Product Category Rules (PCR)

(Approved PCR ID: PA-BC-02)

Plastic Containers and Packaging

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The Carbon Footprint of Products Calculation and Labeling Pilot Program

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(Provisional Translation)

Product Category Rule of "Plastic Containers and Packaging" (Approved PCR ID: PA-BC-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 can be used as a "referenced PCR" for final consumer goods' PCR with necessary modifications.
- 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 "Plastic Containers and Packaging" under the CFP Pilot Project. - This PCR prescribes products to be covered, specification of assessment range, unit of greenhouse gas (GHG) emission values to be displayed, and range covered at each life cycle stage.
2	Definitions of products	
2-1	Descriptions of product category	- "Plastic Containers and Packaging" is defined as "containers and packaging mainly made of plastics". - If "plastic" is the heaviest material contained in a certain container or packaging, this PCR can be used. - "Plastic Containers and Packaging" covers such products for business use and for consumer use. However, for consumer use, it is limited only to cling films for food wrapping and plastic garbage bag as of now. [Functions and characteristics] "Containers and packaging" refers to the products that are used to protect the value and condition of the goods to be packaged (hereinafter called "contents") while they are distributed, sold, stored, used, and so on, but become useless after the contents have been completely used. Individual, inner and outer packaging is included. [Construction of materials] Construction of materials are, - a simple or single-layer construction composed of a sole resin, film, or sheet, - a composite or laminated construction composed of more than one resin, film or sheet of the same type or different types, and - a composite or laminated construction composed with other materials such as paper, paperboard and metal foil. Printing, coating, sticking, cutting, blanking, slitting, adhering and tube sticking processes are done on the materials mentioned above, and shaped into such forms as film, sheet, bags, box, tray, cup, bottle and tube so that they can function appropriately according to the characteristics of the contents. [Usage] Plastic containers and packaging are provided in the "packaging process" in the production stage of "final consumer goods," and used for filling and sealing goods therein by using a filling and packaging machine. In the "packaging process," the filling and sealing of goods may be performed simultaneously with the shaping of the form of containers and packaging by using an integrated molding, filling and packaging machine.
2-2	Components of products	Components are - "Materials" specified in "Construction of materials" in "No. 2-1"; - Printing ink, coating agent, adhesive, and the like that are essential to the

		construction of plastic containers and packaging; - Stopper, lid, cap and the like; divider and the like; label, sticker and the like; and handle, string and the like that are attached to plastic containers and packaging for the purpose of making them more functional; - Packing materials used to transport plastic containers and packaging to the production stage; and - Plastic containers and packaging for “attachments” and “giveaways”. Following items are excluded from the components of this PCR: - Attachments itself (such as a spoon attached to a cup of yogurt); and - Giveaways itself (such as a small toy enclosed in a box of candy)
3	Referenced Standards and PCRs	Any of the following standards and TS referred to in this PCR shall constitute a part hereof: - JIS Z 0108: 2005 Glossary of Terms for Packaging; - JIS K 6900: 1994 Plastics - Vocabulary; - JIS B 8650: 2006 Plastics Molding Machinery - Vocabulary; - JIS Z 0112: 2008 Packaging - Environmental terminology; - JIS Z 8123: 1995 Graphic Arts - Glossary - Fundamental Terms; and - TS Q0010: 2009 General Principles for the Assessment and Labeling of Carbon Footprint of Products
4	Terms and Definitions	See terms listed below and in “Annex C (normative): Terms and Definitions” for terms and definitions of this PCR. (1) Plastics (refer to JIS K 6900: 1994) Materials containing high polymers as essential components that are capable of being shaped or formed as required at any manufacturing phase of finished products. (2) Individual packaging (refer to JIS Z 0108: 2005) A technique to package individual items of goods using appropriate materials, containers, etc. in order to enhance their commercial values or to protect each of them; or the condition where such technique has been performed. It also serves as a medium of communicating information such as product labeling. (3) Inner packaging (refer to JIS Z 0108: 2005) A technique to package goods inside the packaged freight using appropriate materials, containers, etc. in order to protect them from the adverse effects caused by water, humidity, light, heat, shocks, etc.; or the condition where such technique has been performed. (4) Outer packaging (refer to JIS Z 0108: 2005) A technique to put bulk or packaged goods into containers such as boxes, bags, barrels and cans or to bundle them together without using such containers, and thereafter, to print symbols, shipping marks and other descriptions on such containers or goods bound together as necessary; or the condition where such printing has been performed. It is also called “packing”. (5) Cling films for food wrapping Plastic films having such characteristics as transparency, resistance to moisture, self-adhesiveness that is used for food wrapping for storage, cooking and other purposes. (6) Garbage bags Rectangular or U-shaped plastic bags generally made of polyethylene that is designed exclusively for collecting non-industrial waste. (7) Attachments Articles which are attached to the goods when they are sold, and do not constitute any part of such goods or the containers or packaging thereof, such as a spoon attached to a cup of yogurt.

		(8) Giveaways Articles which are attached to the goods for sales promotional purposes when they are sold, and do not constitute any part of such goods or the containers or packaging thereof, such as a small toy enclosed in a box of candy. (9) Intermediate processed goods Base materials and components used to manufacture plastic containers and packaging, such as rolls of raw materials for plastic films and sheets, and preforms for plastic bottles. (10) Plastic films (refer to JIS Z 8123: 1995 and JIS Z 0108: 2005) Thin and flat products whose thickness is extremely thin relative to their length and width with its maximum thickness being limited to a specified value, and which are usually supplied in roll form. They shall be made of plastics and in film form with a thickness of less than 0.25 mm. (11) Plastic sheets (refer to JIS Z 8123: 1995 and JIS Z 0108: 2005) Thin and flat products whose thickness is extremely thin relative to their length and width with its maximum thickness being limited to a specified value, and which are usually supplied in roll form. They shall be made of plastics and in sheet form with a thickness of 0.25 mm or more. (12) Bottles (refer to JIS Z 0108: 2005) Rigid or semi-rigid containers composed of body, bottom and mouth portions. Generally, the body portion is narrowed below the mouth to form shoulder and neck portions. The mouth shall be sealed with a closure such as stopper made of body material, cork stopper, crown cap or screw cap. Bottles made of PET and plastics are usually called “PET bottles” and “plastic bottles,” respectively, to distinguish between them. (13) Designated PET bottles PET bottles required to be attached with an identification mark in accordance with the “Law for the Promotion of Effective Utilization of Resources: Designated Labeled Products”. The contents of such bottles include refreshing drink, soy sauce, alcoholic beverages, mirin seasoning, milk and dairy products, and seasonings specified by the Law above. (14) Trays (refer to JIS Z 0108: 2005) Shallow containers made of relatively rigid materials. (15) Foamed polystyrene containers (refer to JIS Z 0108: 2005) Cushioning packaging materials molded by heating and foaming polystyrene beads containing liquefied gas or chemical foaming agents in the mold. They are also called “EPS containers”. (16) Roll products (refer to JIS P 0001: 2008) Thin and flat products in sheet or film form which are wound into roll form so that they can be transported easily and safely. (17) Sealing (refer to JIS Z 0108: 2005) - A technique to put the goods or packaged goods into containers or packaging, and close the openings to protect the goods inside. - Sealing methods include mechanical sealing or bundling, sealing with tapes, sealing with adhesives, sealing with stamps, and heat-sealing. (18) Open recycling (refer to “EcoLeaf Method of Calculating Product Environmental Load during Recycling/Reuse”; Japan Environmental Management Association for Industry: 2004) - Recycling of waste products as materials or raw materials for products of different types from the original ones. It is also called “cascading” or

