

# **Environmental Reporting Guidelines**

**(Fiscal Year 2012 Version)**



Provisional Translation

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## **Introduction**

As production and consumption volumes have grown following growth in global populations and economies (mainly in developing countries), resource use, energy consumption, and environmental impacts have also become serious problems. Furthermore, as the globalization of financial markets and the development of international trade are creating complex relationships of interdependence among regions, the establishment of international cooperation structures has become an indispensable task in addressing these problems.

Most global environmental challenges are closely related to social issues such as poverty. We must consider the so-called triple-bottom-line contexts of business activities such as environmental, economic, and social performance in order to address these challenges. Building a sustainable society with “integrated improvements of environmental, economic and social performances” is an important political requirement for providing future generations a society in which they can enjoy peace in harmony with the global environment.

Given these circumstances, the role of business initiatives in environmental protection is becoming more important as a major driving force in the building of a sustainable society. The development of new technologies and the dissemination of environment-friendly products and services through voluntary firm activities are essential to the significant mitigation of environmental impacts. Expanding the scope of these initiatives helps mitigate not only the direct environmental impacts of business activities but also other social environmental impacts by promoting green procurement and providing environment-friendly products and services.

Firms’ environmental initiatives are becoming increasingly strategic as their scope expands. An enterprise can succeed by recognizing opportunities and risks and by investing resources in projects that address serious environmental challenges strategically. Environmental initiatives accelerate green innovation\* and greening of the economy and society, leading to a shift to economic and social systems that promote sustainable development.

Business disclosure of environmental information is an essential factor in improving the functioning of social infrastructures and triggering a virtuous cycle for the environment and economy because our society urgently needs to create a social mechanism by which economic entities can rationally estimate the good business practices that deliver economic benefits to environment-friendly businesses. Environmental information is the basic organ of this mechanism.

Environmental information must be disclosed without impairing the usefulness of environmental reporting. It must meet the information needs of users, good quality must be appropriately guaranteed, and comparability with previous periods and other enterprises must always be ensured.

These guidelines are principles by which an enterprise may use the natural environment to fulfill its accountability to society without impairing the usefulness of its environmental reporting. They are expected to help create a sustainable society that will trigger virtuous cycles for the environment and economy by providing an effective signpost for environment-friendly enterprises and to help the users of

environmental reports by guiding them to an understanding of environmentally focused firm activities.

## Preface

### 1. Position of Environmental Reporting

Environmental, economic, and social challenges are expected to diversify and become more complicated. As the relationships among the environmental, economic, and social contexts of business are becoming increasingly closely related, their activities and impacts must be discussed together.

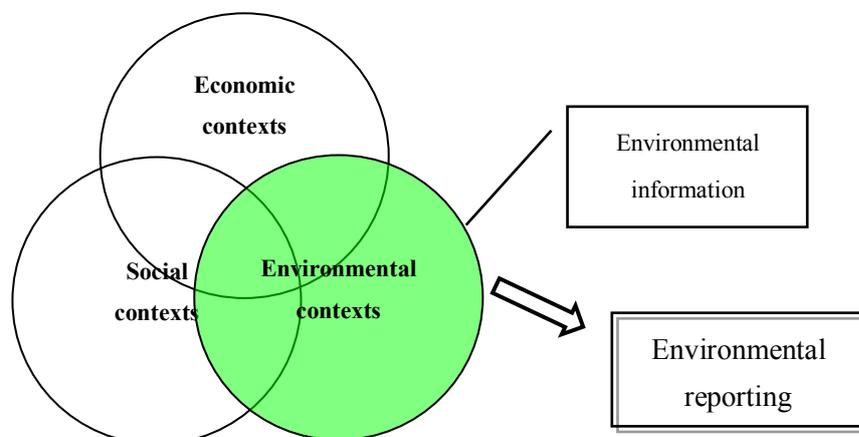
The guidelines' environmental information concerns business activities as they impact the environment; this includes not only environmental information but also economic and social information relevant to the environment.

Through environmental reporting of these kinds of information, an enterprise describes its environmental impacts and the environmental initiatives taken to mitigate them. Environmental reporting thus communicates information on environmental impacts and their economic and social implications.

To enable users to understand their business, enterprises must select relevant information and report it in a form suitable for users' purposes. The most effective way to explain the overall management picture is to report on the significant impacts on and material activities occurring in the environment, economy, and society; environmental reporting is one way to do this. Environmental reporting, which includes detailed environmental information and analysis as well as related economic and social information, is the best way to help users understand business activities by business segment, region, and facility

Thus, environmental reporting is an important communication tools by which an enterprise explains its business activities and their environmental impacts, along with related economic and social information.

**Figure 1: Relationship between Information on Business Activities and Environmental Reporting**



## **2. Revision of the Environmental Reporting Guidelines**

The Ministry of the Environment has encouraged the dissemination of environmental reporting using a variety of methods including the publication of the Environmental Reporting Guidelines: Fiscal Year 2003 Version” (March 2003).

The Ministry of the Environment (MOE) also encouraged businesses to be environmentally focused and to publish an environmental report by enacting the Law Concerning the Promotion of Business Activities with Environmental Consideration by A Specified Business Enterprise, etc., by Facilitating Access to Environmental Information, and Other Measures (Law No. 77 of 2004: Environmental Consideration Law, enforced in April 2005).

The guidelines, published as part of this initiative, were compiled by the MOE after being reviewed by a committee consisting of experts, business representatives, and users. They are intended as an environmental reporting reference for businesses.

### **(1) Current trends and challenges of environmental reporting**

Thanks to the promotion of environmental reporting, primarily to large enterprises, approximately 35% of all Japanese firms now publish environmental reports, a figure that has been broadly flat in recent years.<sup>1</sup> Looking at the percentages by sales amounts, more than 80% of firms with net sales over 100 billion yen are publishing environmental reports, but a much lower percentage of enterprises with net sales below 100 billion yen are doing so.

This discrepancy can be explained by the fact that large enterprises’ environmental reporting is relatively advanced because they acknowledge their accountability and can invest the funds and human resources necessary to meet it, which smaller enterprises cannot do. The smaller the scale of the enterprise, the less advanced its initiatives and the fewer its funds, human resources, and knowledge of environmental initiatives and environmental reporting.

Another factor preventing the spread of environmental reporting is that many enterprises cannot enjoy the benefits of the process, because it is difficult to compare environmental reports due to the lack of standardized valuation criteria for environmental information, the frequent disclosure of inadequate supplementary information (such as the extent of or criteria for data aggregation), and the absence of methods of evaluating environmental initiatives.

Therefore, the most significant challenge in accelerating the greening of the economy

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<sup>1</sup>Survey on Environmentally Focused Business Behaviors

This survey of companies listed in the first or second section of the Tokyo, Osaka, or Nagoya stock exchanges and unlisted companies with 500 or more employees has been conducted every year since fiscal year 1991. It asks questions about the status of the environmental management initiatives of the companies, their disclosure of environmental information, and the status of their initiatives to publish environmental reporting (<http://www.env.go.jp/policy/j-hiroba/kigyoo/index.html>).

and society is building an information infrastructure through which businesses' environmentally focused activities can be fairly appreciated by spreading accurate information about the limits of comparability and promoting the disclosure of comparable and reliable information. Moreover, policies must be implemented to encourage increased environmental reporting, including for small and medium-sized enterprises.

## **(2) Primary users of the Environmental Reporting Guidelines**

The Environmental Consideration Law stipulates that large enterprises must endeavor to publish environmental reports and disclose the status of their environmental initiatives. In our country, first of all, it is necessary for an enterprise with relatively enough funds and human resources to start environmental reporting voluntarily and actively, and then all other enterprises are expected to be followers in the future.

The Guidelines are designed for every kind of enterprise, particularly large-scale enterprises (including listed companies and unlisted companies with 500 employees or more). Firms are expected to publish high-quality environmental reports that include the information and indicators recommended for reporting here. The guidelines clearly describe the basic components of environmental reporting to make them easy to understand for enterprises just starting their environmental reporting or about to do so. Firms and small and medium-sized enterprise (SMEs), including site units such as factories, that have recently taken environmental initiatives could phase in their activities by gradually adopting the Guidelines and the Eco Action 21 Guidelines.<sup>2</sup>

Enterprises required to publish environmental reports by the Environmental Consideration Law are expected to include all that is specified in the *Report Contents and Miscellaneous Matters to be Disclosed in an Environmental Report* section of the *Notification on Report Contents and Miscellaneous Matters to be Disclosed in an Environmental Report*, while referring to the Guidelines and the *Guide for Reporting Contents and Miscellaneous Matters to be Disclosed in an Environmental Report*.

## **(3) Key revised points in the 2007 Version**

In the revision of the *Environmental Reporting Guidelines: Fiscal Year 2007 Version*, a necessary overhaul was implemented by reviewing a position of the Guidelines in consideration progress and trends of practices in Japan and overseas since the publication of the *Environmental Reporting Guidelines: Fiscal Year 2003 Version*, and by integrating the *Environmental Performance Indicators Guideline for Organization (Fiscal Year 2002 Version)* into the newly revised guidelines.

Titles and contents of an environmental report are diversifying such as a *Sustainability Report*

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<sup>2</sup> [the Eco Action 21 Guidelines]

The Ministry of the Environment has separately issued Eco-Action 21 Guidelines, a publication aimed at enabling SMEs to design and operate environmental management programs, to carry out conservation activities, and to publish "environmental activities reports" with relative ease. URL:<http://www.env.go.jp/policy/j-hiroba/04-5.htm>

and a *Social and Environmental Report* that present information on matters in social and economic fields together with environmental information or a *CSR Report* that discloses performance of initiatives to fulfill CSR. Therefore, the new Guidelines was renamed the ***Environmental Reporting Guidelines*** as a guidance document for environmental reporting by a periodical environmental report.

Additionally, in April 2006, Japan's Cabinet approved the *Third Basic Environment Plan* that shaped a future course of national environmental policies, particularly *Integrated Improvements of the Environment, Economy and Society*. In response, additional information and indicators to be reported in social contexts were included in the *Social Contexts of Environmentally Focused Management* section of the Guidelines.

Other key revised points in the *Environmental Reporting Guidelines: 2007 Version* are as follows:

- (1) Introduction of lists and tables of major indicators and the like
- (2) Recommendation of measures for improving the reliability of environmental reporting
- (3) Recommendation of environmental reporting with more emphasis on the viewpoint of stakeholders
- (4) Promotion of investments and financing that take the environment into consideration
- (5) Conservation of biological diversity and promoting sustainable use of its components

Other related guidance documents were included in annexes to the *Environmental Reporting Guidelines*; those are the *Guide for Contents to be disclosed in an Environmental Report*, and the *Guide for Self-Assessment to Increase Reliability of an Environmental Report - Trial Version* -. (These are available in Japanese only.)

#### **(4) Key revised points in the 2012 Version**

The background and points focused on in the current revision are as follows:

- ① The worsening of environmental problems is likely to lead to the establishment of new international frameworks and regulations, strengthened social surveillance mechanisms, and an expanded scope of firm responsibility in the medium to long term. It is becoming important for an enterprise to focus on the value chain\* and its responsiveness to stakeholder issues.
- ② In the current business environment, global environmental challenges with potential financial implications for management such as climate change, water shortages, and stable access to resources are becoming too serious to be ignored.
- ③ The impact of the environment on business and the linkages between them are deepening, and the strategic value to management of environmental contexts has grown. Consequently, the demand from investors and financial institutions for systematic disclosure that links the economy, the environment, and society is growing.
- ④ Investors are interested in analyzing the environment's impact on management,

including the relationship between the environment and firms' opportunities, risks, material issues, and business strategies, an evaluation of the current situation and future direction, the important financial implications, and enterprises' ability to address these impacts, based on the material information available.

- ⑤ A report of the Expert Committee on Environment and Finance<sup>3</sup> points out the need to review and encourage the dissemination of the template of the *List of Key Performance Indicators*.
- ⑥ Disclosed environmental information must appropriately reflect the unique status of the reporting enterprise by describing the distinctiveness of its strategies, faithfully and consistently representing the actual state of the firm's environmentally focused management, and disclosing the data in a format that increases understandability and comparability.
- ⑦ Many enterprises are disclosing an increasing amount of information on environmental, economic, and social contexts while enhancing its quality. The ISO 26000 is also becoming increasingly internationally recognized as guidelines for businesses' social activities.
- ⑧ An enterprise's environmental reporting should follow international trends in environmental reporting, including the Global Reporting Initiative (GRI).
- ⑨ Environmental reporting frameworks are being improved in emerging economies, particularly through legislation governing environmental disclosure and environmental reporting publishing guidelines. Furthermore, organizations such as the Carbon Disclosure Project (CDP) have triggered new trends in environmental reporting.
- ⑩ Encouraging disclosure to and communication with local communities, an important part of warning them of the effects of pollution, disasters, and accidents and of thus gaining the local community's trust, will be an essential element of future environmental policies.
- ⑪ At the tenth meeting of the Conference of the Parties to The Convention on Biological Diversity (COP10), the Aichi Target and the Nagoya Protocol were adopted, and the Guidelines for Private Sector Engagement in Biodiversity were formulated.

Given the above background and the current trends and challenges of environmental reporting in Japan, the following basic policies have been integrated into the current revision:

Create guidelines that will lead to improved environmental reporting by enterprises currently reporting.

Create guidelines that will lead to environmental reporting by enterprises not currently doing so.

Create guidelines that will enable users to gain a perspective on environmentally focused management and its future direction.

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<sup>3</sup> "Toward Green Finance, a new role for the financial sector in building a low carbon society" (June 15, 2010) of the Expert Committee on the Environment and Finance under the General Policy Committee, Central Environment Council, MOE

Create guidelines that consider the future direction of environmental reporting along with international trends.

Create guidelines consistent with the environmental policies aiming for “integrated improvements of the environment, economy and society.”

The following were the key points revised for the current revision to comply with the basic policies mentioned above:

- ① We defined “environmental reporting” as primarily referring to the practical processes of environmental reporting. We also referred to the essential environmental reporting issues as the “Principles of Environmental Reporting.”
- ② We amended the general principles for environmental reporting with reference to international discussions and frameworks.
- ③ We clarified the definition and direction of environmentally focused management and added a good deal of narrative information on it and on environmentally focused management.
- ④ We defined the key performance indicators (KPIs) to ensure that chairman’s/CEOs’ thinking and goals are communicated objectively to users.
- ⑤ We revised the matters to be disclosed in the “Overview of KPI trends” and the “Summary of activities to address an individual environmental issue” in a summary section of the report to allow users to easily locate where each important matter in the reporting period is described.
- ⑥ We added matters to note when using information and communication technology (ICT), including corporate websites.
- ⑦ We clarified the ( i )Information and indicators to be disclosed to make them consistent with the report contents defined through judgments of materiality. Additionally, we inserted new report contents on material challenges, business opportunities, and risks in the appropriate places.
- ⑧ To encourage enterprises to report on their environmentally focused management, we reconsidered the concepts of economic and social contexts and defined the report contents to be disclosed in those sections.
- ⑨ We added information on hazardous substances spills as a new environmental performance indicator, taking into consideration the potential for disasters and accidents.
- ⑩ We provided ways to report more detailed information, such as community information.
- ⑪ We enhanced the information on and indicators for the conservation of biological diversity.

The guidelines have also been optimized to provide effective guidance concerning social responsibility and sustainability reporting, with a focus on economic and social information.

### 3. To management considering whether to launch environmental reporting

Providing environmental reporting that complies with the guidelines is sometimes difficult for management considering whether to begin.

Management may wish to read the guidelines in the order shown below:

Chapter 1 Concept of Environmental Reporting

Chapter 2

2. Material Issues to Be Referred to in Environmental Reporting

3. Basic Points of Attention in Environmental Reporting

Chapter 3 Framework for Environmental Reporting

Chapter 4 Explanation in the **Box** for Each Item and “(i) Information and Indicators to Be Disclosed”

(When necessary, refer to [Points to note for reporting])

Chapter 5 Explanation in the **Box** for the Following Items and “(i) Information and Indicators to Be Disclosed”

(When necessary, refer to [Points to note for reporting])

1. Environmental policies, visions, and business strategies

2. Organizational systems and governance

3. Responsiveness to stakeholder issues

4. Environmental initiatives in the value chain

Chapter 6 Explanation in the **Box** for Material Items and “(i) Information and Indicators to Be Disclosed”

(When necessary, refer to [Points to note for reporting])

(Task 1)

Annex 3. Describe your environmental initiatives and quantitative information in the response spaces as thoroughly as possible, referring to *Information and Indicators to be Disclosed* in the [List of Report Contents]. If there is relevant information or indicators in sections you have not yet read, read them.

(Task 2)

Summarize and describe your initiatives with reference to *Example Format 1* in the Reference (p. 74) in Chapter 4, 3. (3) *Summary of Activities to Address an Individual Environmental Issue*.

It is necessary to comply with *Chapter 2, 1., General Principles for Environmental Reporting* during environmental reporting. To start, disclose all the report contents specified in Chapter 4 on your website; they require environmental reporting.

Part One: Concept of Environmental Reporting and Reporting Principles

## **Chapter 1: Concept of Environmental Reporting**

### **1. What is environmental reporting?**

#### **(1) Definition of and guidelines for environmental reporting**

Environmental reporting is the process by which management reports to the public about environmental impacts of business activities and environmental initiatives undertaken to mitigate them by disclosing the environmental information related to those activities.

Environmental reporting allows enterprises to fulfill their accountability to society as businesses that use natural resources, to provide stakeholders with useful information that may affect their judgement, and to promote environmental communication with them.

Environmental reporting should provide relevant information systematically and comprehensively and in accordance with the general principles for environmental reporting specified in the guidelines.

#### **Commentary: Names of Environmental Reports**

Environmental reporting includes all reporting classified under the above definition regardless of its name, whether it includes information about areas outside the environment, or the type of report.

Many types of environmental report differing in both content and purpose are currently being published. They include not only the “environmental report” but also the “sustainability report,” the “social and environmental report,” and the “CSR report,” which describes initiatives intended to fulfill corporate social responsibility (CSR). Thus, any report used for environmental reporting, regardless of name, is regarded as an “environmental report” in the guidelines.

#### **Commentary: A format of Environmental Reporting**

Various environmental reporting formats are available, such as brochures, physical printed copies, and on-line formats (e.g., on-screen PDF, a dedicated website, E-book). Regardless of the channel and format used, the provision of information described in the guidelines that disclose a comprehensive perspective on the environmental impacts of business activities and environmental initiatives undertaken to mitigate them could be considered environmental reporting.

#### **Commentary: Publishing and Reporting of Environmental Reporting**

An enterprise should provide relevant information in environmental reporting at least once every fiscal year or accounting year. The *environmental report* can be published at a best time for information providing to stakeholders, such as the day just after the closing date or of annual shareholders’ meeting. Depending on the reporting channel, such as the corporate website, and the contents to be disclosed, it is effective to increase the frequency of publication.

## **(2) Fundamental functions of environmental reporting**

The Environmental Reporting has two fundamental functions, an external (or social) function, as a communication tool between an organization and society, and an internal function, which promotes environmental initiatives in an enterprise's activities. They play a very important role in promoting voluntary environmental initiatives in an enterprise's activities.

The following three are external functions:

- (1) Disclose information based on the social accountability of an enterprise
- (2) Provide useful information for stakeholders making decision
- (3) Promote environmental initiatives by "a pledge and review" between an enterprise and society

The following two are internal functions:

- (4) Establish or revise the environmental policy, objectives and action plans of the organization
- (5) Motivate and encourage the environmental activities of managements and employees

When presenting environmental reporting, it is important to design the environmental reporting to properly achieve these functions.

### **Commentary: Function as a tool for environmental communication between a business enterprise and society**

Environmental reporting can be considered as "the open-window of an organization and an important tool for environmental communication." Stakeholders are able to "view" the intended organization's ideas and measures toward environmental issues through this "window." An enterprise can also understand the needs and ideas of its stakeholders by receiving feedback from them through this "window."

In addition, the practice of "environmental communication" among broader stakeholders increases the environmental consciousness of the whole society. If it deepens the understanding of the state of each actor's activities and the difficulties faced, it is expected that environmental communication can be useful for the "sophistication" of the environmental activities of whole society within the partnership and in accordance with each actor's role.

### **Commentary: (1) Function of disclosing information to fulfill an enterprise's accountability to society**

Enterprises, playing a key socio-economic role, use the environment of public goods and thus generate significant environmental impacts. Therefore, enterprises should fulfill their accountability by reporting information concerning their usage of the environment, the environmental impacts generated, the environmental initiatives being taken to mitigate them, and the performance of those initiatives. Environmental reporting is one of the most important methods of fulfilling this accountability.

**Commentary: (2) Function to provide useful information for stakeholders**

Business partners, consumers, public institutions, and others making choices from among products and services as well as investors and financial institutions choosing where to invest need many types of product and management information. Risk management and environmental information are important resources in this decision making. An enterprise must provide useful information that helps its stakeholders make their decisions.

**Commentary: (3) Function to promote environmental activities by “a pledge and review” between a business enterprise and society**

When an organization pledges and reports its policy and targets of environmental considerations in its activities, steady improvements and setting higher target in these activities would be expected. This is because the disclosure drives an effect known as “pledge and review,” in which an enterprise commits to policies and targets on environmental protection activities and then society, in turn, evaluates them.

Communicating with stakeholders and feeding back their opinions and demands into business activities ensures this “pledge and review” effect.

Moreover, in environmental reporting, if an enterprises worries about other people’s opinions and consider possible differences between its own performance and those of other companies in the same sector, it may improve environmental initiatives in society as a whole.

**Commentary: (4) Function to establish or revise the environmental policy, objectives and action plans of a business enterprise**

By environmental reporting, it is expected that an enterprise will voluntarily improve the contents and quality of environmental initiatives, because they wants to enrich the contents of the environmental reporting. In addition, the improvement of an internal collecting system of environmental information will provide an enterprise opportunities to revise or establish the policy, objectives, targets, and action plans concerning the environment.

**Commentary: (5) Function to motivate and encourage the environmental activities of chairman/CEO and employees**

Employees may not know well the details of an organization’s environmental conservation initiatives, and environmental reporting can be used for training employees in order to increase their awareness of its initiatives, and enhance their environmental consciousness. Furthermore, the pride which employees have in an enterprise would be increased through environmental conservation activities.

By including the commitments by the top management in environmental reporting, it could potentially enhance the environmental awareness of the chairman/CEO, as well.

## **2. Environmental reporting and environmentally focused management**

### **(1) Environmental reporting and environmentally focused management**

Environmental reporting allows an enterprise to appropriately communicate to users the status of its environmentally focused management by describing “the environmental impacts and status of environmental initiatives related to their own business activities.”

The guidelines use “environmentally focused management” as a collective term referring to an enterprise’s initiatives to reduce or manage the environmental impacts generated directly or indirectly by their business activities and the related economic and social impacts, carried out with the entire value chain in mind.

#### **Commentary: Why should the term “environmentally focused management” be used?**

The stability of management operations requires that the purposes of management be in accordance with the needs of society and contribute to the development of society.

Environmental initiatives are essential for management’s sustainability and must be included as aspects of management’s social significance and responsibility. Thus, detaching the environment from management is meaningless. The guidelines cover environmental reporting, and inspiring businesses to disseminate and undertake environmental initiatives is one of the purposes of environmental policy; we have thus emphasized this by using the term “environmentally focused management.”

#### **Commentary: Environmentally focused management and environmental impacts**

To implement environmentally focused management, the natural resources used in business activities and the impacts on the environment generated by that use must be ascertained.

The environmental impacts of business activities include impacts on external entities flowing from environmental impacts generated by causes for which the enterprise is responsible and those impacts on the enterprise itself caused by environmental impacts generated by society. Furthermore, impacts on the environment include not only direct impacts but also indirect impacts, such as environmental impacts generated via third parties. Moreover, the relevant impacts include not only those in the environmental context but also those in the economic and social contexts, as they relate to the environment.

Firms’ environmental awareness accelerates the greening of the economy and society, creates green innovation, helps protect the global environment, and furthers sustainable development. We may thus conclude that the impacts of business activities can be regarded as an interaction between the socio-economic realm and enterprises, in both positive and negative ways.

For this reason, the practice of environmentally focused management requires the consideration of the entire value chain, from the procurement of raw materials to disposal, and the reduction and management of environmental impacts and related economic and social impacts in order to contribute to the sustainable development of society and the economy.

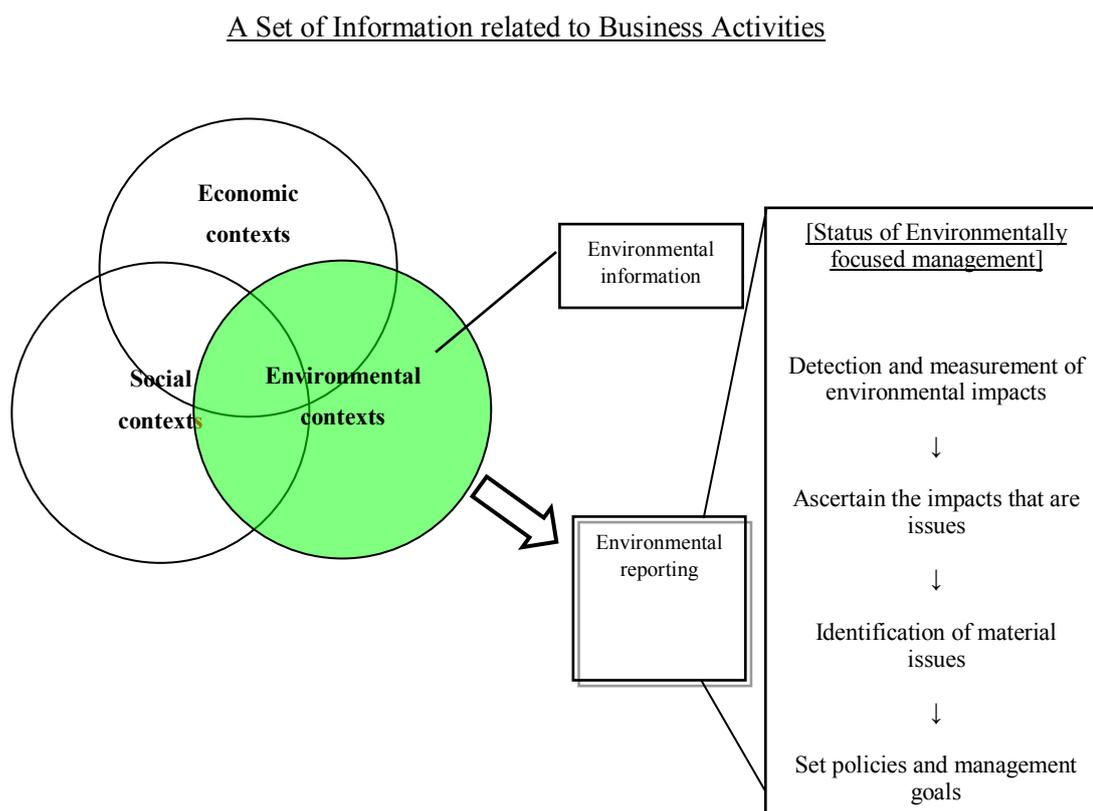
### **Commentary: Environmental reporting and environmentally focused management**

Environmentally focused management can be seen as the aggregation of activities among all business activities considered from an environmental viewpoint. In other words, environmentally focused management is the process of ascertaining, detecting, and measuring the environmental impacts (including the use of natural resources) that may affect businesses, while identifying the material issues, setting management goals and indicators for those issues, and systematically achieving them using the Plan-Do-Check-Act (PDCA) cycle.

Furthermore, as explained in the preface, environmental information is information from an environmental viewpoint extracted from general information concerning a firm's business activities. This environmental information includes the information necessary to explain the status of environmentally focused management, namely information on the environmental impacts of business activities, the initiatives undertaken to reduce and manage those impacts, the impacts of related economic and social activities, and the initiatives undertaken to reduce and manage them.

Implementing environmental reporting that offers these types of environmental information in accordance with the guidelines will allow an enterprise to provide users with information on the actions taken through environmentally focused management by explaining the “environmental impacts of business activities and environmental initiatives undertaken to mitigate them.”

**Figure 2: Relationship between Environmentally Focused Management and Environmental Reporting**



**(2) Current trends in environmentally focused management**

The global aggravation of environmental problems has led to a strong tendency for environmentally focused management to be integrally embedded into business activities and then developed strategically, as it is closely related to the risks and profit-making opportunities arising from business activities. The five priority matters for an enterprise carrying out environmentally focused management are as follows:

- (i) Leadership of the chairman/CEO
- (ii) Strategic integration of the environment and management
- (iii) Responsiveness to stakeholder issues
- (iv) Value chain management and managing trade-offs
- (v) Sustainable consumption of resources and energy

Note that enterprises seeking to consistently undertake these priority matters with the cooperation of their employees and business partners must establish “organizational systems and governance” for that purpose.

\* Explanations of items (i) to (v) are given in the following pages.

**Commentary: Priority matters for environmentally focused management**

The environmental issues of concern to enterprises are expected to become increasingly complex and diversified as their linkages to social issues become stronger. Furthermore, the boundaries of responsibility imposed on enterprises may also broaden beyond the scope of their own activities.

Responding to these environmental issues effectively requires a preventative response over a medium- to long-term time frame that considers the broader value chain, allocates management resources strategically, and practices environmentally focused management efficiently. Furthermore, enterprises that effectively handle the risks and opportunities generated by environmental issues will be able to increase their own sustainability.

Of the above priority matters, items (i) to (iv) as well as organizational systems and governance are not limited to environmental contexts but are equally important to the economic and social contexts. They are thus considered important for all management contexts. Furthermore, (v) is considered an issue for which initiatives to combine environmental conservation and economic growth will become increasingly important.

**Reference: Steps in the development of environmentally focused management**

The chart below models the developmental steps in environmentally focused management according to time frame, scope, and strategic value. Enterprises are expected to develop environmentally focused management that aims at higher levels.

Level	I	II	III
Type	Implementation of required business matters such as external demands	Prioritized implementation within a short-term and limited scope	Strategic implementation within a broad medium- to long-term scope
Example content	Implement pro-environment behavior within the narrow scope of an enterprise based	Implement pro-environment behavior limited to business activities that can easily	Identify the issues important in the medium- to long-term and to the entire value chain;

	on compliance with laws and regulations and the demands of business partners regarding water and air, chemical substances, etc.	produce short-term effects, including energy-saving, resource-saving, and waste reduction.	incorporate them in management strategies, and implement them in cooperation with business partners.
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**Commentary: Important points for environmentally focused management**

①Leadership of the chairman/CEO

The leadership of chairman/CEOs is essential for enterprises confronting challenging social changes while at the same time achieving sustainable growth. Environmentally focused management includes many organizational issues emerging at different periods, requiring company-wide and fundamental initiatives over the medium- to long-term. The chairman/CEO is thus required to respond to future social changes, share with the entire company a clear management vision reflecting a perception of the social responsibility of the company, and show strong leadership in tackling environmentally focused management.

②Strategic integration of the environment and management

If the movement towards a sustainable society continues, sustainable consumption and production will become key elements of the market. Enterprises seeking sustained growth in that kind of business environment will need to make their business activities environment-friendly, thus enabling them to help reduce environmental impacts on society through the procurement of environment-friendly raw materials and the supply of environment-friendly products and services to the market. It is thus necessary to incorporate environment-friendly concepts into business strategies in order to execute an environmentally focused management that strategically integrates management activities and pro-environment behavior.

③Responsiveness to stakeholder issues

An enterprise must meet the expectations of its stakeholders. The business management environment is expected to become more complicated and challenges to businesses harder to identify. Firms must thus sincerely endeavor to understand the demands of their stakeholders without being biased toward the opinions or demands of specific stakeholders, to precisely judge what the material issues are, and to reflect those demands in their management's response to them.

④Value chain management and managing trade-offs

The strengthening of social monitoring, the expansion of extended producers' responsibilities (EPR), and the strengthening of regulations governing chemical substances\* have increased the importance of ascertaining the state of resource consumption and environmental impacts at all stages of the lifecycle (from the mining of raw materials to the disposal of products) and the integrated reduction and management of consumption and its impacts. Furthermore, it is necessary to ensure that activities to reduce certain environmental impacts do not generate other environmental impacts at different lifecycle stages. To respond to these kinds of issues, avoid risks, and earn profits, keeping the entire value chain in mind and practicing environmentally focused management using optimal methods are essential.

⑤Sustainable consumption of resources and energy

The environmental and resource constraints currently expanding through global population and economic growth may become serious risk factors for the sustainability of an enterprise. Furthermore, ensuring that economic growth does not lead to the expansion of

resources/energy use and environmental impacts is becoming a major issue for social sustainability. Enterprises must thus aim for sustainable growth by fundamentally improving their so-called resource productivity, which involves creating more value-added through the sustainable use of natural resources and reducing the use and consumption of all resources.

### 3. Stakeholders and environmental reporting

The term “stakeholders” refers to individuals or groups that affect or are affected by an enterprise and their activities or individuals or groups that have a vested interest in the enterprise, who can include consumers, investors, business partners, employees, local communities, and administrative agencies.

In order to fulfill their accountability, an enterprise provides environmental information to stakeholders via environmental reporting. Stakeholders can also obtain the information necessary for their decision-making through environmental reporting.

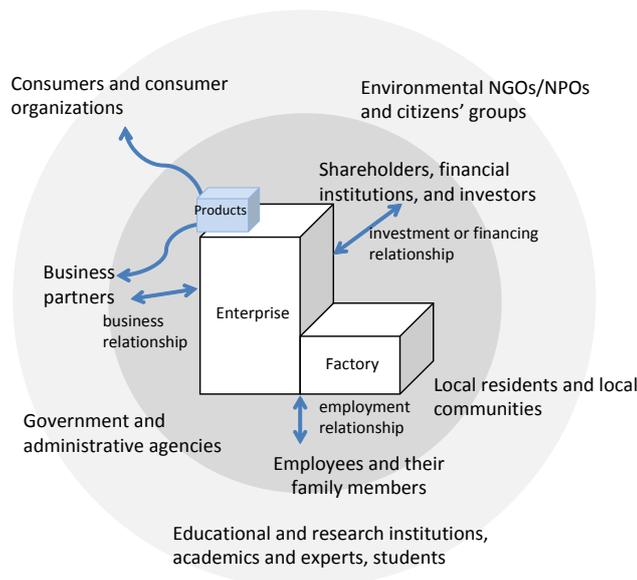
#### **Commentary: Stakeholders and users of environmental reporting**

Environmental reporting allows an enterprise to describe to many stakeholders the environmental impacts of business activities and environmental initiatives. Furthermore, an enterprise that gets feedback from their stakeholders about their environmental reporting can be expected to enhance the mutual understanding between an enterprise and the stakeholders and achieve progress in environmentally focused management.

However, the information content and disclosure levels expected by stakeholders and the types of reports used (such as brochures and Internet reports) are extremely diverse; it is difficult to satisfy all stakeholders. For example, investors will be interested in matters relating to overall management, while community residents will be interested in matters relating to neighborhood factories. Furthermore, not only consolidated information across all business sites but also detailed information by area and business is sometimes necessary for a full understanding.

There are multiple options for displaying this information and the media used to disclose it. To fulfill their accountability obligations, firms are expected to consider the demands of their stakeholders, the users of the environmental reporting, and to provide the information in a form optimal for their needs.

**Figure 3: The Relationship with Stakeholders**



**Commentary: Types of stakeholders and their relationships to an enterprise**

Stakeholders include the individuals and groups listed below. In addition to those, an enterprise has a relationship to its society, including the ecosystem.

**Consumers and consumer organizations**

Consumers are the entities who purchase environmentally friendly products and services. They are interested in product information. Consumer organizations raise awareness about consumer behavior and facilitate products and services that are good for the environment by providing consumers with information on products and services and firms' environmental initiatives.

**Shareholders, financial institutions, and investors**

Shareholders, financial institutions, and investors are fund providers for an enterprise and participate in the management of an enterprise in one form or another. In recent years, they have begun to perform complex evaluations of enterprises in terms of the environment, society, and other factors before making an investment or financing a company. They have a strong interest in the impact of "the environment" on finance.

**Business partners**

Business partners are partners that, due to the necessity of value chain management, promote environmentally focused management together with the company through environment-friendly evaluations of green procurement, the purchasing of environment-friendly products and services, and other methods. They are particularly interested in information about environmentally focused management and environmental risks, including measures for meeting the requirements of regulations on chemical substances and other issues, the status of greenhouse gas emissions, and so on.

**Employees and their family members**

Employees are the entities that advance environmentally focused management organizationally. Their family members also understand and promote pro-environment behavior. Employees are interested in the ideas and environmental initiatives of managers. Furthermore, improving the environmental awareness of employees leads to sustained environmental initiatives.

**Local residents and local communities**

Local residents' interest is in conserving their living environment. Important issues include whether pollution is generated by factories, the nature of pollution prevention measures, and the impact on the region of disasters and accidents. By providing these types of information in an easily understandable format, an enterprise can gain the trust of local communities and facilitate smooth communication as a member of the region.

