT services, etc. • Lists of countries where core products or services are subject to government-required monitoring, blocking, content filtering or censoring in IT services, etc. • Description of approach to identifying and addressing to data security risks, including use of third-party cybersecurity standards

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the technology and communications sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the technology & communications sector (quantitative information)

Indicator (quantitative information)
<ul style="list-style-type: none"> • Volume of e-waste generated and material recovered, and percentage reused, recycled and landfilled • Percentage of suppliers that are evaluated or audited from the environmental/social aspects (e.g. percentage of suppliers that meet the environmental and/or social standards, or that have obtained a third-party certification) • Energy consumption and the percentage of renewable energy • Direct GHG emissions (scope 1) and perfluorinated compounds (PFCs) • Water withdrawal and consumption, percentage in regions with high water stress • Volume of hazardous waste generated from manufacturing, and percentage recycled • Diversity of management and employees (gender, minorities, etc.) • Employee engagement in IT related industries, percentage to the total number of employees • Metrics for work-related injuries (such as rate of lost-worktime injuries) • Number and details of violations, if any, against laws and regulations of workplace health and safety, anti-competitive behavior, data security, personal information and privacy protection and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 205: Anti-corruption 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 303: Water and Effluents 2018
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 308: Supplier Environmental Assessment 2016
- GRI 405: Diversity and Equal Opportunity 2016
- GRI 414: Supplier Social Assessment 2016
- GRI 418: Customer Privacy 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Electronic Manufacturing Services & Original Design Manufacturing, Sustainability Accounting Standard, Version 2018-10
- SASB, Hardware, Sustainability Accounting Standard, Version 2018-10
- SASB, Internet Media & Services, Sustainability Accounting Standard, Version 2018-10
- SASB, Semiconductors, Sustainability Accounting Standard, Version 2018-10
- SASB, Software & IT Services, Sustainability Accounting Standard, Version 2018-10
- SASB, Telecommunication Services, Sustainability Accounting Standard, Version 2018-10

(xi) Transportation

Industry:

Air Freight & Logistics / Airlines / Auto Parts / Automobiles / Car Rental & Leasing / Cruise Lines / Marine Transportation / Rail Transportation / Road Transportation

Overview of ESG issues related to sectors

In the transportation sector, greenhouse gas emissions, air pollutants emissions, workplace health and safety, and accident and safety management are closely related issues in the land/marine/air transportation industries. Labor practices are also an important theme in the logistics industry. Product safety, environmental performance of products, and procurement risk of raw materials are important themes for automobile and auto part industries.

The SASB Standards set out the following disclosure topics for each industry of the transportation sector.

Fig: List of disclosure topics in the transportation sector in SASB Standards

Industry	Disclosed topic
Air Freight & Logistics	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Labor Practices - Employee Health & Safety - Supply Chain Management - Accident & Safety Management
Airlines	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Labor Practices - Competitive Behavior - Accident & Safety Management
Auto Parts	<ul style="list-style-type: none"> - Energy Management - Waste Management - Product Safety - Design for Fuel Efficiency - Materials Sourcing - Materials Efficiency - Competitive Behavior
Automobiles	<ul style="list-style-type: none"> - Product Safety - Labor Practices - Fuel Economy & Use-phase Emissions - Materials Efficiency & Recycling - Materials Sourcing
Car Rental & Leasing	<ul style="list-style-type: none"> - Customer Safety - Fleet Fuel Economy & Utilization
Cruise Lines	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Discharge Management & Ecological Impacts - Customer Health & Safety - Labor Practices - Employee Health & Safety - Accident Management
Marine Transportation	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality

	<ul style="list-style-type: none"> - Ecological Impacts - Employee Health & Safety - Business Ethics - Accident & Safety Management
Rail Transportation	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Employee Health & Safety - Competitive Behavior - Accident & Safety Management
Road Transportation	<ul style="list-style-type: none"> - Greenhouse Gas Emissions - Air Quality - Driver Working Conditions - Accident & Safety Management

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

Main common parts of ESG information disclosure frameworks/standards)

[Descriptive information on “governance,” “recognition of risks and opportunities” and “strategies and practices”]

Regarding descriptive information on “governance,” “recognition of risks and opportunities” “strategies and practices”, following disclosure items are mainly recommended for the transportation sector in the SASB Standards, and it is deemed that these items are in line with other ESG information disclosure frameworks/standards.

Fig: Main disclosure items for the transportation sector (descriptive information)

Disclosure item (descriptive information)
<ul style="list-style-type: none"> ▪ Description of the risk management associated with the use of critical materials ▪ Description of strategy for managing fleet fuel economy and risks and opportunities associated with the emission of air pollutants ▪ Description of direct GHG emission (Scope 1) reduction targets, short-term to long-term strategies, and an analysis of performance against those targets ▪ Description of practices to manage short-term and long-term driver health risks in road transportation ▪ Description of implementation and outcomes of a Safety Management System in airline and air freight industries

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10).

[Quantitative information on “KPIs”]

Regarding the “KPIs” for the transportation sector, the main common parts of SASB Standards and GRI Standards are as follows.

Fig: Main indicators of the transportation sector (quantitative information)

Indicator (quantitative information)
• Percentage of recycled input materials used for automobile parts
• Volume of end-of-life material (vehicles etc.) recovered, and percentage recycled
• Air pollutants emissions (PM, NOx, SOx, VOCs, etc.)
• Energy consumption and the percentage of renewable energy
• Direct GHG emissions (scope 1)
• GHG emissions including the use of transportation owned by logistics companies
• Volume of hazardous waste generated from manufacturing, and percentage recycled
• Number and volume of environmental spills in road and marine transportation
• Metrics for work-related injuries (such as rate of lost-worktime injuries)
• Employee turnover rate
• Percentage of workers covered by collective bargaining agreements
• Number of products recalled and details thereof
• Number of calls at port in countries with high risk of corruption in marine transportation
• Number and details of accidents on land, marine, and air transportations (air accident, marine accident, railway accident, traffic accident)
• Number and details of violations, if any, against laws and regulations of labor, environmental protection, anti-competitive behavior, corruption and bribery and others

Source: Prepared by Nissay Asset Management based on the SASB Standards (Version 2018-10) and the GRI Standards.

Referenced SASB Standards and GRI Standards regarding indicators

- GRI 102: General Disclosures 2016
- GRI 202: Market Presence 2016
- GRI 205: Anti-corruption 2016
- GRI 206: Anti-competitive Behavior 2016
- GRI 301: Materials 2016
- GRI 302: Energy 2016
- GRI 305: Emissions 2016
- GRI 306: Effluents and Waste 2016
- GRI 307: Environmental Compliance 2016
- GRI 403: Occupational Health and Safety 2018
- GRI 416: Customer Health and Safety 2016
- GRI 419: Socioeconomic Compliance 2016
- SASB, Air Freight & Logistics, Sustainability Accounting Standard, Version 2018-10
- SASB, Airlines, Sustainability Accounting Standard, Version 2018-10
- SASB, Auto Parts, Sustainability Accounting Standard, Version 2018-10
- SASB, Automobiles, Sustainability Accounting Standard, Version 2018-10
- SASB, Car Rental & Leasing, Sustainability Accounting Standard, Version 2018-10
- SASB, Cruise Lines, Sustainability Accounting Standard, Version 2018-10
- SASB, Marine Transportation, Sustainability Accounting Standard, Version 2018-10
- SASB, Rail Transportation, Sustainability Accounting Standard, Version 2018-10
- SASB, Road Transportation, Sustainability Accounting Standard, Version 2018-10

