

Carbon Footprint Product Category Rule (CFP-PCR)

(Approved CFP-PCR number: PA-DG-01)

Applicable Product(s): Imaging input and/or output equipment

Approved October 25, 2012

The CFP Communication Program

*The term of validity of the approved CFP-PCR shall be 5 years from the authorization date.

*The details recorded in this CFP-PCR may be modified or amended as appropriate as a result of discussions between related businesses on the CFP Communication Program by undergoing the process of CFP-PCR amendment.

“Imaging input and/or output equipment”
Carbon Footprint of Products- Product Category Rule of
“Imaging input and/or output equipment”

This document prescribes the rules on CFP quantification and declaration for “Imaging input and/or output equipment” under the “CFP Communication Program” (hereinafter called “the CFP Program”) operated and managed by JEMAI (Japan Environmental Management Association for Industry).

The businesses shall conduct CFP quantification and declaration based on this document and “Requirements for CFP quantification and declaration”.

No.	Items	Contents
1	Scope	<p>This CFP-PCR prescribes rules, requirements, and instructions for CFP quantification and declaration applicable to “Imaging input and/or output equipment” under the CFP Program.</p> <p>For the contents which possibly violate laws/regulations related to a target product, compliance of the laws/regulations shall take precedence.</p>
2	Definitions of product category	
2-1	Product category	<p>The “imaging input and/or output equipment” to which this CFP-PCR applies shall mean equipment into which still images or movies are input as video data, and equipment that outputs image data to an image output media. The applicable equipment at the present time is limited to the following products from “imaging input and/or output equipment.”</p> <ul style="list-style-type: none"> • Copier A product whose sole function is to produce hard-copy duplicates from hard copy originals. This definition covers digital copiers and color copiers. • Printer (including color) A product whose primary function is to generate hard-copy output from electronic input. A printer is capable of receiving information from single-user or networked computers, or other input devices. Applicable technologies include ink-jet (IJ) and electro-photographic (EP). • Multifunction device (MFD) A copier with the functions of a fax machine or printer added is basically called an MFD. Printers given the functions of a copier are included in the scope of MFD (copiers with extended functionality are also included in the category of MFD. Furthermore, “having copier functions” includes products that have such functions due to an additional option etc in the market). • Facsimile (fax) machine A product whose primary functions are (1) to scan hard-copy originals for electronic transmission to remote units, and (2) to receive electronic transmissions for conversion to hard copy output. A fax machine may also be capable of producing hard copy duplicates. Electronic transmission is primarily over a public telephone system, but may also be via a computer network or the Internet.

		<ul style="list-style-type: none"> • Scanner A product whose primary function is to convert hard copy originals into electronic images that can be stored, edited, converted, or transmitted, primarily in a personal computing environment.
2-2	Functions	<ul style="list-style-type: none"> • Copiers/printers/MFD: Duplication/printing of images • Fax machines: Scanning and electronic transmission and receipt of images • Scanners: Scanning of images
2-3	Calculation unit (functional unit)	Per unit product
2-4	Components of product	<p>The following components shall be included.</p> <ul style="list-style-type: none"> - Product body, packaging and accessories Packaging includes assembly packaging and product packaging. Accessories shall refer to the one to be reached the businesses that will use them, and always be attached to or supplied with a product. - Consumable goods expended at the use and parts periodically replaced at maintenance stage. <p>The impact of image output media used at the use and maintenance stage is, if necessary, quantified separately from CFP quantification and displayed as additional information. Data collection items for image output media are shown in 10-2.</p>
3	Referenced standards and CFP-PCR	<p>The following Eco Leaf PCR shall be cited.</p> <ul style="list-style-type: none"> ➤ AD-04 EP and IJ printers (including color printers) ➤ AH-03 Fax machine ➤ BN-01 Large format printers ➤ CA-01 Flat bed/sheet feed scanner
4	Terms and definitions	<ol style="list-style-type: none"> 1. Image output media The physical object on which the image data is output. Paper etc. 2. Photoreceptor An object that has photoconductivity and records an image (optical information image) as an electrostatic latent image. Refers to photoconductive drums and belts, etc, and comes in the form of a drum, sheet, and belt. 3. Toner The fine colored particles used in electrostatic development. 4. MSDS Abbreviation of <u>M</u>aterial <u>S</u>afety <u>D</u>ata <u>S</u>heet. A safety data sheet for chemical substances. 5. CIS (contact image sensor) A contact image sensor element that is an image sensor used in image

