

Eco-Action 21
Environmental Management Systems –
Environmental Activities Report Guidelines

(Fiscal Year 2004 Version)

Tentative Translation

April 2004

Ministry of the Environment
(Japan Government)

Table of Contents

Foreword

Chapter 1: Components of Eco-Action 21- Fiscal Year 2004 Version	10
1. Components of the Eco-Action 21	10
2. Procedure of the Eco-Action 21	11
3. Studying Environmental Burden – Choosing of Aspects	12
Chapter 2: Guide to Self-Check of Environmental Burden	15
Chapter 3: Guide to Self-Check of Environmental Measures	19
Chapter 4: Environmental Management Systemes Guidelines	22
I. Installation of Plan (Plan)	25
II. Implementation of the Plan (Do)	30
III. Check/Evaluation of the Progress (Check)	34
IV. Management Review of the Whole Systemes (Act)	38
Chapter 5: Environmental Activity Report Guidelines	39
1. Composition of Environmental Activity Report	39
2. Publication of Environmental Activity Reports	40

Annex Table 1: Self-Check List of Environmental Burden

Annex Table 2: Self-Check List of Environmental Measures

<p>Although these guidelines are called the “Eco-Action 21,” it is officially named “Environmental Activity Evaluation Program (Eco-Action 21).”</p>
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Foreword

○Recommendation for Increasing Environmental Activities

While the current socio-economic system of the mass-production, mass-consumption, mass-disposal provides human being with convenient and comfortable life-styles, it imposes the natural environment a heavy burden, which destroys the balance between the socio-economic system and the natural environment. There is an expectation that existence of human being might be threatened unless no action is taken.

The carbon dioxide concentration in the atmosphere in 1999 has, for example, increased by 31% since 1750. This increase rate is unprecedented in past 20,000 years, and the level of carbon dioxide is said to be the highest in past 420,000 years*.

*The Ministry of the Environment. *White Paper on the Environment*. 2003 Edition Part One, Introductory Chapter.

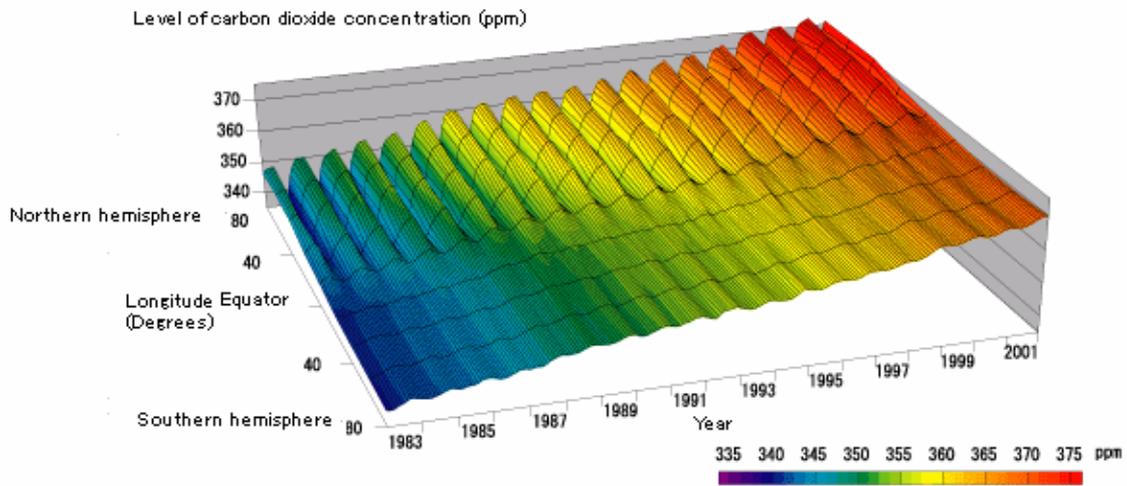
In order to maintain the society, an average household in Japan consumes 109 kg of natural resources (12.5 tons annually), and generates 34 kg of waste (12.5 ton annually)**.

** Calculated with data in The Ministry of the Environment. *White Paper on Recycling-Based Society* Part One Introductory Chapter

We must transform the 20th-century-style mass-production, mass-consumption, mass-disposal socio-economic system into a sustainable recycling-based society, which is an optimum-production, optimum-consumption, and minimum disposal society.

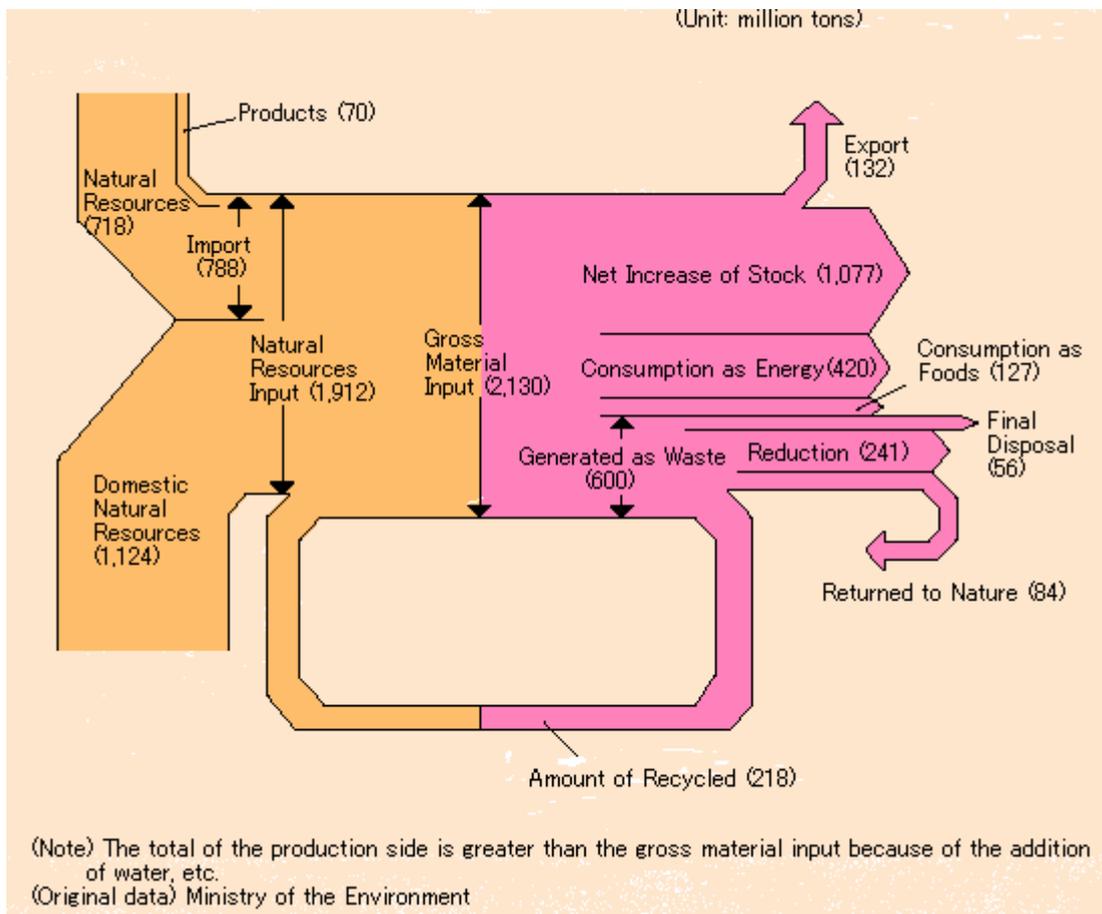
To build such a sustainable and recycling-based society, it is necessary for all economic actors such as businesses, consumers and public bodies to strengthen their environmental activities. **Particularly, private organizations, which account a major part of socio-economic activity, are, regardless of the kinds or sizes of the organizations, expected to commit active involvement.**

(Figure) Trend of Carbon Dioxide Concentration in the Atmosphere



Source: Climate Change Monitoring Report 2002

(Figure) Material Flow in Japan, 2000



○ **Engagement in Environmental Activities Is Becoming a Condition for Business**

As environmental problems become serious, the attitudes of organizations toward the environmental protection became more positive in recent years. In past, organizations tended to consider environmental protection as “one of contributions to the society.” However, in recent years, increasing number of organizations businesses consider it as “an important element that determines fate of the organizations” or “one of the most important strategies ,” and clearly define it is an essential part of organizational activities.

After the enactment of The Green Procurement Law, “green procurement,” which is giving priorities to environmentally friendly goods and services in purchasing decisions, is becoming common among organizations.

Environmental activities of organizations have become a necessary element for them because of the progress in green procurement as well as the increased public concerns and the strengthened environmental regulations. **Greening of supply-chains**, that is, big businesses require suppliers to have adopted environmental actions or environmental management systemes, is becoming common among big corporations*.

(* For more information about the current state of environmental activities by businesses, refer to the Survey on Environmentally Friendly Activities of Businesses by the Ministry of the Environment

URL <http://www.env.go.jp/policy/j-hiroba/kigyo/h14/gaiyo.pdf>)

○ **Benefits of Environmental Activities for Organizations**

The foundation of **environmental management**, which is voluntary and active commitment to environmental activities, is to reduce the use of resources and energy and the generation of waste in the operation processes and to fulfill the accountability by publicizing information on their environmental activities. Commitment to environmental activities will bring considerable benefits to organizations because it will result in higher accomplishment from winning public trust, and will increase productivity in their operations.

By establishing and maintaining systems for environmental management (environmental management systems), organizations may conduct more effective and efficient environmental activities, and they may eliminate wasteful use of resources and achieve effective management of the operation.

○ **Feature of Eco-Action 21, Fiscal Year 2004 Version**

The Ministry of the Environment launched the Eco-Action 21 in 1996 in order to encourage environmental activities of small-to-medium sized corporations (SMCs). The Ministry promoted the Eco-Action 21 while revising it several times. The Ministry has completely revised the Eco-Action 21 as a response to recent progress in green procurement.

The new Eco-Action 21 consists of

- 1. Self-Checklists of Environmental Burden**
- 2. Self-Checklists of Environmental Measures**
- 3. Environmental Management Systems Guidelines**
- 4. Environmental Activity Report Guidelines**

These four parts provide a method that enables a wide variety of organizations to **adopt effective and efficient systems that promotes environmental activities, to establish objectives of environmental activities, and to compose, evaluate and report the results of these activities.**

- **EcoAction 21 is an environmental management systems that SMCs could easily adopt**

To promote environmental management efforts by SMCs and to ensure their efforts are efficient and effective, the Eco-Action 21 shows how an environmental management system should be established as the guidelines, which are based on ISO14001.

Not only could establishing and operating the Eco-Action 21 system improve environmental activities but also improve management such as reductions of costs and improvements of productivity/yield rates.

- **EcoAction 21 prescribes required actions**

Merely establishment and operation of an environmental management system may not guarantee sufficient environmental performance. The Eco-Action 21 requires examination of the following three aspects as mandatory: the amount of carbon dioxide emission, the amount of waste generation and the amount of waste-water generation.

In addition, it requires adoption of measures for energy conservation, waste reduction or promotion of recycling and water usage reduction.

These are necessary measures required for environmental management.

- **Environmental communication (Environmental reporting)**

Environmental communication, in which organizations publish their environmental progress, etc., is a social need and is a necessary condition to promote their environmental activities and to win trust from the society.

Environmental communication, that is, organizations release information on their activities, is a need from the society and is a necessary component for promoting environmental activities and winning confidence of the public for organizations.

The Eco-Action 21 requires the compliance and publication of environmental activity reports as a necessary element. Sincere attitude towards environmental reporting is one of the most important conditions for gaining public trust and to successful development of organization's activities.

○ **Procedure towards Eco-Action 21 Certificate/Registration**

{Column} Certification & Registration of Eco-Action 21

Organizations which implement Eco-Action 21 and publish their environmental activity reports can apply for the Certificate by Eco-Action 21 Auditors. After passing the certification process, those organizations can register their names on the IGES web-site.

For further information, contact the body written-under.

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Commentary

◆ What is “Environmental Management Systems”?

An environmental management system is a **device** for an organization to carry out environmental activities in effective and efficient manner and is a part of the overall management system of an organization.

