

Environmental Reporting Guidelines 2018

Ministry of the Environment

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Preface

As the global population and the scale of the global economy increase, social and environmental problems associated with human activity become increasingly more severe. Anthropogenic greenhouse gases are a cause of climate change, and the haphazard consumption of water, energy, minerals, and other resources both ruin the environment and in some cases stimulate conflict. Moreover, the Earth's biodiversity is being lost as a result of activities such as land development and overfishing.

In Japan, the birthrate is falling, the population is in decline and aging, and people are increasingly concentrated in urban areas. Further, the decline of the local communities' dynamism has become evident, economic growth is sluggish, and labor productivity has stayed relatively low. Although greenhouse gas emissions have been on a declining trend in recent years, there is a need in the medium-term to reduce emission levels by 26% by FY 2030, and in the long term to reduce emission levels by 80% by FY 2050, a major reduction. In the present day, as we face restrictions on such things as resource and carbon use, there is a need to move beyond conventional economic systems focused on the pursuit of “quantity” to achieve a new economic system that enables development which simultaneously resolves various economic, social, and economic problems.

In this context, there is a shared understanding that it is important for the countries of the world to work together to address climate change and other global issues. International frameworks are taking shape that promote a transition to a sustainable society, represented by the adoption of the Sustainable Development Goals (SDGs) that form the core of the 2030 Agenda for Sustainable Development, which aims to comprehensively resolve various environmental, social, and economic problems; as well as by the adoption of the Paris Agreement wherein the world took a major shift toward a post-carbon society.

In the past, “doing good” in a social or environmental sense was considered to be a costly endeavor and irrelevant to any entity except those that voluntarily choose to pursue such a goal. However, in the world ahead it will no longer be true that economic progress can come at the expense of the environment and society, nor that the environment or society can come at the expense of the economy. Instead, the most successful companies will be those that can generate profits by addressing environmental and social issues, e.g. through renewable energy technology, while also minimizing the risks stemming from not addressing environmental and social issues. As a result, there has been a major shift in the importance within corporate management of efforts to address such issues.

Even in the midst of these changes, it is not the case that conventional environmental reporting, conducted by entities communicating to the public their own efforts to reduce their environmental impact and improve eco-friendliness, will become utterly meaningless. However, in the transition to a sustainable

society, how an entity in the medium- to long-term is addressing material environmental issues, and how it is contributing to the economic system and environment that form the foundation for entities and their existence, will constitute important elements that explain an entity's sustainability. This forward-looking information is also an important resource in dialogue with institutional investors and others who are trying to move the focus of business appraisals away from simple short-term economic perspectives to long-term perspectives that incorporate ESG (environmental, social and corporate governance) elements.

These Environmental Reporting Guidelines have been revised in accordance with changes in society's expectations on non-financial reporting. The guidelines have shifted their focus from requiring entities to report their performance data to requiring them to identify material issues in their business and value chains and to explain their own sustainability. These new guidelines will also be reflected in the reporting format of the Environmental Reporting Platform Development Pilot Project, a Ministry of the Environment project aiming to use ICT technology to establish an environmental information disclosure platform that facilitates dialogue and analysis of environmental data.

The Fifth Basic Environment Plan advocates an "Environment- and Life-Centered Civilized Society" as the model of a sustainable society. This means to continue to achieve economic growth while also achieving healthy material and life "cycles," restoring and maintaining healthy ecosystems, and achieving harmonious coexistence between nature and human civilization as well as between regions. The end goal of this is to build a low-carbon society characterized by "sustainable material cycles," named the "Environment- and Life-Centered Civilized Society" for its recognition that it is a historic turning point and its aim to serve as the new "civilized society."

It is hoped that, on the basis of these guidelines and towards the achievement of a new civilized society, entities will perform proper environmental reporting and work to encourage further dialogue with stakeholders based on these disclosures.

Introduction

1. Background to the guideline revisions

- ✓ Over six years have passed since the last revision (April 2012) to the Environmental Reporting Guidelines, requiring fundamental revisions to the guidelines' structure and content due to major changes in social trends pertaining to environmental reporting in this period.
- ✓ Internationally, one of the major reasons for the revisions is the establishment of international frameworks such as the United Nations' SDGs (adopted September 2015) and the Paris Agreement (effective November 2016) that promote a transition to a sustainable society, and the fact that sustainable development has begun to be internationally recognized as an objective shared by all of humanity.
- ✓ Through stronger environmental regulations and changes in market conditions, the transition to a sustainable society is anticipated to continue having a major long-term impact on the activities of businesses in almost all industries. It is also expected to have a major impact on the state of environmental reporting as it is reflected in the information needs of the financial sector, which views those businesses as targets for long-term lending and investment.
- ✓ For example, in recent years, on the assumption that the transition toward a sustainable society will be continuously promoted, the financial sector, institutional investors particularly, has become more interested in future-oriented non-financial information such as the soundness of the organization structure (governance, risk management, etc.) and the direction of business management (long-term vision, strategy, business models) than historical information such as financial statement. As a result, entities have been requested to provide ESG information in their reporting cycle..
- ✓ This interest of the financial sector has come to be reflected in financial reporting regulations throughout the world, e.g. in corporate law or commercial code in France, the United Kingdom, and the EU, and in listing rules in other developed and emerging countries. In this way, non-financial reporting regulations for listed companies are being sophisticated and strengthened in many countries and regions.
- ✓ On the basis of these trends, the Global Reporting Initiative (GRI) published its first-ever standards for sustainability reporting, which have been originally developed as guidelines, to supplement newly established non-financial reporting regulations. The International Integrated Reporting Council (IIRC) also published a framework for integrated reporting to improve financial reporting which has been getting hard to understand for investors due to increasing volume of non-financial information.
- ✓ Particularly regarding the issue of climate change, which requires rapid response, the Financial

Stability Board (FSB) in June 2017 released the Task Force on Climate-related Financial Disclosures (TCFD) recommendations upon the request of the G20, and these recommendations helped to effect major changes in future environmental reporting by the financial sector industries and non-financial groups.