		<p>scanners etc.</p> <p>6. CCD image sensor CCD is an abbreviation of <u>C</u>harge <u>C</u>oupled <u>D</u>evice. A solid-state image sensing device. Includes one-dimension image sensors used in image scanners etc and two-dimension image sensors used in video cameras and digital cameras etc.</p> <p>7. Large format printer A large-size ink-jet (IJ) printer for paper sheet sizes exceeding A3 size that is the output equipment for computers used in offices etc. Does not include large-size printers that use solvent inks.</p> <p>8. Flat bed scanner A scanner equipped with a document holder. Equipment designed hypothesizing 500 or more scans per day are treated as classified as sheet fed scanners.</p> <p>9. Sheet fed scanner A scanner that has a mechanism that moves the document.</p> <p>10. ADF (auto document feeder) Apparatus that automatically feeds documents into printers and scanners etc.</p> <p>11. TEC (typical energy consumption) The typical energy consumption according to the measurement method determined in the International ENERGY STAR Program.</p> <p>12. International ENERGY STAR Program An international energy conservation system for office equipment implemented in seven countries/regions throughout the world.</p> <p>13. 2-in-1 Printing The function of printing two pages on one sheet of paper from among the page aggregating functions that can print multiple pages on one sheet of paper.</p> <p>14. Reuse Recovering products that have been used with the aim of reusing them as products whilst performing appropriate treatment as necessary. Also indicates aiming to utilize reusable parts.</p> <p>15. Recycle Recovering products that have been used and byproducts produced in the manufacture of products with the aim of utilizing them as raw materials or for energy production through incineration.</p>
5	Product system (data collection range)	
5-1	Product system	The following life cycle stages shall be covered.

	(data collection range)	<ul style="list-style-type: none"> - The raw material procurement stage - The production stage - The distribution stage - The use and maintenance stage - The disposal and recycling stage <p>Where it is difficult to collect data separately from the raw material stage and the production stage, it may be integrated into either of the stage for quantification.</p>
5-2	Cut-off criteria and cut-off target	<p>[Stage, process, and flow, to be covered as cut-off target]</p> <ul style="list-style-type: none"> - Impacts other than when using capital goods such as facility for product production - Impact of construction (e.g., construction of production plant, etc.) - Impact of durable goods used for multiple years - Impact of packaging and transport materials which are used for procuring inputs from outside - Impact of ancillary input - Impact of indirect departments (e.g., clerical division, research division, etc.) - Impact of change in land use - Impact of transportation processes for “parts,” “materials,” “packaging” and “accessories” - Impact of warehouse management during the storage and transport of products, sales and installation processes - Impact relating to the suitable treatment of “waste” at the raw material acquisition stage and production stage <p>[Exceptions of cut-off criteria] Criteria relating to cut-offs determined in the Eco Leaf PCR described in “3. Referenced standards and CFP-PCR” may be applied.</p>
5-3	Life cycle flow chart	General life cycle flow chart is shown in Annex A (normative). When quantifying CFP, specific life cycle flow chart detailed for each target product shall be created, within a scope which is not deviating from the life cycle flow chart.
6	CFP quantification method applied to all stages	
6-1	Range of primary data collection	Data collection range of primary data shall be described in 7-2, 8-2, 9-2, 10-2, and 11-2. For data collection items outside of the range of primary data collection, primary data may be collected as appropriate.
6-2	Quality of primary data	Not stipulated.
6-3	Primary data collection method	Not stipulated.
6-4	Quality of secondary data	Not stipulated.
6-5	Secondary data	Not stipulated.

	collection method							
6-6	Allocation	<p>[Rules on criteria of allocation] Not stipulated.</p> <p>[Rules on avoidance of allocation] Not stipulated.</p> <p>[Rules on target of allocation] Not stipulated.</p>						
6-7	Scenario	<p>[Collection of data on transport] When it is difficult to collect primary data on transport volume (or on fuel consumption amount), and when no scenario is set for each stage, the scenario in Annex B (normative) shall be used.</p> <p>[Wastes] For treatment method, when it is difficult to collect primary data or when it is not set a scenario for each stage, the following assumptions shall be used for quantification: the materials which can be incinerated (e.g., paper, plastics) are assumed to be treated by incineration; the materials which cannot be incinerated (e.g., metals) are assumed to be treated by landfill.</p>						
6-8	Other	Not stipulated.						
7	Requirements for the raw material acquisition stage							
7-1	Range of the data collection processes	1. Processes related to the manufacture of “parts,” “materials,” “packaging,” and “accessories”						
7-2	Data collection items	<p>The data items listed in the following table shall be collected.</p> <p>1. Processes related to the manufacture of “parts,” “materials,” “packaging,” and “accessories”</p> <table border="1" data-bbox="571 1352 1444 1706"> <thead> <tr> <th>Activity</th> <th>Category of activity</th> <th>Emission factor to be multiplied by activity</th> </tr> </thead> <tbody> <tr> <td>“Parts,” “materials” Input amounts to the production site</td> <td>Primary</td> <td>“Parts” “Materials” “Packaging” “Accessories” Emission factor of production</td> </tr> </tbody> </table> <p>Due to cases of procurement from outside the company being the majority, manufacturing processes for “parts,” “materials,” “packaging” and “accessories” are exempt from primary data collection, and the mass of the product may be substituted for the input amount. The impact of parts machining processes indicated in 8-1 is integrated into the production stage.</p>	Activity	Category of activity	Emission factor to be multiplied by activity	“Parts,” “materials” Input amounts to the production site	Primary	“Parts” “Materials” “Packaging” “Accessories” Emission factor of production
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7-3	Primary data	Not stipulated.						