		"downgrade recycling". (19) Closed recycling (refer to "EcoLeaf Method of Calculating Product Environmental Load during Recycling/Reuse"; Japan Environmental Management Association for Industry: 2004) - Reuse of waste products as recycled materials for products of the same type as the original ones. (20) Material recycling [Mechanical recycling] (refer to JIS Z 0112: 2008) - Recycling of waste as materials or raw materials. It is also called "resource recycling" or simply "recycling". - More specifically, used products, waste from production process, and the like are collected, processed into forms suitable for recycling, and reused as materials or raw materials for new products. (Processing associated with chemical change is not performed. Waste is pulverized into flakes or pellets, and recycled as raw materials. Recycling methods requiring a high cleaning level and solid polycondensation process are also included.) (21) Chemical recycling [Feedstock recycling] (refer to JIS Z 0112: 2008) - A technique of recycling used resources after changing their composition through chemical reaction. - It usually refers to recycling of waste plastics with oil production, gasification and coke-oven chemical raw material method. (In the case of recycling of used PET bottles, they are chemically decomposed into the substances that serve as the raw materials of PET resin, and they are reused to produce PET resin again.) (22) Thermal recycling - A process in which waste plastics are burned, and the thermal energy released is utilized to supply heat or electricity usually in the form of hot water, steam and electric power. It is also called "energy recovery".
5	Range of assessment	
5-1	Calculation unit	Sales unit.
5-2	Life cycle stages	The life cycle stages (see page15 supplementary remark for better understanding) : - In the case of intermediate goods (B-to-B products), (1) the raw material acquisition stage and (5) the disposal and recycling stage shall be covered. However, (1) the raw material acquisition stage shall be divided into three stages: "(1-(1)) Container/packaging raw material acquisition stage" "(1-(2)) Container/packaging production stage" "(1-(3)) Container/packaging transport stage" - When this PCR is used for "final consumer goods" supplied to consumers, five life cycle stages shall be covered. The three stages mentioned above shall correspond to the following stages, respectively. "(1-(1)) Container/packaging raw material acquisition stage" => "(1) Raw material acquisition stage" "(1-(2)) Container/packaging production stage" => "(2) Production stage" "(1-(3)) Container/packaging transport stage" => "(3) Distribution stage" Basically, this PCR is developed for intermediate plastic containers and packaging, the classification of the life cycle stages is unique.
6	General requirements applied to all stages	
6-1	Life cycle flow chart	- Life cycle flow chart is provided in Annex A (normative). The charts of containers/packaging for business use and consumer use are provided in "Annex A.1" and "Annex A.2", respectively. These charts are conceptual charts intended to make it easy to identify the "processes covered by each life cycle stage". - When calculating GHG emissions, a detailed life cycle flow chart for each type

		of “plastic container/packaging covered by this assessment” shall be created. It is recommended that the charts in Annex A are used as the basis for such detailed chart, but it is not limited to this chart only. - Annex B (informative) shows a conceptual chart of production processes for representative plastic containers and packaging.
6-2	Range of data collection	- Indirect departments (e.g., clerical department, research department, etc.) shall be excluded. If it is difficult to exclude those indirect departments, indirect departments may be included.
6-3	Data collection period	-Activity data shall be collected from the most recent and consecutive one-year period. - If data is not collected on the above condition, its reason shall be specified. - If it is difficult to collect data on the above condition, in the case of newly released products, calculation may be based on the design values. However, the calculation results shall be updated when the data becomes available.
6-4	Allocation	- Weight ratio shall be used. - If any other allocation method is used due to the characteristics of the product, the allocation method used and its validity shall be verified.
6-5	Cut-off criteria	- Cut-off shall not be conducted unless data collection is difficult. - 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	[Rules related to transport] (1)Domestic transport: Primary data on raw material transport shall be collected according to the following method: - Among by the fuel consumption method, the fuel cost method, and the ton-kilometer method. - Weighted averages shall be used for the data from multiple suppliers. - See “Annex D (informative): Collection of fuel consumption data and calculation of GHG emissions for truck transport” for more information. (2) International transport is involved: - Primary data shall be collected conforming to rules described in (1) domestic transport. If any rules on transport are prescribed by the authorities or private sectors in a country, data on the overland transport within the country may be collected according to the rules. [Rules related to waste] - GHG emissions from biomass combustion shall be excluded. [Rules related to recycling] - In the case of products to be recycled, the GHG emissions associated with the processes from transport to preparation for recycling (pretreatment) shall be included. [Rules on series products] (1) Products having the same material composition may be handled as “series products”, if they have a similar shape and weight, and the GHG emissions per unit of a specific physical quantity (weight, area, etc.) can be deemed to be the same. As the method of handling series products has not been established in the CFP Pilot Project, method will be modified as necessary in the future. (2) Requirements for approval as series products - Material composition and used materials shall be the same. -The shape shall be similar (size or thickness is different). - Correlation between the physical quantities such as size or weight and the GHG emissions shall be demonstrated. - Such correlation shall be demonstrated in at least five individual data, with the dispersion tolerance being 5% or less.