An environmental management systems is based on **the PDCA cycle**, which consists of

- 1) voluntary establishment of environmental policy and objectives (**Planning =P: Plan**)
- 2) formation of an implementation team and implementation of necessary measures to achieve the objectives (**Implementation and Operation =D: Do**)
- 3) evaluation and correction of the operation, performance and the current status of the systems (**Checking and corrective Action = C: Check**)
- 4) periodical review of the systems (**Management Review = A: Act**).

The purpose of an environmental management systems is **continual improvement** of the systems and environmental performances, which can be achieved by repeating these steps; and is to reduce environmental burden generated by the organization, to decrease energy usage and waste generation, to provide environmentally friendly goods and services, and to improve the quality of the environment.

The International Organization for Standardization (ISO) established an international standard for environmental management systems as ISO14001, under which organizations may be audited by external auditors whether their environmental management systems have been established and maintained in compliance with the requirements set by the standard (environmental management systems audit), and may be registered. This is called “acquisition of certification/registration” of environmental management systems under ISO14001.

The number of organizations that have acquired ISO 14001 certificates has increased particularly among big corporations, however, it is commonly recognized that the burden to be certified by ISO 14001 may be too heavy for small-to-medium sized organizations.

The Ministry of the Environment, therefore, established the Eco-Action 21 Environmental Management Guidelines to encourage SMCs to engage in and to ensure their efficient and effective efforts. The Eco-Action 21 is based on the International Standard Organization's ISO14001 standards and is designed to be environmental management systems that is easier to be adopted by SMCs.

◆ **Benefits of Adopting the Eco-Action 21**

If your organization may have problems like:

- rules are formed, but they are often forgotten and disobeyed
- insufficient use of resources or/and inappropriate practice are recognized but not corrected
- goals are set, but not achieved
- responsibilities are shouldered on a limited number of persons, and if one of them is absent the operation is disturbed,

Then your organization is recommended to use the Eco-Action 21 guidelines.

Adopting an environmental management systems, which is based on the PDCA cycle, means:

- all members of the organization involve in activities rather than only a few struggle,
- the members of the organization act on officially decided rules instead of spontaneous informal agreements,
- goals of activities are clearly set
- outcomes of the activities are evaluated,
- if a goal is not achieved, reasons of the failure are investigated,
- these efforts are repeated everyday and continued for years.

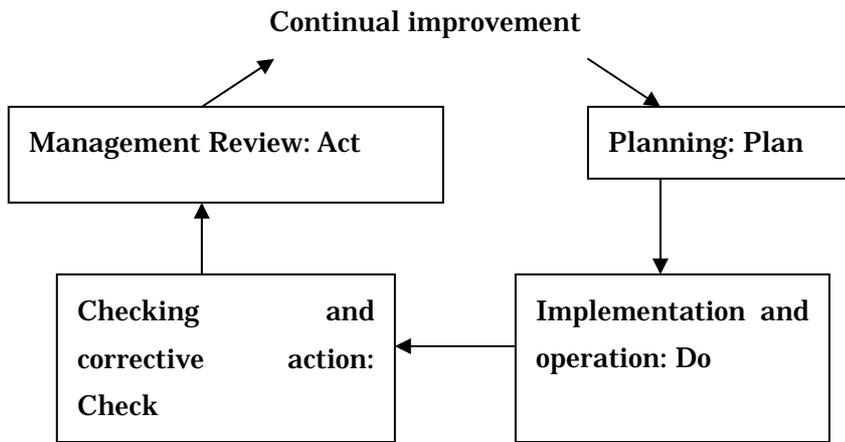
And this would solve a variety of problems of the organization.

In addition, an organization may expect the following benefits by adopting an environmental management systems:

- reduced cost resulting from reduced use of resources and energy and reduced waste generation,

- reduced environmental risks such as accidents and environmental pollution
- improved image of the organization,
- increased sales which would result in a qualification for green procurements, and
- increased trust from business partners.

Above all, it contributes to protecting local and global environment and will enable us to hand down the beautiful earth to our children.



Chapter 1:

Components of Eco-Action 21- Fiscal Year 2004 Version

1. Components of the Eco-Action 21

The Eco-Action 21 consists of the following four components.

As an action that participating organizations should start with, the Self-Checklists of Environmental Burden is provided in Chapter 2, which is a tool to assess how much each organization has produced environmental burden, and the Self-Checklists of Environmental Measures is provided in Chapter 3, which helps each organization to determine what environmental measures the organization should consider.

Additionally, “the Environmental Management Systems Guidelines” is provided in Chapter 4, which includes these two self-checklists, and “the Environmental Activity Report Guidelines,” is provided in Chapter 5, which reports the environmental activities of the organizations to the public.

① Guide to Self-Checking of Environmental Burden

This guide provides a simple tool to measure environmental burdens generated by each organization. It is necessary to know what kind of and how much environmental burdens each organization produces in order to establish an environmental system and to operate it in proper manner.

② Guide to Self-Checking of Environmental Measures

This is a checklist that helps the determination of aspects that the organizations are expected to perform environmental activities. This checklist enables the participating organizations to evaluate the achievement of each environmental program and to determine how the program can be improved.

③ Environmental Management System Guidelines

The Eco-Action 21 provides a set of environmental management system guidelines that is easier for SMCs to implement. These guidelines are based on ISO14001 standard set by the International Organizations for Standardization and are intended to promote environmental activities of SMCs and to make them more efficient and effective. When an organization plans an environmental management systems, it should start with the outcomes of these checklists described in ① and ②.

④ Environmental Activity Report Guidelines

These guidelines describe environmental activity reports, which SMCs should compose and publish. Composing and publishing an environmental activity report is a first step of environmental communication.

In order to be certified and registered as an “Eco-Action 21 certified/registered organization,” it is necessary for the organization to do all the four components and to meet required criteria prescribed in the Eco-Action 21 Environmental Management Systems: Environmental Action Report Guidelines 2004.

2. Procedure of the Eco-Action 21

The procedure of the Eco-Action 21 can be summarized in the following diagram.

First, the representative of an organization decides to adopt the Eco-Action 21. The leadership of the representative is the most important element of a successful implementation of the Eco-Action 21.

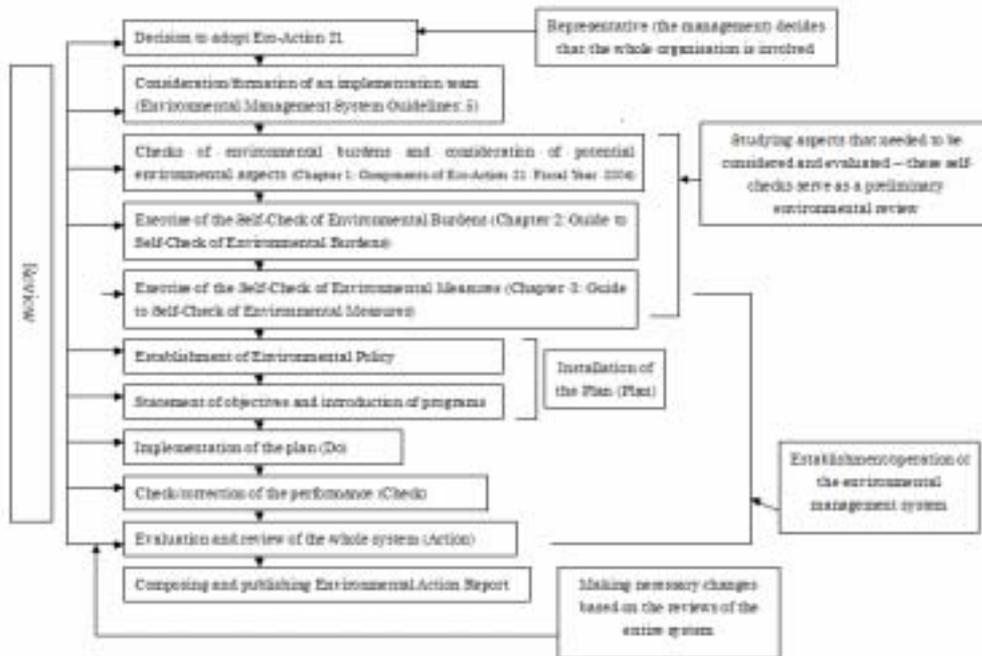
Next, the participating organization creates an implementation team.

Then, the participating organization carries out the Self-Check of Environmental Burden, which is a preliminary environmental review described in Chapter 2, and the Self-Check of Environmental Measures, which is described in Chapter 3. Based on the results from the self-check, the participating organization establishes environmental management systems.

The environmental policy, objectives and targets are established, and when the organization is ready to implement, it starts to implement. The participating organization periodically assesses the performance of the systems. If a problem is found, the problem should be corrected.

The representative reviews the overall environmental performance once in a year or more often, and revises the environmental management systems if necessary to make it better. By repeating these steps, **continual improvement** can be achieved.

Procedure of Eco-Action 21



3. Studying Environmental Burden – Choosing Aspects

In order to make progress in environmental activities, it is important for an organization to measure and evaluate “what burdens the organization gives the environment and how much the organization’s environmental programs are effective.”

When an organization measures and evaluates environmental burdens, the organization should consider the business practice of the organization and choose **aspects in which the organization has close relations with the environment** from 9 items described below.

The **Worksheet for measuring and evaluating environmental aspects**, presented on the next page, is based on the nine core indicators which are provided in the “Environmental Performance Indicators for Businesses, Fiscal Year 2002” by the Ministry of the Environment in January 2003, and they are designed helping organizations to easily choose the measurement and evaluation aspects.*

Select environmental burdens that correspond to the selected measurement and

evaluation aspects from the “Table 1 Self-Checklists of Environmental Burden,” is described on page 42, and select environmental measures that would be evaluated from the “Table 2 Self-Checklists of Environmental Measures” at the end of this volume.

The **Self-Check of Environmental Burden** and the **Self-Check of Environmental Measures** are **preliminary environmental reviews** for establishing the environmental management system.

[Worksheet for choosing environmental aspects that are needed to be included in environmental management system]

Aspect	Environmental burden check	Environmental measure check
① Energy consumption	➔ <input type="checkbox"/> Total Energy Input <input type="checkbox"/> Amount of Electricity purchased, amount of fossil fuel consumption, amount of new energy, etc.	<input type="checkbox"/> Reducing energy usage <input type="checkbox"/> Increase the use of new energy.
② Consumption of raw material, parts and packaging	➔ <input type="checkbox"/> Total input of material <input type="checkbox"/> Input of recycled material, Input of natural resources, etc.	<input type="checkbox"/> Reducing material usage <input type="checkbox"/> Green procurement
③ Water consumption	➔ <input type="checkbox"/> Total amount of water input <input type="checkbox"/> City water, industrial water, ground water, etc.	<input type="checkbox"/> Reducing water usage, efficient use of water
④ Consumption of fossil fuel, etc.	➔ <input type="checkbox"/> Amount of greenhouse gases emissions <input type="checkbox"/> Carbon dioxide, methane, etc.	<input type="checkbox"/> Reducing carbon dioxide emissions
⑤ Use and release of chemical substances, etc.	➔ <input type="checkbox"/> Amount of chemical products released and transferred.	<input type="checkbox"/> Programs for chemical substances.
⑥ Production and sales of the products	➔ <input type="checkbox"/> Total number of production and products sold	<input type="checkbox"/> Development and design of products to minimize environmental burden
⑦ Generation of the waste	➔ <input type="checkbox"/> Total amount of waste generated etc. <input type="checkbox"/> Materials with market value, general waste, industrial waste etc.	<input type="checkbox"/> Reducing amount of waste generated, recycling
⑧ Final disposal of waste	➔ <input type="checkbox"/> Amount of final disposal of waste	<input type="checkbox"/> Proper disposal
⑨ Disposal of waste water	➔ <input type="checkbox"/> Total amount of water disposed/amount of water contaminants	<input type="checkbox"/> Waste water treatment

Chapter 2: Guide to Self-Check of Environmental Burden

In order to do environmental activities, it is important to acknowledge how much environmental burdens are generated by the organizational activities. **The Self-Check of Environmental Burden** provides a simple tool that enables organizations to calculate environmental burdens generated in offices and factories using the core indicators presented in “the Environmental Performance Indicators Guidelines.”