	collection method and requirements																
7-4	Scenario	Not stipulated.															
7-5	Other	Not stipulated.															
8	Requirements for the production stage																
8-1	Range of the processes	<p>1. The machining processes for the parts shown below</p> <p>(a) Copier, printers and MFD (EP) Photoreceptor, toner (combined cartridge in the case of a combined cartridge)</p> <p>(b) Printers and MFD (IJ, including large format printers) Print head, ink</p> <p>(c) Fax machines Thermosensitive type Thermosensitive head, thermosensitive paper Thermal transfer type Thermosensitive head, ink ribbon EP According to the contents of (a) IJ According to the contents of (b)</p> <p>(d) Scanners Scanning unit</p> <p>2. The assembly, inspection and packaging process for the product itself</p> <p>3. Transport process between sites</p>															
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<p>*1 Collect the following items as primary data. [In the case of the fuel consumption method] - "Fuel consumption amount" for each transport means [In the case of the fuel cost method] - "Fuel efficiency" for each transport means - "Transport distance" for each transport means [In the case of the ton-kilometer method] - "Transport weight" for each transport means</p>																			
*2 Data collection item relating to wastes and waste water																			
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<p>[Primary data collection items to be collected for allocation] - Production amount of each product, production costs and total production</p>																			

		value, etc. - Production amount, production costs and total production of “co-product”
8-3	Primary data collection method and requirements	<p>[Rules on copiers, printers and MFD (EP)]</p> <ul style="list-style-type: none"> - Photoreceptors <ol style="list-style-type: none"> 1. Processing of element tube Use primary data collected in-house. 2. Processing from element tube to coating Use primary data collected in-house. - Toner Use primary data collected in-house. <p>[Rules on printers and MFD (IJ, including large format printers)]</p> <ul style="list-style-type: none"> - Print head, ink Use primary data collected in-house. <p>[Rules on fax machines]</p> <ul style="list-style-type: none"> - Thermosensitive type Collect the primary data of the thermosensitive treatment processing energy for the thermosensitive paper. - EP <ul style="list-style-type: none"> - Photoreceptors <ol style="list-style-type: none"> 1. Processing of element tube Use primary data collected in-house. 2. Processing from element tube to coating Use primary data collected in-house. - Toner Use primary data collected in-house. - IJ <ul style="list-style-type: none"> - Print head, ink Use primary data collected in-house. <p>[Rules on Scanners]</p> <ul style="list-style-type: none"> -Scanning unit Use primary data collected in-house. <p>Regarding toner and Ink, go upstream to the MSDS level and collect primary data. The collection methods and collection conditions for the primary data for each above product are listed, but secondary data may be used in the case primary data collection is impossible.</p>
8-4	Scenario	Not stipulated.
8-5	Other	Not stipulated.

9	Requirements for the distribution stage													
9-1	Range of the processes	1. Transport process of “products”												
9-2	Data collection items	<p>The data items listed in the following table shall be collected.</p> <p>1. Transport process of “products”</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Category of activity</th> <th>Emission factor to be multiplied by activity</th> </tr> </thead> <tbody> <tr> <td>“Product” Transport volume (or fuel consumption amount)</td> <td>*1</td> <td>“Each transport means” Emission factor of transport</td> </tr> <tr> <td>“Wastes” *2</td> <td></td> <td></td> </tr> </tbody> </table> <p>*1 Transport amount (or fuel consumption amount) shall conform to 8-2. *2 Wastes shall conform to 8-2</p>	Activity	Category of activity	Emission factor to be multiplied by activity	“Product” Transport volume (or fuel consumption amount)	*1	“Each transport means” Emission factor of transport	“Wastes” *2					
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10-3	Primary data collection method and requirements	Not stipulated.									
10-4	Scenario	<p>[Rules on scenarios used in impact quantification of the use and maintenance stage] The following shows standard scenarios for each product.</p> <ol style="list-style-type: none"> 1. Copiers, printers and MFD (EP) <ol style="list-style-type: none"> (a) Operating conditions <ul style="list-style-type: none"> - TEC measurement conditions *The same quantification conditions are individually established for products for which TEC measurement conditions are not stipulated. - The estimated use period shall be 5 years. (b) Lifetime power consumption Lifetime power consumption [kWh] = TEC [kWh/week] x 4 weeks x 12 months x 5 years (c) Coverage rate shall be as follows <ul style="list-style-type: none"> - Monochrome: K coverage rate 5% - Color: Coverage rate 5% for each of YMCK - Or standard data prescribed in ISO/IEC 19798 (d) Number of units of consumables and periodically replaced parts used in lifetime <ul style="list-style-type: none"> - The number of units used based on the value planned at time of design or actual values, with fractions used without rounding up. - The ratio of color printing to monochrome shall be 1:1. 2. Printers and MFD (IJ) <ol style="list-style-type: none"> (a) Print pattern ISO/IEC 24712 (b) Print mode Default mode for plain paper (ISO/IEC 24711) (c) Operating conditions 									

