

EcoAction 21 Guidelines

2017 version



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Ministry of the Environment

Government of Japan

Preface

Invitation to a corporate value-enhancement tool "EcoAction 21"

—Welcome to EcoAction 21—

General Environment Policy Bureau Environment and Economic Division,
Ministry of the Environment, Government of Japan

Discussing "Global risks" annually, the World Economic Forum warns that environmental problems such as climate change will have a severe impact on the socioeconomic economy.¹ As highlighted by the Paris Agreement, the world has decided to, and is making steady efforts to build a sustainable society.

Environmental management systems (EMS²) have changed from a mere method of reducing one's environmental impacts (e.g. waste paper, garbage, and electricity consumption) to an opportunity creating method for achieving its own and society's sustainable development.

The 2017 version of the EcoAction 21 Guidelines, maintains the traditional aspects of an EMS, however includes additional key elements to assist organizations with greater environmental management. Guidance covering planning strategies; establishing organizational structure; human resource education; compliance with the environmental laws and regulations etc.; and promotion of environmental communications, are key elements included in EcoAction 21. The key elements have been developed for small and medium-sized enterprises (SMEs) as well as with large-sized companies' management needs for their supply chains in mind.

Additionally, we have reviewed the EcoAction 21 Certification/registration program so that we can further support certified and registered organizations with their environmental management.

With the socioeconomic system undergoing a significant change, organizations of all sizes, across all industries, are required to look to integrate an effective environmental management with their corporate organizational management.

The 2017 version of the EcoAction 21 Guidelines assists all organizations to achieve the increase of corporate values by overcoming the significant change and promoting their environmental management.

¹The World Economic Forum is a non-profit foundation in which around 1,000 large organizations from across the world participate. It annually holds a conference called the Davos conference, in which around 400 leaders across financial, business, or politics come from across the world (including Japan), to rate the "global risks" and discuss how to best address them. (Cited from the Global Risks Report by the World Economic Forum (<https://www.weforum.org/>))

² EMS stands for Environmental Management System.

We hope that the 2017 version of the EcoAction 21 will be adopted by more and more businesses. Welcome to EcoAction 21.

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Chapter 1: The tool for Corporate value improvement "EcoAction 21"

1. EcoAction 21 is evolving in response to the expectations of the times

In order to realize positive loop between environment and economy, the Ministry of the Environment first developed the "Environmental Activity Evaluation Program" in 1996. This has since evolved into EcoAction 21 (2004 version), which assists organizations to establish effective environment management systems and improve their corporate values.

In 2015, substantial environmental milestones occurred. The first was the adoption of the "Sustainable Development Goals (SDGs)" at the "United Nations Sustainable Development Summit", signifying international agreement for action towards a sustainable future. The second was the adoption of the Paris Agreement (at the 21st Conference of Parties to the United Nations Framework Convention on Climate Change (COP 21), an agreement dealing with greenhouse gas emissions mitigation, adaptation and finance starting in the year 2020.³

Especially, the Paris Agreement calls for reducing global greenhouse-gas emissions such as carbon-dioxide to near zero within the second half of the century to keep the global temperature rise below two degrees Celsius. All parties are obliged to implement measures to achieve reduction targets. Japan pledged to reduce greenhouse-gas emissions by 26% by FY2030 (compared to FY2013).

Major large-sized organizations have taken the lead with environmental management, and have incorporated it into their business management. Now they are accelerating efforts toward a more strategic environmental management. In addition, compliance with environmental laws and regulations etc. (hereinafter referred to as "compliance") and environmental communication are also areas undergoing active improvement within many organizations.

The current landscape is a great opportunity for small and medium- sized enterprises (hereinafter referred to as SMEs), which are essential organizations in the value chain of the large-sized ones, to further their environmental management and business. The 2017 version of the EcoAction 21 Guidelines have been developed with a view to assisting organizations to better, and more easily incorporate effective environmental management, and in turn grow their business.

Environmental management defined in EcoAction 21 assists organizations to develop and maintain broader environmental management systems, that not only

³The Paris Agreement came into effect on November 4, 2016. Japan ratified it on November 8, 2016.

improve environmental management, but also strengthen the overall management of the organization.

2. Policy-related status of EcoAction 21

In Japan, demand for programs such as EcoAction 21 which aid effective environmental management is growing. For example, the Global Warming Countermeasures Plan (May 2016, Cabinet Decision) pledges further consideration of environment impacts from organizations' activities through use of environmental management systems with PDCA cycles, such as EcoAction 21 for SMEs, promotion of effective environmental management and employees' education at the organizations.⁴

3. Credo of EcoAction 21

EcoAction 21 supports SMEs with their environmental management. According to the International Integrated Reporting Framework, six types of capital are required for corporate management (Figure 1).⁵

- (1) Financial capital: The pool of funds that is available to an organization
- (2) Manufactured capital: Manufactured physical objects (as distinct from natural physical objects) that are available to an organization for use in the production of goods or the provision of services
- (3) Intellectual capital: Organizational knowledge-based intangibles
- (4) Human capital: Peoples competencies, capabilities, experience, and ability to innovate
- (5) Social and relationship capital: Organization's brand, reputation, sharing of values, and formulation of community
- (6) Natural capital: All renewable and non-renewable environmental resources and processes that provide goods or services that support the past, current or future prosperity of an organization

Considering these six types of capital, the credo of EcoAction 21, which should be communicated to those engaged in EcoAction 21, is as follows:

"The EcoAction 21 Certification/registration program aids SMEs to better manage three types of capital, (4) Human capital, (5) Social and relationship capital, and (6) Natural capital. These three types of capital are essential to build societal trust, and

⁴For the background of EcoAction 21, please refer to Reference 1. For the policy-related status of EcoAction 21,

⁵International integrated reporting framework published by the International Integrated Reporting Council (IIRC, est. 2010 to develop a new framework of the disclosure). (The International Integrated Reporting Framework (Japanese translation)) . http://integratedreporting.org/wp-content/uploads/2015/03/International_IR_Framework_JP.pdf

in turn strengthen (1) Finance capital, (2) Manufacturing capital, and (3) Intellectual capital."⁶

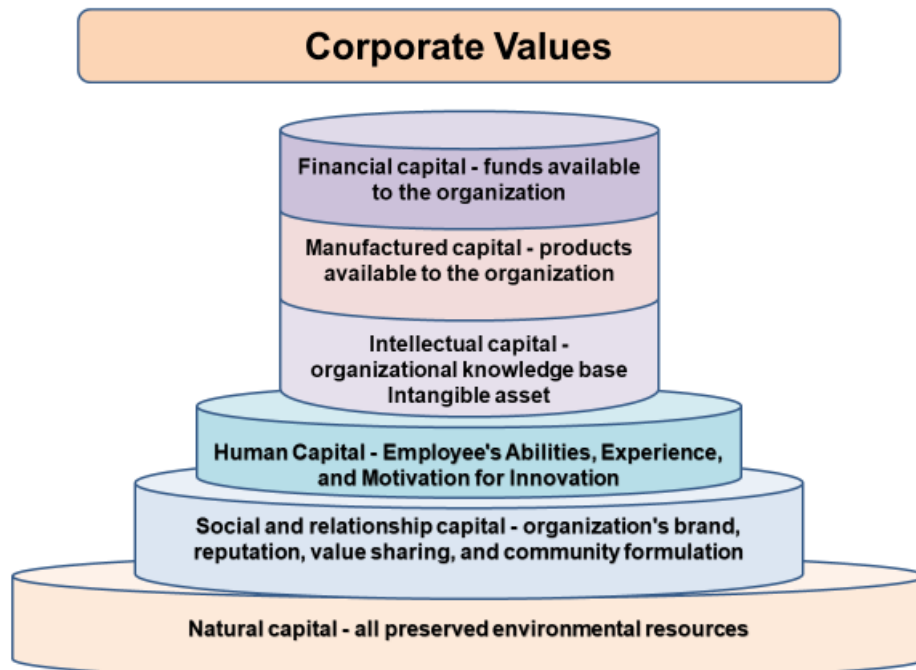


Figure 1 Six types of capital necessary for corporate management

EcoAction 21 is a PDCA cycle-based framework through which SMEs can fulfill the all human beings' obligation to maintain natural capital, enhance their employees' abilities, experiences, and motivations, thus enjoying higher reputation for their values, and then gaining trust from society and the community.⁷

4. Benefits of implementing EcoAction 21

- (1) Management effectiveness can be improved, and the organization can be activated.**

EcoAction 21 allows SMEs not only to improve the effectiveness with which the organization is managed, but also revitalize the organization through environmental efforts. It requires clarifying the organization's "challenges and opportunities" and assessing the organization's environmental efforts. Through these efforts, various management data can be obtained, and they will enhance the quality of management decision and broaden the range of management options. Additionally, "environmental management policy" and "environmental management goals" are developed as part of EcoAction 21, and can be used for strategic management planning.

Furthermore, as EcoAction 21 includes employee training, clarification of each

⁶Please refer to Section 7 in the chapter for the details.

⁷Environmental policies and efforts are set with the PDCA cycle for the purpose of continual improvement. Planning (Plan Phase); implementing the plan (Do Phase); review and evaluation of efforts (Check Phase); and evaluation and revision of the process (Act Phase) constitute the PDCA cycle.

employee's role, and review of efforts by the Representative, it can foster greater understanding between employers and employees, improving employee skills and increasing motivation levels, which leads to organization's vitalization.

(2) Greater ability to meet customer demands

EcoAction 21 can assist SMEs to better meet their customers' increasing expectations, particularly those for major organizations environmental management at the value chain level to which an SME belongs (especially, reduction in CO2 emissions and environmental compliance).

In addition, many local governments have actively encouraged businesses within their jurisdiction to develop their environmental efforts by EMS. EcoAction 21 is a viable option to do so.

Furthermore, local financial institutions favor introduction of EMSs such as EcoAction 21 for strengthening the management abilities of their clients.

(3) Requirements are clear and concise, allowing SMEs to engage effectively in environmental efforts

EcoAction 21 includes essential elements for contemporary environmental management to be unified with SMEs' corporate management. EcoAction 21 focuses on the key environmental impacts (CO2 emissions, volume of waste generated, and water usage) and the most effective environmental efforts (energy conservation, waste reduction/recycling, water conservation, improvement of environmental performance of products or services produced, merchandised, or provided by the organization).

(4) Environmental management reports offer an opportunity for SMEs to showcase their environmental efforts.

EcoAction 21 includes requirements related to communication of environmental efforts. Creation of, and publication of the environmental management report can deepen collective understanding between the organization and its stakeholders, enhance trust, and expand an organization's collaborative networks.

(5) The EcoAction 21 certification/registration program enhances the organization's credibility with stakeholders through a third-party certification process.

EcoAction 21 has an associated third-party certification/registration program. The EcoAction 21 central secretariat office, which has been confirmed to be eligible by the Ministry of the Environment (hereinafter referred to as "the central secretariat office"), certifies and registers organizations that are confirmed to meet the standards determined by the EcoAction 21 Guidelines. Thus, the EcoAction 21 certification/registration program can foster a trusting relationship between the

organization and society through the environmental efforts.

Certified/registered organizations can use the EcoAction 21 logo mark to promote and advertise their environmental efforts to the public.⁸ As part of the audit process, every audited organization may receive advice from an EcoAction 21 auditor (hereinafter referred to as "Auditor") to improve their environmental efforts.

Some local governments have implemented systems by which the certified/registered organizations can obtain subsidies or win business tenders. A large number of financial institutions are also prepared to offer low-interest loans to the certified/registered organizations. The certified/registered organization's social credibility may hence contribute towards the benefits aforementioned in items (1) through (4).

5. Features of EcoAction 21

EcoAction 21 has the following three features.

[Feature 1] EcoAction 21 is based on an effective and efficient PDCA cycle designed for SMEs (Chapters 2 and 3)

EcoAction 21's PDCA cycle for continual improvement, is designed for SMEs to easily develop environmental efforts step by step, taking the practical burden on the SMEs into consideration (Figure 2).

The PDCA cycle in EcoAction 21 consists of 14 items (requirements) listed in Chapter 2. The PDCA cycle, helps organizations to improve management of environmental matters, and revitalize itself by integrating environmental efforts and management.

Establishing environmental management goals, taking actions to achieve them, providing personnel training, ensuring environmental compliance, and visualizing results are all key parts of EcoAction 21 and environmental management success.

Therefore, EcoAction 21 can increase the management abilities and vitalize organizations.

⁸Please refer to Section 7 (3) for the details.

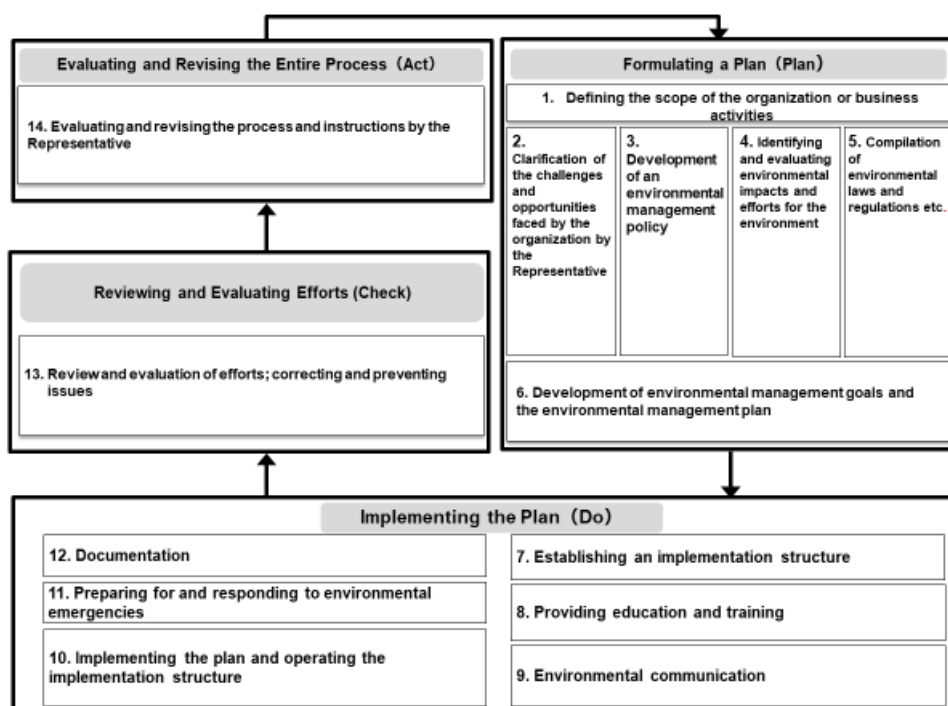


Figure 2 14 items (requirements) consisting of the PDCA cycle incorporated into EcoAction 21

[Feature 2] Creating and publishing the environmental management report facilitates environmental communication and increases transparency (Chapter 3)

The second feature of EcoAction 21 is that it includes a requirement to create and publish an environmental management report. The environmental management report is one of the best tools for promoting and advertising the organization's environmental efforts and environmental-friendliness, to business partners, employees, their families, the community, and local governments. Through the creating and publishing an environmental management report, organizations can engage with diverse stakeholders and increase societal trust and own corporate values.

In addition, EcoAction 21 requests participating organizations' environmental data be offered to the central secretariat office. The central secretariat office aggregates and analyzes these data from EcoAction 21 participants, and it can provide feedbacks to management. The organization may utilize the data from the central secretariat office as a benchmark to evaluate its environmental efforts.

The aggregated data from the central secretariat office is available to the public and local governments to announce the results of EcoAction 21 (e.g. CO₂ emissions reductions of participating organizations, by industry sector, size of operations, by region, and/or by value chain). Data disclosure is an important aspect of EcoAction 21 to fight and reduce CO₂ emissions (a key target from the Paris Agreement).

[Feature 3] EcoAction 21 encourages organizations to continually improve their environmental efforts

The third feature of EcoAction 21 is that the EcoAction 21 Guidelines and requirements are designed for the incremental (spiral-up), continual improvement of the organization's environmental efforts (Figure 3).

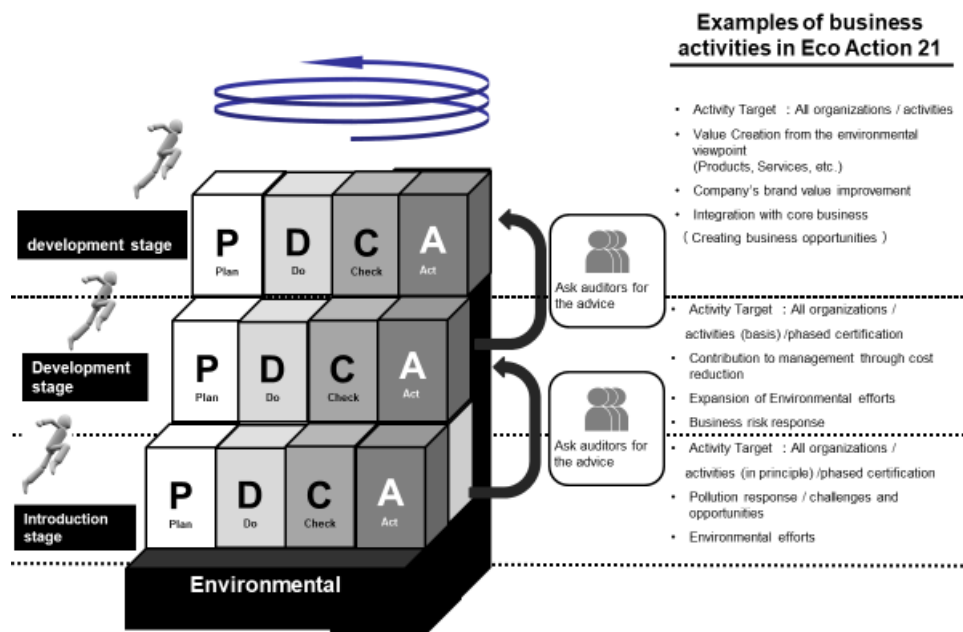


Figure 3 Schematic diagram of the incremental (spiral-up), continual improvement

Based on the requirements provided by the EcoAction 21 Guidelines (Chapters 2 and 3), the central secretariat office is to provide information and recommendations for environmental efforts and good practices, taking into consideration changing demands over time.

The certified/registered organization can receive advice from the Auditor as part of the audit process to continually improve efforts.

6. Major revised points from the 2009 version to 2017 version

(1) General

For readability purpose, the requirements are explained in the first half of the Guidelines and matters related to the certification/registration program in the second half.

(2) The requirements of the organization and self-check (Chapters 2, 3, 4, and 5)

- Some requirements from the 2009 version have been reorganized or revised (Chapter 2).
- To analyze the results of organizations participating in the EcoAction 21 program, the aggregating and analyzing process of environmental data has been introduced (Chapter 3).

(3) Matters related to the administration of the EcoAction21 certification/registration program (Chapter 6)

- Details of the administration of the certification/registration program, and the roles/eligibilities/authorities/responsibilities of the central secretariat office, the regional secretariat offices, and the Auditor have been clarified.
- Strengthening of the requirements of the central secretariat office such as the establishment of the management advisory committee furthers the credibility of the program. Authority of the central secretariat office has also been expanded.
- The fees for certification/registration and audits are changed to be received and managed by the central secretariat office.

7. Certification/registration program of EcoAction 21

The central secretariat office is responsible for administering the certification/registration program including the certifying/registering of organizations that are confirmed to meet standards as determined by the EcoAction 21 Guidelines; approving the regional secretariat offices that are confirmed to meet the standards determined by the central secretariat office; and the certification of the Auditor for the program.

Auditor can provide audit services, instructions, and advice. The process is commenced with the receipt of application for certification/registration from the organization. A summary of the EcoAction 21 certification/registration program is outlined in Figure 4.⁹

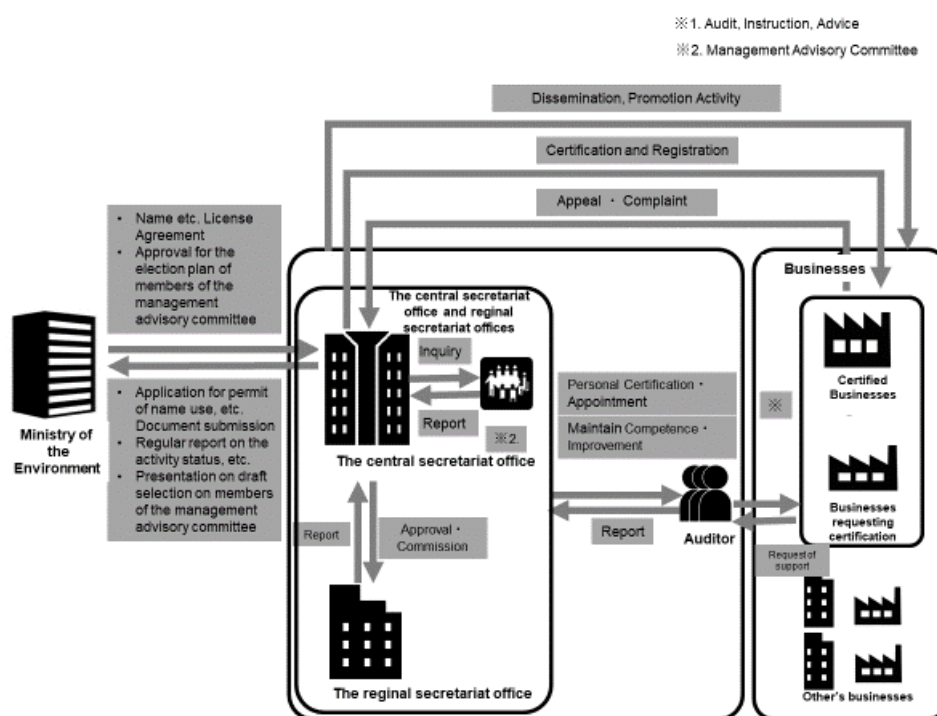


Figure 4 Summary of the EcoAction 21 certification/registration program

(1) General Requirements for certification/registration

For an organization to be certified/registered, it must be confirmed by the central secretariat office as having met the standards determined by the EcoAction 21 Guidelines. Confirmation occurs after having implemented the below described efforts, undergoing an audit as prescribed in the Guidelines, and deliberation by the judging committee. To become certified/registered, the requirements include confirmation of the following seven points:

⁹Please refer to Chapter 6 for the details.

- The organization shall develop its EMS appropriately based on the PDCA cycle consisting of the "planning (Plan Phase)"; the "implementing the plan (Do Phase)"; the "review and evaluation of efforts (Check Phase)"; and the "evaluation and revision of efforts (Act Phase)".
- It shall appropriately manage and maintain the EMS for more than three months (the PDCA cycle shall be carried out once at least).
- The organization has identified environmental impacts (e.g., CO2 emissions, volume of waste generated, and water consumption), and appropriately implemented necessary environmental management efforts (including energy conservation; waste reduction/recycling; water conservation; and improvement of environmental performance of products or services produced; merchandised or offered).
- The Representative shall appropriately perform the evaluation and revision of the environmental management processes.
- It shall create and publish the environmental management report regularly.
- In principle, it shall offer the environmental data to the Auditor.
- The contents of the following items shall be consistent: the results of the self-check of environmental impacts and environmental efforts; the environmental management policy; the environmental management goals; the environmental management plan; and the environmental management report.