**Government and administrative agencies**

The government decides the national direction of the administration of environmental issues and measures. The administrative agencies of the national government and regional public bodies establish measures to encourage the implementation of environmental initiatives and establish regulations. All of these entities can have a major impact on business activities.

**Educational and research institutions, academics and experts, students**

**Environmental NGOs/NPOs and citizens' groups**

Educational and research institutions are partners that work together with an enterprise to develop new environmental technologies and provide environmental education to future generations. Academics and experts evaluate environmental initiatives objectively and give advice to enterprises based on their research findings. Students are also interested in firms' environmental initiatives, particularly those undertaken by firms for which they would like to work.

Many organizations such as environmental non-governmental organizations (NGOs) are opinion leaders on environmental and social issues and interpret those issues in an understandable form to society. These organizations monitor firms' environmentally focused management and work together with enterprises to solve environmental problems.

## Chapter 2: Principles of Environmental Reporting

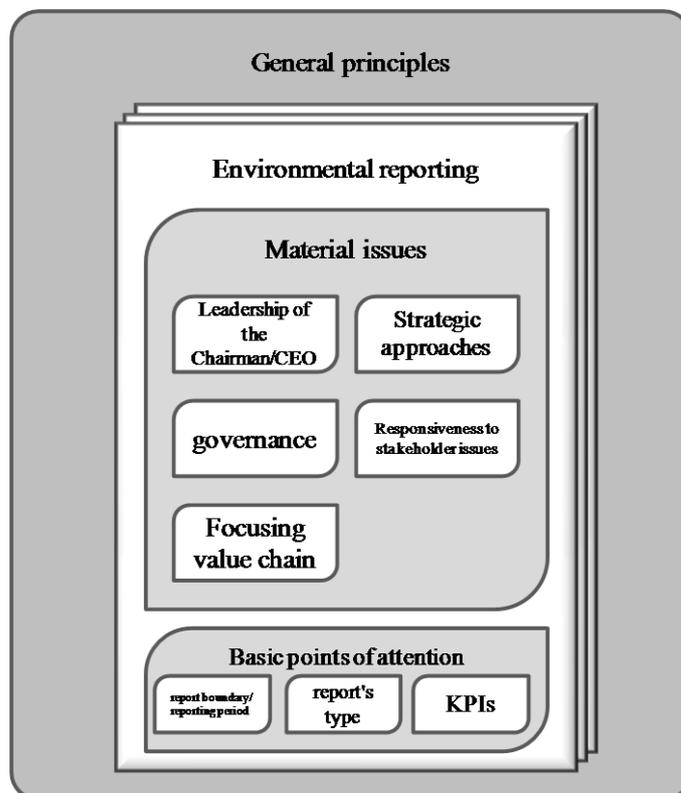
The contents of environmental reporting vary depending on the organizational model, industry type, scale, and business nature of the enterprise. Enterprises must thus decide what types of report, format, and report contents are appropriate for them, using the principles of environmental reporting as judgment criteria. These principles comprise the general principles, material issues to be referenced, and basic issues.

The general principles refer to the “qualitative characteristics of information provided in environmental reporting that is likely to be most useful to the users.” Preparing and presenting the report in accordance with these principles is a basic requirement of environmental reporting.

It is important to show the “information element which is essential for disclosure of the actual state of environmentally focused management” and to present the important reference points that must be taken into consideration when an enterprise defines the report contents of its environmental reporting.

Finally, a basic issue in environmental reporting is the “procedure to which particular attention should be paid in environmental reporting and an approach to that procedure.”

**Figure 4: Principles of Environmental Reporting**



## 1. General principles for environmental reporting

Environmental reporting is an environmental communication tool by which an enterprise makes itself accountable by providing information useful for the decision-making needs of stakeholders.

The general principles for environmental reporting described below are based on the basic assumptions of environmental reporting. Environmental reporting's functions cannot be fulfilled unless an environmental report is prepared in accordance with these general principles.

The general principles are based on the need for relevance, faithful representation, comparability, clarity, verifiability, and timeliness. The fundamental principles of relevance and faithful representation ensure the usefulness of the information, which is enhanced if it complies with supplementary principles.

### Principle 1: Relevance

**Environmental reporting must provide information which is capable of making a difference in users' decision making. No material information must be omitted.**

#### **[1] Information capable of making a difference in users' decision making**

Environmental-report users sometimes make decisions on the basis of information about a specific reporting entity for their own purposes. In such a case, the *information can make a difference in the decisions made by users* only if the users have the information.

For example, environmental performance indicators are essential for users wanting to evaluate environmentally focused management and are thus considered to represent *information capable of making a difference in the decisions made by users*.

#### **[2] Defining report contents based on judgments of materiality (refer to Commentary on p. 40)**

Environmental report contents must be defined in a way that includes all material information on the environmental impacts of business activities, the environmental initiatives undertaken to mitigate them, and the economic and social implications of the environmental impacts mentioned above.

Material information is any *information that could influence users' decision making*. Information is material if omitting it or misstating the magnitude of an *event* it purports to represent *could influence the decisions that users make* on the basis of the information provided about a specific reporting entity.

However, whether or not information can be considered material depends on the kind of information the enterprise reports in its environmental reporting and is thus hard to determine in advance.

For this reason, an enterprise must judge whether information deserves to be considered material on a case-by-case basis, taking into account the nature and

magnitude of the *event* it purports to represent.

An enterprise must also judge, more broadly, the extent of the *information capable of making a difference in the decisions made by users*, taking into account both the information judged to be material for the enterprise and that regarded as material for stakeholders.

An enterprise must define at its own risk which information is material for stakeholders by responding to stakeholder issues (“stakeholders” here referring to consumers, shareholders, business partners, employees, local communities, and society at large). The enterprise must decide which information is material for which stakeholder group, thus ensuring a balance among stakeholders.

### **[3] Disclosing defining processes of report contents**

In its environmental reporting, an enterprise must explain how it defined its report contents in a “reporting policies” section or other appropriate place.

### **[4] Relationship of this principle and report contents recommended to be disclosed in the Guidelines**

The items listed in the five areas and 40 items in Part Two of the Guidelines list the representative information and indicators of environmental reporting as the guidelines for corporations to use when they are deciding the matters to include.

However, the “Information and indicators to include” in each item in particular are the matters which are thought to qualify as “material information” for all corporations when the corporations are fulfilling their accountability obligations. For this reason, if some of these matters are not included for reasons such as “not applicable,” “none,” et c. the corporation is required to make a disclosure to that effect.

Furthermore, if other “material information” in addition to this exists for reasons related to the corporation’s organizational activities or stakeholders, disclosure of those matters is also necessary.

## **Principle 2: Faithful Representation**

**In its environmental reporting, an enterprise must faithfully represent the environmental impacts of its business activities, the environmental initiatives undertaken to mitigate them, and their economic and social implications. A perfectly faithful representation has three characteristics: it is a complete depiction that includes all the necessary information (“completeness”); it is a neutral depiction that is without bias in the selection or presentation of information (“neutrality”); and it is a depiction of free from error that means the process used to produce the reported information has been selected and applied with no error in the process (“free from error”).**

### **[1] The concept of *faithful representation* (refer to Commentary on p. 40)**

Environmental reporting processes “events” into information such as text,

indicators, figures, tables, and graphs in order to communicate those events to users. It must allow users to understand the events through the information it provides.

Thus, the information disclosed in environmental reporting must accurately communicate the events being described: this is “faithful representation.”

Faithful representation is characterized by completeness, impartiality, and reasonableness.

## **[2] Completeness**

Environmental reporting has “completeness” if it includes all of the information essential for faithful representation (i.e., all of the information necessary to give users an accurate understanding of the events being covered).

For example, communicating the international development of environmentally focused management sometimes requires reporting information by region rather than merely by company.

Furthermore, when multiple estimation methods or coefficients have been used in the estimation of environmental performance indicators, users will be unable to grasp the original events if only the estimated indicators have been disclosed; the adopted estimation methods or coefficients will need to be explained.

Moreover, if the aggregate range of individual indicators differs from the scope covered by the environmental reporting, disclosure of the aggregate range and the indicators’ coverage ratio is required.

## **[3] Neutrality**

Impartial information has no bias. If important information is not disclosed the same way regardless of whether it is good or bad, without being sorted on that basis, it will have a bias.

Furthermore, reports must ensure that they do not influence users’ impressions by emphasizing, distorting, or deliberately altering any of the information.

## **[4] Free from error**

The quality of reasonableness has been achieved when the process used to create the information has been appropriately chosen and applied without error in accordance with the stipulated procedures, thus avoiding errors and leakages.

Faithful representation does not mean that all of the information will be accurate; some of the environmental performance indicators, for example, must be estimated by applying a fixed estimation method, making it difficult to judge whether the estimation result accurately represents environmental performance.

However, if an appropriate estimation method has been chosen and applied in accordance with the stipulated procedures, faithful representation can be ensured by disclosing the estimation result and estimation method used.

## **Principle 3: Comparability**

**An enterprise's environmental reporting is expected to provide information that can be compared with similar information about the same entity in another period or date and about other entities within a given range.**

**[1] How to compare**

Comparing is an important way to understand reported information because obtaining a deeper understanding of the outcomes of environmentally focused management is easier by looking at the data over a number of years than by looking at a single fiscal year; comparing a firm with other enterprises with similar business characteristics or in similar sectors is also useful.

Determining the degree of an initiative's progress by comparing it with a baseline defined by a case in which no initiatives have been taken is also useful.

**[2] Basic elements for comparing**

Making comparisons requires the information necessary to form the basis of those comparisons.

This basic information can be derived from the figures used to measure initiatives over fixed periods as well as the guidelines and indicators generally used in the industry to make comparisons among enterprises.

Furthermore, if the initiatives' progress is being measured by goals and results, the medium- to long-term goals should be stated.

**[3] Change of valuation method**

To ensure that the quantitative data are comparable across a firm's reporting periods, the estimation methods and scopes must be consistent. When estimation methods, scopes or coefficients are modified, it is necessary to state what the modifications are, their reasons, and their impacts.

**[4] Comparing an enterprise**

Appropriately comparing among enterprises using information disclosed in environmental reporting requires an accurate understanding of the assumptions used to estimate figures such as indicators because firms' report boundaries are not identical, and the figures are not comparable due to differences among business conditions.

Given that users will wish to compare indicators among enterprises, environmental reporting should include supplementary information that shows users the differences among the estimation conditions.

**Principle 4: Understandability**

**A firm's environmental reporting is expected to provide concise and clear information by classifying it relevantly, linking it to other information, and representing it in a way that users can understand without requiring special knowledge.**

### **[1] Classifications and presentation by categories**

Environmental reporting provides broad types of information and must thus effectively and appropriately classify that information, display its categories, and communicate it simply and clearly enough to allow even users without expert knowledge to understand it easily.

When the scope covered by an environmental report is broad in terms of region or sectors, providing regional or business segment information can aid the users' understanding.

### **[2] Link to other information**

Environmentally focused management is strategically integrated with business activities. Thus, explaining the environmental initiatives linked to business strategies and financial data and providing the outlook on medium- to long-term goals increase the clarity of environmental reporting.

### **[3] Utilization of quantitative information**

Environmental reporting should utilize quantitative information as much as possible. Using quantitative information while evaluating the goals and results of environmental initiatives aids the understanding of environmental report users and increases the reliability of the information.

It is particularly important to define and disclose indicators that precisely communicate the performance of environmentally focused management initiatives such as KPIs (refer to "Disclosure of KPIs" on p. 39).

Note that, when processed quantitative information such as salient ratios and indexes are disclosed, the actual numeric data forming the basis of that processed information must be provided.

### **[4] Devising ways for effective representation**

Writing simply and straightforwardly, visualizing explanations through graphs and photographs, and providing commentaries and glossaries for difficult terms and specialized figures are extremely effective methods of creating clear environmental reporting. However, enterprises should use their ingenuity to devise additional methods to increase the clarity of their environmental reporting.

## **Principle 5: Verifiability**

<p><b>Environmental reporting is expected to clearly state its assumptions, accounting and reporting methods, calculation bases, and other relevant information so that users can objectively verify that the information faithfully represents the original phenomena it purports to represent.</b></p>
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### **[1] Verifiable ways to disclose**

Making it impossible for users to objectively verify whether the events covered by a report have been faithfully represented increases the risk that users will lose trust in the

environmental reporting, thus dramatically reducing its usefulness.

To prevent this, it is necessary to provide information about the creation of the preconditions, aggregate ranges, estimation methods, and raw data of the report and ensure that the validity of the results can be verified using logical reasoning derived from the preconditions and recalculations.

### **Principle 6: Timeliness**

<p><b>In its environmental reporting, an enterprise is expected to publish information for decision-makers in time to influence their decisions.</b></p>
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#### **[1] Ideal timing**

For reporting to be useful to decision making, information disclosure must occur as early as possible.

For example, it is ideal to disclose material information on circumstances occurring after the periods covered by the environmental reporting at the same time as information covering the reporting periods are disclosed or to disclose them on the Internet.

Note that it is sometimes useful to repeatedly disclose material information that has already been disclosed in a timely manner in subsequent periods so that users may observe the changes in environmental impacts over the years.

## **2. Material issues to be referred to in environmental reporting**

The material issues to be referred to in environmental reporting comprise matters (i) to (iv) of the five priority matters in “(2) Fundamental functions of environmental reporting” (refer to p. 16) and the “organizational systems and governance” for guaranteeing their continuous and reliable execution.

These are the priority matters for all management contexts and are the essential issues when defining report elements relating to company-wide environmentally focused management based on the firm’s determination of materiality. It is necessary to define the information requiring disclosure from these perspectives and present it to the users.

### **Material issue 1: Leadership of the Chairman/CEO**

**The chairman/CEO has the responsibility of explaining to society the environmental impacts of the firm’s business activities, the related economic and social impacts, and the environmental initiatives undertaken to mitigate them. For this responsibility to be fulfilled by environmental reporting, the chairman/CEO must clearly explain the firm’s material issues and policies on environmental initiatives and clearly commit to carrying out those policies.**

#### **[1] Accountability of the chairman/CEO**

A chairman/CEO runs his or her business using not only the investors’ capital but also capital from various sources, including the environment, the workforce, leased assets, and the social infrastructure. Thus, chairman/CEOs must fully explain their use of these forms of capital to those who provide them.

As the natural environment is a public good shared by society, chairmans/CEOs must explain to that society the environmental impacts of their business activities and the environmental initiatives being undertaken to mitigate them. Moreover, chairmans/CEOs must fulfill their accountability requirements if “the environment” represents material information related directly or indirectly to the use of natural resources or to the environmental impacts of their business activities.

Environmental reporting is an important tool for fulfilling these accountability requirements.

#### **[2] Commitments by the chairman/CEO**

The chairman/CEO must play a leading role in environmental reporting by identifying material issues, formulating the enterprise’s policies on initiatives to address those issues, and clearly committing to carrying out those policies.

Clearly promising to stakeholders that the enterprise’s policies on environmental initiatives will be carried out is an important part of a chairman’s/CEO’s accountability and comprises the core component of environmental reporting. This process is generally also called “commitment.” The starting point of environmental reporting is to “clearly commit” that the enterprise’s policies on environmental initiatives will be carried out regardless of whether the term is used.

## Material issue 2: Strategic approaches

**If the material issues in environmentally focused management impact business strategies by offering business risks and opportunities, environmental reporting must explain the strategic response within a scope that enables users to understand the status of environmental initiatives and related background information, such as regulatory trends.**

### **[1] Material issues and risks and opportunities**

Material environmental issues like climate change and resource constraints are not only risk factors for businesses but also opportunity factors due to the emergence of environment-friendly products and services markets in response to these issues.

Thus, when responses to risks and opportunities are incorporated in business strategies, it is necessary to explain the related strategic response in the environmental reporting within a scope that allows users to understand the company's environmental initiatives.

### **[2] Content of the strategic response**

The information about strategic responses listed below should be included:

- ✓ The material issues impacting business strategies
- ✓ The risks and opportunities and their impact on business activities
- ✓ The content and duration of the business strategies' response
- ✓ The future outlook on the success or failure of the business strategies

### **[3] Link to background information**

Business strategies are affected not only by current risks and opportunities but also by the potential risks and opportunities arising from changes in the business environment, including trends in legal regulations. It is thus vital for an enterprise to provide explanations that are linked to contextual information on the business activities relating to those changes in order to accurately communicate its strategic response.

## Material issue 3: Organizational systems and governance

**Environmental reporting should explain the firm's organizational systems and governance in order to show that all environmental impacts of business activities and related economic and social impacts are being identified accurately and completely and that the firm's policies on initiatives to mitigate these impacts are being carried out appropriately.**

### **[1] Governance**

Environmental reporting must explain the organizational systems by which environmental initiatives are carried out.

Enterprises must describe the governance driving the sound and efficient

functioning of those organizational systems. For example, those with supreme responsibility for the organizational systems, the nature of their authority and responsibility, the incentive systems such as the evaluation of remuneration and performance, and the governance structure of the companies' management organization all constitute material information needed for an understanding of the governance of the organizational systems used to execute environmental initiatives.

## **[2] Internal control**

Governance also includes the internal control of the enterprise carrying out the environmental reporting; the "internal control of environmental reporting" occurs through the organizational systems implementing the management using fixed rules to ensure that the environmental reporting is implemented properly. It is also important to disclose the information users need to evaluate the reporting's effectiveness.

### **Material issue 4: Responsiveness to stakeholder issues**

**Environmental reporting must describe how the enterprise is responding to stakeholder issues to show that the environmental impacts of its business activities and all related economic and social impacts are being identified accurately and completely and that the enterprise's policies on initiatives to mitigate these impacts are being carried out appropriately.**

## **[1] Importance of responding to stakeholder issues**

Responding to stakeholder issues is an essential part of accurately and completely identifying the environmental impacts of business activities and all related economic and social impacts and of formulating and implementing appropriate policies on environmental initiatives.

Meeting stakeholder requirements is an effective method of identifying the material issues in environmentally focused management and a precondition for formulating effective policies on environmental initiatives after evaluating the results of the identification of material issues.

## **[2] Responsiveness to stakeholder issues**

Meeting stakeholder requirements requires a series of organizational behavioral processes through which an enterprise comes to understand their stakeholders, improve their ability to participate, and reflect their demands in the firm's business activities and decision making. Several response channels are normally established for each major stakeholder, and these processes are generally implemented through various participation formats (such as advice and consultation, dialogue, and working together), rather than merely information transmission. These formats include consultation counter-systems for clients, employee satisfaction surveys, meetings for exchanges of views with suppliers, dialogue, and partnerships with NGOs/NPOs.

The responsiveness of stakeholders provides powerful support information that enables users of environmental reporting to evaluate an enterprise's policies on environmental initiatives.

## **Material issue 5: Focusing value chain**

**Environmental reporting must disclose information on the environmental impacts arising of business activities and the environmental initiatives in the value chain to the extent required to describe the environmental impacts of business activities, the related economic and social impacts, and the environmental initiatives undertaken to mitigate them.**

### **[1] The importance of value chain-orientation (refer to Commentary on p. 41)**

Regulations based on market principles are being strengthened under extended producers' responsibilities (EPR), as seen in international policy trends in climate change and resource constraints, making it more likely that risk factors flowing from regulatory costs and opportunity factors flowing from the emerging market for environment-friendly products and services will be generated in the value chain.

Enterprises wishing to formulate integrated policies to respond to these risks and opportunities in their business strategies must offer an information disclosure that considers the entire value chain and describes the overall picture of the impacts on the environment of their business activities, the related economic and social impacts, and the status of their environmental initiatives.

### **[2] Scope of value chain information**

In value chain-oriented environmental reporting, the following kinds of information are useful for evaluating the status of the strategic promotion of environmentally focused management:

- ✓Policies, goals, and results of value chain management
- ✓Greengreen purchasing and procurement, environmental procurement, and CSR procurement
- ✓Status of the development of environment-friendly products and services, sales results, and contribution to reduction
- ✓Status of outsourced transportation
- ✓Status of other indirect resources and energy consumption

### **[3] Managing trade-offs**

To avoid pursuing environmental impact reduction activities that generate other environmental impacts at different lifecycle stages, it is necessary to measure the resources and energy consumption of the firm's overall business activities and their relationships to environmental impacts in order to carry out environmental initiatives through methods that are optimal over the entire value chain. The process by which these kinds of trade-offs are being considered should also be explained in environmental reporting.

### **3. Basic points of attention in environmental reporting**

The basic points of attention in environmental reporting are the important points that require inclusion if communications about the state of environmentally focused management is to be objective.

These matters require a consideration of“(v) Sustainable resources and energy use” in “(2) Fundamental functions of environmental reporting“(refer to p. 16) and the recent disclosure trends. These issues are expected to lead to improvements in and developments of firms’ disclosure methods.

#### **Basic point 1: Clarifying the report boundary and the reporting period**

**Environmental reporting must appropriately define and clearly state the report boundary and reporting period.**

##### **[1] Clarifying the report boundary**

The report boundary must cover all enterprises owned and run by the reporting entity. If the reporting enterprise is a parent of a group, the report boundary must cover the entire group, which will also be the scope of the consolidated financial statements; this fact must be clearly stated.

Where the report boundary does not cover all enterprises included in consolidated financial statements or where the report boundary differs in its individual contents, the report boundary of the environmental report must be clarified, and the boundaries of the contents with different disclosure scopes must be specified. Moreover, it is useful to disclose an approximate yardstick (such as the organization’s coverage ratio) and the extent to which those other boundaries cover the environmental impacts of the entire group.

If the report boundary differs from the boundaries of previous environmental reporting, this fact and the nature of the difference should be explained to ensure comparability across years.

##### **[2] Clarifying the reporting period**

From the viewpoint of timeliness, it is important to implement environmental reporting regularly and at least once a year.

The periods covered by the environmental reporting should match the settlement of accounts periods in the financial accounting, but if they are different, the reporting periods should be clearly stated.

## **Basic point 2: Choosing a type of report**

**In environmental reporting, it is necessary to choose an appropriate type of report by taking into consideration convenience and understandability. If various reports are being used at the same time, an explanation should be given so that users can understand the relationship between the framework of the environmental reporting and the role of each report. Cross-referencing among the kinds of information included in the reports should also be made easy.**

**A suitable framework should be designed for online publications appearing on corporate websites, taking into account their accessibility, the visibility of their information, and the effectiveness of its classification and layering.**

### **[1] Choosing a type of report**

In environmental reporting, it is necessary to choose an appropriate type of report, taking into consideration convenience and understandability.

The chosen report type should comprehensively and systematically provide information on the environmental impacts of business activities, the related economic and social impacts, and the environmental initiatives being undertaken.

### **[2] Using various reports at the same time**

When using various reports at the same time, it is recommended to devise how to disclose the framework of the environmental reporting in advance and then explain the role each report plays in the framework while also ensuring that cross-referencing among the information included in the reports is easy.

### **[3] Online publication through corporate websites**

When choosing online publication through corporate websites, it is necessary to note the following points:

- ✓ Accessibility of the environmental report  
(Ensure that users can easily access the environmental report from the front page of the website without difficulty)
- ✓ Visibility of overall information  
(Use a site map or equivalent tool to ensure that users can glance over the framework of the environmental report)
- ✓ Regularity in the classified and layered information  
(The structure of the directories used for an online environmental report should reflect the hierarchical layout of the information in its table of contents (i.e., the major items, medium items, and small items))

Note that the report boundary and period of disclosure should also be described to prevent historical information from becoming inaccessible through frequent website updates.

### **Basic point 3: Disclosing KPIs**

**In environmental reporting, it is necessary to devise as many methods of using quantitative information as possible to increase the reliability of the information. Explaining the validity, achievement, and future potential of the strategic goals of environmental initiatives requires that KPIs be appropriately defined and disclosed in a way that considers the firm's accountability obligation to society.**

#### **[1] What is a KPI?**

Key performance indicators (KPIs) are quantitative indicators for material issues in environmentally focused management that enable the effective measurement of environmental initiatives and the progress, performance, and status of all related business activities.

A KPI must reflect the material performance of environmentally focused management and show the degree of achievement of the goals necessary for the fulfillment of the firm's accountability to society.

#### **[2] Defining report contents as a KPI (refer to Commentary on p. 42)**

The KPI is an effective tool for providing clear explanations of the validity, degree of achievement, and future potential of the strategic goals of environmental initiatives.

When defining a KPI, it is important to select an indicator that the chairman/CEO believes effective and uses in his or her evaluations of the progress, outcomes, and current status of the strategies. It is also necessary for a KPI to be seen as important by the stakeholders.

#### **[3] How to disclose a KPI**

The methods used to disclose a KPI include the total volume (actual numeric data) and salient ratios (such as basic units and environmental efficiency). The most appropriate method, however, should be defined based on the purpose of the environmental reporting; it is vital to choose indicators with a strong relationship to the firm's environmental initiatives.

Furthermore, it can be useful to provide both the total volume and the basic units or to display the categories by scope, such as for greenhouse gases.

#### **[4] Valuation elements of a KPI**

When disclosing the KPIs, the definitions of the KPIs, the calculation methods, the emission coefficients, the information sources for the raw data, the assumptions underlying the calculations, and the benchmarks (reference values), including industry standards, etc. should be provided to make the KPIs easy for the users to understand. Moreover, it is effective to descriptively explain about their relationship to strategies for environmental initiatives.

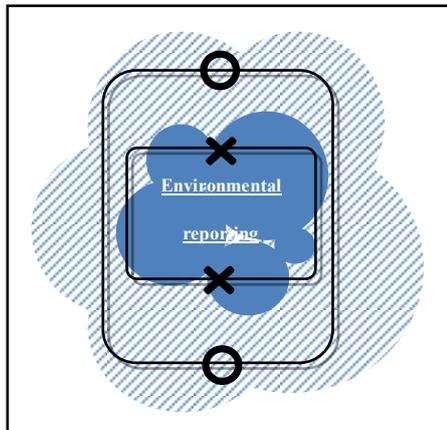
### **Commentary: Relationship of Principle 1 (Relevance) and Principle 2 (Faithful Representation)**

Principle 1, “relevance,” is related to “what information to include,” while “faithful representation” is related to “how to include that information.”

Information on business activities (the square box in the figure below) includes both relevant information (the part in the figure below) and information without relevance (the white part in the square box in the figure below). As users’ intentions and information requirements vary, the information needing inclusion in environmental reports will differ depending on the users’ demands. An enterprise must thus define its report contents from the viewpoint of relevance, basing its judgment on the question of materiality and on whether the information might impact users’ decisions (see, *material information* in the figure below). In this defining process, the enterprise must not omit material information from its environmental report. For example, providing a total reduction volume or emissions per basic unit without disclosing the total volume of the environmental impact might constitute the omission of material information.

Next, the information an enterprise decides to present must be included such that the original “events” the information is trying to represent are transmitted faithfully to the users. The method of inclusion must satisfy the three characteristics listed in “Principle 2: Faithful representation.” Of these, “all of the information necessary for faithful representation to be completely included (completeness)” indicates the need to include supplementary information to allow users to understand the original “events.” For example, some users consider the total weight of greenhouse gas emissions generated through the use of the products sold by an enterprise to be relevant information. In such a case, the user will not be able to understand the environmental initiatives thoroughly if only the amount of greenhouse gas emissions calculated across all products is included; the inclusion of supplementary information (such as breakdown information on each product, the assumed serviceable life, the emission coefficients, and energy use efficiency) would then be required to allow for a more accurate understanding.

**Figure 5: The Relationship of Relevant Information with Material Information and Environmental Reporting**



The environmental reporting marked with an “x” is the case where material information (the ● ) is missing.

The environmental reporting marked with an “O” is that in which all material information is included.

Note that it is necessary to devise methods to include the relevant information (the ▨) that is not covered by environmental reporting, such as including it in an environmental information database on the Internet.

**Commentary: Material Issues 5: Focusing value chain [1] The Importance to focus value chain**

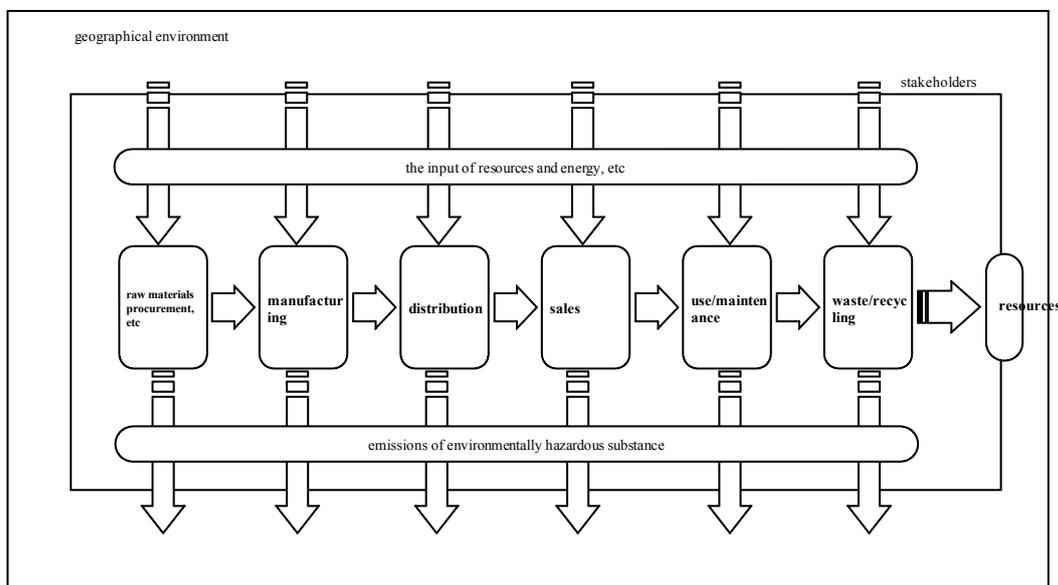
An enterprise creates added value and contributes to the development of society by providing new products and services. This added value gradually expires through the use and disposal of the products and services. Moreover, the chain of the creation and expiration of this added value (the value chain) is formed not only by the business enterprise but also by the economic activities of the many parties involved.

An enterprise can be said to play one role in this value chain. Natural resources are used and the environmental impacts worsen in each phase of the chain. We can thus conclude that a firm’s creation of added value is closely related to the environmental impacts of many parties involved (from upstream to downstream) and to the environmental initiatives undertaken to mitigate them. ◦

At a time when environmental problems are worsening and firm responsibilities are expanding, enterprises have no other option but to aim for environmentally focused management in which the use of natural resources throughout the entire value chain is sustainable, consideration is given to reducing the emissions of environmentally hazardous substances arising from business activities, and the enterprise aims to maximize added value.

It is thus important to accurately measure the use of natural resources and the generation of environmental impacts throughout the entire value chain while also being aware that one’s environmentally focused management is established based on the environmentally focused management of upstream firms and has an impact on downstream pro-environment behavior. Moreover, an enterprise should identify the material environmental issues through a dialogue with stakeholders and work together with the upstream to downstream parties involved to strategically respond to those issues.

**Figure 6: Relationship of the Entire Value Chain and Environmental Impacts**



**Commentary: Basic point 3: Disclosing a KPI [2] Defining report contents as a KPI**

A KPI is a quantitative indicator used by chairmans/CEOs, usually daily, because chairmans/CEOs consider it an effective way to evaluate the progress, outcomes, and current status of strategic environmentally focused management; it also helps users understand the validity, degree of achievement, and future potential of the strategies and goals of environmentally focused management and evaluate the strengths and weaknesses of management behavior.

For example, the total volume of greenhouse gas emissions is a useful KPI for evaluating the validity, degree of achievement, and future potential of the strategies for and goals of reducing greenhouse gases. It is sometimes displayed in categories such as the amount of emissions directly generated by business activities (scope 1), the amount of emissions generated indirectly by the energy used in purchasing electricity (scope 2), and other emissions generated indirectly in the value chain (scope 3) or disclosed after being processed into basic unit indicators such as salient ratios (along with output indicators such as production volume and net sales). However, the question of which KPI is appropriate should be decided by determining the basic purpose of the environmental reporting (e.g., to disclose the status of the environmentally focused management); it is thus vital to choose indicators with a strong relationship to the strategies of that environmentally focused management.

In order to fulfill the responsibilities flowing from its use of public goods (like the natural environment), a firm must disclose its environmental impacts in terms of the total volume of emissions. Both the indicators shown separately and environmental

efficiency (the relationship between performance and business activities, including basic unit indicators) should be disclosed together with the total volume.

Furthermore, due to the nature of KPIs, they generally differ among enterprises depending on the scale and content of their business activities. Thus, many different fixed indicators can be used for each industry. The guidelines describe the KPIs useful for explaining the status of environmentally focused management in Chapter 6 as the representative quantitative information in “( i )Information and indicators to be disclosed.” These indicators are believed to be useful for all enterprises, but, because of the enterprise’s industrial sector or the state of its business activities, some indicators can sometimes not be applied, and additional indicators sometimes need to be used. Defining its KPIs helps a firm develop comparability and build consistency with the quantified targets used in national environmental policies and the practices in the firm’s industry.

Note that the disclosed quantitative information will sometimes include a mixture of highly important information and less important information. It is thus necessary to devise methods of displaying the information in categories and highlighting them to allow users to determine which information and indicators are important.

## Chapter 3: Framework for Environmental Reporting

### ■ Overall Structure of Environmental Reporting

The items included in environmental reporting usually occur in the following order:

- 1 . Report profile
- 2 . Chairman's/CEO's statement
- 3 . Overview of the report
  - Overview of environmentally focused management
  - Overview of KPI trends
  - Summary of activities to address an individual environmental issue
- 4 . Material balance
- 5 . How is environmentally focused management, including the environmental management system, working?
- 6 . Environmental impacts of business activities and environmental initiatives undertaken to mitigate them
- 7 . Economic and social contexts of environmentally focused management
- 8 . Miscellaneous contents to be disclosed

Include “7. Economic and social contexts of environmentally focused management” taking care to link the information to the environmental impacts and status of environmental initiatives included in 5 and 6.

Note that measures should be devised when writing the reports to record matters to include that are specific to the corporation and have different content based on the corporation's business characteristics, etc.

### **Commentary: Commentary on each included item**

#### **1. Report profile [Chapter 4]**

Include the report boundary (including organizations coverage ratio), the reporting period, reporting policies, and the policies for selecting the report format.

#### **2. Chairman's/CEO's statement [Chapter 4]**

The Chairman's/CEO's statement clearly explains the material issues in environmentally focused management, the enterprise's transaction policies, and the firm's commitment to their execution.

#### **3. Overview of the report [Chapter 4]**

### (1) Overview of environmentally focused management

After offering a management overview in the “overview of business” section, simply review the overall status of the environmentally focused management, taking care to note its relationship to the overall business.

### (2) Overview of KPI trends

The KPIs defined by the enterprise over the past five years should be listed. It is also useful to provide a quantified target for related KPIs over the medium to long term and describe its progress.

If you are disclosing the information in a table, please refer to the examples below.

#### [Example format 1: Where quantified targets are not included]

Material issues (e.g.)	KPIs (e.g.)	Aggregate range	FY**	FY**	FY**	FY**	FY**
Response to climate change	Total emissions of greenhouse gases	1					
Sustainable use of water resources	Water resources recycling rate	2					
Proper treatment of waste	Total emissions of waste	3					
:	:						

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

(Note) For FY \*\*, the estimation method for ××× has been modified.

(Note) For FY \*\*, the aggregate range for ××× has been modified.

#### [Example format 2: Where quantified targets are included]

Material issues (e.g.)	KPIs (e.g.)	Aggregate range	FY**	FY**	FY**	FY**	FY**	Target value (FY**)	Evaluation of progress and future initiatives
Response to climate change	Total emissions of greenhouse gases	1							
Sustainable use of water resources	Water resources recycling rate	2							
Proper treatment of waste	Total emissions of waste	3							
:	:								

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

### (3) Summary of activities to address an individual environmental issue

Include a listed overview of the firms’ response to the most important environmental issue over the reporting period so that the PDCA (Plan-Do-Check-Act) cycle initiatives can be understood. The medium-term goals, their changes over time, and the period used as the criterion can also be described.