		- CFP per units of physical quantities shall be verified by the CFP Verification Panel.
7	Requirements for raw material acquisition stage	
7-1	Range of the processes	(See 5-2 for setting life cycle stages in this PCR) (1) Container/packaging raw material acquisition stage - Processes related to manufacture of raw materials (including intermediate processed goods) and components procured and proper treatment of waste. - Processes related to domestic/international transport of raw materials from suppliers to production sites. - Processes related to manufacture and procurement of “raw materials of packing materials used for transport of plastic containers and packaging”. (2) Container/packaging production stage - Processes related to manufacture, inspection, and packing, etc. of plastic containers and packaging (including transport between production sites). - Processes related to transport and proper treatment of wastes, etc. from each processes. (3) Container/packaging transport stage - Processes related to domestic/international transport of plastic containers and packaging from shipping point to delivery destination.
7-2	Data collection items	Data on the following items shall be collected. (1) Container/packaging raw material acquisition stage a) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “preparation process” during their life cycle from resource mining through manufacturing to waste treatment. b) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “molding process” during their life cycle from resource mining through manufacturing to waste treatment. c) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “finishing process” during their life cycle from resource mining through manufacturing to waste treatment. d) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “printing process” during their life cycle from resource mining through manufacturing to waste treatment. e) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “labeling process” during their life cycle from resource mining through manufacturing to waste treatment. f) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “packing/storage processes” during their life cycle from resource mining through manufacturing to waste treatment. g) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “inspection process” during their life cycle from resource mining through manufacturing to waste treatment. h) GHG emissions (kg-CO_2e) per unit and input amounts of all materials which are input to the “processes other than the above from a) to g)” during their life cycle from resource mining through manufacturing to waste treatment. i) GHG emissions (kg-CO_2e) per unit and input amounts of all packing materials used for procurement in the “processes above from a) to h)” during their life cycle from resource mining through manufacturing to waste treatment.

		j) GHG emissions (kg-CO_2e) related to the procurement transport of the materials in the processes above from a) to h). Note: When unused waste, such as remnants from the manufacturing process, and used products are used as raw materials, primary data shall be collected regarding the load in the transport of materials ready to be recycled and subsequent processes (transport from pretreatment site, recycling processing, etc.). More specifically, those processes include pulverization, cleaning, drying and pelletization. (2) Container/packaging production stage a) Consumption amount of fuel and electricity, and GHG emissions associated with them. b) Consumption amount or input amount of water, and GHG emissions associated with it. c) Wastewater, types of wastes, and their discharge amounts from each production process, and GHG emissions associated with the transport and their proper treatment. d) GHG emissions generated when "used solvents" are combusted using "exhaust gas treatment devices" and released into the air in the printing process, lamination process, etc. (Calculate it based on the collected data of the input amount of solvent in the container/packaging raw material acquisition stage). (3) Container/packaging transport stage a) Weight of plastic containers and packaging transported. b) GHG emissions associated with fuel consumption.
7-3	Primary data collection items	- Primary data shall be collected on the items in No.7-2. - However, the GHG emissions (kg-CO_2e) associated with transport for procurement, i) of (1) in No.7-2, need not be taken into consideration since such amount is extremely small.
7-4	Primary data Collection method and Requirements	- If in-house power generation is used, data on fuel consumption used for producing electricity shall be collected, and GHG emissions shall be calculated based on such data on fuel consumption amount. - If measurement of power consumption is difficult, allocation by rated power of processing device can be used. However, the reason for the difficulty in obtaining measured primary data shall be stated. - If ground water is used, data on consumption amount of fuel and electricity used for pumping up the water shall be collected.
7-5	Scenario	[Transport scenario] If it is difficult to collect primary data, the following scenarios may be used for calculation. The assumptions of transport scenario are provided in "Annex E (informative): Grounds for setting the transport scenario". (1) Transport for raw material acquisition, and transport of intermediate products, etc. between production sites a) Domestic transport: 1) When only land transport is involved: - Transport means: 10-ton truck, transport distance: 500km, and loading ratio: 25% 2) When marine transport is involved: 2.1) Domestic transport (from raw material production site or supplier's site to port) - Transport means: 10-ton truck, transport distance: 100km, and loading ratio: 25% 2.2) Domestic marine transport (from port to port) - Transport means: container ship (4,000TEU or less), transport distance:

		1,500km 2.3) Domestic transport (from port to production site of products) - Transport means: 10-ton truck, transport distance: 100km, and loading ratio: 25% b) International transport The same scenario as "Domestic transport" shall be used. The distance by international marine transport will be provided by the CFP Pilot Project Secretariat as reference data. (2) Transport of wastes from the production stage - Transport means: 4-ton truck, transport distance: 100km, and loading ratio: 25% (3) Transport of containers/packaging a) Domestic transport: 1) Roll products - Transport means: 4-ton truck, transport distance: 1,000km, and loading ratio: 62% 2) Foamed polystyrene (EPS) products - Transport means: 4-ton truck, transport distance: 150km, and loading ratio: 5% 3) Food tray - Transport means: 4-ton truck, transport distance: 400km, and loading ratio: 25% 4) Products other than those in 1) to 3) above - Transport means: 4-ton truck, transport distance: 500km, and loading ratio: 25% b) When international transport is involved: Use the scenario of "(1) Transport for raw material acquisition, and transport of intermediate products, etc. between production sites" in No.7-5. [Scenario of wastes treatment from containers and packaging production stage] Of proper waste treatment, GHG emissions related to transport and recycling preparation processes for recycling shall be calculated, and GHG reduction amount related to indirect effects by recycling shall not be calculated in this PCR. However, "thermal recycling" shall be handled in the same manner as "incineration disposal," and the GHG emissions associated with transport and incineration shall be calculated. If collection of primary data is difficult, the following scenarios may be used: - Waste paper: 100% is incinerated. - Waste metal: 100% is recycled. - Waste plastics, waste ink and waste solvents: 100% is incinerated.
7-6	Other	[Procurement of recycled materials] - When recycled materials are procured, GHG emissions associated with transport process of materials ready to be recycled and the subsequent processes (e.g., transport from pretreatment site, recycling processing, etc.) shall be calculated. [Data collection method when primary data collection is difficult] - Secondary data may be used, provided that its reason for such use shall be clearly stated. Input amount of raw materials shall be reported inclusive of yield. [Data collection method of procurement from multiple suppliers] - Primary data shall be collected from all the suppliers. If this is difficult, 50% or more primary data collected from major suppliers may be used as the secondary data of other suppliers.