The central secretariat office offers support to organizations seeking EcoAction 21 certification/registration. Please refer to the website of the central secretariat office for further details.

(2) Procedures for certification/registration

The procedures for certification/registration by the central secretariat office is outlined below.

- ① The organization which intends to be certified/registered by the program (hereinafter referred to as the "Auditee") applies for an audit by sending the application form and its latest environmental management report to the secretariat office by mail.
- ② The secretariat office selects the Auditor in charge of the audit and notifies the Auditee.
- ③ The Auditor receives documents necessary for audit from the secretariat and/or the Auditee.
- ④ The Auditor is dispatched from the secretariat and conducts the audit (document audit and on-site audit).
- ⑤ The Auditor publishes the results of the audit in a form of the audit result report, and submits it to the secretariat.
- ⑥ The judging committee of the secretariat office determines propriety of the Auditee

for the certification/registration based on the report from the Auditor.

- ⑦ The central secretariat office determines propriety of the certification/registration of the Auditee based on a report from the judging committee, and notifies the Auditee of the results.
- ⑧ The Auditee pays the audit fee and the certification/registration fee to the central secretariat office.
- ⑨ The central secretariat office enters into a certification/registration contract with the Auditee.
- ⑩ The central secretariat office sends the certification/registration certificate to the Auditee, allows the Auditee to use the logo mark of EcoAction 21, and discloses the environmental management report of the Auditee on the website of the central secretariat office.
- ⑪ The certification/registration certificate is valid for two years. The Auditee undergoes an intermediate audit one year after the certification/registration, and a renewal audit one year after the intermediate audit. A renewal audit is similar to the process of the first audit.

Please inquire with the central secretariat office for further details about the actual procedures. The central secretariat office may entrust the procedures mentioned in the items from (1) through (6) to the Auditor.

Please refer to "Chapter 6: administration of the EcoAction21 certification/registration program" for further details.

(3)Use of the name and logo of the EcoAction 21

The EcoAction 21 logo is trademarked and owned by the Ministry of the Environment. The central secretariat office determines the official regulation and use of the EcoAction 21 name and logo (Figure 5). The Auditee can use the name of EcoAction 21 and the logo within the limits stipulated by the official regulations. Please refer to the website of the central secretariat office for further details.



Figure 5 Logo mark of EcoAction 21

(4)Relevant Guidelines and compatibility with the EcoAction 21 Guidelines

Public institutions and the central secretariat office can develop guidelines for specific

industry sectors and/or specific value-chains based on the EcoAction Guidelines. The devised guidelines shall be applied as guidelines for specific industry sectors after confirmation of their compatibility with the EcoAction 21 Guidelines by the Ministry of the Environment. An organization that belongs to a specific industry sector for which relevant guidelines already exist, shall conduct efforts stipulated by the industry-specific guidelines which shall be later approved by the central secretariat office.

(5)Official regulations by the central secretariat office

The central secretariat office can develop, revise, and abolish official regulations to determine the necessary standards or procedures for the administration of the certification/registration program. The central secretariat office may also decide on the interpretation of the requirements in the Guidelines.

The central secretariat office provides information including recommendations of good environmental efforts and practices, and manuals for the creation and use of environmental management reports.

Chapter 2 Environmental management systems

This chapter details fourteen requirements concerning the development, operation, and maintenance of the "environmental management system". By implementing the procedures described here, organizations can establish an effective and efficient environmental management system. Fourteen requirements can be categorized into four phases: planning (Plan Phase); implementing the plan (Do Phase); review and evaluation of efforts (Check Phase); and evaluation and revision of the process (Act Phase).

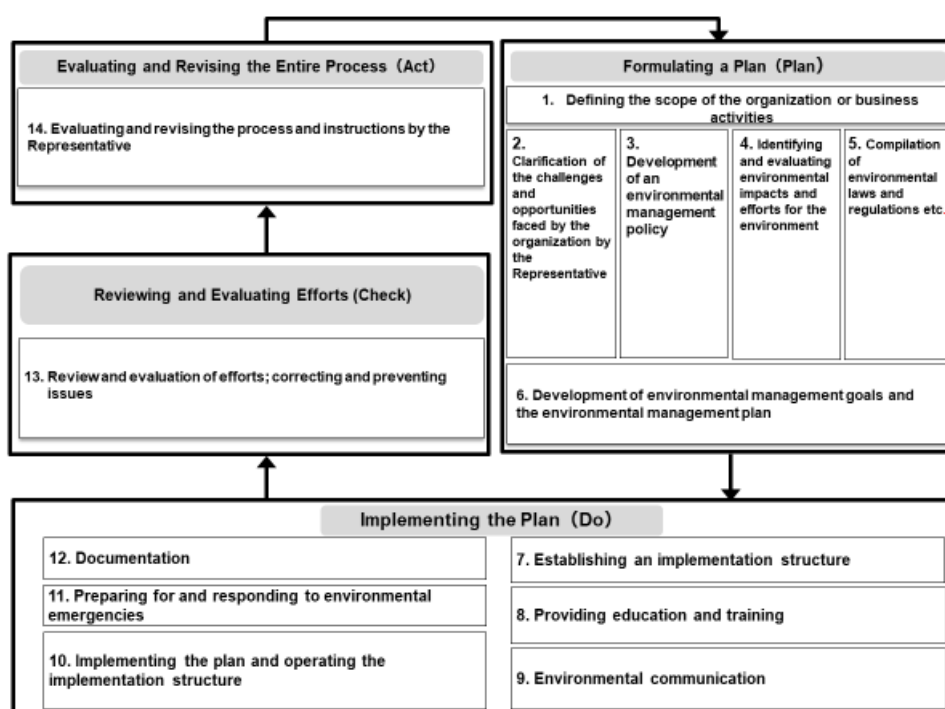


Figure 6 Requirements and the PDCA cycle in EcoAction 21

Regarding the development, operation, and maintenance of the environmental management systems, and the PDCA, the following matters are highlighted:

- Explanations of the 14 requirements fall into two categories: the "Requirement" and "Commentary".
- When implemented, the actual implementation of the requirements may differ from the order that is listed in this chapter.
- To improve communication of environmental matters, the creation and publication of an environmental management report is required as detailed in Chapter 3.
- To understand the existing status pertaining to the organization's environmental impacts and efforts, an initial review shall be implemented according to "Chapter 4: Self-check of environmental impacts," "Chapter 5: Self-check of the environmental efforts," and two self-check tables (Appendixes 1 and 2). For the

latest version of the self-check tables, please refer to the website of the central secretariat office.

- Meanings and additional explanations of key words are included in Reference 4: Glossary.
- The central secretariat office determines the interpretation of the requirements.
- For useful information and further environmental management insights, please refer to the website of the central secretariat office.

I. Planning (Plan Phase)

Requirement 1: Defining the scope of the organization or business activities

Before employing EcoAction 21, the organization shall define the scope for which environmental efforts are to be implemented.

If substantial activities which are typically included in EcoAction 21, are excluded in the scope, the organization may not meet the requirements to be certified/registered. It is important for organizations to define and specify an appropriate scope considering the certification/registration program requirements.

This requirement defines the scope for which the organizations employ EcoAction 21.

Requirement 1

- (1) The organization, in principle, shall employ EcoAction 21 across the whole organization and its business activities (including organizational activities, products, and services), when developing, operating, and maintaining its environmental management systems.
- (2) To be certified/registered, the scope for which EcoAction 21 is employed is to be specified.

[Commentary]

- ☐ It is not ideal that only part of an organization performs environmental efforts or that some business units are determined as not required to engage in environmental management. In principle, EcoAction 21 applies to the whole organization, all business activities, and all employees. However, the organization can define part of it as the scope if phased certification or site-based certification is applicable. Even in such cases, so-called cafeteria certification (the exclusion of business activities which have substantial environmental impacts) is not accepted.¹⁰¹¹

¹⁰Please refer to Reference 4 for the definition of "all employees".

¹¹Please refer to Reference 4 for the definition of the "cafeteria certification".

- ☐ The organization should explore the feasibility of (1) full-scope certification, then (2) phased certification, and lastly (3) site-based certification, when considering the scope. In principle, with full-scope (the whole organization), all business activities shall be included in the scope. If, for example, the organization is relatively large, and it is not easy for full-scope certification in the early stage, phased certification can be considered. If phased certification is also not practical, then site-based certification should be considered.¹²
- ☐ Limited scope is made to be clear in cases of phased certification and/or site-based certification.

<Phased certification>

- ☐ In such cases where the organization operates in multiple locations, it may commence environmental efforts only at the site whose environmental impacts are thought to be relatively large, and then it may expand the scope step by step. In such cases, the business shall make sure all activities within the limited scope are included. It shall also clarify the plan and the schedule to expand the scope, and shall declare in its environment management report that it is certified/registered under phased certification.
- ☐ If the organization decides to undergo phased certification, its core business shall be included so as to avoid selecting only part of the organization, whose environmental impact may be relatively small as the scope, at the expense of excluding sites whose environmental impact is relatively large.

<Site-based certification>

- ☐ Site-based certification is applicable, if the organization operates on an independent site. For example, an office in an independent site or a tenant in a building is in the case.
- ☐ All organizations, activities, and employees within the site shall be included in site-based certification.
- ☐ It is necessary for the site to establish its independent EMS utilizing the PDCA cycle.

Requirement 2: Clarification of the challenges and opportunities faced by the organization by the Representative

To ensure management of the organization and environmental efforts are consistent, the Representative shall clarify the challenges and opportunities faced by the organization so as to reflect them in the environmental efforts.

¹²We encourage organizations considering phased and/or site-based certification due to difficulties for certification of all organizations, activities, and employees to first, please consult with the Central Secretariat Office.

This requirement stipulates that the Representative must clarify the challenges and opportunities faced by the organization, and communicate them to employees. Such challenges and opportunities should be reflected in the organization's environment management policy (Requirement 3) and environment management goals (Requirement 6).

Requirement 2

- (1) The Representative shall sort out and clarify the challenges and opportunities faced by the organization.
- (2) The following items shall be considered.
 - The organization's businesses
 - The organization's business environment
 - The relationship between the organization's business and the environment

[Commentary]

- ☐ The Representative is requested to clarify the internal and external challenges and opportunities faced by the organization, taking the following matters into consideration. Some challenges come from outside of the organization, others from within. In addition, the opportunities include those for new business development by overcoming the challenges.
 - The organization's businesses: organization operations, products and services offered to the customers and so forth.
 - The organization's business environment: the economic situation, social situation, technical developments, status of policies, requests and demands from the stakeholders (e.g., request from the business partners), etc.
 - The relationship between the organization and the environment: contributions to environmental conservation (e.g. reducing environmental impacts through products or services, developing or offering environmental-friendly products or services), and reduction of environmental impacts (e.g. reducing CO2 emissions), etc.
- ☐ The Representative shall consider extensively the relationship among the challenges and opportunities for the organization, and their relationship with the environment.
- ☐ The challenges and opportunities are to be reviewed regularly and revised as deemed necessary. Revision may be justified in circumstances including but not limited to changes in organization's businesses, the organization's business environment, or relationships between the organization's business and the environment.

- To the extent possible, among the challenges and opportunities clarified by the Representative, those of a medium-and-long term nature are to be reflected in the environmental management policy (Requirement 3), whilst those of a short-term nature in the environmental management goals (Requirement 6).

Requirement 3: Development of an environmental management policy

For the organization to proactively engage in environmental management, the Representative must develop a basic environmental management policy and pledge their support of this policy.

When developing the environmental management policy, it is necessary for the Representative to consider the challenges and opportunities faced by the organization and other relevant matters (Requirement 2). The contents of the environmental management policy are to be communicated to all employees.

This requirement focuses on the Representative's development of the organization's environmental management policy, distribution amongst all relevant members, and overall implementation of the organization's environmental management.

Requirement 3

- (1) The Representative shall develop and pledge their support of a policy on environmental management (hereinafter the "environmental management policy").
- (2) The environmental management policy:
 - Shall be consistent with the organization's corporate philosophy and organization's activities;
 - Shall be consistent with the challenges and opportunities of the organization;
 - Shall clarify priorities of environmental management items;
 - Shall pledge continual improvement of environmental management;
 - Shall pledge compliance with applicable environmental laws and regulations etc.; and
 - Shall include the date of enactment (or the date of most recent revision), and the name of the Representative.
- (3) The environmental management policy shall be communicated to all employees.

[Commentary]

- ☐ The Representative develops the environmental management policy and pledges implementation of efforts based on the policy. The environmental management policy is to be published in the environmental management report (Chapter 3).
- ☐ The environmental management policy:
 - (1) Should be consistent with the organization's corporate philosophy and the organization's activities;

- Corporate philosophy: Objectives of establishment, corporate motto, credo, founder's words, etc.
 - Organization's activities: Type of industry (e.g. manufacturing, retailing, service industry), scale of the operations, environmental impacts from the business, etc.
- (2) Should, among the challenges and opportunities clarified in the process of Requirement 2, consider those of middle-and-long term importance.
- (3) Should clarify priorities of environmental management items: sort out material environmental activities, considering its business activities.
- (4) Should pledge the continual improvement of environmental management: stipulate and clarify the continual improvement and step ups of environmental management.
- ☐ Pledge compliance with applicable environmental laws and regulations etc.: The compliance status with applicable environmental laws and regulations etc. is stated, as well as ongoing compliance.
- ☐ The environmental management policy is to be publicized to all employees so that they may understand the contents and engage in relevant environmental efforts. For this purpose, notices, meetings, and morning gatherings are also appropriate publication means.
- ☐ For the principles of environmental management, please refer to Chapter 1.
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Requirement 4: Identifying and evaluating environmental impacts and efforts for the environment

To reflect the environmental management policy (Requirement 3) in the environmental management goals and environmental management plan (Requirement 6), it is essential to appropriately identify the environmental impacts of the organization's activities.

This requirement focuses on identifying and understanding an organization's environmental impacts and the contributing activities. It aims to reflect these in the environmental management goals, environmental management plan, maintenance procedures, and response to environmental emergencies of the organization.

Requirement 4:

- (1) The environmental impacts resulting from organization's activities in scope are identified based on a "self-check of environmental impacts (Chapter 4)", and the main environmental impacts and organization's activities contributing to them shall be specified. The following items shall be included in the identified environmental impacts.
 - CO₂ emissions
 - Waste volume generated
 - Water usage
 - Chemical consumption
- (2) If the organization is to be certified/registered for the first time, the current status of environmental efforts in the organization shall be tendered based on the "self-check of environmental efforts (Chapter 5)". The checked items include matters related to the organization's products or services.

[Commentary]

<Self-check of environmental impacts (Chapter 4)>

- ☐ Based on a self-check table of environmental impacts (Appendix), the environmental impacts of an organization's activities is identified. Activities, facilities, equipment, or chemicals that have large impacts on the environment are specified based on the results of the self-check. The self-check table of environmental impacts (Appendix) is a useful tool that enables the organization to identify its environmental impacts. Adding impact items or employing other tools or methods may also be done. The following items should be identified without exception.
 - CO₂ emissions: Based on the identified consumption of various energy sources, CO₂ emissions should be calculated. Measures against climate

change are of high importance, thus the consumption should be recorded monthly.

- Volume of waste generated: Identification and reduction of the volume of waste generated through improved productivity or material yields are a crucial step towards establishing the recycling-based society.
- Water usage: Water is a precious resource, and rationalization of water consumption through means of monitoring consumption and improving productivity (particularly for the manufacturing industry) is key to effective environmental management. This does not apply where identifying water usage is considered impractical.
- Chemical consumption: The reduction of various risks related to chemical handling, and management of chemicals, as well as chemical consumption are one of key elements of environmental management. Major organizations should consider their chemical management at all stages of the value chain, including with business partners. Organizations which handle chemical substances should control and manage their chemical consumption appropriately.
- In principle, chemical substances to be managed include those designated under the Pollutant Release and Transfer Register (PRTR) system.

<Self-check of environmental efforts (Chapter 5)>

- ☐ When an organization is to be initially certified/registered under the EcoAction 21 certification/registration program, it should understand the status of its environmental efforts based on the self-check table of environmental efforts (Appendix). After understanding what environmental efforts are implemented, it should consider what effort are to be taken to reduce its environmental impacts with reference to the self-check table of environmental efforts (Appendix). The self-check table of environmental efforts (Appendix) is a tool to review organization's environmental efforts.
- ☐ Based on the results, the organization should determine what kind of environmental efforts are to be implemented and such consideration should be reflected in the environmental management plan.
- ☐ After the second year of employing EcoAction 21, the organization may review its environmental efforts based on the tendered results of the first year with the self-check table of environmental efforts (Appendix).
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Requirement 5: Compilation of environmental laws and regulations etc.

To ensure sound environmental management, the organization shall comply with the environmental laws and regulations etc. applicable to its activities.

This requirement aims to ensure compliance with environmental laws and regulations etc., by stipulating the creation of a concise table that details compliance efforts. This table should be designed to reflect the environmental management goals and environmental management plan (Requirement 6) of the organization.

Requirement 5:

- (1) Environmental laws and regulations etc. with which the organization must comply and the efforts the organization will perform to ensure such compliance shall be organized into a concise table.
- (2) Information on the environmental laws and regulations etc. applicable to the organization shall be managed and kept to up-to-date.

[Commentary]

- ☐ Environmental laws and regulations include those laws and regulations established by the country, as well as ordinances determined by local prefectural governments, and municipalities. Other environmental commitments may include agreements between the organization and local communities, commitments to customers and agreements with industry associations.
- ☐ The environmental laws and regulations etc., with which the organization complies should be sorted organized into a concise table. The table should be detailed enough for the organization to comply with the environmental laws and regulations etc. . For example, the more complicated environmental law and/or regulations and those requirements need engagement by more relevant members, the more detailed the table should be.
- ☐ The table should include information on the notifications, measurements, and records required to comply with environmental laws and regulations etc..
- ☐ The information in the table should be kept up-to-date. The table should be reviewed regularly or as deemed necessary, according to the amendments of applicable law and regulations etc., and the changes in the organization's activities, products, or services.
- ☐ For details of major environmental laws and regulations, please refer to the website of the central secretariat office.
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Requirement 6: Development of environmental management goals and the environmental management plan

To implement successful environmental management within an organization, development of environmental management goals based on environmental policies and plans (means, schedules, and the persons in charge) is necessary.

This requirement outlines the development of concrete goals and the plans to achieve them to ensure the effectiveness of the EMS under EcoAction 21.

Requirement 6:

- (1) Based on the results of Requirements 2-5 (clarifying the challenges and opportunities in the organization by the Representative, development of the environmental management policy, identifying and evaluating environmental impacts and efforts for the environment, and compilation of environmental laws and regulations etc.), environmental management goals and an environmental management plan shall be developed.
- (2) Environmental management goals shall be quantifiable as much as is possible and shall include the following matters:
 - Reduction of CO₂ emissions;
 - Reduction of the volume of waste generated;
 - Reduction of water usage;
 - Reduction of chemical consumption; and
 - Improvement of environmental performance of products or services produced, merchandised, or offered by the organization.
- (3) Determination of concrete means, schedules, and persons in charge to achieve each environmental management goal in the environmental management plan.
- (4) Environmental management goals and the environmental management plan shall be reviewed annually or at the time of substantial change in the matters related to Requirements 2-5.
- (5) Environmental management goals and the environmental management plan shall be communicated to all relevant employees.

[Commentary]

<Development of environmental management goals>

- ☐ Environmental management goals include annual and medium-term (3-5 years) goals. Medium-term goals should be consistent with annual goals. Environmental management goals should be measured and quantified as much as is possible. In such cases where the goals cannot be measured, or quantified, alternative benchmarks should be determined from which the organization can judge whether the goals are achieved or not.
- ☐ Environmental management goals and the environmental management plan should be developed, taking the following items into consideration.

- The challenges and opportunities for which the organization should act in the short term
 - Priority environmental management items outlined in the environmental management policy
 - Results of the self-check of environmental impacts
 - Results of the self-check of environmental efforts
- Environmental management goals should be developed not only from the perspective of reducing harmful environmental impacts but also by considering opportunities to generate greater value for the organization. Some past case examples are outlined below.

No.	Purpose	Efforts	Benefits
1	Reducing CO ₂ emissions	Improving manufacturing or business processes; energy conservation efforts	*Improving energy efficiency *Improving productivity *Cost reductions
2	Reducing the volume of wastes	Improving yield, reducing defects; 3R efforts (reduce, reuse; and recycle)	*Improving resource efficiency *Improving productivity *Cost reductions
3	Reducing water usage	Improving processes; water conservation efforts; use of reclaimed water	*Improving water efficiency *Improving productivity *Cost reductions
4	Reducing chemical consumption	Improving uses and applications of chemicals	*Reducing chemicals consumption *Improving productivity *Cost reductions
5	Improving environmental performance of products or services produced, merchandised, or offered by the organization ¹³	Developing or providing environmental-friendly products or services; improving the environmental performance of products	*Improved customer satisfaction *Greater market share through differentiation

¹³For the self-check of environmental efforts, please refer to “3. Products and services” in Chapter 5 Self-check of environmental efforts and the central secretariat office website.

- ☐ It is important that environmental management goals are set as long as they are practical and appropriately challenging. The following goals are not appropriate: goals that are too low for sticking to accomplishment; goals that are extremely difficult to achieve; goals with little rationale (e.g. 1% annual reductions).
- ☐ In instances where reduction is not practical due to technical or economic situations (e.g. water usage in rental premises), qualitative goals may be established in place of quantitative goals. In such instances, organizations may also set only environmental efforts with no goals and pursue maintenance activities of those efforts (monitoring, confirming etc.).

<Development of the environment management plan>

- ☐ The environmental management plan is an implementation plan for the organization to achieve its environmental management goals. How the organization plans to achieve each goal (actions, means, schedules), and the persons in charge should be outlined in the plan.

<Other>

- ☐ Environmental management goals and the environmental management plan should be reviewed annually or at the time of significant change in the matters related to Requirements 2-5 (clarifying the challenges and opportunities in business by the Representative, development of the environmental management policy, identifying and evaluating environmental impacts and efforts for the environment, and environmental laws and regulations). They should be revised as deemed necessary.
- ☐ Environmental management goals and the environmental management plan are to be communicated to the relevant employees through education, training, and/or other communication based on Requirement 8 (providing education and training).
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

II. Implementing the plan (Do Phase)

Requirement 7: Establishing an implementation structure

For organization-wide environmental management success, the Representative should take responsibility for establishing an implementation structure that is sufficient to operate and maintain the EMS.

This requirement details the Representative's responsibility to establish an effective implementation structure for EcoAction 21. The implementation structure should define the role, responsibility, and/or authority of each person within the organization, and direct management resources for effective operation.

