

Eco accounting essay

[Business](#), [Accounting](#)



Treatment of Consolidated Environmental Accounting The business activities of companies and other organizations in the modern socio-economic system have expanded in scale, diversified, and become globalized to a degree not experienced previously. A great number of companies have been established corresponding to each purpose, and group management is practiced. In a group management system, the independent decision-making ability of group companies is limited.

At the same time, the primary objective becomes management of the group, limiting the environmental impact of the holding company itself, which essentially consigns functions such as production, sales, and distribution. In such cases it becomes difficult to perceive the actual environmental conservation activities from the data for individual corporate units assembled under a legal structure. Consolidated data reflecting economic activity is already part of the mainstream in financial accounting, but it is also necessary in environmental accounting to focus on environmental impact within the broader scale of the supply chain to the greatest extent possible, so as to make it possible to understand the costs of environmental conservation within business activities and the benefits derived from them. It is therefore necessary in environmental accounting as well to ascertain and evaluate data reflecting the actual business activities of the consolidated group (business group), rather than of each individual unit of the company or other organization, in order to understand the actual situation at the company or other organization. Scope of Consolidation The consolidation range for environmental conservation goals has been established corresponding to importance in terms of environmental conservation. The

standards for determining importance take into consideration the particular business group's environmental impact. In particular, this means specifying the significant areas of environmental impact resulting from the kinds of business activities engaged in by the business group, focusing on the organizations listed below:

- Related companies contributing greatly to the volume of environmental impact based upon environmental performance indicators that take into consideration the significant areas of environmental impact;
- Related companies participating greatly in the environmental conservation cost for environmental conservation activities, taking into consideration the significant areas of environmental impact;
- Related companies that are judged to have a significant qualitative environmental impact, even if the volume of environmental impact is not great.

Determinations about the consolidation scale may also be made in line with that of the consolidated financial statements. Organization with Significant Qualitative Environmental Impact Organizations that have a significant qualitative environmental impact, even if the volume of impact is not great, the environmental impact of the business group overall include. For example, related companies that handle chemicals with significant environmental impact even if their percentage of the business group's overall chemical emissions or transport volume is low. Also, companies performing a significant environmental conservation function, such as those dedicated exclusively to the collection of used products from the market, would be included, even if their percentage of the business group's overall waste emissions volume is low.

Consolidated Environmental Accounting Aggregation Consolidated environmental accounting treats organizations composed of a number of companies as a single entity and aggregates their results. The typical flow of aggregation proceeds as outlined below:

- The consolidation scope is determined;
- The environmental accounting data for the individual members of the business group is aggregated
- The environmental accounting data for the individual members is combined;
- Double booking due to internal transactions is eliminated.

Of these, the cost and benefit derived from internal transactions conducted among members of the same business group are combined, and the portion that as double booked is eliminated.

(1) Aggregation of Environmental Conservation Cost The double booking of environmental conservation cost through internal transactions conducted among members of the same business group should be eliminated to the greatest extent possible.

(2) Calculation of Environmental Conservation Benefit In principle, the environmental conservation benefit calculated for each member of the same business group is to be combined. Benefit clearly double booked is to be eliminated.

(3) Calculation of Economic Benefit Associated with Environmental Conservation Activities In principle, the economic benefit calculated for each member of the same business group is to be combined. Benefit clearly double booked is to be eliminated.

Treatment of Equity Ratio in Aggregation Methods for aggregating the environmental accounting data for related companies include aggregating the total or gross amount, or aggregating amounts or volume multiplied by the equity ratio of each related company.

Disclosure of Environmental Accounting Information The Guidelines recommend the voluntary disclosure

of environmental accounting information from the standpoint of the external functions of environmental accounting, by means of the environmental report. While the Guidelines provide consideration of a simple approach corresponding to the actual situation at a company or other organization, the actual data disclosed is to be determined by the company or other organization itself.

Therefore, it is necessary when disclosing environmental accounting data externally to clarify the preconditions of the data disclosed, so that stakeholders gain a consistent understanding of the environmental accounting data. This chapter outlines the basic items involved in the disclosure of environmental accounting data. The following items are noted with regard to environmental accounting disclosure: * Processes and results of environmental conservation activities * Key items forming the bases of environmental accounting * Aggregated results of environmental accounting

Processes and Results of Environmental Conservation Activities

With regard to the aggregated results of environmental accounting, the company or other organization shall provide a summary and the results of the environmental conservation activities it emphasizes, an explanation of the aggregated results of environmental accounting (including an evaluation of large and small figures and the reasons for increases or decreases in comparison with the previous period), and the policies activated with regard to future environmental conservation activities.