		[Data collection method of manufacturing at multiple production sites] - When there are multiple sites and equipments performing the same process by the same manufacturer (incl. outside contractor), primary data shall be collected from all of them. However, when the primary data on a specific equipment in a specific site account for 50% or more of the entire data, such data may be used as the secondary data of other sites/equipments, except in cases where the capacity of the equipments differ from one another substantially and such data substitution as secondary data is not considered appropriate. [Raw material procurement from overseas] - Primary data associated with processes from resource mining to manufacture shall be collected by using the same method of domestic procurement. Secondary data for GHG emissions calculation shall be used the data of procurement country, but if such data is not available and domestic secondary data may be used instead, the reason shall be clearly stated. [Regional difference and seasonal change of production stage] - Regional difference shall not be taken into consideration. - Seasonal change is eliminated by collecting primary data as annual data.
8	Requirements for the production stage	
8-1	Range of the processes	[Applied only for consumer use] Data on plastic container and packaging for consumer use shall be collected according to "(2) Container/packaging production stage" of No.7-1. a) Processes related to manufacture, inspection, packing, etc. of plastic containers and packaging (including transport between production sites). b) Processes related to transport and proper treatment of waste from each process.
8-2	Data collection items	- Conform to No.7-2.
8-3	Primary data collection items	- Conform to No. 7-3.
8-4	Primary data Collection method and Requirements	- Conform to No. 7-4.
8-5	Scenario	- Conform to (1) and (2) of [Transport scenario], and [Treatment scenario of wastes from the container/packaging production stage] provided in No.7-5.
8-6	Other	- Conform to [Data collection method when primary data collection is difficult], [Data collection method in the case of manufacturing at multiple production sites], and [Regional difference and seasonal change of container/packaging production stage] provided in No.7-6.
9	Requirements for the distribution stage	
9-1	Range of the processes	[Applied only for consumer use] - Collection of data on plastic container and packaging for consumer use shall cover the transport process from production site to retail store, and the disposal process in the distribution stage.
9-2	Data collection items	- Weight of plastic container and packaging transported. - GHG emissions associated with fuel consumption. - GHG emissions associated with disposal of used packing materials of applicable containers and packaging from stores. (When such packing materials are recycled, collect the data on GHG emissions associated with the processes up to and including recycling preparation).
9-3	Primary data collection items	- Primary data shall be collected on the items in No.9-2.
9-4	Primary data Collection method and Requirements	- Not stipulated.
9-5	Scenario	[Transport scenario]

		(1) Domestic production a) From production site to distribution warehouse - Transport means : 10-ton truck, transport distance: 500km, and loading ratio: 25% b) From distribution warehouse to retail store - Transport means: 2-ton truck, transport distance: 50km, and loading ratio: 25% c) From production site to retail store - Transport means: 4-ton truck, transport distance: 100km, and loading ratio: 25% (2) Overseas production a) From production site to port within production country - Transport means: 10-ton truck, transport distance: 500km, and loading ratio: 25% b) From port in production country to domestic port - Transport distance: As for the transport distance between the ports, use the value of "reference data" prepared by the CFP Pilot Project Secretariat. - Transport means: container ship (4,000TEU or less) c) From domestic port to distribution warehouse - Transport means: 10-ton truck, transport distance: 500km, and loading ratio: 25% d) From distribution warehouse to retail store - Transport means: 2-ton truck, transport distance: 50 km, and loading ratio: 25% [Scenario for disposal of waste of packing materials] If it is difficult to obtain the data of disposal/recycle treatment of waste packing materials, the following scenario may be used: a) Corrugated cardboard: 100% recycled. b) Other waste packing materials: 100% incinerated.
9-6	Other	[Data collection method for multiple transport routes] - Primary data shall be collected from all of the routes. If it is difficult to collect data from all routes, however, data on 50% or more of the total amount of transportation shall be collected, and such data may be used as the secondary data of other routes.
10	Requirements for the use and maintenance stage	
10-1	Range of the processes	[Applied only for consumer use] - The processes related to use and maintenance.
10-2	Data collection items	- As the products covered by this PCR are used manually at household without consuming energy, GHG emissions shall not be included. Transport of product to a place to be used (at home, etc.) after purchased by end-consumers shall not be included.
10-3	Primary data collection items	- Not stipulated.
10-4	Primary data Collection method and Requirements	- Not stipulated.
10-5	Scenario	- Not stipulated.
10-6	Other	- Not stipulated.
11	Requirements for the disposal and recycling stage	
11-1	Range of the processes	- Processes related to transport and proper treatment of used plastic container and packaging.
11-2	Data collection items	Data on the following items shall be collected. - Weight of used plastic container and packaging. - Ratios of used plastic container and packaging that are recycled (resource recovery ratio), incinerated, and landfilled, respectively. - GHG emissions associated with transport of used plastic container and

		packaging to treatment facility. - GHG emissions associated with incineration at waste treatment facility (other than CO_2 emissions derived from used plastic container and packaging). - GHG emissions derived from used plastic container and packaging that are incinerated. - GHG emissions associated with landfill disposal at treatment facility. - GHG emissions associated with the processes from "transport for recycling" up to and including recycling preparation.
11-3	Primary data collection items	- Primary data shall be collected on the items provided in No.11-2.
11-4	Primary data Collection method and Requirements	- For the weight of used plastic container and packaging, the data in the product specification may be used.
11-5	Scenario	[Transport scenario] GHG emissions associated with transport to facility for disposal/recycling may be calculated according to the following scenario: - Transport means: 2-ton truck, transport distance: 50km each way, and loading ratio: 25% [Disposal/recycling scenario] When collection of primary data is difficult, the following scenarios may be used. (1) Common scenario for plastic container and packaging a) Use the following disposal ratios of disposal/recycling for calculation. - Incineration: 62% - Landfill: 16% - Recycling: 22% Since plastic container and packaging for consumer use in the disposal and recycling stage are disposed as non-industrial waste by municipalities, use the following ratios for calculation, to avoid underestimation. - Incineration: 92% - Landfill: 3% - Recycling: 5% b) GHG emissions derived from resin during incineration shall be calculated based on carbon content thereof. As for the examples of calculation, refer to "H.1.2, Waste-derived GHG emissions generated from incineration" in Annex H. (2) Scenario depending of the type of containers and packaging When primary data collection is possible, and in the case of designated PET bottles and the foamed polystyrene containers which have well-established recycling system, the following scenarios shall be applied. a) Ratio of each type of waste treatment in the disposal/recycling stage shall be as follows: 1) Designated PET bottles - Incineration: 17% - Landfill: 5% - Recycling: 78% 2) Foamed polystyrene containers - Incineration: 39% - Land-fill: 8% - Recycling: 53% b) GHG emissions derived from resin during incineration shall be calculated based on carbon content thereof. As for the examples of calculation, refer to "H.1.2, Waste-derived GHG emissions generated from incineration" in Annex H (normative). c) As for plastic caps and labels attached to designated PET bottles," (1) Common scenario for plastic containers and packaging" shall be applied.
11-6	Other	[Calculating indirect effect] When primary data collection is possible, and in the case of designated PET