- ✓ Domestically, there continues to be sluggish growth in the number of entities engaged in environmental reporting, and stronger initiatives are needed to further promote the positive cycle between the environment and the economy.
- ✓ According to the Ministry of the Environment's *Survey Results on the Behavior of Environment-friendly Corporations*, the percentage of entities conducting environmental reporting was increasing through 2006 but has stagnated since. There have been no major changes to this state of affairs even after the publication of the Environmental Reporting Guidelines (2012 Version). Additionally, entities with sales of less than 100 billion yen, which once had dramatically low rates of environmental report creation, have had higher rates of such reporting in recent years, but they still lag behind large entities.
- ✓ One major issue in the state of environmental reporting is that, with the exception of some advanced large entities, reports tend to be similar to one another in terms of the information listed and do not reflect information specific to each individual entity's situation.
- ✓ Additionally, with increasing requirements on entities to provide ESG information, reporting is placing a greater burden on entities due to the advanced content of the reporting and dramatic expansion in the scope of information collection. Regardless of entity size, the reality is that entities find it difficult to adequately respond to these requirements.

2. Key revisions of the 2018 version

- ✓ Building on the background described above, the key revisions for this year are as follows.
- ✓ The guidelines constitute a framework for international regulations, practical trends, and integrated environmental reporting.
- ✓ In order that these guidelines be easy to use by both advanced entities as well as mid-sized and smaller entities, the guidelines themselves are to be compact in structure and be supplemented by guidance and technical notes, containing processes for environmental report creation, explanations of difficult report items, and various examples.
- ✓ Working off the premise that the business climate is in the process of shifting towards a sustainable society, and taking into account the information needs of investors who will use environmental reporting within the ESG reporting framework, the guidelines require reporting of both conventional environmental management information and forward-looking non-financial data including the soundness of the organization structure (governance, risk management, etc.) and the direction of management strategy (long-term vision, strategy, business models).
- ✓ The guidelines have been changed so as to require not comprehensive reporting on “material balance” as a whole, but instead to require the entity itself to assess the major direct and indirect impact of their activities on the environment and report on the material environmental issues that the entity must address.
- ✓ The guidelines have also been changed to require reporting on the financial impact pertaining to the major environmental issues identified by the reporting entity and to incorporate a monetary approach for quantitatively recognizing, measuring, and communicating the costs (and the benefits in the case) of the entity's environmental activities which has been used in the environmental accounting framework of Environmental Accounting Guidelines 2005.

3. Composition of the guidelines

- ✓ These guidelines list the items to be reported in environmental reporting, list important notes regarding such reporting, and explain these items and notes.
- ✓ In order to ensure that the guidelines are compact and easy to read, explanations regarding items that are assumed to be general knowledge and generally understood are omitted.
- ✓ Chapter 1, “Basic information of environmental reporting,” explains the “Basic requirements of environmental reporting,” i.e. the prerequisites to environmental reporting; as well as “Trends in key performance indicators,” a summary of performance changes of an entity’s activities over time.
- ✓ Chapter 2, “Items to be reported in environmental reporting,” indicates and explains the items that can be clearly reported in order to convey the commitments of the entity’s management as society undergoes a process of transitioning to a sustainable society, i.e. how the entity is working on material environmental issues in the short, medium, and long term, and how the entity will work on these issues in the future.
- ✓ “Major environmental issues and their performance indicators” is included as a reference material for entities in identifying material environmental issues.
- ✓ The publication of guidance and technical notes, to supplement and complement these guidelines is planned for FY 2018. These materials will include explanations of basic environmental reporting information as well as environmental reporting procedures, style guidelines, examples, difficult reporting items, and other information. It is hoped that individual entities can either use the guidelines alone or the guidelines in combination with the guidance and technical notes and other materials as appropriate for their level of knowledge and experience regarding environmental reporting.

4. Target audience of the guidelines

(1) Entities that conduct environmental reporting

- ✓ These guidelines are reporting guidelines for entities that conduct environmental reporting.
- ✓ Environmental reporting in accordance with these guidelines enables entities to comprehensively disclose information required for environmental reporting.
- ✓ These guidelines apply not only to the large entities that currently conduct environmental reporting but also to medium-sized and smaller entities that will be working on environmental reporting in the future.

(2) Stakeholders who make use of environmental reporting

- ✓ These guidelines are useful to stakeholders who make use of environmental reporting in helping them to understand that reporting.
- ✓ By learning the reporting guidelines that entities use when conducting environmental reporting, stakeholders can develop a deeper understanding of the meaning of reported items and the constituent parts of the reports.
- ✓ In general, all stakeholders are targeted by these reports. However, in line with the transition to a sustainable society, there is a special focus on the perspective of investors who have taken a strong interest in ESG reporting. To that end, there has been an expansion of information pertaining to governance, risk management, and other organizational information, as well as information pertaining to the direction of management policies, e.g. long-term vision and strategy.

Chapter.1: Basic information of environmental reporting

- ✓ This chapter contains general information intended to promote the understanding of the environmental report and relevant key information among users of the environmental report.

1. Basic requirements for environmental reporting

- ✓ This is information on the basic requirements for environmental reporting that stakeholders should know when making use of the environmental report. It is written at the very top of the environmental report or in another easy-to-find location.
- ✓ If environmental reporting is conducted within a securities report, sustainability report, or similar, and this environmental section's content is equivalent to the basic requirements for environmental reporting, the basic requirements section may be omitted from the environmental report.