Explanation of Aggregated Results of Environmental Accounting The company or other organization shall provide an explanation as follows of the

evaluation of its own analysis, so that stakeholders can easily understand the aggregated results. (1) Explanation of Aggregated Results as Related to Management Profile of Company or Other Organization In instances in which changes occurred in the management environment of the company or other organization, such as mergers, breakups, construction or closing of plant facilities, fluctuations in business results, large-scale outsourcing, etc. the details and the effects of these changes on current and future aggregated results are to be explained. (2) Explanation of Aggregated Results as Related to Actual Environmental Impact of Company or Other Organization and Environmental Conservation Activities A background explanation is to be provided when the aggregated results for environmental accounting that reflect the actual environmental impact of the company or other organization, particularly in the even of large figures or striking increases or decreases (including unexpected vents such as occurrences of environmental damage). For example, this would include instances such as a jump in environmental conservation cost, in particular R&D cost, or a sharp reduction in CO₂ emissions among the environmental conservation benefit. In such instances, the main causes of changes in business activity volume or production modes would be analyzed. It is effective as well to indicate the environmental conservation goals and progress in relation to the efforts made in terms of environmental conservation activities.

3) Explanation of Aggregated Results as Related to Past Environmental Conservation Activities There is a tendency for the benefit of environmental conservation activities to diminish over the course of time, even when costs are expended in addition to the original amount. In such instances, an

explanation of the aggregated results for the current period as related to past environmental conservation activities is to be provided, rather than the simple cost vs. benefit for the period under review.

Key Items Forming Bases of Environmental Accounting (1) Status 1) Target period 2) Scope of aggregation – In the case of business groups, the overall number of related companies, the names of the main related companies, and the criteria for the related companies – In cases in which only certain business are targeted, the names of the business sites and the criteria for the business sites Target Period In cases in which the target period is not the fiscal year, the reasons for that are to be noted. Also, in cases in which there are related companies within the range of aggregation, i. e. , the business group, that have a target period for environmental accounting different from that of the company or other organization, the names of those related companies and their target periods are to be noted. Scope of Aggregation In establishing the consolidation range, note the attitude toward the importance of environmental conservation within the business group, and describe the actual criteria. 2) Content and Calculation Standards for Environmental Conservation Cost 1)Aggregation of depreciation cost -In cases in which there are no particular costs included in the depreciation cost, make a note to that effect.

-In cases in which the period of depreciation used is different from that used in financial accounting, make a note to that effect providing the details and the reasons. 2)Standards for booking complex cost The main details of environmental conservation costs for which differences are aggregated, the

aggregation method, and the reasoning concerning costs other than environmental conservation cost -The main details of environmental conservation costs subject to allocation aggregation, the aggregation method, and the allocation standards -For allocation aggregation based on simple methods, the main details of environmental conservation cost for which the total amounts are aggregated -While it is assumed that environmental conservation cost is included, the details of environmental activities not subject to aggregation

Entry for Booking Standards for Complex Cost In cases in which the booking standards differ according to the type of environmental conservation cost, note the details of the main methods used for each.

3) Booking standards when aggregating categories corresponding to environmental conservation activities: * The philosophy and main breakdown of categories for areas of environmental conservation activities * In cases in which the total for categories corresponding to business activities and the total for the areas of environmental conservation activities differ, provide details

(3) Details of Environmental Conservation Benefit and Calculation Standards

1) Definition of environmental impact calculated as environmental conservation benefit

2) Calculation formula and reasoning behind the range of measurement of the environmental conservation benefit

3) Period in which the investment benefit used in calculating the environmental conservation benefit is manifest, and the grounds for its selection