When an organization selects aspects of environmental burden to measure and evaluate, the organization needs to look over the entire organizational activities, to assess “what part of the activities generates a significant environmental burden,” and to select an aspect that covers the activity which cause the environmental burden.

Particularly, the amount of carbon dioxide emitted, the amount of waste generated and the amount of waste water generated (amount of water used) shall be selected.

It is important for the organization to consider a strategy such as “What area of environmental activities the organization should emphasize in future or what direction the organization would wish to go?” and to select aspects in accordance with the strategy.

In addition, it would be helpful to hear opinions from local residents, consumers and officials of local authorities.

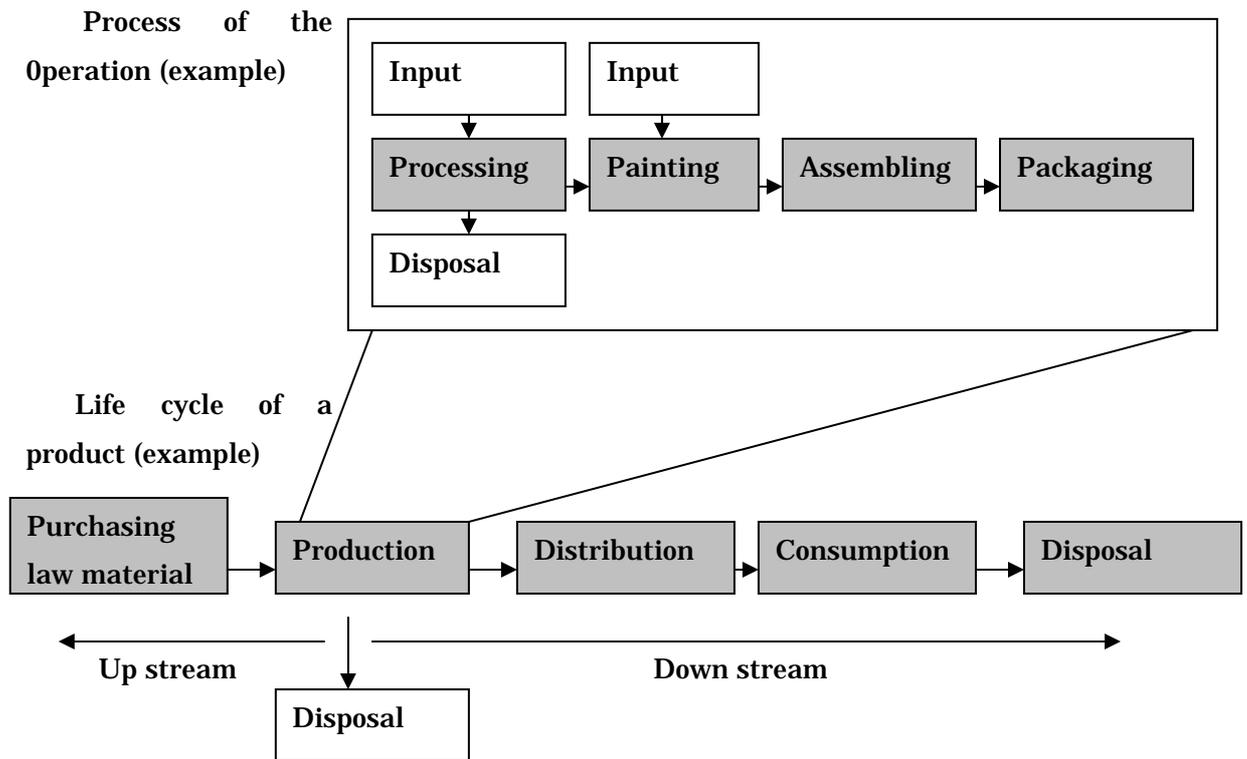
It would be useful to inquire local authorities and to research on local environmental problems, such as pollution, and to discuss about local environmental issues with residents of surrounding communities.

It is a useful technique to summarize the process of production activities and to determine environmental burdens generated from each stage. Organizations should consider what are being inputted and what are being released into the environment at each stage of the process.

When selecting the aspects that should be included in the environmental management systems, it is important to select every aspects in consideration of relevant laws and regulations which shall be complied with, paying attention to

information from trade associations. By doing so, the organization would avoid an omission of an important aspect that should not be excluded.

In addition, identifying environmental burdens of a product with the view-point of “life cycle,” which uses the concept of the “up stream” and the “down stream” of the organization’s activities, could enable the organization to see what would be an important aspect for its environmental activities.



◆ **Issues that need to be considered for checking environmental burden**

How to use the check-sheet

- The check-sheet presented in Table 1 is provided as an example that helps organizations to perform self-check of their environmental burdens. Organizations may modify the indicator items, conversion rates, units of measurement and other items in the Table to adapt to particular circumstances surrounding their businesses. What important is that a measurement of an environmental burden in one year is comparable to other year on the same basis.

- The check-sheet lets us to calculate emissions for one year, however, it is important, if possible, to build a database for several years and to compare emission levels of consecutive years. This enables the organization to evaluate how the emission levels have been improved and to reflect them in the review of the plans and programs.
- The check-sheet has a column for the entry of environmental burden “per size of organization.” This makes the evaluation of environmental activities possible even when the size of the organization changes. Organizations could choose other indicators such as per unit of production and per unit of shipment. Organizations should use appropriate ones that are most suitable to the business. (It is not necessary to use all the indicators.)

How to gather data

- Reference materials that are already in the office can be useful for the purpose of data collection. Many offices have materials such as data for financial management and statistics assigned by authorities.
- Materials may be stored in separate sections or may be available only in the form of raw materials such as payment vouchers. It could take time to process these raw data. It is desirable to identify desirable data and to build a system in which the data are managed and processed by personnel at the origin of data.
- If data are collected in short-term bases, such as monthly-bases, it will be useful to build objectives. .
- It is desirable to gather data that covers past 3 years. If data for past years are not available, build appropriate data management in future.

Examples of in-house documents

- Invoice of the usage, the amounts purchase and the prices of energy, resources and raw material.
- Copy of a questionnaire of Report on Petroleum Statistics
- Invoice of manifest
- Payment slips for waste disposal companies,
- Invoice and payment slips for rented-copying machines
- Specifications and instructions of equipment.
- Copy of a questionnaire of the General Survey on the Emission of Air Pollutants
- Copy of a questionnaire of the General Survey on the Emission of Water Pollutants
- Certificates of Environmental Measurements
- Form of the Management of Chemical Substance Storage or documents provided for the Pollutant Release and Transfer Register.

Chapter 3: Guide to Self-Check of Environmental Measures

The purpose of the Self-Check of Environmental Measures is to assess the current level of environmental measures of an organization and to help identifying what environmental measures should be planned.

The Checklist presented in Table 2 is designed for all kinds of organizations including manufacturing, construction, distribution, retail companies, hospitals and governmental institutions. Therefore, some items in the Checklist may not be related to certain industries. If an item is not applicable for your organization, “/” can be entered.

If items are applicable, following symbols should be entered for each item.

Item that has been already in place	○
Item that is in place but requires further improvement	△
Item that has not been in place	X

After this self-check, choose items that are considered to be important to improve, make these items environmental objectives set in the environmental management system described in Chapter 4, and take action for them with priorities.

Keep the results of the Check and use them for annual reviews of the environmental management systems.

The structure of the Checklist is shown in the following table.

[The Structure of the Self-Check-sheet of Environmental Measures]

Measures regarding inputs to the organization's activities	<ul style="list-style-type: none"> - Energy conservation, expansion of the use of new energy - Conservation of resources, green procurement - Water conservation, efficient use of water
Measures regarding outputs from the business activities	<ul style="list-style-type: none"> - reduction of carbon dioxide emissions, prevention of air pollution, etc - Measures for chemical substances - Environmental consideration at the development and design stages of products - Reduction of waste generation, recycling, proper disposal - Disposal of waste water - Reduction of environmental burden during transportation - Environmental consideration during the construction and demolition of buildings, and development work
Measures regarding environmental management system	<ul style="list-style-type: none"> - Formation of an organizational structure for environment - Environmental education, encouragement of environmental activities - Disclosure of information, social contribution, preservation of environment of surrounding communities - Environmental business, research and development - International cooperation and consideration in overseas operation - Environmental consideration for investment and lending

◆ Issues that need to be considered for Self-Check of Environmental Measures

Although self-check for environmental activities can be done by following the Self-Check-sheet described on the previous page, the following methods would be recommended for organizations that wish to adopt advanced measures using a quantitative manner.

◎ Method to evaluate the progress of the environmental management system with points

It would be an effective way to give points to ○s, △s, and Xs according to the performance of the measures for evaluating the systems. For example, an organization

may rate the importance of each environmental aspect, give points to each ○, △, and X, and evaluate in the following way.

① give points to each ○, △, and X in the following manner.

Measure that has significant effect for environmental performance	3 points
Measure that has considerable effect for environmental performance	2 points
Measure that has moderate effect for environmental performance	1 point

#Criteria for assessing measures into significant, considerable or moderate would be established by the organization.

② Multiply the points given in the previous section with the following points:

Measures with ○	2 points,
Measures with △	1 points,
And measures with X	0 point,

③ The points of all measures from ② except ones with "/" are summed up.

This is an "indicator of environmental protection measures." Performances of the environmental measures can be compared later years based on indicators of environmental protection measures.

◎ Method to set an indicator for important measures

An organization may choose several important measures from in the Check-list, and create indicators that represent performances of the selected measures (environmental indicators). These indicators allow the organization to evaluate the performances of the measures quantitatively and continuously. This method is particularly effective for environmental aspects that are not covered by the Self-Check of Environmental Burden described in Chapter 2

The indicators presented in the following table are examples, however, each organization may create its own indicators as circumstances require.

○ The rate of low emission vehicles in the entire fleet (Example: Number of low emission vehicles/number of all vehicles)	← Reduction of environmental burden during transportation
○ The rate of products that are designed with environmental consideration in the number of entire products of the company (Example: Number of environmental products/number of all products the company's product line.	← Environmental consideration during the development and designing stage of products
○ The rate of employees who have received training for environmental activities in the entire employees (Example: number of employees who have received training for environmental activities /number of entire employees)	← Formation of an organizational structure for environment
○ The amount of money contributed to environmental foundations and local volunteer organizations.	← Disclosure of information, social contribution, preservation of environment of surrounding community

Chapter 4: Environmental Management System Guidelines

This chapter discusses the Environmental Management Systems Guidelines for the Eco-Action 21 program.

Organizations that wish to involve in Eco-Action 21 and to be certified/registered are required to establish and operate environmental management systems that meet the requirements of this Environmental Management Systems Guideline.

Point 1: There are 12 essential provisions for an Eco-Action 21 environmental management systems

The Environmental Management Systems Guidelines are based on the PDCA cycle, which is Planning (Plan), Implementation of the plan (Do), Check/Correction of the performance (Check), and Evaluation and review of the whole system (Act) and consists of 12 essential provisions.

By repeating the PDCA cycle, environmental management systems and their performances can be improved. "Continual improvement" can be achieved by repeating these efforts.

Point 2: There are requirements for each essential provision

The items expressed with “shall” in the guidelines are requirements for establishing and operating of an environmental management systems. Organizations have to establish and operate environmental management systems that are consistent with all of these requirements in order to be certified / registered.

