

Product Category Rules (PCR)

(Approved PCR ID: PA-AW-02)

Flowers

Release date: September 8, 2010

The Carbon Footprint of Products Calculation and Labeling Pilot Program

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<http://www.cfp-japan.jp/english/pcr/pcrs.html>

(Provisional Translation)
 Product Category Rules (PCR) of “Flowers”
 (Approved PCR ID: PA-AW-02)

Foreword

- The contents provided in this PCR may be changed and revised as needed for further refinement, through PCR revision procedures, as a result of continued discussions with relevant stakeholders, during the period of the Japanese CFP Pilot Project.
- This PCR will expire at the end of the Project (scheduled until March 31, 2012).
- This English translation of the original Japanese PCR is provided for information purpose. .

No.	Items	Contents
1	Scope	This PCR prescribes rules, requirements, and instructions applicable to “Flowers” under the CFP Pilot Project.
2	Definitions of products	
2-1	Descriptions of product category	“Flowers” covered by this PCR shall include cut flowers, cut leaves, cut branches, potted plants, and seedlings. However, it excludes products which are dried and dead, such as dried flower or preserved flower, etc.
2-2	Components of products	Components are, - flowers, - packaging, and - intermediate packaging materials during distributions.
3	Referenced Standards and PCRs	There is no PCR referenced as of January 27, 2010.
4	Terms and Definitions	(1) Cut flowers “Cut flowers,” “cut leaves,” and “cut branches” are collectively called “cut flowers”. (2) Potted plants “Potted plants” and “seedlings” are collectively called “potted plants”.
5	Range of assessment	
5-1	Calculation unit	Sales unit.
5-2	Life cycle stages	The following life cycle stages are covered. - the raw material acquisition stage - the production stage - the distribution stage - the use and maintenance stage - the disposal and recycling stage
6	General requirements applied to all stages	
6-1	Life cycle flow chart	Life cycle flow chart is provided in Annex A (normative).
6-2	Range of data collection	For processes which do not exist in each stage, there is no need to assess them.
6-3	Data collection period	- Activity data shall be collected from the most recent and consecutive one-year period. - For a product whose growing period is less than one year and whose shipment end period is clear, the data of the most recent one term (from sowing or settled planting to harvest completion) may be used for data collection period. - When above conditions for data collection period are not used, its reason shall be clearly stated, and its accuracy shall be assured.
6-4	Allocation	- Weight ratio shall be used. - If any other allocation method (area, work time or value) is used due to the characteristics of the product, the allocation method used and its validity shall be

		verified.
6-5	Cut-off criteria	- When conducting cut-off, the range of cut-off shall be within 5% of the total life cycle GHG emissions, and the range shall be clearly reported. Cut-off shall, however, be conducted, provided that it is difficult to use any scenarios, similar data and estimated data.
6-6	Others	<p>[Rules related to transport]</p> <ul style="list-style-type: none"> - All transports between sites shall be included. - Primary data shall be collected as much as possible, either by the fuel consumption method, the fuel cost method, or the ton-kilometer method. (See Annex B) - Transport distance may be measured by using the information from navigation software, in addition to actual measurement. - The calculation method for GHG emissions of fuel consumption during transports is provided in Annex B. <p>[Rules related to recycled materials and reused products]</p> <ul style="list-style-type: none"> - If recycled materials and reused products are used as inputs, GHG emissions related to the manufacture and transport of them shall include the emissions emitted after the processes for ones readying for the recycling preparations (e.g., regeneration processing, etc.) or the reusing (e.g., collection, cleaning, etc.). <p>[On-site generated electricity]</p> <ul style="list-style-type: none"> - For on-site generated electricity, the data of fuel consumed shall be collected as primary data, and GHG emissions related to the manufacture and combustion shall be calculated.
7	Requirements for raw material acquisition stage	
7-1	Range of the processes	<p>The following processes shall be covered.</p> <p>(1) Processes related to the manufacture and transport of;</p> <ul style="list-style-type: none"> - seeds and seedlings - fertilizers - agricultural chemicals (including quality improving agent. (This is also hereafter included in agricultural chemicals but omitted from the descriptions)) - cultivation materials (wooden materials, plastic materials, metallic materials, stone materials, etc.) - packaging materials and transport materials used when acquiring the items above from outside
7-2	Data collection items	<p>The data on the following items shall be collected.</p> <p>(1) Life cycle GHG emissions from processes related to the manufacture and transport of;</p> <ul style="list-style-type: none"> - seed and seedlings - fertilizers - agricultural chemicals (including quality improving agent. (This is also hereafter included in agricultural chemicals but omitted from the descriptions)) - cultivation materials (wooden materials, plastic materials, metallic materials, stone materials, etc.) - packaging materials and transport materials used when acquiring the items above from outside <p>NOTE</p> <ul style="list-style-type: none"> - The amounts of the inputs listed above will be collected in the cultivation related