) Details and grounds for the physical units and conversion units used

5) In particular, in cases in which environmental conservation benefits at the time goods and services are used or discarded are disclosed, make note of this providing the details, range of calculation, calculation formula,

and reasoning 6)The reasoning behind the environmental conservation benefit related to cost for maintenance (4)Details of Economic Benefit Associated with Environmental Conservation Activities, and Calculation Standards) The range of calculation of the actual benefit, the formula, and the reasoning behind it 1) Period in which the investment benefit used in calculating the economic benefit associated with environmental conservation activities is manifest, and the grounds for its selection 2) In particular, in cases in which the calculation results for estimated benefit are disclosed, make note of this providing the details, range of calculation, calculation formula, and reasoning 4)In particular, in cases in which the evaluation of the economic value of the environmental conservation benefit is disclosed, make note of this providing the details, the reasons that it this value is not connected directly to the profits of the company or other organization, scope of calculation, the basic calculation method for converting each major environmental conservation benefit to monetary value, and the grounds for its selection (5)Aggregation Standards for Consolidated Environmental Accounting 1)The elimination scope of internal transactions conducted within the business group, and the main details 2) Treatment of the equity ratio in aggregation) If there any discrepancies between the preparation of consolidated environmental accounting data by the company or other organization with that of related companies, provide the main details (6)Revision to Significant Environmental Accounting Policies If a change is made to the significant environmental accounting policies, the status, reason and impact of the change should be stated (explained quantitatively as best as possible). Aggregated Results of Environmental Accounting The

environmental accounting aggregation results are to be provided.

[Explanation 65] (1)Environmental Conservation Cost This shows the aggregated results summing up the environmental conservation cost from categories corresponding to business activities and the details of the key activities.

(2)Environmental Conservation Benefit This shows the aggregated results summing up the volume of environmental impact according to environmental performance indicators and the environmental conservation benefit. (3)Economic Benefit Associated with Environmental Conservation Activities This shows the aggregated results summing up the actual benefit and other economic benefit. (4)Schedules of Environmental Statements This shows information necessary to supporting the data for environmental conservation cost, environmental conservation benefit, and the economic benefit associated with environmental conservation activities.

For example, the following information is effective as support: Aggregation based on categories corresponding to environmental conservation cost characteristics, such as environmental conservation activity areas; -Sampling limited to those costs and benefits related to environmental performance indicators; -Environmental conservation benefit corresponding to cost with the characteristics of cost for maintenance; * Trends in capsule information related to environmental accounting; * Trends in indicators for analysis of the environmental conservation activities. [Explanation 65] Correlation with Other Environmental Report Elements To promote further understanding of environmental accounting, the page of correlating topics found in the

environmental report should be stated. In addition, if guidelines other than these guidelines were used, it should be specified. Application in Internal Management 8. Relationship between Disclosed Information and Internal Management Information • The guidelines represent a summary of the basic thinking behind environmental accounting in Japan. This aims toward a comprehensive environmental accounting methodology covering both external data publication and internal application.

The environmental management activities of companies and other organizations proceed by establishing a policy for environmental consideration in business activities overall, setting concrete environmental policy goals, creating an environmental activity plan for achieving environmental goals, and executing, evaluating, and revising environmental conservation activities based upon that plan. While these environmental management activities are executed by the entire organization as a whole, each of the management units is more closely departmentalized so as to improve the effectiveness of these activities. Therefore, each type of internal management information is accumulated in the prescribed management unit. Environmental accounting must function to provide joint quantitative data on environmental conservation activities covering not only disclosure but also internal management within this flow of environmental management activities. [Explanation 66] [Explanation 67] (1)Arrangement of Data for Use in Disclosure The environmental accounting data that is published externally is drawn from the same sources as that ascertained in detail for internal management purposes. Specific information drawn from that body of information is summarized and adjusted for external publication.

(2)Application in Internal Management The management units of a company or other organization operate according to factory, department, product line, etc. , depending on their management objectives. It is important to define clearly the data necessary to these management objectives at the initial planning stage, so that the environmental accounting information is applicable to internal management. [Explanation 66] Link to Management Information The environmental accounting information is closely connected to other management data, such as financial, personnel, and facility information. Therefore, companies and other organizations may contrive to effectively combine environmental accounting information with other management to implement multifaceted revisions of their environmental conservation activities. Also, the publication of some of this management information can also be helpful in leading to a proper evaluation of the company or other organization by external parties. [Explanation 67] Diagram of Application of Environmental Accounting Data The environmental management activities of companies and other organizations proceed along the following management units. Of the data accumulated during this process, the data for environmental conservation costs and environmental conservation benefits are adjusted as environmental accounting data, and may be of use in disclosure and internal management.