Requirement 7:

To operate and maintain EcoAction 21, and engage in effective environmental management, the Representative shall implement the following items:

- Establish an effective and sufficient implementation structure; and
- Determine and define each person's role, responsibility, and authority in the implementation structure; and
- Allocate appropriate management resources to operate and maintain EcoAction 21.

[Commentary]

- ☐ To employ EcoAction 21 effectively, an organizational implementation structure (whose leader is the Representative) should be established.
- ☐ The Representative or supervisors in each division should determine each person's role, responsibility, and authority in the EMS.
- ☐ All employees should understand the implementation structure of EcoAction 21 and their individual roles.
- ☐ The Representative organizes the resources required to operate the EMS of EcoAction 21: human capital (time, skill, knowledge), resources (facilities, infrastructure), monetary capital (plant and equipment investment, educational investment), and information (customer needs, technical information).
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Requirement 8: Providing education and training

To engage in effective environmental management, all employees must understand and implement the guidelines of EcoAction 21.

By the provision of education and training opportunities for all employees, this requirement aims to ensure the all-hands efforts with employees, as well as to enhance the environmental knowledge and motivation of them.

Requirement 8:

The employ EcoAction 21 effectively, the following items related to providing education and training opportunities shall be implemented.

- Education and training shall be provided to all employees; and
- Specific education and training shall be provided to employees engaged in specific tasks related to environmental management as defined in the commentary below.

[Commentary]

<Education and training provided to all employees>

- ☐ All employees should understand the organization's environmental management policy, their roles, responsibilities, and actions, in relation to the environmental goals as defined in the environmental management plan.

<Specific education and training provided to employees engaged in specific tasks>

- ☐ The employees engaged in specific tasks include those who are engaged in organization's efforts related to compliance with environmental laws and regulations (applicable to the organization as business-as-usual), resultant from substantial environmental impacts, and/or environmental emergencies. To engage in such specific tasks is deemed to require a license or certain level of professional experience.
- ☐ For those engaged in specific tasks, it is required to have a license(s), and/or to have appropriate on-the-job training to develop the skills necessary for such specific tasks. The contents of education and training should be designed, taking into account each participants' activity and role within the organization, rather than uniform education or training.

Requirement 9: Environmental communication

To employ EcoAction 21 effectively, two-way communication should be implemented to share information with people in the organization and outside of it.

Internal communication impresses upon employees an understanding of the important matters pertaining to environmental management such as the employment of EcoAction 21.

External communication such as the publishing of the organization's environmental management report promotes dialogue with external stakeholders. Formal requests

and complaints related to the organization's environmental efforts shall also be answered appropriately.

This requirement aims to enhance the mutual understanding and collaboration between employees and stakeholders outside the organization by establishing internal and external communication.

Requirement 9:

To employ EcoAction 21 effectively, the following communications shall be implemented:

- Within the organization, internal communication on EcoAction 21 shall occur
- Formal objections and complaints related to the environmental efforts of the organization shall be received and answered appropriately. Additionally, necessary actions and preventive measures shall be taken.
- The Environmental management report shall be created and published annually according to Chapter 3 of the Guidelines.

[Commentary]

- ☐ Internal communication is important for an EMS when employing EcoAction 21. It is important for two-way communication, not only to convey the progress of environmental management goals and the environmental management plan, but also to receive employees' feedback and suggestions.
- ☐ Regarding external communication, formal objections and complaints pertaining to the environmental efforts of the organization are an opportunity to improve such environmental efforts. By establishing a complaints-counter (or assigning responsibility to a person), the organization should answer formal requests and complaints faithfully. The handling process of formal objections and complaints should be recorded. Records should include the sender, receipt date and time, contents of the objection or complaint, the division in charge, countermeasures, and the results of the organization's response. In addition, preventive measures should be taken if necessary to avoid problems from recurring.
- ☐ To facilitate internal and external communication, EcoAction 21 requires that the environmental management report be created and published annually. Please refer to Chapter 3 for further details.
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Requirement 10: Implementing the plan and operating the implementation structure

To support the environmental management policy, environmental management goals, the environmental plan, compliance with environmental laws and regulations etc., and environmental efforts, the creation and use of procedure manuals (as deemed necessary) are considered important.

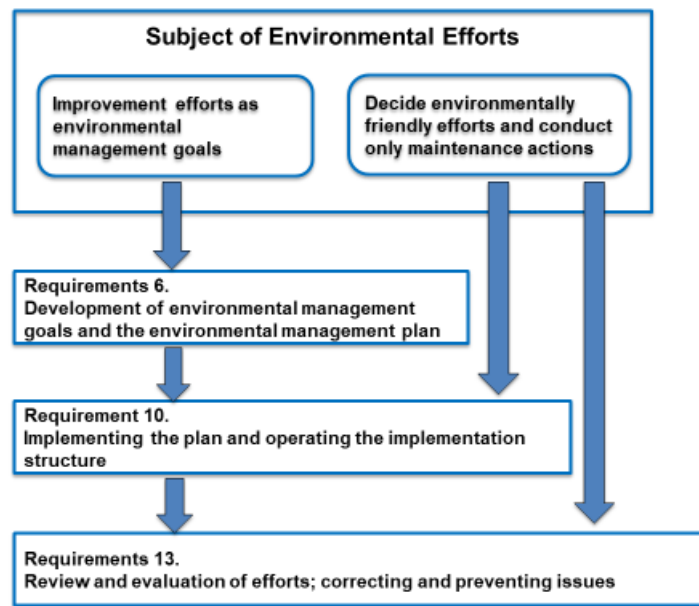
This requirement aims to support the environmental management policy, the environmental management goals, the environmental plan, and compliance with environmental laws and regulations etc..

Requirement 10

- (1) The necessary efforts shall be implemented to support the environmental management policy, achieve the environmental management goals and the environmental management plan, as well as comply with environmental laws and regulations etc..
- (2) To support the environmental management policy, and achieve the environmental management goals, procedure manuals shall be created as deemed necessary.

[Commentary]

- ☐ For the environmental impacts and the contributing activities identified in the process of Requirement 4, the organization should establish the corresponding environmental goals to perform improvement efforts or may determine environmental-friendly efforts only (without corresponding goals) to perform maintenance efforts. In both cases, the appropriate actions should be implemented (Figure 7).
- ☐ The organization should consider the employment of EcoAction 21 in the long run. It should take into account changing situations, and add flexibility to activity procedures as deemed necessary
- ☐ To ensure the effective implementation of the environmental management plan, compliance with environmental laws and regulations etc., and efficient environmental efforts, procedure manuals should be developed as deemed necessary.



□

Figure 7 Deployment of Environmental Efforts

Requirement 11: Preparing for and responding to environmental emergencies

To minimize adverse effects to the environment of accidents or natural disasters, and to ensure business continuity, it is necessary to establish effective countermeasures to respond appropriately at such times and confirm its effectivity.

This requirement aims to prepare organizations for environmental emergencies and promote its improvement.

Requirement 11

- (1) The organization shall plan for the event of environmental accidents and emergencies, and shall establish countermeasures against them. Drills shall be held for such countermeasures regularly so far as is practical for the organization.
- (2) After the drill or actual occurrence of accidents or emergencies, the countermeasures shall be evaluated to confirm whether they are effective or not. If necessary, the countermeasures are to be revised.

[Commentary]

- The possibility of environmental emergencies exists, whether these be accidents such as oil or chemical spills, or natural disasters. It is essential to plan for and determine what types of accidents and emergencies may impact an organizations'

business activities. The organization should implement risk management measures to effectively prepare for environmental crises so as to best protect both the business and the environment.

- ☐ To confirm whether the countermeasures are appropriate or not, trial-runs or drills of such countermeasures are to be held. Trial-runs and training of employees may be held at the same time.
- ☐ After the drill or actual occurrence of accidents or emergencies, the countermeasures should be evaluated to confirm whether they are effective or not. If necessary, the countermeasures are to be revised.
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Requirement 12: Documentation

To employ EcoAction 21 and operate it effectively, required documents for the EMS should be created and records of efforts should be appropriately stored.

This requirement identifies required documents, details appropriate management of such documents, and establishes the need for an information management system.

Requirement 12

(1) When employing EcoAction 21, the following fifteen documents (paper, electronic medium) and other documents the organization deems necessary shall be created and managed appropriately.

- Environmental management policy;
- Results of self-check of environmental impacts;
- Results of self-check of environmental efforts;
- Results of determining environmental laws and regulations etc. applicable to the organization (tables, etc.);
- Environmental management goals;
- Environmental management plan;
- Implementation structure (organizational chart with each person's role in EcoAction 21);
- Status of formal external objection or demands and the results of responding to them;
- Document plans in the event of environmental accidents and emergencies, and the countermeasures against them;
- Results of trial runs and drills for environmental emergencies;
- Progress results of environmental management goals and the environmental management plan;

- Results confirming compliance with environmental laws and regulations etc.;
- Measures to correct problems, and results of preventive measures;
- Results of Representative's evaluating and revising the process, and instructions; and
- Environmental management report.

(2) Procedure manuals the organization deems necessary to implement EcoAction21

[Commentary]

- ☐ Besides the mandatory documents needed for certification/registration of EcoAction 21, the organization should determine what other documents are necessary when employing EcoAction 21.
- ☐ The organization should create documents that are appropriate with regards to quantity and quality, avoiding the creation of documents that are overly complicated, and/or that delay or discourage adoption of environmentally friendly efforts. The organization is encouraged to make use of the existing documents as much as possible, rather than creating new documents exclusive for EcoAction 21.

III. Review and evaluation of efforts (Check Phase)

Requirement 13: Review and evaluation of efforts; correcting and preventing issues

To improve its environmental management, an organization should regularly review and evaluate its environmental efforts.

This requirement details the need for an organization to regularly review its environmental efforts, and correct and prevent issues (if necessary), to improve the effectiveness of its environmental management.

Requirement 13

- (1) The organization shall review and evaluate the following items relevant to the EMS with an appropriate frequency:
 - Achievement (progress) of environmental management goals
 - Implementation status (effectiveness) of the environmental management plan
 - Compliance status with environmental laws and regulations etc.
 - Status of environmental impacts of high importance, and the status of implementation measures to manage them
- (2) Corrective and preventative measures shall be implemented as deemed necessary.
- (3) An internal audit shall be conducted if the organization is relatively large.

[Commentary]

<Review and evaluation of environmental efforts>

- ☐ To review and evaluate environmental efforts, the following should be monitored and measured with appropriate frequency, and the organization should judge the necessity of implementing corrective and/or preventive measures. The organization should review and evaluate the items about which the environmental management goals are set (Requirement 6).
 - Achievement (progress) of the environmental management goals: To ensure environmental management goals are achieved, the progress of such goals should be reviewed and evaluated with an appropriate frequency (monthly, quarterly, or biannually). Benchmarks (indicators) should be determined by which the organization can judge the progress status of the goals .
 - Implementation status of the environmental management plan: The organization should review and evaluate the implementation of the environmental management plan, specifically whether it is implemented

appropriately, and each person's role and responsibility are functioning as planned.

- Compliance status with environmental laws and regulations etc.: the day-to-day efforts related to the environmental compliance should be reviewed (e.g., enforcement of the notification, enforcement of the measurement, the observance of the standard level).
- Status of environmental impacts of high importance and the status of implementation measures to control them: The status of important environmental impacts for which the organization has not set any goals, and the implementation status of environmental efforts should be reviewed to determine whether they remain appropriate and effective.

<Correction of issues and prevention>

- ☐ If issues are identified in the review or evaluation process, the organization should investigate and analyze the cause/s of such issues, and implement corrective measures to avoid similar issues from reoccurring. Corrective measures also include cross-departmental deployment to prevent similar issues occurring in other departments.
- ☐ If there are no issues as of now, however future issues are foreseeable, the organization should implement preventive measures.
- ☐ Corrective and preventive measures should appropriately identify and target the underlying cause/s of the issue. Corrective measures and preventive measures are evaluated by their effectiveness and correcting and preventing the identified cause/s.
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

<Internal audit (for relatively large organizations)>

- ☐ Internal audits should be implemented more than once a year for relatively large organizations (generally with more than 100 staff members). Internal audits involve confirmation of the followings:
 - Whether or not the organization's EMS complies with the requirements as stipulated in the Guidelines or the rules the organization has established
 - Whether or not the environmental management goals have been achieved (or will be achieved).
 - Whether or not the environmental management plan is appropriately implemented, and whether environmental efforts and the EMS are actively reviewed and continually improved/updated.

An internal audit should be conducted from an unbiased, neutral standpoint, and the

results should be reported to the Representative. If any issues are identified in the process of the internal audit, corrective and future preventive measures should be undertaken, and results should be recorded.

IV.Evaluation and revision of the Process (Act Phase)

Requirement 14: Evaluating and revising the process and instructions by the Representative

To improve environmental management, the Representative is required to summarize the actions undertaken related to EcoAction 21 and determine the direction of future environmental efforts.

This requirement details the Representative's responsibilities to summarize actions, give instructions and improve the effectiveness of EcoAction 21 efforts within the organization.

Requirement 14

The Representative shall regularly evaluate the implementation status and effectiveness of the environmental management based on EcoAction 21, and implement timely reviews of the following in order to provide further future instruction:

- Environmental management policy;
- Environmental management goals and the environmental management plan; and
- Implementation structure

[Commentary]

- ☐ The Representative should collect the necessary information to conduct regular (more than once per year) detailed reviews of the EMS based on EcoAction 21. The review should conclude as to whether the EMS is functioning effectively, and whether environmental efforts are appropriately managed or not.
- ☐ Information required for the Representative's review and evaluation includes: progress reports on environmental management goals; the implementation status and results of the environmental management plan; the compliance status with environmental laws and regulations etc.; and details of any formal external objections or demands related to the environmental efforts of the organization.
- ☐ Based on the challenges and opportunities identified as the result of reviews and evaluations, the Representative should detail improvement areas with regards to environmental efforts or EMS. The Representative should amend the environmental management policy, environmental management goals, and implement structure, so far as is deemed necessary.
- ☐ Documents created (paper, electronic medium) for this requirement are to be managed appropriately. For further details on documentation, please refer to Requirement 12.

Chapter 3: Communicating using environmental information

This chapter provides requirements on communication of environmental information. An organization may implement its environmental management system appropriately, however if it fails to communicate its environmental-friendliness to stakeholders it is missing a key opportunity for strengthening brand reputation and trust. Additionally, promoting collaborative environmental efforts with employees and their families may lead to new opportunities, and motivate employees.

To create and publish an environmental management report is essential for organizations to improve their social image and credibility.

In addition, EcoAction 21 requests environmental data including the energy consumption from organizations, which is a basis for calculation of CO₂ emissions. Organizations should provide the data to the Auditor, and the Auditor should report these to the central secretariat office. Subsequently, the central secretariat office aggregates and analyzes these data from EcoAction 21 participants, and it provides "environmental insights to management" based on the data obtained. The organization may utilize the data from the central secretariat office as a benchmark to evaluate its environmental efforts.

In addition, the aggregated data from the central secretariat office is available to the public and local governments to announce the results of EcoAction 21 (e.g. CO₂ emissions reductions of participating organizations, by industry sector, size of operations, by region, and/or by value chain). Data disclosure is an important aspect of EcoAction 21 to manage and reduce CO₂ emissions (a key target from the Paris Agreement).

Requirements detailed in this chapter assist organizations to improve their management and social credibility, through the creation, publication, and utilization of the environmental management report including data collection.

Figure 8 illustrates the process of environmental communication when employing EcoAction 21 and the benefits for organizations.

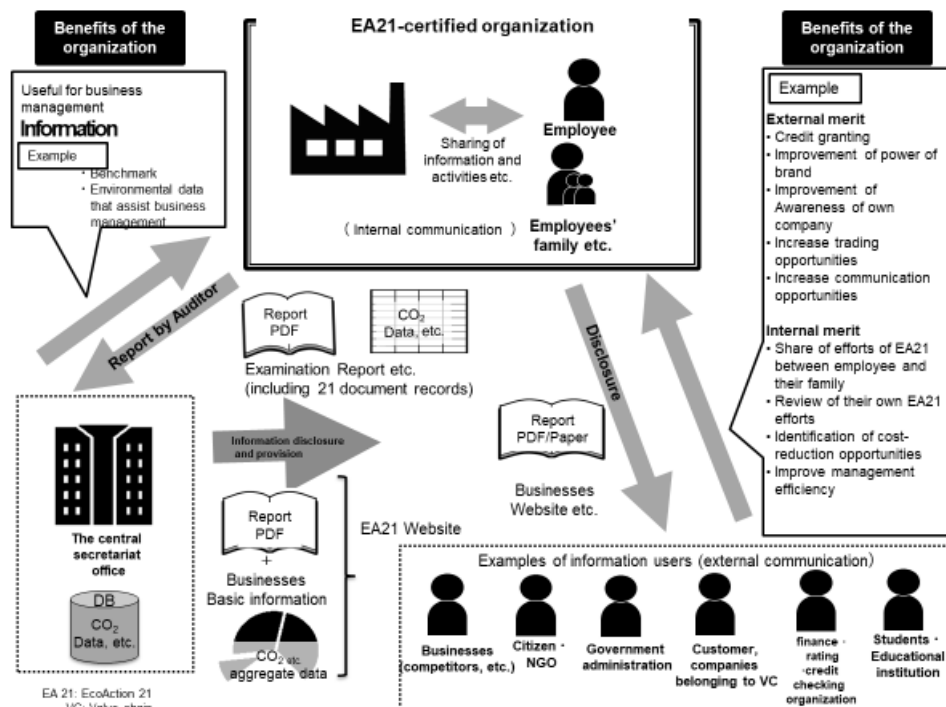


Figure 8 Environmental communication and it's benefits

1. Creating, publishing, and utilizing the environmental management report

The environmental management report is a useful tool facilitating communication and trust by communicating the organization's environmental efforts to its stakeholders. This involves not only the creation, publication and utilization of the environmental management report but also facilitation of collaborative actions with stakeholders that result from it.

1.1 Creating the environmental management report

The environmental management report including the following items shall be created regularly (every year, in principle).

■ Planning (Plan Phase)

- (1) Summary of the organization (name, location, summarized organization's activities, business scale, etc.)
- (2) Scope (of certification/registration), the reporting period, and the date of publication of the environmental management report
- (3) Environmental management policy
- (4) Environmental management goals
- (5) Environmental management plan

■ Implementing the plan (Do Phase)

- (6) Details of efforts based on the environmental management plan (including the implementation structure)

■ Review and evaluation of the efforts (Check Phase)

- (7) The progress status, results, and evaluation of the environmental management goals (e.g. CO₂ emissions). Additionally, the environmental management policy, and environmental management goals of the next year.
- (8) The results and evaluation of compliance with environmental laws and regulations etc., and the status of any violations or legal action
- Evaluation of and revision of the process (Act Phase)
- (9) Evaluating and revising the process and instructions by the Representative

1.2 Publicizing and utilizing the environmental management report

The environmental management report shall be published. If possible, it shall be published on the the website.

[Commentary]

- ☐ The environmental management report can be more effective if it takes into consideration the main readers of the report and relevant stakeholders. The nine items provided in Section 1.1 shall be included. The environmental management report should provide details relevant to the degree of progress, and employment of EcoAction 21. Organizational specific items may be included.
- ☐ Any listing order of the nine items (provided in Section 1.1 of this chapter) is acceptable, so long as all are mentioned properly. Additionally, the organization may integrate the environmental management report with other publications such as the company profile instead of creating an independent report. In such cases, the integrated publication shall note that it includes the contents of the EcoAction 21 environmental management report on its front cover.
- ☐ All environmental management reports created by EcoAction 21 Auditees are available on the website of the central secretariat office. They are searchable based on industry sector, size of enterprise, region, and/or value chain. The manual for the creation and utilization of environmental management report and the environmental communication award-winning reports are also available on the website of the central secretariat office.¹⁴

2. Providing and utilizing environmental data (e.g., energy use)

In the Global Warming Countermeasures Plan, enacted by the Cabinet in May 2016, EcoAction 21 was announced as an important tool for promoting greater environmental

¹⁴The "environmental communication award" for outstanding environmental communication was established in 1997. As commemoration for the 20th anniversary (2017) recipients are able to utilize the award logo in future environmental reporting, the prizes include "the environmental management report section" for EcoAction 21 certification/registration organizations, "the environmental report section" for the major companies, and "Minister of the Environment Prize" for the top prize. For further details, please refer to <http://www.env.go.jp/policy/j-hiroba/report.html>.

management, through reduction efforts such as CO2 emissions.

Environmental data such as energy consumption figures provided by organizations are aggregated and analyzed to demonstrate the effectiveness of CO2 emissions reduction efforts. Such disclosures are another valuable aspect of EcoAction 21 for organizations and society.

This requirement stipulates the organization provide its environmental data to the central secretariat office via the Auditor. The central secretariat office will provide "environmental data insights to management" based on the data provided by all organizations. Such insights further assist organizations to improve their environmental management efforts.

- (1) The Auditee shall provide the Auditor with required data such as the monthly (in principle) consumption of various energy sources and data required to calculate various intensity indicators.
- (2) The Auditor shall report the data provided from the Auditee to the central secretariat office every year.
- (3) The central secretariat office shall provide "environmental data insights to management" based on the data provided by organizations.

[Commentary]

- ☐ The Auditee should provide the Auditor with the necessary environmental data the organization measures and manages monthly (in principle) such as the consumption of various energy sources, and yearly sales amounts, which can be used to calculate various intensity indicators. The Auditor should report the data to the central secretariat office.
- ☐ The central secretariat office aggregates and analyzes the data provided by Auditees according to industry sector, size of operations, region. It then provides "environmental data insights to management" to the Auditee.
- ☐ These data can be used as benchmarks by industry sector, size of operations, or region. For example, the Auditee can evaluate and improve its environmental management by comparing its results to industry benchmarks and/or competitors.
- ☐ The Auditee can ask for the Auditor's advice pertaining to its future environmental efforts based on these data.
- ☐ The raw data provided by each Auditee should not be disclosed without permission of the Auditee.

Chapter 4: Self-check of environmental impacts

1. Purpose of the self-check of environmental impacts

To undertake environmental efforts, it is important to identify the kind, amount, and source of the business activities that have environmental impacts. With the "Self-check of the environmental impacts," the organization can identify eight environmental impacts through its organization's activities based on the concept of material balance (Figure 9). Among the eight items, energy consumption, water usage, chemical consumption, CO2 emissions (in greenhouse gas emissions), and waste emissions should be identified without exception.

Based on the results of the self-check of the environmental impacts, the organization should establish an appropriate environmental management policy and environmental management plan. The latest version of the self-check table (hereinafter referred to as "the check table") is published on the website of the central secretariat office.