		<p>processes of the production stage. (see No.8-2)</p> <ul style="list-style-type: none"> - When the inputs above are produced on-site and the amount of fuel and electricity for the production is known, it is not necessary to collect the life cycle GHG emissions related to the manufacture and transport for input by input.
7-3	Primary data collection items	Not stipulated.
7-4	Primary data Collection method and requirements	<p>Two methods for collecting primary data. Either method can be used.</p> <p>(1) Pile up method:</p> <p>Collect and add up the input/discharge amount of items, per work or per equipment/facility operation (e.g., operating hours, operating area size, operating distance, etc.) necessary for process execution (e.g., operating time × fuel consumption per hour = the amount of fuel consumed.).</p> <ul style="list-style-type: none"> - When using this method, it is necessary to check the result by comparing “add up all products’ data from the production site” and “actual data of the production site”. These results shall not be deviated greatly. - Operation of equipment/facility may be adopted from such information sources as farming diaries, farming management software, and other farming records. - Consumption amount data of fuel and electricity shall be collected provided that it is related to the farming outside the farmland, such as pumping of well water or in-house production of composts. <p>(2) Allocation method:</p> <p>Allocate the actual results of production data goods by goods (e.g., allocating total fuel consumed during the assessment year, among the harvested agricultural products.)</p> <ul style="list-style-type: none"> - When using this method, follow requirements in No.6-4. - Regarding indirect fuel and electricity consumption such as air-conditioning and lighting at offices, it may be included if it is difficult to be excluded.
7-5	Scenario	<p>[Transport scenario]</p> <p>Primary data should be collected for all transports. However, if it is difficult, the scenario in Annex C may be used.</p>
7-6	Other	<p>[Collection of data from multiple suppliers]</p> <ul style="list-style-type: none"> - Primary data should be collected for all transports from multiple suppliers. - If it is difficult, primary data shall be collected for 50% or more of the total amount of the acquired raw materials and the rest of the data shall be replaced by average of the collected data, as secondary data.
8	Requirements for the production stage	
8-1	Range of the processes	<p>The following processes shall be covered.</p> <p>(1) Cultivation related processes</p> <p>Each process necessary for flower cultivation in and around farm land, such as “farm land consolidation,” “sowing,” “seedlings planting,” “cultivation management,” and “harvesting”. To be concrete,</p> <ul style="list-style-type: none"> - "Farm land consolidation" includes such processes as tillage, harrowing, land consolidation, and fertilization. - "Cultivation management" includes such processes as fertilization (additional fertilization), training of tree, insect pest control, and weed control. - “Harvesting” includes the processes related to harvest (consecutive harvest, wholesale harvest). - Nitrous oxide (N₂O) generation” from nitrogen fertilizers are also included in the calculation which is associated with these processes.

		<ul style="list-style-type: none"> - For self-production of seeds and seedlings, it is included in the cultivation related process. <p>(2) Shipping preparation processes Processes related to the manufacture and transport of inputs to shipping preparation processes,</p> <ul style="list-style-type: none"> - “packaging materials” manufacture and transport process - “fuel” and “electricity” supply process - Shipping preparation process make flowers available for shipping by “processing,” “sorting flowers,” “packaging,” and “storing”. - Shipping preparations can be conducted at the producers’ site or at the collecting/shipping site. <p>(3) Transport processes</p> <p>(4) Waste treatment processes Treatment process of the wastes which are treated by the external operator. Regarding the ones to be recycled, GHG emissions of the transport and the processes up to and including recycling preparations shall be calculated.</p>
8-2	Data collection items	<p>The data on the following items shall be collected.</p> <p>(1) Cultivation related processes Assets used for more than several years shall be excluded from inputs in this PCR.</p> <p><Input> Input amount of “seeds and seedlings,” “fertilizers,” “agricultural chemicals,” “cultivation materials,” and “fuel and electricity”</p> <ul style="list-style-type: none"> - When the inputs above are produced on-site and the amount of fuel and electricity for the production is known, it is not necessary to collect the life cycle GHG emissions related to this process input by input. - When tap water is used for the production, the data shall be collected. The amount of “agricultural water” and “well water” used is difficult to check and relevant GHG emissions cannot be assessed so that it is not necessary to collect the data. The fuel and electricity consumed for supplying the well water is included in the GHG emission from fuel and electricity, therefore, it is not necessary to collect the data. (see, <others>) <p><Output and discharge> Amount of “flowers”, discharge amount of “wastes”, generated amount of “nitrous oxide (N₂O)” from nitrogenous fertilizer.</p> <ul style="list-style-type: none"> - "Wastes" refers to the ones which are disposed by external operators. If plant residues are landfilled in the soil for using them as fertilizers, they shall not be included in “wastes”. - CO₂ generated by the biodegradation of those landfilled plant residues shall be regarded as carbon-neutral and excluded from the data collection items. <p><Others></p> <ul style="list-style-type: none"> - Farm land area - Life cycle GHG emissions related to the manufacture and transport of packaging materials used when acquiring raw materials from outside - Life cycle GHG emissions related to the supply and use of “fuel” and/or “electricity”

		<p>(2) Shipping preparation processes Assets used for more than several years shall be excluded from inputs in this PCR.</p> <p><Input></p> <ul style="list-style-type: none"> - Input amount of “fuel and electricity,” and “packaging materials” (when packed by producers) <p><Output and Discharge></p> <ul style="list-style-type: none"> - Output amount of “flowers” - Discharge amount of “wastes” <p><Other></p> <ul style="list-style-type: none"> - Life cycle GHG emissions related to the manufacture and transport of “packaging materials” - Life cycle GHG emissions related to the supply and use of “fuel” (“electricity”) <p>NOTE</p> <ul style="list-style-type: none"> - Data shall be collected for using tap water in the shipping preparation processes if any. - “Wastes” refers to the ones which are entrusted treatment to external operators. <p>(3) Transport processes</p> <ul style="list-style-type: none"> - Cargo weight - GHG emissions associated with fuel use - Amount of fuel consumed related to the transport <p>Following methods prescribed in “the Act on the Rational Use of Energy” shall be used. Data shall be collected will be different for each method. (See Annex B for the detailed explanation)</p> <p>a) for truck transport</p> <ul style="list-style-type: none"> - amount of fuel consumed (the fuel consumption method) - GHG emission related to the fuel consumption per driving distance (the fuel cost method) or - GHG emission and loading ratio related to the fuel consumption per transport ton-kilometer (the improved ton-kilometer method) <p>b) for other transport means (by ship, plane or train, etc.)</p> <ul style="list-style-type: none"> - GHG emission related to the fuel consumption per transport ton-kilometer (the conventional ton-kilometer method) <p>(4) Waste treatment processes</p> <ul style="list-style-type: none"> - Discharge amount of wastes - Life cycle GHG emissions related to waste treatment
8-3	Primary data collection items	<p>Primary data shall be collected on the following items.</p> <p>(1) Cultivation related processes</p> <p><Input></p> <p>Input amount of “seeds and seedlings,” “fertilizers,” “agricultural chemicals,” and “cultivation materials,” and “fuel and electricity”</p> <p><Output and Discharge></p> <ul style="list-style-type: none"> - Output amount of “flowers”