- I 1. Identification of environmental issues related to business activities
Overview of regulations and environmental issues related to business activities 2. Creation of a policy for environmental consideration in overall business activities – Clarification of the approach toward the environment as an organization 3. Establishment of environmental objectives for realization

of the environmental policy Setting and application of environmental performance indicators Numerical targets are established in terms of the order of precedence of efforts upon referral to the demands of society and trends at other companies 4. Determination of an environmental activity plan and budget for realizing environmental objectives * Application of environmental accounting information for cost and benefit 5. Execution of environmental conservation activities based on the environmental activity plan * Fulfillment of efforts at the various levels, such as product units and departmental units 6.

Aggregation of environmental accounting data (The categories depend upon the internal management segments of the company or other organization)

Clear indication of the breakdown of cost per aggregated unit 6-1 Internal use (evaluation and revision) -Evaluation and revision based on

environmental conservation cost and the degree of achievement of environmental objectives as revealed through analysis of the budget and results Evaluation of the actual results of the company or other

organization's own programs * The internal aggregation/publication matrix 6-

2 External use / External environmental accounting| * Reorganize the data based upon reference to the Environmental Accounting Guidelines,

disclosure via the environmental report * In addition to the Guidelines, use of the company or organization's own manual in reorganizing the data -

Ascertainment of the degree of achievement of environmental objectives (Ascertainment of the environmental conservation benefit based on

environmental performance indicators)" Overall View of Environmental Accounting Data [pic] 8. 2 Development of Tools Focusing on Internal

Management The environmental accounting information in internal management is used particularly in the area generally referred to as environmental management accounting. In addition to the Guidelines, there already exists research into various environmental management accounting methods, such as those for introducing new thinking into cost control for individual products, contributing to the decision making process concerning facility investment, and developing innovations in process control and budget management. It is important for companies and other organizations to proceed with efforts corresponding to their actual situations by using the products of this research. Various methods according to application

Environmental cost matrix method Target area By product Facility investment Production and distribution processes Methods Cost planning system that takes the environment into consideration Lifecycle costing Facility investment decision-making methodology Material flow cost accounting Business results evaluation system that takes the environment into consideration Source: Ministry of Economy, Trade, and Industry “Environmental Management Accounting Methodology Workbook” (June 2002)

Indicators for Analysis Using Environmental Accounting Data 9. 1 Meaning and Role of Indicators for Analysis The meaning of the aggregated results can be indicated from various perspectives through the use of indicators for analysis of the environmental conservation activities, which combine the various environmental accounting aggregation categories and the business activity indicators. Also, period comparison of these indicators makes it easy to check the progress of the company or other organization’s environmental conservation activities.

Furthermore, these indicators may be used in internal management as targets for environmental conservation efforts.

9. 2 Concept and Content of Indicators for Analysis

The indicators for analysis using environmental accounting data are as follows:

1) Indicator for Analysis of Proportion of Total Scale of Business Activities Consisting of Environmental Conservation Activities

It is necessary to evaluate the relative magnitude of environmental conservation cost in comparison with the scale of business, in addition to the absolute cost. This indicator is provided through the following formula:

$$\text{Environmental conservation cost} / \text{Overall cost including environmental conservation cost}$$

• Actual example* Cost of R&D for environmental conservation / Overall R&D cost

Sales of products that take the environment into consideration / Total operating revenues

(2) Indicator for Analysis of Effectiveness of Environmental Conservation Benefit vs.

Environmental Conservation Cost

The effectiveness of the environmental conservation benefit as reflected in the degree to which the desired benefit has been gained through the input of environmental conservation cost is very important. This indicator is provided through the following formula:

$$\text{Environmental conservation benefit} / \text{Environmental conservation cost}$$

• Actual example* Degree of energy productivity⁷ improvement / Environmental conservation cost made for that purpose

Water usage productivity⁸ improvement / Environmental conservation cost made for that purpose

Recycling usage rate⁹ improvement / Environmental conservation cost made for that purpose

Energy productivity = Added value / Total energy input volume

8 Water usage productivity = Added value / Total energy input volume

9 Recycling usage rate = Volume of recycled material used / (Volume

of recycled material used + Total natural resource input volume) (3)

Indicators for Analysis of Relationship Between Business Activity Volume and Environmental Impact Volume While the environmental conservation benefit

is basically ascertained according to the difference in the total volume of environmental impact, it is also vital to pursue business growth potential.