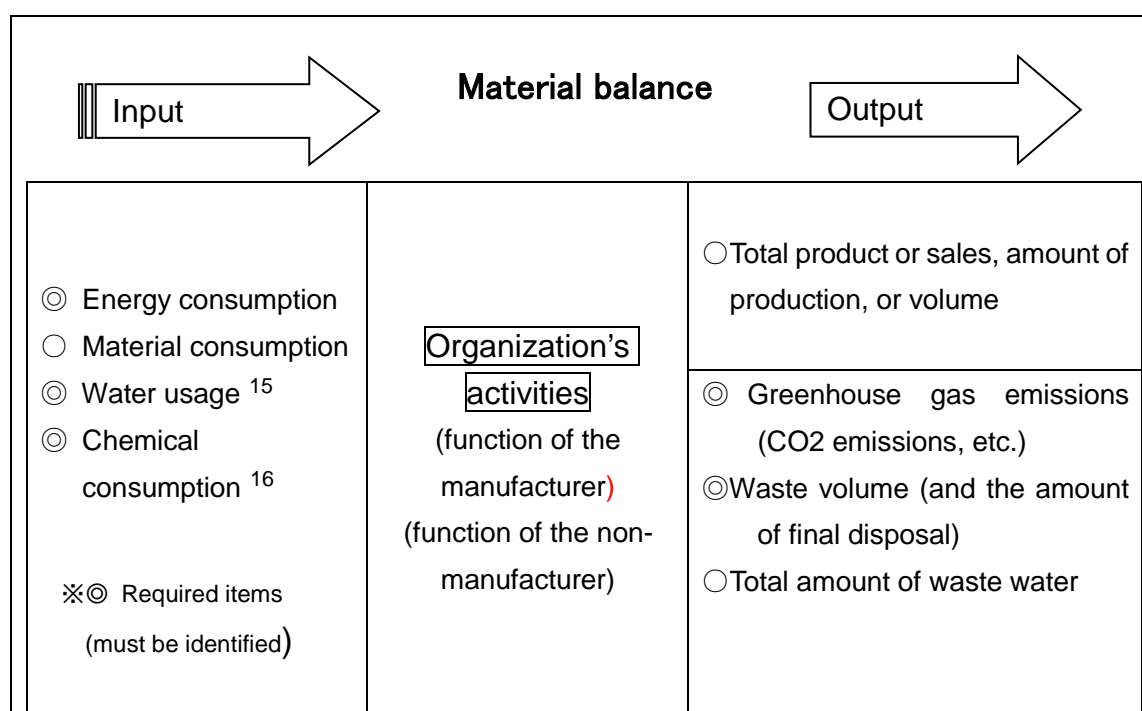


Figure 9 Material balance of organization's activities

When environmental impacts are understood, the organization should look over all its organization's business activities to consider "which organization's activities have substantial environmental impacts" and to identify the activities, facilities, equipment, or substances that have substantial environmental impacts.

¹⁵When quantitative grasp of the water usage is difficult, please do qualitative management.

¹⁶Please refer to a website of the Central Secretariat Office for details to understand the chemical consumption.

For this purpose, it is necessary for the organization to analyze its organization's activities and identify the environmental impacts generated by each process. By grasping what kind and what amount of materials are input and discharged (to the atmosphere or water etc.) in each process, the organization can identify which activities, facilities, equipment, and substances have substantial environmental impacts and can clarify which efforts are to be implemented to reduce the organization's environmental impacts.

It may be necessary for the organization to collaborate with its partners to reduce these environmental impacts, especially for cases such as packaging for the delivered materials and finding a solution so that this packaging is not simply discarded.

In general, the larger the organization's scale of enterprise is (with more employees, larger floor space, more production, etc.), the more energy and materials are input into the organization's activities and the more waste and CO₂ are discharged. In this case, not only grasping the "total amount" is needed, but also the intensity indexes such as environmental efficiency is important, which are calculated as the absolute total amount divided by data indicating the economic value or scale of enterprise, such as sales amount or production amount.

Intensity indexes are barometers of "effectiveness," and they show how many inputs and outputs are generated in the process of producing and providing products and services. Taking the changes in the scale of enterprise into consideration, the organization should choose the appropriate intensity indexes.

$$\frac{\text{「Total environmental impacts」}}{\text{「Data on Business Scale」}} = \text{environmental efficiency index}$$

Examples: $\frac{\text{Energy use}}{\text{Business scales, Sales etc.}} = \text{"Energy intensity"}$

$$\frac{\text{CO}_2 \text{ emissions}}{\text{Data on Business Scale}} = \text{"CO}_2 \text{ emissions intensity"}$$

2. How to use the self-check table of environmental impacts

(1) How to collect data

- ① To collect and organize the necessary information or data, the organization can effectively utilize existing data or documents, such as accounting data, formats, and notifications sent to an administration body or statistics institution.
- ② Because these data or documents are stored or managed separately by individual departments, it is rather difficult to collect and organize them. It is desirable for the organization to establish a system that puts one person in charge of collecting and organizing the data and documents related to the environment.
- ③ It is recommended to use monthly data because they are useful for the organization when it comes to setting and evaluating the environmental management goals and reporting them to local governments or business partners.
- ④ Data should be stored for more than three years to check the current data against previous trends.

Table 1: Examples and checkpoints of existing information or documents related to the environmental impacts

Examples of information	Items to be checked
Slips and receipts of purchased energy, raw materials, and so forth	Purchased electricity, other energy sources, water, and raw materials
Copy of the "Consumption Structure Statistics Questionnaire"	Other energy sources
Manifest slips	Waste
Payment slips to the waste disposers	Waste
Bills, payment slips, equipment specifications, and instructions of the rental copying machine	Paper consumption
Copy of the "General Air Pollutant Emissions Questionnaire" and measurement certificate	Air pollution
Copy of the "General Water Pollutant Emissions Questionnaire" and measurement certificate	Sewage
Documents related to the storage and management of chemicals	Chemicals
Notifications on Class I Designated Chemical Substances' Emissions and Transportation	Chemicals
Safe data sheet (SDS)	Chemicals

(2) Important points when using the self-check table of environmental impacts

- ① The self-check table is shown as an example to facilitate the self-check of environmental impacts. Depending on the situation of individual business entities, the items, CO₂ emissions factors, or units can be revised when necessary. The most important thing is to make it possible to compare the amount of environmental impacts to the previous year's data and to use the same standards when doing so.
- ② The cells that need values entered into them are indicated by color. For the details of usage and instruction, please refer to the footnotes of the table and the website of the central secretariat office.
- ③ In general, CO₂ emissions factors to be used should be selected from the list of CO₂ emissions factors of the electricity companies as disclosed by the government. However, the organization should use the same emissions factor for a certain period of time (for example, the period of medium- and long-term goals) to make it possible to compare these data to the previous data and manage the environmental management policy. Adopted CO₂ emissions factors should be disclosed with the actual results.
- ④ Even though the self-check table asks for annual emissions, it is more important to collect and organize data for two or three years to grasp the trends of the organization's environmental impacts, to evaluate whether they are improved or not, and to utilize them as evidence for the formulation or revision of the environmental management goals, environmental management plan, and environmental efforts.
- ⑤ Although it is necessary for business entities to reduce the total amount of environmental impacts, environmental efforts with a high level of economic effectiveness are demanded from the viewpoint of business management. Therefore, when the organization evaluates the environmental efforts results, not only the "total amount" of the environmental impacts, but also intensity indexes (environmental efficiency indexes), which indicates the effectiveness of environmental efforts while providing economic values, should be managed. The self-check table enables the organization to grasp the effectiveness of environmental efforts, even if the scale of the enterprise changes. Depending on the characteristics of the business, please choose the appropriate indexes.

Self-check table of environmental impacts

【Overview】

White cell	Please do not change. It is calculated please be sure to input
Yellow cell	Please be sure to input data.
Blue cell	Please input data arbitrarily.

[Self-check of environmental impacts Start Year / Month]

It is assumed that data are logged for this self-check table of environmental impacts for 12 months. Please correct as necessary when using with a different logging period.

Start Year / Month	2016	Year	4	Month
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☐ The term is: ① The fiscal year according to the settlement of accounts, ② The fiscal year of the country (April-March of the following year), ③ Year (January-December)

Please set to ①, ②, or ③.

(Each sheet)

"1. Size of Operations" is a sheet for entering indices related to business scale, such as the number of employees, sales amount, floor area, etc. It is used to calculate the "intensity indices" on subsequent sheets.

2.2-1. Energy Consumption Logging for Calculating Carbon Dioxide Emission (Purchased Electricity)[®] is a sheet for inputting the amount of electricity purchased from power utilities. It is used to calculate carbon dioxide emissions.

22-2. Logged Energy Usage for Calculating Carbon Dioxide Emissions (In-house Power Generation)¹⁰ is a sheet for entering the amount of electricity generated by the organization.

²²2-3. **Logged Energy Consumption for Calculating Carbon Dioxide Emissions (Other Energy)**²³ is a sheet for entering various energy amounts used by the organization other than electric power. It is used to calculate carbon dioxide emissions.

2-4. Emission Factor[®] is a sheet for setting the emission factor to calculate carbon dioxide emissions from various energy consumptions.

23. Amount of Waste Material Generated or Disposed of in a Landfill" is a sheet for entering the amount of general waste, industrial waste, final disposal amount, etc., that is discharged by the organization.

⁴4. Water Usage" is a sheet for entering the amount of water used by the organization.

"5. Chemical Substance Usage" is a sheet for entering the amount of chemical substances used by the organization.

A. Status of Load on the Environment (Summary Table)^a lists "energy use," "waste," "water usage," and "chemical substance usage" from the information entered in sheets 1-5. The data are logged on this sheet.

18. Summary Table (Monthly Energy-based Carbon Dioxide Emissions)¹⁸ is a sheet that calculates the monthly carbon dioxide emissions from the information entered in Sheets 1 to 2-4. The data are displayed one table at a time.

Appendix 6. Total Water Drainage (When Daily Wastewater Volume Exceeds 50 Tons)* is a sheet for organizations whose daily wastewater volume exceeds 50 tons to ascertain wastewater volume.

Appendix 7. Greenhouse Gas Emissions Other than Carbon Dioxide Derived from Energy (6.5 Gas) is a sheet for calculating greenhouse gas emissions (6.5 gas), other than carbon dioxide, derived from energy use (optional).

"Appendix 8, Resource Usage" is a sheet for logging the amount of resources used by organizations (optional).

Appendix 9, Total Production or Sales Volume" is a sheet for logging the quantity of products and services produced or provided by the organization (optional).

"C. Status of Environmental Impacts (Summary)" is a table of "wastewater," "6.5 gas," "resource usage," and "product" from the information entered in the sheets in appendices 6-9. It is a sheet on which data are displayed collectively (optional).

Size of operations

Size of operations

This sheet is used for entering the index concerning the scale of business, such as the number of employees, sales amount, floor area, etc. It is used to calculate the "intensity indexes" on subsequent sheets.

[illegible]

Please select the indicator to use in logging data regarding the intensity indices with the following sheet of the above "activity scale."

- ☐ Activity scale indicators are useful for logging data regarding the intensity indexes, such as energy consumption, waste discharge, and water usage.
- ☐ If there are appropriate activity scale indices other than the number of employees, sales amount, and floor area, please add as necessary.

2-1. Energy consumption logging for calculating carbon dioxide emission (Purchased electricity)

2-1. Energy consumption logging for calculating carbon dioxide emission (Purchased electricity)

This sheet is used for inputting the amount of electricity purchased from the power company. It is used to calculate carbon dioxide emissions.

	Unit	Apr. 2016	May 2016	Jun. 2016	Jul. 2016	Aug. 2016	Sep. 2016	Oct. 2016	Nov. 2016	Dec. 2016	Jan. 2017	Feb. 2017	Mar. 2017	f	Original unit
E	Electric power supplier A	—												—	—
d	Purchased electric power A (①)													0	—
g	Amount of money, Purchased electric power (②)													0	—
i	Electric power supplier B	—												—	—
c	Purchased electric power B (③)													0	—
p	Amount of money, Purchased electric power B (④)													0	—
w	Purchased electric power - Total (①+③)													0	—
e	Amount of money, Purchased electric power - Total (②+④)													0	—
r	Amount of money, Purchased electric power - Total (②+④)													0	x

- For businesses purchasing electricity from three or more power companies, please add the appropriate lines.
- Please manage the emission factor on sheet "2-4. Emission factor."

2-2. Logged energy usage for calculating carbon dioxide emissions (In-house power generation)

2-2. Logged energy usage for calculating carbon dioxide emissions (in-house power generation)
In this sheet, the organizations enter the amount of electricity they generate themselves.

Unit	Apr. 2013	May 2016	Jun. 2016	Jul. 2016	Aug. 2016	Sep. 2016	Oct. 2016	Nov. 2016	Dec. 2016	Jan. 2017	Feb. 2017	Mar. 2017	Total
1	Name/Type of renewable energy A												
2	Power generation by renewable energy A (1)												
3	Amount of self-consumption in (2)												
4	Sales amount of renewable energy A (2)												
5	Name/Type of renewable energy B												
6	Power generation by renewable energy B (5)												
7	Amount of self-consumption in (6)												
8	Sales amount of renewable energy B (6)												
9	Total amount of self-generated renewable energy (3 + 7)												
10	Total energy consumption (2 + 8)												
11	Total amount of the electricity sold (3 + 8)												
12	Gasoline usage												
13	Amount												
14	Power generation amount												
15	Self-consumption												
16	Amount of the electricity sold												
17	Light oil usage												
18	Amount												
19	Power generation amount												
20	Self-consumption												
21	Amount of the electricity sold												
22	Kerosene usage												
23	Amount												
24	Power generation amount												
25	Self-consumption												
26	Amount of the electricity sold												
27	Heavy oil usage												
28	Amount												
29	Power generation amount												
30	Self-consumption												
31	Amount of the electricity sold												
32	Propane gas usage												
33	Amount												
34	Power generation amount												
35	Self-consumption												
36	Amount of the electricity sold												
37	Liquefied petroleum gas (LPG) usage												
38	Amount												
39	Power generation amount												
40	Self-consumption												
41	Amount of the electricity sold												
42	Liquefied natural gas (LNG) usage												
43	Amount												
44	Power generation amount												
45	Self-consumption												
46	Amount of the electricity sold												
47	Total amount of self-generation from fossil fuel												
48	Amount of self-consumption												
49	Energy consumption - Total												
50	Electricity sales amount - Total												

○ In the "Fossil Fuel" rows of this sheet, please fill in the amount of fossil fuel used for in-house power generation. Please fill in "2-3. Other energy" sheet if you are using any other energy source without converting it to electric energy.
○ Businesses generating electricity using three or more types of renewable energy should add appropriate rows.
○ For the emission factor, see sheet "2-4. Emission factor."

2-3. Logged energy consumption for calculating carbon dioxide emissions (other energy)

2-3. Logged energy consumption for calculating carbon dioxide emissions (other energy)

In this sheet, in addition to electric power, enter the various types of energy consumed by the organization. This is used to calculate carbon dioxide emissions.

	Unit	Apr. 2016	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	2017	Total
Gasoline amount	L														0
Gasoline amount	yen														0
Diesel amount	L														0
Diesel amount	yen														0
Kerosene amount	L														0
Kerosene amount	yen														0
A. Fuel oil amount	L														0
A. Fuel oil amount	yen														0
City gas amount	m3														0
City gas amount	yen														0
Propane gas amount	m3														0
Propane gas amount	yen														0
Liquefied petroleum gas (LPG) amount	m3														0
Liquefied petroleum gas (LPG) amount	yen														0
Liquefied natural gas (LNG) amount	kg														0
Liquefied natural gas (LNG) amount	yen														0
Fossil fuel amount - Total (①)	yen	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others amount - Total (②)	yen														0
Total amount (①+②)	yen	0	0	0	0	0	0	0	0	0	0	0	0	0	0

○ Please fill in the "Fossil Fuel" rows of this sheet with the amount of fossil fuel you are using, without converting it to electric energy.

Please fill in sheet "2-2. Logged Energy Usage for Calculating Carbon Dioxide Emissions (In-house Power Generation)" for private power generation.

○ If it is difficult to calculate the consumption amount, please calculate the purchase amount.

○ If you calculate the consumption / purchase amount of liquefied petroleum gas (LPG) in kg, please use the following formula for conversion: "1 kg = 0.458 m³ (gas)".

○ "Other," included in "Energy use," includes "heat supply (steam)" and waste materials used as incineration or fuel by itself (e.g., "waste oil" and "waste plastic," etc.).

○ If there are energy inputs that do not fall under the above, please calculate the amount of energy by referring to "Greenhouse gas emissions calculation / report manual" (Ministry of the Environment / Ministry of Economy, Trade and Industry). For "Methane," "Nitrogen oxide," "Hydrofluorocarbons," "Perfluorocarbons," "Sulfur hexafluoride," "Nitrogen trifluoride," please calculate the amount of energy by referring to "Greenhouse gas emissions calculation / report manual" (Ministry of the Environment / Ministry of Economy, Trade and Industry) and add items corresponding to each organization to the table. For reference, a table of 6.5 gases other than carbon dioxide originating from energy is listed in "Appendix 7. 6.5 Gas."

○ For the emission factor, see sheet "2-4. Emission Factor."

2-4. Emission factor

2-4. Emission factor

This sheet is for setting the emission factor to calculate carbon dioxide emissions from various energy consumers.

Emission factor	CO ₂ emission factor	Unit	出典		
			Document	Year	URL etc.
E m i s i o n s	Electric power supplier A Electric power supplier B	kg-CO ₂ /kWh kg-CO ₂ /kWh			
F u e l	Gasoline	kg-CO ₂ /L	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	Diesel	kg-CO ₂ /L	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	Kerosene	kg-CO ₂ /L	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	A. Fuel oil	kg-CO ₂ /L	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	City gas	kg-CO ₂ /m ³	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	Propane gas	kg-CO ₂ /m ³	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	Liquefied petroleum gas (LPG)	kg-CO ₂ /m ³	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf
	Liquefied natural gas (LNG)	kg-CO ₂ /kg	Greenhouse gas emissions calculation / Report manual (Ver4.2)	2016	http://ghg-sante.kohyo.env.go.jp/files/manual/chpt2_4-2.pdf

- ☐ For organizations purchasing electricity from three or more power companies, please add the appropriate lines.
- ☐ With respect to CO₂ emission intensity of purchased electric power, refer to "Post-adjustment Emission Factor," published by electric power companies, and multiplied by 1000 as appropriate to convert from t - CO₂ / kWh to kg - CO₂ / kWh. For example, 0.000579 (t - CO₂ / kWh) is 0.579 (kg - CO₂ / kWh).
- ☐ For the emission factor of other energy sources, please refer to "Greenhouse gas emission calculation / report manual" (Ministry of the Environment / Ministry of Economy, Trade and Industry). Please convert the emission factor as appropriate so that carbon dioxide emissions can be calculated by kg.
- ☐ Please specify the source of each emission coefficient.