		<ul style="list-style-type: none"> - Discharge amount of “wastes” <p><Other></p> <ul style="list-style-type: none"> - “Farm land area” <p>(2) Shipping preparation processes</p> <p><Input></p> <ul style="list-style-type: none"> - Input amount of “fuel and electricity” and “packaging materials” <p><Output and Discharge></p> <ul style="list-style-type: none"> - Output amount of “flowers” - Discharge amount of “wastes” <p>(3) Transport processes</p> <ul style="list-style-type: none"> - Cargo weight - (When using the fuel consumption method), Fuel consumption - (When using the fuel cost method), GHG emissions related to the fuel consumption per driving distance <p>(4) Treatment process of wastes</p> <ul style="list-style-type: none"> - Discharge amount of “wastes” <p>(5) Common for each process</p> <p>For fuel and electricity, life cycle GHG emissions related to the supply and use of them for in-house production, or whose data is not available from the Tentative Database of GHG Emission Factors for the CFP Pilot Project (hereafter called the Tentative Database of GHG Emission Factors).</p> <ul style="list-style-type: none"> - If biomass energy sources such as firewood, wooden chips, and charcoal are in-house produced, the energy consumption data necessary for the production of them shall be collected as primary data and the GHG emissions shall be calculated. - However, when the input amount of the energy is already included in the total input amount of the fuel and electricity of the entire site, there is no need to collect the data separately. - CO₂ emissions due to the combustion of biomass energy sources shall be regarded as carbon-neutral and excluded from carbon footprint.
8-4	Primary data Collection method and requirements	Conform to “No. 7-4”.
8-5	Scenario	[Transport scenario] Primary data should be collected about the distance, the means of transport, and the loading ratio. However, if it is difficult, the scenario in Annex C may be used.
8-6	Other	[Collecting data from multiple producers] If there are a large number of producers involving cultivation and shipping preparation of one flower product, primary data shall be collected from part of producers and the rest of the data shall be the average value of the primary data which has been collected. However, it shall be assured that the primary data were collected without any biases by using methods of categorizing all suppliers based on various items such as farm land area, harvest amount, and farming efficiency, and to prove that the

		<p>sample size of each category is proportional to the distribution of each category. If any other method is used, representativeness of the data shall be presented and verified.</p> <p>[Locality] Primary data of cultivation related process and transport process has local differences. Therefore, the area of collecting primary data shall be basically all cultivation sites and all transport routes.</p> <p>[Calculation method of a product include a growing period] Some ornamental cut branches with fruits need the time for growing those trees before coming their harvest seasons. The total GHG emissions in this growing period shall be reflected to the harvests in later years. Therefore, emissions of a product which needs growing period shall be the value which is calculated by the total GHG emissions throughout its growing period divided by the total harvested amount.</p> <p>Emissions of “the product which needs growing season” in the production stage (kg-Co₂e/kg) = GHG emissions throughout its growing season (kg-CO₂) / Total harvested amount throughout its growing period (kg)</p> <p>Primary data shall be collected. If it is difficult to collect primary data, it shall be calculated by using the following data, etc. For using these data, organization conducted CFP calculation shall prepare such evidence ensuring the validity of its application, and shall verify its validity at CFP verification panel.</p> <ul style="list-style-type: none"> - Use secondary data, disclosed by regional agricultural cooperatives or local governments investigate local producers in the area. - Use study results published by national or prefectural research institution. - Abode data can not be obtained, use study result of public research institution or supervisor institution. <p>[Carbon storage in farm land soil] - Carbon storage in farm land soil is excluded from the assessment. Farm land soil shows an effect of carbon storage, but no internationally agreed procedure exists and actual measurement technique also needs to be developed, therefore, it shall be excluded from the assessment.</p>
9	Requirements for the distribution stage	
9-1	Range of the processes	<p>The following processes shall be covered.</p> <p>(1) Process in the market - Process related to the distribution of flowers in the market</p> <p>(2) Bouquet making process - Processes of the manufacture and transport of the inputs to the bouquet making process. <ul style="list-style-type: none"> > “packaging materials” > Process related to the supply of “tap water” > Processes related to the supply of “fuel” and “electricity” </p> <p>- Process of making bouquets by using flowers</p>

		<p>(3) Transport related process</p> <ul style="list-style-type: none"> - Process of the transport of flowers after shipping preparations are complete, to the market, bouquet making sites, or stores. - Process related to the transport of bouquet, from bouquet making process to stores <p>(4) Sales related process</p> <p>(5) Waste treatment process</p> <ul style="list-style-type: none"> - Processes of treating wastes discharged from bouquet making process and sales related process. This process is implemented by external operators. <ul style="list-style-type: none"> > Regarding the ones to be recycled, GHG emissions of the transport process and up to and including recycling preparation process shall be calculated. <p>Process not existing in actual distribution and sales stage shall be excluded from the assessment. (e.g., for distribution system not via selling at stores, only transport related process is assessed.)</p>
9-2	Data collection items	<p>The data on the following items shall be collected.</p> <p>(1) Process in the market</p> <ul style="list-style-type: none"> - Life cycle GHG emissions related to the supply and use of fuel and electricity necessary in the market process <p>(2) Bouquet making process</p> <p>Fixed assets used for more than several years shall be excluded from inputs.</p> <p><Input></p> <ul style="list-style-type: none"> - “Flowers,” “packaging materials,” “tap water,” and “fuel and electricity” <p><Other></p> <ul style="list-style-type: none"> - Life cycle GHG emissions related to the manufacture and transport of “packaging materials” - Life cycle GHG emissions related to the supply of “tap water” - Life cycle GHG emissions related to the supply and use of “fuel” (“electricity”) <p>(3) Transport related process</p> <ul style="list-style-type: none"> - Cargo weight - (When using the fuel consumption method) <Transport by truck> Fuel consumption - (When using the fuel cost method) <Transport by truck> GHG emissions related to fuel consumption per driving distance - (When using the improved ton-kilometer method) <Transport by truck> GHG emissions related to fuel consumption per transport ton-kilometer, and loading ratio - (When using the conventional ton-kilometer method) <Other means of transport (by ship, plane, and train, etc.)> GHG emissions related to fuel consumption per transport ton-kilometer - (Common) The use amount of transport materials, and life cycle GHG emissions related to the manufacture and transport of transport materials <p>When using the improved ton-kilometer method, the input amount of water used for transporting buckets shall be collected. Scenario described in No.9-5 may be used.</p>