Evaluation analysis of the relationship with business activity volume is effective in achieving the dual goals of environmental consideration and economic growth.

a. Environmental Impact Volume per Unit of Business Activity Volume This is the environmental impact volume per unit of business activity volume, and is referred to as environmental impact intensity.

This indicator is provided through the following formula: Environmental impact volume / Business activity volume •Actual examples* Greenhouse gas emissions volume / Added value Waste emissions volume / Added value Emissions volume of chemicals subject to prescribed control / Sales of certain products

b. Business Activity Volume per Unit of Environmental Impact Volume This is business activity volume per unit of environmental impact volume, and is referred to as environmental efficiency. This indicator is provided through the following formula: Business activity volume / Environmental impact volume •Actual examples* Added value / Total energy input volume Added value / Total water input volume Sales of certain products / Input volume of chemicals subject to prescribed controls

Environmental Accounting Disclosure Format and Internal Management

Tables 10. 1 Disclosure Format for External Publication The Guidelines

recommend common formats for disclosure of the environmental accounting

aggregation results as given in the following examples, with the goal of promoting uniform understanding throughout society as a whole.

[Explanation 68] It is not necessary for companies and other organizations to publish at the outset all environmental conservation cost, environmental conservation benefit, or economic benefit associated with environmental conservation activities. Depending upon the current duration and goals of the efforts being made by the company or other organization, it is acceptable to begin by publishing only the environmental conservation costs, and to proceed in stages thereafter. Even in such cases, it is important to maintain consistency with the main statements and those for auxiliary details, and to proceed with efforts to engage in the publication of external data.

Environmental Accounting Aggregation Results • Format for Publication* • •Main Statements*) Environmental Conservation Cost (Categories Corresponding to Business Activities) 2) Environmental Conservation Benefit 3) Economic Benefit Associated With Environmental Conservation Activities •Schedules of Environmental Statements>

- 1) Environmental Conservation Cost (Categories Corresponding to Areas of Application of Environmental Conservation Measures)
- 2) Cost vs. Benefit Comparison for Main Environmental Performance Indicators
- 3) Environmental Conservation Benefit Related to Costs for Maintenance
- 4) Trend Chart for Summary Environmental Accounting Data for the Three Most Recent Periods
- 5) Trend Chart for Indicators Used for Analysis for the Three Most Recent Periods

[Explanation 68] Disclosure Format That Conforms to the Actual Situation Companies and other organizations may use the disclosure format recommended in the Guidelines as a reference in adopting their own

disclosure format that most appropriately expresses the individual data of the company or other organization. In such instances, the content of that format, the calculation methods, and the relationship with other published data is to be noted so as to provide proper understanding of the format adopted.

Main Statement 1) Environmental Conservation Cost (Categories Corresponding to Business Activities) Scope: Target Period: * • Unit: ?

Environmental Conservation Cost* • Categories Corresponding to Business Activities* | | Category | Key Activity and the | Investment | Cost | | | Outcome | | | (1) Business Area Cost | | | | Breakdown | (1)-1 Pollution Prevention Cost | | | | (1)-2 Global Environmental Conservation | | | | (1)-3 Resource Circulation Cost | | | | (2) Upstream/Downstream Cost | | | | (3) Administration Cost | | | | (4) R&D Cost | | | | (5) Social Activity Cost | | | | (6) Environmental Remediation Cost | | | | Total | | | | – In the case of costs that are not applicable to any of the above categories and are entered in (7) “Other cost”, disclose the content in “ Important Basic Environmental Accounting Categories”.

Main Statement 2) Environmental Conservation Benefit Scope:- • Target Period-Unit: ? | Environmental Conservation Benefits | | | | Environmental | Environmental Performance Indicators (Units) | Previous Period • | Current Period | The Difference | | Conservation Benefit | | Base Period- | | • Environmental | | Categories | | | | Conservation | | | | | Benefits- | | Environmental | Total energy input volume(J) | | | | Conservation Benefit | Energy input volume by type(J) | | | | Related to Resources | Input volume of specially controlled | | | | Input | substances(t) | | | | into Business Activities| Input volume of circulated resources(t) | | | | | Input volume of water(m³) | | | | | Input volume of water by source(m³) | | | | |***