3 Amount of Waste Material Generated or Disposed of in a Landfill

Year / Type	Jul-2018		Aug-2018		Sep-2018		Oct-2018		Nov-2018		Dec-2018		Jan-2019		Feb-2019		Mar-2019		Apr-2019		May-2019		Jun-2019		Jul-2019		Aug-2019		Sep-2019		Oct-2019		Nov-2019		Dec-2019		Jan-2020		Feb-2020		Mar-2020		Apr-2020		May-2020		Jun-2020		Jul-2020		Aug-2020		Sep-2020		Oct-2020		Nov-2020		Dec-2020		Jan-2021		Feb-2021		Mar-2021		Apr-2021		May-2021		Jun-2021		Jul-2021		Aug-2021		Sep-2021		Oct-2021		Nov-2021		Dec-2021		Jan-2022		Feb-2022		Mar-2022		Apr-2022		May-2022		Jun-2022		Jul-2022		Aug-2022		Sep-2022		Oct-2022		Nov-2022		Dec-2022		Jan-2023		Feb-2023		Mar-2023		Apr-2023		May-2023		Jun-2023		Jul-2023		Aug-2023		Sep-2023		Oct-2023		Nov-2023		Dec-2023		Jan-2024		Feb-2024		Mar-2024		Apr-2024		May-2024		Jun-2024		Jul-2024		Aug-2024		Sep-2024		Oct-2024		Nov-2024		Dec-2024		Jan-2025		Feb-2025		Mar-2025		Apr-2025		May-2025		Jun-2025		Jul-2025		Aug-2025		Sep-2025		Oct-2025		Nov-2025		Dec-2025		Jan-2026		Feb-2026		Mar-2026		Apr-2026		May-2026		Jun-2026		Jul-2026		Aug-2026		Sep-2026		Oct-2026		Nov-2026		Dec-2026		Jan-2027		Feb-2027		Mar-2027		Apr-2027		May-2027		Jun-2027		Jul-2027		Aug-2027		Sep-2027		Oct-2027		Nov-2027		Dec-2027		Jan-2028		Feb-2028		Mar-2028		Apr-2028		May-2028		Jun-2028		Jul-2028		Aug-2028		Sep-2028		Oct-2028		Nov-2028		Dec-2028		Jan-2029		Feb-2029		Mar-2029		Apr-2029		May-2029		Jun-2029		Jul-2029		Aug-2029		Sep-2029		Oct-2029		Nov-2029		Dec-2029		Jan-2030		Feb-2030		Mar-2030		Apr-2030		May-2030		Jun-2030		Jul-2030		Aug-2030		Sep-2030		Oct-2030		Nov-2030		Dec-2030		Jan-2031		Feb-2031		Mar-2031		Apr-2031		May-2031		Jun-2031		Jul-2031		Aug-2031		Sep-2031		Oct-2031		Nov-2031		Dec-2031		Jan-2032		Feb-2032		Mar-2032		Apr-2032		May-2032		Jun-2032		Jul-2032		Aug-2032		Sep-2032		Oct-2032		Nov-2032		Dec-2032		Jan-2033		Feb-2033		Mar-2033		Apr-2033		May-2033		Jun-2033		Jul-2033		Aug-2033		Sep-2033		Oct-2033		Nov-2033		Dec-2033		Jan-2034		Feb-2034		Mar-2034		Apr-2034		May-2034		Jun-2034		Jul-2034		Aug-2034		Sep-2034		Oct-2034		Nov-2034		Dec-2034		Jan-2035		Feb-2035		Mar-2035		Apr-2035		May-2035		Jun-2035		Jul-2035		Aug-2035		Sep-2035		Oct-2035		Nov-2035		Dec-2035		Jan-2036		Feb-2036		Mar-2036		Apr-2036		May-2036		Jun-2036		Jul-2036		Aug-2036		Sep-2036		Oct-2036		Nov-2036		Dec-2036		Jan-2037		Feb-2037		Mar-2037		Apr-2037		May-2037		Jun-2037		Jul-2037		Aug-2037		Sep-2037		Oct-2037		Nov-2037		Dec-2037		Jan-2038		Feb-2038		Mar-2038		Apr-2038		May-2038		Jun-2038		Jul-2038		Aug-2038		Sep-2038		Oct-2038		Nov-2038		Dec-2038		Jan-2039		Feb-2039		Mar-2039		Apr-2039		May-2039		Jun-2039		Jul-2039		Aug-2039		Sep-2039		Oct-2039		Nov-2039		Dec-2039		Jan-2040		Feb-2040		Mar-2040		Apr-2040		May-2040		Jun-2040		Jul-2040		Aug-2040		Sep-2040		Oct-2040		Nov-2040		Dec-2040		Jan-2041		Feb-2041		Mar-2041		Apr-2041		May-2041		Jun-2041		Jul-2041		Aug-2041		Sep-2041		Oct-2041		Nov-2041		Dec-2041		Jan-2042		Feb-2042		Mar-2042		Apr-2042		May-2042		Jun-2042		Jul-2042		Aug-2042		Sep-2042		Oct-2042		Nov-2042		Dec-2042		Jan-2043		Feb-2043		Mar-2043		Apr-2043		May-2043		Jun-2043		Jul-2043		Aug-2043		Sep-2043		Oct-2043		Nov-2043		Dec-2043		Jan-2044		Feb-2044		Mar-2044		Apr-2044		May-2044		Jun-2044		Jul-2044		Aug-2044		Sep-2044		Oct-2044		Nov-2044		Dec-2044		Jan-2045		Feb-2045		Mar-2045		Apr-2045		May-2045		Jun-2045		Jul-2045		Aug-2045		Sep-2045		Oct-2045		Nov-2045		Dec-2045		Jan-2046		Feb-2046		Mar-2046		Apr-2046		May-2046		Jun-2046		Jul-2046		Aug-2046		Sep-2046		Oct-2046		Nov-2046		Dec-2046		Jan-2047		Feb-2047		Mar-2047		Apr-2047		May-2047		Jun-2047		Jul-2047		Aug-2047		Sep-2047		Oct-2047		Nov-2047		Dec-2047		Jan-2048		Feb-2048		Mar-2048		Apr-2048		May-2048		Jun-2048		Jul-2048		Aug-2048		Sep-2048		Oct-2048		Nov-2048		Dec-2048		Jan-2049		Feb-2049		Mar-2049		Apr-2049		May-2049		Jun-2049		Jul-2049		Aug-2049		Sep-2049		Oct-2049		Nov-2049		Dec-2049		Jan-2050		Feb-2050		Mar-2050		Apr-2050		May-2050		Jun-2050		Jul-2050		Aug-2050		Sep-2050		Oct-2050		Nov-2050		Dec-2050		Jan-2051		Feb-2051		Mar-2051		Apr-2051		May-2051		Jun-2051		Jul-2051		Aug-2051		Sep-2051		Oct-2051		Nov-2051		Dec-2051		Jan-2052		Feb-2052		Mar-2052		Apr-2052		May-2052		Jun-2052		Jul-2052		Aug-2052		Sep-2052		Oct-2052		Nov-2052		Dec-2052		Jan-2053		Feb-2053		Mar-2053		Apr-2053		May-2053		Jun-2053		Jul-2053		Aug-2053		Sep-2053		Oct-2053		Nov-2053		Dec-2053		Jan-2054		Feb-2054		Mar-2054		Apr-2054		May-2054		Jun-2054		Jul-2054		Aug-2054		Sep-2054		Oct-2054		Nov-2054		Dec-2054		Jan-2055		Feb-2055		Mar-2055		Apr-2055		May-2055		Jun-2055		Jul-2055		Aug-2055		Sep-2055		Oct-2055		Nov-2055		Dec-2055		Jan-2056		Feb-2056		Mar-2056		Apr-2056		May-2056		Jun-2056		Jul-2056		Aug-2056		Sep-2056		Oct-2056		Nov-2056		Dec-2056		Jan-2057		Feb-2057		Mar-2057		Apr-2057		May-2057		Jun-2057		Jul-2057		Aug-2057		Sep-2057		Oct-2057		Nov-2057		Dec-2057		Jan-2058		Feb-2058		Mar-2058		Apr-2058		May-2058		Jun-2058		Jul-2058		Aug-2058		Sep-2058		Oct-2058		Nov-2058		Dec-2058		Jan-2059		Feb-2059		Mar-2059		Apr-2059		May-2059		Jun-2059		Jul-2059		Aug-2059		Sep-2059		Oct-2059		Nov-2059		Dec-2059		Jan-2060		Feb-2060		Mar-2060		Apr-2060		May-2060		Jun-2060		Jul-2060		Aug-2060		Sep-2060		Oct-2060		Nov-2060		Dec-2060		Jan-2061		Feb-2061		Mar-2061		Apr-2061		May-2061		Jun-2061		Jul-2061		Aug-2061		Sep-2061		Oct-2061		Nov-2061		Dec-2061		Jan-2062		Feb-2062		Mar-2062		Apr-2062		May-2062		Jun-2062		Jul-2062		Aug-2062		Sep-2062		Oct-2062		Nov-2062		Dec-2062		Jan-2063		Feb-2063		Mar-2063		Apr-2063		May-2063		Jun-2063		Jul-2063		Aug-2063		Sep-2063		Oct-2063		Nov-2063		Dec-2063		Jan-2064		Feb-2064		Mar-2064		Apr-2064		May-2064		Jun-2064		Jul-2064		Aug-2064		Sep-2064		Oct-2064		Nov-2064		Dec-2064		Jan-2065		Feb-2065		Mar-2065		Apr-2065		May-2065		Jun-2065		Jul-2065		Aug-2065		Sep-2065		Oct-2065		Nov-2065		Dec-2065		Jan-2066		Feb-2066		Mar-2066		Apr-2066		May-2066		Jun-2066		Jul-2066		Aug-2066		Sep-2066		Oct-2066		Nov-2066		Dec-2066		Jan-2067		Feb-2067		Mar-2067		Apr-2067		May-2067		Jun-2067		Jul-2067		Aug-2067		Sep-2067		Oct-2067		Nov-2067		Dec-2067		Jan-2068		Feb-2068		Mar-2068		Apr-2068		May-2068		Jun-2068		Jul-2068		Aug-2068		Sep-2068		Oct-2068		Nov-2068		Dec-2068		Jan-2069		Feb-2069		Mar-2069		Apr-2069		May-2069		Jun-2069		Jul-2069		Aug-2069		Sep-2069		Oct-2069		Nov-2069		Dec-2069		Jan-2070		Feb-2070		Mar-2070		Apr-2070		May-2070		Jun-2070		Jul-2070		Aug-2070		Sep-2070		Oct-2070		Nov-2070		Dec-2070		Jan-2071		Feb-2071		Mar-2071		Apr-2071		May-2071		Jun-2071		Jul-2071		Aug-2071		Sep-2071		Oct-2071		Nov-2071		Dec-2071		Jan-2072		Feb-2072		Mar-2072		Apr-2072		May-2072		Jun-2072		Jul-2072		Aug-2072		Sep-2072		Oct-2072		Nov-2072		Dec-2072		Jan-2073		Feb-2073		Mar-2073		Apr-2073		May-2073		Jun-2073		Jul-2073		Aug-2073		Sep-2073		Oct-2073		Nov-2073		Dec-2073		Jan-2074		Feb-2074		Mar-2074		Apr-2074		May-2074		Jun-2074		Jul-2074		Aug-2074		Sep-2074		Oct-2074		Nov-2074		Dec-2074		Jan-2075		Feb-2075		Mar-2075		Apr-2075		May-2075		Jun-2075		Jul-2075		Aug-2075		Sep-2075		Oct-2075		Nov-2075		Dec-2075		Jan-2076		Feb-2076		Mar-2076		Apr-2076		May-2076		Jun-2076		Jul-2076		Aug-2076		Sep-2076		Oct-2076		Nov-2076		Dec-2076		Jan-2077		Feb-2077		Mar-2077		Apr-2077		May-2077		Jun-2077		Jul-2077		Aug-2077		Sep-2077		Oct-2077		Nov-2077		Dec-2077		Jan-2078		Feb-2078		Mar-2078		Apr-2078		May-2078		Jun-2078		Jul-2078		Aug-2078		Sep-2078		Oct-2078		Nov-2078		Dec-2078		Jan-2079		Feb-2079		Mar-2079		Apr-2079		May-2079		Jun-2079		Jul-2079		Aug-2079		Sep-2079		Oct-2079		Nov-2079		Dec-2079		Jan-2080		Feb-2080		Mar-2080		Apr-2080		May-2080		Jun-2080		Jul-2080		Aug-2080		Sep-2080		Oct-2080		Nov-2080		Dec-2080		Jan-2081		Feb-2081		Mar-2081		Apr-2081		May-2081		Jun-2081		Jul-2081		Aug-2081		Sep-2081		Oct-2081		Nov-2081		Dec-2081		Jan-2082		Feb-2082		Mar-2082		Apr-2082		May-2082		Jun-2082		Jul-2082		Aug-2082		Sep-2082		Oct-2082		Nov-2082		Dec-2082		Jan-2083		Feb-2083		Mar-2083		Apr-2083		May-2083		Jun-2083		Jul-2083		Aug-2083		Sep-2083		Oct-2083		Nov-2083		Dec-2083		Jan-2084		Feb-2084		Mar-2084		Apr-2084		May-2084		Jun-2084		Jul-2084		Aug-2084		Sep-2084		Oct-2084		Nov-2084		Dec-2084		Jan-2085		Feb-2085		Mar-2085		Apr-2085		May-2085		Jun-2085		Jul-2085		Aug-2085		Sep-2085		Oct-2085		Nov-2085		Dec-2085		Jan-2086		Feb-2086		Mar-2086		Apr-2086		May-2086		Jun-2086		Jul-2086		Aug-2086		Sep-2086		Oct-2086		Nov-2086		Dec-2086		Jan-2087		Feb-2087		Mar-2087		Apr-2087		May-2087		Jun-2087		Jul-2087		Aug-2087		Sep-2087		Oct-2087		Nov-2087		Dec-2087		Jan-2088		Feb-2088		Mar-2088		Apr-2088		May-2088		Jun-2088		Jul-2088		Aug-2088		Sep-2088		Oct-2088		Nov-2088		Dec-2088		Jan-2089		Feb-2089		Mar-2089		Apr-2089		May-2089		Jun-2089		Jul-2089		Aug-2089		Sep-2089		Oct-2089		Nov-2089		Dec-2089		Jan-2090		Feb-2090		Mar-2090		Apr-2090		May-2090		Jun-2090		Jul-2090		Aug-2090		Sep-2090		Oct-2090		Nov-2090		Dec-2090		Jan-2091		Feb-2091		Mar-2091		Apr-2091		May-2091		Jun-2091		Jul-2091		Aug-2091		Sep-2091		Oct-2091		Nov-2091		Dec-2091		Jan-2092		Feb-	
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For organizations calculating the amount of waste generated other than weight, please change the unit as appropriate.

Please fill in the type of waste to be discharged in the rows for "general waste" and "industrial waste".

4 Water usage

4 Water usage

In this sheet, enter the amount of water used.

In this area, enter the amount of water used.					
Unit	Apr. 2018		May 2018		Total
	Usage	Comment (pt.)	Usage	Comment (pt.)	
m ³					
m ³					
m ³					
m ³					
m ³					
m ³					
m ³					
m ³					
m ³					
Total					

- ☐ If your operation falls under the Water Pollution Control Law - Sewerage Law, please also calculate the "total drainage" of the attached document.
- ☐ Water that is used as a raw material, etc. in the manufacture of products and the provision of services can be understood as "Appendix 8: Resource Usage".
- ☐ Please do not record water that is used cyclically in the site.

5. Chemical substance usage

In this sheet, enter the amount of chemical substances used, etc.

[illegible]

- ☐ In principle, the chemical substances to be logged are subject to the PRTR system, but this table can be used to log other substances than those subject to the PRTR system.
- ☐ For companies that handle products that contain chemical substances used in processes such as manufacturing, processing, repairing, and raw materials, enter the amount of chemical substances used in the products. Also, chemical substances other than those contained in the raw materials include cleaning agents, inks, grease, paints, and so forth.
- ☐ The amount used can be calculate with the amount of annual purchase minus the amount of storage at the end of the fiscal year. If it is difficult to calculate, with the readily available information such as purchase amount. Please indicate the subject information (storage amount) in the Remarks column whenever possible.
- ☐ Regarding the method of logging the amount of chemical substances to be used, enter the quantity contained in the products of the target chemical substances (for products containing chemical substances), based on the ingredient table described on the container.
If the ingredient list is not stated or the information is insufficient, we request a safety data sheet (SDS) from the manufacturer, wholesaler, and retailer, and calculate the content of chemical substances in the product based on that.
The annual amount of chemical substances used can be calculated by multiplying the logged chemical substance content by the annual use amount of the product.

A. Status of impacts on the environment (Summary Table)

A. Status of impacts on the environment (Summary Table)

This sheet displays "energy use," "waste," "water usage," and "chemical substance usage" in table form, based on the information entered on sheets 1-5.

		Data from other sheets (a)				Period to compare (b)				Rise or fall (a-b)		
		Apr. 2016 ~ Mar. 2017				Year/Month ~ Year/Month				Amount		
		Unit	Amount	JPY (yen)	(kg-CO2)	CO2 emission intensity (kg-CO2/)	Amount	JPY (yen)	CO2 emissions (kg-CO2)	Amount	JPY (yen)	CO2 emissions (kg-CO2)
4	Purchased electric power A	kWh	0	0	0	0	x			0	0	0
5	Purchased electric power B	kWh	0	0	0	0	x			0	0	0
6	In-house power generation power consumption	kWh	0	—	—	—	x		—	0	—	—
7	Gasoline	L	0	0	0	0	x		—	0	0	0
8	Diesel	L	0	0	0	0	x		—	0	0	0
9	Kerosene	L	0	0	0	0	x		—	0	0	0
10	A. Fuel oil	L	0	0	0	0	x		—	0	0	0
11	City gas	m3	0	0	0	0	x		—	0	0	0
12	Propane	m3	0	0	0	0	x		—	0	0	0
13	Liquefied petroleum gas (LPG)	m3	0	0	0	0	x		—	0	0	0
14	Liquefied natural gas (LNG)	kg	0	0	0	0	x		—	0	0	0
15			0	0	0	0	x		—	0	0	0
16			0	0	0	0	x		—	0	0	0
17	General waste	kg	0	0	—	—	—		—	0	0	—
18	Industrial waste	kg	0	0	—	—	—		—	0	0	—
19	Specialty controlled waste	kg	0	0	—	—	—	0	—	0	—	—
20	Recycling	kg	0	—	—	—	—		—	0	—	—
21	Landfill of waste (Optional)	kg	0	—	—	—	—		—	0	—	—
22	Municipal water	m3	0	0	0	—	—		—	0	0	—
23	Industrial use water	m3	0	0	0	—	—		—	0	0	—
24	Groundwater	m3	0	0	0	—	—		—	0	0	—
25	Seawater or river water	m3	0	0	0	—	—		—	0	0	—
26	Rainwater	m3	0	0	0	—	—		—	0	0	—
27		m3	0	0	0	—	—		—	0	0	—
28	Total	m3	0	0	0	—	0	0	—	0	0	—
29		kg	0	—	—	—	—		—	0	—	—
30		kg	0	—	—	—	—		—	0	—	—
31		kg	0	—	—	—	—		—	0	—	—
32		kg	0	—	—	—	—		—	0	—	—
33		kg	0	—	—	—	—		—	0	—	—
34		kg	0	—	—	—	—		—	0	—	—
35		kg	0	—	—	—	—		—	0	—	—
36		kg	0	—	—	—	—		—	0	—	—

B. Summary table (monthly energy-based carbon dioxide emissions)

B. Summary table (monthly energy-based carbon dioxide emissions)

This sheet calculates and summarizes monthly CO2 emission from the information entered in Sheets 1 to 2.4.

		Unit	Apr. 2016	May 2016	Jun. 2016	Jul. 2016	Aug. 2016	Sep. 2016	Oct. 2016	Nov. 2016	Dec. 2016	Jan. 2017	Feb. 2017	Mar. 2017	Total	CO2 emission intensity (kg-CO2/person)
Energy	Purchased electric power A	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Purchased electric power B	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Electric power - Total	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Gasoline	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Diesel	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Kerosene	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Jet fuel	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	City gas	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Propane gas	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Liquefied petroleum gas (LPG)	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Liquefied natural gas (LNG)	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Fossil fuel - Total	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Others - Total	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	kg-CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0

○ If there is energy that is not included in the above items, refer to the "Greenhouse gas emissions calculation / report manual" (Ministry of the Environment / Ministry of Economy, Trade and Industry). Please tabulate the items for each organization and add them to the table. For reference, a table of 6.5 gases other than carbon dioxide originating from energy is listed in "7. 6.5 Gas."

○ For the emission factor, see "2.4. Emission Factor."

Appendix 6. Total water drainage (when daily wastewater volume exceeds 50 tons)

[illegible]

Appendix 7. Greenhouse gas emissions other than carbon dioxide derived from energy (6.5 gas)

Appendix 7. Greenhouse gas emissions other than carbon dioxide derived from energy (6.5 gas)

This sheet is for logging greenhouse gas emissions (6.5 gas) other than carbon dioxide derived from energy use (optional).

	Unit	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2016	Mar 2017	Total
Non-energy origin carbon dioxide accompanying raw fuel use of waste (CO ₂)	kg-CO ₂													0
Non-energy origin carbon dioxide excluding raw fuel use (CO ₂)	kg-CO ₂													0
Methane (CH ₄)	kg-CO ₂													0
Dinitrogen monoxide (N ₂ O)	kg-CO ₂													0
Hydrofluorocarbon (HFCs)	kg-CO ₂													0
Perfluorocarbon (PFCs)	kg-CO ₂													0
Sulfur hexafluoride (SF ₆)	kg-CO ₂													0
Nitrogen trifluoride (NF ₃)	kg-CO ₂													0
Total	kg-CO ₂	0	0	0	0	0	0	0	0	0	0	0	0	0

○ Please fill in in terms of carbon dioxide equivalent.

Appendix 8. Resource usage

Appendix 8. Resource usage

This sheet is for logging the amount of resources used (optional).

Apr. 2016 ~ Mar. 2017				
Type of resource	Unit	Amount used	JPY (yen)	Remarks (e.g., amount stored)
	t			
	t			
	t			
	t			
	t			
	t			
	t			
	t			
	t			

Type of resources

• Metals (Iron, aluminum, copper, lead, etc.)

• Plastics (list by type)

• Rubber

• Glass

• Wood

• Paper (including office paper)

- ☐ Please log the main substances. Resource usage can be understood in terms of weight (Unit: ton).
- ☐ Water, petroleum, etc. used as raw materials etc. in the manufacture of products can be understood as resource usage.
- ☐ Substances that are cyclically used (reuse, recycling, heat recovery) within the organization are excluded.

☐

If it is difficult to log resource usage, it can also be calculated by adding the total product production amount or total product sales amount and waste discharge amount.

Appendix 9. Total production or sales volume

Appendix 9. Total production or sales volume

This sheet is for logging the quantity, etc. of products produced / provided by the organization (optional).

		Apr. 2016 ~ Mar. 2017			
Name of product		Unit	Production, sales, usage	Amount (yen)	Amount+Volume (yen/t)
P	W	ton			
r	e	ton			
o	i	ton			
d	u	ton			
c	g	ton			
t	h	ton			
t		ton			
Total products and services		ton	0	0	—
s	t				—
e	h				—
r	a				—
v	i				—
n					—
c	e				—
w					—
P	W	ton			
a	e	ton			
c	i	ton			
k	g	ton			
a	h	ton			
i		ton			
Total packaging usage		ton	0	0	—

○ Please fill in the production cost, not the sales price.

Appendix C. Status of environmental impacts (Summary)

Appendix C. Status of environmental impacts (Summary)

This sheet summarizes "wastewater discharge volume," "gas," "resource usage," and "product / container" in table form, based on the information entered in Appendices 6 to 9. (Optional)

		Unit	Data from other sheets (a)				Period to compare (b)				Increase and decrease	
			Apr. 2018 ~ Mar. 2017		CO2 Emission intensity		Y/M ~ Y/M		Amount		Amount	
			Amount	JPY (yen)	JPY (yen)	CO2 Emission intensity	Amount	JPY (yen)	Amount	JPY (yen)	Amount	JPY (yen)
Waste water	Discharge into public waters	m3	0	0	0	—	—	—	0	0	0	0
	Sewer	m3	0	0	0	—	—	—	0	0	0	0
G	Total	m3	0	0	0	—	—	—	0	0	0	0
	Non-energy origin carbon dioxide (CO2) accompanying use of waste raw fuel	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Non-energy origin carbon dioxide (CO2) excluding raw fuel use	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Methane (CH4)	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Dinitrogen monoxide (N2O)	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Hydrofluorocarbon (HFCs)	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Perfluorocarbon (PFCs)	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Sulfur hexafluoride (SF6)	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Nitrogen trifluoride (NF3)	kg-CO2	0	—	—	—	—	—	—	—	—	—
	Total	kg-CO2	0	—	—	—	—	—	0	0	0	0
H		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
		t	—	—	—	—	—	—	—	—	—	—
	Total	t	0	0	0	—	—	—	0	0	0	0
P	Amount of production, etc.	t	0	0	0	—	—	—	—	—	—	—
	Amount of packing	t	0	0	0	—	—	—	—	—	—	—

CHAPTER 5: Self-check of environmental efforts

1. Purpose of self-check of environmental efforts

Before improving environmental management, identification of the organization's environmental impacts and its source activities is performed with the "Appendix: self-check table of environmental impacts" in Chapter 4.

After identifying the organization's environmental efforts, the organization should consider which efforts will be implemented to reduce its environmental impacts. In considering which environmental efforts to take, the organization should identify the present status of its environmental efforts and then clarify which efforts to take based on the "Appendix: self-check table of environmental efforts" (hereinafter referred to as the "self-check table"). After doing this, the identified environmental efforts should be reflected in the process of establishing the environmental management goals and the environmental management policy.

The configuration and use of the self-check table are explained in the following sections.

2. Configuration, contents, and use of the self-check table of environmental efforts

(1) Configuration of the self-check table

The self-check table is largely composed of the four following items:

1. Items on the input into the organization's activities
2. Items on the output from the organization's activities
3. Items on the products or services
4. Others

The four categories are further divided into energy conservation, resource saving, and other areas. The table includes Effort for each item. Figure 10 illustrates concrete environmental efforts sorted out according to organization's efforts.

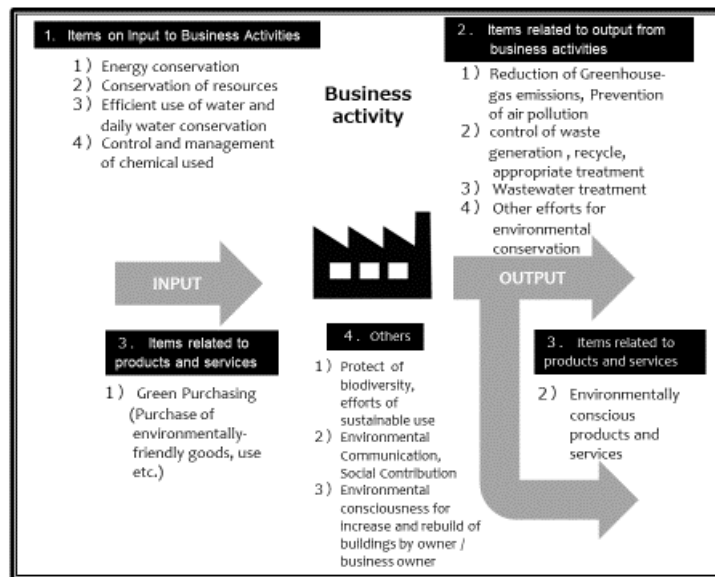


Figure 10 Organization's efforts and items included in the self-check table of environmental efforts

(2) About the contents of the self-check table

An organization that starts EcoAction 21 for the first time should understand the status quo of its environmental efforts. The status of the environmental efforts is identified with the self-check table. The contents of the self-check table of environmental efforts are summarized in Figure 11.¹⁷

¹⁷The self-check table enumerates actions of the general environmental consideration, which are applicable to every type of industry, including those in manufacturing, construction, transportation, retail, hospital, school, and the governmental offices.