		bottles and foamed polystyrene containers whose have well -established recycling system, collect primary data on the following items and calculate GHG emissions. - Weight of used plastic containers and packaging. Weight values included in product specifications may be used, assuming that the entire portions of each of the used plastic containers and packaging are disposed of or recycled. - Recycle ratio (resource recovery ratio) of used plastic containers and packaging, material recycle [Mechanical recycling] ratio, and chemical recycle [Feedstock recycling] ratio. - GHG emissions associated with recycling process. - GHG emissions associated with treatment process of residues in recycling. - Recycling substitution value (GHG emissions associated with virgin materials substituted by recycled ones).
12	Items applied secondary data	- The data provided in the "Tentative Database of GHG Emission Factors for the CFP Pilot Project" (hereinafter called "GHG Emission Factor Database"). - Of secondary data which is not included in GHG Emission Factor Database, but the data prepared as "reference data" by the CFP Pilot Project Secretariat. - Use the data of the country concerned as secondary data for calculation. If it is difficult to obtain such data, domestic data may be used instead, provided that its reason shall be stated.
13	Communication requirements	
13-1	Unit to be displayed on the label	- Calculation unit shall be used. The communication methods described in the "Basic Guideline of the Carbon Footprint of Products" and the "Guide of Establishing Product Category Rules" can be used. However, in this case, its appropriateness shall be studied on the CFP verification panel. [For business use] - Information may be placed on invoices, delivery notes and transport packaging (shipping cartons). To avoid confusion with CFP labeling, however, no labeling may be made on plastic containers and packaging itself. It is permitted that an entity calculating the GHG emissions posts the information in its catalogue and on its website. [For consumer use] - Sales unit. [Information Disclosure Sheet] - For business use, "Information Disclosure Sheet" in Annex J (informative) should be used to provide information on the GHG emissions to contents manufacturers. - "Information Disclosure Sheet" shall include product information, life cycle stages information, GHG emissions, and additional information. Total GHG emissions shall be disclosed, in principle, but it may be disclosed for each process. [displays for series products] - If the products are approved as series products, "CFP value per unit of physical quantity" multiplied by the same physical quantity of each product may be deemed as the CFP value per sales unit, and used as displaying information. In the case of series products, the physical quantity and the GHG emissions per such physical quantity (kg-CO_2e/kg, kgCO_2e/m^2, etc.) which are in correlation with each other may be included additionally in displaying information.
13-2	Label position and Size	- Follow the common rules, the "Specifications of CFP Label and Displaying Other Information". The indications, "Intermediate goods" shall be displayed on plastic container and packaging for business use, and "Final goods" for consumer use.

13-3	Contents of additional information	- To communicate the GHG reduction efforts made by the entity calculating amount of GHG emissions appropriately to consumers, reduction amount of GHG emissions over years, GHG emissions for each process, etc. may be included in additional information. - The indirect effect that recycling has on reduction amount of GHG emissions may also be demonstrated as additional information, but displaying of such information shall not be allowed for plastic container and packaging to be provided for consumer use. - To be included in displaying, the specific details of additional information shall be approved as appropriate by the CFP Verification Panel. [Labeling information on indirect effect] - When primary data collection is possible, and in the case of designated PET bottles and foamed polystyrene containers, the recycling system of which has been well-established, the indirect effect may be calculated separately from the direct effect and included additionally in displaying information.