		<p>(4) Sales related process</p> <ul style="list-style-type: none"> - Input amount of tap water - Discharge amount of wastewater - Life cycle GHG emissions related to; <ul style="list-style-type: none"> > supply and use of tap water > wastewater treatment > disposal of waste transport materials generated from stores. However, waste packaging materials shall be excluded if collected for value. <p>(5) Waste treatment process</p> <ul style="list-style-type: none"> - Discharge amount of wastes - Life cycle GHG emissions related to waste treatment. "Waste" here refers to the ones which are outsourced for its treatment. Regarding life cycle GHG emissions resulted by incinerating wastes discharged from flower product itself (faded flowers, branches and leaves, etc.) in the distribution stage, it shall be collected in the disposal and recycling stage.
9-3	Primary data collection items	<p>Primary data shall be collected on the following items.</p> <p>(1) Process in the market</p> <ul style="list-style-type: none"> - Not stipulated. <p>(2) Bouquet making process</p> <ul style="list-style-type: none"> - Input amount of "flowers," "packaging materials," "tap water," and "fuel and electricity" <p>(3) Transport related process</p> <ul style="list-style-type: none"> - "Cargo" weight - (When using the fuel consumption method), the amount of fuel consumption - (When using the fuel cost method), GHG emissions related to fuel consumption per driving distance <p>(4) Sales related process</p> <ul style="list-style-type: none"> - Amount of "wasted transport materials" <p>(5) Waste treatment process</p> <ul style="list-style-type: none"> - Discharge amount of "wastes"
9-4	Primary data Collection method and requirements	Not stipulated.
9-5	Scenario	<p>[Scenario of transporting raw materials]</p> <p>Regarding the transport from a supplier, collect primary data about the transport distance, the means of transport, and the loading ratio. If it is difficult, the scenario of Annex C may be used.</p> <p>[Scenario of transporting products (domestic production)]</p> <p>Regarding the transport from collecting and shipping facility to stores or consumers, collect primary data about the transport distance, the means of transport, and the loading ratio. If it is difficult, the scenario of Annex C may be used.</p> <p>There is the case that the market and/or bouquet making sites exist(s) between the operator of shipping preparation process and the seller at a store. In such</p>

		<p>case, the scenario described above shall also be used.</p> <p>[Scenario of transporting products (overseas production)] Regarding the import of products which were produced overseas, collect primary data about the transport distance, the means of transport, and the loading ratio. If it is difficult, the scenario of Annex C may be used.</p> <p>[Scenario of transporting waste packaging materials] Regarding the transport of waste packaging materials generated from bouquet making sites and stores to treatment facilities, collect primary data about the transport distance, the means of transport, and the loading ratio. If it is difficult, the scenario of Annex C may be used.</p> <p>[Scenario of input of water when transporting] Generally, the amount of water input to 1 bucket for the distribution of flowers is 1 liter, and at least 10 or more stalks are input to 1 bucket. Therefore, it is assumed that water of 1 liter is used for 10 stalks, as the maximum value. Also, it is converted from 1 liter to 1 kg for calculation. This water is the input by producers in the shipping preparation process.</p> <table border="1" data-bbox="667 891 1342 1003"> <thead> <tr> <th>Input/Output item</th> <th>Input/Output amount</th> </tr> </thead> <tbody> <tr> <td>Input amount of water</td> <td>0.1 kg / 1 stalk</td> </tr> <tr> <td>Drainage amount of water</td> <td>0.1 kg / 1 stalk</td> </tr> </tbody> </table>	Input/Output item	Input/Output amount	Input amount of water	0.1 kg / 1 stalk	Drainage amount of water	0.1 kg / 1 stalk
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Drainage amount of water	0.1 kg / 1 stalk							
9-6	Other	<p>[Special exceptions related to allocation] Physical quantity (weight) shall be used for allocating energy in the process of flower market and in the process related to flower transport. Actual weight of the product should be measured, however, if it is difficult to do so and if the data related to multiple products can be collected, allocation may be sales bases.</p> <p>[On site electricity generation] When on site electricity generation is used for the production of the product, the input fuel amount shall be collected as primary data, and assess the GHG emissions related to the production and combustion.</p> <p>[Multiple transport routes] - Primary data shall be collected on all the routes, and weight-averaged by the amount of product transported. - If there are many various transport routes, primary data shall be collected for 50% or more of the total amount of product transported. Regarding a route whose primary data cannot be collected, the average value of those primary data which can be collected shall be used as secondary data.</p> <p>[Locality] Primary data of transport process and sales related process has local differences. Therefore, all transport routes and all sales sites shall basically be collected on their primary data.</p> <p>[Exceptions related to cut-off] - “Tap water used at stores” refers to the water used for washing vases and the water input to vases. GHG emission related to “tap water used at stores” is</p>						