Specific efforts of the checklist do not cover all of the environmental efforts because there is a limit to the contents of the description concerning the efforts, information sources that will explain in detail the contents of individual efforts and reference materials for other efforts are listed on the central secretariat office website.

No	Check (○, △, ×, /)	Specific efforts	Stage Introduction Development Continual development
1.		Turn off lights in plants and offices during lunch breaks, overtime hours, or other times when they are not needed	Introduction
2.		locker rooms, storage rooms, and infrequently used restrooms, only turning them on when needed	Introduction
3.		Set computers, copy machines, and other office equipment to energy-saving mode	Introduction
4.		Turn computers, printers, and other office equipment off completely at night and during weekends and holidays	Introduction
5.		Limit the use of elevators and encourage people to take the stairs	Introduction
6.		Optimize air temperatures throughout the organization and at all times (keep air conditioners set to around 28°C and heaters to around 20 °C [Effect of efforts 1])	Introduction

Three stages of "introduction", "development", and "continual development" are stated on the right side as an indication of the level of the efforts. Please use it as a guide when evaluating your organization's efforts.

Some checklist items show the effect of how much environmental load (such as CO₂ emissions) can be reduced by doing that (in the checklist, it is described as [effect by effort]). Please use it as a reference when considering the priority and importance of the efforts.

1 In general office buildings, if the room temperature setting of the air conditioner is increased by 2 °C from 26 °C to 28 °C in the summer, and the setting temperature in the winter is decreased by 2 °C from 22 °C to 20 °C, the heat source energy reduction rate is 7.5% in the summer, 2.5% in winter.

Figure 11 Organization's efforts and items included in the self-check table of the environmental efforts

Also, the recommended stages that should be progressed through ("introduction," "development," and "continual development") are shown for each item. The business entities that start the environmental efforts based on EcoAction 21 for the first time and those with two or three years of experience are thought to be at the introduction stage, and they are required to progress to the development or continual development stage through the EMS established according to EcoAction 21 and the following environmental efforts.

(3) How to use the self-check table

In the following section, how to use the self-check table of the environmental efforts are explained for (1) EcoAction 21 first-time business entities and for (2) those with more than two years of experience with EcoAction 21. Please appropriately adjust the contents shown to fit the situation of the organization.

① Organization that started EcoAction 21 first-time

About Figure 12, please fill in the leftmost blanks with letters to indicate the evaluation (such as "○" for good, "△" for fair, and "X" for poor).

Efforts already undertaken: ○
 Acting to some extent, that need further efforts: △
 Efforts not tackled: ×
 Efforts judged to be unrelated: /

No	Check ○, △, ×, /	Specific efforts	Stage Introduction Development Continual development
1.	○	Turn off lights in plants and offices during lunch breaks, overtime hours, or other times when they are not needed	Introduction
2.	△	locker rooms, storage rooms, and infrequently used restrooms, only turning them on when needed	Introduction
3.	/	Set computers, copy machines, and other office equipment to energy-saving mode	Introduction
4.	/	Turn computers, printers, and other office equipment off completely at night and during weekends and holidays	Introduction

Figure 12 Entry example of the self-check table of the environmental efforts

Based on the results of the self-check of the environmental efforts, the activities with substantial environmental impacts that were identified in the process of Chapter 4 should be considered and reflected on in the environmental management goals and environmental management plan. Please refer to these efforts shown in the self-check table of the environmental efforts.

② Business entities with more than two years of experience with EcoAction 21

Please consider which efforts are to be taken based on the results of the previous self-check of environmental efforts (especially the efforts evaluated as "△" or "×"), taking the priority and urgency of these efforts into account. All items may not necessarily be checked.

(4) Utilization example of the self-check table

As an advanced and practical use of the self-check table, scoring or digitizing is also useful, as shown below. By scoring or digitizing the evaluation of the environmental efforts, the progress of the organization's environmental efforts may be analyzed objectively with numbers.

- Scoring by aggregating the whole progress
- Quantifying with other approaches methods that the organization creatively sets on their own

Example of scoring by aggregating the whole progress

This method includes an evaluation of the organization's environmental efforts by weighting or digitizing the status of each item (e.g., ○, △, ×). For example, the business can determine the importance for each environmental effort and score the effort status as "○," "×," or "△" as follows:¹⁸

I. The items checked as "○," "×," or "△" are scored as shown below.

No.	Weighting based on the significance ¹⁹	Score (example)
1	The items thought to have "significant" effects on the environmental management	3 points
2	The items thought to have "considerable" effects on the environmental management	2 points
3	The items thought to have "somewhat" effects on the environmental management	1 point

II. The scores determined according to process I (see above) are multiplied by the corresponding coefficients shown below.

No.	Evaluation results by the self-check table	Coefficient (example)
1	The items marked as "○."	2
2	The items marked as "△"	1
3	The items marked as "×"	0

[Examples]

- The items thought to have "significant" effects and are marked as "○": $3 \times 2 = 6$ points
- The items thought to have "considerable" effects and are marked as "×": $2 \times 0 = 0$ points
- The items thought to have "somewhat" effects and are marked as "△": $1 \times 1 = 1$ point

III. For all items except marked as "/", sum the scores calculated according to process II (see above).

¹⁸Definition of the significance varies according to the difference by types of industry and an organization.

¹⁹Please rate your efforts by yourself to be "significant", "remarkable", and "somewhat" based on self-check table of environmental impacts.

The total score is referred to as the "environmental management index". Based on the index, the status of the environmental efforts undertaken each year can be compared to each other.

An example of the quantification method that was set by the organization

Particular items can be measured by number according to the type of environmental efforts. Especially for items related to the environmental management policy, it is desirable for them to be quantified if possible to analyze the achievement progress. With reference to the examples below, please find the best way to analyze the status of the environmental efforts.

[Examples]

<ul style="list-style-type: none"> Percentage of hybrid cars (e.g., the number of hybrid cars divided by the number of all cars) 	<- "Reduction of the environmental impacts from transportation and shipment"
<ul style="list-style-type: none"> Percentage of environmentally conscious products among all the company's products (e.g., the number of environmentally conscious products divided by the number of all products) 	<- "Consideration for the environment in the development or design process of products"
<ul style="list-style-type: none"> The amount of money given to environmentally related funds or local volunteer activities by the organization 	<- "Environmentally related reporting or social contribution, efforts for local environment "

Appendix: Self-check table of environmental efforts

1. Item related to inputs to the organization's efforts

1) Energy conservation

(1) Efficient use and daily saving of energy

No.	Mark (○, △, ×, /)	Effort	Recommended stage
			Introduction
			Development
			Continual development
1		Turn off lights in plants and offices during lunch breaks, overtime hours, or other times when they are not needed.	Introduction
2		Keep lights off in locker rooms, storage rooms, and infrequently used restrooms, only turning them on when needed.	Introduction
3		Set computers, copy machines, and other office equipment to an energy-saving mode.	Introduction
4		Turn computers, printers, and other office equipment off completely at night and during weekends and holidays.	Introduction
5		Limit the use of elevators and encourage people to take the stairs.	Introduction
6		Optimize air temperatures throughout the organization and at all times (keep air conditioners set to around 28 degrees Celsius and heaters to around 20 degrees Celsius). [effect of the effort] ²⁰	Introduction
7		Turn off air conditioners and heaters in unused rooms.	Introduction
8		Regulate the temperature by using blinds or curtains.	Introduction
9		Minimize the use of air conditioning and heating in the summer and winter by implementing "Cool Biz" in the summer and "Warm Biz" in the winter dress code modifications.	Introduction
10		Set concrete numerical targets, with their achievement periods determined.	Introduction
11		Use living plant curtains.	Introduction

²⁰At the general office setting, by raising set temperature by 2 °C (from 26 to 28 °C) during the summer season and lowering set temperature from 22 to 20 °C by 2 °C, energy-reduction rate will be 7.5% during the summer season and 2.5% during the winter season, respectively.

No.	Mark (○, △, ×, /)	Effort	Recommended stage
			Introduction
			Development
			Continual development
12		Install shades or eaves to avoid direct sunlight through the windows.	Introduction
13		Keep the outdoor units of air conditioners cool with sun blinds, shades, or watering.	Introduction
14		Put insulation sheets on windows to prevent from unnecessary heat flow.	Introduction
15		Grow plants and vegetables on the roof (roof planting).	Development
16		Limit air conditioner and heater use only to those locations and times needed.	Development
17		Utilize human sensors.	Development
18		Reduce the number of lighting bulbs.	Development
19		<Manufacturing process> Shorten waiting times in the production process by reducing in-process inventory, running parallel lines, having partial integration of the production line, and implementing other measures.	Continual development
20		<Manufacturing process> Rationalize on pretreatment, preprocessing, preheating, or other preparations to shorten production processing time.	Continual development
21		Implement demand monitoring.	Continual development
22		Implement peak shifts.	Continual development
23		Air conditioning: Implement measures to avoid heat loss by inflowing outdoor air.	Continual development
24		Air conditioning: Keep efficient operation by utilizing outdoor air.	Continual development

(2) Appropriately maintain facility equipment.

No.	Mark (○, △, ×, /)	Effort	Recommended stage Introduction Development Continual development
1		Ensure optimum lighting performance by regularly cleaning light fixtures and replacing bulbs regularly.	Introduction
2		Optimize air conditioning equipment's ²¹ operation by regularly cleaning and replacing filters.	Introduction
3		Shut down temperature control equipment prior to when it is no longer needed, making effective use of the residual temperature inside the device (do not allow outside air to enter during pre-cooling/pre-heating).	Introduction
4		Partially shut down elevators during evenings and on weekends and holidays.	Development
5		Implement load rejection and shut-off transformers when electricity is not needed.	Continual development
6		Adjust the temperature setting where cooled or heated water enters temperature-controlled equipment (such as refrigeration devices and boilers) as much as possible for more efficient operation; properly manage the equipment with regular checks and inspections. [effect of the action] ²¹	Continual development
7		Minimize the line pressure in air compressor equipment to the required level.	Continual development
8		Use a total heat exchanger bypass system when the outside temperature is between 20 and 27 degrees Celsius (Total heat exchangers are devices that recover and reuse heat from heating and cooling. The bypass operation includes regular ventilation mode, operation during mild outside temperatures, and shutting down the heat exchange rotor). Or regulate air temperature by controlling the amount of outside air in the room using windows or doors.	Continual development
9		Shut off hot-water supply, except in the winter months.	Continual development

²¹ In case of general hospital-setting, at the time of the low load-timing except mid-summer (from July to August), by increasing cooling-water temperature from 7 to 10 C, gas-consumption is decreased by 8%.

10		Optimize power usage of shared computers and other equipment by establishing user rules or putting someone in charge of managing these devices.	Continual development
11		Implement demand monitoring.	Continual development
12		Adopt high-efficiency equipment (heat storage-type heat pumps, etc.).	Continual development
13		Utilize exhaust heat.	Continual development

(3) Consideration when replacing or upgrading equipment and facilities.

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		For insulation, install double glass or double window sash.	Introduction
2		Install systems to automatically regulate what areas are lighted when and to what degree according to a preset schedule or timetable.	Introduction
3		Use LED lights.	Introduction
4		Install energy-efficient office equipment, including copy machines, computers, and printers.	Development
5		Install facilities that can use midday sunlight, whether people are present and other factors so that lights are only used when necessary.	Development
6		Install heat-absorbing or heat-reflective glass to block solar heat.	Development
7		Add a peak cut function to air conditioners.	Development
8		Make efforts to increase illumination by, for example, lowering the position of the lighting equipment (in the case of a point light source, the illumination is inversely proportional to the square of the distance).	Development
9		Attach an inverter that can regulate rpm to electric devices likely to experience load fluctuations. [effect of the action] ²²	Continual development

²²In case of zinc furnace-related dust collector of the general metal product manufacturer, Electricity consumption

10		Buy new or upgrade to high-efficiency energy supply equipment (e.g., air compressors, refrigeration equipment, boilers, etc.).	Continual development
11		Install total heat exchanger devices that can recover and reuse heat expelled outdoors during ventilation.	Continual development
12		Introduce partial ventilation systems in specific areas. [effect of the action] ²³	Continual development
13		Install heat pump air conditioning units with a higher annual performance factor (APF).	Continual development
14		Install high-efficiency air conditioning systems, such as those that run on natural gas.	Continual development
15		Install air circulation devices such as ceiling blowers.	Continual development
16		Insulate piping on hot water equipment.	Continual development
17		Replace old transformers with new high-efficiency transformers to reduce electricity loss.	Continual development
18		Install a cogeneration system. [effect of the action] ²⁴	Continual development
19		Use district heating and cooling systems (District heat supply).	Continual development
20		Install a collection system to recover heat generated by boilers or during garbage incineration. [effect of the action] ²⁵	Continual development
21		Switch to energy-saving lighting equipment, such as high-efficiency fluorescent bulbs. [effect of the action] ²⁶	Continual development
22		Use insulation materials in ceilings, walls, and floors.	Continual development

of 590MWh can be reduced a year by making an absorption fan from damper control to inverter control (at driving time on Sunday for 0 hour, on Saturday for 5.7 hours, for 17.6 hours on weekdays) .

²³Electric consumption of 300kWh a year can be reduced by the ratio (maker calculation) conventionally by introducing a partial ventilation system into the kitchen of the general care old man welfare institution. In addition, the investment is approximately 2,500,000 yen.

²⁴Switching from kerosene-fired hot water supply device to natural gas-fired hot water supply device at the of the general special elderly nursing home, electricity consumption of 18,252kWh can be annually reduced. The investment is approximately 8 million yen.

²⁵54,519L can be reduced by installing an exhaust heat collection system (heat exchangers) in the steam drain of a commonly used steam-boiler at hotels (fuel oil A). The investment is approximately 2,750,000 yen.

²⁶For example, one light can reduce CO2 emissions of $(54W - 12W) \times 0.425 \div 17.9g$ per hour (the discharge coefficient uses 0.425) when it is changed to LED of 12W from an incandescent electric lamp of 54W (same brightness). It is calculated using numerical value of Tokyo Electric Power in "the carbon dioxide emissions coefficients according to the electric organization of 2014" that the government announces about the discharge coefficient.

23		Encourage the use of natural energy.	Continual development
24		Attach sprinklers to the outdoor units of air conditioners (peak cut measures).	Continual development
25		Adopt water heaters that can collect latent heat (thermal efficiency 95%).	Continual development
26		Insulate steam pipelines, heating equipment, and so forth.	Continual development
27		Attach individual switches (e.g., canopy switches) to lighting fixtures.	Continual development
28		Use LED-type mercury lamps (about a 50% energy savings).	Continual development
29		Prioritize the purchase and use of front-runner home electric appliances (Refer to the energy-saving performance catalogue).	Continual development
30		Implement demand control of the electricity (peak cut measures)	Continual development
31		Paint the rooftop to thermally insulate it.	Continual development

2) Resource saving

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Take steps to simplify the paperwork used for meetings and work procedure manuals.	Introduction
2		Store documents in an electronic format using an internal LAN network or database.	Introduction
3		Reduce the amount of paper used during meetings and conferences by making use of whiteboards or projection equipment.	Introduction
4		When hard copies are needed, make sure to only print the minimum number of copies so that no extras are left over.	Introduction
5		Always print double-sided copies or multiple pages per sheet to reduce paper usage.	Introduction
6		Find ways to reuse old documents, posters, and calendars by using the backside or turning them into scratch paper.	Introduction
7		Reuse used envelopes.	Introduction
8		Double check printer and copier settings (number of copies, enlargement/shrinking) before making copies to prevent misprints. Always reset these features after use to prevent the next person from misprinting as well.	Introduction
9		Use e-mails instead of postal mail.	Introduction
10		Implement the "one sheet best campaign" that aims at summarizing documents in one page.	Introduction
11		Use rental waste cloths (dust cloths).	Development
12		Use spray guns tailored to each product to minimize the amount of paint, coating, or cleaners used.	Continual development
13		Consolidate holding tanks for paints, coating, and cleaners used during production processes to minimize usage.	Continual development
14		Review the process of material removal and design to reduce the loss of materials during material processing, such as scraps and end materials.	Continual development

15		Consider the change of specifications of raw materials to reduce auxiliary materials used, such as detergents, cleaners, and catalysts.	Continual development
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3) Water conservation and efficient water use

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Display signs encouraging water saving.	Introduction
2		Enforce daily water conservation measures when washing hands, dishes, etc.	Introduction
3		Wash organization's vehicles only when absolutely necessary and enforce water conservation measures when doing so.	Introduction
4		Minimize water use in toilets by installing flushing noisemakers in toilet stalls or installing low-flow toilets.	Introduction
5		Make efforts to reduce the quantity of water use by, for example, using shower-type faucets.	Introduction
6		Construct equipment to recycle and reuse water used in production processes (use greywater).	Development
7		Recycle coolant water used in refrigeration devices or other equipment that produces cold water.	Development
8		Adjust valves to optimize water volume and pressure.	Development
9		Install low-flow attachments to faucets to minimize water usage.	Development
10		Regularly inspect water pipes for leaks.	Development
11		Attach hand valves to hoses to prevent running water.	Development
12		Install automatic faucets.	Development
13		Adopt multi-stage (cascade) usage of rinse water used in painting, coating, or plating processes.	Continual development
14		Manage the operation of cooling towers, devices and similar equipment that produce cold/hot water to ensure optimum water usage at all times.	Continual development
15		Set up reservoirs or other equipment to collect and make use of rainwater.	Continual development
16		Set up a seepage pit or other equipment to drain rainwater into the ground.	Continual development
17		Analyze the amount of used water and set reduction target (including maintenance).	Continual development

4) Restricting or managing the use of chemical substances

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Minimize the dose amount.	Introduction
2		Cut back on the use of chemical herbicides and pesticides on company grounds.	Introduction
3		Use non-hazardous rubbing alcohol.	Development
4		Regularly inspect storage tanks and pipelines to prevent leakage.	Development
5		Review replacement frequency of cleaners and other chemicals (quality control required).	Development
6		Work to control the outflow of volatile organic compounds (VOCs) by preventing the volatilization of fuels, solvents, paints, and coatings. [reference] ²⁷	Continual development
7		Construct tanks and pipes carrying hazardous substances to prevent leaks or diffusion.	Continual development
8		Track the types, usage amounts, storage amount, usage methods, usage locations, and storage locations of hazardous chemical substances and record and manage this information.	Continual development
9		Measure or estimate the amount of hazardous chemical substances emitted.	Continual development
10		Ensure consistent and thorough labeling of all hazardous substances.	Continual development
11		Use safety data sheets (SDS) to manage and communicate information on the safety of chemical substances.	Continual development
12		Ensure that hazardous substances are properly handled by regularly maintaining and inspecting the tanks and pipes that carry them.	Continual development
13		Implement surveys of alternative substances.	Continual development

²⁷(reference) Ministry of Economy, Trade and Industry, Japan Environmental Management Association for Industry
 "Guide on the VOC emission control"
http://www.meti.go.jp/policy/voc/downloads/VOC-tebiki_22fy.pdf

14		<Manufacturing process> Consider a layout change to reduce chemical consumption.	Continual development
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2. Business activity output

1) Restricting GHG emissions, preventing air pollution

(1) Restricting greenhouse gas emissions

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Prioritize the purchase and use of fuels with less environmental impact, such as city gas or kerosene.	Development
2		Make efforts to improve fuel efficiency of vehicles by, for example, introducing drive recorders and avoiding useless fuel use.	Development
3		When purchasing products, try to select those that do not contain hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6) when possible.	Continual development
4		Always try to collect hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF6) properly when disposing of products containing these chemicals.	Continual development
5		Install fuel cell systems.	Continual development
6		Install solar-powered facilities and equipment and use electricity created using solar energy. [effect of the effort] ²⁸	Continual development
7		Install solar water heaters and use the hot water generated for heating and washing. [effect of the action] ²⁹	Continual development
8		Install micro hydroelectric power stations (generating less than 100kW). [reference] ³⁰	Continual development
9		Purchase and use products and services that participate in carbon-offsetting initiatives.	Continual development

²⁸When install a PV system of 10kW; approximately 10,000kWh of electricity a year can be generated (national average)

(the source) The association of photovoltaic power generation (general incorporated association)'s website, or setting example. <http://www.jpea.gr.jp/setting/building/flow/index.html>

²⁹According to the test calculation of association of solar system promotion, Installation of one solar-energy based water-heater (collected area: 3.0 m2 and collected energy amount: 6,527,040MJ) saves 2,267kWh one year.