Please refer to the examples of showing the responses to environmental issues during the reporting period given below:

**[Example format 1: Where financial implications are not included]**

Material issues (e.g.)	Strategies, plans, and policies of the year	Environmental impacts (e.g.)	Aggregate range	Target value (FY**)	Results (FY**)	Analyses and evaluations (FY **)	Evaluation of progress and future initiatives	Related pages
Response to climate change		Total emissions of greenhouse gases	1					
		Greenhouse gas emissions basic units	1					
Sustainable use of water resources		Water resources recycling rate	2					
		Water withdrawal	2					
Proper treatment of waste		Total emissions of waste	3					
:		:						

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

**[Example format 2: Where financial implications are included]**

Material issues (e.g.)	Strategies, plans, and policies of the year	Environmental impacts (e.g.)	Aggregate range	Target value (FY**)	Results (FY**)	Analyses and evaluations (FY **)	Financial implications	Evaluation of progress and future initiatives	Related pages
Response to climate change		Total emissions of greenhouse gases	1						
		Greenhouse gas emissions basic units	1						
Sustainable use of water resources		Water resources recycling rate	2						
		Water withdrawal	2						
Proper treatment of waste		Total emissions of waste	3						
:		:							

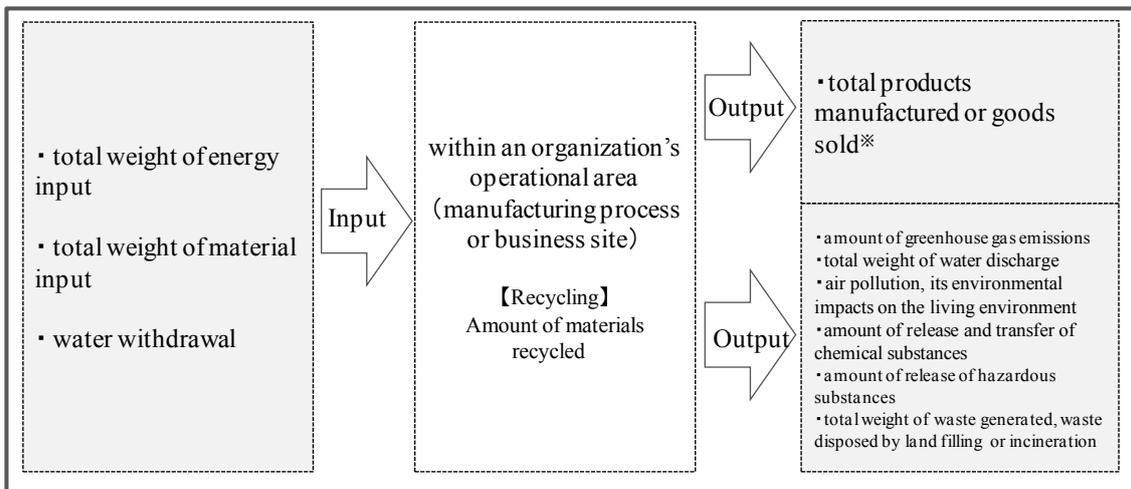
(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

**4. Material balance [Chapter 4]**

Using the concept of material balance\* and understanding the input and output of the materials and energy used in the firm's activities will enable an indication of the outcomes and environmental impacts of the firm's business activities.

Including the total volume of inputs (such as the total weight of energy input, total weight of material input\*, and water withdrawal), total volume of outputs (such as the total products manufactured, the number of services provided, the degree of each environmental impact), and the total volume of materials used cyclically through recycling provides an overview of the generation of environmental impacts and the quantitative balance of the resources and materials used.

## Image of the Material Balance



\* If an enterprise is in a service industry, including figures related to the provided services should be considered. The number of students who took classes, the number of goods distributed, and the number of clients to which the services were provided could be considered related figures. Providing material balance (the mass balance of inputs and outputs) requires the disclosure of information and indicators that show management's deliverables (i.e., the amount produced and provided).

### 5. How is environmentally focused management, including the environmental management system, working? [Chapter 5]

#### (1) Environmental policies, visions, and business strategies

Explain the material issues in environmentally focused management, the firm's environmental policies and visions, and its strategic response, while linking the explanations to contextual information such as the environmental impacts and regulatory trends.

#### (2) Organizational systems and governance

Include the organizational systems designed by the chairman/CEO to perform the environmentally focused management and execute the enterprise's policies, visions, and business strategies for environmental initiatives and environment-friendly plans, as well as the status of the structures' governance. Include the environmental risk management system and the status of the firm's compliance with environmental regulations as well.

#### (3) Responsiveness to stakeholder issues

Include the status of the firm's response to stakeholder demands and expectations, as well as the concepts and implementation status of the social contributions related to the environment (including collaboration with the national government and regional public bodies).

#### **(4) Environmental initiatives in the value chain**

Include the status of environmental initiatives throughout the entire value chain (from raw materials procurement to disposal) by activity, including purchasing and procurement, production, sales, provision of services, research and development, transportation, resources and real estate development/investment, and waste\* treatment/recycling.

Note that value chain information related to the individual environmental issues in "6. Environmental Impacts of Business Activities and Environmental Initiatives Undertaken to Mitigate Them" can also be provided.

### **6. Environmental Impacts of Business Activities and Environmental Initiatives Undertaken to Mitigate Them [Chapter 6]**

#### **(1) Resources used and energy consumption**

Include quantitative information about total energy input, total materials input, and water input as well as reduction measures.

#### **(2) Recycled resources input (within the report boundary)**

Include quantitative information and measures concerning materials recycling.

#### **(3) Products and services and environmental impacts arising from production**

Include quantitative information and measures concerning the total products manufactured or goods sold, greenhouse gas emissions, total water discharge, air pollution, the impacts on the environment, chemical substances, total waste emissions,\* the final disposal of waste, and the leakage of hazardous substances.

#### **(4) Conservation of biological diversity and sustainable use of its components**

Include quantitative information and measures concerning biological diversity conservation and the sustainable use of biological resources as well as the equitable allocation of the benefits that can be derived from genetic resources.

### **7. Economic and Social Contexts of Environmentally Focused Management [Chapter 7]**

Include economic information and indicators about the environmental impacts of business activities and the status of the firm's environmental initiatives.

Include the status of the social initiatives of the firm's business activities, taking care to link this information to environmentally focused management.

### **8. Miscellaneous Contents to be Disclosed [Chapter 8]**

#### **(1) Events after the reporting period**

Include events that occurred after the end of the reporting period (events after the reporting period\*) and temporary events during the reporting period (extraordinary events) that had a material impact on environmentally focused management.

**(2) Assurance and other measures to enhance the reliability of environmental information**

If a third party has examined the environmental information, attach the documents certifying the implementation of the examination.

## **Reference: Relationship of Information recommended to report in Chapter 5 and a counterpart in Chapter 6**

Both Chapter 5 and Chapter 6 of the guidelines explain an enterprise's policies on environmental initiatives and their performance indicators. The information in those two chapters has the relationship described below.

### ○ **Information recommended for reporting in Chapter 5**

Here, information on and indicators for policies and strategies related to company-wide environmental initiatives, governance, and stakeholder requirements is discussed. The scope goes beyond the operational area to cover the entire value chain.

This chapter describes the information that must be disclosed as “described information,” but all material quantitative information and indicators must be included. Performance indicators in the value chain are principally included in the information described in this chapter.

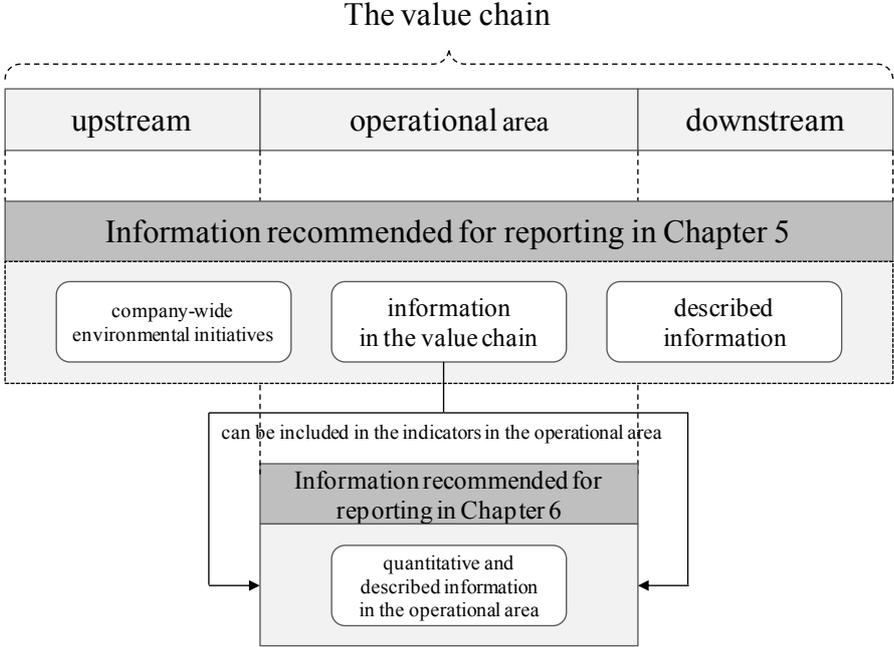
However, information, such as the greenhouse gases emitted in the value chain (scope 3), whose disclosure along with the environmental impacts in the operational area in Chapter 6 (scope 1 and scope 2) is expected to encourage user understanding can be included in the information on environmental impacts in the operational area offered in Chapter 6.

### ○ **Information recommended for reporting in Chapter 6**

Included in this chapter is information on the enterprise's policies on environmental initiatives and environmental performance indicators in the “operational area.” Furthermore, the disclosure of environmental performance indicators for each environmental impact is required; thus, most of the information included in Chapter 6 is “quantitative information.”

The relationship between report contents in Chapter 5 and Chapter 6 is shown in the figure below.

**Figure 7: Relationship of Information Recommended for Reporting in Chapter 5 and a Counterpart to Chapter 6**



**Part Two: Report Contents in Environmental Reporting**

## **Classification of Information and Indicators in Environmental Reporting**

- (1) The report contents divided into five areas and 40 items in Part Two of the guidelines comprise the information and indicators required in environmental reporting.
- (2) Of this information, that considered necessary for the actors of all enterprises to use in fulfilling their accountability obligations is found under the heading “**(i) ( i )Information and indicators to be disclosed**” in each item and is listed alphabetically (e.g., a, b, c).
- (3) If any of the matters that should be included in “**(i) Information and indicators to be disclosed**” are not included for reasons such as “not applicable” or “none,” a disclosure to that effect is required.
- (4) Furthermore, information and indicators considered to be material given the type of user, the sector to which the enterprise belongs, or the firm’s business nature and regional characteristics are found under the heading “**(ii) Information and indicators to be disclosed if material**” and are indicated by the symbol “>.”
- (5) Moreover, examples for “**(i) Information and indicators to be disclosed**” and “**(ii) Information and indicators to be disclosed if material**” are indicated by the symbol “•.”
- (6) Any “material information” related to business activities or stakeholders in addition to the above information must be disclosed.

(Note)

- ( i ) When describing information and indicators for Japan and overseas, it is a good practice to describe them separately, as the need arises.
- (ii) General estimation formulas and units are used; however, estimation formulas and units commonly used in business practice may be included. It is necessary to describe the estimation formulas and coefficients used to create the estimate.
- (iii) The guidelines do not prescribe the arrangement or number of items to be included in environmental reporting or any particular order of information or indicators to be added for each item. When information or indicators overlap, there is no need to describe them for each item; they can be described collectively.
- (iv) Of these kinds of information and indicators, the more detailed information (such as information by region or by business site or other breakdown information) should be continuously included at the end of the guidelines and in the environmental information database, taking into account the information needs and convenience of the users.

## **Chapter 4: Report Parameters and Summary**

The following items comprise the “Report Contents in Environmental Reporting” disclosed in environmental reporting. This chapter provides commentaries on the fundamental concepts, specific information, and indicators to be included.

### **1. Report Profile**

- (1) Report boundary and reporting periods**
- (2) Organizations coverage ratio and reporting period difference**
- (3) Reporting policies**
- (4) Policies for choosing the type of report**

### **2. Chairman’s statement/CEO’s statement**

### **3. Summary**

- (1) Overview of environmentally focused management**
- (2) Overview of KPI trends**
- (3) Summary of activities to an address individual environmental issue**

### **4. Material balance**

## **1. Report Profile**

Include the report profiles that users must understand as assumptions when they are using environmental reporting in a specified and intuitive location, such as at the beginning of the environmental report. Include the report boundary (or the organization's coverage ratio), the reporting period, the reporting policies, and the policies for selecting the type of report.

### **(1) Report boundary and reporting period [Basic matter 1]**

Include the report boundary and the reporting period in environmental reporting. Note that it is necessary to indicate any modification to the report boundary or reporting period, the differences caused by any boundary change from the previous report, and the effects of such modifications.

#### **( i )Information and indicators to be disclosed**

- a. Report boundary
- b. Reporting period
- c. When a report boundary or reporting period is changed, this should be disclosed.

#### **( ii )Information and indicators to be disclosed if material**

- When a report boundary is changed, the difference between the new and former boundary
- When a reporting period is changed, the effect in subsequent periods

#### **[Points to note for reporting]**

- ( i ) Where organizations covered by the report boundary are limited to only some of the enterprises included in consolidated financial statements, include the scope (term and number) of the factories, business facilities, and subsidiaries covered by the report in order to enable users to understand the differences.
- ( ii ) If the scope differs due to the included items, include the scope for each item. However, additional statements can be made wherever the items with different scopes are included.
- ( iii ) If the reporting period is modified, indicate the change's impact in the section on quantitative information with a large impact.

#### **Commentary**

The report boundary of an environmental report generally covers all enterprises included in consolidated financial statements. When a defined report boundary is different from the scope of the consolidated financial statements, the enterprise should disclose the difference between the two. Furthermore, modifying the reporting period affects the comparability of the quantitative information, including KPIs and other environmental performance indicators. Therefore, additional information on the effects of such changes must be disclosed unless they are immaterial.

**(2) Organizations' coverage ratio and reporting period difference [Basic matter 1]**

If the enterprises covered by the report boundary are limited to enterprises included in consolidated financial statements, enterprises must devise their own ways of reporting the organizations' coverage ratio or any other equivalent means of communicating to users the report boundary, the policy for defining it, and the percentage of the environmental impacts within the boundary out of those of the entire group. The measurement basis of the organizations' coverage ratio must also be clearly shown.

Where the reporting period is different from the fiscal year, this must be described.

**( i ) Information and indicators to be disclosed**

- a. If the enterprises included in the report boundary are limited, the policy for defining it
- b. The percentage (organizations' coverage ratio) of environmental impacts within the report boundary out of the total business cope (such as the entire group) or management indicators representing the report boundary
- c. The difference between the reporting period and the fiscal year

**[Points to note for reporting]**

- ( i ) The policy for defining the abovementioned covered scope should be linked to material environmental issues and to the use of natural resources and the generation of environmental impacts in order to include the policies related to the scope's limit so that users can determine whether all major companies are included in the covered scope.
- ( ii ) The organizations' coverage ratio should be estimated through an environmental impact.

The coverage ratio of an environmental impact should be explained using the information and indicators below:

- Ratio of greenhouse gas emissions within the report boundary to those of the entire group (Note: According to the amount of energy consumption or the nature of business, items that are easy to assess, such as electricity consumption can be substituted.)
- Ratio of resources input within the report boundary to those of the entire group
- According to the nature of business, the organizations coverage ratio of the representative environmental impact,
- In addition to the above, an enterprise can report their self-developed organizations coverage ratio of an environmental impact

- ( iii ) If the coverage ratio of an environmental impact cannot be rationally estimated, however, it is a good practice to give an approximate rate for the environmental

impact relative to that of the entire group or other appropriate yardstick, such as management indicators for the report boundary of the environmental impact.

Describe the size of the report boundary covering the entire group by combining the following indicators supplementarily:

- Total sales of the organizations within the report boundary and their percentage out of the entire group's sales
- Total assets of the organizations within the report boundary and their percentage out of the entire group's assets
- The volume of production or the value of the completed work of the organizations within the report boundary and their percentage out of the entire group's equivalent factors
- The total number of employees or size of working staff of the organizations within the report boundary and their percentage out of the entire group's equivalent factors
- Other indicators provided by the enterprises

- (iv) Where the reporting period of an environmental report is different from that of the financial accounting, the names of companies, business facilities, and factories in which this difference occurs as well as the financial reporting period and significant impacts (if any) should be disclosed.

### **Commentary**

The “organizations coverage ratio of an environmental impact” is an indicator on the scale of an environmental impact arising from business activities of organizations within the report boundary in terms of its percentage of the environmental impact of the entire group. As the report boundary of financial reporting basically covers all enterprises included in consolidated financial statements, the boundary of environmental reporting, which reports “environmentally focused management,” should include all organizations in the group as a rule, and the full range of their environmental impacts should be reported. However, when defining report boundary, if most parts of an environmental impact can be recognized within a specific boundary of the entire group, reporting with such a boundary will not cause a serious problem. It is also possible to first start reporting for a limited organization and then gradually over time to expand the report boundary. Accordingly, there is a need to indicate the organizations coverage ratio of an environmental impact of organizations included in the report.

Under the existing circumstances, however, in most of environmental reports, it is difficult to recognize the coverage; to what extent the environmental impact within the report boundary is covered in the entire group. This may cause the reporting entity and stakeholders to make mistakes in their judgement and decision making; the organizations coverage ratio may be considered to be the most fundamental and important matter in environmentally focused management.

However, it is sometimes difficult or unrealistic from a cost-effectiveness perspective to grasp the environmental impacts of all enterprises included in consolidated financial statements, such as small-scale business facilities and subsidiaries, to then calculate the organizations' coverage ratio. It is necessary in such cases to disclose a management indicator like net sales or the total assets of the enterprises within the report boundary

together with the equivalent for the entire group so that users can easily understand the approximate ratio of the organization's coverage within the report boundary. Where quantitative information other than the environmental impact is used for this purpose, it is necessary to ensure that a clear cause-and-effect relationship exists between the quantitative information and the volume of natural resources used or other generated environmental impacts.

Given that an increasing number of Japanese enterprises are promoting their businesses overseas, it is strongly expected that the reporting entities will establish an efficient and effective system to collect and measure environmental impact data, allowing an accurate understanding and management of all environmental impacts, not only in Japan but also overseas.

### **(3) Reporting policies[General principles]**

To comply with the general principles for environmental reporting, enterprises follow the policies applicable to the reporting process. When multiple reports are used in environmental reporting, the relationship among the publication formats is also included. Moreover, additional statements are made about the criteria or guidelines for environmental reporting applied as a foundation or reference during the creation of the environmental report.

#### **( i )Information and indicators to be disclosed**

- a. Matters concerning the policies adopted in the reporting (e.g., the process of defining the report's contents and its relationship with other reports)
- b. Standards or guidelines that are used in conformity to, or as a reference (including ones specific to the industry)

#### **( ii )Information and indicators to be disclosed if material**

- Any feedback methods, such as the attachment of a questionnaire or postcard which states that an enterprise will reply to any correspondence from stakeholders
- If the environmental report was created using unique items in conformity with or with reference to criteria or guidelines other than these guidelines, a table showing the items' correspondence with the guidelines' items

#### **[Points to note for reporting]**

- (i) Include the process of defining the report contents so that the basis for the judgment of materiality and the fact that all material information has been included are understood.
- (ii) As the judgment of materiality is related to the identification of material environmental issues and the response of stakeholders, the more detailed contents should be included on the related pages.
- (iii) If multiple reports are being created, include easy-to-understand information (using figures) indicating which types of company information about the environment, society and the economy are included in which reports and whether they are linked to each other.

#### **Commentary**

An enterprise is expected to explain how its report contents are defined based on a judgment of materiality and how they applied the general principles for environmental reporting, particularly relevance and faithful representation. Furthermore, clearly explaining what information about other areas (such as the economy and society) was included and the relationship to each publication format is necessary in order to enable users to understand the overall business picture. Reporting policies are used in the creation of environmental reporting that includes this kind of important environmental information.

Moreover, explaining the criteria and guidelines applied to the formulation of the environmental reporting and attaching a table showing each item's correspondence with the guidelines will enhance the understandability and comparability of the report.

#### **(4) Policies for selecting the type of report [Basic matter 2]**

As various types of environmental reporting (such as brochures, printed material, and corporate websites) are available, the reporting policies for each report should be disclosed. Furthermore, the methods of accessing and viewing those reports, the division or department that prepared and presented them, the office contact, and the date of publication should also be disclosed.

##### **( i )Information and indicators to be disclosed**

- a. Matters regarding the reporting policies on the type of the report selected for environmental reporting (the full list of reports for environmental reporting, the scope of the information included in each report, and the reporting rules for using corporate websites)
- b. Methods of accessing and viewing environmental reports by type (e.g., methods of obtaining a hard copy of the report, the URLs of websites)
- c. The division in charge of the publication and means of contact (e.g., name of the person in charge, telephone number, FAX number, e-mail address)
- d. The date issued of the environmental report
- e. A statement confirming an organization's reporting has been subject to external examination

##### **( ii )Information and indicators to be disclosed if material**

- If the environmental reporting is being implemented separately within the reporting period or after the final day of the period, the name and publication date of said reporting and methods of obtaining and viewing it
- Lists and outlines of the major materials related to environmental information that are also disclosed (including details on how these can be obtained)

##### **[Points to note for reporting]**

- (i)If the Internet has been chosen as a major media for disclosure, then (as with environmental reporting using brochures) it is necessary to include the report contents in environmental reporting (e.g., the report boundary, the reporting period, and reporting policies).
- (ii) As stated in Chapter 2, if the Internet is being used, report the information in a way that ensures ease of access, viewability, and regularity in the hierarchical information. Enterprises are expected to take into consideration the following points:
  - ①Access to the environmental reporting is easy
    - ✓For example, ensure that the environmental reporting can be accessed in two or three clicks from the homepage
    - ✓Design the website so that users can reach the information smoothly, for example, by establishing a dedicated entrance for environmental reporting
  - ②The information is viewable
    - ✓ Establish a site map for environmental reporting alone which is

equivalent to the table of contents in the brochure format

③ There is regularity in the hierarchical information

✓ Make clear whether the disclosed information is taken from an annual report or an irregularly published source

(iii) Even when the Internet is being used, it is necessary to ensure that the fiscal year covered by the environmental reporting and the publication date are clear. It is also necessary to ensure that users can easily obtain a viewable report, for example, by enabling one-click downloads of it.

(iv) In order to ensure chronological comparability, environmental reporting from past fiscal years should be disclosed as back issues

(v) The list of key published environmental materials includes company descriptions, securities reports, annual reports, environmental communication materials regarding environmental management systems (e.g., ISO 14001 and Eco-Action 21), and pamphlets on environment-friendly products.

### **Commentary**

When engaged in environmental reporting, it is important to deepen communication with the firm's stakeholders and create opportunities for more stakeholders to utilize the reporting. As the purpose of environmental reporting, the information needs, and the ease of access differ among stakeholders; however, it is necessary to choose the disclosure medium most suitable for each stakeholder. Furthermore, enterprises are expected to make effective use of multiple media in their disclosure and in mutual collaboration without undermining the quality of the report.

When using multiple report types (such as brochures, printed material, and corporate websites) for different purposes at the same time, it is necessary to provide information on the systematic aggregate of the material issues, the policies for selecting the report types, and the placement criteria used in deciding the content. However, if information and communication technology (ICT) is being used, it is necessary to avoid the thoughtless updating of information, the deletion of past information, or an oversupply of information and ensure that the hierarchical structure of website content does not become too complex.

Providing information using ICT is likely to allow the application of the supplementary portions of the general principles for environmental reporting, such as comparability, understandability, verifiability, and timeliness. For example, this would make it easier to know where to include material information or to specify the boundary of the environmental performance information or whether the reliability of the information could be ensured by using flags. When a serious event relating to the environment occurs, the relevant information can be published on the website immediately.

When communicating with local communities, it is effective to publish regional environmental reports or environmental site reports focusing on information relevant to areas where the reporting entity has business facilities and ongoing business activities. These site reports and environmental information data books with relevant community information can be published using ICT. Using simplified environmental reporting converted to a compatible format enables a firm to concisely compile information focusing on the regional environmental performance and activities, such as water withdrawal, air

pollution, nuisances, the release of chemical substances, and total water discharge. Such information is essential to local residents.

Where corporate websites are used for environmental reporting (in addition to print reports), it is necessary to clarify the relationship between the website and print reports by specifying the reporting period of the website information and the informational differences between the two or noting in the print reports the URLs of the websites where related information is provided. Moreover, historical information is required as a reference.

## 2. Chairman's/CEO's statement [Important viewpoint 1]

In the Chairman's/CEO's statement, the chairman/CEO clearly explains the material issues in environmentally focused management and the enterprise's policies on environmental initiatives while clearly committing to carrying them out (commitment).

It is necessary to include the enterprise's policies on environmental initiatives along with the relevant KPIs in this commitment. Furthermore, the statement should include the vision of the chairman/CEO, its position among the management strategies, and the chairman's or CEO's evaluation of the current initiatives.

### ( i )Information and indicators to be disclosed

- a. A commitment (a clear undertaking to carry out the enterprise's policies on environmental initiatives)
- b. The chairman's/CEO's explanation of the material issues and the enterprise's policies on environmental initiatives as well as the chairman's/CEO's signature

### ( ii )Information and indicators to be disclosed if material

- Medium- to long-term vision
- Position among management strategies
- Perception and evaluation of the current initiatives
- Management policies and goals concerning the realization of a sustainable society (including those related to social initiatives)

### [Points to note for reporting]

- (i) Objective goals, including quantitative information such as KPIs, and the content of the initiatives must be included in the commitment.
- (ii) It is necessary for the information to be appropriate and based on the sector, operational scale, business characteristics, and overseas development of the enterprise; merely offering general theories or an overview of environmental reporting is not acceptable.

### Commentary

The Chairman's statement / CEO's statement is an overview of the environmental reporting given by the chairman/CEO or an executive officer. Therefore, it should be brief rather than detailed, the chairman's/CEO's philosophy to the environmental management should be frankly stated in his/her words, and the chairman/CEO should express his/her commitment to carry out the environmental management.

The Chairman's statement / CEO's statement should be:

- ✓ Based on the nature of the industry, the operational scale, character and an enterprise's development overseas
- ✓ A clear and concise summary of the environmental impacts caused by an business

- activities, its environmental policy, environmental initiatives to reduce the impacts, targets and achievements; and
- ✓ A statement of an enterprise's commitment to its environmental activities and to achieving its targets by the promised dates

### 3. Summary

In order to provide an overview of the status of environmentally focused management in the reporting period, give a general explanation in the “Overview of environmentally focused management,” the “Overview of KPI trends,” and the “Summary of activities to address an individual environmental issue.”

#### **(1) Overview of environmentally focused management**

First, provide a management overview in the *Overview of the business* section and then provide a brief overview of environmentally focused management, showing its relationship to the business overview. It is useful to show the relationship between KPIs and the related management indicators, describe the changing environmental impacts over the years, and outline the results of the analyses and breakdown by segment (business category or region).

#### **( i )Information and indicators to be disclosed**

##### a. Overview of business

- Type of business (an industry section and business category)
- Number of employees
- Major products and services (field and segment of business)
- Performance and results

##### b. Summary of environmentally focused management

###### Overview of environmentally focused management

- Material environmental issues, visions and business strategies, main responses, future direction, etc.
- Details on the major environment-friendly products and services (e.g., business areas)

#### **( ii )Information and indicators to be disclosed if material**

- Details of significant changes in organizational systems, composition of shareholders, or products/services that have occurred in the reporting period
- Information that is considered to be material due to the relationship with stakeholders
- A specific event or activity draws attention socially (including information unfavorable to an enterprise)
- Main fields in which an enterprise operates; number of factories and operating sites; locations of the headquarter and major factories; and major products of each facility
- Overview of the history of an enterprise and its environmental conservation activities
- Nature of markets or customers served, Production formats, including business partners
- The status of the economic and social contexts of environmentally focused management (refer to Chapter 7)

### **[Points to note for reporting]**

- (i) A business overview uses management indicators such as total assets, net sales, profit and loss, the value of production, and added value, which are necessary for showing the company-wide positioning of environmentally focused management and providing a summary overview of the business in the reporting period.
- (ii) The “Overview of environmentally focused management” describes in simple terms the status of environmentally focused management (Chapter 5) to ensure that the responses to material issues and the medium- to long-term goals in the current period are broadly understood by the users
- (iii) Generally, the management indicators for the last five years are included. Note that it is possible to use figures and tables in the “Overview of environmentally focused management” but that quantitative information can be included as a list of management indicators in the “Overview of KPI trends” at the end of these guidelines.
- (iv) When the enterprises covered by the report boundary are limited to only some of the enterprises included in the consolidated financial statements, a management indicator such as net sales can be shown in “total weight” (by deducting the number of internal transactions, unless this is immaterial). It is necessary to disclose if this has been done.
- (v) When major products of an enterprise are reported, with regard to mining and the purchase of principal raw materials, or the selling of products and services, it should be mentioned whether those operations are carried out in Japan, specific regions, or also include overseas.
- (vi) If matters regarding the future are included, state that this information was considered accurate as of the publication date of the environmental report.
- (vii) If significant changes to the environmental impacts have occurred due to events such as mergers, a company break-up, the sale of a subsidiary or operating division, new business opportunities, or the construction of new plants, include the relevant facts.
- (viii) The “Overview of environmentally focused management” can be provided together with the “Overview of KPI trends” and the “Summary of activities to address an individual environmental issue.”

### **Commentary**

As a very broad range of items are disclosed in environmental reporting, communicating an easily understood overview of environmentally focused management to stakeholders requires an enterprise to create an “Overview of environmentally focused management,” focusing on the important facts concerning the reporting period, including the direction of environmentally focused management, the status of the response to significant risks, and events of special note.

Furthermore, an overview of the business (i.e., the main sectors and scope of activities) is material information required for an understanding of environmentally focused

management. This understanding will be deepened if the business overview is linked to environmental impacts and the environmental initiatives undertaken to mitigate them. It is also desirable to disclose a suitable management indicator to clarify its relationship with the KPIs.

Moreover, an enterprise is expected to develop some way to respond to users' interests, for example, by setting up pages for specific topics and special features in environmental report. As appropriate, it is best to offer users an explanation to the background of an event and why it is being featured, or to give an easy-to-understand description by making use of charts and photographs.

However, systematic information and data cannot simply be replaced with topics and special features. It is essential to ensure not too much space is allocated to topics and special features; attention must be paid to maintaining a balance between news items, and important and essential environmental data.

## **(2) Overview of KPI trends [Basic matter 3]**

The KPIs defined by the enterprise are included in a list covering the past five years. It is also useful to provide a quantified target for a related KPI over the medium to long term and describe the progress made.

If you are disclosing the information in a table format, please refer to the example formats below.

Please define the KPIs appropriately based on the inherent status of the enterprise and with reference to the quantitative information included in Chapter 6(i), “( i )Information and indicators to be disclosed.”

### **( i )Information and indicators to be disclosed**

- a. KPIs (generally for the past five years)
- b. Supplementary information related to KPIs

- Aggregate range (boundary) of KPIs
- Categories of total volume and basic units

### **( ii )Information and indicators to be disclosed if material**

- A medium- to long-term quantified target for a related KPIs and the progress made so far

- Medium- to long-term quantified targets (established time [date], base period, reporting period, and intended duration)
- Data of the base period
- Achievements by the end of the term

- Other supplementary information related to KPIs

- If the aggregate range or estimation method has been modified, a statement to that effect

### **[Points to note for reporting]**

- (i) Take care to link this information to the “Summary of activities to address an individual environmental issue.”
- (ii) If the impact of a modification to the aggregate range or estimation method is important, it is necessary to make an additional statement to that effect and describe the impacts (refer to “Supplementary information about the quantitative information” on p. 75).
- (iii) In order to clearly indicate the progress of the initiatives, the environmental impacts during the base period (e.g., calendar year, fiscal year) should be included.
- (iv) If a KPI is shown using a figure or graph, it is necessary to include quantitative information in a table at the end of these guidelines, taking into account the data use convenience of the users.

### **Commentary**

In practice, an enterprise may manage its goals using many environmental performance indicators (EPs), but its goals should be selected from among many priorities using the

key performance indicators (KPIs) suited to the characteristics of the enterprise and its material environmental issues.

The “Overview of KPI trends” is an effective way of making time-series comparisons among the changes to the significant environmental impacts caused by an enterprise. Note, however, that the evaluations of significant environmental impacts differ according to the characteristics of the industry and the organizational scale. Direct comparisons among organizations are not easy, and stakeholders will apply different judgment criteria.

Promoting an accurate understanding of a KPI requires a disclosure that includes supplementary information. It is also necessary for the users of environmental reporting to be attentive to the characteristics and limits of the respective indicators.

## **Reference**

If you are disclosing the information in a table, please refer to the examples below.

### **[Example format 1] (Where quantified targets are not included)**

Material issues (e.g.)	KPIs (e.g.)	Aggregate range	FY**	FY**	FY**	FY**	FY**
Response to climate change	Total emissions of greenhouse gases	1					
Sustainable use of water resources	Water resources recycling rate	2					
Proper treatment of waste	Total emissions of waste	3					
:	:						

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

(Note) For FY \*\*, the estimation method for ××× has been modified.

(Note) For FY \*\*, the aggregate range for ××× has been modified.

### **[Example format 2] (Where quantified targets are included)**

Material issues (e.g.)	KPIs (e.g.)	Aggregate range	FY**	FY**	FY**	FY**	FY**	Target value (FY**)	Evaluation of progress and future initiatives
Response to climate change	Total emissions of greenhouse gases	1							
Sustainable use of water resources	Water resources recycling rate	2							
Proper treatment of waste	Total emissions of waste	3							
:	:								

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

### **[Points to note for reporting]**

- (i) Include the material issues and KPIs that have been set by each company.
- (ii) In the aggregate range, include the report boundary using categories such as “1: consolidated,” “2: major companies and business facilities,” and “3: reporting company only.”
- (iii) As shown in pattern 2, medium- to long-term progress can be shown by appending the quantified targets and progress evaluation.

### **(3) Summary of activities to address an individual environmental issue**

Include an overview in list form of a response to a particularly important individual environmental issue that occurred during the reporting period, and describe the PDCA (Plan-Do-Check-Act) cycle initiatives. It is also useful to include the financial implications of environmental issues.

The medium-term goals, their changes over time, and the time period used as the criterion could also be described.

#### **( i )Information and indicators to be disclosed**

- a. Regarding the individual environmental issue, a summary of the strategies for implementing the enterprise's policies on environmental initiatives, plans, goals and results, analyses and evaluations, and improvement measures must be disclosed.

[Strategies and plans]

- Strategies for implementing the enterprise's policies on environmental initiatives
- Plans for meeting the goals

[Status of initiatives]

- Environmental initiatives

[Goals and results]

- Goals for the current period and following reporting period
- Actual environmental impacts in the reporting period

[Analyses and evaluations]

- Content of analyses and reviews of the outcomes
- Evaluations of the results of the initiatives

[Improvement measures]

- Improvement measures from the next period onwards

- b. Supplementary information about the quantitative information

- Aggregate range (boundary) of the quantitative information
- Estimation method for the quantitative information (e.g., calculation method, coefficients)
- Quantitative information that has been examined by a third party

#### **( ii )Information and indicators to be disclosed if material**

Other information about responses to the individual environmental issue

- If the estimation method has been modified, the content of the modification, the reasons for it, and its impact
- Characteristic initiatives made during the reporting period
- Additional or improved initiatives since the last report

The status of the economic and social contexts of environmentally focused management (refer to Chapter 7)

### **[Points to note for reporting]**

- (i) Include a summary of the individual environmental issue as it relates to material environmental issues. Note that the detailed information should be presented in a way that enables users to refer to the relevant pages.
- (ii) Ensure that the status of the environmental impacts flowing from the firm's business characteristics and of the responses designed to control and reduce those impacts can be understood at a glance with the PDCA cycle, and include a compact summary outline of the items judged to be important based on the business characteristics.
- (iii) When providing quantitative information on environmental impacts, it is necessary to include the total volume and (where necessary) the basic units. Furthermore, clearly show the KPIs and include them, while ensuring they are consistent with the "Overview of KPI trends."
- (iv) If the medium-term goals and their changes over time and the data of the base period are shown, special presentation measures should be used, such as integrating them with the "Overview of KPI trends."
- (v) If information in addition to that concerning material environmental issues is included, it is necessary to clearly distinguish between the two information types.
- (vi) The analyses and evaluations must include reviews of the progress made towards goals (and the reasons for any failure), and the improvement measures must include information on future initiatives and new goals.
- (vii) If any of the material issues have financial implications, the relevant financial figures (e.g., environmental accounting information), information related to profit-earning opportunities and risks, and business information contributing to future forecasts should be included.
- (viii) Include supplementary information about the quantitative information with reference to "Supplementary information about the quantitative information" (p. 75).
- (ix) Quantitative information can be presented using figures and tables. In such a case, it is necessary to include the quantitative information in a table at the end of these guidelines, while ensuring users' data use convenience

### **Commentary**

In the *Summary of activities to address an individual environmental issue*, focus on information on material environmental issues. However, environmental impacts classified as immaterial can be included in order to explain the firm's environmental impacts to stakeholders. Note that neither very detailed information nor immaterial information should be included; they should be summarized and included in the environmental information database or an equivalent.

Goals are binding targets that should be achieved. They should be as concrete and measurable as possible, expressed concretely and quantitatively, and, if numerically measurable, measured as such as much as possible. Furthermore, goals must be established

with reference to the concept of value chain analysis. It is necessary to include not only the operational areas of enterprises covered by the report boundary but also operations in the upstream and downstream (e.g., purchase of [raw] materials, transportation, use and disposal of products/services), when setting objectives and targets, thereby taking the whole business value chain into account.

Furthermore, when setting goals, an enterprise should consider the relationship between those goals and environmental policies such as the indicators presented in the Basic Environment Plan (e.g., resource productivity, rate of recycled and reused resources) as well as the voluntary action plans formulated by industrial organizations and others.

## **Reference**

The response to the individual environmental issue in the reporting period should be described with reference to the following example formats. It is useful to categorize the initiatives into PDCA cycle stages. Note that the detailed information can be omitted and the related pages shown instead.