		<p>- The operation conditions shall be printing of 10 sheets per day, 8 hours/day, 20 days/month, 12 months/year.</p> <p>* There shall be 2 set prints per day because there are 5 varieties of image stipulated in ISO/IEC 24712.</p> <p>- The estimated use period shall be 3 years.</p> <p>(d) Standby power consumption measurement The standby power consumption conditions for the state whereby the power plug for measurement is connected to an electrical outlet are established by each company (hard/soft switch off status and plug connect time).</p> <p>(e) Number of units of consumables used in lifetime The number of units used based on the value planned at time of design or actual values, with fractions used without rounding up.</p> <p>3. Large format printers</p> <p>(a) Print pattern - The print pattern shall be ISO JIS-SCID No.5 (bicycle) in color. - Print with the maximum size of image possible with the large format printer.</p> <p>(b) Print mode The print mode shall be the default mode for plain paper. However, in the case there is no setting for plain paper, each company selects an appropriate sheet paper (printing in default mode).</p> <p>(c) Operating conditions - The operation conditions shall be printing of 5 sheets per day, 8 hours/day, 20 days/month, 12 months/year. - The estimated use period shall be 3 years. - When idle, the primary side power supply shall be off.</p> <p>(d) Number of units of consumables used in lifetime The number of units used based on the value planned at time of design or actual values, with fractions used without rounding up.</p> <p>4. Fax machines</p> <p>(a) Document The document shall be an A4-size chart with the industry name ITU-T No.1 chart or a document with a black rate of 3% or more.</p> <p>(b) Operating conditions Models for personal use - The operating conditions shall be sending of 15 sheets/month and receipt of 15 sheets/month. The fax machine shall be on standby 24 hours a day, 365 days a year for the rest of the time. - The estimated use period shall be 5 years. Models for business use - The operating conditions shall be sending of 5 sheets/hour, 8 hours/day, 20 days/month, 12 months/year. The fax machine shall be on standby 24 hours a day, 365 days a year for the rest of the time. - The estimated use period shall be 5 years.</p> <p>(c) Number of units of consumables used in lifetime</p>
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The number of units used based on the value planned at time of design or actual values, with fractions used without rounding up. The paper necessary in the use and maintenance stage is not included in the impact calculation. However, data for the thermosensitive treatment processing energy for the thermosensitive paper shall be included.

5. Scanners

(a) Operating conditions

1. For flat bed scanners

I. Without ADF

- Operating conditions shall be 10 documents x 2 scans (pre-scan + main scan) per day.
- The scanner shall be used for 4 days a month, 48 days a year.

II. With ADF

- Operating conditions shall be 50 documents x 1 scan (main scan) in succession in one day.
- The scanner shall be used for 20 days a month, 240 days a year.

Items common to (I) and (II)

- The standard document is established by each company.
- The document shall be horizontally set A4, the resolution shall be 300 dpi, and the scan shall be in color.
- The usage period per day shall be 8 hours.
- The estimated use period shall be 5 years.
- The scanner shall be disconnected from the power when not in use (plug removed from outlet).
- The transition period from standby to power saving mode shall be the factory shipping status values.
- The measurement of products powered by a standard low voltage DC supply shall be according to the “ENERGY STAR Qualification Image Processing Equipment Test Procedure Final Draft” in the “Operation Mode Test Methods for Imaging Equipment Conforming to ENERGY STAR” issued on August 31, 2005.

2. For sheet fed scanners

- For sheet fed scanners, the application models are classified into the categories of the table below according to the number of scans and the number of switches to low-energy status, and these conditions are used.