Point 3: Explanations are provided for each requirements in each provision

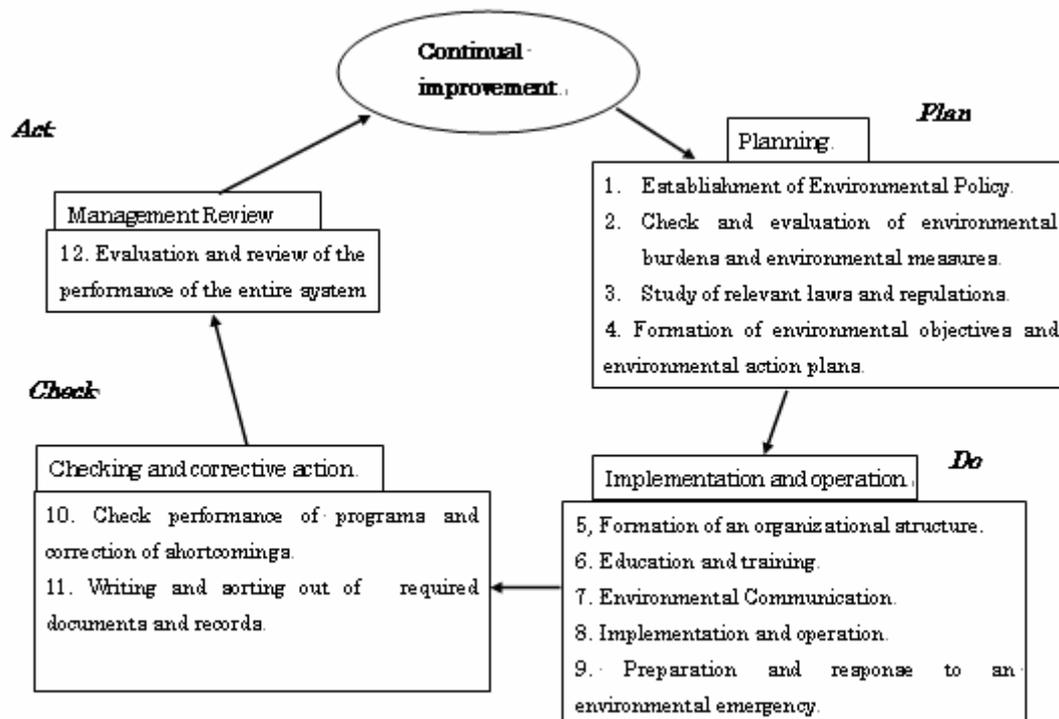
For each required section, explanation about the contents of the requirements and about what needed to be done in detail. Please refer to the explanation when establishing environmental management systems.

Point 4: Recommendations are provided to help more advanced activities

Recommended items are not requirements; however, they are desirable contents for certain sizes of business or certain kinds of industries, and should be included if it is possible. These recommendations are adapted into environmental management systems as much as possible.

Commentary: It depends on your creativity

Although the requirements of the environmental management systems guidelines describe what activities shall be included and be done, the optimum methods and contents to comply with the requirements may be different by the size and kind of organization. How an organization effectively and efficiently designs environmental management systems is left to organizations' creativity. The commentaries attached to these provisions describe methods and contents of how to comply with. Please establish and operate an environmental management system and promote environmental activities using these commentaries.



I. Installation of Plan (Plan)

The “Installation of Plan (Plan)” is a stage in which an organizations design how an organization would carry out environmental activities such as the reduction of environmental burden and promotion of environmental measures. If a plan is not designed properly, it is impossible to review the outcomes of the plan properly and to redesign the plan. An organization should install a proper plan using the results from the preliminary environmental review such as the Self-Check of Environmental Burden and the Self-Check of Environmental Measures.

1. Establishment of Environmental Policy

The representative (the management) shall establish and pledge directions regarding environmental management (environmental policy). Environmental policy shall clearly set basic direction of environmental activities and be informed all employees.

Commentary

Environmental policy is a social pledge (promise) that the organization engages voluntarily and actively in environmental management (reduction of environmental burdens and promotion of environmental measures) and continue the reduction of environmental burden and is a basic document that defines basic direction, or framework of the organization’s environmental activities.

Basic direction of environmental activities is principal framework (that is, areas for which environmental activities would be concentrated) of an organization’s environmental activities and shows direction of measures that are relevant to the organization’s activities.

If a company in the manufacturing industry, for example, generate large environmental burden, its basic direction could be “to commit the reduction of OO waste generated in the manufacturing process” or/and “to commit the reduction of electricity consumption consumed in the manufacturing process.” If a company in the retail/distribution industry, then it could state “to promote sales practice that uses less environmental burden such as non-wrapping or simple wrapping” or/and “to commit sales of environmentally friendly products such as Eco-Mark products and supply of information.” Although numeric goals are not required, basic directions for

environmental activities need to be clearly stated.

Environmental policy is expected to include representative's own care and thoughts for the environment in the environmental policy, and to use representative's own words. It is desirable that the environmental policy is based on organization's characteristics.

Regarding "informing all employees," it is necessary to have employees to understand the contents of the environmental policy by using poster, meeting and morning assemblies, and to have them involved in it.

All environmental policy shall be dated and, if it is possible, it should be signed by the representative (the management).

Recommended issues

- Pledging in environmental policy to comply with applicable laws and regulations
- Environmental policy reflects business activities of the organization.
- * "Reflects business activities" means, for example, a manufacturing company would state not only reducing consumption of resources and energy but also considering scopes such as utilizing recycled materials in its products, designing its products in suitable for recycling, and making its products energy efficient. If an organization is in a service industry, it could state not only reducing the use of paper, waste and the consumption of electricity, but also promoting the sales of environmentally friendly products, the supply of information, and the practice of simpler wrapping.

2. Check and evaluation of environmental burdens and environmental measures

In order to understand environmental burden generated in business activities, organizations shall conduct the Self-Check of Environmental Burden, and, based on their findings, identify environmental burdens that should be subject to organizational involvement. The amount of carbon dioxide emission, the amount of waste generation and the amount of the total water disposal shall be calculated. In order to understand and evaluate environmental activities, organization shall conduct the Self-Check of the Burden and the Self-Check of Environmental Measures.

Commentary

Understanding and evaluating environmental burden generated in business activities (what kinds and how much of resources/energy are consumed, what kinds of and how much environmental burden (air pollutants, etc.) and waste are released) and

identifying environmental burden that would be subject to organizational efforts is the first step to proper environmental activities.

In order to understand and evaluate environmental burden, the Self-Check of Environmental Burden described in Chapter 2 shall be used.

The reason for the requirements of the amounts of carbon dioxide emission, the amount of waste generation and the amount of the total water disposal is that the prevention of global warming and the transformation to a recycling-based society are particularly important among contemporary environmental issues.

In addition, organizations should review what they are currently doing for environmental protection using the Self-Check of Environmental Measures described in Chapter 3, and evaluate what they need to do for future.

Recommended issues

- Collecting data of the core indicators (9 indicators) described in the Environmental Performance Indicator.
- Composing the material flow and the material balance of the business activity as a whole.
- Understanding materials particularly which are used in large quantity and hazardous chemical substances, etc., and which are not discussed in the Self-Check of Environmental Burden
- Defining criteria for evaluation with consideration to the amount of use/disposal, the frequency of use, the hazard level, etc.

* The core indicators of the Environmental Performance Indicator are the amount of total energy input, the amount of the total material input and the amount of water resources input as the input indicators. The output indicators are the amounts of greenhouse gases emissions, the amounts of chemical substances emissions, the amount of total production, the amount of waste disposal, the amount of final disposal of waste and the amount of total water disposal. By collecting these data, the material flow and the material balance of the entire business activities would be understood.

3. Study of relevant laws and regulations

Organizations shall study of environment-related laws, regulations, local ordinances and other regulations that need to comply with for conducting their operations.

Commentary

Organizations may collect environment-related laws, regulations and ordinances, etc. through the homepage of the Ministry of the Environment, through the homepages of prefecture governments or of the major cities designated by government ordinance, or through inquiries to local authorities of locations of business. It is necessary that information of laws, regulations and ordinances, etc. is always updated.

Some environment-related laws and regulation not only regulate the concentration of contaminants in emissions, but also require the registration of equipment that releases pollutants, the installation of plans for greenhouse gases reduction, waste reduction and recycling, and the appointment and registration of certain certified technicians.

Recommended Issues

- Establishing voluntary numeric goals to meet regulations.
- Composing a list of environmental laws, regulations and ordinances that need to comply with.
- Establishing rules such as the frequencies and methods of measurements, and the responsible persons for measurement to ensure the laws, regulations and ordinances are complied with.

4. Formation of environmental objectives and environmental action plans

Based on the environmental policy and the findings and evaluation from the Self-Check of Environmental Burden and the Self-Check of Environmental Measures, organizations shall install concrete environmental objectives and design environmental programs.
Environmental objectives shall be accompanied by numeric goals as much as possible.

Commentary

Environmental objectives should include “what should be done, to what extent it needs to be done, and until when“, and environmental action plans should include “what should be done, who should do it, how it should be done, to what extent it needs to be done and until when.”

Environmental objectives and environmental action plans should be based on the

Self-Check of Environmental Burden and the Self-Check of Environmental Measures and should be in accordance with the basic directions stated in the environmental policy.

Environmental objectives should be set for identified environmental burdens and be set, in principle, for the reductions of carbon dioxide emission (reduction of energy usage), waste disposal (or promotion of recycling) and the total water disposal (conservation of water).

Environmental objectives should include mid-term or long-term targets, which are three-to-five year period, and short-term targets, which are one-year period. Environmental objectives should include numeric goals as much as possible, and if it is not possible, it should include concrete goals as clear as possible.

An example of environmental targets would be “the reduction of the amount of waste generated by the entire company by 10% from the 2002 level by the end of 2005. The reduction by the end of 2003 will be by 3%, or 1 million tons. In order to achieve this target, OO division will reduce waste generation by 300,000 tons and OO division will reduce it by 700,000 tons.”

Environmental action plans should include concrete methods to achieve yearly targets (concrete actions to take), schedule, and the names of responsible persons and persons in charge.

Examples of methods to achieve a target would be, for example, “through separation,” “finding a recycling company and handing over recyclable materials to it“, or “improve equipment.” The schedule toward the achievement would be, for example, “research on recycling companies by certain month, on-site inspection by certain month, and obtaining estimates by certain month.

Environmental objectives and environmental action plans need to be revised annually, and if there is a significant change in business, they should be revised as soon as possible.

In case, environmental burdens are at certain levels, the establishment of numeric targets of reduction is technically and economically difficult. Also, it might be difficult

to know the amount of water usage if the offices are in rented-space where water fees and waste disposal fees are included in the rents. In these cases, it is acceptable not to set numeric targets. Instead, qualitative objectives should be set or periodical monitoring/measuring should be conducted.

Environmental objectives and environmental action plans should be informed all relevant employees.

Recommended Issues-

Not only targets for the entire organization but also targets for divisions and subdivisions can be established according to the size of organization.

II. Implementation of the Plans (Do)

“II. Implementation of the Plans (Do)” is the stage of building a system for achieving the environmental policy and environmental action plans and implementing the systems. This stage includes making necessary rules that help implementation of the plans.

5. Establishment of organizational the structure.

An organization shall establish an organizational structure effective for the establishment and operation of an Eco-Action 21 environmental management systems and implementation of environmental programs.

The roles, responsibilities and authority of individuals shall be clearly defined in the organizational structure and they are informed to all employees.

Commentary

In order to establish and operate effective and efficient environmental management systems, clear definitions of the roles, responsibilities and authority of the management representative and other responsible persons for environmental plans are important. All employees should be informed about the organizational structure so that every employee in the organization recognizes his or her roles in the systems.

The top management of the organization shall not only merely “instruct” what to do, but also provide resources necessary to properly carry out environmental management activities. Resources mean so called “persons, things and money,” that is, personnel, equipment, and budgets. Necessary resources to implement environmental management plans shall be properly provided.

The top management designates a specific manager who is in charge of environmental activities. (In small organization, the top management may be in charge of the duty.) The environmental managers act for the top management and establish and operate environmental management systems that meet the requirements by these Guidelines, and report progress to the top management. The environmental manager therefore should be given necessary authorities and take the responsibilities of the establishment and operation of environmental management systems for the top management.

6. Education and training

In order to implement programs of the Eco-Action 21, organizations shall give necessary education and training.

Commentary

In order to implement environmental activities, it is necessary that all employees understand their organization’s environmental policy and well recognize environmental activities and their roles. In addition, it is important that employees understand the current state of environmental problems, the meaning of environmental management, and the reason of why environmental management activities are necessary.