Items to be reported

- | |
|---|
| <ul style="list-style-type: none"><input type="checkbox"/> Boundary of the reporting entity<input type="checkbox"/> Reporting period for information provided<input type="checkbox"/> Reporting standards, guidelines or the like<input type="checkbox"/> Overview of the environmental report |
|---|

Explanation

- ✓ “Boundary of the reporting entity” refers to the corporate group that comprises all entities reported in the consolidated financial statements in financial reporting. Therefore, if the entity conducting environmental reporting is the parent of the corporate group, the “Boundary of the reporting entity” generally includes the entity (the parent) and the entities it controls (the subsidiaries) .
- ✓ “Reporting period for information provided” refers to the time period for which the environmental report was created. In the interest of timeliness, it is important to conduct environmental reporting regularly, at least once per year. It is preferred that the period covered by the environmental report be the same as the accounting period covered by the financial report (i.e. the fiscal year).
- ✓ For “Reporting standards, guidelines or the like” describe the names of the standards, guidelines or things like that applied for environmental reporting.
- ✓ If existing standards or guidelines have been partially applied for preparing the report, it is necessary to explain specifically what portion has been applied in order to avoid causing misunderstanding among users of the environmental report.
- ✓ If existing standards or guidelines have been used for reference but not even partially applied,

indicate that the reporting guidelines applied are “voluntary standards” or otherwise indicate this fact in a way that is clear to the reader.

- ✓ In the “Overview of the environmental report,” explain that, for example, the environmental report is presented across multiple business reporting documents (e.g., sustainability report, annual report, securities report, corporate governance report, etc.) or the report is presented in multiple formats (e.g. booklet, website, etc.), using diagrams or other easily intelligible methods to convey the interrelationships between those various components.

2. Trends in key performance indicators

- ✓ The entity should present a summary of the trends in key performance indicators to enable users of the environmental report to understand performance change of the entity's activities over time.

Item to be reported

<input type="checkbox"/> Trends in major performance indicators

Explanation

- ✓ The entity develops a summary consisting of movements and changes in 2 or 3 key performance indicators for environmental issues chosen by the entity from among major performance indicators for environmental issues determined by the entity to be of materiality. These 2 or 3 performance indicators are listed for the last 3 to 5 continuous years alongside major business indicators such as the amount of consolidated sales.
- ✓ If environmental information is disclosed in the annual report, sustainability report, or similar document, these major performance indicators may be listed alongside performance indicators for the entity's major social issues, as well.

Chapter.2: Items to be reported in environmental reporting

- ✓ The objective of environmental reporting to clearly convey how, as society undergoes a process of transitioning to a sustainable society, the entity is working on material environmental issues in the short, medium, and long term, and how the entity will work on these issues in the future.
- ✓ To that end, it is desirable to beyond simple historical results data and also include specific, clear information pertaining to governance, business models, and other organizational issues as well as to the direction of management strategy, making for a forward-looking and dynamic description of the entity's status.
- ✓ Chapter 2's reporting items are to be reported in the order that the reporting entity judges to be appropriate, taking into account the entity's corporate philosophy, business environment, business characteristics, and other factors. The order of explanation in these guidelines need not be the same as the order used in the environmental report itself.
- ✓ In order to avoid redundancy, as with governance issues, information that is reported in business reporting documents other than the environment report can be omitted from the environment report with a clear indication of where the information is record.
- ✓ Of course, in the interest of making the documents easier to search for users of the information, it is also helpful to include in the environmental report the full text or a summary of information that has already been reported in other business reporting documents.
- ✓ In either case, the decision of what disclosure method to use will be left to the judgment of the entity conducting environmental reporting.
- ✓ Of the items to be reported in environmental reporting, item "1. Management commitment statements" through item "9. Identification of material environmental issues" are common to all entities. The next item, "10. The entity's material environmental issues," will differ from entity to entity in terms of the type of material environmental issue(s) listed and the boundary of reporting conducted. This is because for item 10, each entity evaluates the direct and indirect severe impact of their activities on the environment and determines what information will be disclosed.

1. Top management's commitments

- ✓ Addressing material environmental issues are the entity's voluntary action and whether its results is good or bad will be ultimately judged by the entity's stakeholders. As their judgement processes begin with reviewing the top management's commitments, policies for addressing material environmental issues selected by the entity should be clearly stated to the public, as the top management commitments, in the name of the top management.

Items to be reported

- | |
|---|
| <input type="checkbox"/> Top management's commitments on the entity's response to material environmental issues |
|---|

Explanation

- ✓ If an entity attempts to achieve sustainable growth as society undergoes a process of transitioning to a sustainable society, it is essential that the entity establishes a business model that is appropriate for a sustainable society as it also creates shared value with society. Response to material environmental issues is pursued within this process, and it is through the results of those initiatives that entities contribute to the achievement of a sustainable society.
- ✓ Entities conduct business activities using not only financial capital contributed by investors and creditors, but using the natural environment, manpower, social infrastructure, and other types of capital, as well. Therefore, management has a moral obligation to explain to the providers of this capital how this capital was used. Environmental reporting is a way of fulfilling this obligation with regard to an entity's use of the natural environment.
- ✓ Therefore, in conducting environmental reporting, the top management must provide a clear, specific explanation in their own words of their basic approach and policy towards addressing material environmental issues, including in their performance indicators, targets, and other information in addition to making clear declarations regarding the execution of those policies. In this sense, top management's commitment on this topic goes beyond and has a deeper significance than simple greetings.
- ✓ Moreover, because the determination of whether these commitments are appropriate or not is left to the judgment of the stakeholders who use the environmental report, the top management's commitments must be written in a clear and easy-to-understand way.
- ✓ The top management's commitments should explain, with links to the entity's forward-looking information to the greatest extent possible, how the response to material environmental issues is

positioned within the entity's long-term vision and what type of connection that response has to the entity's strategy and planning.

2. Governance

- ✓ The transition to a sustainable society will occur over a long period. If over that period, the entity will attempt to consistently and continuously address material environmental issues as an organization, a sound governance structure is essential.