		<p>assumed to be less than 5% of the total life cycle GHG emissions from the distribution stage. Therefore, cut-off may be conducted if the value of a water meter is unknown.</p> <p>- When cut-off is conducted, GHG emissions related to the rest of inputs shall be prorated based on the respective composition ratio in the total input mass, so that the total input mass is adjusted to 100%.</p> <p>[Assessment of reused materials]</p> <p>Among the transport packaging materials which are input to a bouquet making site, regarding the input amount of tap water relating to washing in reuse process, (such as the case when a reused bucket is used for the transport to a store), such washing is assumed to be conducted in a bouquet making site, and such input amount may be included in the input amount of tap water in the bouquet making site.</p>
10	Requirements for the use and maintenance stage	
10-1	Range of the processes	<p>The following processes shall be covered.</p> <p>(1) Processes related to the manufacture and transport of the inputs to the viewing and maintenance process of flower.</p> <ul style="list-style-type: none"> - Processes related to the manufacture and transport of <ul style="list-style-type: none"> > “household fertilizer” > “household agricultural chemicals” > “packaging materials” and “transport materials” used when acquiring the inputs above from outside - Process related to the supply of “tap water” <p>(2) Process related to maintenance when viewing flowers</p>
10-2	Data collection items	<p>The data on the following items shall be collected.</p> <p><Input></p> <ul style="list-style-type: none"> - Amount of flowers - For cut flowers <ul style="list-style-type: none"> > Amount of flowers > Amount of tap water - For potted plants <ul style="list-style-type: none"> > Amount of flowers - For foliage plants among potted plants <ul style="list-style-type: none"> > Amount of flowers > Amount of tap water > Amount of household fertilizer - For seedlings <ul style="list-style-type: none"> > Amount of household fertilizer > Amount of household agricultural chemicals <p><Discharge amount></p> <ul style="list-style-type: none"> - Amount of flowers - Amount of packaging materials <p><Other></p> <p>Life cycle GHG emissions related to</p> <ul style="list-style-type: none"> - Manufacture and transport of “household fertilizer” - Manufacture and transport of “household agricultural chemicals” - Supply of “tap water” - Household wastewater treatment

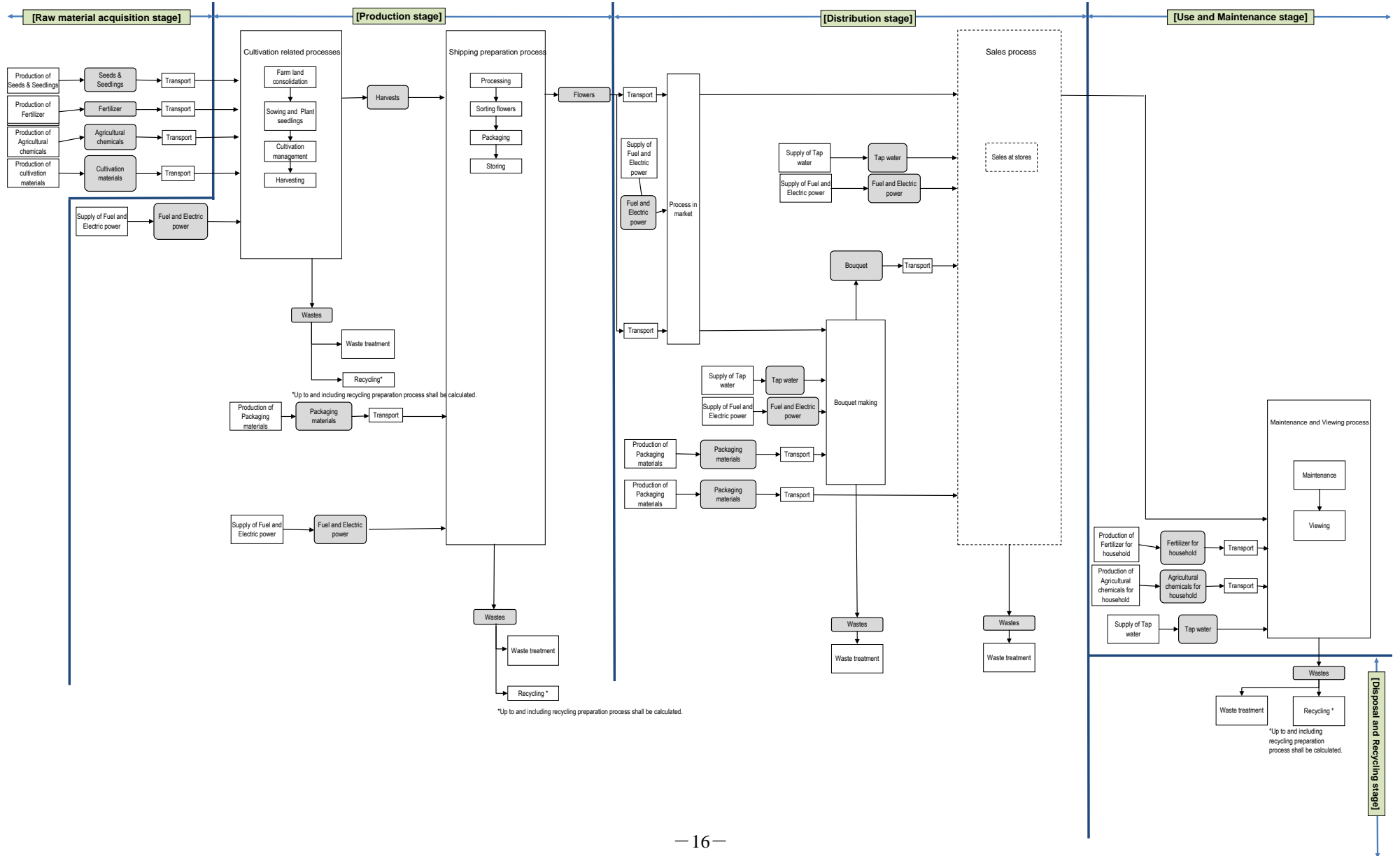
		- Manufacture and transport of “packaging materials” and “transport materials” used when acquiring the inputs above from outside						
10-3	Primary data collection items	Primary data shall be collected on the following item. <Input> - Amount of flowers						
10-4	Primary data Collection method and requirements	Not stipulated.						
10-5	Scenario	<p>[Scenario for use and maintenance]</p> <p>(1) For cut flowers, cut leaves, and cut branches etc. are assumed to use tap water of 1 liter per 10 stalks, and it shall calculate the amount of tap water which are input and discharged per 1 stalk. The amount of water which is input to 1 bucket, a container which is generally used for the distribution of flowers, is 1 liter, and at least 10 or more stalks are input to 1 bucket. Therefore, it is assumed that water of 1 liter is used for 10 stalks, as the maximum value. It is converted from 1 liter to 1 kg for calculation.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Input/Output item</th> <th style="text-align: center;">Input/Output amount</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Input amount of water</td> <td style="text-align: center;">0.1 kg / 1 stalk</td> </tr> <tr> <td style="text-align: center;">Drainage amount of water</td> <td style="text-align: center;">0.1 kg / 1 stalk</td> </tr> </tbody> </table> <p>(2) For seedling, regarding the input amount of household fertilizer and household agricultural chemicals relating to the maintenance, it shall be calculated as follows.</p> <ul style="list-style-type: none"> - For seasonal habit flowers, whose viewing period are considered to be within less than 1 year, it shall be used the term from the date of purchase to the first end of flowering period, - For flowers which have unclear end of flowering period (e.g., the flowers which have year-round flowering habit) or the ones which have no flowers (e.g., ivy) are considered that they are normally transplanted at least up to 1 year, it shall be calculated the input amount of fertilizer and agricultural chemicals necessary for 1 year. <p>Validity of the amount calculated shall be presented. Also seedlings are assumed to use “rain water,” but if using “tap water,” it shall be calculated the input amount of tap water.</p> <p>(3) For foliage plants among potted plants, regarding the input amount of household fertilizer and tap water in the use and maintenance stage, it shall be calculated the input amount of fertilizer which is necessary for one year from the date of purchase, since such foliage plants are often native of tropical region and therefore it is difficult to overwinter at home. In that case, it shall be presented the grounds to assure the validity of the input amount.</p> <p>[Scenario of transporting raw materials] Regarding the transport from a supplier, collect primary data about the transport distance, the means of transport, and the loading ratio. If it is difficult, the scenario of Annex C may be used.</p>	Input/Output item	Input/Output amount	Input amount of water	0.1 kg / 1 stalk	Drainage amount of water	0.1 kg / 1 stalk
Input/Output item	Input/Output amount							
Input amount of water	0.1 kg / 1 stalk							
Drainage amount of water	0.1 kg / 1 stalk							
10-6	Other	<ul style="list-style-type: none"> - Foliage plants among potted plants are assumed to be maintained in the room, so that the input amount of household agricultural chemicals shall not be collected. - For potted plants other than foliage plants, input amount of household fertilizer 						