Supplementary Remarks

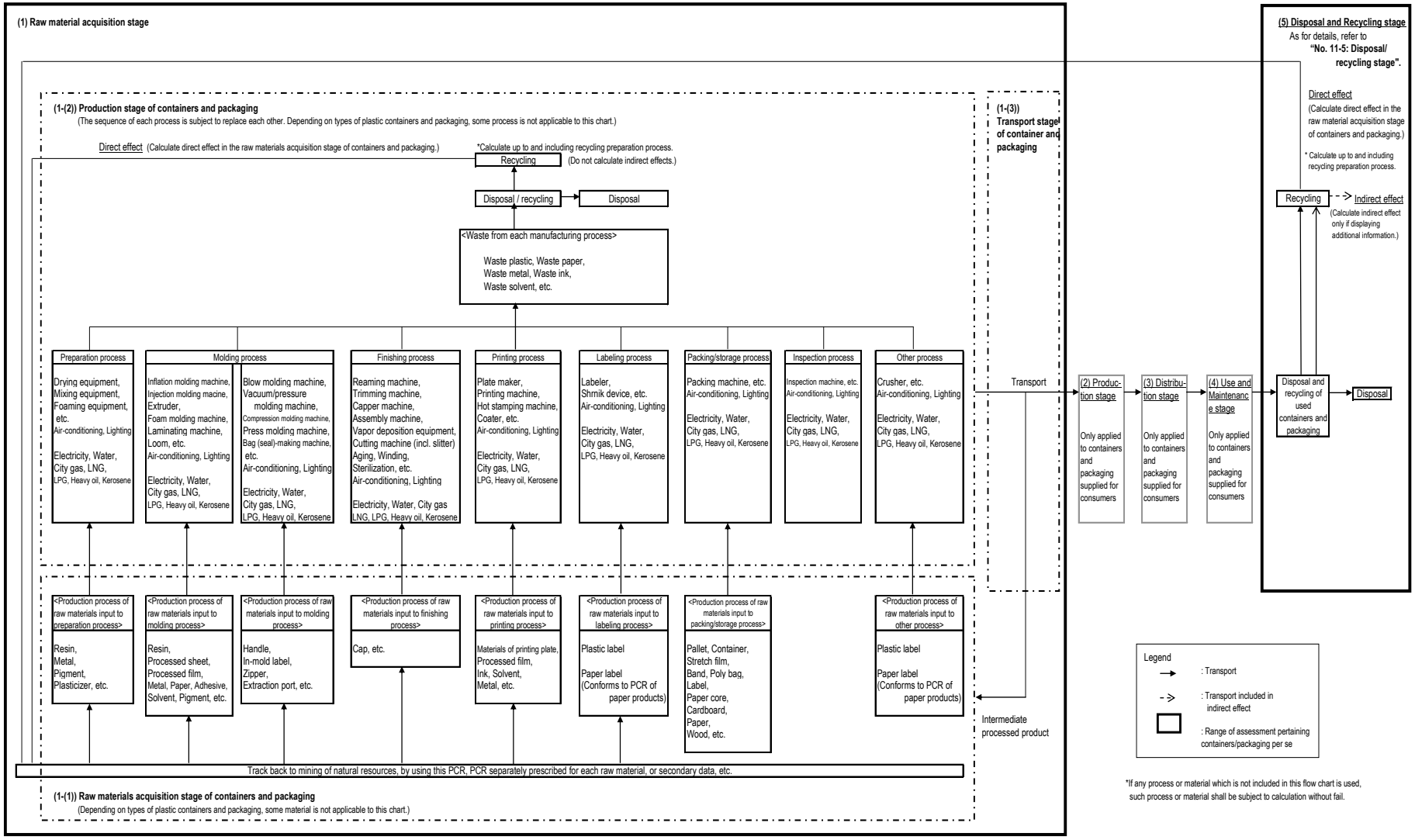
(1) Concept in setting life cycle stages

Life cycle stages of final goods	Raw material acquisition stage			Production stage	Distribution stage	Use/ maintenance stage	Disposal/ recycling stage
For business use	Container/ packaging raw material acquisition stage	Container/ packaging production stage	Container/ packaging transport stage	Not included	Not included	Not included	Disposal/ recycling stage
For consumer use	Raw material acquisition stage			Production stage	Distribution stage	Use/ maintenance stage	Disposal/ recycling stage

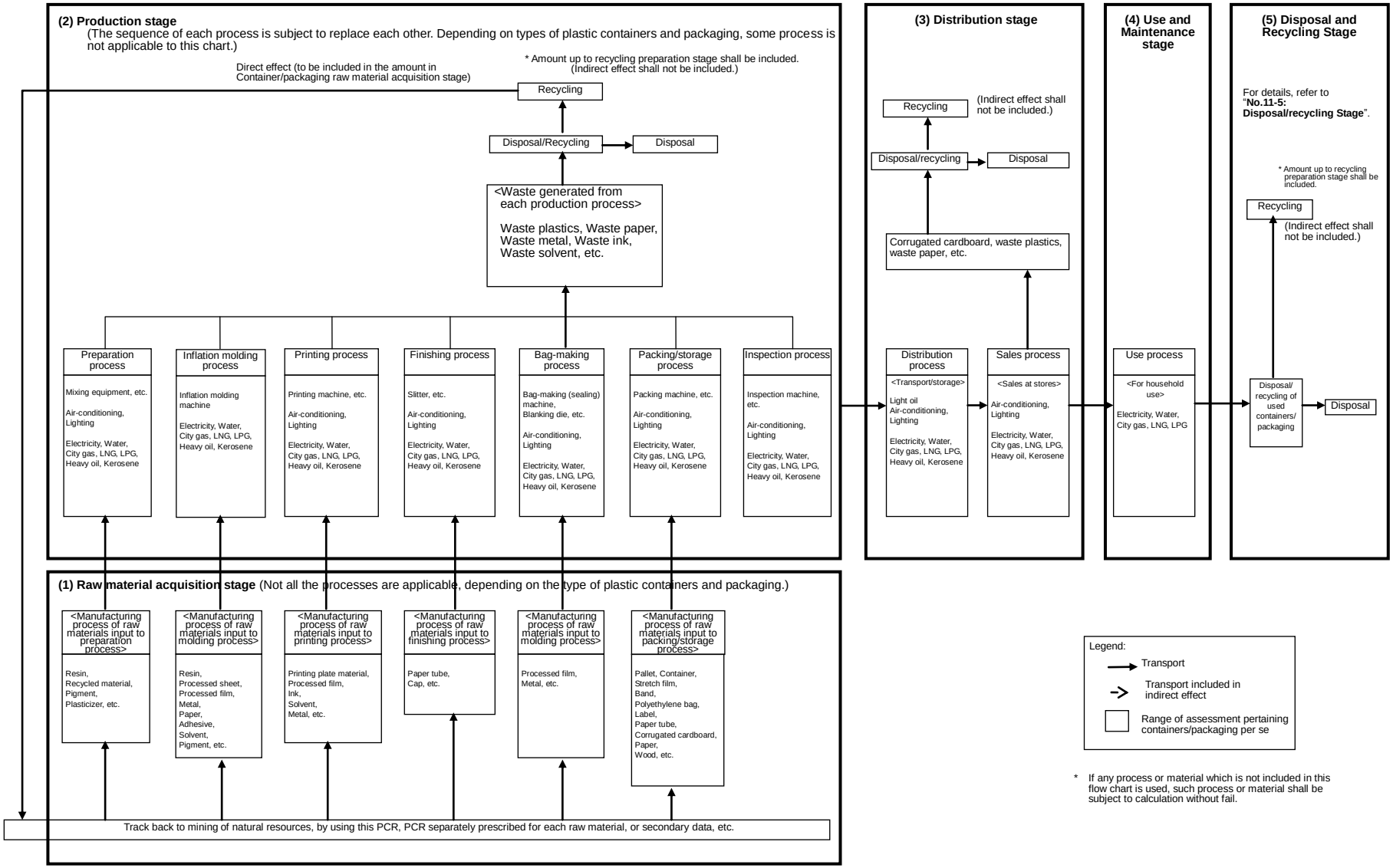
Fig. 1: Concept in setting life cycle stages

Annex A (normative): Life cycle flow chart

A.1 Life cycle flow chart of plastic containers and packaging for business
(This is a life cycle flow chart of “plastic containers and packaging” from a standpoint of users.)