|||| Environmental | Volume of greenhouse gas emissions(t-CO2) ||||
 Conservation Benefit | Volume of greenhouse gas emissions by type or ||||
 Related to Waste or | by emissions activity t-CO2- |||| Environmental
 Impact | Volume of specially esignated chemicals |||| Originating from |
 transferred or emitted(t) |||| Business |||| Activities | Total waste
 emissions volume(t) |||| Final waste disposal volume(t) ||||
 Wastewater volume(m3) |||| Water quality(BOD, COD)(mg/l) ||||
 NOx- Sox emissions volume(t) |||| Foul odor- Highest concentration-
 (mg/l) ||||*** |||| Environmental | Volume of energy used at time of
 use(J) |||| Conservation Benefit | Volume of output of materials causing an
 |||| Related to Goods and | environmental impact at time of use(t) ||||
 Services Produced from | Volume of output of materials causing an ||||
 Business Activities | environmental impact when discarded(t) |||| Volume
 of products recirculated, such as |||| products, containers, and packaging
 collected |||| after use(t) |||| Volume of containers and packaging
 used(t) ||||*** |||| OtherEnvironmental | Volume of emissions of
 materials associated |||| Conservation Benefits | with transport that cause
 an environmental |||| impact(t) |||| Transport volume of products
 and materials- |||| t- km- |||| Surface area, volume of contaminated
 soil-m2- |||| m3- |||| Noise- dB- |||| Vibration- dB- ||||*** ||||
 The selection of actual environmental performance indicators is to be made
 based on correspondence to the actual situation at the company or other
 organization.

Main Statement 3) Economic Benefit Associated with Environmental

Conservation Activities Scope: Target Period:*• Unit: ? | Economic Benefit

Associated with Environmental Conservation Activities* Actual Benefits* | |
 Details of Benefit | Amount | | Revenue | Operating revenue from the sale of
 recycled waste products and used products | | | produced through key
 business activities | | | • • | | | Cost Reduction | Reductions in energy costs
 through energy conservation | | | | Reductions in waste disposal costs
 through resource | | | | • • | | | Total | | Please note the details of the actual
 benefit correspondent to the actual situation at the company or other
 organization. When disclosing estimated benefit, the premises and reasoning
 behind the calculation method selected should be made clear, so as not to
 cause misunderstandings amongst stakeholders. Schedules of Environmental
 Statement 1) Environmental Conservation Cost (Categories Corresponding to
 Areas of Application of Environmental Conservation Measures) Scope: Target
 Period: • • Unit: ? Environmental Conservation Costs* Categories
 Corresponding to Areas of Application of Environmental | | Conservation
 Measures* | | Categories | Details of measures | Investment | Cost | | • • Cost
 related to global warming measures | | | | • • Cost related to ozone layer
 protection measures | | | | • • Cost related to air quality conservation
 measures | | | | • • Cost related to noise and vibration | | | | • • Cost related
 to environmental conservation | | | | | measures for the aquatic, ground, and
 geologic | | | | | environments | | | | • • Cost related to waste product and
 recycling | | | | | measures | | | | • • Cost related to measures for reducing
 chemical | | | | | risk and emissions | | | | • • Cost related to natural
 environmental conservation | | | | | • • Other costs | | | | | Total | | | | * The
 selection of the main areas of environmental conservation activities is to
 made based on correspondence to the actual situation at the company or

other organization. This table is merely a basic representation of Main Statement 1). When the actual range of environmental conservation cost differs, please note the details. [Explanation 34] * Schedules of Environmental Statement 2) Cost vs. Benefit Comparison for Main Environmental Performance Indicators Volume of Greenhouse Gas Emissions Previous period (base period): Current period: Environmental conservation benefits: Target year: Target figure: Degree of attainment: Details of environmental conservation activities Environmental conservation costs: Total Other environmental conservation benefits concerning measures to prevent global warming • Appropriate notes* Example) Fluctuation analysis of environmental performance indicators Total Waste Emissions Volume Previous period (base period): Current period: Environmental conservation benefits: Target year: Target figure: Degree of attainment: Details of environmental conservation activities Environmental conservation costs: Total Other environmental conservation benefits concerning waste or recycling activities • Appropriate notes* (Example) Fluctuation analysis of environment Volume of Specially Designated Chemicals Transferred or Emitted Previous period (base period): Current period: Environmental conservation benefits: Target year: Target figure: Degree of attainment: Designated chemicals Details of environmental conservation activities Environmental conservation costs: Total Other environmental conservation benefits concerning chemical handling measures • Appropriate notes* (Example) Fluctuation analysis of environmental performance indicators This table contains categories extracted from Main Statements 1) and 2) so as to provide a more thorough explanation of items in which stakeholders have a

|| take the environment into consideration || || | Efficiency of environmental cost and benefit in specific areas || || | Energy productivity || || | Degree of energy productivity improvement Environmental || || | conservation costs || || | Water usage productivity || || | Water usage productivity improvement Environmental conservation costs || || | Recycling usage rate || || |