		<p>and agricultural chemicals shall not be considered because it is assumed that the needs of potted plants are for viewing only on the day intended, such as on the Christmas day or the New year holidays, and they are hardly maintained after those days.</p> <p>- Seedlings tap water input shall not be collected because it is assumed to use rain water.</p>
11	Requirements for the disposal and recycling stage	
11-1	Range of the processes	<p>The following processes shall be covered.</p> <p>(1) Transport of waste packaging materials and plants to treatment facility</p> <p>(2) Incineration of waste packaging materials and plants at treatment facility</p> <p>(3) Landfill of waste packaging materials and plants at treatment facility</p> <p>(4) Processes of the transport of waste packaging materials to be recycled and of their recycling preparation</p> <p>- Indirect effects of recycling shall not be included.</p>
11-2	Data collection items	<p>The following data items shall be collected.</p> <ul style="list-style-type: none"> - Disposal amount of waste packaging materials and plants at home - GHG emissions related to up to and including transport of waste packaging materials and plants to treatment facility - Amount of waste packaging materials and plants incinerated at treatment facility - Amount of waste packaging materials and plants landfilled at treatment facility - Amount of waste packaging materials and plants to be recycled - GHG emissions related to the incineration of wastes at treatment facility (other than CO₂ emissions from waste packaging materials) - GHG emissions from incineration of waste packaging materials - GHG emissions related to landfill of waste packaging materials at treatment facility - GHG emissions related to the processes of the transport and the recycling preparation for waste packaging materials to be recycled
11-3	Primary data collection items	<p>Primary data on the following item shall be collected.</p> <ul style="list-style-type: none"> - Disposal amount of waste packaging materials and plants at home.
11-4	Primary data Collection method and requirements	<ul style="list-style-type: none"> - Regarding the amount of waste packaging materials disposed at home, the packaging materials used for the product will be disposed. When packaging materials are clearly known, all of them are considered and the data shall be collected. For potted plants and seedlings, pots shall be included. Since the packaging materials used in the product is the same as the amount on the product specification - Regarding GHG emissions discharged by incineration of waste packaging materials, all the carbons contained are considered to be emitted as CO₂. The weight ratio of materials in product specifications are multiplied by the carbon quantity in the materials unit quantity based on the chemical composition. - Regarding the disposal amount of plants, together with the disposal amount of plants discharged from the distribution stage, they shall be collected in the disposal and recycling stage. Therefore, all of the plants transported from the shipping preparation process are the disposal amount of plants. Disposal amount of plants in production stage shall not be collected in this stage.
11-5	Scenario	<p>[Scenario of waste transport]</p> <p>Regarding the calculation of GHG emissions related to the transport of waste packaging materials and flower products from home to treatment facility, collect primary data. When it is difficult, the scenario of Annex C may be used instead.</p>