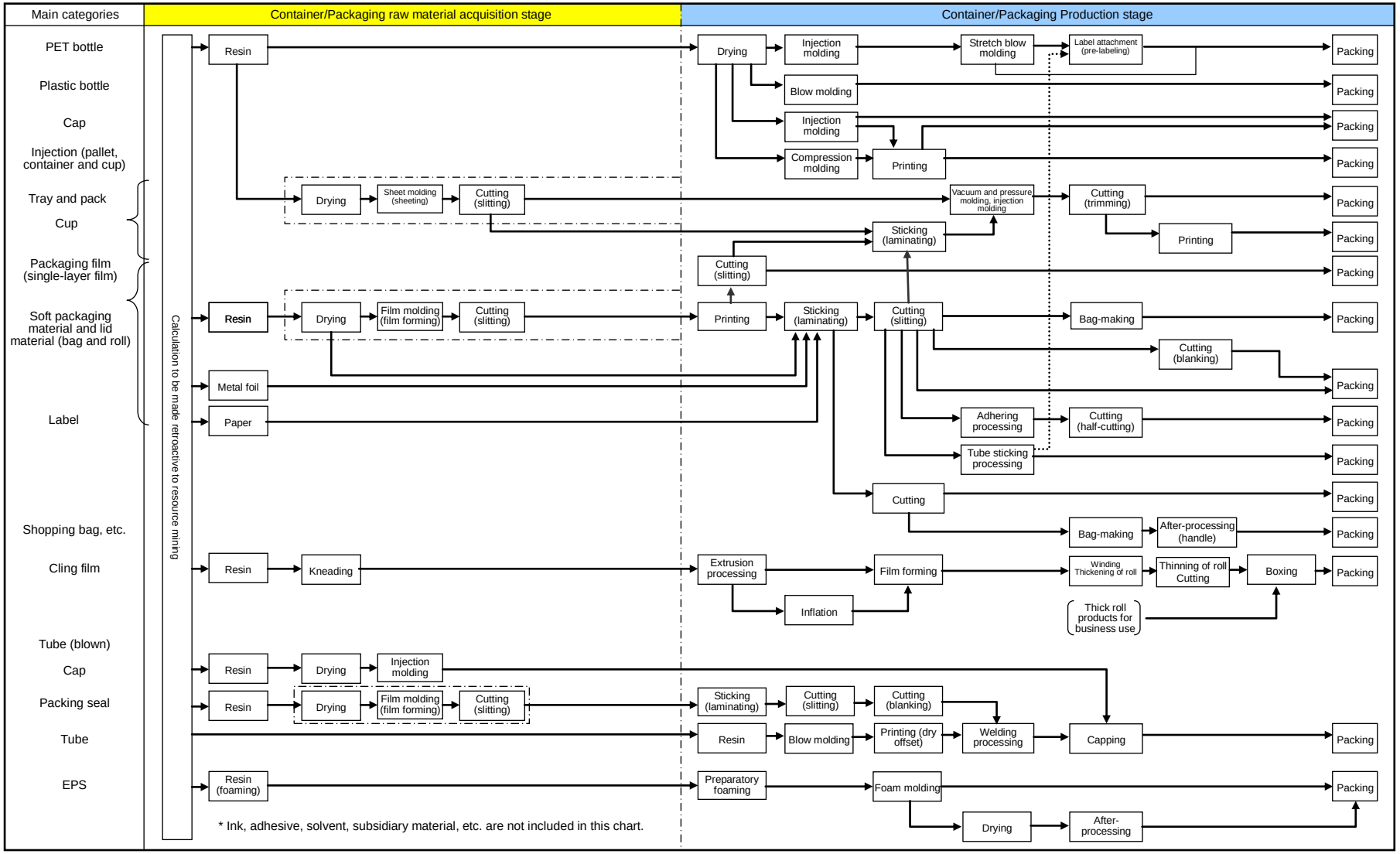


A.2 Life cycle flow chart of plastic containers and packaging for consumer use
(This flow chart illustrates life cycle of containers/packaging classified as final goods.)



* If any process or material which is not included in this flow chart is used, such process or material shall be subject to calculation without fail.

Annex B (informative): Conceptual chart of an example of production processes of Plastic Containers and Packaging



Annex C (normative): Terms and Definitions

Term	Definition	Reference (JIS No.)
Compression molding (machine)	Process (equipment) of molding plastic material by applying pressure and, usually, heat to it while it is placed in a closed cavity.	K6900 (1994)
Ink	General term for a printing material in liquid or paste form that is used to paint images on the surface. Printing ink is composed of coloring agent, vehicle, auxiliary agent and solvent, and different types of ink are used depending on the type of printing process and materials to be printed.	Z0108 (2005)
Inflation molding (machine)	Process (equipment) of inflation molding film by inflating with air the molten plastic material extruded from extrusion machine in tubular form while collecting it in vertical direction, and then cooling it.	-
Aging	Process of storing films in a room at temperatures between 30 and 40 degrees Celsius for 2 to 3 days in order to remove the distortion that occurred due to heat or mechanical stress.	-
Stretch blow molding (machine)	Process (equipment) of molding plastic material under the melting point. After the preform is formed by extruding or injecting thermoplastic material, compressed air with temperatures above the glass transition point but below the melting point is blown into it to mold it.	-
Extrusion molding (machine)	Process (equipment) of molding plastic material by softening and melting it with heating cylinder, and then extruding it with screw. (It consists of extrusion machine, die, and collection device.)	B8650 (2006)
Plasticizer	Low-volatility or “ignorable” substance that is mixed with plastics in order to lower its softening area, and to increase its processibility, flexibility and extensibility.	K6900 (1994)
Drying (equipment)	Process (equipment) of removing moisture from resin.	-
Coating (coater)	Processing process (equipment) that applies coating agent to the surface of paper, film, printed matters, etc. for the purpose of adding luster or protecting it from scratches.	-
Packing (machine)	Process (equipment) of packing products into wooden, steel, cardboard and other containers for transport purpose. It is also called packaging.	Z0108 (2005)
Container	Durable case suitable for repeated use in which goods are packed. Containers include cargo container, carrier container and flexible container.	Z0108 (2005)
Injection molding (machine)	Process (equipment) of molding plastic material by injecting it into the closed die from heating cylinder through spool (runner and gate) by means of applying pressure.	K6900 (1994)
Deposition (machine)	Process (equipment) of forming a thin film on a film by making aluminum, ceramic, etc. heated or plasma-treated in a vacuum adhere to (deposit on) the film. Physical deposition and chemical deposition methods are available.	Z0108 (2005)
Vacuum molding (machine)	Process (equipment) of molding plastic film or sheet material faithfully to the shape of the die. After the material is heated and softened, the space between the material and the die is made vacuous so that the material is closely pressed down to the die under the atmospheric pressure.	-
Slitting	Process of cutting a plastic sheet or film of a certain width into several pieces of sheets or films of smaller width.	K6900 (1994)
Tube sticking	Process of coiling and pasting a flat sheet or film in the form of a tube.	-
Waste plastics	Plastic products disposed of after used, and waste of plastics generated	Z0112