Category	Slow speed 1	Slow speed 2	Intermediate speed 1	Intermediate speed	High speed
Scan speed (X ppm - Y ppm)	0~25	25~40	40~60	60~90	90~
Pages/day	500	4,000	8,000	12,000	20,000
Number of switches to	25	15	10	5	5

low-energy status/day					
No. of scan operations	20 sheets x 25 times	267 sheets x 15 times	800 sheets x 10 times	2,400 sheets x 5 times	4,000 sheets x 5 times

- The usage time per day shall be 8 hours.
- The scanner shall be used for 240 days a year.
- The estimated use period shall be 5 years.
- The scanner shall be disconnected from the power when not in use (in condition of external power removed from outlet).
- The standard document is established by each company.
- The document shall be horizontally set A4 and scanned in 2-tone monochrome, 200 dpi resolution, single-side mode.
- The transition period from standby to power saving mode shall be the value set at the factory shipping stage.
- The scanner shall be operated in a standard state, and shall not be run in functions not directly related to scanning.

(b) Number of units of periodically replaced parts and consumables used

The number of units used based on the value planned at time of design or actual values, with fractions used without rounding up.

The above standard scenario shall form the basis for the impact quantification of the use and maintenance stage, however, the actual conditions in which the “imaging input and/or output equipment to which this CFP-PCR applies are used by the users (actual conditions of use) will be diverse, and quantification results based on a single use scenario may not be able to reflect the actual conditions of use. Accordingly, impact quantification may be carried out having individually established a scenario (print mode, estimated use period, lifetime no. of print images, etc) according to product performance etc to meet actual conditions of use. It shall also be possible to express quantification results by multiple scenarios as a calculation formula. The validity of individually established conditions and calculation formulae are subject to verification. Examples are as follows.

- Lifetime power consumption

The lifetime power consumption can be quantified from the estimated use period, but it is also possible to quantify it from the number of sheets sent/received, the number of scans, or the number of images printed.

For example, for a copier, printer or MFD, expressing the lifetime number of printed images as P_1 enables the lifetime power consumption to be quantified by the following calculation formula.

-Copiers, printers and MFD (EP)

Lifetime power consumption [kWh] = TEC[kWh/week] ÷ number of images printed per week with TEC measurement conditions [sheets/week] x lifetime number of printed images P_1 [sheets]

- Printers and MFD (IJ)