		<p>[Scenario of proper treatment of waste]</p> <p>Regarding the treatment methods for the waste packaging materials and plants which are transported to treatment facility, collect the primary data. When it is difficult, the following scenario may be used. This scenario applies the current status of general waste treatment described in the “State of Discharge and Treatment of Municipal Solid Waste in FY 2006” (surveyed by the Ministry of the Environment of Japan).</p> <ul style="list-style-type: none"> - 92% of the packaging waste is incinerated. - 3% is directly landfilled. If including incineration of ash, 14% is landfilled. - 5% is recycled.
11-6	Other	<p>[Exceptions of allocation]</p> <p>Data for “GHG emissions related to the transport of waste packaging materials to treatment facilities” are obtained as the data for the total combined weight with other wastes, for multiple routes.</p> <p>For each GHG emissions for multiple routes, the total GHG emissions shall be allocated based on the transported weight for each route and included in GHG emissions related to the transport per unit weight.</p> <p>GHG emissions related to the transport per unit weight, which is the data for the total combined weight with other types of wastes, shall also be allocated to different types of waste based on allocation by weight and included in GHG emissions related to the transport per unit weight of wastes targeted by this PCR.</p> <p>[Locality and seasonality]</p> <p>Locality and seasonality shall not be taken into account.</p> <p>[Handling of products at multiple disposal or recycling treatment facilities]</p> <p>This PCR prescribes specific secondary data application to GHG emissions related to the incineration of wastes at treatment facilities. These secondary data may also be applied when wastes are handled on multiple disposal or recycling treatment facilities.</p>
12	Items applied secondary data	<ul style="list-style-type: none"> - For emission factor, use the data provided in the “Tentative Database of GHG Emission Factors for the CFP Pilot Project”. - Of secondary data which is not included in the Database, the data will be prepared as “reference data” by the CFP Pilot Project Secretariat.
13	Communication requirements	
13-1	Unit to be displayed on the label	<ul style="list-style-type: none"> - Calculation unit shall be used. The communication methods described in the “Guideline of CFP system” and the “Standards of PCR development” can be used. However, in this case, its appropriateness shall be examined at the CFP verification panel.
13-2	Label position and Size	<ul style="list-style-type: none"> - Follow the “Specifications of CFP Label and Displaying Other Information”. Labeling shall be accordance with the indication of “Intermediate Goods” in the specification. - CFP label positions are, for packaged products, it shall be displayed on the package. For potted plants, it may be displayed on pot or POP, etc. Additionally, label may be displayed on POP, brochure, or the Internet, etc . - When making bouquet together with the flowers which are verified and the ones not, it shall be clearly indicated the name of the flower verified and shall display on the CFP label. - When displaying CFP value, the primary data collection period of the cultivation

		related processes shall be displayed.
13-3	Contents of additional information	<p>Additional information may be displayed when the contents are verified as appropriate by the CFP verification panel.</p> <ul style="list-style-type: none"> - When selling stalks of single kind of flower, CFP number per stalk may be included. - To inform consumers of the GHG emissions reduction efforts by producers, additional information about the GHG reduction amount of the same or a similar product in the past year(s) by the same operator (including the same area, the same body), or to display additional information about the reduction amount through environmental-friendly agriculture efforts by the MAFF (the Ministry of Agriculture, Forestry and Fisheries of Japan) may be included. - Process by process, or component by component information may be included to expect the promotion the reduction efforts of each operator engaged in each process. - Additional information on the rate of primary data collected from production sites may be displayed.

Annex A (normative): Life Cycle Flow Chart



Annex B (normative): Calculation Method for GHG Emissions associated with Fuel Consumption during Transport

B.1 Fuel consumption method

- 1) Collect data on fuel consumption [L] for each mean of transport, and convert the fuel unit, “L,” to “kg” by using following equation.

$$\text{Fuel consumption [kg]} = \text{Fuel consumption [L]} \times \text{fuel density } \gamma [\text{kg/L}]$$

$$\text{Fuel density of gasoline: } \gamma = 0.75 \text{ kg/L}$$

$$\text{Fuel density of light oil: } \gamma = 0.83 \text{ kg/L}$$

- 2) Calculate life cycle GHG emissions [kg-CO₂e] by multiplying fuel consumption [kg] and the “life cycle GHG emissions related to supply and use of fuel” [kg-CO₂e/kg] (secondary data) for each type of fuel.

B.2 Fuel cost method

- 1) Collect data on fuel cost [km/L] and transport distance for each mean of transport, and calculate fuel consumption [kg] by using the following equation.

$$\text{Fuel consumption [kg]} = \text{transport distance [km]} / \text{fuel cost [km/L]} \times \text{fuel density } \gamma [\text{kg/L}]$$

- 2) Calculate life cycle GHG emissions [kg-CO₂e] by multiplying fuel consumption [kg] and the “life cycle GHG emissions related to supply and use of fuel” [kg-CO₂e/kg] (secondary data) for each type of fuel.

B.3 Improved ton-kilometer method

- 1) Collect data on loading ratio [%] and transport load (transport ton-kilometer) [t-km] for each mean of transport.
- 2) If the loading ratio is unknown, assume it to be 10% for cut flowers, 40% for potted plants and seedlings, and 62% for the other cases.
- 3) Calculate life cycle GHG emissions [kg-CO₂e] by multiplying the transport load (transport ton-kilometer) [t-km] by the “life cycle GHG emissions related to fuel consumption per transport ton-kilometer” [kg-CO₂e/t-km] (secondary data) for different transport loads for each mean of transport.

B.4 Conventional ton-kilometer method

- 1) Collect data on transport load (transport ton-kilometer) [t-km] for each mean of transport.
- 2) Calculate life cycle GHG emissions [kg-CO₂e] by multiplying the transport load (transport ton-kilometer) [t-km] by the “life cycle GHG emissions related to fuel consumption per transport ton-kilometer” [kg-CO₂e/t-km] (secondary data) for each means of transport.

Annex C (normative): Transport Scenario

Transport scenarios are set for cases where primary data is not available in the raw material acquisition stage, the production stage, the distribution stage, the use and maintenance stage and the disposal and recycling stage.