Instead of educating all employees uniformly, it is important to give necessary education and training according to their assignments and responsibilities.

Examples of education and training would be:

Entire employees:

- The state of current environmental problems. The importance of environmental activities in the Eco-Action 21.

- Environmental objectives which are common for the entire organization. Outlines and procedure of environmental action plans. Environmental targets and the contents and procedure of environmental action plans that are related to their daily assignments.

Managers:

- Roles, responsibilities and authorities of each manager
- Outline of environmental management systems
- Reasons of committing in environmental activities
- Environmental objectives related to the manager's section and details of environmental action plans

Personnel in charge of laws and regulations:

- Details of laws and relations and the steps to meet the requirements.

Recommended Issues

- Establishing and implementing annual training and education plans including suitable programs for different levels of hierarchy and different kinds of sections.
- Giving necessary training and education if certain technology or certificate is required to conform to laws and regulations or respond to emergencies.

7. Environmental Communication

Organizations shall compose and publish environmental activity reports.
Organizations shall accept complains and requests regarding the environment from the outside and give proper responses.

Commentary

Environmental communication, one of which is to disclose information about environmental activities to the public, is a social need and a necessary element for organizations to win trust from the public. Actively releasing information by environmental activity reports would result in trust from the society.

In addition, it is necessary to establish a desk (a person in charge) to listen to complains and requests regarding the environment and to respond them with sincerity.

Environmental communication needs to be documented.

Recommended Issues

- Establishing procedure for dealing with complains and requests about the environment and promoting two-way environmental communication with local residents and other affected parties.
- Establishing procedure for dealing with complains and requests regarding products.
- Composing pamphlets from environmental activity reports, distributing them to local residents and relevant authorities, and explaining about them.
- Publishing environmental activity reports on the organizations' homepages.
- Registering environmental activity reports to the "environmental activity report database," which the Ministry of the Environment operates.
- In order to promote smooth environmental communication within organizations, establishing procedure that transmits information regarding environmental management systems and collects recommendations for improvements, etc.

8. Implementation and operation

In order to achieve environmental policy, environmental objectives and environmental action plans, organizations shall implement necessary activities.

Commentary

Organizations shall properly implement necessary programs in order to achieve environmental policy, environmental objectives and environmental action plans. Procedures for implementation may be established and documented if necessary.

Recommended Issues

Establishing operational procedure if it is necessary for implementation and operation.

Informing contractors working for the organizations and business partners about environmental action plans and requesting them for cooperation.

9. Preparation and response to an environmental emergency

Organizations shall hypothesize environmental emergencies, plan responses to them, and conduct periodical drills.

Commentary

It is possible that environmental emergencies such as a release of chemical substances and a spill of oil by a natural disaster or accident would occur. It is necessary to hypothesize possible emergencies that could have disastrous impacts on the environment, to prepare response plans in advance to minimize the possible area of contamination, and to maintain preparedness for them.

These emergency response plans should be tested, to the extent it is possible, whether the plans are adequate; for example whether environmental impacts could be effectively confined to minimum, whether equipment is ready to use, whether communication can be smoothly established. Periodical drills shall be conducted.

In addition, effectiveness of response plans should be verified after an emergency or drills, and revised if it is necessary.

III. Check/Evaluation of the Progress (Check)

Organizations should monitor and evaluate (check) the progress of environmental policy and environmental action plans, which are based on the plan, with an adequate interval, and if a problem is found, take a corrective action.

If an achievement of environmental targets is not possible (difficult to achieve), it is necessary to investigate the cause of the difficulty and to take necessary actions including revision of targets. It is important to understand that nonconformance is not a problem but it is more problematic to leave the problem or unable to know the cause of the problem.

10. Checking performance of programs and corrective action of shortcomings

Organizations shall periodically check and evaluate the achievement of environmental objectives and the current status of environmental action plans.

Organizations shall periodically check the state that all environment-related laws and regulations are complied with.

If there is a problem with the achievement of environmental objectives and the

current status of environmental action plans, organizations shall take actions to correct it and, as it is necessary, to prevent it.

Commentary

Participating organization shall periodically check (monitor and measure) and evaluate the achievements of environmental objectives, the current implementation status of environmental action plans and the conformance to relevant laws and regulations.

Criteria (measures) should be developed to check the achievement of environmental objectives in the middle of the implementation process, and organizations should assess whether the objectives can be achieved without a revision. The current implementation status of environmental action plans should be evaluated by assessing if plans are implemented as scheduled and if designated roles and responsibilities are adequately functioning. Conformance to laws and regulations shall be checked and ensured.

Periodical checks shall be conducted in appropriate intervals, for example, once a year, once every quarter, once a month or once a day, depending on the nature of the checks.

Findings of checks and evaluations are reported from the person in charge to the person with responsibility, and necessary actions should be taken. Therefore, it is recommended to establish rules of reporting such as the frequency of reporting and the chain of reporting. The line of reporting for example can be from a person in field, a person in charge, the responsible manager, to management representatives or the manager, who are responsible for Eco-Action 21.

If a nonconformance of an environmental objective or an environmental action plan is found through the checks and evaluation, the cause of the problem shall be investigated. A corrective action (response measure) necessary to avoid the repetition of nonconformance shall be implemented. If a problem is expected in future although no problem is observed at present, a preventive action to avoid the potential problem should be implemented. When implementing a corrective action or a preventive action, identifying the cause of the problem is more important than the problem itself.

It is necessary to identify the cause, which could be, for example, ill-defined operational procedure, malfunctioning of measuring equipment, insufficient of education and training for employees, improper objectives or targets, or anything else.

To avoid repetition of a similar problem, it is important to share information or a description of the problem with other related sections (horizontal corroboration of the response measure).

When an organization wishes to be certified / registered for the Eco-Action 21, one of basic requirements will be evidence of conformance to all environmental laws and regulations. It is necessary to carry out checking carefully.

Recommended Issues

- Establishing criteria, before an emergency occurs, for what kind situation a corrective action or preventive action should be introduced and assigning who is going to do it.
- Forming an audit team as necessary and having it audit and inspect the performance of the whole environmental management systems more often than one a year.

* In order to check and evaluate the performance of environmental management systems, internal audits on the performance of the whole environmental management systems should be carried out if possible more often than once a year. The internal audits should be conducted from the view points of a third party and the result of the audits should be reported to the management and management representatives. Audits should determine whether the environmental management systems conforms the requirements set by the environmental management systems guidelines and the rules set by the organization, whether the environmental policies are met (or are going to be achieved), and whether environmental action plans are implemented, or the performance of the systems is improving.

11. Preparation and management of environmental documents and records

The documents that are necessary to implement the Eco-Action 21 shall be properly prepared and managed.

The records that are necessary for the Eco-Action 21 shall be properly maintained.

Commentary

Documents should identify the name of the responsible person of the document (the

person who have authority to revise) and the expiring date if they have.

The documents that are necessary for the Eco-Action 21 are as following. These documents may be on paper or electric media.

- Environmental policy
- Environmental objectives
- Environmental action plans
- Collection of environment-related laws and regulations
- Operational structure (organizational chart with designated roles is acceptable)
- Emergency response scenarios and response plans
- Environmental activity reports

Records are as follows.

- Result of the Self-Check of Environmental Burden
- Result of the Self-Check of Environmental Measures
- Result of the checking the compliance of the environment-related laws and regulations
- Record of receptions of complains, etc. from out-side of the organization
- Result of drills for emergency responses
- The state of the achievements of environmental objectives and the implementation of environmental action plans
- The results of corrective actions and preventive actions
- The result of management review of the whole environmental system

Recommended Issues

It is desirable to provide the following documents if possible:

- Plans for training and education
- Collections of rules that the organization established as necessary to establish and operate environmental management systems (such as an environmental management manual).
- Rules that prevent accidental disposition and wrong use of necessary documents by determining the procedure for revising and disposing instructions. Ensuring periodical revise of documents and removing out-dated documents to avoid wrong use of the documents
- Rules for document-control that determine preservation-periods of documents,

ensure easy identification of documents, and prevent the loss or damage of documents.

IV. Management Review of the Whole System (Act)

12. Evaluation and revision of the performance of the entire system

Representative (top management) shall evaluate and revise the whole environmental systems and give instructions that are necessary to implement.

Commentary

The representatives of organizations should collect information that is necessary to review the whole Eco-Action 21, instruct the management representatives to report, and check whether the management systems are effectively operated and whether environmental activities are properly implemented.

Based on the result of the evaluation, the representative should determine whether a need for revising environmental policy, objectives or environmental action plans and the environmental management systems exists and give instructions the environmental manager. Management reviews should be conducted every year or more often, and results of the management reviews should be documented.

Chapter 5: Environmental Activity Report Guidelines

This chapter provides the environmental activity report guidelines of the Eco-Action 21.

Organizations that wish to be certified/registered by the Eco-Action 21 need to compose and publish “environmental activity reports.”

Composing and publishing environmental activity reports is not only a social need but also a necessary condition for organizations to win trust from the society.

However, environmental activity reports are solely based on the principle of accountability, that is a responsibility as organizations to explain their activities, and not for pamphlets for advertising the company’s environmental activities. Therefore, it is necessary to include all required information truthfully. Sincere attitude to publishing information is one of ways to build confidence of the public to the organization and ensures the survival of the organization.

Entering fault information or concealing information that is unfavorable to the organization could result in jeopardizing the trust of the organization.

Organizations should make efforts to enrich the contents of environmental activity reports and it is important to distribute the environmental activity reports to interested parties such as business partners, local authorities, local consumer associations, environmental NGOs, customers, shareholders, and employees.

1. Composition of Environmental Activity Reports

<p>Environmental activity reports shall include the following information*</p> <ul style="list-style-type: none">① Environmental policy② Environmental objectives and their performance③ Outlines of major environmental action plans④ Evaluation of the results of environmental activities⑤ Information of nonconformance to environment-related laws and regulations and litigation if there is any.

Commentary

The actual format of an environmental activity report is left to the organization. However, in addition to the five items stated above, it is necessary to include the following information concerning about organizational profile.

- The name of the organization and the name of the representative of the organization
- Address
- Name of the management representative and the contact information
- Brief description about the organization's activities, and
- Size of organization (information that indicates size of business, such as the amount of production/shipment of major products, the number of employees, area of office/factory etc.)

Although an environmental activity report is a requirement when an organization applies for an Eco-Action 21 certificate/resignation, the organization should prepare environmental activity report every year.

2. Publication of Environmental Activity Reports

Organizations shall equip environmental activity reports in their offices and provide them for public review. Organizations shall send a copy of environmental activity report to the Secretariat (The Secretariat will publish the name of the Eco-Action 21 organizations). In addition, if it is possible, environmental activity reports should be submitted to the "Environmental Report Data Base," which is maintained by the Ministry of the Environment, posted on the organization's internet homepage, and published as a form of pamphlet.