Items to be reported

- The entity's governance structure
- Name of the manager responsible for material environmental issues
- The roles of the board of directors and the board of executive officers in the management of material environmental issues

Explanation

- ✓ The objective of governance-related reporting is for the entity's board of directors to explain how they view and are addressing, or attempting to address, material environmental issues and related risks and opportunities.
- ✓ For "the entity's governance structure," the entity explains its organizational structure with respect to corporate governance.
- ✓ However, the purpose of governance is to enable sustainable entity growth by allowing stockholders to monitor the board of directors' activities. To this end, in explaining governance it is important to clarify how the board of directors is contributing to the response to material environmental issues.
- ✓ The manager responsible for material environmental issues refers to the highest-ranking manager who oversees all environmental issue-related matters at the entity.
- ✓ If the board of directors has transferred supervisory authority over material environmental issues to an environmental affairs committee (incl. a CSR committee, ESG committee, sustainability committee, etc.), or if material environmental issues are managed within an environment management system, the entity explains that fact and whether the board of directors receives information on the management of material environmental issues from the managers of the environmental affairs committee or environment management system.

3. Stakeholder engagement

- ✓ Stakeholder engagement is sometimes employed to build a good relationship with stakeholders who have an impact on response to material environmental issues, and to smoothly conduct the process of identifying material environmental issues and determining/executing policies for addressing such issues. Reporting the status of stakeholder engagement is an effective method of showing how the entity is mindful of stakeholders' ideas.

Items to be reported

- | |
|--|
| <ul style="list-style-type: none"><input type="checkbox"/> Corporate policies to stakeholders<input type="checkbox"/> Overview of stakeholder engagement activities conducted in the reporting period |
|--|

Explanation

- ✓ Stakeholder engagement refers to the systematic attempts of the entity to understand their stakeholders and incorporate the stakeholders and their matters of interest into the entity's activities and decision-making process. Engagement can take an extremely wide variety of forms, including performance by the entity alone or performance in cooperation with stakeholders.
- ✓ For the corporate policies to stakeholders, the entity explains the approach to stakeholder engagement including the policy for identifying and selecting stakeholders, and for undertaking stakeholder engagement, to disclose how stakeholder engagement is utilized for addressing material environmental issues..
- ✓ The overview of stakeholder engagement activities conducted in the reporting period includes the stakeholder groups identified and selected, the types or forms of engagement used, and the status of the implementation of those engagement activities.
- ✓ If there has been feedback from stakeholders regarding the status of response to material environmental issues, that feedback should be explained, as well.

4. Risk management

- ✓ Even if an entity has achieved good results in managing its material environmental issues, past results may not necessarily demonstrate a high capacity to handle potential risks in the future if the business environment undergoes significant change. In order to convey that an entity has the risk management capacity to address latent environmental issues, it is necessary to demonstrate that the entity's risk management system is functioning effectively.

Items to be reported

- | |
|--|
| <ul style="list-style-type: none"><input type="checkbox"/> Environment-related risk identification, assessment, and management processes<input type="checkbox"/> Positioning of the above processes within the entity's overall risk management |
|--|

Explanation

- ✓ "Risk" in this context refers to risk pertaining to material environmental issues, primarily caused by the dramatic changes in the business environment associated with the transition to a sustainable society.
- ✓ This risk management may also cover risks posed by major natural disasters, accidents, and other unusual circumstances.
- ✓ Risk identification, assessment, and management processes refer to the ways in which the entity identifies, evaluates, and is addressing risks pertaining to material environmental issues.
- ✓ "Positioning of the above processes within the entity's overall risk management" constitutes an explanation of how the entity's processes for identifying, evaluating, and managing environment-related risks are integrated into entity-wide risk management.

5. Business model

- ✓ The type and magnitude of the impact of an entity’s activities on the environment varies by industry, business conditions, and the country or region in which the business is active, among other factors. Therefore, explaining the business model of the entity serves to clarify the environmental issues unique to the entity as well as incidental risks and opportunities, making it easier for the users of the information to understand the status of measures taken to address material environmental issues.

Items to be reported

<input type="checkbox"/> The entity’s business model
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Explanation

- ✓ The “business model” refers to the nature of an entity’s activities and how it remains competitive, generating and maintaining profits over the long term. Typically, this is explained using the entity’s main products and services, its business environment, trends in its market, the position and role of the entity in the value chain, its customers, its sales methods, and other factors.
- ✓ Business models differ significantly from entity to entity, meaning that each entity should utilize its own unique technique to describe its business model in an accurate and easy-to-understand way.
- ✓ The International Integrated Reporting Council (IIRC), which has established a disclosure framework for integrated reporting, defines the business model as “the organization's chosen system of inputs, business activities, outputs, and outcomes that aims to create value over the short, medium and long term.”¹ The business model is included among the items reported in the integrated report.
- ✓ The European Union (EU) requires publicly listed companies to disclose a brief description of their business model in financial reporting, rendering the business model as an overview of “what a company does, and how and why it does it.”²

¹ International Integrated Reporting Council (2013), Business Model, Background Paper for <IR>, p.6.

² European Commission (2017), Guidelines on non-financial reporting (2017/C215/01), p.10.

6. Value chain management

- ✓ If the scope (boundaries) under consideration in the identification of material environmental issues (such as climate change, water resources, or biodiversity) extends across the entire value chain, it is necessary to have a mechanism of value chain management that effectively prevents or addresses such issues. If the entity has such a mechanism of value chain management, the entity explains its workings and status.

Items to be reported

- Value chain overview
- Green procurement policy, objectives, and results
- Status of eco-friendly products and services

Explanation

- ✓ The value chain overview explains the structure of the value chains of the entity's primary products and services in an easy-to-understand manner, using diagrams and similar techniques. It should include a value chain map and lists material environmental issues for each stage of the value chain, incidental risks and opportunities, descriptions of the entity's work to address material environmental issues, and other information.
- ✓ Regarding the "upstream" portion of the value chain, the entity describes its green procurement policies (incl. CSR procurement) and the range of suppliers for which adherence to these policies is required (i.e. to what extent direct / indirect business partners are covered). If targets have been set, the entity also explains the targets set and the results thus far, and evaluates the effectiveness of the measures employed. If no targets have been set, the entity simply states the results thus far.
- ✓ Regarding the "downstream" portion of the value chain, the entity describes the status of each eco-friendly product or service. If the entity calculates its contribution to the reduction of certain byproducts (i.e. the amount by which environmental impact has been reduced through the use of eco-friendly products and services), the entity must state the results of those calculations and specifically list background information such as definitions of indicators used, calculation methodology, the scope of data aggregation, etc.
- ✓ If the entity is required by downstream business partners (clients) to provide information on its adherence to green procurement policies and the status of its adherence thereto, the entity should explain its policies for responding to such requirements and the status of its response.