Recycling usage rate improvement- Environmental conservation costs || || |

Energy productivity • Added value / Total energy input volume * Water usage productivity • Added value / Total energy input volume * Recycling usage rate • Volume of recycled material used / • Volume of recycled material used + Total natural resource input volume* Management Tables for Internal Use

The following examples of management tables for internal use (“internal management tables”) are provided so as to encourage the use of environmental conservation cost in internal aggregation and management at companies and other organizations. Please employ these where appropriate. In using these internal management tables, please establish clear account headings, environmental performance indicators, and the business sites, organizations, etc. that are subject to management, based upon an examination of the actual situation at the company or other organization and of what types of organizations are to be subject.

When such internal management tables are actually used, the roles of each organization functioning as a management unit (department, business site, related company, etc.) are to be composed according to the management unit period (monthly, quarterly, semi-annually, annually, etc.) in the making of the tables. The role of the managing department executing overall control is to aggregate all of the internal management tables for each management

unit. [pic] (1) Environmental Conservation Cost A) Example: Per Business Activity 57 B) Example: Per Area of Environmental Conservation Activity | Details of Investment | Cost | Investment/ | Details of | Measures | Tangible | Fixed | Assets | Environmental | Conservation Benefit Related | Total Energy | to Resources Input into | Business Activities | Input Volume | Energy Input | Volume by Type | Purchased electricity | Oil | Natural gas | Liquefied petroleum gas (LPG) | Coal | New energy | ••• | Input Volume of Specially | Controlled Substances | Input volume of circulated resources | ••• | Input | Volume of Water | Input Volume of | Water by Source | Water supply | Water for industrial use | Underground water | Seawater | Riverwater | Rainwater | ••• | Environmental | Conservation Benefit Related | Volume of | to Waste or Environmental | Impact Originating from | Business Activities | Greenhouse | Volume of | Gas | Emissions | Greenhouse Gas Emissions | Carbon dioxide* CO₂ | by Type or by Emissions | Activity | methane* CH₄ | Dinitrogen oxide* N₂O | HFC | PFC | SF₆ | Volume of Specially Designated Chemicals | Transferred or Emitted | ••• | Total Waste Emission Volume | Final waste disposal volume | Wastewater Volume | BOD« biochemical oxygen demand* | COD* chemical oxygen demand* | Other | NO_x emission volume | Sox emission volume | Odor | ••• |

59 (3) Economic Benefit Associated with Environmental Conservation Activities A. Examples of Revenue Detail | Volume | Value | Revenue | Sales Volume | Other

Income | Extraordinary | profit | Revenue from the sale of recycled products and of unusable products produced through key business activities.

• • Total B. Examples of Cost Saving Detail |
 Volume | Value | Cost | Category of Environmental Conservation
 Activity | Investment | Cost | Target | Result | Evaluation of | Planning
 Systems | Attainment | Items Concerning | to Management of |
 Whole Organization | Input volume (physical volume) |
 Cost (monetary amount) | Total | : Materials input volume | A: Materials
 cost | D: Processing cost | Amount equivalent to product | cost in
 financial accounting | Product | Materials input amount in | B: Amount
 equivalent to | E: Amount equivalent to | Cost for product portion | portion |
 product portion (Product | materials cost in product | processing cost in
 product | only | manufacturing amount) | portion | portion | $B + E'$ |
 $B = A \times \frac{1}{\dots}$ | $E = D \times \frac{1}{\dots}$ | Non-product | : Materials input volume | C:
 Amount equivalent to | F: Amount equivalent to | Amount equivalent to cost |
 portion | for non-product portion | materials cost amount for | processing
 cost for | for non-product portion | (Difference between • and | non-product
 portion | non-product portion | $C = A \times \frac{1}{\dots}$ | $F = D \times \frac{1}{\dots}$ |
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