Chart 1 - Transport scenario

Life cycle stage	Scenario
Raw material acquisition stage	<p>(1) Domestic production Manufacturer of the inputs in the cultivation related process => Producer (e.g., Fertilizer manufacture => Producer) - Means: 10-ton truck - Distance: 500km - Loading ratio: 62%</p> <p>(2) When importing raw materials which are produced overseas i. Transport within the country in which raw materials are produced. (Overseas production site => Port) - Means: 10-ton truck - Distance: 500km - Loading ratio: 62%</p> <p>ii. International transport (Port => Port) - Means: Container ship (4,000TEU or less) - Distance: Navigation distance between ports(*) (*) For international navigation distance, the value prepared as "reference data" by the CFP Pilot Project Secretariat may be used.</p> <p>iii. Transport within Japan (Port => Producer) - Means: 10-ton truck - Distance: 500km - Loading ratio: 62%</p>
Production stage	<p>(1) Producer => Operator of shipping preparation process (e.g., Producer => Collecting and shipping facility) - Means: 2-ton truck - Distance: 20km - Loading ratio: 10% for cut flowers, 40% for potted plants and seedlings</p> <p>(2) Manufacturer of the inputs in the shipping preparation process => Operator of shipping preparation process (e.g., Packaging materials manufacturer => Collecting and shipping site) - Means: 10-ton truck - Distance: 500km - Loading ratio: 62%</p>
Distribution stage	<p>(1) Transport scenario for raw materials Manufacture of inputs in the bouquet making process => Operator of bouquet making process (e.g., Packaging materials manufacturer => Bouquet maker) - Means: 10-ton truck - Distance: 500km - Loading ratio: 62%</p> <p>(2) Transport scenario for products (Domestic production) Operator of shipping preparation process => Operator of sales at a store (e.g., Collecting and shipping facility => Retail shop such as mass retailer) - Means: 10-ton truck</p>

	<ul style="list-style-type: none"> - Distance: 500km - Loading ratio: 10% for cut flowers, 40% for potted plants and seedlings <p>(3) Scenario for transporting products (Overseas production)</p> <p>i. Transport within the country in which products are produced (Overseas production site => Port)</p> <ul style="list-style-type: none"> - Means: 10-ton truck - Distance: 500km - Loading ratio: 10% for cut flowers, 40% for potted plants and seedlings <p>ii. International transport (Port => Port)</p> <ul style="list-style-type: none"> - Means: Container ship (4,000TEU or less) - Distance: Navigation distance between ports(*) <p>(*) For international navigation distance, the value prepared as “reference data” by the CFP Pilot Project Secretariat may be used.</p> <p>iii. Transport in Japan (Port => Seller at stores)</p> <ul style="list-style-type: none"> - Means: 10-ton truck - Distance: 500km - Loading ratio: 10% for cut flowers, 40% for potted plants and seedlings
Use and Maintenance stage	<p>Manufacturer of inputs to the viewing and maintenance processes in the use and maintenance stage => Consumer (e.g., Fertilizer manufacturer => Consumer)</p> <ul style="list-style-type: none"> - Means: 10-ton truck - Distance: 1000km - Loading ratio: 62%
Disposal and Recycling stage	<p>Transport from garbage dump place to treatment facility</p> <ul style="list-style-type: none"> - Means: 10-ton truck - Distance: 50km - Loading ratio: 62%

Assumptions for each scenario are as follows.

C.1 Transport Distance

For an incentive to provide primary data collection, the transport distance is set to a little longer than the average at possible.

(a) Transport within a city, town, or village: 20km

[Assumption] The distance longer than 14.5km is assumed. 14.5km is the square root of 209.27km², the average area size of the cities, towns, and villages in Japan (The value comes from the Investigation by the Geographical Survey Institute, as of April 1, 2009).

(b) Transport within a city or not across adjacent cities: 50km

[Assumption] The distance from a prefectural center to a prefectural border is assumed.

(c) Transport within a prefecture: 100km

[Assumption] The distance from a prefectural border to another side of the border is assumed.

(d) Transport possibly across prefectural border to another side of the border is assumed: 500km

[Assumption] The distance from Tokyo to Osaka is assumed.

(e) Transport from producer to consumer (consumption place is not limited within a specific area): 1,000km

[Assumption] The distance a little longer than half Honshu (the main island of Japan: 1,600km) is assumed.

C.2 Means of transport

Truck transport is basically assumed for an incentive to take CO₂ reduction measures in distribution such as modal shift. Large vehicles were set for distributors and rather small ones for others.

(a) Transport by distributor: 10-ton truck

(b) Transport by agricultural producer: 2-ton truck

C.3 Loading ratio

Values to be applied when loading ratio is unknown were taken from the following table in the “Calculation method of the amount of energy consumption in freight transportation consigned to freight carriers,” a notification by the Ministry of Economy, Trade and Industry of Japan.

Chart 2 - Values to be applied when loading ratio is unknown

Vehicle Type	Fuel	Maximum Load (kg)		When loading ratio is unknown			
				Average loading ratio		Basic unit [L/t-km]	
				For household	For business	For household	For business
Light, compact and ordinary trucks	Gasoline	Light trucks	350	10%	41%	2.74	0.741
		1,999 or less	1000	10%	32%	1.39	0.472
		2,000 or more	2000	24%	52%	0.394	0.192
Compact and ordinary trucks	Light oil	999 or less	500	10%	36%	1.67	0.592
		from 1,000 to 1,999	1500	17%	42%	0.530	0.255
		from 2,000 to 3,999	3000	39%	58%	0.172	0.124
		from 4,000 to 5,999	5000	49%	62%	0.102	0.0844
		from 6,000 to 7,999	7000			0.0820	0.0677
		from 8,000 to 9,999	9000			0.0696	0.0575
		from 10,000 to 11,999	11000			0.0610	0.0504
from 12,000 to 16,999	14500	0.0509	0.0421				

[PCR revision histories]

Approved PCR ID	Release date	Contents revised
PA-AW-02	September 8, 2010	<p>(1) Changed corresponding to the revisions of the basic rules.</p> <p>(2) Adapting the contents to the new PCR draft template.</p> <p>(3) For handling of recycling of the wastes discharged from each stage (other than the disposal and recycling stage), up to and including recycling preparation process shall be calculated. (It applies to “No.2-(7): Handling of recycling standards” provided in the “Guide of Establishing Product Category Rules (PCR)”.)</p> <p>(4) For handling of the wastes collected for value, up to and including the recycling preparation process shall be calculated. (It applies mutatis mutandis to “No.2-(7): Handling of recycling standards” provided in the “Guide of Establishing Product Category Rules (PCR)”.)</p>