### **[Example format 1] (If the financial implications are not included)**

Material issues (e.g.)	Strategies, plans, and policies of the year	Environmental impacts (e.g.)	Aggregate range	Target value (FY**)	Results (FY**)	Analyses and evaluations (FY **)	Evaluation of progress and future initiatives	Related pages
Response to climate change		Total emissions of greenhouse gases	1					
		Greenhouse gas emissions basic units	1					
Sustainable use of water resources		Water resources recycling rate	2					
		Water withdrawal	2					
Proper treatment of waste		Total emissions of waste	3					
:		:						

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

### **[Example format 2] (If the financial implications are included)**

Material issues (e.g.)	Strategies, plans, and policies of the year	Environmental impacts (e.g.)	Aggregate range	Target value (FY**)	Results (FY**)	Analyses and evaluations (FY **)	Financial implications	Evaluation of progress and future initiatives	Related pages
Response to climate change		Total emissions of greenhouse gases	1						
		Greenhouse gas emissions basic units	1						
Sustainable use of water resources		Water resources recycling rate	2						
		Water withdrawal	2						
Proper treatment of waste		Total emissions of waste	3						
:		:							

(Note) Range: 1: consolidated, 2: major companies and business facilities, 3: reporting company only

### **[Points to note for reporting]**

- (i) Clearly show a KPI by affixing marks
- (ii) In the aggregate range, include the report boundary according to category, such as “1: consolidated,” “2: major companies and business facilities,” and “3: reporting company only.”
- (iii) It is necessary to clearly show the supplementary information on the quantitative information (refer to the next page).
- (iv) As seen in pattern 2, appending the financial implications communicates the environmental impacts and initiatives linked to the financial information.

## **Supplementary information about the quantitative information (common matters)**

Include the supplementary information on the quantitative information while considering the following points. Note that these matters must be included along with links to the related quantitative information, but they can also be summarized in a “Summary of activities to address an individual environmental issue” section or at the end of these guidelines.

For each included item, clearly state the supplementary information whose inclusion is particularly necessary.

### **( i )Information and indicators to be disclosed**

- a. Aggregate range (boundary) of the quantitative information
- b. Estimation method for the quantitative information (e.g., estimation formulas, coefficients)
- c. Quantitative information that has been examined by a third party

### **( ii )Information and indicators to be disclosed if material**

Differences related to the aggregate ranges of the quantitative information

If the aggregate range or estimation method has been modified, the content of the modification, the reasons for it, and its impact

Differences from the figures reported to the national government according to the laws and regulations

Information sources for raw data (e.g., places where the related information is recorded)

Breakdown information by business, region, and scope of activities.

### **[Points to note for reporting]**

- (i) If there are significant differences between the aggregate range of the individual quantitative information and the report boundary as a report profile (including the organizations’ coverage ratio), explain the difference and the reasons for the discrepancy.
- (ii) It is not necessary to include the estimation method for the quantitative information if there is no leeway in choosing or applying the estimation method (e.g., if the estimation method is clear due to legal regulations)
- (iii) Apply the aggregate range and estimation method continuously in each period unless they are modified for legitimate reasons. If a material impact occurs due to a modification of the aggregate range or estimation method, it is necessary to include additional statements about the content of the modification, the reasons why it is legitimate, and its impact.

- (iv) The most common estimation method modifications constitute (i) applying a new estimation method retroactively to all past periods or (ii) applying a new estimation method only to the current fiscal year and not retroactively to past periods.
- (v) When describing the impact of an estimation method modification, include the difference flowing from the application of the previous estimation method and the new estimation method based on the method in (iii). Note that, if estimating the impact of the modification is impossible, the reasons for this, the application method, and the application commencement time for the estimation method need to be stated.
- (vi) Clearly state where the quantitative information has been examined by an external third party.
- (vii) It is necessary to include an explanation of the difference between the figures reported to the national government following the laws and regulations (the reported figures) and the report contents. Note that a breakdown of the report contents can explain this by showing the relationships to the reported figures.
- (viii) Ensure that the difference between the measured, directly obtained figures and the estimated figures is understood.
- (ix) State that all information about future matters was judged to be correct as of the publication date of the environmental report.

#### 4. Material balance

Assess the outcomes and environmental impacts of business activities based on the concept of material balance, which measures the inputs and outputs of the materials and energy used in a firm's overall business activities.

When including the total volume of inputs (such as the total weight of energy input, total weight of material input, and water withdrawal), the total volume of outputs (such as the total products manufactured, the number of services provided, and the degree of each environmental impact generated) and the total volume of materials used cyclically through recycling include enough information to provide an overview of the generation of environmental impacts and the quantitative balance of resources and materials.

##### ( i ) Information and indicators to be disclosed

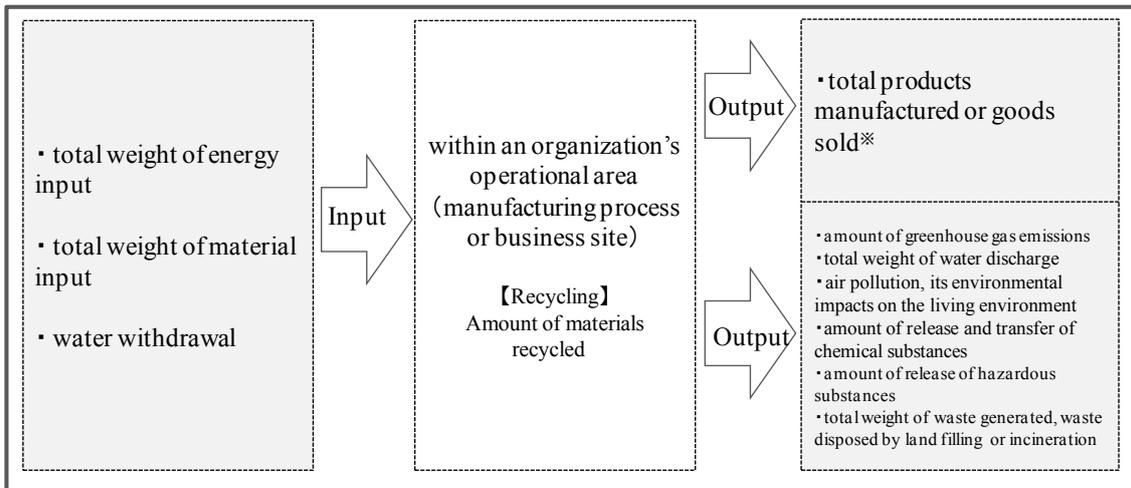
a. The overall picture of the firm's business activities, from the input of resources and energy arising from the business activities to the status of emissions of environmentally hazardous substances and the output and sales of the products, goods, and services

b. Quantitative information based on total volume

- Total weight of energy input
- Total weight of material input
- Water withdrawal
- Amount of material being recycled
- Amount of output and provision of products, goods, and services
- Amount of greenhouse gas emissions
- Total water discharge
- Air pollution and its environmental impacts on the living environment
- Degree of release and transfer of chemical substances
- Total weight of waste generated, waste disposed by land filling or incineration

c. Supplementary information about the quantitative information (refer to p. 75)

**Figure 8: Image of the Material Balance**



\* If the enterprise is in a service industry, figures related to the provided services could be included. The number of students who took the classes, the number of goods distributed, and the number of clients to which the services were provided could be considered related figures. From the viewpoint of the material balance (i.e., the mass balance of inputs and outputs), the disclosure of information and indicators showing that management deliverables have been provided (with the amounts produced and provided) is required.

**[Points to note for reporting]**

- (i) Information needs to be provided in a concise and easily understood manner, if possible using figures and charts, in regards to the status of material input into business activities, the status of output such as the shipment of products and goods from the business, and the cyclical use of energy, wastes and water resources within the operational area (material balance of business activities).
- (ii) The total of purchases can be taken to be the amount of input into the operational area. Regarding electricity and gas which stock is none, input is equal to the amount purchased or used; however, when there is stock, such as fuel oil, total material or water resources, the amount purchased and the amount used are different in general. When there is stock, the input amount to business' area should be calculated by the following formula:  $\text{input amount} = \text{stock amount at the beginning of a term} + \text{purchased amount} - \text{stock amount at the end of the term}$ . If there is little difference between the stock amount at the beginning and end of the term, however, the amount of input and amount of purchase can be regarded approximately as equal.
- (iii) Information on and indicators for environmentally friendly inputs and outputs (such as renewable energy and environment-friendly products and services) and for the value chain can also be provided.

### **Commentary**

It is important to take into consideration not only direct inputs and outputs of business activities, but also the amount of materials and resources subject to the cyclical use within the operational area (e.g. total materials, water resources, and cascade use like waste heat for energy). It is also important to understand and evaluate the environmental impacts generated by the extraction of raw materials, the production of supplied goods, such as raw materials and parts purchased from other organizations and the environmental impacts generated in the use, consumption and disposal/recycle of products, thereby taking the whole lifecycle of the products into account.

To efficiently and effectively improve the environmental activities of an enterprise, it is necessary to take the environmental impacts into account from the viewpoint of the material balance and lifecycle of products; this contributes to the prevention of global warming and ensures the circulation of materials and the construction of a sustainable material cycle society.

This material balance needs to be reported for both manufacturing and non-manufacturing activities. In the latter case, the outputs classified under “total products manufactured” are the sales amounts; various indicators could be used depending on the sector, such as the number of contracts (for services provision), the number of graduating students (for a school), or the transported ton-kilometers (for a transportation company). Balancing inputs and outputs requires that both the amount of products and the environmental impact of the outputs be included.

## **Chapter 5: Information and Indicators on how Environmentally Focused Management Including Environmental Management is working**

Environmental reporting discloses the information on and indicators for the status of environmentally focused management described in what follows. This chapter provides a commentary on fundamental concepts and the information and indicators that need to be included.

### **1.Environmental policies, visions, and business strategies**

- (1) Environmental policy**
- (2) Material issues, visions, and business strategies**

### **2.Status of organizational systems and governance**

- (1) Organizational systems for environmentally focused management**
- (2) Environmental risk management system**
- (3) Compliance with environmental regulations**

### **3.Responsiveness of stakeholder issues**

- (1) Responsiveness to stakeholder issues**
- (2) Social contribution to the environment**

### **4.Environmental initiatives in the value chain**

- (1) An enterprise's policies and strategies regarding environmental initiatives in the value chain**
- (2)Greengreen purchasing and procurement**
- (3) Products and services designed for mitigating environmental impacts**
- (4) New technologies for and research and development on the environment**
- (5) Environment-friendly transportation**
- (6) Resource exploitationsEnvironment-, real estate development/investment with less environmental impacts**
- (7) Environment- friendly waste treatment/recycling**

**1. Environmental policies, visions, and business strategies [Important viewpoint 2]**

Include the environmental policies, visions, and strategies formulated when implementing environmental initiatives.

**(1) Environmental policy**

Include the environmental policies that are established when implementing environmental initiatives in business activities.

**( i )Information and indicators to be disclosed**

a. Environmental policy

**( ii )Information and indicators to be disclosed if material**

Environmental policy; date established, establishing methods

The background of the establishment of the environmental policy

Consistency and positioning of the environmental policy within the total management policy

Names and contents of environmental charters or agreements which an enterprise has agreed to comply with

**[Points to note for reporting]**

- (i) It is necessary to not only describe the environmental policy in business activities, but also explain the background and reasons for the establishment of the policy, for example, what kinds of environmental impacts exists, in the characteristics of an enterprise and what kinds of environmental initiatives are required.
- (ii) It is also useful to include information about the charters and principles of action related to the socially responsible and environment-friendly initiatives adopted by the enterprise, such as written declarations for the achievement of the United Nations Global Compact and the United Nations Millennium Development Goals (MDGs), the Principles for Responsible Investment (PRI), and the Principles for Financial Action towards a Sustainable Society (Principles for Financial Action for the 21<sup>st</sup> Century).

**Commentary**

Environmental policies reflect the fundamental concepts of environmentally focused management. They should thus be made known to all employees through specific content designed for the enterprise's own business activities and in a format consistent with management policies and the Chairman's /CEO's statement.

The environmental policy needs to correspond to the nature of the business, characteristics

and scale of products and services, and significant environmental impacts caused by business activities.

In addition, the environmental policy in business activities needs to be established with consideration to the concept of the entire value chain. It is necessary to include not only activities in the operational areas of enterprises covered by the report boundary, but also operations in the upstream and downstream (e.g., purchase of [raw] materials, transportation, use and disposal of products/services).

Furthermore, environmental policy in business activities should be established based on the Basic Environment Plan and the Fundamental Plan for Establishing a Sound Material-Cycle Society in Japan.

## **(2) Material issues, visions, and business strategies**

Explain the material issues in environmentally focused management as perceived by the chairman/CEO and the strategic response to those issues, linking the explanation to the impacts on the environment and background information such as regulatory trends.

Describe the impact on business activities of the business opportunities and risks arising from the environmental impacts of business activities, the identified material issues, and the related visions, business strategies, and plans.

### **( i )Information and indicators to be disclosed**

- a. Material issues (including the relationship to impacts on the environment)
- b. Visions, business strategies, and plans for environmental protection
- c. Other related matters to include

- Content of major environment-friendly products and services (e.g., business areas)
- Background information, such as regulatory trends
- Content of business opportunities and risks and their impact on business activities
- Anticipated period and future outlook

### **( ii )Information and indicators to be disclosed if material**

A medium- to long-term quantified target for a related KPI and the degree of its achievement

- A medium- to long-term quantified target (with the established time [date], base period, reporting periods, and intended duration)
- Data of the base period
- Achievements by the end of the term

Other related information and indicators

- Matters judged important for responsiveness to stakeholder issues
- Relationship to business and regional segments

The status of the economic and social contexts of environmentally focused management (refer to Chapter 7)

### **[Points to note for reporting]**

- (i) Include the material issues linked to the status of the generation of environmental impacts so that their relationship to the detected business opportunities and risks is understood. It is also useful to provide the sequence of events leading up to detection of the issues (e.g., prior events and stakeholder demands).
- (ii) An enterprise should include all the information users need to confirm that it has identified all the material issues, including not only environmental impacts but also the related impacts on the economy, society, and the entire value chain.
- (iii) An enterprise should disclose the information that will allow users to understand its relationship with management's perspective.
- (iv) Any matters regarding the future must be accompanied by a statement saying that these represent information about the future, as well as important matters to note when using the information.

## **Commentary**

Material environmental issues such as climate change and resource constraints become risks if an enterprise is unable to respond to them and can become profit-making opportunity factors if an enterprise can respond to them more successfully than others can. Moreover, in this kind of business environment, responses to risks and opportunities related to environmental issues are usually incorporated into business strategies.

Environmental reporting must thus explain the material environmental issues with an impact on business strategies, the contents of risks and opportunities, their impact on business activities, and the enterprise's strategic response to them in order to enable users to understand the company's environmental initiatives.

A variety of factors produce risks and opportunities for business, including the introduction of legal regulations for the environment and the expansion of the related markets. An explanation of the strategic response linked to the background information is thus required.

Note that the matters listed below must be considered when specifying the material issues; the information should allow users to understand what content was taken into account:

Financial implications (profit-earning opportunities and risks) and their anticipated period

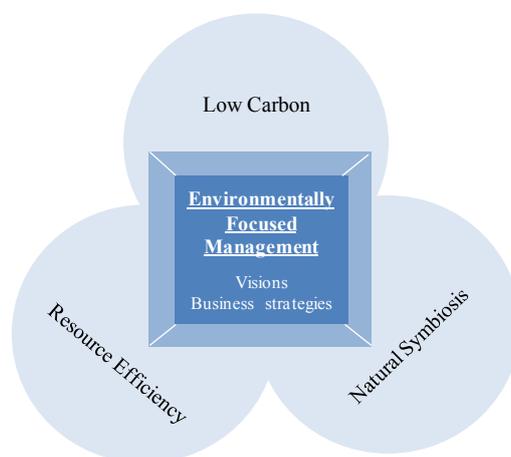
The impact of legal regulations and the direction of policy

Shared issues in the same sector and the status of responses from other companies in the same sector

Demands from stakeholders and social interest

Physical impacts due to natural disasters, accidents, etc.

**Figure 9: Relationship of Environmentally Focused Management and Environmental Issues**



## **2. Organizational systems and governance [Important viewpoint 3]**

Describe the organizational systems built by the chairman/CEO and their use in appropriately carrying out the enterprise's policies, visions, and business strategies on environmental initiatives and plans to protect the environment.

### **(1) Organizational systems for environmentally focused management**

Include the organizational systems for accurately and completely ascertaining the impacts on the environment of business activities and appropriately reducing and managing them.

Include information about the structures set up to execute environmentally focused management, their responsibilities and authority, and their relationship to company-wide positioning, along with the structure of the environmental management systems.

#### **( i )Information and indicators to be disclosed**

a. Organizational systems for the execution of environmentally focused management

- Role of the committee
- The person with the highest responsibility
- The status of responsibilities and authority (e.g., approval procedures, compliance with in-house rules, monitoring structures)

b. Positioning in company-wide management organizations

c. Structure and operational status of environmental management systems (EMS)

d. Internal control for the reliability of environmental reporting (e.g., in-house structures for information checks)

#### **( ii )Information and indicators to be disclosed if material**

Relationship to and position in company-wide governance

The process for identifying material issues (if this has been modified, the nature of and background to the modification)

The important content reported to committees and the status of the response (e.g., the response to the detected problems)

Other related information and indicators

- Enterprise's evaluations of the environmental contexts of business development, product development, investment, etc.
- Relationship to performance evaluations and personnel evaluation systems
- Environment-friendly human resource development systems (e.g., in-house awards, career progression systems)
- Opinions of third parties on organizational systems

The status of the economic and social contexts of environmentally focused management (refer to Chapter 7)

**[Points to note for reporting]**

- (i) It is necessary to include enough information about the organizational systems for the execution of environmentally focused management to ensure that users understand their position in company-wide management organizations and their covered scope. Furthermore, figures should be employed to ensure that users understand the overview of the organizational systems.
- (ii) In describing the structure and operational status of the environmental management systems (EMS), include EMS' organizational systems, the status of ISO 14001 and Eco-Action 21 certification (e.g., the scope and percentage), environmental conservation education provided to employees, and the status of environmental auditing,\* with links to the organizational systems related to environmentally focused management.
- (iii) In describing the environmental conservation education provided to employees, include the structure of the training, the implementation framework, and the implementation status (e.g., the number of times the training was implemented, the number and percentage of employees who received the education).
- (iv) In describing the status of environmental auditing, include the criteria for the auditing of environmental management systems, the implementation status (i.e., the number of internal audits and external examinations), and the audit results and response methods.
- (v) The relationship between the organizational system for environmentally focused management and company-wide governance should be explained. For in-house structures related to the reliability of environmental information, describe the procedures used to implement self-evaluations using checklists, the thorough internal auditing of the EMS, the utilization of in-house auditing systems by auditors, and the implementation status of these procedures.
- (vi) If opinions or examinations have been given by a third party, it is useful to include an overview of those relating to organizational systems (e.g., by describing the covered business sites, criticisms, and areas for improvement) and the response.

**Commentary**

It is necessary to provide an explanation that allows users to understand the overall picture of the scope, structures, and mechanisms of environmentally focused management. It is thus necessary to include organizational systems and governance related to environmentally focused management in order to show that not only the structure and scope of the environmental management systems (EMS) but also the broader impacts on the environment and related impacts on the economy and society have been accurately and thoroughly identified and that the enterprise's policies on environmental initiatives concerning these impacts are being carried out appropriately.

However, for an enterprise to improve their environmental performance, they must build and operate an EMS, the necessary infrastructure. It is thus necessary to include the structural and operational status of the environmental management systems based on the characteristics of the

enterprise, such as format and scale.

Furthermore, as plans for the introduction or expansion of an EMS are related to the report scope and the scope of environmental impact data collection, they should also be included.

## **Reference**

Enterprises must make every effort to improve their environmental reporting's content and increase its reliability. To fulfill these requirements, enterprises should evaluate the contents of their reporting and strive to ensure that the data forming the basis of the reporting are accurate. Organizational systems for environmentally focused management include internal control for the reliability of environmental reporting, including these kinds of in-house check structures for environmental information.

The following are examples of measures firms can take to increase reliability:

### **Implementation of self-assessment**

Self-assessment means that by using a checklist to ensure the reliability of reporting, an organization reviews its environmental reporting, and when self-assessment is carried out, the method, procedure and results need to be published.

The Ministry of the Environment has published the *Guide for Self-Assessment to Increase the Reliability of an Environmental Report (Trial Version)* and hopes it will be a useful tool. (Refer to Preface 4. Relation to Existing Guidelines)

(Reference) 「*Guide for Self-Assessment to Increase the Reliability of an Environmental Report (Trial Version)*」:

[http://www.env.go.jp/policy/hairyo\\_law/index.html](http://www.env.go.jp/policy/hairyo_law/index.html)

### **Thorough implementation of internal management**

This measure is needed to ensure the thorough implementation of an environmental management system (e.g. ISO14001 or Eco-Action 21) within an organization and conduct strict internal audits or similar measures; the organization must confirm the comparability and the reliability of all information. An internal audit should confirm the methods and procedures used to collect, aggregate, evaluate, and disclose numerical data in environmental reporting. It should also confirm the utilization of environmental reporting in external communications, and the status of communication with stakeholders.

### **Disclosure of internal audit standards and environmental reporting preparation standards**

This is an effort of an organization to disclose its internal audit standards and environmental reporting preparation standards. Especially, it makes possible for an external third party to conduct a review based on the standards, when the standards to create environmental reporting are made public.

### **Utilization of an in-house audit system or similar system**

This measure is needed to verify environmental reporting from an objective viewpoint by utilizing in-house organizations other than the section that prepared the environmental reporting; such in-house organizations can include directors, the audit section, corporate auditors, or external directors.

Note that measures that can be implemented by a third party from outside an enterprise to increase reliability are included in “Assurance and other measures to enhance reliability of

environmental information” (p. 174).

## **(2) Environmental risk management system**

Include information about risk management structures system (environmental risk management) with a focus on environment-related risks, including the response to emergencies such as natural disasters and accidents.

Note that this information can also be included in *Organizational systems for environmentally focused management* (p. 85).

### **( i )Information and indicators to be disclosed**

- a. Development and operational status of environmental risk management structures system (e.g., the roles of organizations, responsibilities and authority, positioning)
- b. The content of risks related to the anticipated environment (including emergencies such as natural disasters and accidents) and the status of emergency preparedness (e.g., prevention and precautionary measures, emergency drills)

### **( ii )Information and indicators to be disclosed if material**

The important content and status of management results reported to committees

Extent of the important risks in the anticipated environment (e.g., serious accidents) and their potential impacts on management

Structure and operational status of business continuity management (BCM) related to the environment

If an enterprise is a party to a lawsuit concerning environmental issues, describe the contents and response to the lawsuit

### **[Points to note for reporting]**

- (i) It is necessary to include the development status of environmental risk management structure systems to make clear their position in organizational systems related to environmentally focused management and the covered scope.
- (ii) If important risks related to the environment are anticipated, include information about their chances of occurring and their potential impact on the environment and management, with reference to past occurrences of natural disasters, expert forecasts of their occurrence, and historical damage.
- (iii) If business continuity management (BCM) has occurred, include its organizational systems, its certification of standards, the status of the development and improvement of the business continuity plan (BCP), the education provided to employees, and the status of auditing, with links to

environmental risk management.

**Commentary**

Determine the important risks related to the anticipated environment according to the likelihood of their occurrence and the size of their potential impact on the environment and on management. This may constitute material information, depending on the potential impacts on management.

Furthermore, it is necessary to consider not only the normally anticipated environmental accidents but also the impacts on local communities if hazardous substances are spilled during natural disasters and the potential impacts on management of such spillages in order to avoid user misunderstanding, while also providing information on these matters to stakeholders such as local residents and investors.

Moreover, the environment-related matters within business continuity issues must be disclosed to ensure that resources and energy procurement constraints, the impacts of damage, and accidents at business partners and manufacturing contractors are included. If a structure for business continuity management (BCM) has been built, the enterprise should mention the status of precautions, responses, and improvements in the BCM in connection with the environmental risk management.

### **(3) Compliance with environmental regulations**

Describe the compliance with environmental regulations in relation to environmental risk management by including the status of the compliance with environmental regulations and of the performance of other obligations related to the environment. Note that information about violations, fines, accidents, or complaints must be disclosed, including their impact on management and the responses to and improvements consequent to them.

Note that this information can be included in “Environmental risk management system” (p. 91).

#### **( i )Information and indicators to be disclosed**

a. Methods to verify whether activities are conducted in accordance with laws and regulations relating to business activities, and the results of the verification

- Method of ascertaining the revisions to legal regulations and the covered scope
- description of periodic or non-periodic internal checking system
- Compliance guidelines of the enterprise or the equivalent

b. Any violations of major laws and regulations over the last three years or so.

#### **( ii )Information and indicators to be disclosed if material**

Impacts on the environment of violations of legal regulations related to the environment

Important areas of revision, such as reference values, by business and region

Financial implications of environmental regulations (including other obligations)

Number of fines or penalties and the amounts paid for environmental violations

If an enterprise has higher standards' figure than those stipulated contents in environmental regulations or agreements

Violations or untruthful statements in eco-labeling, environmental advertisements and environmental information on products

Contents and frequency of complaints and demands received from stakeholders relating to environmental issues (including noise, vibration, and odor complaints)

If there are any violations of laws, regulations, or agreements, or there are accidents, incidents or complaints as mentioned above, describe the status of any specific responses and improvement measures (including the management level)

**[Points to note for reporting]**

- (i) Legal regulations related to the environment also include legal obligations arising from contracts with business partners, unavoidable obligations due to judicial precedents and administrative rulings, obligations due to membership in industry organizations, voluntarily declared commitments, and matters for which compliance is socially required.
- (ii) If an enterprise has been subject to directions, recommendations, orders, or penalties from any authority for a major violation of such laws or regulations, a description of the violation, the response to the incident and any measures to prevent any recurrence should be stated. If no violation has occurred, this should be stated along with any measures and systems used to confirm such facts.
- (iii) It is also useful to mention whether the financial implications related to environmental legal regulations are recorded in the financial statements and related matters.

## **Commentary**

In order for organizations to implement initiatives to conserve the environment and to win the confidence of society, they need to be active in promoting environmental communications. At the same time, they also need to comply with laws, ordinances, agreements and promises, and to disclose information on their adherence to such laws (as well as violations of such laws). In particular, the status of compliance with laws and regulations, violations, accidents and complaints is important information that needs to be included in environmental reporting and the availability of such information is necessary to increase the confidence of the public.

If there is any significant information that would influence the decisions and opinions of stakeholders, such as any events or changes to laws and regulations, customary recognized trading rules, management policies and litigation- they need to be described in a factual, easy-to-understand and unbiased way. If there are no such issues, this should be stated; however, as well as a simple statement, any organizational measures and systems used to confirm such issues should be included.

Moreover, if there are violations of laws, regulations or agreements, or there are accidents, incidents or complaints as mentioned above, the status of any specific responses to them and improvement measures (including at the management level) should be described.

As a practical point to note, it is important to produce accurate environmental labels, so that consumers will not misunderstand.

## **Reference**

As a practical point to note, when an organization requests an environmental measurement certification body to take measurements and the results exceed any regulatory limit, it is common practice to order a second test. If the results of the re-measurement are found to be within the regulatory limits, some organizations have requested the body not to issue certification for the first measurements. Unless the environmental measurement certification body approves such a request as reasonable, an enterprise needs to accept the issue of the measurement certification and treat the case as a violation of regulatory limits, and notify the relevant authorities. In order to comply with environmental regulations, it is expected that from now on, internal control and audit systems will be developed and operated to ensure the implementation of measurements to prevent environmental pollution, and the correct management of measurement results and measurement certification. Regarding methods of handling the high-concentration emissions data unavoidably generated in continuous measurements of the air, please refer to *Clarification of the Handling of Measurement Results in Continuous Measurements* issued by the Ministry of the Environment on October 18, 2010.

### **3. Responsiveness to stakeholder issues [Important viewpoint 4]**

Include information about the response to the demands and expectations of firm stakeholders. Responsiveness to stakeholder issues is important for many tasks (including ascertaining the impacts on the environment, identifying the material issues, and building the organizational systems) and occurs through daily interactions with the stakeholders during business activities.

Furthermore, the concepts and implementation status of social contributions related to the environment (including collaboration with the national government and regional public bodies) should also be included.

#### **(1) Responsiveness to stakeholder issues**

Include information about the policies on responsiveness to stakeholder issues, the demands and expectations of each channel used to respond to stakeholders, and the status of the reflection of those demands in business activities and firm decision making.

#### **( i ) Information and indicators to be disclosed**

- a. The status and results of policies, plans, and initiatives for meeting stakeholder requirements

- Policies on the response to stakeholders
- Channels for responding to major stakeholders (e.g., kinds, means of response, frequency)
- Demands and expectations of the stakeholders
- Responses to the demands and future plans (as reflected in business activities and decision making)

#### **( ii ) Information and indicators to be disclosed if material**

The relationship to material issues, ascertaining business opportunities and risks, discovery and improvement of defects in the organizational systems

#### **[Points to note for reporting]**

- (i) It is necessary to include information about meeting the requirements of each kind of stakeholder, while describing the means and frequency of the response, the demands and expectations of the stakeholders, the opportunities and risks detected by the business enterprise in those demands and expectations, and the matters responded to as material issues in environmentally focused management.
- (ii) Concerning the channels used to respond to the major stakeholders, include the various participation formats of advice and consultation, dialogue, and working together, such as information transmission, consultation counter systems for clients, employee satisfaction surveys, meetings to exchange views with suppliers, dialogue, and partnerships with NGOs/NPOs.

### **Commentary**

Responsiveness to stakeholder issues is an essential process for adapting management to social trends and is mainly implemented through daily interactions with the stakeholders during business activities. It is important for an enterprise to show that they understand their stakeholders well, reflect this understanding in their business activities and decision making, and respond to the needs of their stakeholders appropriately.

## **(2) Philanthropy related to the environment**

Include information about the social contributions implemented by the enterprise itself as a part of its environmentally focused management or implemented voluntarily by the employees, as well as information about the collaboration with administrative agencies such as the national government, regional public bodies, and industry organizations.

### **( i )Information and indicators to be disclosed**

a. The status and results of the business enterprise's policies, goals, plans, and initiatives for social contribution initiatives related to the environment.

- The business enterprise's policies on environmental initiatives (e.g., basic thinking, funds allocation policy)
- Mechanism for encouraging participation (e.g., paid volunteers, personnel evaluation systems)
- Content of activities (e.g., number of participants, amount of funds donated, cooperation and collaboration with NPOs)

### **( ii )Information and indicators to be disclosed if material**

The review committees that participated and their initiatives

Utilization of subsidy systems implemented by administrative agencies

Participation in voluntary action plans and contribution to the achievement of industry goals

Other information and indicators related to social contributions

- Mechanisms for encouraging environmental conservation and social contribution by employees' family members
- Contents, amount of assistance and goods that are used for supporting NPOs or trade associations which promote environmental conservation
- Status of environmental education programs provided to local communities
- Environmental and social activities of an enterprise in cooperation with local communities

### **[Points to note for reporting]**

- (i) The extent of its social contribution to the environment will likely widely differ depending on the sector, size, and philosophy of the enterprise. However, it is necessary to clearly describe the social contribution, including collaboration with the national government and regional public bodies, according to the characteristics of the enterprise.

### **Commentary**

It is desirable that organizations undertake environmental initiatives, and at the same time, make efforts to construct a material-cycle society through cooperation with various other sectors. One of the methods of cooperation is collaborating with the national government, regional public bodies, and industry organizations in making a social contribution to the environment, which may include voluntary social contributions to the environment from employees and organizations, support for environmental not-for-profit organizations (NPOs), and initiatives from industrial groups. Solving environmental problems requires the voluntary promotion of these kinds of collaboration, along with administrative and positive social activities.

#### **4. Environmental initiatives in the value chain [Important viewpoint 5]**

Include the status of environmental initiatives in the entire value chain (outside the operational area) by activity, including purchasing and procurement, production, sales, provision of services, research and development, transportation, development and investment, and waste treatment.

Furthermore, if material environmental issues are being identified based on their impacts on the environment in the value chain, include them in Chapter 5, 1. (2), “Material issues, visions, and business strategies” (p. 83).

##### **(1) Strategies and environmental policies for the value chain**

Include information about measures taken to reduce the environmental impacts of business activities in the entire value chain (from the procurement of raw materials to disposal) by the enterprise and individuals, with links to each part of the value chain.

Include the material issues related to the value chain, the business enterprise’s policies regarding environmental initiatives, and the status of the strategic response.

##### **( i )Information and indicators to be disclosed**

- a. Material issues in the value chain, the business enterprise’s policies regarding environmental initiatives, strategies and plans, goals, results, analyses and evaluations, and improvement measures.
- b. Other related report contents

- Overview of the environmental impacts of the business activities of other downstream and upstream parties
- Content of business opportunities and risks and their impact on business activities
- Background information, such as regulatory trends

##### **( ii )Information and indicators to be disclosed if material**

The matters included in “(ii) ( ii )Information and indicators to be disclosed if material” in Chapter 5, 1.(2) “Material issues, visions, and business strategies” (refer to p. 83)

Status of the generation of environmental impacts of the activities of other parties

- Status of the environmental impact generation of purchasing and procurement, production, sales, provision of services, research and development, transportation, development and investment, and waste treatment
- Supplementary information about the above quantitative information

Other related information and indicators

- Status of business continuity management (BCM) activities
- Initiatives related to the avoidance of trade-offs among environmental impacts

### **[Points to note for reporting]**

- (i) Include information about environmental initiatives related to climate change, water, energy, food safety, land use, chemical substances, and biological diversity losses arising from the activities of other parties in the value chain. The status of the initiatives should be specifically included according to the characteristics of the enterprise, such as format and size.
- (ii) Note that matters regarding the value chain can be included in other related items.
- (iii) For the points to note for reporting in “(ii) (ii) Information and indicators to be disclosed if material” in Chapter 5, 1. (2), “Material issues, visions, and business strategies, etc.,” please refer to the [Points to note for reporting] section on p. 83.
- (iv) The status of the generation of environmental impacts related to the individual environmental issue may also be provided in the information and indicators included in Chapter 6.
- (v) Include supplementary information on the quantitative information with reference to “Supplementary information about the quantitative information” (p. 75).
- (vi) It is necessary to include the quantitative information related to the value chain within clear categories so that it does not become confused with the information and indicators on business activities (quantitative information in Chapter 6). For example, a breakdown of the greenhouse gas emissions classified by emission source could be included for each of the following activity scopes:
  - Scope 1 - Direct emissions (emissions of gasses within an organization’s operational area)
  - Scope 2 - Indirect emissions (e.g., emissions due to purchasing electricity)
  - Scope 3 - Other emissions (e.g., emissions outside the operational area due to procurement, transportation, use, and disposal), and all information related to the value chain

### **Commentary**

When environmentally conscious organizations think about their activities, they should pay attention not only to their own business activities but also to their business partners, in terms of issues ranging from which raw materials and parts are purchased, to which products are sold, and the provision of transportation and waste disposal. It is strongly encouraged to promote the greening of value chains by talking with a wide variety of business partners.

The expansion of the boundaries of responsibility and of environmental impacts may cause environmental initiatives in the value chain to become more closely related to business opportunities and risks. The demands and requirements for environmental information collection structures, the transmissions with business partners using transaction contracts and green procurement, and the building of management structures such as EMS are expanding, primarily in enterprises practicing advanced environmentally focused management. The current trend indicates that these initiatives are spreading to business partners further upstream—secondary and tertiary business partners.

Furthermore, the strengthening of international legal regulations and frameworks for chemical substances and hazardous substances designed to maintain a safe and secure living environment is expected to continue, and the need to engage in transactions with business partners only after strictly evaluating their in-house structures (mechanisms) for eliminating from their products all materials dangerous to health will continue to grow. Moreover, maintaining stable supply structures and minimizing the impact on business activities during natural disasters and serious accidents will require management structures that include business partners through business continuity management (BCM).

For this reason, it is important to participate in value chain management (VCM) in a way that considers the management trends and policies of these kinds of recipients and to develop VCM with one's business partners in order to strengthen business relationships and promote business continuity.

However, the promotion of VCM is beset with many issues. For small and medium enterprises, formulating and implementing criteria for green procurement can sometimes be difficult, and, in the service industry, it can be difficult to identify its relationship to the environment. In these kinds of cases, initiatives taken in cooperation with administrative agencies and the industry organizations to which the enterprise belongs and certification registration systems such as ISO 14001 and Eco-Action 21 in VCM are believed to be effective.

Recently, against the background of procurement of materials and parts from overseas, or operations overseas, the viewpoint of including such social contexts as fair trade and CSR procurement as well as environmental considerations is broadening; supply chain management should be considered from a social viewpoint too.

## **Reference**

Material issues are identified based on environmental impacts. Measuring the use of resources and energy and the generation of environmental impacts for each activity is thought to be an effective method of ascertaining the material issues.