7. Long-term vision

- ✓ As the social context of business gradually changes in the transition to a sustainable society, it is necessary that entities attempting to achieve continuous growth establish a business model appropriate for a sustainable society. Because response to material environmental issues will occur over a long timeframe marked by dynamic environmental change, entities use the long-term vision to present a vision of what they aim to become in the future. This vision is then used as a starting point to assess the relevance of the entity's activities and to help stakeholders understand the direction of the business.

Items to be reported

- | |
|---|
| <ul style="list-style-type: none"><input type="checkbox"/> Long-term vision<input type="checkbox"/> Time period covered by the long-term vision<input type="checkbox"/> Reasons why that time period was selected |
|---|

Explanation

- ✓ The long-term vision serves to communicate to society what the entity seeks to become in the future through its addressing of material environmental issues and its contributions to the achievement of a sustainable society. Although such visions often present quantitative targets to this end, it is not uncommon to present qualitative targets either.
- ✓ The time period covered by the long-term vision is primarily determined by the entity, taking into account its industry, business conditions, size, and other such factors. The vision should cover the period from 2030 to 2050.
- ✓ It is hoped that the entity will set suitable interim targets within the period covered by its long-term vision and otherwise make it easy for readers to understand its progress toward achievement of that vision. It is most useful to set quantitative interim targets where possible.
- ✓ The long-term vision and interim targets require periodic revision in response to changes in society at large.

8. Strategy

- ✓ In order to realize the entity's long-term vision, it is essential that the entity carries out its sustainable action plans over the long term with a strategic direction that must be shared across the entire entity. The environmental report serves to explain how the entity seeks to do so by specifying its business strategy designed for achieving a sustainable society.

Item to be reported

- | |
|--|
| <input type="checkbox"/> Business strategy of an entity developed for contributing to the achievement of a sustainable society |
|--|

Explanation

- ✓ The “business strategy of an entity developed for contributing to the achievement of a sustainable society” is one that involves work on material environmental issues in addition to establishing a business model suitable for a sustainable society in the long term and enabling sustainable entity growth, while also contributing to the achievement of a sustainable society.
- ✓ Building off of the entity's existing business model, the strategy is an easy-to-understand road map (e.g. systematic mechanisms and big-picture plans) by which the entity will carry out its action plans in order to work toward the achievement of its long-term vision.

9. Methodology for identifying material environmental issues

- ✓ The entity identifies by its own judgment its material environmental issues to be addressed, from among all of the direct and indirect impacts its business activities have on the environment. Stakeholders will determine whether the entity has judged them appropriately or not, and to that end the entity explains clearly in its environmental report how it identified those material environmental issues.

Items to be reported

- | |
|---|
| <ul style="list-style-type: none"><input type="checkbox"/> Procedure by which the entity identified its material environmental issues<input type="checkbox"/> List of identified material environmental issues<input type="checkbox"/> Reasons that the identified environmental issues were judged material<input type="checkbox"/> Boundaries of the material environmental issues |
|---|

Explanation

- ✓ These guidelines only require the entity to explain the methodology by which it identified its material environmental issues and which method should be applied is exclusively dependent on the entity's judgement.
- ✓ However, for the convenience of users of these guidelines, some guidance documents on materiality and typical methods of assessing materiality are provided as supplements to these guidelines.
- ✓ Because material environmental issues cover even the indirect impacts of an entity's business activities, the boundaries of material environmental issues may expand through the entire value chain. In order to state that the boundaries are appropriately determined, the entity explains the boundaries from the following two perspectives:
 - 1) At what part of the value chain do the material environmental issues occur?
 - 2) How are the material environmental issues related to the entity's activities and business relationships?

10. The entity's material environmental issues

- ✓ The entity should report on the following items for each of the material environmental issues identified by its own judgement.

Items to be reported

- Policies and/or action plans
- Targets and results of policies / action plans based on performance indicators
- Methodologies used for calculating each performance indicator
- Aggregation scope of data for each performance indicator
- Financial impact of related risks and opportunities and calculation methodology thereof, if the financial impact is significant
- An assurance report, if an independent third party provided assurance to the items to be reported

Explanation

Policies and/or action plans

- ✓ The policies and/or action plans describe the entity's specific means and practical plans for achieving sustainable entity growth and executing its business strategy that works toward realizing a sustainable society.
- ✓ The entity may describe policies and/or action plans applicable to the entity's entire organization all together. However, when the specific policies and/or action plans for each individual material environmental issue exist, they should be also individually described.

Performance indicators

- ✓ Performance indicators serve as tools for evaluating the progress of policies and/or action plans. These indicators are typically quantitative, verifiable numerical data, but qualitative indicators may also be used depending on the nature of the material environmental issue.
- ✓ In selecting performance indicators, multiple indicators may be used for one environmental issue, or one indicator may be used for multiple environmental issues to evaluate the degree of achieving policies and/or action plans.
- ✓ In order to make the degree of the progress on policies and/or action plans easier to understand, targets are set to be accomplished by their ends of the period. These targets should be announced in advance.