(source) Association of solar system promotion (incorporated association)'s website
<http://www.ssda.or.jp/energy/merit.html>

³⁰(source) New energy, industrial technical overall development mechanism (incorporated administrative agency)
"micro hydroelectric generation introduction guidebook" <http://www.nedo.go.jp/content/100544823.pdf>

10		Introduce hybrid cars and electric cars.	Continual development
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(2) Restricting the output of atmospheric pollutants

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Regularly clean air inlets.	Introduction
2		Implement regularly inspection and preventive maintenance of facilities.	Introduction
3		Install air-pollutant removal devices.	Development
4		Adopt processes and equipment that generate minimal air pollution (such as low-NOx incinerators).	Continual development
5		Take daily steps to prevent atmospheric pollution (such as controlled burning).	Continual development
6		Voluntarily set and comply with air pollution control standards that are stricter than those required by law & regulations.	Continual development

2) Restricting waste output, recycling, proper disposal/treatment

(1) Restricting the actual generation of waste

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Discontinue the use of paper towels.	Introduction
2		Reduce the number of trash boxes or remove them.	Introduction
3		Review the method of waste disposal to convert waste into recyclable materials.	Introduction
4		Thoroughly implement the separation of wastes to convert waste into recyclable materials.	Introduction
5		Thoroughly manage stock (e.g., optimize the number of items held in stock) to reduce wasted products due to quality deterioration or other problems.	Introduction
6		Minimize the purchase and use of disposable items (such as paper cups, disposable lunch containers, etc.).	Introduction

7		Prioritize the use and purchase of products in returnable containers (beer bottles, 1.8L glass containers, etc.).	Introduction
8		Prioritize the use and purchasing of reusable or recyclable products.	Introduction
9		Promote long-term use of products by choosing refillable items and repairing existing equipment.	Introduction
10		Purchase copy machines, computers, and printers made of recyclable materials.	Introduction
11		Prioritize the purchase of items that use minimal packaging.	Introduction
12		Take steps to reduce the amount of packaging materials used when delivering items.	Introduction
13		Work to use office equipment to the extent possible, always checking to see if it can be repaired before replacing.	Introduction
14		Recommend the use of "my chopsticks," "my cups," and "my bottles."	Introduction
15		Recommend using "my bags."	Introduction
16		Implement 3S (Seiri [rearranging], Seiton [organizing], and Seisou [cleaning]) efforts.	Introduction
17		Review manifesto slips.	Development
18		Make efforts to improve the yield of production processes.	Development
19		Make efforts to reduce losses from processing errors.	Development
20		Accurately analyze the weight of waste and calculate the cost of waste based on MFCA (material flow cost accounting).	Continual development
21		Make efforts to decrease the number of objections or complaints.	Continual development
22		Implement integral management with the quality management system (QMS).	Continual development
23		Analyze the amount of waste and set the reduction target (including maintenance).	Continual development

(2) Recycling promotion

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage
			Introduction Development Continual development
1		Always sort trash properly, setting up recycling bins as needed to separate and collect paper, cans, glass bottles, plastic, batteries, and other recyclables.	Introduction
2		Only shred confidential documents and recycle shredded paper.	Introduction
3		Set up a collection procedure for toner cartridges for copiers and printers and recycle when possible.	Introduction
4		Reduce the volume of garbage generated by compressing or by other means.	Development
5		Compost organic waste (such as cafeteria leftovers) and return it to the soil or use it as fertilizer.	Development
6		Set up a procedure for recycling used cooking oil or reuse it (e.g., as a soap ingredient).	Development
7		Identify and select appropriate recycling contractors.	Development
8		Collect scrap metal, paper, run-off, and sludge produced during manufacturing processes. Set up the dedicated collection lines and equipment to reuse waste and other items.	Continual development

(3) Proper treatment/disposal of industrial waste

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		To avoid generating methane, limit the amount of organic waste sent to the landfill by separating and recycling food scraps or properly incinerating them whenever possible.	Development
2		When incinerating waste, check it thoroughly to ensure that non-burnable PVC or other materials are not mixed in. Use smoke treatment and other measures to protect the local environment.	Development
3		Make the waste visible (the amount, cost, disposal service vendor, etc.).	Continual development

3) Wastewater treatment

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Minimize the use of water.	Introduction
2		Use rainwater in restrooms or for sprinklers.	Introduction
3		Implement the appropriate maintenance of septic tanks.	Introduction
4		Use processes and equipment that minimize water pollution (such as collecting and reusing run-off).	Continual development
5		Set up appropriate wastewater treatment facilities.	Continual development
6		Remove hazardous substances and organic pollution (such as food scraps) from wastewater whenever possible.	Continual development
7		Voluntarily set and comply with water pollution control standards that are stricter than those required by law & regulations.	Continual development
8		Install an oil–water separation tank to isolate and recover oil.	Continual development

9		Implement regular cleaning (e.g., several times a year) to prevent oil spillage.	Continual development
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4) Other initiatives to protect environmental living conditions

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Position outflow points to prevent noxious smells from entering the environment.	Continual development
2		Prevent noise and vibration by using low-vibration equipment and constructing and operating noise- and vibration-absorbing facilities; monitor and measure noise and vibration on a daily basis.	Continual development

3. Products and services

1) Green purchasing (buying and using environmentally friendly products and materials)

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Switch to copier paper, computer paper, forms, office stationery, printed material, pamphlets, toilet paper, business cards, and other paper products made from recycled paper or untapped fibrous resources.	Development
2		Actively purchase low-flow flush toilets and other household appliances.	Development
3		Purchase electricity from electricity companies whose greenhouse gas emission coefficients are low.	Continual development
4		Make organizational policy and standards of purchasing environmentally friendly items, create a list of green products, and make purchases based on that list.	Continual development
5		Prioritize the purchase of products certified with environmental labels. [reference] ³¹	Continual development
6		Purchase products that comply with energy efficiency standards. [reference] ³²	Continual development
7		Prioritize the purchase and use of products made from recycled materials.	Continual development
8		Actively purchase and use products made from untapped natural resources or lumber from thinning.	Continual development
9		Prioritize the purchase and use of unbleached products (such as clothing) and other items with minimal environmental impact (such as products that use water-based paints).	Continual development
10		Prioritize the purchase and use of products designed for easy repair, part replacement, part reuse, or material refills.	Continual development

³¹(reference) "database including the environmental label" (mark index), the Ministry of the Environment
<http://www.env.go.jp/policy/hozen/green/ecolabel/f01.html>

³²(reference) Energy conservation center (general incorporated foundation), "energy saving type product information site"
<http://seihinjyoho.go.jp/>

11		Make sure wood product suppliers are taking proper environmental measures, such as replanting trees, planting new trees, or participating in environmental restoration projects.	Continual development
12		Switch to low-pollution company vehicles, such as hybrids, highly fuel-efficient vehicles, certified low-emissions vehicles, electric vehicles, or vehicles that run on natural gas.	Continual development

2) Offering environmentally friendly products and services

(1) Design and planning initiatives

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage
			Introduction Development Continual development
1		Aim to minimize resource usage by developing more compact, lightweight products while retaining their functionality.	Continual development
2		Create long-lasting products.	Continual development
3		Reduce the amount of energy products used during operation.	Continual development
4		Take steps to use recycled materials.	Continual development
5		Optimize model changes to keep waste to a minimum.	Continual development
6		Select materials that are easily recycled and design products with a minimum number of parts, screws, or other fasteners to make disassembly easier.	Continual development
7		Minimize the amount of hazardous chemicals used in products.	Continual development
8		Reduce the use of chlorine-based organic solvents by replacing them with alternative substances.	Continual development
9		Increase efficiency by modifying or correcting press methods to reduce defects and other forms of waste.	Continual development
10		Work to reduce excess material scraps by changing the specifications on purchased raw materials.	Continual development
11		Analyze the number and type of items produced to level/optimize production planning.	Continual development
12		Create a checklist of possible environmental impacts of products produced in-house and parts purchased from other companies.	Continual development
13		When developing new products or releasing new models, measure and record environmental impacts of products, and conduct product-assessment (including an evaluation of how easy it will be to properly dispose of the product and a life cycle assessment indicating the environmental	Continual development

		impacts at each stage, from production. consumption to disposal).	
14		Carry out systematic product assessments of existing products.	Continual development
15		Encourage the development of original environmentally friendly products.	Continual development

(2) Delivery and transport initiatives

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Simplify packaging and look for ways to eliminate redundant packaging.	Introduction
2		Conduct periodic inspections.	Introduction
3		Use reusable pallets and returnable boxes when transporting products and other materials.	Development
4		Enforce environmentally friendly driving practices such as Eco-Drive (e.g., avoiding sudden starts and acceleration, refraining from revving the engine, and turning off the engine when stopped). [reference] ³³	Development
5		Provide shared organization's bicycles and have employees use them to avoid driving to nearby appointments.	Development
6		Use public transportation to reduce use of organization's vehicles.	Development
7		Prioritize the use of railway transportation and marine transportation.	Development
8		Regularly check tire pressure to ensure that it is at an optimal level (level recommended by the manufacturer).	Continual development
9		Keep vehicles properly maintained to keep emissions and noise to a minimum.	Continual development
10		Implement co-operative transportation and ensure the return cargo (at the time of delivery and reception of loaded vehicles).	Continual development
11		Review the transportation plan (planning and leveling of ordering and transportation, transportation by excessive small amount or frequent transportation, and just-in-time service).	Continual development

³³(reference)The Eco drive spread Network "advice on Eco drive 10"
<http://www.mlit.go.jp/kisha/kisha06/01/010609/01.pdf>

(3) Collecting and recycling products

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Collect and recycle used products and packaging.	Development
2		Provide information to consumers on how to reduce the environmental impact of products, such as ways to prevent the leaking of chlorofluorocarbons (CFCs).	Continual development
3		Recover and recycle containers of consumable products by setting up collection boxes in stores.	Continual development

(4) Selling and providing information about environmentally friendly products

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Promote the use of reusable shopping bags at retail outlets.	Development
2		Sell items individually or offer refills (sell by weight or volume).	Development
3		Display the Eco Mark or your institution's own environmental label or commitment statement on products and brochures.	Development
4		Make a concerted effort to sell products that are made from recycled materials, that are recyclable, reusable, or energy efficient, use fewer resources, use less packaging, and are certified with an environmental label.	Continual development
5		Set sales targets for the above items and actively promote these targets.	Continual development
6		Voluntarily keep repair parts available for extended periods of time.	Continual development
7		Actively provide consumers with information on environmentally friendly products.	Continual development
8		Print the environmental impact of using or disposing of products in product catalogs.	Continual development

9		Display environmentally friendly products or product assessment results in stores.	Continual development
10		Comply with external data-requests on the environmental impacts of products.	Continual development

4. Miscellaneous

1) Initiatives to preserve biodiversity and promote sustainable use

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Know where all purchased raw materials (wood, fishery products, agricultural products, minerals, etc.) are produced.	Development
2		Actively use local natural resources and promote local production for local consumption measures.	Development
3		Collect information on raw materials to ensure that they are not being produced or mined in a way that is harmful to biodiversity in the local environment and that the rights of indigenous people are being respected.	Continual development
4		Try to purchase only certified raw materials (e.g., materials produced or harvested in certified forests or fisheries).	Continual development
5		Make the impact of organization's activities on biodiversity publicly available.	Continual development
6		Consider the impact of organization's activities on the local environment and promote efforts to preserve the plants and animals living near office buildings (e.g., setting up a habitat area).	Continual development

2) Environmental communication and social contribution

(1) Environmental communication

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Publish environmental information on the organization's website.	Development
2		Distribute the environmental management report to governments, residents, business partners, and so	Continual development

		forth. ³⁴	
3		Make publicly available the major environmental impacts of your organization's activities, key environmental targets and the contact information for the person in charge of environmental issues at your organization.	Continual development
4		Provide environmental information to consumers and hold educational efforts.	Continual development
5		Set up a contact point to receive requests for information or publications from outside.	Continual development
6		Regularly solicit feedback and reflect on it when implementing environmental efforts.	Continual development
7		Set up a contact point to receive feedback from concerned parties outside the organization.	Continual development

(2) Social contribution

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Set up an environmental fund or environmental group or support existing ones (e.g., by deploying personnel, contributing money, donating a broken number of employees' salaries on behalf of them, or helping with publicity activities).	Continual development
2		Set up a program to match environmental donations (e.g., cooperating with employee labor unions).	Continual development
3		Actively participate in and support local volunteer activities.	Continual development
4		Get involved with local groups and organizations conducting environmental research or activities.	Continual development
5		Set up an environmental award program.	Continual development
6		Support environmental research organizations (e.g., by holding environmental courses at universities).	Continual development

³⁴At the website of the central secretariat office, the manual on development of environmental management report and its utilization and relevant case examples are available. Please refer to those sources.

7		Make worksites, walls, and rooftops greener (this will also contribute to cleaner air and a milder urban climate).	Continual development
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3) Environmentally friendly expansion, remodeling, or demolition of buildings and other structures owned or operated by organizations

(1) Contracting or working with architects and builders (building firms or construction companies)

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Use building materials with a low environmental impact and request the optimum use of building materials (e.g., minimize the use of wood in plywood frames and the like and actively use blast furnace slag cement, Eco-Cement, and recycled materials).	Continual development
2		Minimize the effect of buildings on the surrounding natural environment (plants and animals) or request that structures be designed in a way that actually benefits the environment.	Continual development

(2) Measures to prevent or reduce the environmental impacts of existing buildings

No.	Check (○, △, ×, /)	Effort	Recommended undertaking stage Introduction Development Continual development
1		Inspect aging buildings and monitor their operation; look for ways to improve them or add features to make them more environmentally friendly.	Continual development
2		Work to improve the durability of existing buildings.	Continual development
3		Maintain wastewater facilities and control airborne asbestos (particularly by removing asbestos prior to demolition).	Continual development

[Major organizations related to environmentally friendly activities]

There are many websites that give detailed commentary and good practices. Below are the URLs of the websites of environment-related organizations and institutions. Please refer to them.

[General]

- Ministry of the Environment: <http://www.env.go.jp>
- Ministry of Economy, Trade, and Industry: <http://www.meti.go.jp>
- The Agency for Natural Resource and Energy: <http://www.enecho.meti.go.jp>
- Ministry of Land, Infrastructure, and Transport: <http://www.mlit.go.jp>
- Ministry of Agriculture, Forestry, and Fisheries: <http://www.maff.go.jp>

[Energy related link]

- Energy Conservation Center, Japan: <http://www.eccj.or.jp>
- New Energy and Industrial Technology Development Organization (NEDO): <http://www.nedo.go.jp>
- New Energy Foundation (NEF): <http://www.nef.or.jp>
- Global Environment Centre : <http://gec.jp/jp/index.html>

[Waste and recycling related link]

- Japan Environmental Management Association for Industry. Resource/Recycle Promotion Center: <http://www.cjc.or.jp>
- Japan Industrial Waste Information Center: <http://www.sanpainet.or.jp>
- The Japan Containers and Packaging Recycling Association: <http://www.jcpa.or.jp>

[Chemical substance related link]

- PRTR Information Plaza Japan (Ministry of the Environment): <https://www.env.go.jp/chemi/prtr/risk0.html>
- National Institute of Technology and Evaluation: <http://www.nite.go.jp/chem/prtr/prtr.html>
- Japan Environmental Management Association for Industry: <http://www.jemai.or.jp>

[Green purchasing related link]

- The Green Purchasing Network: <http://www.gpn.jp>
- Japan Environmental Management Association for Industry ~~Japan Environmental Management Association for Industry~~ (JEA) Eco Mark Office: <http://www.ecomark.jp>
- Eco Recycle Material Navi: <http://recycle.kensetu-navi.com>
- Environment Label Database (Ministry of the Environment): <http://www.env.go.jp/policy/hozen/green/ecolabel/index.html>
- Organization for the promotion of low-emission vehicles:

http://www.levo.or.jp/home_j.html

[Eco Drive related link]

- Eco Drive Promotion Council: <http://www.ecodrive.jp>

[Environmental regulations]

- Environmental Law Database (Ministry of the Environment): <http://www.env.go.jp/hourei>

CHAPTER 6: Mechanism of the administration of the EcoAction 21 certification/registration program

This chapter describes the content concerning the administration of the EcoAction 21 certification/registration program.

1. Principles of the administration of the program

Every entity involved in the administration of this program shall act based on the following principles:

- (1) Reliability: To fulfill the following principles and meet social expectations, show expertise in environmental issues, and be recognized as competent.
- (2) Fairness: To always maintain justness and impartiality and to have no economic or social interest be unfair.
- (3) Sustainability: To secure a steady financial foundation without no serious suspicion
- (4) Efficiency: To reasonably employ resources such as personnel, cost, and time to implement administration efficiently.

2. Administrative entities of the program

This program shall be run by the legal entity that satisfies the requirements prescribed under "3. Eligibility of the administrative entities: (1) The central secretariat office", that receives eligibility confirmation from the Ministry of the Environment according to "4. Eligibility confirmation of the administrative entities: (1) The central secretariat office", and that obtains the license for the use of the name and logo of EcoAction 21 from the Ministry of the Environment. The legal entity shall establish the central secretariat office within the organization.

For promotion of the program in various regions, the central secretariat office approves the legal entity as a regional secretariat office that meets the requirements prescribed under "3. Eligibility of the administrative entities: 3. (2) Regional secretariat office" and that receives eligibility confirmation from the central secretariat office according to "4. Eligibility confirmation of the administrative entities: 4. (2) Regional secretariat office" based on the application from the legal entity.

For audit, instruction, and advice for the organization participating in EcoAction 21 certification/registration program, the central secretariat office awards credentials to individuals who meet the requirements prescribed under "3. Eligibility of the administrative entities: (3) Auditor" and who receives eligibility confirmation from the central secretariat office according to "4. Eligibility confirmation of the administrative

entities: (3) Auditor" based on the application from the person.

The administration system of this program is shown in Figure 13.

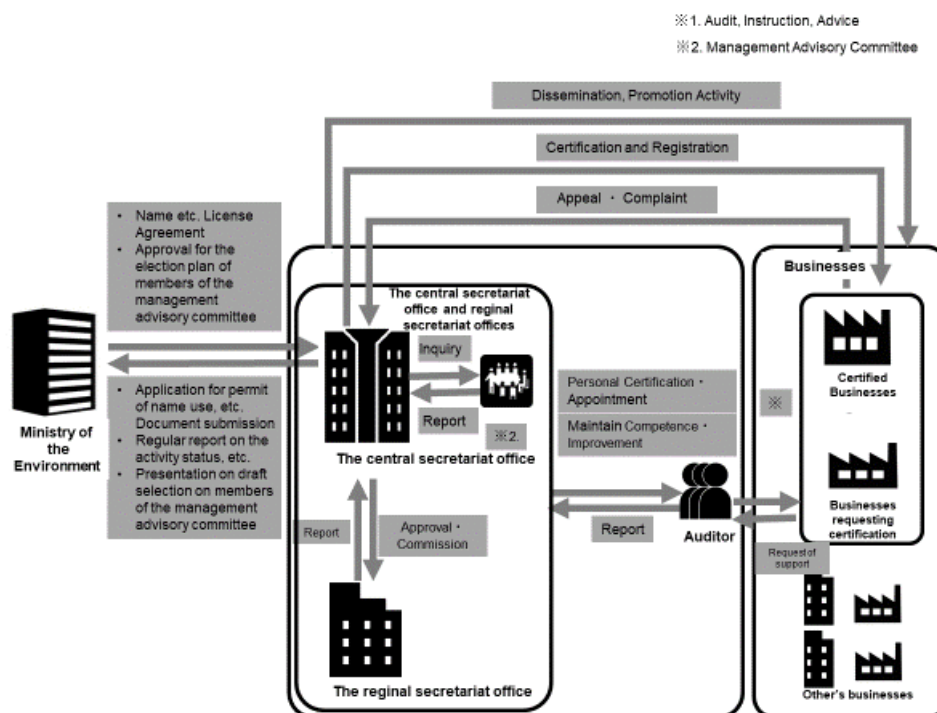


Figure 13 Administration system of EcoAction 21 (summarized)

3. Eligibility of the administrative entities

(1) Central secretariat office

The central secretariat office shall fulfill the following organizational requirements and shall be confirmed to be competent for the following administrative requirements:

<Organizational Requirements>

- ① To be a legal not-for-profit entity
- ② To exclude anti-social forces
- ③ To be financially healthy
- ④ To maintain the documents concerning its business and financial affairs

<Administrative Requirements>

- ⑤ To establish a decision-making entity (e.g., board of directors) to implement appropriate deliberation and decision on the matters concerning the administration of the program as prescribed under "10. Deliberation and decision by the decision-making body."
- ⑥ To establish a management advisory committee consisting of more than half of third-party personnel, as prescribed under "11. Establishment of the

management advisory committee."

- ⑦ To establish a judgment committee consisting of more than half of third-party personnel prescribed under "12. Establishment and consultation of judging committee."
- ⑧ To appropriately implement the approval and registration of the regional secretariat offices according to their administrative capacities (including improvement of administrative capacity and education for securing reliability, instruction, supervision, inspection, and disciplinary measures).
- ⑨ To appropriately implement personnel certification and registration of the Auditor according to their abilities (including ability improvement, education, instruction, supervision, evaluation, disciplinary measures).
- ⑩ To appropriately implement EcoAction 21 certification/registration of the organization.
- ⑪ To appropriately implement the formulation, revision, and abolition of official regulations to determine the necessary standards or procedures for the administration of the certification/registration program.
- ⑫ To appropriately implement promotion efforts as prescribed under "7. Promotion efforts."
- ⑬ To appropriately implement the preservation of confidentiality as prescribed under "8. Preservation of confidentiality."
- ⑭ To appropriately report to the Ministry of the Environment as prescribed under "9. Reporting and approval."
- ⑮ To appropriately implement information disclosure as prescribed under "13. Information disclosure."
- ⑯ To appropriately implement documentation as prescribed under "15. Documentation."
- ⑰ To appropriately address formal objections and complaints as prescribed under "16. Formal objection and complaint procedure."

(2) Regional secretariat office

The regional secretariat office shall fulfill the following organizational requirements and shall be confirmed to be competent for the following administrative requirements:

<Organizational Requirements>

- ① To be a legal not-for-profit entity
- ② To exclude antisocial forces
- ③ To be financially healthy
- ④ To maintain the documents concerning its business and financial affairs

<Administrative Requirements>

- ⑤ To fairly administer the business affairs entrusted by the central secretariat office.
- ⑥ To appropriately implement promotion efforts as prescribed under "7. Promotion efforts" and other business affairs entrusted by the central secretariat office.
- ⑦ To satisfy other requirements determined by the central secretariat office.

(3) Auditor

The Auditor shall meet the following requirements concerning his or her abilities:

- ① To maintain justness and impartiality as a professional expert.
- ② To possess appropriate technical knowledge and experience related to environmental regulations, practical environmental measures, and an EMS. Also, to keep up with the latest information on these matters.
- ③ To have appropriate communicative competence to facilitate communication between Auditees, the central secretariat office, regional secretariat offices, and Auditors.
- ④ To make continual efforts to improve his or her abilities as a professional expert.
- ⑤ To encourage promotion efforts as prescribed under "7. Promotion efforts."
- ⑥ To satisfy other requirements determined by the central secretariat office.

4. Eligibility confirmation of the administrative entities

(1) The central secretariat office

The central secretariat office shall request the license for using the name EcoAction 21 to the Ministry of the Environment, and shall obtain it according to the following procedures regarding confirming an entity's conformity:

- ① The central secretariat office shall establish a management advisory committee consisting of more than half of third-party personnel, selection of members shall be shown to the Ministry of the Environment, and it shall be approved by the Ministry of the Environment.
- ② For confirmation of conformity, the central secretariat office shall submit the following documents to the Ministry of the Environment:
 - Articles of association and executive officer list (staff member list in case of incorporated association)
 - Business report
 - Audited financial statements by an independent third party, etc.
 - Income and expenditure statement
 - Statement of changes in net assets

- Balance sheet
 - List of properties
 - Documents demonstrating that the entity conforms to (or is going to conform to) the requirements prescribed under "3. Eligibility of the administrative entities"
 - The medium-term business plan concerning implementation of the program
 - Written pledges that state the following matters: to run the program observing the EcoAction 21 guidelines, to take all responsibilities for administration of the program, and to actively undertake the dissemination of the environmental management system
- ③ The Ministry of the Environment can perform business improvement instructions, suspension, or cancellation of the license regarding the use of the name EcoAction 21 and can conduct interview with the persons concerned with EcoAction 21 (e.g., business entities, regional secretariat offices, and Auditor).

(2) Regional secretariat office

The regional secretariat office shall be approved by the central secretariat office based on the requirements concerning administrative competence, as determined by the central secretariat office.