For example, management using the figures below could be useful:

Activities	Main organization	Region	Use of resources and energy	Resources recycling	Generation of product and environmental impacts	Biological diversity conservation	Remarks
Raw materials and development	External						
Raw materials transportation	Subsidiaries						
Materials processing	Subsidiaries*						
Manufacturing	In-house*						
Product transportation	In-house*						
Use	Clients						
Disposal	Contractors*						

Priority management  
using approximate  
quantitative  
information

\* Demand scope of EMS

Note: Include the background information, opportunities, and risks in the remarks.

## **(2) Greengreen purchasing and procurement**

Include information about the status of environmental initiatives for purchasing and procurement from the excavation of raw materials for use within the enterprise's operational area (e.g., green procurement) and contributions to the reduction of environmental impacts.

### **( i )Information and indicators to be disclosed**

- a. The enterprise's policies on environmental initiatives, strategies and plans, goals, results, analyses and evaluations, improvement measures in procurement and purchasing

- The business enterprise's policies and criteria regarding environmental initiatives (e.g., green purchasing and procurement/CSR procurement criteria)
- Expenditure and quantity, the number of categories for the purchase and procurement of products and services contributing to the reduction of negative environmental impacts
- Percentage of environment-friendly purchases and procurement relative to overall purchasing and procurement (e.g., amount, number of business partners)

- b. If further upstream environmental initiatives are demanded of the suppliers, the content of the initiatives

### **( ii )Information and indicators to be disclosed if material**

Notification policy and the status of environmental initiatives from upstream to downstream regarding information on harmful chemical substances and environmental information such as site locations for mining or extracting natural resources, and environmental considerations at those sites, .

Status of environmental conservation requests and requirements made to suppliers

Environmental impacts reduced through environmentally friendly purchasing and procurement (amount of contribution) and the effect

### **Commentary**

In addition to promoting environmental activities within their own organizational area, organizations should work with upstream business partners, such as suppliers of products and raw materials/parts and services, in order to reduce negative environmental impacts, promote the cyclical use of resources and energy, and achieve biological diversity conservation and sustainability. An important method of achieving this is the priority purchase of products and services that contribute to the reduction of negative environmental impacts (i.e., green purchase and procurement).

Furthermore, evaluating the environmentally focused management of business partners, including the certification of their environmental management systems (e.g., ISO 14001, EA21) and energy management systems (ISO 50001) in green purchasing and procurement, and working together on environmental initiatives to respond to both business opportunities and risks are effective ways of expanding value chain management.

In addition, depending on the type and the size of an organization, the purchasing or procurement of products and services differs greatly, so it is necessary to clearly mention the state of green purchasing and procurement according to the characteristics of each product and service (including green purchasing and procurement as a percentage of all purchasing).

The following information may be included:

Raw materials and products from recycled materials, biological diversity, and its sustainable use (for example, raw materials that have received certification related to natural resources such as forest certification\* materials, and fishing industry certification)

Devices, equipment, and vehicles with a strong environmental performance, such as energy-saving performance.

Products using legally confirmed resources

Services provided with environmentally friendly equipment operation and product use (e.g., accommodation services provided in environment-friendly hotels, environment-friendly event operation)

### **(3) Products and services designed for mitigating environmental impacts**

Include the status of products and services (including intangible functions and labor) that contribute to the reduction of environmental impacts in the provision of services such as production and sales, as well as environmentally friendly sales, marketing methods, and business models.

#### **( i )Information and indicators to be disclosed**

- a. The business enterprise's policies regarding environmental initiatives, strategies and plans, goals, results, analyses and evaluations, and improvement measures for their products and services.

- The business enterprise's policies and criteria regarding environmental initiatives (e.g., criteria for eco-products)
- The quantity and number of categories of products and services that contribute to reducing negative environmental impacts
- Percentage of environment-friendly products and services relative to total products and services (e.g., amount, number provided)

#### **( ii )Information and indicators to be disclosed if material**

Newly launched environmental businesses, marketed environment-friendly products and services.

Total volume of emissions arising from the use of products and services (e.g., estimates of emissions from all products shipped in the year, the emission coefficients of major products)

Environmental conservation effect\* due to products and services designed for mitigating environmental impacts (e.g., products with certified environmental labels)

Status of response to legal regulations and compliance with government standards

- Number of products that meet energy-saving standards\*
- Status of re-merchandizing, dismantling, recycling, reusing\* or resource-saving, based on the applicable recycling laws

Status of environmental impacts and performance (e.g., energy consumption efficiency) for each major product using the LCA (lifecycle assessment) method

Note: Waste treatment/recycling is also included on p. 116; please refer to that section.

#### **[Points to note for reporting]**

- (i) The number of initiatives designed according to the above criteria as a percentage of total products manufactured or goods sold and an overview of the resulting environmental conservation effect (including estimations) should be

included.

- (ii) Financial institutions such as banks/security brokers/ insurance companies, wholesalers and retailers, transportation companies, and trading companies, are not engaging in production activities themselves; therefore these organizations need to be creative in order to report their own characteristic environmental activities.
- (iii) Regarding products with certified environmental labels, it is important to clarify the type of label and indicate the weight, the number of items, and size or volume of the relevant product.
- (iv) Enterprises that use genetic resources should consider the Nagoya Protocol when responding.

## **Commentary**

Reducing the negative environmental impacts caused by products and services that organizations produce or sell is an important social responsibility of organizations, and it is necessary to contribute to the construction of a sustainable environmentally sound society and material-cycle society.

In order to encourage environmental initiatives in business activities, it is good practice for organizations to promote environmentally conscious methods of production and ideas, to employ ideas for environmental operations and sales, and to develop business models that contribute to the conservation of the environment. These activities will lead to the development of an organization's eco-business, as well as future improvements in environmental performance.

Moreover, we can conclude that reducing the environmental impacts of products and services is required from the perspective of the firm's own environmentally focused management, particularly its promotion of eco-business. The types of products and services produced and sold by enterprises that contribute to reducing negative environmental impacts vary depending on the sector, but they include the following:

Environmentally conscious transportation services

Environmental education and research in educational and research institutions

Waste recovery logistics and distribution, e.g., transportation of waste

Environmental financing transactions in financial institutions, e.g., financing or trusts for environmental conservation projects, Environmentally rated financing, eco-funds or environmental liability insurance

Initiatives for "servicizing" (offering services to replace the functions of products, a new trend toward creating a service economy)

Sales of environmentally friendly products (Eco-goods, measures to reduce packaging, etc.)

Initiatives for ecotourism and eco-hotels in the travel and hotel industry

Various evaluation and consulting services, such as energy-saving diagnostics

Environmental conservation-type public project services

#### **(4) New environmental technologies and research and development**

Include the status of newly developed environmental technologies (e.g., product technologies, patents), research and development contributing to the reduction of environmental impacts (e.g., production technologies, engineering methods, patents, basic and applied research), and the design for the environment (DfE\*) of products and services

##### **( i )Information and indicators to be disclosed**

- a. The enterprise's policies on environmental initiatives, strategies and plans, goals, results, analyses and evaluations, improvement measures for new environmental technologies and research and development

- The enterprise's policies and criteria regarding environmental initiatives
- Newly developed environmental technologies (including patents)
- The status of research and development contributing to the reduction of environmental impacts (e.g., the DfE method)
- Percentage of new environmental technologies and research and development out of all new technologies and research and development (e.g., amount, number of cases)

##### **( ii )Information and indicators to be disclosed if material**

The environmental conservation effect expected from the research and development outcomes

Status of research and development by using the life cycle assessment (LCA) method

#### **Commentary**

In order to create green innovation, a firm must incorporate environmental consideration into its activities and develop new technologies for environment-friendly products and services. As the environmentally conscious mind of the market grows stronger, the development of new technologies related to the environment could become a profit source.

To develop and design environment-friendly products and services, an enterprise applies the most suitable method to its product development. The design for the environment (DfE) method is one example. Including these initiatives (policies and methods) in an environmental report allows users to understand the future direction of the enterprise and its response to the market.

Even for non-manufacturing enterprises, researching and developing eco-businesses and new environmentally friendly services in response to market needs leads to new business opportunities. This contributes to the creation of an environment-friendly society, while profit-making businesses and educational and public institutions operate in a more socially desirable fashion and create new value.

**(5) Environmentally conscious transportation**

Include information about the environmental impacts of transporting raw materials to manufacturing sites, of shipping products, services and waste to external sites, and transporting passengers (noting the emissions of energy-induced carbon dioxide [CO<sub>2</sub>], nitrogen oxides [NO<sub>x</sub>], and particulate matter [PM]) and the environmental initiatives undertaken to reduce those impacts.

**( i )Information and indicators to be disclosed**

- a. The enterprise’s policies on environmental initiatives, strategies and plans, goals, results, analyses and evaluations, and improvement measures regarding transportation

- The enterprise’s policies on and criteria for environmental initiatives
- The quantity and categories of transportation contributing to reducing negative environmental impacts being provided or used
- The percentage of environmentally conscious transportation relative to overall transportation (e.g., amount, number of cases)
- The methods devised for environmentally conscious transportation

**( ii )Information and indicators to be disclosed if material**

Total volume of emissions arising from transportation

Environmental conservation effect due to transportation contributing to the reduction of negative environmental impacts

Status of response to legal regulations and compliance with government standards

Status of initiatives in metropolitan areas to conform to the Law Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides and Particulate Matter

Percentage of recycling of packaging materials attributable to transportation and the amount of waste

Status of consideration for biological diversity conservation (e.g., measures to prevent the invasion of foreign species)

**[Points to note for reporting]**

- (i) Major indicators for environmentally conscious transportation are the total volume of transportation and the emissions of energy-induced CO<sub>2</sub> caused by transportation. When calculating the total volume of transportation, assess both

the volume of in-house transportation and the transportation of products and services by external operators (consignment etc.) for each means of transportation (automobile, ship, railroad, aircraft, etc.), and then calculate the sum total. The unit should be in ton-kilometer (t x km) or person-kilometer (persons x km).

- (ii) When energy-induced CO<sub>2</sub> emissions are estimated, the amounts of fuels used should be assessed; emissions should be expressed in tCO<sub>2</sub> and estimated by using the emissions coefficients, as stipulated in “the Enforcement Order of the Law Concerning the Promotion of the Measures to Cope with Global Warming.”
- (iii) Although it is difficult to accurately monitor and estimate the transportation of products and services by external operators (consignment), it is best to assess it as accurately as possible. If accurate assessment is difficult, it is acceptable to make estimations for the major products only, or use simulation models for estimations; however, the basis of the estimation needs to be stated.
- (iv) For the transportation of raw materials, fuels etc., it is good practice to separately disclose this information if they are separate to other general cargoes and are delivered by exclusive, chartered or other transportation means. It is good practice to separately disclose the proportion of transportation provided in-house and the proportion provided by external operators, and also give a breakdown of transportation means.
- (v) Improvement of transportation efficiency (unit: %  $\{[\text{transportation t}\times\text{km}] / [\text{capacity t}\times\text{km}] \text{ or } [\text{transportation person}\times\text{ km}] / [\text{capacity person}\times\text{ km}]\}$ ) through joint delivery and return cargo arrangements also contributes to reducing CO<sub>2</sub> emissions and air pollutants; this should also be disclosed.
- (vi) Refer to Material Reference 5. [Common Estimation Examples of Indicators] (available in Japanese only.).

### **Commentary**

In environmentally focused management, it is necessary to consider the environmental impacts of not only the production and use stages but also of the transportation of raw materials and products. Various environment-friendly technologies and transportation methods have been developed in recent years. Methods for reducing environmental impacts should be chosen based on the environmental policies regarding the various transportation modes, such as automobiles, airplanes, and trains.

In order to reduce CO<sub>2</sub> emissions and air pollutants caused by car transportation, it is necessary to reduce the volume of transportation itself as much as possible, in conjunction with the promotion of a modal shift to railroad and ship transportation, the selection of efficient routes by taking into account traffic congestion, reorganization of collection and distribution centers, and the improvement of transportation efficiency through joint delivery and return cargo arrangements.

Enterprises must control and reduce their emissions of greenhouse gases, NO<sub>x</sub>, PM, and the waste generated from packaging materials used in transportation. Furthermore, the Law Concerning the Rational Use of Energy requires cargo distributors, passenger transport

companies, and freight companies above a certain size to formulate plans for the more rational use of energy and report the amount of energy they consume. Organizations engaged in transportation activities are now required to promote the effective use of energy resources and to control the generation of energy-induced CO<sub>2</sub> caused by transportation.

In marine transportation, marine organisms such as shells, algae, and pathogens that get mixed into the ballast water are sometimes carried to other parts of the ocean, where they impact the ecosystem in their new location. It is thus necessary to work towards biological diversity conservation by taking measures to prevent the invasion of foreign species.

**(6) Resource exploitations, real estate development/investment with less environmental impacts**

Include the status of development, taking into consideration the reduction in the environmental impacts of resources and real estate development, environmentally friendly development methods, and methods for evaluating environmental impacts.

Include the status of environmental investment initiatives (e.g., business investment, financing, pension asset management).

**( i )Information and indicators to be disclosed**

- a. The enterprise's policies on environmental initiatives, strategies and plans, goals, results, analyses and evaluations, and improvement measures for resources and real estate development

- The enterprise's policies on and criteria for environmental initiatives.
- The number of construction and development projects that contribute to the reduction of negative environmental impacts
- Percentage of environmentally friendly developments out of overall development (e.g., amount, number of cases)
- Environmentally friendly development methods, results of evaluations of environmental impacts, etc.

- b. The enterprise's policies on environmental initiatives, strategies and plans, goals, results, analyses and evaluations, and improvement measures for investment

- The enterprise's policies on and criteria for environmental initiatives.
- The number of investment projects that contribute to the reduction of negative environmental impacts
- The percentage of environmentally friendly investments out of the overall investments (e.g., amount, number of cases)

**( ii )Information and indicators to be disclosed if material**

Total volume of environmental impacts of development and investments (e.g., estimation of the amount of emissions from construction and funding in the current fiscal year and the emission coefficients for major projects)

The environmental conservation effect due to development and investments that contribute to the reduction of negative environmental impacts

Overview of environment rating methods and methods for evaluating environmental impacts

Status of response to legal regulations and compliance with government standards

The principles and guidelines the enterprise has agreed to comply with (e.g., Equator Principles, Principles for Responsible Investment [PRI], and Principles for Financial Action for the 21st Century)

Note: Depending on the sector and characteristics of the business enterprise, this information may be classified under “(2) Environmental initiatives in purchasing and procurement” or “(3) Environmental initiatives in products and services, etc./research and development” as well.

**[Points to note for reporting]**

- (i) The status of the initiatives designed according to the above criteria as a percentage of total development and investment and an overview of the resulting environmental conservation effect (including estimations) should be included.

### **Commentary**

The Environmental Consideration Law (Article 4) requires all enterprises to take account of environmental information when carrying out investments and other actions. This includes not only investment in plants, equipment, and research and development for environment-friendly products and services but also environmental initiatives concerning the investment and financial transactions involved in the development of the firm's real estate and resources.

Large-scale projects such as resource and real estate development may increase the direct environmental impacts in the development period; after the development, the constructed properties may also generate environmental impacts over the long term. It is thus important to appropriately evaluate the environmental impacts of development and to take initiatives for the reduction of those impacts.

It is likewise expected that the financial markets will also evaluate environmental considerations when making decisions. In many financial institutions such as banks, financing is being made available to projects that contribute to the reduction of negative environmental impacts and of greenhouse gas emissions over the life of the project; such improvements are then announced to the public.

It is strongly expected that pension funds will implement environmentally conscious investment or financing because, as institutional investors, pension and similar funds carry out medium- to long-term investment and financing, which account for most funds in the capital market at home and abroad. Enterprises other than financial institutions should also manage their funds by taking account of the environment.

## **(7) Waste management and recycling**

Include information on the status of environment-friendly and recycled products in their disposal stage

### **( i )Information and indicators to be disclosed**

- a. The enterprise's policies on environmental initiatives, strategies and plans, goals, results, analyses and evaluations, and improvement measures in waste treatment/recycling

- The enterprise's policies on and criteria for environmental initiatives
- The number of categories for implementing waste management and recycling
- Percentage of waste management and recycling processes out of overall waste treatment/recycling processes (e.g., amount, number of cases)
- Methods devised for waste management and recycling and business models

### **( ii )Information and indicators to be disclosed if material**

Total volume of environmental impacts of the disposal of products

Environmental conservation effect due to waste management and recycling

Status of response to legal regulations and compliance with government standards

- Status of outsourcing to an enterprise certified under the Good Industrial Waste Disposal Company Certification System
- Status of re-merchandizing, dismantling, recycling, reusing, or resource-saving based on the recycling laws

### **[Points to note for reporting]**

- (i) Regarding the compulsory amount of merchandizing as stipulated by the Containers and Packaging Recycling Law, the production and usage amount of containers and packaging subject to the law should be estimated.

### **Commentary**

It is necessary to implement environmental initiatives until the final disposal stage of in-house products. Particularly, illegal dumping must not be allowed to impact the environment. Furthermore, in order to reduce the total volume of final waste, recycling at the interim stages is important. These issues should be taken into consideration from the upstream stages (such as the procurement of raw materials) and the design stage in order to ensure that the final waste can be reused as raw material. Moreover, it is necessary to ensure that Japanese products do

not go overseas at the disposal stage to be illegally dumped or cause damage to the regional environment.

The following Laws (such as the Law for the Recycling of Specified Kinds of Home Appliances [Home Appliance Recycling Law ], the Law for the Recycling of End-of-Life Vehicles [ELV Recycling Law] and the Law for Promotion of Sorted Collection and Recycling of Containers and Packaging [Container and Packaging Recycling Law]) require organizations to recycle products that they have produced and sold. Organizations need to respond to so-called extended producers' responsibilities (EPR). It is expected to report the status of initiatives to respond to these recycling laws and any other relevant recycling laws.

In addition, enterprises are expected to include the status of their initiatives flowing from the Law for the Promotion of Recycling and Related Activities for Treatment of Cyclical Food Resources (Food Recycling Law), Construction Material Recycling Law (Construction Recycling Law), the Law for the Recycling of End-of-Life Vehicles (ELV Recycling Law), Act on the Promotion of the Effective Utilization of Resources (Effective Resource Utilization Promotion Act), and other applicable recycling laws.

## **Chapter 6: Information and Indicators on Environmental Impacts of Business Activities and Environmental Initiatives Undertaken to Mitigate Them**

The items below comprise information and indicators on the environmental impacts of business activities and the environmental initiatives undertaken to mitigate them disclosed in environmental reporting. This chapter provides commentary on fundamental concepts and the included information and indicators.

### **1. Resources used and energy consumption**

- (1) Total weight of energy input and reduction measures**
- (2) Total weight of material input and reduction measures**
- (3) Water withdrawal and reduction measures**

### **2. Recycled input resources (within the organizational boundary)**

### **3. Products and services and environmental impacts arising from production**

- (1) Total products manufactured or goods sold**
- (2) Greenhouse gas emissions and initiatives to reduce them**
- (3) Total water discharge and initiatives to reduce it**
- (4) Effluents and nuisance, and initiatives to reduce them**
- (5) Amount of release and transfer of chemical substances and reduction measures**
- (6) Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them**
- (7) Significant spills of hazardous substances and measures taken for preventing them**

### **4. Conservation of biological diversity and the sustainable use of its components**

#### *Note*

The environmental information which can have significant impacts to the local region, such as 「Water withdrawal」, 「Total weight of water discharge」, 「Air pollution and Impacts on the living environment」 and 「Amount of chemical substances' release and transfer」, should be disclosed with figures for each operation site.

## **Common matters in each of the included items in Chapter 6**

\* Excluding the total products manufactured or goods sold

### **( i )Information and indicators to be disclosed**

- a. Policy and plans, goals, initiatives status, and improvement measures related to environmental impact reduction measures
- b. Quantitative information based on total volume and (as necessary) basic units
- c. Supplementary information about the quantitative information

- Aggregate range (boundary) of the quantitative information
- Estimation methods of the quantitative information (e.g., estimation formulas, coefficients)
- Quantitative information that has been examined by a third party

### **( ii )Information and indicators to be disclosed if material**

Supplementary information about the quantitative information

- Differences regarding the aggregate range of the quantitative information
- If the aggregate range or estimation method has been modified, the content of the modification, the reasons for it, and its impact
- Differences from the figures reported to the national government following the laws and regulations
- Information sources for raw data (e.g., places where related information is recorded)
- Breakdown of the information by business, region, scope of activities, etc.

Background information, such as regulatory trends (e.g., material modifications in law revisions)

Environmental impacts and impacts on management during disasters and accidents (e.g., present status, response measures)

The status of the economic and social contexts of environmentally focused management (refer to Chapter 7)

### **[Points to note for reporting]**

- (i) Include the information necessary to ensure that the status of biological diversity conservation, including the input of resources and energy, the recycled input resources, and the output (e.g., emissions) of environmental impacts, is appropriately communicated.
- (ii) In addition to the total volume of environmental impacts, include basic units per unit of business activities (as necessary) according to sector and business characteristics.

- (iii) Include supplementary information about the quantitative information with reference to “Supplementary information about the quantitative information” (p. 75). Note that the information can be presented as a list.
- (iv) In the analyses and evaluations, include analyses of the progress toward the goals (or the causes of failure); in the improvement measures, include information about the enterprise’s policies on environmental initiatives and new goals. All of this information should be specific and easy to understand.
- (v) State that all matters concerning the future were judged to be correct as of the publication date of the environmental report.

## 1. Resources used and energy consumption

### (1) Total weight of energy input and reduction measures

Include the status of the policy on and initiatives for measures aimed at reducing the total weight of energy input.

Furthermore, enterprises are expected to display the input amount of renewable energies in the appropriate categories. It is also useful to include information about energy productivity and the amount of private power generation ongoing within the operational area.

#### ( i ) **Information and indicators to be disclosed**

- a. Policy, plans, targets, status of initiatives, and measures of improvement related to the reduction of total energy input
- b. Quantitative information using total volume
  - Total weight of energy input (joule)
- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

#### ( ii ) **Information and indicators to be disclosed if material**

Quantitative information using basic units

- Basic units of the total weight of energy input

Breakdown of Total weight of energy input (the amount used by type) (joule)

- Purchased electricity (excluding purchased new energy)
- Fossil fuel (e.g., town gas, oil, natural gas, LPG or coal)
- New energy (renewable energy, recyclable energy, new forms of using conventional energy)
- Purchased heat

Breakdown of private power generation (unit: joule, kWh)

- New energy
- Co-generation (e.g., town gas, oil, natural gas, LPG)
- Mono-generation (including fossil fuels and exhaust heat recovery)

Breakdown of the amount of energy sold (unit: joule)

- Amount of electricity sold
- Amount of heat sold

Energy productivity, energy use efficiency, and improvement measures

For other report contents, refer to Common Matters (p. 119).

#### **[Points to note for reporting]**

- (i) The Total weight of energy input should be divided into the amount of electricity and the amount of each category of fossil fuel (included purchase heat). For the measurements, the heat conversion rate based on the detailed enforcement regulations of the Law Concerning the Rational Use of Energy, Annexed Sheets 1, 2 and 3 should be used. For the measurement of new energy, conversion rates

are not provided in the Table of Heat Generation of Energy Sources, When calculating a new energy for which the Table of Heat Generation of Energy Sources does not provide a conversion rate, use a conversion rate of zero for the amount of energy input (because the energy source is natural energy and there are no purchasing costs). However, when estimating the amount of energy input (for example, the amount of energy input by rebating the amount of new energy heat generation by the power generation efficiency), include the conversion method, the conversion rate, and the sources.

- (ii) When converting purchased electricity (kWh) into mega joules (MJ), the conversion rate is 9.97MJ/kWh for electricity used during daytime and 9.28MJ/kWh for electricity used at night, which is based on the detailed enforcement regulations of the Law Concerning the Rational Use of Energy, Annexed Sheet 3. Daytime refers to 8:00 to 22:00 and night means from 20:00 to 8:00 the next day, according to the detailed enforcement regulations under Remark 2 of that specific section of the Law. If daytime and nighttime cannot be calculated separately, assume the Total weight of electricity is used during the daytime. (From Guidelines for Writing Periodical Report based on Article 15 of the Law Concerning the Rational Use of Energy provided by Agency of Natural Resources and Energy.)
- (iii) In the estimation of the amount of energy used in the business site, using 3.6 MJ/kWh is possible; provide a note to that effect. Note that, for disclosure overseas, using the conversion rate of the lower heating value rather than the conversion rate of the higher heating value based on the Table of Heat Generation of Energy Sources is possible; provide a note to that effect.
- (iv) The total energy input should include energy that an enterprise consumed for transportation; however fuel consumption for transportation provided by contractors is classified as another category.
- (v) In addition to the Total weight of energy input, the breakdown of the consumption of electricity and fuels should be assessed.
- (vi) The amount of each energy source may be expressed in appropriate units.
- (vii) The amount of oil and coal consumed as raw material in the production process is considered as a part of the total material input.
- (viii) The amount of electricity sold is generally not offset against the purchased electricity, and the amounts of electricity sold and purchased are each included separately.
- (ix) For other points to note, refer to Common Matters (p. 119).
- (x) Refer to Material Reference 5. [Common Estimation Examples of Indicators] (Omitted in the English version.)

### **Commentary**

Consumption of fossil fuels such as oil, natural gas and coal produce carbon dioxide (CO<sub>2</sub>), which causes global warming. In order to prevent global warming, it is critical to reduce the total energy input, along with moving to change energy sources from fossil fuel to other energy s

ources which emit less CO<sub>2</sub>, including the promotion of the introduction of solar power generation, wind power generation, and biomass energy.

Also, it has become more noticeable that companies are effectively harnessing surplus energy or previously unused heat that used to be simply discharged, and using it as a source of energy on-site within an operation. Some organizations generate power privately by using various kinds of unused energy source within their operation sites; they use the generated power and sell surplus electricity to the power company. Thus, aside from buying electricity from external sources, private power generation is expected to lead to a reduction in energy consumption.

Reference: Related legal regulations or estimation standards in Japan
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○ Act on the Rational Use of Energy (Law Concerning the Rational Use of Energy)
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**(2) Total weight of material input and reduction measures**

Include the status of the policy on and initiatives for the reduction of the total weight of material input. Furthermore, breakdown information on the total weight of material input should be included, and the indicators related to the constraints on the use of natural resources, resource productivity, and rate of recycled and reused resources should be provided.

**( i ) Information and indicators to be disclosed**

- a. Policy, plans, targets, status of initiatives, and measures of improvement related to the reduction of material input (or the purchased amount of main raw materials, etc. including containers and packaging materials)
- b. Quantitative information using the total volume and basic units
  - Total material input (ton or other unit)
  - Breakdown of total material input
  - Basic units of the total weight of material input
- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

**( ii ) Information and indicators to be disclosed if material**

Status of risks related to operations, such as constraints on the procurement or use of natural resources and recyclable resources and the implementation structures for response measures

Percentage of renewable resources out of the total weight of material input

Resource productivity and improvement measures

Rate of recycled and reused resources and improvement measures

Resources consumed as consumables other than products or commodities (excluding containers and packaging materials)

Amount of resources that are owned as capital goods to be input as investment in plant and equipment, etc.

Amount of resources to be input in contracted civil engineering and construction works

Percentage of reusable or recyclable components of each product line

Collected amount of used products, containers, and packages

Amount of reused, recycled, and recovered heat related to collected used

products and containers and packages, and the percentage of each

For other report contents, refer to Common Matters (p. 119)

**[Points to note for reporting]**

- (i) Total material input is calculated by using the following factors: Total weight of resources (materials) excluding energy and water input in activities; types of main resources; and individual state of resources when they were input; amount of input natural resources; and each amount of purchased and stocked main raw materials; products, and commodities.
- (ii) Concerning measurement units, tons are the preferred unit, but any unit commonly used in an industry can be used.
- (iii) For the main breakdown, or categorized resources, of total material input, each amount and percentage of the resources, such as metal, plastic, and rubber, should as far as possible be reported. When reporting only main raw materials and commodities, it is necessary to give a brief specification of raw materials, products, or commodities (including containers and packages) that were not covered and the purchase cost of the reported main raw materials, etc. or products and commodities, as a percentage of the total cost of all materials.
- (iv) Total material input does not include the amount of resources consumed as consumables (excluding materials for containers and packages) other than resources that were purchased and stocked, the amount of resources put in capital investment, etc. as capital goods, or materials recycled inside the facilities of an organization. However, those resources and materials excluded above can be reported separately from the total material input.
- (v) Concerning parts, semi-manufactured products, and completed products, it is best to give a breakdown of their component resources. If this is too difficult, the total weight can be given.
- (vi) It is also possible to base the percentage of renewable resources on statistical materials published by industry organizations.
- (vii) When it is difficult to calculate the total material input, the total amount of manufactured products or that of sold commodities, adding the amount of generated wastes can be used for calculations.
- (viii) Concerning green procurement, the input amount of goods assessed by an organization to be environment-friendly needs to be presented, from among the materials bought for providing products and services, but, it is necessary to clarify the assessment criteria. An organization's consumption should be presented separately as green procurement (purchased amount, etc., of environment-friendly products, services, etc.).
- (ix) The rate of recycled and reused resources is calculated by dividing the recycled and reused amount by the total material input.
- (x) In principle, the amount of collected materials including the products, commodities, and containers or packages of other companies needs to be reported in ton units. However, the amount mentioned above can be reported in other units that are used in actual business practice.
- (xi) Returned products must be classified according to "Total products manufactured or goods sold"(p.132)
- (xii) For other points to note, refer to Common Matters (p. 119).

## **Commentary**

Because the total material input is a necessary indicator for the effective use of the recyclable resources, as well as the reduction of consumption of those natural resources, it is useful to know the kinds of resources included in the total material input, the state of resources when they are input, and each amount of input from natural and recyclable resources.

Switching from non-renewable to renewable natural resources while controlling the consumption of non-renewable natural resources, confirming progress in the cyclical use of used resources (i.e., reusing, recycling, and thermal recycling) by ascertaining the percentage of renewable resources, and reducing the total weight of material input are all necessary for constructing a material-cycle society.

Also, the Fundamental Plan for Establishing a Sound Material-Cycle Society promotes comprehensive and systematic policies on the formation of a sound material-cycle society, by aiming to change the current production and consumption systems to sustainable ones. Goals have been set whereby negative environmental impacts can be reduced while maintaining economic affluence; it is important to monitor the flow of materials in society, and to improve the current input of natural resources and their disposal. Furthermore, three objectives for managing the flow of materials have been established: resource productivity, rate of recycled and reused resources, and final disposal volume. All three should be paid the maximum amount of attention by organizations.

In addition, when organizations determine policies for environmentally friendly initiatives in their activities, they are required to adopt LCA based approaches. It is important to understand the whole picture of the material flow with each item examined at not only the output stage of materials but also the input stage.

Moreover, from the viewpoint of controlling input resources and preventing more wastes from being generated, total material input will increasingly become an important indicator in the future. It may be extremely difficult for some organizations to collect data on total material input, but they are expected to take a step-by-step approach by starting to understand the input amount of resources that are suitable for calculation. It is also expected for industries and enterprises to be engaged in the development of their own appropriate methods of calculating numerical values for the total material input.

## **Input resources categorized by type**

※unit: ton (or other units)

### ○Types of resources

Metal (iron, aluminum, copper, lead, etc.), Plastic, Rubber, Glass, Lumber, Paper, Agricultural produce, etc.

### ○State when materials are input (ton or other units)

Parts(semi manufactured products, completed products, and commodities, etc), Raw material, Ancillary materials, Containers and packaging materials

### ○Other indicators (ton or other units)

Exhaustible natural resources (fossil resources, rare minerals, etc.), Recyclable resources, Renewable natural resources (appropriately controlled agricultural and marine products), Chemical substances (substances, etc. subject to PRTR)

### **(3) Water withdrawal and reduction measures**

Include the status of the policy on and initiatives for water withdrawal and its reduction.

#### **( i )Information and indicators to be disclosed**

- a. Policy, plans, targets, status of initiatives, and measures of improvement related to the reduction of water resources input
- b. Quantitative information using the total volume and basic units
  - Amount of input water resources (m<sup>3</sup>)
  - Basic units of the water withdrawal
- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

#### **( ii )Information and indicators to be disclosed if material**

Breakdown of input water resources (m<sup>3</sup>)

- Clean water, Industrial water, Groundwater, Seawater, River water, Rainwater, etc.

Water withdrawal for each individual business site

For the other matters to be included, refer to Common Items (p. 119)

#### **[Points to note for reporting]**

- (i) It is desirable to calculate the water withdrawal from each water source in addition to the amount of input water resources.
- (ii) As water withdrawal is considered to have significant impacts on local communities, enterprises are expected to publish figures for each business site.
- (iii) Large quantities of seawater are sometimes used for cooling. Though no pollution of seawater occurs through contactless thermal exchange, disclosing exhaust heat in seawater is necessary because it is an environmental impact and is thought to impact biological diversity as well.
- (iv) The amount of input water resources does not include water that is already recycled in facilities of an organization. Such recycled water shall be reported separately from “Recycled input resources (within the organizational boundary)”(P. 130).
- (v) The amount of input water resources should include the total weight of water provided from outside, including water not used in the manufacturing process. For example, the amount of water discharged without having been used in the manufacturing process as purified water after overflowing from the reverse osmosis membrane (R/O) is also included in the amount of input water resources.
- (vi) For other points to note, refer to Common Matters (p. 119).
- (vii) Refer to Annex 5 [Common Estimation Examples of Indicators].(Omitted in the English version)

### **Commentary**

Water resources are indispensable to all life forms and are the basis of all socio-economic systems. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) forecasts that continued global warming will increase water stress for hundreds of millions of people and increase the frequency of droughts and floods, which will have a negative impact on regional crop production, particularly on subsistence crop production in low-latitude regions.

Furthermore, an increase in the demand for grain caused by expanded demand for feed grain is expected between now and 2050, particularly in East Asia, and there are concerns that this could lead to water shortages. There are also concerns that changes in dietary habits resulting from economic growth could impact the supply of and demand for water resources and thus negatively impact broad areas of the environment, the economy, and society.

## 2. Recycled input resources (within the organizational boundary)

The policy, status of initiatives and results related to the material that an organization uses in a recycling-based way in its operational areas needs to be reported separately from the Total weight of materials input from outside the facilities.

### ( i )Information and indicators to be disclosed

- a. Policy, plans, targets, status of initiatives, and measures of improvement related to the recycling-based use of materials (including water resources) in the facilities of an organization
- b. Quantitative information using the total volume and basic units
  - Amount of materials recycled in the facilities of an organization (ton or other unit)
  - Amount of water recycled in the facilities of an organization (m<sup>3</sup>)
- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

### ( ii )Information and indicators to be disclosed if material

Type and amount of each material recycled in the facilities of an organization (ton or other unit)

Breakdown of the amount of water recycled in the facilities of an organization (m<sup>3</sup>)

- Amount of recycled water (in principle, cooling water is not included)
- Amount of recycled wastewater\* in the facilities of an organization

Amount of resources recycled in the facilities of an organization

Amount of resources recycled as heat in the facilities of an organization

For the other matters to be included, refer to Common Items (p. 119)

### [Points to note for reporting]

- (i) Along with the amount of materials and water recycled, a breakdown of the amount reused, recycled, and thermally recycled should also be provided
- (ii) For information about the breakdown by type of materials recycled, refer to [Points to Note for Calculating Indicators] of “Total material input” and “Total weight of waste generated, waste disposed by land filling or incineration ”.
- (iii)The amount of “black liquor” recycled in the paper manufacturing industry, etc. is included.
- (iv)For other points to note, refer to Common Matters (p. 119)
- (v)Refer to , “Common Estimation Examples of Indicators” (omitted in the English version)

### Commentary

As is emphasized in the Fundamental Plan for Establishing a Sound Material-Cycle Society, increasing the input amount of recyclable resources and raising the recycling-based resource use rate is extremely important in reducing the consumption of natural resources and creating a sustainable and sound material-cycle society. Especially, in regards to natural resources, reducing the consumption of exhaustible natural resources and simultaneously cyclical use of used resources (reusing, recycling, and thermal recycling) are all necessary from the viewpoint of constructing a sustainable society.

In addition, scarce water resources have yet to be used more efficiently. Using water resources more efficiently means not only reducing the amount of water resources input from outside the facilities of an organization, but also increasing the rate of recycled and reused resources inside the facilities- all extremely important measures for the establishment of a sustainable sound material-cycle society. Recently, recycled wastewater in particular, which is generated by processing used clean water in the facilities of an organization, has been increasingly subject to recycling.

Reference: related legal regulations and estimation standards in Japan
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○ Fundamental Law for Establishing a Sound Material-Cycle Society
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### 3. Status of manufacturing and of generation of environmental impacts

#### **(1) Total products manufactured or goods sold**

The information about total products manufactured or commodities and services need to be given. The amount of materials used for containers and packages is also useful.