- ✓ At the end of the set period, the results of policies and/or action plans are measured with the performance indicators. These results are to be compared to the corresponding targets to explain the degree of the progress on policies and/or action plans.
- ✓ Even if no targets of policies and/or action plans are set, their results must be reported.
- ✓ If performance indicators are not disclosed for the entity's material environmental issues, the entity should explain the reasons for doing so.
- ✓ Performance indicators should be easily understandable for the users of environmental reporting. It should be done by presenting their calculation methodologies (incl. coefficients used or related metrics) and the aggregation scope of data for each performance indicator as well.
- ✓ In the case of indicators for which a large amount of discretion is left to the entity when calculating them, such as avoided emission contributing to reduce the environmental impacts, the entity should explain those indicators' definitions, calculation methodologies, aggregation scopes of data, and other background information as needed, to ensure that users correctly understand the meanings of the indicators used.
- ✓ If the boundary of the reporting entity differs from the aggregation scope of data for specific performance indicators, the entity should explain that difference and the reason for it, for each performance indicator.

Financial impact of risks and opportunities

- ✓ If the amount of the financial impact is stated, it should be accompanied by definitions thereof, calculation methodologies, and the scope of data aggregation.

Assurance report

- ✓ If multiple material environmental issues are assured by an independent third party, that should be indicated or explained with respect to each applicable material environmental issue.

Reference

Major environmental issues and their performance indicators

- ✓ As a reference material for use in identifying material environmental issues as explained in Chapter 2, this sector presents and describes examples of major environmental issues and their performance indicators.
- ✓ The major environmental issues listed here as examples are issues that are considered highly material by many entities. This section cannot necessarily cover all possible environmental issues. The entity is free to identify material environmental issues other than those listed here as example.
- ✓ For each identified material environmental issue, the entity presents the “items to be reported” listed under Chapter 2, “10. The entity’s material environmental issues.” This section includes examples of performance indicators for six major environmental issues. If the entity has identified material environmental issues other than those six, the entity must determine their appropriate performance indicators.
- ✓ A performance indicator is that selected by the entity to evaluate the results of its action plans. These indicators are often quantitative in nature, but qualitative indicators may be used depending on the nature of the relevant environmental issue.
- ✓ Many material environmental issues are relevant throughout the entire value chain. Therefore, the entire value chain must be reviewed when determining the aggregation scope of data for performance indicators.

1. Climate change

- ✓ Climate change poses the threat of catastrophic damage to economic and social systems on a global scale. As a result, one of the major tasks facing the world is a rapid global transition to a post-carbon society. Because business activities rely on fossil fuels in some way or another, entities are required to disclose the extent of that dependency and to describe their initiatives working towards decarbonization.

Items to be reported

Greenhouse gas emissions

- Scope 1 emissions
- Scope 2 emissions
- Scope 3 emissions

Emission intensity

- Greenhouse gas emission intensity

Energy usage

- Breakdown of energy usage and overall energy usage
- Renewable energy usage as a percentage of overall energy usage

Explanation

Greenhouse gas emissions

- ✓ Greenhouse gas emissions are divided into three “scopes”. For scope 3 emissions, each entity uses a significantly different method for calculation, and thus these emissions should be accompanied by a description of the way in which they were calculated.
- ✓ The greenhouse gases covered by the report are as follows: CO₂, methane, nitrous oxide, nitrogen trifluoride, and three fluorinated gas alternatives (hydrofluorocarbon [HFC], perfluorocarbon [PFC], sulfur hexafluoride [SF₆]).
- ✓ Greenhouse gas emissions are calculated by taking the sum of all of the different types of greenhouse gases produced by business activities and converting this sum to a total quantity of CO₂ based on their Global Warming Potential. This CO₂ total is expressed in units of tCO₂e (tons of CO₂ equivalent). However, if there are insignificant amounts of greenhouse gas emissions other than CO₂, it is acceptable to report only CO₂ emissions.

Emission intensity

- ✓ Emission intensity is an indicator that makes it easier to compare greenhouse gas emission reductions chronologically and between entities.
- ✓ Emission intensity is calculated using an appropriate measure of business activity such as sales, production output, etc.

Energy usage

- ✓ The entity should list energy usage by energy type (kWh, kg, etc.) including electricity and each fuel used; and total energy usage, the sum of the calorific value of the different types.

Scenario analysis

- ✓ For some environmental issues with an especially high level of materiality to entities and society (e.g. climate change), entities of certain industries, business types and sizes may need to assess the validity of their long-term strategies through scenario analysis.
- ✓ In scenario analysis, several possible scenarios are forecast concerning possible changes in business conditions and long-term policy trends, and the impact of each scenario on the entity's strategy is analyzed in terms its risks and opportunities. Assessment of the resilience and durability of the entity's strategy is evaluated for each scenario, testing the validity of the strategy.
- ✓ The scenario analysis is not included among the examples of items to be reported. However, the TCFD has recommended that scenario analysis be performed, necessitating caution regarding future information disclosures.

2. Water resources

- ✓ Water (especially fresh water) is an essential resource for human survival and difficult to substitute. In a world where access to water resources is at high risk of being restricted by factors such as increasing water usage due to increasing populations and precipitation patterns changing due to climate change, water resource management in business activities has become a material environmental issue.

Items to be reported

- Water resource inputs
- Water intensity
- Water discharge
- Status of water stress, if the entity has sites or supply chains located in areas with water stress

Explanation

- ✓ Water resource inputs are broken down by type: tap water, industrial water, groundwater, river water, seawater, etc.
- ✓ Water intensity is calculated using an appropriate measure of business activity such as sales, production output, etc.
- ✓ Due to uneven distribution of water resources across the world, not just workplaces but entire supply chains may be located in areas with water stress. If this is the case for an entity, it will explain the relevant situation here.
- ✓ In explaining the status of water stress, the description should also cover the impact of the entity's activities on all regional water systems and the status of management of those water resources.

3. Biodiversity

- ✓ In pursuing a transition to a sustainable society, it is essential that the ecosystems underlying biodiversity be conserved to achieve a society in harmony with nature that benefits from that biodiversity now and in the future. Because entities have a deep relationship with biodiversity domestically and internationally through their business activities, the conservation of biodiversity in such activities is a material environmental issue.