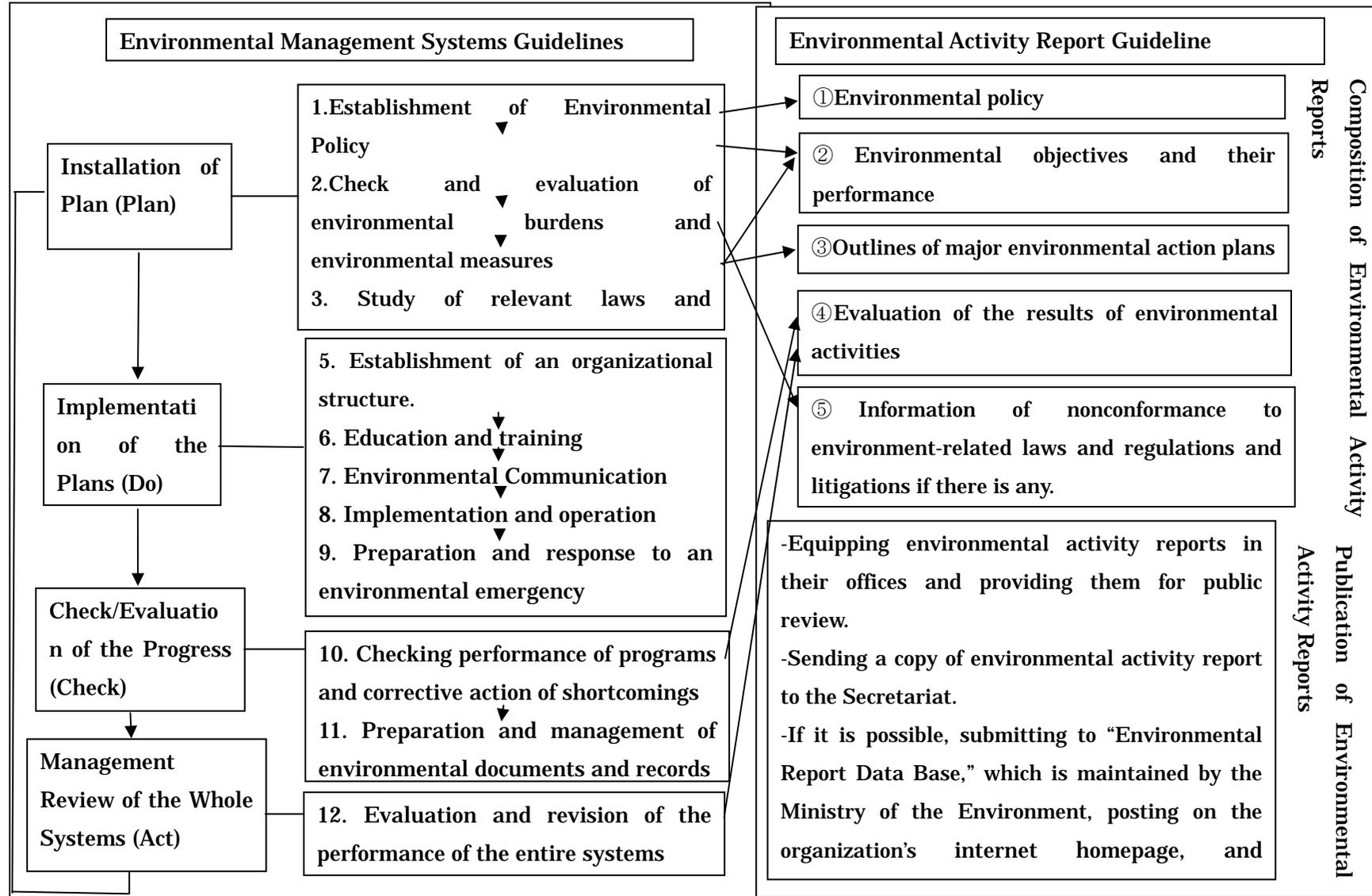
Commentary

Environmental activity reports should be equipped in the organization's offices, and they should be always provided for reviews if it is requested by out-side persons.

The Eco-Action 21 Secretariat will publish the names of the registered organizations and their environmental activity reports.

In addition to the methods described above, organizations may publish environmental activity reports in creative manners of the organizations.

Structures of the Environmental Management Systems Guidelines and Environmental Activity Report



Annex Table 1: Self-Check List of Environmental Burden

1. Size of the organization

Size of organization	Unit	Year	Year	Year
Amounts of productions of major products	t			
Amount of Sales	Million yen			
Number of employees	People			
Area of floor ()	m ² ()			

2. Current Environmental Burden (Summary Table)

		Unit	Year	Year	Year
Total Energy Input	Electricity purchased	MJ			
	Fossil fuel	MJ			
	New Energy	MJ			
	Other	MJ			
Total Material Input	Input of natural resources	t			
	Input of recycled resources	t			
Total water resources input	City water	m3			
	Industrial water	m3			
	Ground water	m3			
Greenhouse gas emissions	Carbon dioxide	Kg-CO2			
	()	Kg-CO2			
	()	Kg-CO2			
Chemical substances emitted/transported	Amount of release to the atmosphere	t			
	Release to public water bodies	t			
	Release to the ground	t			
Total production or sales	Amount of Products	t			
	Products that contribute to reduce environmental burden	t			
	Container and Package consumption	t			
Total amount of waste generated	Recyclable resources Reuse	t			
	Recyclable resources Recycled	t			
	Recyclable resources thermally recycled	t			
	Simple incineration	t			
	Other	t			
Final disposal of waste	Final disposal	t			
Total water drainage	Public water bodies	m3			
	Sewer	m3			
	B O D	g			

The items in ■ are required items. If the calculation of the total water drainage is difficult, then the total water input becomes a requirement.

For each indicator, enter the value resulting from the relevant worksheet provided on a following page.

3. Worksheets for Indicators

Total Energy Input (MJ)

				Total (Annual)				
			Unit	Usage/Consumption (A)	Amount of energy (MJ) (A × B)	Ratio (%)	Heat content per unit (B)	
TOTAL ENERGY INPUT	FOSSIL FUEL	Electricity purchased	kWh				9.83(MJ/kWh)	
		Kerosene	L				36.7(MJ/l)	
		Fuel oil	L				39.1(MJ/l)	
		City gas	Nm ³				41.1(MJ/Nm ³)	
		Liquefied natural gas (LNG)	kg				54.5(MJ/kg)	
		Liquefied petroleum gas (LPG)	kg				50.2(MJ/kg)	
		Gasoline	L				34.6(MJ/l)	
		Diesel	L				38.2(MJ/l)	
		Total of fossil fuel						
	NEW ENERGY	SOLAR	Solar generation (Photo-voltanic)	kWh				3.60(MJ/kWh)
			Solar generation (Heat)	kWh				3.60(MJ/kWh)
		WIND	Wind Power	kWh				3.60(MJ/kWh)
			Water Power	kWh				3.60(MJ/kWh)
Fuel cell			kWh				3.60(MJ/kWh)	
WASTE		Waste	kWh				3.60(MJ/kWh)	
		Total of new energy	kWh					
OTHER	HEAT	Heat supply (Steam)	MJ					
		Total of Other						
		Gross Energy Input				1000.0		

- The values in the meshed cells are to be entered into the “summary table.”
- The amounts of energy should be obtained by multiplying the Usage/Consumption with Heat content (Usage/Consumption X Heat content).
- If there is a major energy source that is not in this table, please identify the heat content of the energy source and add to this table.
- If your record shows the amount of LPG as gas (m³), use the convert rate, 1 m³ =2.07kg.
- In this table, all fuel oil is assumed to be Type A Heavy Oil.
- Kerosene, coal and other materials used as raw material for production should be entered into the total material input table.

Amount of Total Material Input

Year (Year Month ~ Year Month)

		Total (Annual)	
		Actual amount (t)	Rate (%)
Amount of gross material input (Tons)	Kinds of resources		
		Total amount of resources input	
	Recycled resources		
		Total amount of recycled resources input	
	Other		
		Total of other	
Amount of gross material input			

O Kinds of resources (same for recycled resources)

- Metal (Steel, aluminum, copper, lead etc.)
- Plastics (If several kinds, enter separately)
- Rubber
- Glass
- Paper (including forms)
- Agricultural products, etc.

O Other
Major parts, raw materials and products that can be measured by weight.

- The values in the meshed cells are to be entered into the “summary table”.
- Start with major resources. The unit of measurement for the amounts of material inputs is weight (tons)
- Water, kerosene and other materials consumed as raw material for production should be entered into the total material input table.
- Materials that are circularly used in the organization (reuse, recycle, and heat recovery) are not subjects of this table.
- If it is difficult to calculate the amount of gross material input using this table, there is a simpler method, that is adding the total amount of production or sale and the total amount of waste generated

Total water resources input

		Unit	Year (Year Month ~ Year Month)	
			Total (Annual)	
			Actual amount (m3)	Rate (%)
Total amount of water resources input (m3)	City water	m3		
	Industrial water	m3		
	Ground water	m3		
	Seawater and river water	m3		
	Rainwater	m3		
	Total			

- The values in the meshed cells are to be entered into the “summary table”.
- 1L=0.001m², 1m³=1000l
- Water used as raw material for production should be entered into the total material input table.
- Water that is circularly used in the organization is not subject of this table.

Greenhouse gas emissions (Enter carbon dioxide that is a requirement.)

Year (Year Month ~ Year Month)

				Unit	Total (Annual)			Emission per heat (B)	Heat content per unit (C)
					Amount of consumption (A)	Amount of emission (kg-CO ₂) (A × B) or (A×B×C)	Rate		
C a r b o n d i o x i d e	Energ y con su m p t i o n	Purchased electricity		kWh				0.378(kg-CO ₂ /kwh)	
			Kerosene	L				0.0679(kg-CO ₂ /MJ)	36.7(MJ/l)
			Fuel oil	L				0.0693(kg-CO ₂ /MJ)	39.1(MJ/l)
			City gas	Nm ³				0.0513(kg-CO ₂ /MJ)	41.1(MJ/Nm ³)
			Liquefied natural gas (LNG)	Kg				0.0494(kg-CO ₂ /MJ)	54.5(MJ/kg)
			Liquefied petroleum gas (LPG)	Kg				0.0598(kg-CO ₂ /MJ)	50.2(MJ/kg)
			Gasoline	L				0.0678(kg-CO ₂ /MJ)	34.6(MJ/l)
			Diesel	L				0.0687(kg-CO ₂ /MJ)	38.2(MJ/l)
	Total of fossil fuel								
	Othe rs	Heat supply	MJ				0.067(kg-CO ₂ /MJ)		
		Total of others							
	Total energy consumption								
	Waste inciner ated	General waste (plastic only)		t				2680(kg-CO ₂ /MJ)	
Indu strial wast e		Waste oil	t				2680(kg-CO ₂ /MJ)		
		Waste plastic	t				2680(kg-CO ₂ /MJ)		
			t						
Total amount of waste incinerated									
Others									
	Total of others								
Total carbon dioxide						100. 0			

- The values in the meshed cells are to be entered into the “summary table”.
- If your record shows the amount of LPG as gas (m³), use the convert rate, 1 m³ =2.07kg.
- In this table, all fuel oil is assumed to be Type A Heavy Oil.
- If there is a major energy source which is not in this table, calculate the amount of emission using “The guidelines for calculating the amounts of greenhouse gasses emissions from businesses (draft Ver1.4)” (Ministry of the environment, global Environment Bureau).

If your origination emits methane, nitrous oxide (N₂O), hydro-fluorocarbon compounds (HFC), per-fluorinated compounds (PFC's), or sulfur hexafluoride (SF₆), please refer to “The guidelines for calculating the amounts of greenhouse gasses emissions from businesses (draft Ver1.4)” and create a table that fits to your organization.

Chemical substances stored, emitted or transported

Year (Year	Month ~	Year		Month)		Total (Annual)				
Chemical Substances (tons)				Amount of Emitted (leaked) (t)				Amount of Transfer (t)		Amount of Stored (t)	Amount recovered (Only Fluorocarbons) (t)	Amount destroyed (Only Fluorocarbons) (t)
				Emi ssio n to the atm osph ere	Emi ssio n to publ ic wate r bodi es	Emi ssio n to the soil in orga niza tion' s prop erty	Landfill ed into the soil in orga niza tion' s prop erty	Tran spor tatio n to sewe r	Tran spor tatio n to out side the orga niza tion' s prop erty			
Substances that are subject to the PRTR law	Fluorocarbons											
	Sub-total											
	Sub-total											
Other substances												
	Sub-total											
Total												

- The values in the meshed cells are to be entered into the “summary table”.
- The unit of measurement for the amounts of Chemical substances stored, emitted or transferred is weight (tons)
- There are five methods to measure the amount of emission or transfer of the substances subjected to PRTR (Pollutant Release and Transfer Register): Method that uses a material balance, method that uses an estimated rate of loss, method that uses actual measurements, method that estimates the rate of loss of a chemical substance with the properties of the material, and other methods.

- For details of the methods to measure the amount of emission or transfer of the substances under PRTR, refer to “the “The manual for calculating the amounts of PRTR substances emissions (2nd Edition)” (Ministry of the environment, and the Ministry of Economy, Trade and Industry. Published in April, 2001; Second edition in January, 2003).