#### **( i )Information and indicators to be disclosed**

- a. Total products manufactured or commodities and services
- b. Supplementary information

- Information about the content and features of environmentally friendly products, goods, and services (for the other matters to include, refer to Common Matters [p. 119])

#### **( ii )Information and indicators to be disclosed if material**

Amount of materials used for containers and packages

For the other matters to include, refer to Common Matters (p. 119)

#### **[Points to note for reporting]**

- (i) Include the totals for the amount of output and provision of products, goods, and services in tons or other units.
- (ii) When reporting only the amount of main products, commodities and services sold, it is necessary to give brief specifications of the products, commodities and services that were not covered for the indicator. Provide the sales of the main products and commodities as a percentage of the total sales.
- (iii) When there is a big difference in the weight of raw materials, semi-manufactured products, and completed products between the beginning and the end of the year, such a difference should be reported.
- (iv) For other points to note, refer to Common Matters (p. 119).

#### **Commentary**

From the standpoint of material balance, the Total products manufactured or sold commodities and services is important as an indicator for output materials. This indicator is also needed in evaluating the environmental impacts caused by the Total weight of input energy and water resources, the amount of greenhouse gas emissions and released chemical substances, and the amount of water discharge and generated wastes, etc.,

From the viewpoint of the need for society-wide reduction of negative environmental impacts and the formation of a sound material-cycle society, it is anticipated that there will be an increase in the amount of production and sales of products that help reduce energy consumption and waste during use and that can be recycled and reused at the end of their own lifecycle.

## **(2) Greenhouse gas emissions and initiatives to reduce them**

Reporting needs to include the amount of greenhouse gas emissions (converted to tons of CO<sub>2</sub>, each amount of the six substances subject to the Kyoto Protocol), types of substance classified by emission source, a policy and status of initiatives related to the reduction of the substances.

### **( i )Information and indicators to be disclosed**

- a. Policy, plans, targets, status of initiatives, and improvement measures related to the reduction of greenhouse gas emissions.
- b. Quantitative information using total volume and basic units
  - Total weight of greenhouse gas emissions (using a breakdown of both the domestic and overseas amounts)
  - Greenhouse gas emissions basic units
  - Amount of the greenhouse gas reduction
- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

### **( ii )Information and indicators to be disclosed if material**

Regarding the CO<sub>2</sub> emission coefficient of electricity, include the information users require to identify the coefficients, such as their number and types, the fiscal year in which the emission coefficients were applied, and whether they were applied at the use end or the power generation end.

When an organization has been using the Kyoto Mechanisms, include details on how it was used and the amount of reduced gases (e.g., acquired credit)

For other points to note, refer to Common Matters (p. 119).

### **Commentary**

- (i) Greenhouse gases to be reported are energy-derived and non-energy-derived CO<sub>2</sub>, methane, nitrous oxide, and three CFC alternatives (hydro-fluorocarbon[HFC], per-fluorocarbon[PFC], and sulfur hexafluoride[SF<sub>6</sub>]).
- (ii) The amount of greenhouse gas emissions needs to be reported as the sum total of each greenhouse gas emitted through business activities and the main breakdown of the gases. The sum total and each amount of greenhouse gases are converted to the amount of carbon dioxide and reported in ton-CO<sub>2</sub> conversion or ton-CO<sub>2</sub>e units (hereafter referred to as “ton-CO<sub>2</sub> conversion”). When the amount of greenhouse gas emissions other than CO<sub>2</sub> is extremely small, however, only the amount of emitted CO<sub>2</sub> needs to be reported.
- (iii) For the main breakdown of the amount of greenhouse gas emissions, the breakdown by type of greenhouse gases and the breakdown of emission activities that were subject to calculation need to be reported as far as possible.
- (iv) When an organization has been using the Kyoto Mechanisms or when it is

participating in the offset credit system (J-VER), domestic credit system, etc., or when it is utilizing Tradable Green Certificates, etc. as measures to reduce greenhouse gas emissions, include the details on how they were used and the amount of reduced gases (or acquired credit).

- (v) When measures have been introduced to reduce greenhouse gas emissions, there would be many different methods and opinions as to the best way to evaluate their efficiency, but, it is important to choose a method that is appropriate to the individual circumstances. For example, in addition to a method of calculating the difference in the amount of greenhouse gas emissions before and after measures were implemented, when it is assumed that the implementation of any measures to a power supply will show a reduction in the time period, there is a method for calculating any reductions by multiplying the reduction in electricity by the CO<sub>2</sub> emission coefficient of the power supply.
- (vi) When an organization emits greenhouse gases in a facility in a foreign country, the amount of emissions needs to be calculated according to the emission coefficients of that country, if such coefficients have been determined.
- (vii) When the Total weight of input energy is only purchased electricity, it can be reported along with the amount of emitted energetic origin CO<sub>2</sub>.
- (viii) In calculating the amount of greenhouse gas emissions derived from the use of electricity, when no CO<sub>2</sub> emission coefficient of electricity in the target year has been announced, the most recently announced emission coefficient can be used. To report the amount of emitted CO<sub>2</sub> during the periods of the succeeding year and later, the amount of emitted CO<sub>2</sub> of the target year can be calculated again with any newly announced CO<sub>2</sub> emission coefficients being used. Furthermore, in addition, there is the concept of disclosing the amount of CO<sub>2</sub> emissions one year later than publication of the environmental reporting, just as in the Global Warming Countermeasures Act, because the emissions are not finalized at the time of publication.
- (ix) Regarding the CO<sub>2</sub> emission coefficient of electricity, include the information necessary for the information users to identify the coefficients, such as the actual number and types of coefficients, the fiscal year in which the emission coefficients were applied, and whether they were applied at the use end or the power generation end, etc.
- (x) For other points to note, refer to Common Matters (p.119).
- (xi) Refer to Annex 5 [Common Estimation Examples of Indicators]. (omitted in the English version.)

### **Commentary**

Global warming is a phenomenon whereby certain gases create a greenhouse effect. With the development and expansion of human activities, greenhouse gases such as carbon dioxide (CO<sub>2</sub>) and methane are emitted into the atmosphere in large quantities, thus adding to the concentration of previously emitted gases and raising the average temperature of the entire planet.

Global warming may have serious consequences, such as rising sea levels and consequent

water damage, reduced agricultural production, the expansion of areas exposed to infectious diseases, and the extinction of species caused by changes to their natural habitats.

The United Nations Framework Convention on Climate Change took effect in 1994 with the goal of stabilizing the concentration of greenhouse gases in the atmosphere. In the third conference of the parties to the convention (CoP3) held in Kyoto in 1997, the Kyoto Protocol, requiring industrialized countries to reduce greenhouse gases by a specified percentage of the amount of those emitted in the base year (1990) during the first commitment period (2008–2012), was adopted.

Furthermore, at the COP17 of November 2011, progress was made toward building a global framework with the goal of reducing greenhouse gases, as a broad agreement was reached that a framework should be established as soon as possible and no later than the end of 2015, with the new framework to take effect in 2020

Reference: Related legal regulations or estimation standards in Japan

- Act on Promotion of Global Warming Countermeasures (Global Warming Countermeasures Act)
- For details on the estimation methods for the amount of greenhouse gas emissions, refer to “The Calculating and Reporting Manual for Greenhouse Gas Emissions” of the Ministry of the Environment.

Ministry of the Environment: “The Calculating and Reporting Manual for Greenhouse Gas Emissions”

<http://ghg-santeikohyo.env.go.jp/manual>

### **(3) Total water discharge and initiatives to reduce it**

Include the status of the policy on and initiatives for total water discharge, the concentration of the items (hazardous substances) in wastewater the release of which is controlled by law for each discharge destination, and the amount of water pollution impacts and reduction measures.

Furthermore, include information about the impacts on regions and rivers of the withdrawal and discharge of water and the environmental initiatives undertaken in this area.

#### **( i )Information and indicators to be disclosed**

- a. Policy, plans, targets, status of initiatives, and measures of improvement related to the reduction of the amount of discharged wastewater
- b. Quantitative information using total volume

- Total weight of discharged wastewater (m<sup>3</sup>)
- Concentration of emissions of the items (hazardous substances) in wastewater the release of which is controlled by law and the extent of the water pollution impacts

- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

#### **( ii )Information and indicators to be disclosed if material**

Basic units of total water discharge

Breakdown of the amount of wastewater by discharge destination (m<sup>3</sup>)  
— Rivers, Lakes and marshes, Sea areas, Sewage, etc.

Breakdown of total water discharge (according to sector and business characteristics)

Breakdown of water discharge by individual business site

Amount of thermal effluent and that of cool effluent used in the process of using water in the sea, rivers, lakes and marshes, etc. (mainly for thermal exchange) and the average temperature difference between the two effluents.

For the other matters to be included, refer to Common Matters (p. 119)

#### **[Points to note for reporting]**

- (i) The Total weight of discharged wastewater needs to be reported as the sum total of wastewater discharged as the result of business activities and the main breakdown of the wastewater should be reported in units of cubic meters. For the

main breakdown of the Total weight of discharged wastewater, discharge destinations, such as rivers, lakes and marshes, sea areas, sewage, etc., need to be reported.

- (ii) Water discharge is considered to have significant impacts on local communities; thus, enterprises are expected to publish a breakdown of the figures for each business site
- (iii) When the amount of discharged wastewater has not been physically measured using as a flow meter, for example, the amount needs to be calculated using a rational method. In this case, a note needs to be added that the disclosed amount of wastewater is not based on an actual measurement, along with the method used to calculate the amount.
- (iv) Regarding the water pollution impacts, include the concentration (average and maximum values) of hazardous substances in wastewater (which are classified into health items\*, living environment items\*, and dioxins) the release of which is controlled by the Water Pollution Control Law and the Law Concerning Special Measures Against Dioxins as well as the pollutant discharge load of the substances subject to the total volume control of the Water Pollution Control Law. Note that, to show the status of the firm's compliance with the items controlled by law, the regulatory values for the items controlled by law (including conventions and agreements) should be correlated with the concentration of emissions (maximum values) for each business site.
- (v) Among the items (hazardous substances) in wastewater the release of which is controlled by law, the concentration of each health item and living environment item (other than pH and total coli form) needs to be reported as units of milligrams per liter (mg/l), and the concentration of dioxins needs to be reported as units of picograms per liter (pg-TEQ/l).
- (vi) Include the extent of the impacts from water pollution without adding the impacts of pollution caused by discharging water into the sewers because such water is not discharged into public waters unchanged.
- (vii) The pollutant discharge load caused by wastewater discharged from the total pollutant load control area needs to be reported in tons or other unit.
- (viii) The large amounts of thermal effluent and cool effluent caused by the thermal exchange of seawater, etc. should be disclosed by multiplying the annual water discharge by the annual average temperature difference (the difference between the temperature of the withdrawn water and the temperature of the discharged water) to calculate the amount of heat discharged into the waters corresponding to the input energy. There are concerns that large amounts of thermal effluent and cool effluent could have an impact on biodiversity.
- (ix) For other points to note, refer to Common Matters (p. 119).
- (x) Refer to Annex 5, "Common Estimation Examples of Indicators" (omitted in the English version)

## **Commentary**

Water is the source of life. There are 1.4 billion cubic kilometers of water on the planet, but most of this is seawater, with fresh water accounting for no more than 2.5%. Moreover, most of the fresh water is in ice form at the south and north poles, with the fresh water in rivers and lakes accounting for just 0.01% of the water on the planet. In order to secure a healthy water cycle and maintain good water quality, it is necessary to control the impacts on the environment caused by our water use.

Criteria for protecting human health and to conserve the living environment from water pollution have been set as environmental quality standards. In order to meet these standards and prevent water pollution, according to the Water Pollution Control Law, 27 health items and 15 living environmental criteria have been set for controlling wastewater discharged from factories and business establishments.

It is thought that wastewater discharge control methods using bio responses (bioassays) are effective ways of comprehensively evaluating the presence of toxicity in the chemical substances contained in wastewater discharged from factories and businesses and of measuring their impact on organisms. Methods of measuring the burden (or stress) on rivers and drainage basins caused by the use and discharge of water are being reviewed internationally. If the results of these kinds of new measurement methods are judged to be significant, the nature of the methods should be disclosed.

Moreover, the impact on regions and rivers of water withdrawal and wastewater discharge as well as the environmental initiatives undertaken should also be included.

Reference: Related legal regulations or estimation standards in Japan
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| <ul style="list-style-type: none"><li>○ Water Pollution Control Law (Water Pollution Law)</li><li>○ Sewerage Act</li></ul> |
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**(4) Effluents and nuisance, and initiatives to reduce them**

The status of the achievement of emission control targets, how air pollutants were emitted, and measures to prevent the emission of pollutants need to be reported, along with the status of noise, vibrations, and offensive odors, and reduction measures.

Furthermore, initiatives to improve the thermal environment of urban areas by alleviating the heat island phenomenon should be reported.

**( i )Information and indicators to be disclosed**

a. Policy, plans, goals, status of initiatives, and improvement measures for the prevention of the emission of air pollutants and measures to reduce noise, vibrations, and offensive odors

b. Quantitative information using the total volume, concentration, etc.

- Each released amount (in tons) of sulfur oxides (SOx), nitrogen oxides (NOx), and volatile organic compounds (VOCs) according to the Air Pollution Control Law
- Status of noise, etc. generated (in decibels) according to the Noise Regulation Law
- Status of vibrations, etc. generated (in decibels) according to the Vibration Regulation Law
- Status of offensive odors, etc. generated (specified offensive odor substance concentration or odor index) according to the Offensive Odor Control Law

c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

**( ii )Information and indicators to be disclosed if material**

Breakdown of the emission amounts for each business site

Status of environmental measures being taken for buildings and structures, which lead to the improvement of the surface covering of urban areas, such as greening of rooftops, walls, and grounds, highly reflective coating, water-retentive paving and so on.

Status of environmental measures being taken for buildings, etc. with geothermal heat, river water, etc. used to reduce atmospheric anthropogenic exhaust heat, such as air conditioner exhaust heat

For the other matters to be included, refer to Common Matters (p. 119)

**[Points to note for reporting]**

(i) The status of noise, vibration, and offensive odors being generated and reduction measures needs to be reported when an organization is located in a region

specified by the governor of each prefecture.

- (ii) For information about SO<sub>x</sub>, NO<sub>x</sub>, and VOC, refer to Annex 5 [Common Estimation Examples of Indicators].(omitted in the English version)
- (iii) Air pollution and its concentration in and impacts on the living environment are considered to significantly affect local communities. Thus, enterprises are expected to publish the regulatory values, maximum concentrations, and extent of pollution impacts for each business site.
- (iv) In measurement certification, the concentration converted into the stipulated residual oxygen concentration (i.e., the O<sub>2</sub> conversion concentration) is included for each piece of equipment to allow comparison with the regulatory values. It is thus necessary to ensure that the concentration multiplied by the amount of exhaust gases in the estimation of the amount of pollution impacts is the actually measured concentration, rather than the O<sub>2</sub> conversion concentration.
- (v) For other points to note, refer to Common Matters (p. 119)

### **Commentary**

Nitrogen oxides, such as nitrogen monoxide and nitrogen dioxide, are generated mainly by the combustion of materials, and the main sources of NOx generation are stationary sources, such as factories, and mobile sources, such as vehicles. NOx and VOCs are precursors to photochemical oxidants, suspended particulate matter (SPM), and acid deposition.

While the generation of noise and vibration is limited to the surrounding area in proximity to their source, they often exist widely where people carry out activities. Therefore, protecting the living environment from the negative impacts of noise and vibration from factories/facilities, construction work, vehicles, airplanes, trains and so on is a big issue to solve.

Since 2006, the number of complaints about noise has been decreasing. Complaints against factories/facilities now account for more than 30% of all complaints, and complaints against construction work account for a little less than 30% of the total. In recent years, low frequency noise has also become a big issue. In addition, concerning the number of complaints against each vibration-generating source, construction work receives the most complaints that occupied about 60% and factories/facilities come next. These sources are still the major cause of all complaints.

Complaints about offensive odors have been declining since fiscal year 2003; in fiscal year 2009, the number of complaints about offensive odors declined for the sixth consecutive year. Outdoor incineration generates the greatest number of complaints. Complaints about food manufacturing and other manufacturing plants have been declining, while complaints about service industries have been increasing.

Reference: Related legal regulations or estimation standards in Japan
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| <ul style="list-style-type: none"><li>○ Air Pollution Control Law</li><li>○ Noise Regulation Law</li><li>○ Vibration Regulation Law</li><li>○ Offensive Odor Control Act</li></ul> |
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**(5) Amount of released and transferred chemical substances and reduction measures**

Needless to say the chemical substances controlled by these laws, the released amount, transported amount, and the status of each chemical substance being managed by an organization need to be reported.

**( i )Information and indicators to be disclosed**

- a. Policy, plans, goals, initiatives status, and improvement measures regarding the management of chemical substances, measures to reduce the released and transferred amount of chemical substances, the replacement of current chemical substances with safer substances, safety measures, etc.
- b. Quantitative information using the total volume and basic units

- Released and transferred amount of chemical substances subject to the PRTR system based on the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (unit: kiro)
- Concentration of specified substances when released into the atmosphere (benzene, trichloroethylene, and tetrachloroethylene) among hazardous air pollutants controlled by the Air Pollution Control Law
- Status of soil and groundwater pollution
- Status of pollution by dioxins controlled by the Law concerning Special Measures against Dioxins
- Concentration of hazardous substances contained in wastewater and specified underground infiltrated water

- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

**( ii )Information and indicators to be disclosed if material**

Production volume, import volume, transaction volume, average storage volume, maximum storage volume (unit: ton), applications, etc. of chemical substances

The amount of released and transferred chemical substances and the above basic units for each business site

Status of risk communication concerning chemical substances (number of briefings held, etc.)

Status of how substances subject to the Japan Challenge Program have been handled and the status of how the safety information on the substances has been collected (sponsor registration and the number of substances for which a safety information collection program and a report have been submitted)

The Japan HPV Challenge Program (A joint program among the private

and the public sectors for collecting and releasing safety information of Japan HPV existing chemical substances)

Collecting safety information about handled substances and carrying out risk assessment (substance name, number of handled substances, etc.)

Policies and initiatives concerning the transmission of information on chemical substance hazardousness from the upstream (chemical substance manufacturer, etc.) to the downstream (molded article manufacturer, etc.) in product lifecycle.

Policies and initiatives concerning the transmission of information on applications of chemical substances from downstream to upstream

Status of response to related overseas legal regulations (e.g., RoHS, REACH)

For the other matters to be included, refer to Common Items (p. 119)

**[Points to note for reporting]**

- (i) When reporting information on chemical substances, while referring to the materials notified based on the PRTR system, the released and transferred amount of only those chemical substances whose transaction volume and purchased volume are large, or ones that are highly dangerous and may have a significant influence on stakeholders, needs to be reported with the released and transferred amount of a substance separated from the data of other substances. In addition, the average and maximum storage volumes should also be reported.
- (ii) Regarding the released and transferred amount of chemical substances (particularly the released amount), enterprises are expected to include the status of voluntary management by business sites and disclose the figures for each business site in order to provide relevant information to the residents living in the vicinity of the site.
- (iii) There are five ways of calculating the released and transferred amount of substances subject to the PRTP.
  - Using the material balance
  - Using an emission factor
  - Using an actual measurement value
  - Using a physical property value
  - Others
- (iv) For details on methods of calculating the amount of substances subject to PRTR, refer to the *Manual for Calculating Released Amount, etc. of Substances Subject to PRTR* by the Ministry of Economy, Trade and Industry and the Ministry of the Environment.
- (v) The released amount (including any leaked amounts), collected amount (amount given to a collection trader according to the Fluorocarbons Recovery and Destruction Law), and any destroyed amount (amount given to a destruction trader according to the same Law, which is included in the collected amount) of fluorocarbons subject to the Law for Ensuring the Implementation of Recovery and Destruction of Fluorocarbons concerning Specified Products (Fluorocarbons Recovery and Destruction Law) should be reported as much as possible. In addition, concerning the released amount, CFC and HCFC needs to be described as substances subject to the PRTR, and HFC should be described as a greenhouse gases.
- (vi) The released amount of any other chemical substances and the released amount of any substances specified by relevant laws are required to be calculated.
- (vii) Concerning the status of soil and groundwater contamination, organizations should describe the results of any research in accordance with the Soil Contamination Countermeasures Law or any tests they have conducted on their own initiative.
- (viii) For other points to note, refer to Common Matters (p. 119).
- (ix) Refer to Annex 5, “Common Estimation Examples of Indicators” (omitted in the English version)

## Commentary

In modern society, a wide variety of chemical substances are manufactured in large quantities and widely used in a variety of situations. In addition, some unintended chemical substances, such as dioxins, are generated. Some chemical substances, when they are not appropriately managed in the process of manufacture, distribution, use, or disposal, may cause environmental pollution and have a hazardous impact on human health and the ecosystem.

It is important for organizations to conduct risk communication by holding briefings for local residents so that confidence in their activities can be increased and their attitudes and initiatives toward the management of chemical substances can be socially evaluated. Therefore, it is good practice to disclose the released and transferred amount of substances subject to PRTR and to explain any measures they are focusing on.

In addition, the coverage of regulations for chemical substances contained in products is also expanding. In Europe, electrical and electronic products and automobiles containing certain hazardous chemical substances are prohibited (under the RoHS and ELV directives), and the REACH rules comprehensively regulating chemical substances also require notification and the transmission of information regarding molded products containing high-concern substances. In response, the related industries and industry-wide organizations are undertaking voluntary initiatives to promote the transmission and management of information about chemical substances in products.

Reference: Related legal regulations or estimation standards in Japan
<ul style="list-style-type: none"><li>○ Law Concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.(Chemical Substance Evaluation Law)</li><li>○ Air Pollution Control Law</li><li>○ Water Pollution Control Law</li><li>○ Soil Contamination Countermeasures Law</li><li>○ Law Concerning Special Measures Against Dioxins (Dioxins Law)</li><li>○ Law concerning Reporting, etc. of Release to the Environment of Specific Chemical Substances and the Promoting Improvements in Their Management (Chemical Substance Management Law)<ul style="list-style-type: none"><li>- PRTR system (Pollutant Release and Transfer Register system)</li><li>- MSDS (Material Safety Data Sheet) system</li></ul></li></ul>

**(6) Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them**

Include the policy on and status of initiatives for the total weight of waste generation and the final disposal amount.

**( i )Information and indicators to be disclosed**

a. Policy, plans, goals, status of initiatives and improvement measures for the control and reduction of the generation of waste, management methods, treatment and disposal methods, recycling measures, etc.

b. Quantitative information using the total volume and basic units

- Total weight of discharged wastes (unit: ton)
- Amount of final disposal wastes (unit: ton)
- The above basic units

c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

**( ii )Information and indicators to be disclosed if material**

Dealing with extended producers' responsibility

Breakdown of the methods of treating wastes, etc.

Main breakdown of the Total weight of discharged wastes, etc. (including valuable resources)

Breakdown of the amount of final disposal wastes

- Amount of industrial waste directly landfilled (amount of final disposal wastes calculated by the manifest system)
- Amount of waste disposed in landfill sites
- Residual amount of industrial wastes left after intermediate treatment and that of the same wastes left after recycling, both of which are expected to be land filled
- Amount of municipal solid wastes to be land filled and that of the same wastes expected to be land filled after intermediate treatment and recycling

How an organization has been involved in the reduction, recycling, etc. of construction wastes as a purchasing party.

Number of issued manifests and the status of how the electronic manifest system has been used

For the other matters to be included, refer to Common Items (p. 119)

**[Points to note for reporting]**

- (i) The Total weight of discharged waste etc., needs to be reported as the sum total of type of waste etc., generated by business activities and the main breakdown of the type of waste should be reported in tons. The Total weight of discharged waste, etc. needs to be calculated by adding up the weights of the type of waste that an organization has discharged and carried out from its facilities (out of its control), excluding those shipped for the provision of products and services, and the weight of the waste that an enterprise landfilled in its own sites.
- (ii) For the main breakdown of the Total weight of discharged waste etc., it needs to be reported whether the waste is municipal solid waste (specially controlled municipal solid waste among them) or industrial waste (specially controlled industrial waste among them). In addition, when the specially controlled municipal solid and industrial waste may affect the judgment of stakeholders, the contents of the types of waste, main causes of their generation related to business activities, and the status of how they have been treated needs to be reported.
- (iii) If, as a measure to reduce the amount of waste generation or the final disposal amount, an organization is responding to the extended producers' responsibilities (EPR) or has been involved in the reduction, recycling of construction wastes as a purchasing party, include the relevant information.
- (iv) The amount of final disposal waste to be reported (in tons) includes the amount of landfilled waste etc., and the residue expected to be landfilled after intermediate treatment and recycling, and as far as possible, the breakdown of the amount. However, when the amount of discharged municipal solid waste is extremely small, only the amount of landfilled industrial waste calculated using the industrial waste manifest system and the residue left after intermediate treatment and recycling can be reported.
- (v) For the breakdown of the amount of final disposal waste, the weight of the waste needs to be calculated by adding up the weight of each waste to which an organization gave final treatment (landfilling, etc.) in its own landfill site.
- (vi) The amount of waste that went to a landfill includes any residue expected to be landfilled after the reuse, recycling, thermal recycling, and simple incineration of most of the waste, but it should be calculated and disclosed separately from the amount of waste that was landfilled to which the final disposal operation is performed directly. If any residue cannot be calculated, the reason needs to be made clear.
- (vii) The breakdown of the method of treating waste etc., consists of the amount of recyclable resources to be reused, recyclable resources to be recycled, recyclable resources from which heat is recovered, and waste that is simply incinerated with no thermal recycling carried out. The status of initiatives to reduce the amount of final landfill waste and that of waste to be incinerated, for example, by transporting the waste to a biomass power generation facility also needs to be reported.

- (viii) The amount of waste recycled does not include materials that are recycled in the facilities of an organization. Information about recyclable resources to be reused or recycled in the facilities of an organization shall be reported in “Recycled input resources (within the organizational boundary) (P. 130).
- (ix) The amount of recyclable resources to be reused or recycled is calculated by adding up the weight of each resource that was reused or recycled among recyclable resources that discharged and removed from its facilities (out of its control).
- (x) The amount of construction waste materials considerably increases in the fiscal year during which the facilities or equipment are rebuilt or demolished, as they are generated after the rebuilding or demolition of facilities/equipment and factories/business establishments. As construction waste is composed of both production goods and capital goods, this amount needs to be excluded from the total weight of discharged waste and be calculated separately. It is also a good practice to provide a note about the total weight of the construction waste materials. The same process is necessary for the large quantities of waste produced by natural disasters and accidents.
- (xi) For other points to note, refer to Common Matters (p. 119).
- (xii) Refer to Annex 5 [Common Estimation Examples of Indicators]. (omitted in the English version.)

## Commentary

Conventional mass production and consumption socioeconomic activities have produced a mass disposal society and have hindered the sound circulation of materials. Moreover, they are closely related to the global warming problem caused by greenhouse gas emissions, the depletion of natural resources, the destruction of nature due to the large-scale extraction of resources, and the worsening of global environmental problems.

In Japan, initiatives for creating a material-cycle society that extracts as few new resources as possible and reduces environmental impacts as much as possible are being advanced through the control of waste generation and the use of recyclable resources throughout all stages of social and economic activities, based on the Fundamental Law for Establishing a Sound Material-Cycle Society established in 2000 and the Second Fundamental Plan for Establishing a Sound Material-Cycle Society in Japan formulated in 2008.

To meet emitters' and extended producers' responsibilities (EPR), enterprises are required to promote initiatives for the proper recycling and disposal of waste while enhancing their transparency by building information networks with consumers and publishing information.

As shown in the Basic Environment Plan and the Fundamental Law for Establishing a Sound Material-Cycle Society, measures to treat and recycle waste should be taken in consideration using the following order of priority: (1) preventing waste etc., from being further generated, (2) reusing used products and parts, (3) recycling collected waste as raw materials (material recycling), and (4) recovering heat from waste (thermal recycling). Materials regarded as waste even after these processes have been applied need to be appropriately treated (Note that following the priority order above may be traded off against environmental impacts other than waste, however, the priority order will not necessarily be followed in some cases).

<p>Reference: Related legal regulations or estimation standards in Japan</p>
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| <ul style="list-style-type: none"><li>○ Waste Management and Public Cleansing Act (Waste and Cleansing Act)</li><li>○ Act on the Promotion of Effective Utilization of Resources (Effective Resource Utilization Promotion Act)</li><li>○ Law for the Promotion of Sorted Collection and Recycling of Containers and Packaging (Container and Packaging Recycling Law)</li><li>○ Law for the Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law)</li><li>○ Act on the Promotion of Recycling and Related Activities for the Treatment of Cyclical Food Resources (Food Recycling Law)</li><li>○ Construction Material Recycling Act (Construction Recycling Act)</li><li>○ Act on Recycling of End-of-Life Vehicles (Vehicle Recycling Act)</li></ul> |
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**(7) Significant spills of hazardous substances and measures taken for preventing them**

Include the policy on and status of initiatives for preventing the leakage of hazardous substances that could expose the surrounding environment to danger if the substances were leaked during a disaster or accident (including dangerous materials).

Note that, if a leakage of hazardous substances has occurred, include information about the amount of the leakage.

**( i )Information and indicators to be disclosed**

- a. Policy, status of initiatives and improvement measures for the prevention of hazardous substance leakages
- b. If a leakage of hazardous substances due to a disaster or accident has occurred, the amount of the leakage and the status of the response to the leakage

**( ii )Information and indicators to be disclosed if material**

Breakdown of the amount of each hazardous substance stored at each business site

**[Points to note for reporting]**

- (i) Matters regarding preventing the leakage of hazardous substances are classified under Chapter 5, 2. (2), “Environmental risk management structuressystem” as well. “Hazardous substances” refers to materials and goods that could cause significant harm to the health of nearby people, plants, animals, the ecosystem, or property if leaked during a disaster or accident; this includes specially controlled industrial waste (e.g., asbestos, PCB [polychlorinated biphenyl]), high-pressure gasses, and dangerous and radioactive materials.
- (ii) The amount of the leakage can be calculated based on the estimated value of the stored amount unaccounted for, in which case, it is necessary to include the estimation methods. If the leakage amount cannot be determined due to the difficulty of estimating it, include a statement to that effect and the reasons for the difficulty.
- (iii) Stored amounts may be included based on the figures and other data provided to administrative agencies (through notifications based on the Act on Special Measures concerning the Promotion of the Proper Treatment of PCB Wastes)
- (iv) For the stored amount of hazardous substances, both the maximum and average stored amounts in the year should be included.

### **Commentary**

Significant damage to local communities can occur through the destruction or leakage of transformers containing PCB or heavy oil tanks or the emission of radioactive materials during accidents caused by natural or other disasters. If a leakage of hazardous substances has occurred due to a disaster or accident, the lives of people in local communities will be endangered. Furthermore, if the leakage covers a wide area, an enormous long-term impact (including on organisms) is anticipated.

For this reason, it is necessary to communicate to stakeholders the status of leakage prevention measures in anticipation of these kinds of situations. Furthermore, if such a situation has occurred, the enterprise must report the amount of the hazardous substance leakage in a timely manner in order to communicate the impact of the damage.

In addition, any enterprise storing these hazardous substances should include information about the amount of the hazardous substances they are storing. Note that it is useful to report the types of hazardous substances for which the stored amount is included with links to the PRTR system.

<b>Reference: Related legal regulations or estimation standards in Japan</b>
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- |  |
|--|
| <ul style="list-style-type: none"><li>○ Air Pollution Control Law</li><li>○ Fire Service Act</li><li>○ Water Pollution Control Law</li><li>○ Law on Industrial Safety and Hygiene</li><li>○ Poisonous and Deleterious Substances Control Act</li><li>○ High-Pressure Gas Safety Act</li><li>○ Act on Special Measures Concerning the Promotion of the Proper Treatment of PCB Wastes</li><li>○ Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors</li></ul> |
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#### **4. Status of biological diversity conservation and the sustainable use of biological resources**

Include the policy on and the status of initiatives for biological diversity conservation and the sustainable use of biological resources as well as the fair and equitable sharing of any benefits derived from genetic resources.

##### **( i )Information and indicators to be disclosed**

- a. Policy, plans, goals, status of initiatives, and improvement measures for biological diversity conservation and the sustainable use and fair and equitable sharing of any benefits derived from genetic resources (including social contributions not directly related to the business)
- b. Quantitative information using the total volume and basic units
  - Quantities with an impact on biological diversity conservation and sustainable use
  - Quantities with an impact on biological diversity conservation and sustainable use
- c. Supplementary information about the quantitative information (for report contents, refer to Common Matters [p. 119])

##### **( ii )Information and indicators to be disclosed if material**

Information showing the relationship between business activities and biological diversity

For the other matters to be included, refer to Common Matters (p. 119)

##### **[Points to note for reporting]**

- (i) Include the major impacts on ecosystems and wildlife caused by business activities throughout the entire value chain, including raw materials procurement, the status of dependence (if the industry sector has a large impact, include both the present and future impacts of the activities), and the initiatives undertaken to avoid or mitigate any impact on biological diversity potentially caused by business activities
- (ii) The issues to be considered when discussing biological diversity conservation and sustainable use include a regional focus and wide-area and global awareness, collaboration with and consideration of diverse stakeholders, social contributions, the relationship to global warming and other environmental measures, the value chain, prior reviews of the impact on biological diversity of business activities, and the initiatives undertaken based on the characteristics and scale of the enterprise.
- (iii) When procuring raw materials, sometimes it might be difficult to assess the impact on biological diversity; however, from the viewpoint of value chain

management and green purchasing and procurement, it is expected that organizations will take steps to clarify their policies for purchasing or procurement

(iv) For other points to note, refer to Common Matters (p. 119).

## **Commentary**

We could not maintain our lives without the various gifts of nature (or ecosystem services) such as water, air, food, textiles, wood, fuel, pharmaceuticals, a stable climate, natural disaster prevention, and new technologies inspired by natural mechanisms. Enterprises play an important role in supplying these gifts of nature to society through products and services. Even the activities of enterprises that do not handle biological resources directly receive the benefits of biological diversity indirectly or have an impact on biological diversity. It is necessary for enterprises to ascertain the impact of their own business activities on biological diversity and reduce their impact on biological diversity and work for sustainable use through raw materials procurement and the use of genetic information.

On the other hand, there are always risks and opportunities in the conservation of “biological diversity” and the sustainable use of “ecosystem services” that depend on biological diversity as their infrastructure. For example, reviewing raw materials procurement from the viewpoint of biological diversity requires additional costs, but doing this will stabilize management due to the reduction of the risks relating to raw materials procurement. Thus, initiatives related to biological diversity are important as resource strategies as well.

At the 1992 Earth Summit, the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity were adopted, introducing provisions on three points: (i) conservation of biological diversity, (ii) the sustainable use of the components of biological diversity, and (iii) the fair and equitable sharing of the benefits arising from the use of genetic resources.

At the tenth meeting of the Conference of the Parties to The Convention on Biological Diversity (COP10) held in Nagoya in 2010, the Aichi goals, comprising 20 individual goals for halting biological diversity loss, and the Nagoya Protocol on genetic resources and the fair and equitable sharing of the benefits arising from their use were adopted. Enterprises have an impact on biological diversity and receive its benefits in a variety of ways, including raw materials procurement and the utilization of genetic information. When procuring or using biological resources from other countries, firms must consider sharing the benefits obtained from their use.

Biological diversity is established by maintaining delicate balances. Many phenomena are not yet understood by science, and it is difficult, perhaps impossible, to restore biological diversity once it has been lost. Thus, in addition to taking precautionary measures, it is necessary to continuously monitor the status of biological diversity while responding adaptively by adjusting the responses. Furthermore, the impacts of business activities on biological diversity occur through various complexly related factors, and the impacts emerge over the long term. When tackling biological diversity conservation and sustainable use, therefore, it is necessary to pursue ecosystem conservation and restoration from a long-term perspective.

Many methods of proceeding with the initiatives could be used depending on the characteristics and scale of the company. Companies that have just begun are expected to start by expressing their intention to tackle biological diversity conservation and sustainable use and then undertake initiatives according to their order of priority. Undertaking initiatives in stages, including incorporating biological diversity issues in environmental management systems and

implementing initiatives in cooperation with other enterprises (such as suppliers), produces good outcomes. Enterprises that have already started their initiatives can assess previous initiatives while pursuing new ones.

Furthermore, collaborating with entities such as other enterprises and involved parties (such as NGOs/NPOs, researchers, local residents, and national and local government) allows a company to improve the effect of its biological diversity conservation and sustained utilization while nurturing its business.