		<p>Lifetime power consumption [kWh] = power consumption per day [kWh/day] ÷ number of images printed per day [sheets/day] x lifetime number of printed images P_1 [sheets]</p> <p>The impact, amount of impact reduction and the reduction ratio for the case of using a duplex printing function or 2-in-1 printing function can be recorded as additional information. In the case of using a 2-in-1 printing function, use the actual number of prints P_2 instead of the lifetime number of printed images P_1.</p> <p>- Actual number of prints P_2 for the case of using a 2-in-1 printing function In the case of using a 2-in-1 printing function, two pages of printed images can be produced on one sheet and the number of printed images can be considered to be half that of when the function is not used. The actual number of prints P_2 for the case of using a 2-in-1 printing function can be quantified by the following equation using the above P_1.</p> <p>Actual number of prints P_2 for the case of using a 2-in-1 printing function [sheets] = lifetime number of printed images P_1 [sheets] x (0.5 x 2-in-1 print ratio + (1 – 2-in-1 print ratio))</p> <p>*Fractions shall be rounded up to the nearest whole number.</p> <p>In the case of including the impact of paper as the image output medium, the paper quantity etc is established by each company.</p>												
10-5	Other	Not stipulated.												
11	Requirements for the disposal and recycling stage													
11-1	Range of the data collection processes	1. Disposal and recycling process of “used products” “Used products” indicates the product itself, accessories and the consumables and periodically replaced parts not disposed of in the use and maintenance stage.												
11-2	Data collection items	<p>The data items listed in the following table shall be collected.</p> <p>1. Disposal and recycling process of “used products”</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Category of activity</th> <th>Emission factor to be multiplied by activity</th> </tr> </thead> <tbody> <tr> <td>“Used products” Emissions for each treatment method</td> <td>Primary or scenario</td> <td>“Each treatment method” Emission factor</td> </tr> <tr> <td>“Used products” Transport volume (or fuel consumption amount) to each treatment facility</td> <td>*1</td> <td>“Each transport means” Emission factor</td> </tr> <tr> <td>“Of used product, component derived from fossil resource” Incineration volume of the</td> <td>Primary or scenario</td> <td>“Incineration of each component derived from fossil</td> </tr> </tbody> </table>	Activity	Category of activity	Emission factor to be multiplied by activity	“Used products” Emissions for each treatment method	Primary or scenario	“Each treatment method” Emission factor	“Used products” Transport volume (or fuel consumption amount) to each treatment facility	*1	“Each transport means” Emission factor	“Of used product, component derived from fossil resource” Incineration volume of the	Primary or scenario	“Incineration of each component derived from fossil
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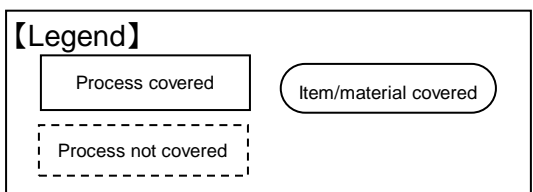
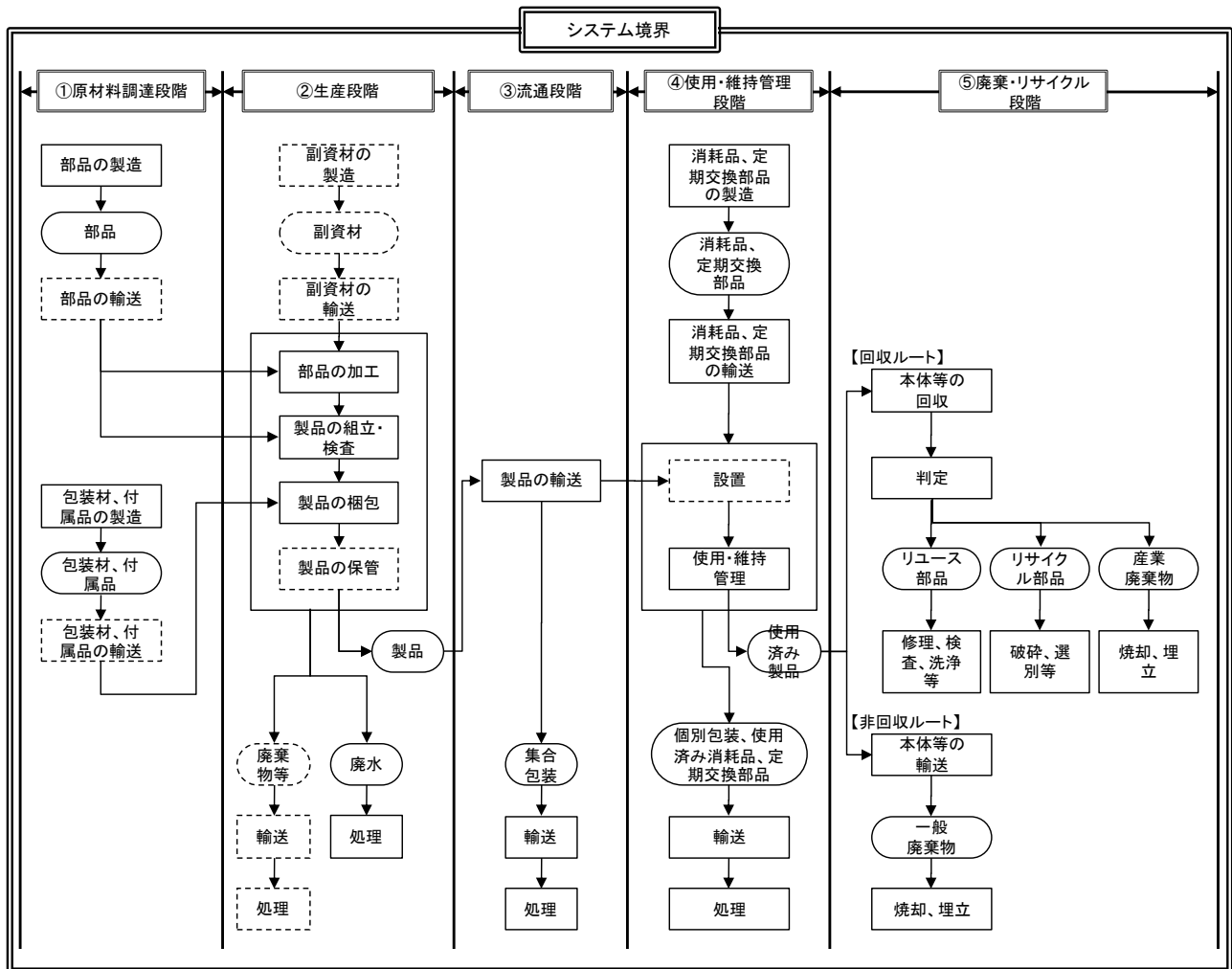
		<table border="1"> <tr> <td>component</td> <td></td> <td>resource” Emission factor</td> </tr> </table> <p>*1 Transport amount (or amount of fuel used) shall conform to 8-2.</p>	component		resource” Emission factor
component		resource” Emission factor			
11-3	Primary data collection method and requirements	Not stipulated.			
11-4	Scenario	<p>[Rules on treatment method of wastes]</p> <p>1. Copiers, printers and MFD (EP)</p> <p>The following routes are established for the disposal and recycling of used products.</p> <ul style="list-style-type: none"> - Recovery route <p>Used products are disposed of as industrial waste (at the responsibility of the business that produces the waste) or reused or recycled. Scenarios that include transport are established.</p> <ul style="list-style-type: none"> - Reuse scenario -Recycle scenario <p>A recycle rate for each material is established individually by each company</p> <ul style="list-style-type: none"> - Industrial waste processing scenario (if not reused or recycled) - Non-recovery route <p>Used products are disposed of as general waste (at the responsibility of the municipality) or as industrial waste (at the responsibility of the business that produces the waste). The transport and processing method shall conform to 6-7.</p> - Criteria for the possibility of recycling or reuse <p>Criteria are determined individually by each company.</p> - Product recovery rate (the “product recovery rate” of consumables and periodically replaced parts shall be the same) <p>The product recovery rate shall be the actual value for products subject to CFP quantification and similar products, and shall be 40% in the case the actual values are difficult to ascertain.</p> - For reuse of products <p>The number of times a product is reused after the use period has elapsed, N_1, is established based on actual values. N_1 shall be an integer. However, in the case the actual value cannot be ascertained such as for new products, the design value may be used. Using the above N_1 for the calculation of impact:</p> <p style="padding-left: 40px;">Product reuse deduction quantity = planned quantity available for reuse at time of design x product recovery rate x reuse deduction rate $N_1/(N_1+1)$</p> - For reuse of consumables and periodically replaced parts <p>Let the number of reuses in the lifetime of applicable products be N_2 and the number of units used in the use period be n. Using the above N_2 and</p> 			