Items to be reported

- Impact of business activities on biodiversity
- Status and extent of the dependency of the entity's business activities on biodiversity
- Business activities that contribute to biodiversity conservation
- Status of cooperation with external stakeholders

Explanation

- ✓ The impact of business activities on biodiversity refers not only to the direct effects of the entity's business activities, but also indirect effects such as the impact on biodiversity of other businesses in the entity's supply chain, and the impact of consumers using or disposing of products or services provided by the entity.
- ✓ In this business's case, targets pertaining to the avoidance or minimization of the impact of business activities on biodiversity are included as "initiative targets" to be reported as per Chapter 2, "10. The entity's material environmental issues." These targets are chosen such that they can be used by the entity to confirm the status of relevant initiatives as well as be reported to an external audience, but these targets do not need to be quantitative in nature. Additionally, because the indirect effects of business activities are included in consideration of the impact of business activities on biodiversity, targets are chosen with consideration of cooperation with consumers and other entities involved in the entity's value chain.
- ✓ Regarding "the status and extent of the dependency of the entity's business activities on biodiversity", the entity should explain natural capital and ecosystem services that the business activities depend on (e.g., the entity procures biological raw materials for its business), with further discussion of the extent of that dependency from the perspective of the sustainability of those business activities.
- ✓ "Business activities that contribute to biodiversity conservation" refers to how technology owned by

the entity and the products and services the entity produces contribute to the conservation of biodiversity and the sustainable use of natural resources.

- ✓ “Cooperating external stakeholders” includes client entities, local governments (municipalities), NGOs/NPOs, local residents, etc.

4. Resource circulation

- ✓ From the perspective of intergenerational fairness, a sustainable society requires resource consumption to an extent that future generations' demand for resources can still be satisfied. To that end, in order to establish a sustainable business model, it is essential that entities promote resource circulation.
- ✓ Water resources and fossil fuels used as energy sources are not included in the total amount of "resource inputs." For more information on these topics, see "1. Climate change" for resources used as energy sources and "2. Water resources" for water resources.

Items to be reported

Resource inputs

- Volume of nonrenewable resource inputs
- Volume of renewable resource inputs
- Volume of recycled materials used
- Rate of recycled and reused resources (= Volume of recycled materials used / Volume of resource inputs)

Resource waste

- Total production of waste, etc.
- Total final disposal volume of waste, etc.

Explanation

- ✓ "Nonrenewable resources" refers to exhaustible natural resources such as metals and minerals that require an extremely long time to replenish naturally. "Renewable resources" refers to agricultural produce, timber, marine products, and other resources that can be renewed over a short period through natural cycles, protective measures, etc.
- ✓ Resources to be reported should be determined due to their high volume of use, scarcity, or other such characteristic and listed by type.
- ✓ Whether to reuse or recycle a resource or not is determined in some cases by comparing the cost of recycling to the price of virgin material. For this reason, it is preferable to understand the differences between whether a resource is virgin or recycled.
- ✓ The volume of recycled materials used refers to the amount of reused or recycled resources used to

substitute for virgin materials.

- ✓ In order to restrict the consumption of resources by business activities to a level such that future generations' demand for resources can still be satisfied, the use of nonrenewable resources will be dramatically restricted. To that end, it is necessary to transition over to renewable resources and reduce the usage of nonrenewable resources, in addition to reducing the total final disposal volume of waste through resource circulation.
- ✓ Report items pertaining to "resource waste" should be reported by type and disposal method to describe the impact on the environment of waste treatment.

5. Chemical substances

- ✓ Entities are required to take their own measures to improve chemical substance management and prevent problems with environmental conservation in advance. The proper management of chemical substances and the reduction of handled chemical substances through the use of substitutes are both important tasks facing society.

Items to be reported

- | |
|---|
| <ul style="list-style-type: none"><input type="checkbox"/> Volume of chemical substances in storage<input type="checkbox"/> Volume of chemical substance emissions<input type="checkbox"/> Volume of chemical substances transferred<input type="checkbox"/> Volume of chemical substances handled (volume used) |
|---|

Explanation

- ✓ As long as chemical substances are properly stored, they do not carry a high risk during normal times. However, in the event of an accident or natural disaster (i.e. abnormal times), there may be a massive impact on the environment depending on the amount of chemical substances in storage, making this a major potential environmental issue.
- ✓ The volume of each type of major chemical substance is included.
- ✓ If there has been a drastic change in chemical substance storage volume, emissions volume, or any other such measures compared to the previous year, explain the reason for that difference in detail.
- ✓ Chemical substances must be managed properly even when present in small quantities. An explanation of the status of chemical substance management is also included in “Response policies / action plan,” one of the items to be reported under “The entity’s material environmental issues.”
- ✓ The range of chemical substances to be managed must consider not only organizations that are the focus of the report but the entity’s entire value chain.

6. Pollution prevention

- ✓ Environmental pollution can have a major impact on the environment and future generations. The entity that causes the pollution may not only be liable for large damages payments and restoration costs but also face severe risks to their reputation. In particular, pollution in developing countries that cause health problems are material environmental issues must be rapidly addressed by entities.

Items to be reported

General

- Status of legal compliance

Air quality conservation

- Air-pollutant emissions volume, emission concentration in air pollution regulations

Water pollution

- Water pollution load, emission concentration in emissions regulations

Soil pollution

- Status of soil pollution

Explanation

- ✓ Even if a legal violation or the discovery thereof occurs before the time period covered by the report, the legal violation should be explained if it has an impact on the period covered by the report. For example, a past legal violation that had a large impact may continue to affect compliance issues through to the present.
- ✓ Entities can also write about activities that go beyond compliance (e.g. if an entity voluntarily conducts soil pollution studies and discloses the results thereof, despite this not being required by law).
- ✓ Important legal violations that occurred in the entity's supply chain should also be reported.

Glossary

(Note) The lack of a clearly stated source for a definition indicates that it is defined or explained by the Ministry of the Environment.