Total amount of production or sales

Year (Year Month ~ Year Month)

Gross production or gross sales of products (tons)				Unit	Total (Annual)	
					Amount of production	
	Products	Weight		t		
				t		
				t		
			Total	t		
		Other than weight				
	Products that contribute to reducing environmental burden	Weight		t		
				t		
				t		
			Total	t		
		Other than weight				
	Amount of containers and packages				t	
					t	
			t			
			t			
Total			t			

- Enter either the amount of production or the amount of sales
- The values in the meshed cells are to be entered into the “summary table”.
- Enter the gross production of products or the gross sales of products.
- Regarding the amount of containers and packages, enter the amount of production or sales of containers and packages that are subjects of the Law for Promotion of Sorted Collection and Recycling of Containers and Packages.

& Total amount of waste generated & Total amount of diaposal

Year (Year Month ~ Year Month)

				Amount of recycled resources (t)		Amount of waste (t)		Final disposal of waste (t)	Total (t)	
				Reuse	Recycle	Thermal recovery	Simply incinerated			
G R O S S W A S T E G E N E R A T I O N	G E N E R A L W A S T E	Pa per pro du cts	Printing							
			Mews print							
			Cardboard							
			Other							
				Cans						
				Bottles						
				Pet bottles						
				Paper containers						
				Expanded polystyrene, etc.						
				Plastic waste						
				Food waste						
				Bulk waste						
			Other combustible waste							
			Other non combustible waste							
			Subtotal							
		I N D U S T R I A L W a s t e		Sludge						
				Demolition debris						
				Soot & dust						
	Metal scrap									
	Waste plastic									
	Sp eci al con tro l		Waste oil							
			Waste acid/alkali.							
			Hazardous industrial waste							
			Subtotal							
	Total									

- The values in the meshed cells are to be entered into the “summary table”.
- The categories in the above table are examples. This table may be modified to fit specific needs of the organization.

Total water drainage and the contaminants adversely affect water quality

-1 Total water drainage

		Year (Year Month ~ Year Month)		Unit	Total (Annual)	
					Actual amount (m3)	Rate (%)
Gross water drainage (m3)	Public water bodies	Rivers		m3		
		Lakes		m3		
		Seas		m3		
		Channels		m3		
	Total of public water bodies					
	Sewer					
Total						

- The values in the meshed cells are to be entered into the “summary table”.
- 1L =0.001m3, 1m3 = 1000L
- The amount of water that is circularly used in the organization is not subject to this table.
- The amount of drainage of rainwater which is not reused or treated is not subject to this table.

-2 Water quality contaminants

		Year (Year Month ~ Year Month)		Water drainage (m3)	Amount of release (g)
		Average concentration Measurement	Unit		
Water quality contaminants	BOD				
	COD				

- The values in the meshed cells are to be entered into the “summary table”.
- For the concentrations of BOD and COD, the measurements of contaminants in water emitted from the factory should be used.
- For calculating the each burden, the average of measurements for certain period of time should be multiplied by the total water drainage during the period of time.

Annex Table 2: Self-Check List of Environmental Measures

1. Items regarding the input to business activities.

1) Energy conservation and promotion of the use of new energy

	Introducing new energy such as wind power generation, water power generation, geothermal generation, fuel cell, etc.
	Using solar energy by using electricity from solar power generation
	Using natural gas
	Introducing co-generation system (utilizing heat during power generation)
	Using solar energy for heating and hot water supply by using district heating and cooling systems and district hot water supply systems or using solar powered hot water supply systems.
	Promoting energy conservation by insulating hot water supply equipment.
	Actively introducing air condition equipment designed for energy conservation.
	Using heat from incineration of waste.
	Checking energy efficiency of office equipments such as copy machines, personal computers, printers, etc. and actively introducing energy efficient ones.
	Introducing energy conservation equipments for elevators (advanced control of operation and partial suspension of operation during night time)
	Improving insulation capability of buildings by introducing two layer window and insulation glass.
	Using sun energy naturally by introducing sun light into inside of buildings, storing heat from the sun light in floors and walls, natural ventilation, etc.
	Promoting energy conservation by introducing advanced lighting equipments such as high efficiency fluorescence lights and inverter lighting (highly efficient fluorescence lights that use high-frequency current)
	Introducing heat pump systems.

2) Conservation of resources and green purchase

Conserving energy

	Collecting and recycling used products that were produced by the company.
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Utilization of recycled paper

	Promoting the conversions to recycled paper or unutilized fabric, regarding copying paper, computer paper, vouchers and office stationary, printed materials and pamphlets, toilet paper, name cards, and other papers.
	Promoting utilization of recycled pulp by establishing goals and standards of recycled pulp content in paper or/and whiteness of recycled paper.
	Clearly state the rate of recycled pulp content on printed materials.

Green purchasing and utilization of products that are designed with environmental consideration.

	Purchasing products with the Eco-Mark with high priority.
	Purchasing and using products made of recycled materials with high priority.
	Actively purchasing and using products made of thinned woods or unutilized resources, etc..
	When purchasing wooden products, giving consideration to the greening of logged lands, replanting, and environmental restoration are properly carried out, or cooperating greening of logged lands.
	Purchasing and using with priority unbleached products (clothing, etc.), water-based paints, etc. that create less environmental burden.
	Purchasing and using with priority products designed with concepts such as repair and parts replacement is possible, and reuse of parts and recycle of the materials are easy.

Criteria regarding the procurement of products designed with environmental concerns

	Preparing criteria or lists for purchasing products that have less environmental burden, and update them.
	Monitoring environmental procurement based on the list or criteria.
	Checking environmental consideration when purchasing raw materials or intermediate materials.

3) Water conservation and effective utilization of water

	Utilizing rainwater by equipping storage tanks of rainwater and/or rainwater utilization facilities.
	Introducing devices that leads rainwater to ground absorption (seepage pit for that enhances water absorption)
	Treating consumed water and reusing it (water recycling)
	Actively purchasing home appliances and toilet equipments that conserve water.
	Conserving water used in toilet by equipping with “flushing sound generator.”
	Equipping faucets with water saving rubber packing (a devise that keeps the flow of water at an appropriate level.)
	Reducing the amount of ground water usage where subsidence of ground is a problem.
	Periodically checking water leaks from city water distribution pipes.

2. Items regarding the output from business activities.

1) Reduction of carbon dioxide emission and the prevention of air pollution.

Utilization of fuel that has less environmental burden

	Purchasing and using with priority fuel such as city gas and kerosene, etc. that have less environmental burden
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Consideration in the management of routine operations

	Strictly implementing proper room temperature for air conditioning (28 degrees for cooling and 20 degrees for heating).
	Restrict air conditioning to only necessary area and time.
	Carefully maintaining air conditioning and refrigerating facilities.
	Implementing strict rules for proper use of elevators
	Ensuring proper level of lighting, utilization of daylight, proper control of switching.

Consideration in the management of production

	Implementing strict heat management such as low air ratio operation to operation of boilers.
	Utilizing unused heat from boilers.
	Implementing operation control of motors by introducing devices such as inverters.
	Isolating transformers and cutting off loads when electricity is not needed.

Reduction of air pollutants emissions

	Using processes and devises (Low NOx incinerator, etc) that release less air pollutants.
	Considering reduction of air pollution in daily operation (combustion control, etc.)
	Regarding air quality, etc, establishing and implementing voluntary management standards that are stricter than standards set by laws and regulations.
	Periodically checking equipments for monitoring and controlling smog and soot.
	Preparing for pollution prevention measures in case of accidents or disasters, and exercising drills.

Prevention of odor, noise, vibration, etc.

	Considering the location of emission pipes, etc. to reduce odor.
	Preventing and monitoring noise and vibration daily by using of low noise equipments, introducing noise barriers and vibration barriers,

2) Measures for controlling chemical substances

Strict control of chemical substances

	Controlling hazardous chemical substances by monitoring and recording with time the kinds , the amount of usage, the amount and location of stocks, and methods and locations of consumption, of substances.
	Monitoring or estimating the amount of emissions of hazardous chemical substances.
	Strictly labelling hazardous chemical substances.
	Using MSDS (Chemical substances Material Safety Data Sheet) that is designed for ensuring proper transmission of information about chemical substances safety.
	Ensuring tanks and pipes, etc. for hazardous substances have structure that can prevent leaks and diffusion.
	Periodically maintaining and checking tanks and pipes for hazardous substances,

	etc
	Having a system for collecting used hazardous substances.
	Preparing for emergency plans and exercising drills for transporting and storing hazardous substances.
	Implementing PRTR (Pollutant Release and Transfer Register)
	Reducing the use of organic chlorine solvents and promoting the use of substitute substances.
	Implementing measures to reduce the amount of volatile of fuel oil and solvents.
	Implementing measures to reduce out-door use of herbicide and pesticide.

Reduction of specified chlorofluorocarbons and proper treatment

	Implementing total ban of the specified chlorofluorocarbons that destroy the ozone layers (reduction of the amount used for production and used as a refrigerant for refrigerating and air conditioning equipments, or substitution of halon extinguisher).
	Implementing measures that promote proper treatment of specified chlorofluorocarbons.

Reduction of greenhouse gasses emissions (HFC,PFC, SF6 etc.)

	Having knowledge how much HFC, PFC, SF6 etc. are used in production and how much they are released into the atmosphere.
	Implementing measures that recover and treat HFC, PFC, SF6 etc. in production process.
	Substituting HFC, PFC, SF6 etc. to the extent possible in production process.
	Transforming production lines into one that do not use HFC, PFC, SF6 etc.
	When buying products, giving high priorities to products which do not use HFC, PFC, SF6 etc.
	Recovering HFC, FC, SF6 etc. when products that contain them are disposed.

3) Consideration for the environment at the designing stage of products

Environmental consideration during designing products (including private brand products)

	Aiming at minimizing the amount of resources by designing smaller and light products.
	Aiming at longer life of products.
	Aiming at less energy consumption at the use stage.
	Designing products that could use higher ratio of recycled resources.
	Exercise proper model change in order to reduce waste generation.
	In order to promote recycling, aiming at designs of products that are easily disassembled by reducing the number of parts, of screws, and of kinds of materials contained in a products.
	Simplifying packages of products as much as possible.
	Actively developing products that have less environmental burden.

Reduction of environmental burden during shipment and after the sales

	Promoting the collection and recycling of used products and packages.
	Collecting chlorofluorocarbons.
	Providing customers with information about how environmental burden from the products can be reduced, including how leakage of chlorofluorocarbons could be prevented.
	Voluntarily providing parts for repairing products longer than required by the law.
	Collecting and recycling used commodity, including by setting recovery boxes in front of the shops

Environmental assessment of products, etc. (including private brand products)

	Having a checklist of possible environmental burden for products of the company and of parts purchased from the outside.
	Conducting product assessment or measuring environmental burden during a development of a new product or model change (including the evaluation of difficulties of proper disposal when the products are disposed and the evaluation of environmental burden at all stages from production to consumption and disposal (life-cycle assessment)).
	Disclosing environmental burden during the use of and at the disposal of products in catalogues, etc.
	Exercising environmental assessment for existing products.
	Cooperating requests from the outside to provide data concerning environmental burden of products.

Sales of products that are designed to have less environmental burden and providing information to consumers

	Emphasizing the sales of products that contain recycled resources, that are recyclable, that can be used repeatedly, that conserve resources and energy, that use less packages, and that carry the Eco-Mark.
	Actively promoting sales of the above products by establishing goals of sales.
	Displaying at sales those products that are designed to make less environmental burden and the result of product assessment
	Actively providing consumers with information concerning products that are designed to make less environmental burden
	Including the Eco-mark and other environmental declarations and logos that the company has established on the products or in its pamphlets, etc.

4) Reduction of waste generation, recycling and proper treatment/ disposal

Reduction of paper consumption (Refer to 1.2), Conservation of resources and green purchase concerning recycled paper)

	Reducing documents for meeting and simplifying clerical documents.
	Strictly implementing both-side copying and both-side printing.
	Utilizing the other side of discarded documents.
	Reusing used envelopes

	Promoting paper-less communication by using electric media, etc.
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Activities that reduce generation of waste

	Minimizing the purchase and use of disposable products (paper cups, lunch packed in disposable containers, etc.)
	Purchase and use with priority products packed in returnable containers (beer bottles, 1.8-liter glass bottles, etc.)
	Purchase and use with priority products that are easier to reuse or recycle.
	Employing copy machines, personal computers, printers, etc. that contain materials which are easy to recycle.
	Using products long time by repairing and refilling.
	Promoting reusing by reducing wrapper and packaging (paperboard boxes, fish-boxes, etc.)
	Reducing generation of waste, defectives and unutilized materials from production lines.