Reference: Examples of information and indicators

**Examples of information and indicators related to biological diversity could include the following. Some of the initiatives are difficult to quantify, but quantitative information should be included to the extent possible.**

- The status of initiatives for biological diversity conservation on land owned, leased or managed, and in adjacent areas (e.g., area of the land, status of conservation [area of restored land]), information concerning species that inhabit or grow on land owned, leased or managed, or in adjacent areas (especially endangered and endemic species in the area)
- Technologies and tools developed in-house for biological diversity conservation and the methods and indicators for ascertaining and quantitatively evaluating the impact and degree of biological diversity dependence
- Impacts on biological diversity and ecosystems in the planning stage of a project or in the development process (including raw materials procurement) and the initiatives undertaken to avoid or mitigate them
- Products and services that consider the sustainable use of biological resources and such products and services as a percentage of all products and services. In addition, the status of external certification.
- The status of each of the Aichi Goals and the initiatives of the Nagoya Protocol adopted at the tenth meeting of the Conference of the Parties to The Convention on Biological Diversity
- The content of the environmental impact evaluation if one was performed
- The status of education and training about biological diversity conservation provided to involved parties, including employees and their family members
- Status of communication about biological diversity with business partners, consumers, and shareholders
- Implementation status and results of programs designed to conserve and restore biological diversity (e.g., purchase of land with abundant biological diversity or with a high protective value, donations, sponsorship, or support for NGOs/NPOs, funds devoted to biological diversity conservation)
- Status of participation in initiatives and frameworks for biological diversity conservation

Reference: Related legal regulations or estimation standards in Japan

- Basic Act on Biodiversity
- Act to Encourage Regional Collaboration for Biodiversity
- Guidelines for Private Sector Engagement in Biodiversity
- Declaration of Biodiversity by Keidanren and its Action Policy
- The Aichi Goals and Nagoya Protocol adopted at the tenth meeting of the Conference of the Parties to The Convention on Biological Diversity

## **Chapter 7: Information and Indicators on the Economic and Social**

### **Contexts of Environmentally Focused Management**

The information and indicators for the “Economic Contexts of Environmentally Focused Management” disclosed in environmental reporting are contained in Chapter 5 and Chapter 6 or are linked to those matters.

Furthermore, the information and indicators on the “Social Contexts of Environmentally focused management” disclosed in environmental reporting are included separately while accounting for their relationship to environmentally focused management.

This chapter provides a commentary on fundamental concepts and the information and indicators needed when disclosing “The Status of the Economic and Social Contexts of Environmentally Focused Management.”

#### **1. Economic Contexts of Environmentally Focused Management**

**(1) Economic contexts in an enterprise**

**(2) Economic contexts in society**

#### **2. Social Contexts of Environmentally focused management**

Note: About the Economic Contexts of Environmentally Focused Management

This chapter provides a separate commentary for each entity covered.

In “(1) Economic contexts in an enterprise” we provide a commentary about the environmental impacts of business activities and the financial information and indicators related to environmental initiatives.

In “(2) Economic contexts in society” we provide a commentary about the environmental impacts of business activities and the information and indicators for the economic impacts that environmental initiatives have on other parties, such as clients, business partners, and society.

These are provided as additional information and indicators intended to give multifaceted explanations of a firm’s environmentally focused management. Note that environmental accounting information is a disclosure method for systematically describing the status of the economic contexts of environmentally focused management.

Note: About the Social Contexts of Environmentally focused management

Society is a major factor that should be taken into consideration when building a

sustainable society, together with the environment and the economy. Furthermore, social contexts such as organizational governance, human rights, employment and labor, consumers, and local communities comprise the necessary infrastructure for stable and continuous management and must be taken into consideration if a stable and continuous implementation of environmental initiatives is to be possible.

Explaining the social contexts of environmental reporting, focusing on environmental impacts and their relationship to environmental initiatives, enables an enterprise to communicate to users a more well-rounded picture of management's social responsibility initiatives.

This chapter's commentary focuses on information on and indicators for the status of social contexts—those social phenomena generally related to environmentally focused management. When creating environmental reporting, refer to Annex 7, "Information and Indicators on the Social Contexts (Breakdown)" as well.

## 1. Economic Contexts of Environmentally Focused Management

Include economic information on and indicators for the environmental impacts of business activities and the environmental initiatives undertaken to mitigate them. Encourage users' understanding of environmentally focused management and improve the usefulness of environmental reporting by disclosing environmental impacts and initiatives and their economic contexts.

Note that it is necessary to disclose these kinds of information and indicators in accordance with the general principles, as with the other environmental information.

### (1) Economic contexts in an enterprise

Explain the financial implications of environmentally focused management linked to the environmental impacts and the environmental initiatives, using financial figures and descriptive information.

Include information about the impacts on the operating results and financial position of an enterprise related to the environmental impacts of business activities, the impact reduction measures, the business opportunities and risks caused by those financial implications, and the enterprise's responses to them.

#### ( i )Information and indicators to be disclosed

a. Financial figures related to environmentally focused management (e.g., environmental accounting information)

- Costs of environmental initiatives (value of results)
- Economic effects of environmental initiatives (e.g., portion of the initiatives' costs saved)

b. Supplementary information about the above financial figures

- The aggregate range (boundary) of the financial figures
- The estimation methods for the financial figures (e.g., assumptions, estimation formulas, coefficients)

#### ( ii )Information to be included if there is materiality

Financial figures related to environmentally focused management (other than

(i) a.)

- Investment/development plan and forecast amount for environmental initiatives
- Forecast sales of environment-friendly products and services
- Assets related to environmentally focused management (e.g., emission credits and offsets)
- Liabilities related to environmentally focused management (e.g., asset retirement obligations, reserves)

Business opportunities and risks related to environmentally focused management

- Background information on financial implications (e.g., trends in legal

regulations and the market)

- Policies on responding to the financial implications and the future outlook (e.g., long-term investment policy and its financial effects)
- Market trends and analyses for environment-friendly products and services
- Information about financial risks due to environmental problems (regulatory risk, price fluctuation risk, physical risk)

Financial implications due to natural disasters and accidents

Environmental efficiency indicators (using environmental impacts and financial figures as indicators)

The enterprise's environmental ratings and indexes reevaluations, commendation/award program prizes, the impact of the aforementioned approaches on management (e.g., brand, procurement interest rates)

### **[Points to note for reporting]**

- (i) This information is included in Chapter 5 and Chapter 6 or is linked to those chapters.
- (ii) The financial implications of environmentally focused management differ depending on the characteristics and strategies of the enterprise. The “Financial Implications Related to an Individual Environmental Issue (Examples)” are included in Reference Material Annex 6, so please refer to this.
- (iii) Enterprises are expected to include the financial figures on environmentally focused management next to the environmental impacts so that comparisons over several years can be made. For example, the relationship between the efforts and outcomes of environmentally focused management can be clearly shown by providing the environmental impacts and the related financial figures side by side, through, for example, a correlated display of the chronological changes in the costs of the measures for reducing warming gasses and the resulting emissions.
- (iv) Environmental accounting information is one method of systematically describing financial information on environmental conservation. For the environmental accounting information, refer to the Environmental Accounting Guidelines 2005 (p. 165).
- (v) Include supplementary information about the figures with reference to “Supplementary information about the figures” on p. 75.
- (vi) When showing financial information on the environment, it is necessary to avoid misunderstanding by clearly showing the definitions, the ideas forming the underlying assumptions, the anticipated period, and the scope and source of the data to users.
- (vii) It is also useful to include information linked to the breakdown information according to financial business, regional segment, and major products.
- (viii) Regarding the environmental efficiency indicators, refer to Annex 4. Note that it is necessary to ensure consistency between the covered scope and reporting periods for the environmental impacts and the financial accounting and to clearly show the relationship to the raw data and the estimation formulas.

### **Commentary**

Due to the strengthening of environmental regulations both in Japan and overseas, the environmental impacts of business activities and environmental initiatives have become financially significant to enterprises. Conversely, the emergence and expansion of the environment-friendly products and services market in response to these regulations are creating business opportunities. For example, an enterprise that emits significant greenhouse gases at the production and products and services use stages must meet the requirements mandated by the stricter regulations, despite the cost burden of doing so, but their response can convert the risk of increased costs into an opportunity for increased sales. Furthermore, for

enterprises running resource risks and energy constraints, making investments in stability and reducing resource and energy use can become an important management priority.

If the financial implications of environmentally focused management are closely related to environmental initiatives and business strategies in this way, the information relevant to those financial implications, linked to environmental initiatives and business strategies, is sometimes considered material. Furthermore, information disclosure that links environmental information to financial information will deepen users' understanding of environmentally focused management and lead to more appropriate feedback from stakeholders.

In addition, financial information related to the environment could be disclosed by being linked to a related firm KPI. When firms face strategic environmental challenges, it is useful to manage a KPI by linking its financial implications in the PDCA cycle of the management activities.

Note that it is effective to disclose the material flow cost accounting utilized in internal management (refer to p. 166) together with the environmental accounting information.

## **(2) Economic contexts in society**

In order to show the relationship between environmentally focused management and economic impacts in society, explain the economic benefits to external parties other than the enterprise.

Explain the environmental impacts of business activities, the mutual economic impacts on external firm-related parties (e.g., clients, business partners, local communities) of environmental initiatives, and the responses to those impacts using the related financial figures and descriptive information.

### **( i ) Information to include if it is material**

Economic benefits and burdens of environmentally focused management for society

- Economic benefits for the users of environment-friendly products and services (e.g., energy-saving, creation of added value)
- Economic benefits for suppliers of environment-friendly procurement
- Economic burdens to society caused by the environmental impacts of an enterprise (e.g., decontamination using tax money)

Relationship to business opportunities and the risks related to environmentally focused management (e.g., contribution to revenues, potential for conversion to internal costs)

Evaluation of the economic value of environmental impacts

- Monetary value of environmental impacts
- Monetary value of the environmental conservation effect

Supplementary information about the quantitative information

- Aggregate range (boundary) of the quantitative information
- Estimation methods of the quantitative information (e.g., assumptions, estimation formulas, coefficients)

Social Contexts of Environmentally focused management (refer to Chapter 8)

### **[Points to note for reporting]**

- (i) This information is included in Chapter 5 and Chapter 6 or is linked to those chapters.
- (ii) In “economic benefits and burdens of environmentally focused management for society,” include the economic benefits or losses to external parties (including estimated values) and descriptive information.
- (iii) In “monetary value of environmental impacts,” include the number of environmental impacts caused by the business enterprise converted into a

monetary value. In “monetary value of the environmental conservation effect,” include the environmental conservation effect for society (e.g., the extent of the reduction of environmental impacts) converted into a monetary value (refer to the figure on the next page).

- (iv) The “Environmental Accounting Guidelines 2005” which includes environmental accounting information (refer to p. 165), discusses the evaluation of the economic value of the environmental conservation effect, an economic factor relevant to society, so please refer to this.
- (v) Include supplementary information about the figures with reference to “Supplementary information about the figures” (p. 75). Note that objective and unbiased disclosure is required for these kinds of information.
- (vi) The information sources forming the basis for the quantitative information should also be indicated. If using estimated values, it is necessary to clearly state the definitions and calculation base in order to deepen users’ understanding.
- (vii) Regarding the quantitative information, it is necessary to clearly describe its temporal nature—whether it is past, current, or future—the period it covers, and whether it covers cash flow.

### **Commentary**

An enterprise’s environmental impacts and the environmental initiatives to mitigate them mutually impact socioeconomic contexts. Environmental reporting must thus include information about not only the financial implications of the enterprise but also the economic impacts of external parties other than the enterprise that are related to its environmentally focused management. Furthermore, the economic relationship between environmentally focused management and society can be shown by explaining how those economic impacts are related to the business opportunities and risks of environmentally focused management.

Examples of economic impacts incurred by external parties other than the enterprise include the case of energy-saving products users receiving a substantive cost reduction through reduced energy consumption at the use stage. Eco-businesses and ideas proposed in-house sometimes contribute to partners’ businesses. On the other hand, for example, sometimes the cleanup costs resulting from environmental pollution or the compensation costs resulting from damage to human health are covered with tax money, an economic burden for society.

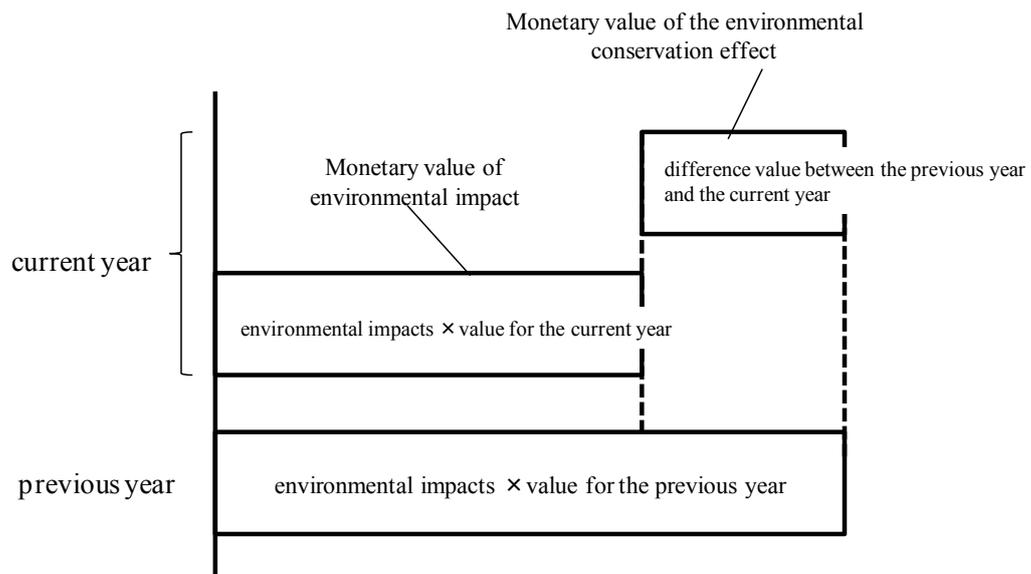
In addition, the monetary value of environmental impacts and monetary value of the environmental conservation effect (i.e., the monetary value of the reduction in environmental impacts) can also be considered as disclosure methods for describing the impacts on the environment borne by society due to business activities (refer to the figure below). Providing environmental impact information side by side with this information converted into a monetary amount can lead to a better understanding of the potential costs the enterprise may bear in the future and the status of sales of environment-friendly products and services.

However, estimation methods have not been established for these kinds of information and indicators. When disclosing them, then, it is necessary to provide the concepts forming the assumptions, the estimation methods, the occurrence period, and the occurrence likelihood as supplementary information in order to ensure that the users do not misunderstand the state of

environmentally focused management. It is also necessary to disclose both the economic benefits and losses.

Further development of disclosure methods for the status of socioeconomic contexts is expected.

**Figure 10: Relationship of Economic Value Evaluations of Environmental Impacts**



#### Reference 1: Environmental accounting information

The environmental accounting information based on the “Environmental Accounting Guidelines 2005” of the Ministry of the Environment systematically presents financial figures related to a firm’s environmental conservation. Environmental accounting information is a summary of the economic contexts of environmentally focused management and should be included consistently with the environmental information included in Chapter 5 and Chapter 6.

#### [Disclosed items]

- (1) The status of the enterprise’s economic contexts
  - (i) Environmental conservation costs
  - (ii) The environmental conservation effect
  - (iii) Economic effects resulting from environmental conservation measures
  
- (2) The status of the socio-economic contexts
  - (i) Evaluation of the economic value of the environmental conservation effects (in monetary amounts)

#### **[Points to note for reporting]**

The costs of environmental conservation are a firm’s investments in and expenditures on the prevention, control and/or avoidance, and elimination of the firm’s environmental impacts, damage restoration efforts, and all initiatives in support of those tasks. Note that the investments described in this section refer to investments made within an enterprise.

#### Commentary

It is important to promote efficient and effective environmental initiatives through appropriate management decisions, supported by the management and analysis of environmental costs and benefits. Further, the disclosure of environmental accounting information provides stakeholders with an effective means of gaining an impartial understanding and evaluation of the state of environmental conservation initiatives.

An organization can disclose environmental accounting information as a whole by using the announcement formats shown in the Environmental Accounting Guidelines 2005.

It is also effective to disclose environmental accounting information by combining it with the Eco-Efficiency Indicators that will be mentioned later.

Reference material: Environmental Accounting Guidelines 2005

<http://www.env.go.jp/policy/kaikei/guide2005.html>

Reference 2: Material flow cost accounting

Material flow cost accounting (MFCA) is a form of environmental management accounting\* used for an organization’s internal control. MFCA enables the visualization of waste in the use of raw materials and is thus useful in pursuing efficient resource use that eliminates waste. Note that the international standard (ISO 14051) for MFCA was published in 2011.

Reference material: “Environmental Management Accounting” published by the Ministry of Economy, Trade, and Industry

[http://www.meti.go.jp/policy/eco\\_business/sonota/policy1-01.html](http://www.meti.go.jp/policy/eco_business/sonota/policy1-01.html)

Reference 3: Economic Contexts of Environmentally Focused Management (Association Table)

The links between the guideline items on the “Economic Contexts of Environmentally focused Management” and the disclosed cases are as follows. Refer to Annex 6 for examples of financial implications and figures related to an individual environmental issue.

○Association Table of the Included Items and Disclosed Cases in the “Economic Contexts of Environmentally Focused Management”

Included items	Disclosed content (examples)	Examples
1. Economic contexts in an enterprise	<ul style="list-style-type: none"> <li>• Business opportunities and risks related to environmentally focused management</li> </ul>	<ul style="list-style-type: none"> <li>• Trends in legal regulations</li> <li>• Long-term investment policy</li> <li>• Market trends of environment-friendly products</li> <li>• Financial risk information</li> </ul>
	<ul style="list-style-type: none"> <li>• Financial figures related to environmentally focused management</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental management costs (*)</li> <li>• Net sales of environment-friendly products</li> <li>• Capital investment in environment-friendly products</li> <li>• Emission credits and offsets</li> <li>• Asset retirement obligations, reserves, etc.</li> </ul>
	<ul style="list-style-type: none"> <li>• Cost-saving by an enterprise as a result of environmental conservation measures</li> </ul>	<ul style="list-style-type: none"> <li>• In-house energy cost reduction effect due to energy-saving (*)</li> </ul>
2. Economic contexts in society	<ul style="list-style-type: none"> <li>• Economic benefits and burdens of environmentally focused management for society</li> </ul>	<ul style="list-style-type: none"> <li>• Energy reduction effect for the users in the use stage of energy-saving products</li> <li>• Users’ average energy use in the use stage of in-house products</li> <li>• Regional burden for pollution cleanup costs</li> </ul>
	<ul style="list-style-type: none"> <li>• Evaluation of the economic value</li> </ul>	<ul style="list-style-type: none"> <li>• Monetary value of CO<sub>2</sub> emissions in</li> </ul>

	of environmental impacts (evaluation of the losses incurred by society in terms of monetary units)	the production stage
	• Evaluation of the economic value	<ul style="list-style-type: none"> <li>• Monetary value of the reduction in CO<sub>2</sub> emissions at the production stage (#)</li> <li>• Monetary value of the reduction in CO<sub>2</sub> emissions in the use stage of energy-saving products (#)</li> </ul>

Relationship to <<Environmental accounting information>>

(\*) Item concerning estimation methods in “Environmental Accounting Guidelines 2005”

- Environmental conservation costs (amount of investment and money spent)  
Costs of the prevention, control and/or avoidance and elimination of the firm’s environmental impacts, damage restoration efforts, and initiatives in support of these tasks
- Economic effects resulting from environmental conservation measures  
These are the effects resulting from environmental conservation measures directly benefitting an enterprise, namely, the savings and earnings produced by the results of environmental conservation measures.

(#) Items for which there is a commentary in “Environmental Accounting Guidelines 2005”

- Evaluation of the economic value of the environmental conservation effect  
This is the evaluation of the economic value of the environmental conservation effect, an effect on all society, converted into a monetary value

## 2. Social Contexts of Environmentally focused management

Explain the responses to important social issues occurring through business activities, indicating their relationship to environmentally focused management and using descriptive and quantitative information regarding social contexts.

The relationship between environmentally focused management and social contexts can be shown by including the responses to issues for which the social and environmental impacts are thought to be closely related, while linking the two kinds of impacts together.

Note that it is necessary to disclose these kinds of information and indicators in accordance with the general principles, as with the other environmental information.

### (ii) Information and indicators to be disclosed if material

- An enterprise's policy on initiatives, goals, and plans and the status of the initiatives for responding to important social issues

Social contexts related to environmentally focused management include the following:

(Organizational governance)

- Ethics, compliance, personal information protection, fair trade with business partners, compliance with the Anti-Monopoly Law, intellectual property rights

(Human rights)

- Child labor, labor in poor environments, or exploitative labor used by raw material suppliers

Use of conflict minerals

(Labor practices)

- Improvement in the workplace environment, long working hours, diversity, work-life balance

- Health management of employees, prevention of industrial accidents, mental health, MSDS system

(Consumer protection and product safety)

- Design and manufacture of products and services, response to consumer complaints, product recalls

(Local communities)

- Respect for local culture and communities, fair trade, the establishment of CSR procurement

(Other)

- Added value distribution policy

- Animal experiments, weapons and goods that can be diverted for military use

- Quantitative information describing social contexts

Quantitative information regarding the above includes the following:

- Violations of laws and directions, recommendations, or orders from administrative agencies

- Number of external directors and external auditors
- Number of organizations that have set a human rights policy
- Number of personnel and attrition rate by gender and job rank
- Frequency and number of industrial accidents
- Results of client satisfaction surveys and the number of complaints
- The value of the social contribution and the number of employees participating
- CSR procurement percentage and procurement value
- The amount of added value distributed to each entity

➤ Supplementary information about the figures

- The aggregate range (boundary) of the figures
- The estimation methods for the figures (e.g., assumptions, source of the data, estimation formulas, coefficients)
- Breakdown information by business, region, etc.

- Names and content of charters and agreements concerning responses to material social issues the enterprise has agreed to comply with and the standards being applied by the enterprise
- The enterprise's social responsibility ratings and indexes reevaluations, commendation/award program prizes, and the impact of the aforementioned on management (e.g., brand, procurement interest rates)

**[Points to note for reporting]**

- (i) The status of social contexts differs depending on the business characteristics and strategies of the enterprise. The above are representative information and indicators; for more details, refer to “Information and Indicators on the Social Contexts” (Annex 7).
- (ii) Enterprises are expected to present the quantitative information in a format that enables users to compare it over a number of years.
- (iii) Include supplementary information about the figures with reference to “Supplementary information about the figures” on p. 75.
- (iv) When showing quantitative information, it is necessary to ensure that users do not misunderstand the information by clearly showing the definitions, the underlying assumptions, the scope, and the estimation methods.
- (v) It is also useful to include a breakdown of the information by business and regional segment.
- (vi) The names and contents of the social charters and agreements that the business has agreed to comply with can include other charters related to social responsibility adopted and signed by the enterprise, such as the United Nations Global Compact, the Principles for Responsible Investment (PRI), and the Principles for Financial Action towards a Sustainable Society (Principles for Financial Action for the 21<sup>st</sup> Century).

### **Commentary: Social contexts and environmentally focused management**

An enterprise cannot conduct their business activities without considering the individuals, groups, and local communities around them. In environmentally focused management, enterprises are required to consider an even broader range of stakeholders, including the natural environment and future generations.

The essential purpose of business activities is not to sacrifice the ecosystem and the rights of future generations while pursuing economic benefits only; its purpose is the performance of social responsibility that contributes to the development of a sustainable society in which human beings can lead spiritually rich lives.

For this reason, an enterprise cannot maintain stable and continuous operational activities without considering social contexts (e.g., employment and labor, human rights, corporate governance, consumers, local communities). The social contexts of an enterprise can be said to be the infrastructure of its overall management, while the broader social contexts defined by society as a whole sometimes have a large impact on management.

Moreover, social contexts form the infrastructure of environmentally focused management activities because environmentally focused management is simply the practice of examining management within an environmental context. In that sense, when attempting to communicate the status of environmentally focused management to users, it is necessary to be aware that explanations disconnected from social contexts could distort the overall picture.

If environmental impacts and environmental initiatives are closely intertwined with social contexts such as organizational governance, human rights, employment and labor, consumers, and local communities, information and indicators about the status of those social contexts must be provided. In environmental reporting, it is necessary to disclose all information on and indicators for social contexts that the enterprise believes material for explaining the status of its environmentally focused management.

Note that information on initiatives related to social contexts should be reviewed through a consideration of the social responsibility required of the enterprise, which will be perceived based on the sustainability of the region, country, and planet; the impact of the firm's decisions and activities on society and stakeholders; the expectations of the enterprise; and the relationship between the enterprise and its society and stakeholders.

### **Commentary: The relationship to environmental issues**

Environmental issues rarely exist in isolation but are usually related to other social issues. This is particularly true today, as the scope of firm activities such as raw materials procurement and sales continues to globalize throughout the entire value chain.

Some charge that exploitative plantation cultivation in developing countries, carried out to meet the demand of developed countries, causes forest destruction and biological diversity

loss, while it is also causing serious problems with respect to labor conditions and human rights, including child and forced labor.

The US financial regulation reform law of 2010 (the Dodd-Frank Act) requires listed companies using minerals to disclose the status of their use of “conflict minerals” (i.e., mineral resources mined in the Democratic Republic of the Congo or neighboring countries, where profits from sales are used to fund armed conflict and where the infringement of workers’ human rights has become a serious problem).

Another problem is that raw materials are being produced and procured without considering the environment, partly due to unfair transaction prices, leading to inappropriate production and waste treatment. Enterprises must thus confirm the status of their fair business practices throughout the entire value chain.

When disclosing environmental information, enterprises must disclose the details of their pro-environment behavior and disclose their policies on environmental initiatives, goals, plans, and the status of those initiatives together with related social issues such as corporate governance, human rights, employment and industrial safety and hygiene, consumer protection, product safety, and responses to the regional community.

Note that it is useful to base policies on the purposes and content of the United Nations Global Compact, conventions and recommendations for international labor standards, ISO 26000 (issued in 2010), the Keidanren Charter of Corporate Behavior (the 2010 revision), and the Organisation for Economic Co-operation and Development (OECD) document *Guidelines for Multinational Enterprises* (the 2011 revision).

## **Chapter 8: Miscellaneous Contents to be disclosed**

### **1. Events after the reporting period**

#### **(1) Events after the reporting period**

Include information about events that occurred after the end of the reporting period that had a material impact on the matters included in the environmental reporting or environmentally focused management from the subsequent period onwards.

#### **( i )Information and indicators to be disclosed**

a. The content of the events after the reporting period

#### **( ii )Information and indicators to be disclosed if material**

- Impacts on environmental reporting due to events after the reporting period
- Impacts on the environment and management from the subsequent period onwards due to events after the reporting period

#### **Commentary**

Even after the end of the reporting period, if significant incidents or accidents occur, violations of important legal regulations are discovered, important litigation arises or is settled, other material facts affecting the judgment of the stakeholders arise, or events with a material impact on the environmentally focused management of the following fiscal year occur during the period up until the publication of the environmental reporting, it is necessary to include the new information as events after the reporting period in the environmental reporting. The details of the new events or facts and the outlook should be included as material events after the reporting period.

#### **(2) Extraordinary events**

Include information about temporary events that occurred during the reporting period (i.e., extraordinary events) that had a material impact on environmentally focused management.

#### **( i )Information and indicators to be disclosed**

a. The content of the extraordinary events

**( ii )Information and indicators to be disclosed if material**

- Impacts on the environment and management of the extraordinary events

**Commentary**

For environmental reporting, in addition to the regularly published environmental reporting, it is necessary to implement timely environmental reporting about temporary events that occurred during the reporting period (extraordinary events) that had a material impact on the environment or an impact on the judgment of the stakeholders.

Material modifications of the scope, the occurrence of significant incidents and accidents, the discovery of violations of important legal regulations, the beginning or settlement of important litigation, and all events with a material impact on environmentally focused management are classified as “extraordinary events,” and an enterprise is expected to define these events based on a judgment of their materiality.

## **2. Assurance and other measures to enhance reliability of environmental information**

If a third party examined the environmental information included in the environmental reporting, attach documents certifying the implementation of that examination.

Note that internal control for the reliability of the environmental reporting (e.g., in-house structures for information checks) is included in “Organizational systems for environmentally focused management” (p. 85).

### **Commentary**

In addition to the in-house procedures implemented by the enterprise to improve reliability (“Organizational systems for environmentally focused management” [p. 85]), the involvement of parties from outside an enterprise in environmental reporting should clarify any points overlooked by the enterprise itself and improve the content and reliability of the reports.

Organizations should use these measures in combination according to the involvement of stakeholders, the necessity of external examination by a third party, the management resources of the enterprise, and its degree of experience in the preparation of environmental reporting.

The following are examples of measures that can be implemented by a third party from outside an enterprise to increase reliability:

#### ① Examination by a third party

This measure involves a third party other than the enterprise that has prepared the environmental reporting, such as an examining institution or an audit business enterprise. This party examines whether the information included in the reporting and any environmental initiative results (environmental performance indicators) are in accordance with the proper preparation criteria, and confirms the examination results with a focus on the accuracy of the information provided. In this case, an enterprise selects appropriate items from the Guidelines and other guidelines, or it follows its own preparation standards for environmental reporting. The examining institution then inspects the reporting using the same preparation standards as the judgment criteria.

#### ② Opinions of a third party

A third party, other than the publishing organization, expresses its evaluation and recommendation concerning the information included in environmental reporting and gives advice and opinions about an enterprise’s environmental initiatives. It is best practice to include a description of the procedures used to gather the opinions of any third party, e.g.,

the criteria used to select the third party, or any involvement of the third party in the preparation process. An enterprise should give a clear commitment to take action in response to the third party's opinions.

③ In business enterprise of interactive communication methods

Regarding environmental conservation initiatives and the information included in environmental reporting, it is good practice to establish a system or create opportunities where both an enterprise and stakeholders exchange opinions, and this need not be limited to an enterprise simply responding to the questions and opinions of stakeholders.

As an example, an organization and stakeholders may hold a discussion meeting or briefing session, and any relevant concerns are then included in the environmental reporting.

④ Preparation of environmental reporting in cooperation with NGOs and NPOs

A procedure whereby NGO or not-for profit organization (NPO) staff, students or general consumers are directly involved in the process of planning and preparation of environmental reporting and through cooperative work with an organization, they prepare environmental reporting. The methods for cooperation can vary from the simple exchange of opinions through to the checking of information included in the reporting.

## Comparison of the Guidelines and Notice on Contents of Environmental Reports

Notification of Environmental Report Recording Guidelines	Items Corresponding to the Notification	Related Items
<p>[1] Policies on Environmental Considerations in Corporate Activities (Notification No. 2-1)</p>	<p>[Chapter 4] Report Contents in Environmental Reporting</p> <p style="padding-left: 40px;">2. Chairman's/CEO's statement</p> <p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p style="padding-left: 40px;">1. Environmental initiatives policies, visions and business strategies</p> <p style="padding-left: 80px;">(1) Environmental policy</p>	
<p>[2] Main Corporate Activities, Target Fiscal Year for the Activities (Notification No. 2-2)</p>	<p>[Chapter 4] Report Contents in Environmental Reporting</p> <p style="padding-left: 40px;">1. Report profiles</p> <p style="padding-left: 80px;">(1) Report boundary and reporting period</p> <p style="padding-left: 40px;">3. Overview of environmental reporting</p> <p style="padding-left: 80px;">(1) Overview of environmentally focused management (a. overview of business)</p>	<p>[Chapter 4] Report Contents in Environmental Reporting</p> <p style="padding-left: 40px;">1. Report profiles</p> <p style="padding-left: 80px;">(2) Organizations' coverage ratio and reporting period difference</p> <p style="padding-left: 80px;">(3) Reporting policies</p> <p style="padding-left: 80px;">(4) Policies for selecting the type of report</p>
<p>[3] Plan for Environmental Considerations in Corporate Activities (Notification No. 2-3)</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p style="padding-left: 40px;">1. Environmental initiatives policies, visions, business strategies, etc.</p> <p style="padding-left: 80px;">(2) Material issues, visions and business strategies, etc.</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p style="padding-left: 40px;">4. Environmental initiatives in the value chain</p> <p style="padding-left: 80px;">(1) Strategies and</p>

Notification of Environmental Report Recording Guidelines	Items Corresponding to the Notification	Related Items
		environmental policies for the value chain
<p>[4] System for Environment-friendly Efforts in Corporate Activities (Notification No. 2-4)</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p>2. Status of organizational systems and governance</p> <p>(1) Organizational systems for environmentally focused management</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p>2. Status of organizational systems and governance</p> <p>(2) environmental risk management system</p>
<p>[5] State of Environment-friendly Efforts in Corporate Activities (Notification No. 2-5)</p>	<p>[Chapter 4] Report Contents in Environmental Reporting</p> <p>4. Material balance</p> <p>[Chapter 6] Information and Indicators on Environmental Impacts of Business Activities and Environmental Initiatives Undertaken to Mitigate Them</p> <p>1. Resources used and energy consumption</p> <p>(1) Total weight of energy input and reduction measures</p> <p>(2) Total weight of material input and reduction measures</p> <p>(3) Water withdrawal and reduction measures</p> <p>2. Recycled input resources</p> <p>3. Status of manufacturing of products and generation of environmental impacts</p>	

Notification of Environmental Report Recording Guidelines	Items Corresponding to the Notification	Related Items
	<p>(1) Total products manufactured or goods sold</p> <p>(2) Greenhouse gas emissions and initiatives to reduce them</p> <p>(3) Total water discharge and initiatives to reduce it</p> <p>(4) Effluents and nuisance, and initiatives to reduce them</p> <p>(5) Amount of release and transfer of chemical substances and reduction measures</p> <p>(6) Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them</p> <p>(7) Significant spills of hazardous substances and measures taken for preventing them</p> <p>4. Conservation of biological diversity and the sustainable use of its components</p>	
<p>[6] Information on Environmental Considerations for Products, Services (Notification No. 2-6)</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p>4. Environmental initiatives in the value chain</p> <p>(3) Products and services designed for mitigating environmental impacts</p> <p>(4) New environmental technologies and research and development</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p>4. Environmental initiatives in the value chain</p> <p>(2) Greengreen purchasing and procurement</p> <p>(5) Environmentally conscious transportation</p> <p>(6) Resource exploitations-, real estate</p>

Notification of Environmental Report Recording Guidelines	Items Corresponding to the Notification	Related Items
		<p>development/investment with less environmental impacts</p> <p>(7) environmentally friendly waste treatment/recycling</p>
<p>[7] Others (Notification No. 2-7)</p>	<p>[Chapter 5] Information and Indicators on how Environmentally Focused Management Including Environmental Management is working</p> <p>2. Status of organizational systems and governance</p> <p>(3) Compliance with environmental regulations</p> <p>3. Responsiveness of stakeholder issues</p> <p>(1) Responsiveness to stakeholder issues</p>	

<p>Items Desired to Be Achieved by a Business Enterprise's Originality and Ingenuity</p>	<p>[Chapter 4] Report Contents in Environmental Reporting</p> <p>3. Overview of environmental reporting</p> <p>(1) Overview of environmentally focused management (b. Overview of environmentally focused management)</p> <p>(2) Overview of KPI trends</p> <p>(3) Summary of activities to address an individual environmental issue</p> <p>[Chapter 7] Information and Indicators on the Economic and Social Contexts of Environmentally Focused Management</p> <p>1. Economic Contexts of Environmentally Focused Management</p>
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	<p>(1) Economic contexts in an enterprise</p> <p>(2) Economic contexts in society</p> <p>2. Social Contexts of Environmentally Focused Management</p> <p>[Chapter 8] Miscellaneous Contents to be disclosed</p> <p>1. Events after the reporting period</p> <p>(1) Events after the reporting period</p> <p>(2) Extraordinary events</p> <p>2. Assurance and other measures to enhance reliability of environmental information</p>
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## Comparison of the Guidelines and Its 2007 Version

Environmental reporting guidelines (Fiscal Year 2012 Version)	Environmental reporting guidelines (Fiscal Year 2007 Version)
<p>Chapter 4 Report Contents in Environmental Reporting</p> <p>1. Report profiles</p> <p>(1) Report boundary and reporting period</p> <p>(2) Organizations' coverage ratio and reporting period difference</p> <p>(3) Reporting policies</p> <p>(4) Policies for selecting the type of report</p> <p>2. Chairman's/CEO's statement</p> <p>3. Overview of environmental reporting</p> <p>(1) Overview of environmentally focused management</p> <p>(2) Overview of KPI trends</p> <p>(3) Summary of activities to address an individual environmental issue</p> <p>4. Material balance</p>	<p>Chapter 3 Information and Indicators for Each Component of Environmental Reporting</p> <p>1. Basic Information (BI)</p> <p>BI-2: Report profiles</p> <p>BI-2-1: Organizations, periods and areas covered by the reporting</p> <p>BI-2-2: Report boundary and coverage ratio of an environmental impact</p> <p>BI-1: Chairman's/CEO's statement</p> <p>BI-3: Summary of the organization's business (including management indices)</p> <p>BI-4: Overview of environmental reporting</p> <p>BI-4-1: List of major indicators</p> <p>BI-4-2: Summary of objectives, plans and results regarding environmental initiatives</p> <p>BI-5: Material balance of business activities (inputs, internal recycling, and outputs)</p>
Chapter 5 Information and Indicators on how Environmentally Focused	2. Information and Indicators on the

Environmental reporting guidelines (Fiscal Year 2012 Version)	Environmental reporting guidelines (Fiscal Year 2007 Version)
<p>Management Including Environmental Management is working</p> <p>1. Environmental initiatives policies, visions, business strategies, etc.</p> <p>(1) The business enterprise's policies regarding environmental initiatives</p> <p>(2) Material issues, visions, and business strategies</p> <p>2. Organizational systems and governance</p> <p>(1) Organizational systems for environmentally focused management</p> <p>(2) Environmental risk management system</p> <p>(3) Compliance with environmental regulations</p> <p>3. Responsiveness of stakeholder issues</p> <p>(1) Responsiveness to stakeholder issues</p> <p>(2) Social contribution related to the environment</p> <p>4. Environmental initiatives in the value chain</p> <p>(1) Strategies and environmental policies for the value chain</p> <p>(2) Green purchasing and procurement</p> <p>(3) Products and services designed for mitigating environmental impacts</p> <p>(4) New environmental technologies and</p>	<p>Environmental Management (MPI)</p> <p>MP-1: Environmental management</p> <p>MP-1-1: Environmental policy in business activities</p> <p>MP-1-2: Environmental management systems</p> <p>MP-2: Compliance with environmental regulations</p> <p>MP-10: Environmental communication</p> <p>MP-11: Philanthropy related to the environment</p> <p>MP-5: Supply chain management for environmental conservation</p> <p>MP-6: Greengreen purchasing and procurement</p> <p>MP-12: Products and services designed for mitigating environmental impacts</p> <p>MP-7: Research and development of new environmental technologies and DfE</p>

Environmental reporting guidelines (Fiscal Year 2012 Version)	Environmental reporting guidelines (Fiscal Year 2007 Version)
<p>research and development</p> <p>(5) Environmentally friendly transport</p> <p>(6) Resource exploitations-, real estate development/investment with less environmental impacts</p> <p>(7) Waste management and recycling</p>	<p>MP-8: Environmentally conscious transportation</p> <p>MP-4: Environmentally conscious investment or financing</p>
<p>Chapter 6 Information and Indicators on Environmental Impacts of Business Activities and Environmental Initiatives Undertaken to Mitigate Them</p> <p>. Resources used and energy consumption</p> <p>(1) Total weight of energy input and reduction measures</p> <p>(2) Total weight of material input and reduction measures</p> <p>(3) Water withdrawal and reduction measures</p> <p>2. Recycled input resources (within the organizational boundary)</p> <p>3. Products and services and environmental impacts arising from production</p> <p>(1) Total products manufactured or goods sold</p> <p>(2) Greenhouse gas emissions and initiatives to reduce them</p>	<p>3. Information and Indicators on the Status of Activities for Environmental Impacts and Reduction Measures (OPI)</p> <p>OP-1: Total weight of energy input and reduction measures</p> <p>OP-2: Total weight of material input and reduction measures</p> <p>OP-3: Water withdrawal and reduction measures</p> <p>OP-4: Amount of materials recycled within an organization's operational area</p> <p>OP-5: Total products manufactured or goods sold</p> <p>OP-6: Greenhouse gas emissions and initiatives to reduce them</p> <p>OP-10: Total water discharge and</p>

Environmental reporting guidelines (Fiscal Year 2012 Version)	Environmental reporting guidelines (Fiscal Year 2007 Version)
<p>(3) Total water discharge and initiatives to reduce it</p> <p>(4) Effluents and nuisance, and initiatives to reduce them</p> <p>(5) Amount of release and transfer of chemical substances and reduction measures</p> <p>(6) Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them</p> <p>(7) Significant spills of hazardous substances and measures taken for preventing them</p> <p>4. Conservation of biological diversity and the sustainable use of its components</p>	<p>initiatives to reduce it</p> <p>OP-7: Effluents and nuisance, and initiatives to reduce them</p> <p>OP-8: Amount of release and transfer of chemical substances and reduction measures</p> <p>OP-9: Total weight of waste generated, waste disposed by land filling or incineration and initiatives to reduce them</p> <p>MP-9: Biological diversity conservation and sustainable use of biological resources</p>
<p>Chapter 7 Information and Indicators on the Economic and Social Contexts of Environmentally Focused Management</p> <p>1. Economic Contexts of Environmentally Focused Management</p> <p>(1) Economic contexts in an enterprise</p> <p>(2) Economic contexts in society</p> <p>2. Social Contexts of Environmentally focused management</p>	<p>MP-3: Environmental accounting information</p> <p>4. Information and Indicators on the Status of the Relationship between Environmental Considerations and Management (EEI)</p> <p>Chapter 4 Information and Indicators on the Status of Social Initiatives</p>
<p>Chapter 8 Miscellaneous Contents to be disclosed</p>	

Environmental reporting guidelines (Fiscal Year 2012 Version)	Environmental reporting guidelines (Fiscal Year 2007 Version)
1. Events after the reporting period  2. Assurance and other measures to enhance reliability of environmental information	

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## 1. [Members of the Committee for the Revision of the Environmental Reporting Guidelines]

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(○ denotes that the chairperson, affiliations, and titles are current at the time of the publication of the guidelines)

## 6. [Financial Implications Related to an Individual Environmental Issue (Examples)]

Here, we present specific examples related to Chapter 7, “Information and Indicators on the Economic and Social Contexts of Environmentally Focused Management.”