(3) Auditor

The Auditor shall receive certification from the central secretariat office based on the requirements concerning his or her abilities, as determined by the central secretariat office.

5. Authority of each entity

(1) The central secretariat office

The central secretariat office has the following authorities, and the authorities listed from one through 10 shall not be entrusted to any regional secretariat offices:

- ① EcoAction 21 certification/registration and cancellation of the organization
- ② Approval, registration, cancellation, education, instruction, supervision, inspection, and disciplinary measures of the regional secretariat offices according to their administrative capacities.
- ③ Personnel certification, registration, cancellation, education, instruction, supervision, evaluation, and disciplinary measures for the Auditor according to their abilities.
- ④ Setting and reception of the certification/registration fee and audit fee.

- ⑤ Drafting of industry-specific guidelines that are compatible with EcoAction 21 and suggesting them to the Ministry of the Environment.
- ⑥ Formulation, revision, and abolishment of official regulations on standards and procedures concerning the program.
- ⑦ Decision on the interpretation of the stipulations about the EcoAction 21 certification/registration program in the EcoAction 21 Guidelines.
- ⑧ Setting of the branch offices function as part of the central secretariat office.
- ⑨ Commission some parts of the central secretariat office's business to regional secretariat offices.
- ⑩ Education, instruction, supervision, inspection, and so forth of regional secretariat offices.
- ⑪ Election and dismissal of the Auditor in charge of the audit of the organization and dispatching him or her to the Auditee.
- ⑫ Evaluation, education, instruction, and supervision of the Auditor.
- ⑬ Administration of the judging committee concerning the EcoAction 21 certification/registration of the organization.

(2) Regional secretariat office

Regional secretariat offices have the authority to carry out businesses delegated by the central secretariat office, depending on their requirements.

(3) Auditor

Auditor have the authority to audit the Auditee, whether it conforms to the EcoAction 21 Guidelines (after being selected as the Auditor and dispatched) and to appropriately implement instruction and advice to organizations on their environmental efforts.

6. Responsibility of each entity

(1) The central secretariat office

The central secretariat office takes all responsibilities concerning the administration of this program, including the followings:

- ① To administer this program based on the principles determined by the Guidelines.
- ② To secure the necessary resources (e.g., human resources, physical resources, and financial resources) and to utilize them effectively.
- ③ To secure its financing stability.
- ④ To undergo an audit concerning this program by an independent third party.
- ⑤ To establish a decision-making body (e.g., board of directors) to implement appropriate deliberation and decision on the matters concerning the

administration of the program as prescribed under "10. Deliberation and decision by the decision-making body."

- ⑥ To establish and consult with a management advisory committee consisting of more than half of third-party personnel as prescribed under "11. Establishment of the management advisory committee."
- ⑦ To establish and consult a judging committee consisting of more than half of third-party personnel as to whether or not the Auditee can be certified/registered as prescribed under "12. Establishment and consultation of judging committee."
- ⑧ To appropriately implement the approval and registration of the regional secretariat offices according to their administrative capacities (including the improvement of administrative capacity and education for securing reliability, instruction, supervision, inspection, and disciplinary measures).
- ⑨ To appropriately implement personnel certification, registration, cancellation, education, instruction, supervision, evaluation, and disciplinary measures for the Auditor according to their abilities.
- ⑩ To implement the EcoAction 21 certification/registration and cancellation of the organization.
- ⑪ To provide information on the environmental efforts for organizations and promote the program.
- ⑫ To implement the formulation, revision, and abolishment of official regulations on standards and procedures concerning the program.
- ⑬ To implement decisions on the interpretation of the stipulations about the EcoAction 21 certification/registration program in the EcoAction 21 Guidelines.
- ⑭ To appropriately implement promotion efforts as prescribed under "7. Promotion efforts."
- ⑮ To appropriately implement the preservation of confidentiality as prescribed under "8. Preservation of confidentiality."
- ⑯ To appropriately report to the Ministry of the Environment as prescribed under "9. Reporting and approval."
- ⑰ To appropriately implement information disclosure as prescribed under "13. Information disclosure."
- ⑱ To appropriately implement documentation as prescribed under "15. Documentation."
- ⑲ To appropriately address formal objections and complaints as prescribed under "16. Formal objection and complaint procedure."

(2) Regional secretariat office

The regional secretariat offices take the following responsibilities:

- ① To appropriately implement the business entrusted by the central secretariat

office, depending on the central secretariat office's requirements.

- ② To comply with the official regulations determined by the central secretariat office.
- ③ To comply with the central secretariat office's instructions and to report to the central secretariat office.
- ④ To support organizations regarding their environmental efforts.
- ⑤ To appropriately implement promotion efforts as prescribed under "7. Promotion efforts."

(3) Auditor

Auditor take the following responsibilities.

- ① To audit the Auditee and find whether the Auditee conforms to the EcoAction 21 Guidelines (after being selected as the Auditor and dispatched) and to appropriately implement instructions and advice to the Auditee on their environmental efforts.
- ② To comply with the official regulations determined by the central secretariat office and the central secretariat office's instructions and to report to the central secretariat office.
- ③ To take lectures provided by the central secretariat office and/or the regional secretariat offices.

Also, Auditor strive for the implementation of the promotion efforts prescribed under "7. Promotion efforts".

7. Promotion

(1) The central secretariat office

The central secretariat office shall implement the following efforts to promote the program:

- ① Efforts in cooperation with local communities
- ② Efforts to reduce the environmental impacts at the value chain level
- ③ Dispatch of information such as the environmental management reports of the EcoAction 21 program's participating organizations and the results of the program.
- ④ Other efforts needed for the promotion of the program.

(2) Regional secretariat office

The regional secretariat office shall implement the following efforts to promote the program:

- ① Efforts in cooperation with local communities
- ② Other efforts in cooperation with Auditor that are needed for promotion of the program.

(3) Auditor

The Auditor shall strive for implementation of the following efforts to promote the program:

- ① Efforts in cooperation with local communities
- ② Other efforts in cooperation with the central secretariat office and/or a regional secretariat office that are needed for promotion of the program.

8. Preservation of confidentiality

(1) The central secretariat office

The central secretariat office shall build an appropriate system to preserve the confidential information management provided in the process of the administration of the program, preventing the leak of confidential information or the inappropriate use of it.

(2) Regional secretariat office

The regional secretariat office shall comply with official regulations concerning the preservation of confidentiality determined by the central secretariat office.

(3) Auditor

The Auditor shall comply with official regulations concerning the preservation of confidentiality determined by the central secretariat office.

9. Reporting and approval

(1) The Central secretariat office

For the continual improvement and promotion of the program, the central secretariat office shall report the following matters to the Ministry of the Environment regularly (more than once a year) or when the Ministry of the Environment requests:

- ① General condition of the business, financial situation, and financial statements of the whole organization.
- ② The medium-term business plan concerning the implementation of the program and the progress status.
- ③ The results of the accounting audit concerning this program by an independent third party.
- ④ The items discussed in the management advisory committee and the results of this.
- ⑤ Other matters determined by the Ministry of the Environment.

Also, the central secretariat office shall report any significant changes in the program in advance to the Ministry of the Environment without delay. The following item shall be approved by the Ministry of the Environment:

1. Selection of members of the management advisory committee.

(2) Regional secretariat office

For the continual improvement and promotion of the program, the regional secretariat office shall report the matters determined by the central secretariat office to the central secretariat office regularly (more than once a year) or when the central secretariat office requests.

(3) Auditor

For the continual improvement and promotion of the program, the Auditor shall report the matters determined by the central secretariat office to the central secretariat office regularly (more than once a year) or when the central secretariat office requests.

10. Deliberation and decision by the decision-making body

The central secretariat office shall hold the meeting of the decision-making body (e.g., board of directors) based on articles of association, and deliberate and decide on the important matters concerning the administration of the program.

11. Establishment of the management advisory committee

The central secretariat office shall establish the management advisory committee consisting of more than half of third-party personnel to consult with about the following important matters concerning the administration of the program. The management advisory committee can make proposals about the following matters concerning the administration of the program:

- ① Matters concerning the formulation, revision, and abolishment of the official regulations.
- ② The medium-term business plan concerning the implementation of the program and the budget.
- ③ The single-year business plan concerning the implementation of the program and the budget.
- ④ The business report concerning the program and the settlement of accounts.
- ⑤ The results of an accounting audit (only the relevant part to the program by an independent third party)
- ⑥ The contents of the serious formal objections or complaints concerning the program and the results of objection or complaint handling.
- ⑦ Selection of the members of the judging committee.
- ⑧ Selection of the accounting auditor(s).

- ⑨ Other important items concerning the administration of the program.

12. Establishment and consultation of judging committee

The central secretariat office shall establish a judging committee consisting of a two-thirds majority to consult whether each Auditee can be certified/registered based on the report from the Auditor.

13. Information disclosure

The central secretariat office shall disclose the following information about the program to secure its reliability and transparency:

- ① The official regulations determined by the central secretariat office.
- ② The standards of the certification/registration and the status of registration.
- ③ The documents concerning the business and financial affairs or those equivalent to them (articles of association, executive officer list [staff member list for an incorporated association], a business report, an income and expenditure check, a statement of changes in net asset, a balance sheet, and a list of properties).
- ④ The general idea of the discussion in the management advisory committee.
- ⑤ Other important items considered necessary to be disclosed.

14. Appropriate accounting processing

The central secretariat office shall divide the profits and losses related to the program and shall implement appropriate accounting processing.

15. Documentation

The central secretariat office shall appropriately record and store the following important matters concerning the decisions made in the administrative process of the program. These records shall be kept for at least seven years:

- ① Matters that the central secretariat office reports to the Ministry of the Environment
- ② Matters that the management advisory committee discussed and their results.
- ③ Matters that the judging committee discussed and their results.

16. Formal objection and complaint procedure

The central secretariat office shall provide an appropriate means so that existing and future participating organizations of EcoAction 21 can make formal objection or complaints and can report illegal acts or violations. The central secretariat office shall record the contents of the objections or complaints and shall address them

appropriately.

Care shall be taken in the process to prevent the one who makes the formal objections or complaints from receiving any disadvantage from filing the objection or complaint.

Reference 1: History of EcoAction 21

Phase 1: Environmental Activity Evaluation Program	
1995	The Ministry of the Environment conducted a study on programs to promote environmental efforts for small- and medium-sized enterprise (SMEs).
September 1996	The Ministry of the Environment formulated a program "Environmental Activity Evaluation Program" to promote environmental efforts for SMEs.
September 1999	The Ministry of the Environment reviewed some of the contents of the "Environmental Activity Evaluation Program" and formulated the "Environmental Activity Evaluation Program: EcoAction 21." Establishment of a system to notify participation in the program to the Japan Association for Promotion of Environmental Conservation.
April 2002	The Ministry of the Environment revised some of the content of "Environmental Activity Evaluation Program: EcoAction 21."
Phase 2: Review of the New System	
2002	Establishment of the "Study Group on Environmental Activity Evaluation Program (EcoAction 21)" by the Ministry of the Environment.
March 2003	The Ministry of the Environment announced the report on the study meeting above. The Review Committee recommended revising the program, incorporating elements of the Environmental Management System and establishing a certification and registration system based on it.
August 2003	The Ministry of the Environment formulated "EcoAction 21 (Environmental Activity Assessment Program) - Environmental Management System - Environmental Activity Report Guideline - Trial Version 2003", reflecting the above recommendations.
2003	The Ministry of the Environment pursued the pilot projects concerning the audit and certification/registration by using Trial Version 2003. Participant entities were around 200.
Phase 3: Establishment of Certification and Registration Program	
March 2004	Based on the results of pilot projects, the Ministry of the Environment formulated "EcoAction 21 - Environmental Management System - Environmental Activity Report Guideline - 2004 Edition."
April 2004	The Ministry of the Environment began consideration for the creation of a "Certification and Registration Program" utilizing the above guidelines. It conducted consultations with relevant organizations.
October 2004	Established the Sustainability Center (EcoAction 21 The Central Secretariat office) at the Institute for Global Environmental Strategies and started the EcoAction 21 Certification and Registration program.
February	The Ministry of the Environment established the "EcoAction 21 Guidelines

2009	Revision Review Committee."
November 2009	The Ministry of the Environment formulated and announced the "EcoAction 21 Guidelines 2009 Edition."
Phase 4: Continual Development of Certification and Registration Program	
June 2011	The Ministry of the Environment formulated and announced the "EcoAction 21 Guidelines 2009 (revised edition)" and formulated compliance requirements for implementing a certification and registration program.
September 2011	The Ministry of the Environment established the "Review Committee on the Management of EcoAction 21" based on the "EcoAction 21 Guidelines 2009 (revised edition)," and the Institute for Promoting Sustainability Societies (IPSuS) received confirmation of conformity to "Requirements as the central secretariat office".
October 2011	The Institute for Promoting Sustainability Societies (IPSuS) inherits the EcoAction 21 certification/registration business from the Institute for Global Environmental Strategies.
July 2015	The Ministry of the Environment set up a "Working Group on Reviewing the EcoAction 21 Guidelines Revision."
April 2017	The Ministry of the Environment formulated and announced the "EcoAction 21 Guidelines 2017 Version."

Reference 2: Policy-related status of EcoAction 21

<p>"Plan for Global warming countermeasure" (Cabinet decision May 13, 2016)</p> <p>"Chapter 3 Measures and Measures to Achieve Targets, Section 2 Global Warming Countermeasures and Measures, 2. Cross-sectoral measures, (2) Other relevant cross-cutting measures</p> <p>(d) Promotion of environmental consideration in business activities</p> <p>(...)</p> <p>In addition, we will promote the spread of environmental management systems with a PDCA cycle including ISO 14001 and EcoAction 21 for medium- and small-sized enterprises, enhance the effectiveness of environmental management and promote education of employees at companies in order to promote further environmental consideration."</p> <p>EcoAction 21 has been listed as an example of a system that local public organizations should build. "Section 4 Basic Items on Measures to be Taken by Local Public Organizations 1. Initiate initiatives to reduce greenhouse gas emissions with a PDCA." Taking the lead enforcement of the greenhouse gas emission reduction in a basic matter. 1. Active reduction of global-warming gas based on PDCA.</p> <p>Prefectures and municipalities should take the initiative to tackle their own greenhouse gas emissions. In doing so, in principle, the PDCA system * for measures to curb greenhouse gas emissions should be constructed and managed for all administrative and projects. (...)</p> <p>*For example, it is desirable to acquire certification of energy management system ISO 50001, environmental management system ISO 14001, EcoAction 21, or to build and operate their own environmental management system with these ranges."</p>
<p>Law concerning the promotion of contracts considering the reduction of greenhouse gas emissions at the national government and independent administrative agencies (Environmental consideration contract law) Basic policy (Cabinet decision on February 4, 2014)</p> <p>4.(2) Contract for processing industrial waste</p> <p>"As for contracts to be bidding out of contracts related to the treatment of industrial waste, as the qualification necessary for those participating in bidding, the state of efforts on greenhouse gas emissions reduction and the appropriate industrial waste disposal. It shall be based on the bottoming method after establishing the capability and performance etc. on implementation." Acquiring the certification of EcoAction 21 and performing necessary measures among them, it conforms to many of the evaluation items.</p>
<p>The fourth Environmental Basic Plan (Cabinet decision on April 27, 2012)</p> <p>Part 2: Specific development of future environmental policies</p> <p>Chapter 1: Development of Environmental Policy by Priority Areas</p> <p>Section 1: Greening the Economy and Society and Promoting Green Innovation</p> <p>Subsection 1: Greening the economy and society</p> <p>"We will promote the spread of EcoAction 21, which is an environmental management system for</p>

small and medium enterprises, in order to promote environmentally conscious management of small and medium enterprises that are behind schedule. We will also consider international mutual recognition of EcoAction 21."

Environmental Reporting Guidelines 2012 Edition (Formulated April 2012 by the Ministry of the Environment)

It is an easy-to-understand guideline for organizations who have just started environmental reporting and business entrepreneurs who are just starting, as well as for clarifying the basic parts. Furthermore, in the case of businesses and small- and medium-sized businesses (including site units such as factories) where efforts such as environmental consideration are not progressing, referring to this guideline and "EcoAction 21 Guidelines" stepwise is desirable for tackling it.

Excellent industrial waste disposal company certification system (began in April 2011)

Since April 1, 2005, the Ministry of the Environment has implemented the "evaluation system (quality evaluation system) on judging the quality of industrial waste disposal companies," and the evaluation standards are compliance, information disclosure system, and environmental protection. In terms of environmental conservation efforts, the acquisition of an environmental management system such as EcoAction 21 was conditional.

Based on the amendment of the "Waste Disposal and Public Cleaning Law" (hereinafter referred to as the "Waste Disposal and Cleaning Law") in Fiscal Year 2010, a new "Qualified Industrial Waste Disposal Industry Certification System" was newly established on April 1, 2011. Along with that, the quality evaluation system was abolished on the same day, and the new system will continue to acquire certification of ISO 14001, EcoAction 21, as one of five standards for "environmental consideration efforts."

Environmentally Friendly Business Efforts by Specified Business Operators by Promotion of Provision of Environmental Information (Environmental Consideration Law) Article 11 (2) (came into effect on April 1, 2005)

"The State shall take measures to provide information on the method of its publication and other necessary measures so that small and medium enterprises can easily publish the situation of environmental consciousness etc. concerning their business efforts." EcoAction 21 has been positioned as one of the measures.

Reference 3: Comparison with the 2009 version of the EcoAction 21 Guidelines

For readability purposes, the requirements are explained in the first half of the Guidelines because they are more focused on the organizations subjected to the Guidelines; the matters related to the certification/registration program are in the last half. Figure 14 compares the composition of the 2009 edition Guidelines with this edition.

Please refer to the website of the central secretariat office for details on the changes between the 2009 and 2017 Guidelines.

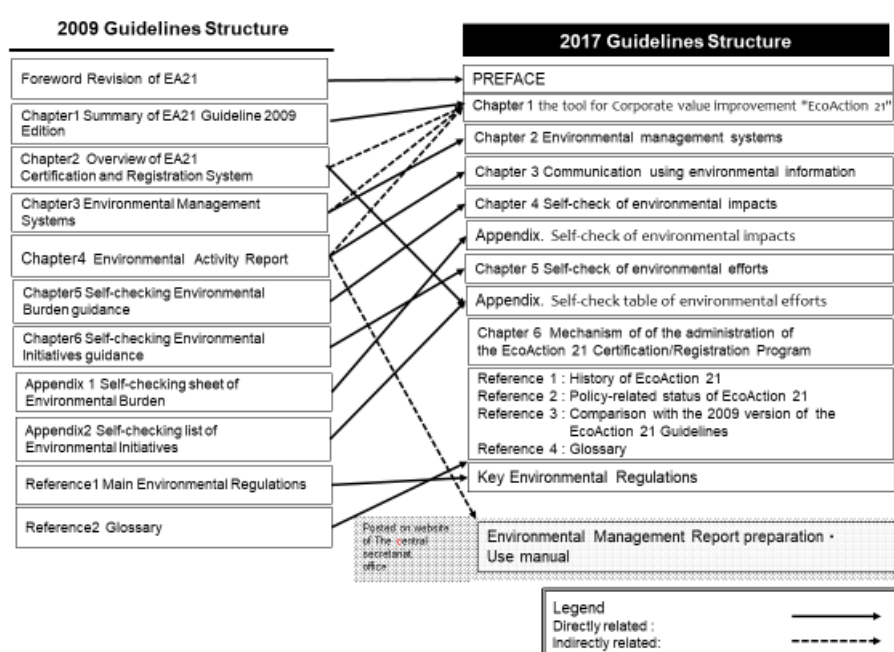


Figure 14 Compositions of the Guidelines, 2009 version and 2017 version.

Reference 4: Glossary

1. Organization

Any unit that has independent management and carries out the efforts of EcoAction 21.

2. Efforts

Any activities associated with the business.

[Comment] All activities refer to the entire organization's activities, including the products and services provided to customers and society.

3. All employees

All personnel working in the organization.

[Comment] Includes officers, temporary staff, part-time job workers, and so forth.

4. EcoAction 21 Guidelines

Guideline on an environmental management system established by the Ministry of the Environment.

5. EcoAction 21

An environmental management system based on the EcoAction 21 Guideline.

6. Environment management system

Structure to create the policy and goals for the environment by itself, and to take actions to achieve, confirm, evaluate, and improve efforts.

7. Scope

Organization to which EcoAction 21 is applied and the overall coverage of target activities.

8. Site

Any independent site or location.

9. Cafeteria certification

Authentication that excludes organizations and activities that should be properly included in the environmental management system from the scope.

[Comment] the subject case includes excluding organizations or activities with large environmental impacts.

10. Representative

Chief Executive Officer of EcoAction 21.

[Comment] It is desirable that the representative has the representation right and the decision of the target organization's environmental management system.

11. Challenges and opportunities

Challenges include problems in environmental management, risks, those that generate environmental impacts, and opportunities are beneficial to environmental management, such as reducing costs, expanding trading opportunities, increasing sales, and motivating employees.

12. Stakeholders

Organizations and individuals who are directly or indirectly interested in the activities of the organization.

- [Comment] Stakeholders also include customers, consumers, the local inhabitants, business partners, administrative organizations, NGOs, stockholders, employees, and so forth.
13. Environmental management policy
A representative pledged statement, indicating the intention and direction for implementing environmental management.
 14. Environmental laws & regulations etc..
Environmental laws & regulations and other environmentally related requirements.
 15. Environmental impact
Impact on the environment by the activities of the organization.
[Comment] Consumption of resources and energy, emissions of greenhouse gases such as carbon dioxide, waste, air pollutants, water pollutants, and the like; the destruction and alteration of natural ecosystems are considered to be environmental impacts.
 16. Environmental management goals
The statement indicating the content and level to be achieved by the environmental management based on the environmental management policy.
 17. Environmental management plan
A plan to determine the means, schedule, and persons responsible for achieving the environmental management targets.
 18. Management resources
Resources necessary for management.
[Comment] Resources include human resources (time, skill, and knowledge), material resources (equipment and infrastructure), financial resources (capital investment and educational investment), and information resources (customer needs and technical information), and so forth.
 19. Specific work
Organization's work that has a major impact on the environment.
[Comment] There are operations related to environmental regulations, operations that directly impact the environment, and operations related to emergency situations.
 20. Communication
To convey information bidirectionally and to improve the understanding of both sides.
[Comment] Communication includes internal communication and external communication. Internal communication can be divided into vertical or horizontal communication in the organization.
 21. Accidents, emergency
Environmental problems that occur suddenly.
 22. Effectiveness
The extent to which expected results are achieved.
 23. Trial
To confirm the effectiveness of the accident and emergency response procedures.
 24. Documents

Information defining management and its medium.

[Comment] Documents refer to written documents and records. For documents required by EcoAction 21, please refer to Requirements 12.

FY 2015 Project on Investigation and consideration on revision of the EcoAction 21 Guidelines

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FY 2016 Project on Investigation and consideration on revision of the EcoAction 21 Guidelines

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