Promotion of recycling in offices, etc.

	Regarding paper, metal cans, glass bottles, plastic, batteries, etc., implementing strict separation by properly locating boxes for sorted collection.
	Ensuring collected recyclable resources are recycled.
	Restricting the use of shredding machines to secret documents.
	Promoting collection and recycling of copy machines, printers, and toner cartridges.
	Making compost (organic fertilizer) from organic materials such as food waste, remaining foods, as much as possible, and using it by returning to the soil.
	Recycling spent cooking oil into soap, etc.
	Recycling wrapper and packaging.

Consideration for packaging during shipment and sales, etc.

	Reducing the use of paper wrapper, containers, shopping bags, food trays, plastic wrapper, etc., by promoting simple wrapping, reconsidering multiple-layer wrapping, promoting sales by weight and sales by single items.
	Promoting sales of refillable containers and contents.
	Promoting sales of products filled in returnable containers.
	Collecting and recycling paper containers, food trays, aluminum cans, tin cans, PET bottles, etc. at stores

Activities during production

	Introducing and operating equipments for collecting and reusing metal scrap, paper, disposed liquid, sludge, etc that are generated in production lines.
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Proper treatment/disposal of industrial waste, etc.

	Ensuring the proper disposal of industrial waste using industrial waste tracking slips (manifest).
	Periodically visiting and checking final disposal site of industrial waste.
	When incinerating waste, ensuring materials that are not suitable for incineration such as polyvinyl-chloride are not mixed in, ensuring proper treatment of smoke and soot, and considering surrounding environment.
	In order to prevent the generation of methane, reducing the amount of organic materials land-filled by separating food waste and incinerating it properly.
	Ensuring proper management of hazardous waste or medical waste (composing lists, using manifest and ensuring proper final disposal).

5) Waste water treatment

	Employing process and equipment that produce less water contaminants (collection and reuse of waste liquid, etc.)
	Properly locating waste water treatment facilities.
	Removing nitrogen and phosphate from drainage if it flows into a closed water area (lakes and bays).
	Employing a closed system for waste water treatment.
	Preventing hazardous substances and organic pollutants (food waste, etc.) from flowing into drainage.
	Regarding water quality, etc, establishing and implementing voluntary management standards that are stricter than standards set by laws and regulations.
	Periodically monitoring and measuring drainage and checking waste water treatment facilities.
	Preparing for pollution prevention measures in case of accidents or disasters and exercising drills.

6) Reduction of environmental burden during transpiration

Consideration when purchasing and selecting vehicles

	Considering the level of exhaust gas, fuel mileage, and the use of recycled resources when purchasing vehicles.
	Substituting with vehicles that meet the current regulations on exhaust gas and noise.
	Switching company owned vehicles to low emission vehicles such as hybrid cars, low fuel consumption cars, low emission certified cars, electric cars, compressed natural gas cars, etc.

Promotion of modal shift (shift of transportation from by trucks to by railways or seaways)

	Actively using railways or seaways.
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Efficient transportation and creativity in the method of transportation

	Setting units of transportation that is same as maximum loading capacities.
	Promoting joint operation of transportation and ensuring vehicles are loaded in both ways
	Encouraging planned and flattened ordering and shipping practice, and discouraging excessive small amount or too frequent shipments, and the just-in-time service.
	Using reusable boxes for shipment (containers that can be used repeatedly).
	Preventing jams in surrounding traffic by securing parking and handling spaces.

Consideration for the use of vehicles

	Discouraging improper driving practice (hasten starts and fast acceleration, unnecessarily stepping on the acceleration pedal when the engine is idling, and unnecessary idling and operation of the engine when the vehicle is parking or standing)
	Exercising proper maintenance of vehicles to reduce exhaust gas and noise.
	At freight entrances, implementing environmental programs such as noise and dust pollution prevention measures and traffic jam prevention measures.

7) Environmental consideration during the construction and demolition of buildings and during development projects

Environmental assessment and environmental consideration when starting new business

	When starting new projects, assessing environmental impacts at each of planning & development, designing, construction, operation, repairing & demolition stage, and establish proper measures for environmental preservation based on the assessments.
	In order to check whether the results of environmental impact assessments conducted before the projects started were reasonable, conducting follow-up assessments during and after closing the projects.
	Giving ordering companies and planners suggestions for environmental preservation such as recycling of by-products from construction and rational use of wooden frame panels.

Improvement of surrounding environment and conserving local natural environment

	Greening rooftops and exterior walls as well as the land within the properties (contributes to cleaning air and easing urban climate).).
	Considering harmony with local natural environment, and preserving scenery and ecological system.
	Employing environmental restoration (mitigation) into planning and development in lieu of changing the environment.

Utilization of construction materials that have less environmental burden

	When construction and modifying buildings, promoting the use of construction materials that have less environmental burden and the effective use of construction materials (rational use of wooden frame panels, active use of portland blast-furnace sludge cement, eco-cement and recycled material).
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Construction methods with consideration for the environment

	Preventing noise and vibration from construction by using low-noise construction equipments.
	Implementing measures that prevent the spread of asbestos and dust pollution, etc.
	Implementing measures that prevent water pollution by waste water from constructions, etc.
	Implementing measures that reduce exhaust gas from construction vehicles, noise and vibration.
	Implementing measures that prevent transformation of ground from digging or mounting.
	Protecting trees during constructions.
	Promoting reduction, reuse, separation and recycle of by-products of construction such as woods, concrete bulks, sludge, surplus soil, etc.
	Properly disposing chlorofluorocarbons, asbestos and other hazardous substances, and using substitutes for them.

Measures that reduce the effects of buildings on the environment.

	Maintaining and operating new constructions with consideration for environmental impacts.
	Evaluating the operation and assess timeworn of buildings and proposing improvements of the building and revision of environmental protection facilities.
	Implementing measures that extend durability of buildings.

Environmental consideration during closure or demolition of buildings

	Conducting environmental assessments when closing buildings.
	Removing asbestos before demolishing buildings.
	Conducting environmental assessments before converting the use of buildings to another purpose.

3. Items regarding environmental management systems

1) Environmental programs and the structure for implementation

Compliance of environmental laws and regulations

	Obtaining most updated copies of laws and regulations.
	Having procedure to respond to changes of laws and regulations

Establishing organizational structure for implementation

	Having clear definition of roles, responsibilities and authorities for implementing environmental management system.
	Individuals or divisions are clearly assigned certain tasks for implementing environmental preservation activities.
	Preparing to supply necessary human resources, information, or other resources to implement environmental preservation activities.

Environmental communication

	Establishing procedure that transmits within organization information regarding environmental management systems, its achievement and evaluation, etc.
	Accepting complains and requests regarding the environment from the outside and giving proper responses.
	Establishing procedure that documents results of environmental communication, etc.

Operation and implementation of environmental action plan

	Clearly establishing procedures of necessary actions and operational standards that are necessary for environmental action plans.
	Having contract workers and business partners obey the procedures of actions and the operational standards, if necessary.

Working with business partners

	Evaluating business partners, suppliers, contractors and subsidies, etc. with the aspect of environmental protection, using the evaluation for selection of them, and supporting them for better environmental performance.
	Including environmental considering clause in contract documents
	Providing environmental education programs to business partners and subsidies, etc.
	Proposing suggestion of environmental conservation to customers and clients.

2) Environmental education and the promotion of activities for environmental conservation

Education and training of employees and raising environmental awareness

	Establishing plans that increase education necessary for environmental conservation and that raise environmental awareness of employees.
	Training employees, etc. to let them earn certificates or abilities that are necessary to perform environmental activities.
	Establishing programs that help employees of contracting companies and business partners to earn necessary knowledge and abilities.
	Establishing environmental education programs for employees.
	Making the level of environmental awareness and environmental knowledge a

	condition for employment.
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Support for voluntary activities by employees

	Having a program, such as volunteer leaves, that supports employees' volunteer activities.
	Supporting activities of groups that are concerning about the environment.
	Supports employees or students who wish to participate in international environmental activities or environmental conferences (financial support, etc.).

Reduction of environmental burden from commuting

	Instructing to use public transportation for commuting.
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Environmental curricula (especially for educational institutions)

	Having a course, subject, department or faculty concerning the environment.
	Making a course concerning the environment a requirement.
	Holding a rich collection of environmental books in libraries.
	Exercising environmental education

3) Providing information, contributing the society and preserving local environment.

Publication and provision of information concerning environmental issues of the organization

	Publishing the information in regards to major environmental burden, major objectives concerning the environment, and contacts of personnel who are in charge of the environment.
	Offering information to consumers and education customers.
	Assigning personnel who are in charge of accepting requests form outside for providing or publishing information.

Collection of suggestions regarding environmental activities form out side interested parties.

	Periodically soliciting suggestions and considering them for improving environmental activities.
	Assigning personnel who are in charge of accepting suggestions form outside interested parties.

Participation and support for environmental

	Establishing a funds or organization concerning the environment or supporting existing funds or organizations (sending trained personnel, contributing funding, gathering small-amount contributions from employees, and supporting public relations activities, etc.)
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	Implementing environmental matching gift programs (The organization contributes the same amount to a voluntary contribution made by employees such as labor unions).
	Actively participating, cooperating and supporting local voluntary activities, etc.
	Operating a commendation program for the environment.
	Supporting research institutes, for example contributing to an environmental course at a university.

4) Environmental business and technology development

Information service concerning the environment

	Holding environmental seminars for general audience, academic conference, symposiums and lectures, etc. and publishing environmental books, research reports, and periodicals.
	Having a system for providing environmental information to customers (personal computer communication system, etc.)

Research and development concerning the environment

	Actively conducting research on environmental issues or contracting with research institutions to conduct research, and publishing the findings.
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Consultation concerning the environment

	Consulting about environmental management, environmental funds, environmental business, environmental pollution risk management, etc.
	Having a staff that is in charge of consulting.

Financial services that contribute the environmental protection (deposits with environmental contributions, environmental trust fund, environmental protection cards, etc.).

	Developing financial products that contribute to environmental protection, and establishing the goals of their sales.
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Development of environmental technologies

	Developing technologies and products that contribute to conserving resources and energy and environmental conservation, and providing them to the society.
	Assessing environmental impact of technologies being development.

5) International corporation and the environmental consideration to overseas operation

Transfer of environmental technology

	Transferring environmental conservation and development technologies and know-how to overseas
	Transferring technologies by delegating engineers and accepting trainees to domestic institutes

Environmental cooperation to overseas operations

	Actively cooperating overseas environmental activities, such as NGO activities and planting trees, etc.
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Environmental consideration on overseas operations

	Actively providing necessary information to overseas employees and residents in surrounding communities, and emphasizing environmental considerations in public relations.
	Developing supporting system by which the headquarters helps environmental consideration of overseas branches.
	Conforming local environmental standards and regulations; and if Japanese standards are stricter than local ones, using Japanese standards.
	Conducting environmental assessments on local environment before and after projects start, and using the assessments to take necessary measures to protect local environment.

6) Environmental consideration to investment and lending

Environmental investment and lending

	Using environmental criteria to determine where investment and loans should go.
	Selling eco-funds
	Possessing knowledge concerning how to conduct environmental assessments of investing and lending projects.
	Socially responsible investment (SRI) is one of policies of the organization.
	Having staff which is in charge of checking environmental issues in regards to investment and loans.
	Composing a list of industries to which investments and loans could be restricted, ensuring lending agents are familiar with these restrictions, and restricting investments and loans for projects that could cause problems on the environment.

Support and fostering for environmentally superior projects

	If the organization is a financial institution, establishing special interest rates or special lending limits for energy conserving equipments and energy conserving housing
	Encouraging the use of public financial programs that promote environmental protection.