SDGs (p. 1, 3)

The seventeen Sustainable Development Goals (SDGs), adopted at an international summit at the United Nations Headquarters in New York on September 25, 2015, constitute the core of “Transforming our World: the 2030 Agenda for Sustainable Development.” The biggest characteristic of these SDGs is their universality, being adopted by all countries, including developed countries. Of these 17 goals, at least 12 are related to the environment. The Ministry of the Environment is also actively implementing policies toward the achievement of the Agenda in areas including climate change and sustainable consumption and production (initiatives toward the achievement of a recycling-based society, etc.).

Paris Agreement (p. 1, 3)

The Paris Agreement is a new international framework for climate change in 2020 and beyond. It was adopted in 2015 at the 21st United Nations Climate Change Conference (COP 21) held in Paris, France. The Paris Agreement includes the establishment of a 2°C long-term warming target shared throughout the world, the submission and updating of reduction targets every five years in all countries, national adaptation plan processes and implementation for each country, the continued provision of funding by developed countries as well as voluntary funding provided by developing countries, the receiving of reports and reviews of countries’ implementation status in a common and flexible way, and the use of market mechanisms including the Joint Crediting Mechanism (JCM). The Paris Agreement represents a major historical turning point as the first fair agreement in history to successfully have all countries participating voluntarily as appropriate for conditions in their country.

ESG information (p.3, 4)

Environmental, social, and governance information on an entity. Risks and governance pertaining to environmental and social issues are points of perspective that can be used by institutional investors and the rest of the financial sector to understand the status of an entity and improve the mid- to long-term value of the entities in which they invest. In September 2015, the Government Pension Investment Fund

(GPIF), the largest pension asset pool in the world, signed the United Nations-supported Principles for Responsible Investment. This served as one opportunity in which ESG investment—investment that takes into account environmental, social, and governance information—has become increasingly better known and a bigger source of interest over time.

GRI Standards (p.3)

The GRI Standards serve to present global best practices for the purpose of general reporting on the economic, environmental, and social impact of an organization. Sustainability reports based on these standards provide information on the positive and negative contributions of organizations to sustainable development.

Source: GRI website

International Integrated Reporting Council (IIRC) (p. 3, 17)

The International Integrated Reporting Council (IIRC) is an international confederation of regulatory authorities, investors, entities, standard-setting bodies, accountants, NGOs, and other parties. Working under the approach that communication on value creation is the next step in the development of corporate reporting, the IIRC drafted the International Integrated Reporting Framework in 2013. Integrated reporting recognizes the fact that the value-creation process relies on resource contributions from a variety of stakeholders. An integrated report is founded on the assumption of integrated thinking in which the entity is run with proper consideration paid to those stakeholders, and contains the entity's strategy, governance, performance, and material data pertaining to the entity's future outlook compiled in a way that can reflect the context (environmental, social, etc.) of the entity.

Source: IIRC website

Material balance (p.5)

An easy-to-understand comparison of the inputs (resources, energy volume) and outputs (volume of products / services produced and sold, amount of burden on the environment of waste, greenhouse gases, discharge, chemical substances, etc.) of an entity's activities.

Stakeholders (p.2, 7, 8, 12, 15, 19, 21, 28, 29, 35)

The organizations and individuals with a direct or indirect interest in the entity's activities, including its environmental initiatives. For an entity, this includes customers / consumers, shareholders / investors,

clients, employees, NPOs, local residents, administrative organizations, etc.

Value chain (p.2, 17, 18, 21, 24, 28, 32)

The entire chain of economic agents or economic activities involved in the entity's business processes from the creation of added-value to consumption. Includes activities such as raw material mining, procurement, production, sales, transport, use, disposal, etc.

Scope 1, 2,3 emissions (p.25)

Greenhouse gas emissions can be subdivided by source activity as per the following activity groups (called "scopes").

Scope 1 emissions are direct greenhouse gas emissions from the entity itself.

Scope 2 emissions are indirect emissions associated with the use of electricity, heat, or steam supplied by another party.

Scope 3 emissions any indirect emissions other than those covered by Scope 2.

Supply chain (p.27, 28, 33)

The chain of all activities and suppliers who supply products and services to the entity. The supply chain is further upstream than the value chain.

List of Revision Committee members

2017 Revision Committee of the Environmental Reporting Guidelines, etc.

(Honorifics omitted; syllabary order; © mark indicates the chairperson of the conference; organizational memberships and titles are accurate as of March 2018)

Mikako Awano	Founder, CEO at SusCon Japan
Yuko Iizuka	General Manager, CSR Department at Sumitomo Forestry Co., Ltd.
Yoshiaki Ichikawa	Head of Chief Architect Office, Technology Strategy Office, Research & Development Group at Hitachi, Ltd.
Ryuta Uozumi	Certified public accountant at Uozumi Sustainability Institute
Masami Kittaka	Lawyer at Otani & Partners Law Offices
© Yoshinao Kozuma	Professor, Faculty of Economics at Sophia University
Toshihiko Goto	Representative Director at Sustainability Forum Japan
Hidemi Tomita	Director and General Manager of the Business Development Division at Lloyd's Register Japan
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Observers

Environmental Economy Office, Environmental Policy Division, Industrial Science and Technology Policy and Environment Bureau, Ministry of Economy, Trade and Industry

Japanese Institute of Certified Public Accountants

Environment & Energy Policy Bureau, Keidanren

Japan Exchange Group, Inc.

The Ministry of the Environment endeavors to encourage the spread of the practice of environmental reporting by businesses as per the Law Concerning the Promotion of Business Activities with Environmental Consideration by Specified Corporations, etc., by Facilitating Access to Environmental

Information, and Other Measures (Act No. 77 of 2004: Environmental Consideration Law) enacted in April 2005, the formulation Environmental Reporting Guidelines, and other measures.

These guidelines constitute a part of those measures. These guidelines were compiled by the Ministry of the Environment after review by the 2017 Planning Conference on Revisions to the Environmental Reporting Guidelines, etc., and they reflect changing international and domestic trends in environmental reporting occurring in the years since the Environmental Reporting Guidelines (2012 Version).

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