\* Note that the following table presents examples only for reference. Disclosure should be made after identifying the material environmental issues for each company and evaluating and analyzing the related financial implications; it is not necessary to include all the information that appears in the examples.

○ Examples of Information and Indicators on the Status of Risk Information and Management

Risk information	Financial implications on management (examples)		
	Status of impact	Status of environmental initiatives	Economic effect due to the initiatives
Introduction and strengthening of legal regulations related to the environment	<p>Example of disclosure content if the prices of energy and resources rise rapidly, impacting costs</p> <ul style="list-style-type: none"> <li>* Energy costs</li> <li>* Resource costs</li> <li>*Burden of tax money</li> </ul>	<p>Example of disclosure content regarding the status of environmentally focused management responding to the risks noted on the left</p> <ul style="list-style-type: none"> <li>* Costs of initiatives</li> <li>* Economic effect due to the initiatives</li> <li>* Investment plan and forecast amount</li> </ul>	<p>Example of disclosure content for organizational activities assuming the risks noted on the left are opportunities</p> <ul style="list-style-type: none"> <li>* Forecast sales and market scale for environment-friendly products</li> <li>*Clientele effect</li> <li>* Value of losses avoided</li> </ul>

		<ul style="list-style-type: none"> <li>* Offset amount</li> <li>* Asset retirement obligations, reserves</li> </ul>	
Abnormal weather and rising sea levels	<p>Example of disclosure content if the procurement of raw materials becomes difficult and operations are suspended</p> <ul style="list-style-type: none"> <li>* Value of damage</li> <li>* Opportunity costs</li> <li>* Energy costs</li> <li>* Resource costs</li> </ul>	<p>Example of disclosure content for the status of climate change measures and adaptation measures</p> <ul style="list-style-type: none"> <li>* Costs of initiatives</li> <li>* Economic effect due to the initiatives</li> <li>* Costs of relocating bases</li> <li>* Value of procurement of alternative raw materials</li> </ul>	<p>Example of disclosure content for tackling new projects assuming that the risks on the left are opportunities</p> <ul style="list-style-type: none"> <li>* Environmental efficiency due to investment</li> <li>* Value of losses avoided</li> </ul>
Changes in preferences of consumers and users	<p>Example of disclosure content if the sales of previous goods fall and revenues deteriorate</p> <ul style="list-style-type: none"> <li>* Forecast sales and market share and scale for said products</li> </ul>	<p>Example of disclosure content for tackling environment-friendly design while responding to the risks on the left</p> <ul style="list-style-type: none"> <li>* Costs of initiatives (research and development costs)</li> <li>* Capital investment</li> </ul>	<p>Example of disclosure content if environment-friendly products are sold assuming that the risks on the left are opportunities</p> <ul style="list-style-type: none"> <li>* Forecast sales and market scale of environment-friendly products</li> </ul>

		* Offset amount	* Clientele effect * Value of losses avoided
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○Examples of Information and Indicators on the Status of Environmentally Focused Management for Each Environmental Issue

Environmental issue	Status of impacts	Status of environmental initiatives	Economic effect due to the initiatives
Climate change	<ul style="list-style-type: none"> <li>Changes in and outlook for energy costs with respect to regulations on the amount of greenhouse gas emissions</li> </ul>	<ul style="list-style-type: none"> <li>Value of investment in energy-saving</li> <li>Offset costs</li> </ul>	<ul style="list-style-type: none"> <li>Gain on sales of credits</li> <li>Value of losses avoided</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for sales and market share of products and services due to demand changes</li> </ul>	<ul style="list-style-type: none"> <li>Performance improvement of energy-saving products and services</li> <li>Research and development costs and sales for these products and services</li> </ul>	<ul style="list-style-type: none"> <li>Sales and forecast amount for energy-saving products and services</li> <li>Value of losses avoided</li> <li>Clientele effect</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for raw materials procurement costs due to abnormal weather and changes in the distribution of biological resources</li> </ul>	<ul style="list-style-type: none"> <li>Value of investment in reduction of related raw materials and development of alternative raw materials</li> <li>Decentralization costs of raw materials suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>
Water resources	<ul style="list-style-type: none"> <li>Changes in and outlook for water costs due to regulations on the amount of water use</li> </ul>	<ul style="list-style-type: none"> <li>Value of investment in water-saving equipment</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for sales and market share of products and services due to demand changes</li> </ul>	<ul style="list-style-type: none"> <li>Performance improvement of water-saving products and services</li> <li>Research and development costs and sales for these products and services</li> </ul>	<ul style="list-style-type: none"> <li>Sales and forecast amount for water-saving products and services</li> <li>Value of losses avoided</li> <li>Clientele effect</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for raw materials procurement costs due to depletion and</li> </ul>	<ul style="list-style-type: none"> <li>Value of investment in development of alternative raw materials</li> <li>Decentralization costs of raw materials suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>

	<p>decline of water resources</p> <ul style="list-style-type: none"> <li>Changes in and outlook for corporate evaluation due to water conflicts in regions</li> </ul>	<ul style="list-style-type: none"> <li>Costs required for communication with local residents</li> <li>Value of investment in water-saving equipment</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Changes in and outlook for raw materials procurement costs due to management systems for mineral resources and forest resources</li> <li>Changes in and outlook for raw materials procurement costs due to the introduction of regulations on the use of specific mineral resources</li> <li>Changes in and outlook for raw materials procurement costs due to the decline and depletion of mineral resources and forest resources</li> </ul>	<ul style="list-style-type: none"> <li>Value of investment in development of alternative raw materials</li> <li>Decentralization costs of raw materials suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for sales and market share of resource-saving products and services due to demand changes</li> </ul>	<ul style="list-style-type: none"> <li>Performance improvement of resource-saving products and services</li> <li>Research and development costs and sales for these products and services</li> </ul>	<ul style="list-style-type: none"> <li>Sales and forecast amount for products using alternative raw materials</li> <li>Value of losses avoided</li> <li>Clientele effect</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for corporate evaluation due to the use of conflict</li> </ul>	<ul style="list-style-type: none"> <li>Costs required for changing the raw materials suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>

	minerals		
Waste and recycling	<ul style="list-style-type: none"> <li>Changes in and outlook for costs due to the introduction of regulations related to waste treatment and recycling</li> </ul>	<ul style="list-style-type: none"> <li>Capital investment in waste reduction and improvement of the recycling rate</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for sales and market share of products and services that take into consideration disposal recycling due to demand changes</li> </ul>	<ul style="list-style-type: none"> <li>Performance improvement of resource-saving and recycling products and services</li> <li>Performance improvement of these products and services</li> </ul>	<ul style="list-style-type: none"> <li>Sales and forecast amount for related products and services</li> <li>Value of losses avoided</li> <li>Clientele effect</li> </ul>
	<ul style="list-style-type: none"> <li>Changes in and outlook for corporate evaluation due to neglect of waste management</li> </ul>	<ul style="list-style-type: none"> <li>Costs required for communication with local residents</li> <li>Costs required for waste management systems</li> </ul>	<ul style="list-style-type: none"> <li>Value of losses avoided</li> </ul>

Environmental issue	Status of impact	Status of environmental initiatives	Economic effect due to the initiatives
Chemical substances and hazardous substances	<ul style="list-style-type: none"> <li>• Changes in and outlook for costs due to the introduction of regulations on the use of hazardous substances and specific chemical substances</li> </ul>	<ul style="list-style-type: none"> <li>• Costs required for the management of hazardous substances and chemical substances</li> <li>• Value of investment in reduction of raw materials and development of alternative raw materials</li> </ul>	<ul style="list-style-type: none"> <li>• Value of losses avoided</li> </ul>
	<ul style="list-style-type: none"> <li>• Changes in and outlook for sales and market share of related products and services due to demand changes</li> </ul>	<ul style="list-style-type: none"> <li>• Performance improvement of hazardous substance-free products and services</li> <li>• Research and development costs and sales for these products and services</li> </ul>	<ul style="list-style-type: none"> <li>• Sales and forecast amount for related products and services</li> <li>• Value of losses avoided</li> <li>• Clientele effect</li> </ul>
	<ul style="list-style-type: none"> <li>• Changes in and outlook for corporate evaluation due to hazardous substance emissions in regions</li> </ul>	<ul style="list-style-type: none"> <li>• Costs required for management of hazardous substances and chemical substances</li> <li>• Capital investment required for reduction of hazardous substances and chemical substances</li> </ul>	<ul style="list-style-type: none"> <li>• Value of losses avoided</li> </ul>
Biological diversity	<ul style="list-style-type: none"> <li>• Changes in and outlook for raw materials procurement costs due to the introduction of biological genetic resources management</li> </ul>	<ul style="list-style-type: none"> <li>• Value of investment in reduction of related raw materials and development of alternative raw materials</li> </ul>	<ul style="list-style-type: none"> <li>• Value of losses avoided</li> </ul>

	<p>system</p> <ul style="list-style-type: none"> <li>• Changes in and outlook for raw materials procurement costs due to regulations on the use of biologically derived resources</li> <li>• Changes in and outlook for raw materials procurement costs due to the decline and depletion of biologically derived resources</li> </ul>		
	<ul style="list-style-type: none"> <li>• Changes in and outlook for sales and market share of related products and services due to demand changes</li> </ul>	<ul style="list-style-type: none"> <li>• Performance improvement of biodiversity-friendly products and services</li> <li>• Research and development costs for these products and services</li> </ul>	<ul style="list-style-type: none"> <li>• Sales and forecast amount for related products and services</li> <li>• Value of losses avoided</li> <li>• Clientele effect</li> </ul>
	<ul style="list-style-type: none"> <li>• Changes in and outlook for corporate evaluation due to the use of raw materials entailing development actions or development having an impact on the loss of biological diversity</li> </ul>	<ul style="list-style-type: none"> <li>• Costs required for changing the related raw materials suppliers</li> </ul>	<ul style="list-style-type: none"> <li>• Value of losses avoided</li> </ul>

## **7. [Information and Indicators on the Social Contexts (Breakdown)]**

Enterprises are expected to select and report on the appropriate information and indicators from the information and indicators given as examples below by consulting with stakeholders, considering the impact on and interest of society, and evaluating the information's materiality. A summary of the extent to which the firm's activities have contributed to the creation of social value can be reported.

### **(i) Information and indicators concerning organizational governance, ethics, compliance, and fair trade**

- Policies, systems, plans, and initiatives related to organizational governance, ethics, compliance, and fair trade (also applies to overseas activities)
- Details of violations of laws other than environmental laws, details on the directions, recommendations, orders, and punishments given by administrative agencies, and their number (including the Anti-Monopoly Law, Law for the Prevention of Unreasonable Premiums and Misrepresentation Concerning Products and Services, Subcontract Law, Labor Standards Law, Worker Dispatch Law, Fair Competition Regulations, Consumer Products Safety Law, Specified Commercial Transactions Law, Product Liability Law, and the Foreign Exchange and Foreign Trade Law)
- Details on all lawsuits other than environmental suits that have been filed or faced and their results
- Policy, plans, and initiatives related to safeguarding those personnel who disclose information in the public interest (“whistleblowers”)
- Status of the initiatives for fair transaction, such as the compliance program of the Anti-Monopoly Law and the implementation of an Anti-Monopoly Law observance program; observation of the Law for the Prevention of Unreasonable Premiums and Misrepresentation Concerning Products and Services; measures to prevent delay in payment to subcontractors; and the implementation of a guidelines observance program for distribution trade practices
- Statement of whether a code of conduct has been formulated

### **(ii) Information and indicators concerning human rights**

- Policy, plans, and initiatives related to understanding the relationship between business and human rights and to the protection of and respect for human rights
- Structures for managing, evaluating, and solving problems concerning human rights protection
- Status of measures taken to respect diversity or prevent discriminatory treatment based on gender, age, disability, health condition (e.g., pregnancy, AIDS), language, nationality, religion, race, skin color, ethnic group, status as an indigenous person, status as an immigrant or an immigrant worker, social origin,

political affiliation, religion, or marital status (including a statement of how programs for eliminating these forms of discrimination have been carried out, including in the value chain)

- Include forced labor, equal opportunity and discrimination in employment and vocation, abolition of child labor, and respect for freedom of association and collective bargaining rights
- Status of initiatives for respecting and protecting civil and political rights (e.g., the right to freedom and life, equality before the law, freedom of expression), and the economic, social, and cultural rights of stakeholders (including initiatives in the value chain)
- Status of initiatives to avoid complicity in human rights infringements
- Status of employee education and training about human rights
- Policy, plans, and initiatives related to personal information protection

### **(iii) Information and indicators concerning labor practices**

- Policy, goals, plans, and initiatives related to labor practices (e.g., employment and labor conditions, industrial safety and hygiene, human resources development and training, and dialogue)
- Management structures concerning labor practices
- Information and indicators concerning industrial safety and hygiene
  - ✓ Policies, plans, and initiatives concerning industrial safety and hygiene
  - ✓ Frequency and number of industrial accidents (e.g., number of accidents, details on serious accidents such as deaths, serious injuries, and deaths from overwork, and reporting required by the Law on Industrial Safety and Hygiene)
  - ✓ Policy and initiatives concerning the health care of employees (e.g., initiatives based on guidelines for research on danger and hazardousness \*1, initiatives based on guidelines on measures for implementing health examination results\*2, the status of safety and health education, and initiatives based on guidelines on measures for creating a comfortable working environment\*3)
  - ✓ Frequency rate, severity rate, and number of non-attendance days
  - ✓ Expenditure on health and safety and expenditure per employee
  - ✓ Initiatives based on guidelines for industrial safety and hygiene management systems\*4
  - ✓ The minutes of the Industrial Health and Hygiene Commission and notification to all employees
- Information and indicators concerning employment
  - ✓ Policies, plans, and initiatives related to employment

- ✓ Breakdown of labor force (e.g., percentages of permanent employees, temporary employees, short-term contract employees, part-time employees, status of elderly people employed, number of persons leaving organization in the previous year [by age, sex, and region], turnover rate [by age, sex, and region], and comparison of regular employment rate and regular employees as a percentage of all employees in the region)
  - ✓ Status of how fairly job applicants are selected and employed
  - ✓ Status of how personnel evaluations are conducted
  - ✓ Information required by the Equal Employment Opportunity Law for Men and Women (e.g., ratio of male to female directors and managers, ratio of male to female regular employees, and adherence to the Recommendations for Positive Action\*5)
  - ✓ Policies and initiatives related to the employment of the disabled and the status of the disabled being employed according to the Disabled Employment Promotion Law (number of disabled employed and their employment rate)
  - ✓ Policy on the employment of alien workers and the status of alien workers being employed
  - ✓ Initiatives to improve the workplace environment (status of how policies on prevention of sexual harassment have been clarified and made known to employees, status of whether a complaints procedure is in place and known to employees, initiatives to prevent bullying other than sexual harassment, status of how complaints about bullying have been handled, to what extent the guidelines on AIDS problems in the workplace\*6 have been adhered to, and to what extent the guidelines on items that a business proprietor should take into consideration in employment management when dealing with problems caused by sexual speech and behavior in the workplace\*7 have been adhered to).
- Information and indicators concerning labor conditions, social protection, etc.
    - ✓ Wage conditions (ratio of the average wages of regular employees to those of non-regular employees; comparison of health insurance, maternity leave before and after childbirth, childcare leave, and retirement pensions between regular employees and non-regular employees)
    - ✓ Status of systems related to working hours and holidays (status of the extent to which maternity leaves before and after childbirth and childcare have been taken, initiatives to support families raising children, off-duty education of employees and assistance for employees in participating in NPO activities, the status of the extent to which paid holidays and ones not stipulated by law have been taken, and initiatives based on the Next-Generation Fostering Assistance Promotion Law), status of nursing care leave systems and the extent to which they are being used

- Information and indicators concerning social dialogue
  - ✓ Labor-management relations (ratio of organized labor, status of collective bargaining, basic policies on dismissal and employment adjustment and the status of how the policies have been adhered to, status of labor-management disputes and lawsuits, and the status of directions, recommendations conducted by the Labor Standards Inspection Bureau)
  
- Information and indicators concerning human resources development and training
  - ✓ Status of how education and training are carried out

**(iv) Information and indicators concerning a wide range of consumer protection and product safety**

- Policies, plans, and initiatives related to consumer protection and product safety and quality
- Policies and initiatives to secure the safety and hygiene of customers by designing, manufacturing, selling (providing), using, and disposing of products and services
- Policies and initiatives to maintain ease of use of products and services for all customers by designing, manufacturing, selling (or providing), using, and disposing of products and services (“universal design”)
- Names of organizations that confirm and certify that their main products and services meet safety standards and, as necessary, the procedures for confirmation and certification, numerical targets for the products and services to meet the standards, and to what extent the standards have been met
- In-house systems related to fair marketing, such as compliance with laws and self-imposed regulations on advertising, information provision, and sales to customers
- Measures to comply with the Product Liability Law, especially those to secure the safety of customers in designing, manufacturing, and displaying products
- After-sales service program, including inspection and repair
- After-sales service program, including inspection and repair
- Status of whether a customer complaints system has been set up and the status of how complaints have been effectively dealt with (e.g., whether a system for dealing with customer complaints has been set up and how the complaints have been dealt with according to the Consumer Basic Law and how many cases of damage caused by products have been reported pursuant to the Consumer Products Safety Law)
- Status of the extent to which data justifying the quality indication and explanation of products as required by the Law for the Prevention of Unreasonable Premiums and Misrepresentation concerning Products and Services have been disclosed

- Status of how many faulty products have been recalled and collected
- A program for improving the sales and consumer contract provisions in compliance with the Consumer Contracts Law, Consumer Basic Law, Financial Product Transactions Law, and the Specified Commercial Transactions Law, and the status of the extent to which the program has been carried out
- The status of initiatives for and legal compliance with the protection of the personal information of consumers
- Status of initiatives regarding consumer education

**(v) Information and indicators concerning contributions to local communities**

- Policies, plans, and initiatives for respecting and protecting local cultures and communities and fostering community participation (in regions in Japan and abroad in relation to the activities of the organization)
- Initiatives regarding social issues in developing countries
- Initiatives regarding contributions to the regional economy, employment creation, and skills development
- Status of fair trade and CSR procurement
- Status of cooperation and assistance in the provision of education and training in local communities
- Policies, plans, and initiatives for the development of technologies, technology development support, and technology transfer
- Policies, plans, and initiatives related to social contributions other than for the environment (such as volunteer activities), mechanisms for promoting these policies, plans, and initiatives
- Status of assistance and provision to NPOs, industry groups, amount of donations and assistance, and goods supplied

**(vi) Information and indicators concerning other social contexts**

- Allocation of corporate value (value added) to stakeholders, by type
- Names of parties to whom funds were donated in areas other than the environment and the amount of those donations
- Status of whether tax liabilities have been met appropriately
- Policy, plans, and initiatives related to animal experiments
- Respect for and protection of intellectual property rights
- Policies, plans, and initiatives related to the handling, developing, manufacturing, and selling of weapons, products, or goods that can be diverted for military use
- Record of awards won

Reference: Guidelines, recommendations, etc. related to information and indicators for labor practices

\*1 Guideline on research on danger and hazards (in Japanese)

<http://www.jaish.gr.jp/anzen/hor/hombun/hor1-47/hor1-47-5-1-0.htm>

\*2 Guidelines on measures for organizations to implement based on health examination results (in Japanese)

<http://www.jaish.gr.jp/anzen/hor/hombun/hor1-19/hor1-19-1-1-0.htm>

\*3 Guidelines on measures for organizations to create a comfortable working environment (in Japanese)

<http://www.jaish.gr.jp/anzen/hor/hombun/hor1-21/hor1-21-1-1-0.htm>

\*4 Guidelines on industrial safety and hygiene management systems (in Japanese)

<http://www.jaish.gr.jp/anzen/hor/hombun/hor1-2/hor1-2-58-1-0.htm>

\*5 Recommendations for Positive Action

<http://www.mhlw.go.jp/houdou/2002/04/h0419-3.html>

\*6 Guidelines on AIDS problems in the workplace (in Japanese)

<http://www.jaish.gr.jp/anzen/hor/hombun/hor1-36/hor1-36-1-1-0.htm>

\*7 Guidelines on items that a business proprietor should take into consideration in employment management when dealing with problems caused by sexual speech and behavior in the workplace (in Japanese)

<http://www.mhlw.go.jp/general/seido/koyou/danjokintou/dl/20000401-30-2.pdf>

## 8. [Check Sheets for Evaluating how Environmentally Focused Management is working (Examples)]

### Environmental Management Assessment Checklist

(\*) In the Check column, indicate the answer to each question by writing “A,” “B” or “C.” If there is no applicable answer, leave the corresponding column blank.

Main item	Sub-item	Basic item	Question	Answer options	Check (*)
Basic requirements	Range of target organization	✓	What is the target range of environmentally-conscious management?	A. All affiliated business operators (such as consolidated companies) B. Subject company and important subsidiaries, etc. C. Subject company only	
Leadership of manager of enterprise	Statement of manager of enterprise	✓	Has the manager of the enterprise expressed commitment to implementing environmental considerations?	A. The manager of the enterprise has presented concrete targets and expressed his/her intention to implement environmental considerations.  B. The manager of the enterprise has not presented targets but expressed his/her intention to implement environmental considerations.  C. The manager of the enterprise has made no such statement.	
Policy, vision, business strategy, etc. pertaining to environmental considerations	Policy pertaining to environmental considerations	✓	Is the policy for environmental considerations established?	A. The company has established the policy and correlated it with its management policy.  B. The company has established the policy, but its correlation with its management policy is insufficient.  C. The company has not established any policy.	
	Important issues, vision, business strategy, etc.		Has the company identified important issues by examining the effects of environmental impacts on its management?	A. The company has identified important issues.  B. The company has not identified important issues.  C. The effects on the management are not important.	
		✓	Are targets for environmental issues established?	A. The company has established medium-/long-term (3 to 5 years) targets.  B. The company has established only short-term (1 year) targets.  C. The company has not established any targets.	
		✓	Is the company taking response actions toward achieving the targets strategically and systematically?	A. The company is taking response actions with a focus on business strategies.  B. The company is taking response actions	

Main item	Sub-item	Basic item	Question	Answer options	Check (*)
				systematically but without formulating business strategies. C. The company is not taking response actions.	
Organizational system and governance	Organizational system, etc. pertaining to environmentally-conscious management (including environmental risk management system)	✓	Is an executive-level employee appointed as the head of the organization in control of environmental management?	A. An executive-level employee is in charge of environmental management. B. The person in charge of environmental management is not an executive-level employee. C. No executive-level employee is in charge of (or involved in) environmental management.	
		✓	Are rules stipulating the responsibility and authority for the organizational system, such as approval procedures, established clearly and implemented appropriately?	A. There are clear rules and they are implemented appropriately. B. The rules are not clear, but they are implemented appropriately. C. The rules are not clear and they don't seem to be implemented appropriately.	
		✓	Are important business sites certified for the environmental management system (ISO 14001, EA21, etc.)?	A. All important business sites have certification. B. Some important business sites have certification. C. No business site has certification.	
		✓	Is the environmental management system implemented throughout the entire company (regardless of certification)?	A. The environmental management system is implemented company-wide. B. The environmental management system is not implemented company-wide but only at certain business sites. C. The environmental management system is not implemented adequately.	
		✓	Is environmental education provided to employees?	A. Environmental education is provided to all employees. B. Environmental education is provided to some employees. C. Environmental education is not provided at all.	
		✓	Are environmental audits conducted?	A. Environmental audits are conducted at all business sites. B. Environmental audits are conducted only at important business sites. C. Environmental audits are not conducted.	
			Are disaster/accident response measures, such as preventive actions/measures and training, implemented systematically	A. Necessary measures are taken at the company as well as for suppliers. B. Necessary measures are taken at the	

Main item	Sub-item	Basic item	Question	Answer options	Check (*)
			(establishment and implementation of BCP)?	company's business sites. C. Necessary measures are not adequately taken.	
	Compliance with environmental regulations, etc.	✓	Is the compliance with environmental laws and regulations confirmed?	A. Compliance is confirmed, including that at suppliers. B. Compliance is confirmed at the company's business sites. C. Compliance is not confirmed adequately.	
		✓	In the case where there were violations of a law or regulation in the past (within the past 3 years), have appropriate response actions been taken?	A. There is no record of violation. B. Violations have been responded to appropriately and there is no record of violation at present. C. Violations have not been responded to appropriately.	
Response to stakeholders	Response to stakeholders	✓	Does the company understand stakeholders' requests and expectations and reflect them in decision-making and business activities?	A. The company reflects stakeholders' requests and expectations in decision-making and business activities. B. The company understands stakeholders' requests and expectations but does not reflect them sufficiently in decision-making or business activities. C. The company does not have adequate understanding of stakeholders' requests or expectations.	
	Social contribution activities pertaining to the environment		Does the company conduct social contribution activities (including cooperative activities with government agencies, etc.)?	A. The entire company conducts social contribution activities. B. Some employees conduct social contribution activities. C. The company does not conduct social contribution activities.	
Environmentally-conscious efforts by value chain	Policy, targets, etc. of environmentally-conscious activities of value chain	✓	Does the company have a policy for activities towards the reduction of environmental impacts generated by all value chain activities pertaining to products/services (ranging from procurement and R&D to production, sales, transportation and disposal)?	A. The company has an established policy. B. The company has not established a policy. C. The effects on the management are not important.	
			(If the above answer is A or B) Does the company have targets for environmental issues to be addressed by the value chain?	A. The company has established medium-/long-term (3 to 5 years) targets. B. The company has established only short-term (1 year) targets. C. The company has not established targets.	

Main item	Sub-item	Basic item	Question	Answer options	Check (*)
			(If the above answer is A or B) Is the company striving to achieve the targets strategically and systematically?	<p>A. The company has incorporated the targets in its business strategies and is taking actions systematically.</p> <p>B. The company has not established business strategies but is taking actions systematically toward achieving the targets.</p> <p>C. The company is not taking actions toward achieving the targets.</p>	
	Green purchasing/procurement	✓	Does the company manage green purchasing/procurement targets?	<p>A. The company manages the targets.</p> <p>B. The company does not manage any targets.</p> <p>C. Not applicable</p>	
			(If the above answer is A or B) Does the company evaluate suppliers' environmental management through green procurement?	<p>A. The company conducts evaluation.</p> <p>B. The company evaluates only legal compliance.</p> <p>C. The company does not conduct evaluation.</p>	
			(If the above answer is A or B) Do the suppliers request their suppliers to observe green procurement?	<p>A. They do.</p> <p>B. They only request their suppliers to comply with laws and regulations.</p> <p>C. They do not make such request.</p>	
	Products, services, etc. contributing to environmental impact reduction	✓	Does the company manage targets for the reduction of environmental impacts generated by the use of products, services, etc.?	<p>A. The company manages the targets.</p> <p>B. The company does not manage any targets.</p> <p>C. Not applicable</p>	
	New technologies/R&D related to the environment		Does the company manage targets for research and development of environmental technologies, etc.?	<p>A. The company manages the targets.</p> <p>B. The company does not manage any targets.</p> <p>C. Not applicable</p>	
	Environmentally-conscious transportation		Does the company manage targets for environmentally-conscious transportation?	<p>A. The company manages the targets.</p> <p>B. The company does not manage any targets.</p> <p>C. Not applicable</p>	
	Environmentally-conscious resources and real-estate development/investment		Does the company manage targets for environmentally-conscious development/investment (including corporate pension fund) of resources and real-estate?	<p>A. The company manages the targets.</p> <p>B. The company does not manage any targets.</p> <p>C. Not applicable</p>	
	Environmentally-conscious waste processing/recycli		Does the company have an established policy and manage targets for environmentally-	<p>A. The company manages the targets.</p>	

Main item	Sub-item	Basic item	Question	Answer options	Check (*)
	ng		conscious waste processing/recycling?	B. The company does not manage any targets. C. Not applicable	
Environmental report	Preparation and announcement of environmental report	✓	Does the company prepare and announce an environmental report?	A. The company conducts organizational verification. B. The company does not conduct organizational verification. C. The company does not prepare or announce any environmental report.	
	Reliability of environmental report		Does the company check the reliability of the environmental report?	A. The company has the report audited by a third party. B. The company conducts self-evaluation. C. The company does not check the reliability of the environmental report.	

## Environmental management assessment checklist (environmental performance)

Check each important environmental impact item (indicate the number of appropriate replies).

		Important check item	Compliance with regulations, etc.	Understanding of environmental load (materials flow)	Boundary	Target setting	Achievement of target
Environmental impact item		Add “✓” if important.	1. Compliance confirmed 2. No compliance 3. No applicable regulations, etc.	1. Well understood 2. Not understood	1. Consolidated companies included 2. Main consolidated companies included 3. No consolidated companies	1. Medium term (3 to 5 years) and short term (1 year) 2. Short term (1 year) only 3. None	1. Achieved 2. Not achieved
Resource/energy input	Total amount of energy input						
	Total amount of materials input						
	Amount of water resource input						
Use of recycled input resources, etc.							
Generation of environmental impacts	Amount of greenhouse gas emissions						
	Total drainage volume						
	Amount of load on air pollution and living environment						
	Release amount/transferred amount of chemical substances						
	Total volume of discharged waste, etc., amount of						

	waste for final disposal						
	Amount of stored/discharged hazardous substances						
Biodiversity preservation and sustainable use of biological resources							

**(Reference) Social and other matters**

The following items are generally treated as social items in commonly used green procurement guidelines.

	Requirement	Description
Social items	Human rights, labor	<ul style="list-style-type: none"> <li>-Prohibition of discrimination in employment</li> <li>-Respect for human rights</li> <li>-Prohibition of child labor</li> <li>-Prohibition of forced labor</li> <li>-Compliance with laws concerning wages</li> <li>-Compliance with laws pertaining to working hours</li> <li>-Dialogue/discussion with employees</li> <li>-Safe/healthy work environment (equipment safety measures, workplace safety/hygiene, labor accident/sickness, emergency response, considerations for physically strenuous work, facility safety/sanitation)</li> <li>-Development of human resources</li> </ul>
	Safety, quality	<ul style="list-style-type: none"> <li>-Provision of products in response to the needs of customers (clients, consumers)</li> <li>-Provision of appropriate information related to products</li> <li>-Assurance of product safety</li> <li>-Assurance of product quality</li> </ul>
	Fair trade, ethics	<ul style="list-style-type: none"> <li>-Prohibition of corruption, bribery, etc.</li> <li>-Prohibition of abuse of superior bargaining position</li> <li>-Prohibition of inappropriate profit sharing and receipts</li> <li>-Prohibition of competition restricting practices</li> <li>-Provision of accurate information of products/services</li> <li>-Respect for intellectual properties</li> <li>-Appropriate export control</li> <li>-Prevention/early discovery of illegal acts</li> </ul>
	Information security	<ul style="list-style-type: none"> <li>-Protection against threats to computers/networks</li> <li>-Prevention of personal information leakage</li> <li>-Prevention of leakage of confidential information of customers/third parties</li> </ul>
	Social contribution	<ul style="list-style-type: none"> <li>-Contribution to society/local communities</li> </ul>
Other items	Compliance	<ul style="list-style-type: none"> <li>-Legal compliance</li> <li>-Compliance with competition law (Regarding the prevention of corrupt practices, management/protection of confidential information, management of export transactions, protection of intellectual properties, and prevention of corruption, refer to the section of “social items.”)</li> </ul>
	Risk management	<ul style="list-style-type: none"> <li>-Establishment and implementation of risk analysis and risk management systems</li> <li>-Establishment of business continuity plan</li> </ul>
	Disclosure of information to stakeholders	<ul style="list-style-type: none"> <li>-Timely and appropriate disclosure of information of financial performance, business activities, etc. to stakeholders</li> <li>-Efforts for maintaining and developing mutual understanding and trust relationships through open and fair communications</li> </ul>

Reference: Related guidelines, recommendations

\*1 Report of the Committee to Study Promotion of Use of Environmental Information: Promotion of Environmental Management and Use of Environmental Information: Toward the Building of an Infrastructure that will lead to a Green Economy

[http://www.env.go.jp/policy/env-disc/com/com\\_pr-rep/rep-main.pdf](http://www.env.go.jp/policy/env-disc/com/com_pr-rep/rep-main.pdf)

\*2 Guidelines for Green Procurement Promotion (Provisional Edition)—Promotion of Value Chain Management— [http://www.env.go.jp/policy/env-disc/com/com\\_pr-rep/rep-ref06.pdf](http://www.env.go.jp/policy/env-disc/com/com_pr-rep/rep-ref06.pdf)



## Environmental Reporting

### Guidelines

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