		<p>n for the calculation of impact:</p> <p>Product impact = impact until manufacture of one product x number of units used in the use period n</p> <p>Parts of reuse deduction quantity = planned quantity available for a reuse at time of design by each company x product recovery rate x reuse deduction rate $N_2/(N_2+1)$ x number of units used in the use period n</p> <p>2. Printers and MFD (IJ, including large format printers)</p> <p>The following routes are established for the disposal and recycling of used products.</p> <ul style="list-style-type: none"> - Recovery route <ul style="list-style-type: none"> 1. Recovery shall confirm with the details for copiers, printers and MFD (EP). - Non-recovery route <ul style="list-style-type: none"> 1. Non-recovery shall confirm with the details for copiers, printers and MFD (EP). - Criteria for the possibility of recycling or reuse <ul style="list-style-type: none"> Criteria are determined individually. - Product recovery rate (the “product recovery rate” of consumables and periodically replaced parts shall be the same) <ul style="list-style-type: none"> The product recovery rate shall be the actual value for products subject to CFP quantification and similar products, and shall be 1% in the case the actual values are difficult to ascertain. - For reuse of products <ul style="list-style-type: none"> 1. Reuse shall confirm with the details for copiers, printers and MFD (EP). - For reuse of consumables and periodically replaced parts <ul style="list-style-type: none"> 1. Reuse shall confirm with the details for copiers, printers and MFD (EP). <p>3. Fax machines</p> <p>The following routes are established for the disposal and recycling of used products.</p> <ul style="list-style-type: none"> - Recovery route <ul style="list-style-type: none"> 1. Recovery shall confirm with the details for copiers, printers and MFD (EP). - Non-recovery route <ul style="list-style-type: none"> 1. Non-recovery shall confirm with the details for copiers, printers and MFD (EP). - Criteria for the possibility of recycling or reuse <ul style="list-style-type: none"> Criteria are determined individually by each company.
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		<ul style="list-style-type: none"> - Product recovery rate (the “product recovery rate” of consumables and periodically replaced parts shall be the same) The product recovery rate shall be the actual value for products subject to CFP quantification and similar products, and shall be 0% for personal use models and 40% for business use models in the case the actual values are difficult to ascertain. - For reuse of products <ul style="list-style-type: none"> 1. Reuse shall confirm with the details for copiers, printers and MFD (EP). - For reuse of consumables and periodically replaced parts <ul style="list-style-type: none"> 1. Reuse shall confirm with the details for copiers, printers and MFD (EP). 4. Scanners The following routes are established for the disposal and recycling of used products. <ul style="list-style-type: none"> - Recovery route <ul style="list-style-type: none"> 1. Recovery shall confirm with the details for copiers, printers and MFD (EP). -Non-recovery route <ul style="list-style-type: none"> 1. Non-recovery shall confirm with the details for copiers, printers and MFD (EP). - Criteria for the possibility of recycling or reuse Criteria are determined individually by each company. - Product recovery rate (the “product recovery rate” of consumables and periodically replaced parts shall be the same) The product recovery rate shall be the actual value for products subject to CFP quantification and similar products, and shall be 0% in the case the actual values are difficult to ascertain. - For reuse of products <ul style="list-style-type: none"> 1. Reuse shall confirm with the details for copiers, printers and MFD (EP). - For reuse of consumables and periodically replaced parts <ul style="list-style-type: none"> 1. Reuse shall confirm with the details for copiers, printers and MFD (EP).
11-5	Other	Not stipulated.
12	CFP declaration method	
12-1	Additional information	<p>[Rules on required contents]</p> <p>The following items shall be displayed.</p> <ul style="list-style-type: none"> - Assumed destination of products at time of CFP quantification - Quantification method of the use and maintenance stage (scenario)

		<ul style="list-style-type: none"> - Estimated use period [years] or amount used [sheets] - In the case of having established a scenario that differs to the standard scenario, describe it to a level whereby the difference can be understood - Products selected for scenarios used in impact quantification (select from the following) <ul style="list-style-type: none"> - Copier (EP) - Printer (EP) - MFD (EP) - Printer (IJ) - MFD (IJ) - Large format printer - Fax machine (model for personal use) - Fax machine (model for business use) - Flat bed scanner (without ADF) - Flat bed scanner (with ADF) - Sheet-fed scanner <p>Do not apply in the case values are not indicated.</p> <p>[Rules on arbitrary contents] The following items may be displayed.</p> <ul style="list-style-type: none"> - The impact calculation formula for quantifying the impact of the use and maintenance stage by a calculation formula - The image output medium used in the use and maintenance stage and its impact <p>The GHG reduction or reduction rate given by usage mode selection/change or product recovery may be displayed for products judged to be the same or similar by the same business in order to convey the GHG emissions reduction efforts of the producer and the business appropriately to the consumer</p> <p>However, there are cases where the number of printed images differs due to the printing speed even though the estimated use period is the same, such as for TEC. Accordingly, products of scenarios for which the number of printed images differs shall not be compared.</p>
12-2	Registration information	<p>[Rules on required contents]</p> <p>In the case of displaying the impact of the use and maintenance stage by a calculation formula, record representative values for the details of 3.2 Breakdown (by life cycle stage, by process, by flow, etc) and 3.3 Value in a CFP mark and additional information, and record the calculation formula in 3.4 Notes or 3.3 Value in a CFP mark and additional information.</p>
12-3	Other	Not stipulated.

Annex A: Life cycle flow chart (stipulations)



Annex B (normative): Transport scenario

The following shows transport scenarios when no primary data can be collected.

B1. Transport distance

- Transport within a city or not across adjacent cities: 50km
- Transport within a prefecture: 100km
- Transport possibly across prefectural border to another side of the border: 500km
- Transport which is not limited within a specific area (domestic): 1,000km
- Road transport distance within overseas country: 500km
- Sea transport distance between ports (port => port)

B2. Transport means and loading ratio

Life cycle flow chart	Scenario	
The raw material acquisition stage - Transport for raw material procurement	Road transport only	<Transport mean> 10-ton truck <Loading ratio> 62%
	Transport including sea transport (Domestic transport in a country from which products will be imported; Production site => Port)	<Transport mean> 10-ton truck <Loading ratio> 62%
	Transport including sea transport (International transport; Port => Port)	<Transport mean> Container ship (<4,000TEU)
	Transport including sea transport (Domestic transport; Port => Client)	<Transport mean> 10-ton truck <Loading ratio> 62%
The production stage - Transport between sites - Transport for indirect material procurement - Transport of wastes	Transport between sites	<Transport mean> 2-ton truck <Loading ratio> 58%
	Transport for indirect material procurement	Same as the raw material acquisition stage
	Transport of wastes (Production site => Treatment facility)	<Transport mean> 2-ton truck <Loading ratio> 58%
The distribution stage - Transport of products - Transport of wastes	In case of overseas production site (Production site => Port in production country)	<Transport mean> 10-ton truck <Loading ratio> 62%
	In case of overseas production site (Port in production country => Domestic port)	<Transport mean> Container ship (<4,000TEU)
	In case of overseas production site (Domestic port => Store)	<Transport mean> 10-ton truck <Loading ratio> 62%
	In case of domestic production site (Production site => Store)	<Transport mean> 10-ton truck <Loading ratio> 62%
	Transport of wastes (Store => Treatment facility)	<Transport mean> 2-ton truck <Loading ratio> 58%
The disposal and recycling stage	Transport of wastes (Garbage collection site => Treatment facility)	<Transport mean> 2-ton truck <Loading ratio> 58%