	during the manufacturing process of such products.	(2008)
Foaming molding (machine)	Process (equipment) of producing foam materials through mechanical agitation with the use of volatile, resolvable, and water-soluble foaming agents.	-
Preform	Material molded into a preliminary tube shape having bottle portion. It is blow-molded into the final shape in the next process.	B8650 (2006)
Blow molding (machine)	Process (equipment) of molding that holds a pipe made of thermoplastic resin (called parison) between the dies, and sends air pressure into the pipe to inflate it so that it is molded into the final shape. The variations of blow molding include direct blow molding, stretch blow molding, and injection blow molding.	-
Label	Small flat piece of paper or other material fixed on the surface of the packaging for the purpose of printing identification of the content, advertisement of the product and/or legally prescribed indication. Besides adhesive label having adhesive layer, in-mold label integrated into the packaging in the molding process, and shrink label using heat shrinking method are available.	Z0108 (2005)
Laminating (machine)	Process (equipment) of pasting together more than one material such as plastic film, paper and metal foil using such methods as adhesion, and heat-sealing.	Z0108 (2005)

Annex D (informative): Collection of fuel consumption data and calculation of GHG emissions for truck transport

D.1 Fuel consumption method

D1.1 Collect data on fuel consumption for each transport mean, and convert the unit of fuel consumption from "L" to "kg".

Fuel consumption = Fuel consumption (L) x Fuel density y (kg/L)

Fuel density of gasoline: y = 0.75kg/L

Fuel density of light oil: y = 0.83kg/L

D.1.2 Calculate GHG emissions by multiplying fuel consumption (kg) by secondary data for each type of fuel.

D.2 Fuel cost method

D.2.1 Collect data on fuel cost (km/L) and transport distance (km) for each transport mean, and calculate fuel consumption by using the following equation.

Fuel consumption (kg) = Transport distance (km) / Fuel efficiency (km/L) x y (kg/L)

D.2.2 Calculate GHG emissions by multiplying fuel consumption (kg) by secondary data for each type of fuel.

D.3 Ton-kilometer method

D.3.1 Collect data on maximum loading capacity: "Z" (kg), loading ratio: "Y" (%) and GHG emissions by transport: "W" (ton-km) for each transport means. (Data on loading capacity shall be collected in principle, but may be omitted in inevitable cases).

D.3.2 If loading ratio "Y" (%) is unknown, follow the scenario provided in the pertinent articles of this PCR.

D.3.3 Multiply transport load (transport ton-kilometer) by secondary data of each transport means broken down by loading ratio.

Annex E (informative): Assumptions made in creating transport scenario

Assumptions for transport scenario applied to this PCR are described in "E.1" to "E.3" below. However, the load during transport of foamed polystyrene products and food trays is substantially different from that of the other products according to the trial calculation performed by the industry, the transport scenarios for those two products were created under different assumptions. They are explained in "E.4" below.

E.1 Transport Distance

a) Domestic transport

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

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

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

2) Transport within a prefecture: 100km

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

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

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

4) 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.

b) Transport from abroad

1) Transport from production site to "port of country where products were produced": 500km

[Assumption] The distance from the middle of the state to the state border.

2) Transport from "port of country where products were produced" to port of Japan:

[Assumption] The "reference data" prepared by the CFP Pilot Project Secretariat shall be used.

E.2 Transport Means

a) Domestic transport

Truck transport is basically assumed for an incentive to take CO_2 reduction measures in distribution such as modal shift.

b) Transport from abroad

1) Transport from production site to "port of country where products were produced": 10-ton truck

2) Transport from "port of country where products were produced" to port of Japan: container ship (4,000TEU or less)

E.3 Loading ratio of truck

For cases where the loading ratio is unknown, a higher loading ratio (62%) was set for materials having large physical quantity (weight) relative to their volume such as roll products, and 25% was set for other materials in general, by referring to the data provided in "Common Guideline ver.3.0 for the calculating method of CO_2 emissions in logistics" (Ministry of Economy, Trade and Industry and Ministry of Land, Infrastructure, Transport and Tourism: March 2007).

E.4 Transport of "foamed polystyrene products" and "food trays"

a) The following transport scenario was created for the transport of foamed polystyrene products according to the results of the survey conducted by Japan Foam Styrene Industrial Association.

1) Results of the survey

- Scope of survey: Transport data from 21 manufacturers of foamed polystyrene molded products (23 production sites)
- Transport means: 4-ton truck
- Transport distance: Weighted average transport distance; 78.8 km (maximum transport distance; 145km, minimum transport distance; 17km)

- Loading ratio: Weighted average loading ratio; 9.8% (maximum loading ratio; 23.3%, minimum loading ratio; 5.1%)

2) Transport scenario
- Transport means: 4-ton truck
- Transport distance: 150km (twice the weighted average transport distance of the survey)
- Loading ratio: 5% (weight ratio) (half the weighted average loading ratio of the survey)

b) The following transport scenario was created for the transport of food trays according to the results of the survey conducted by National Plastic Food Container Industrial Association.

1) Results of the survey
- Scope of survey: Transport data from four leading manufacturers of PSP trays
- Transport means: 4-ton truck
- Transport distance: Average transport distance; 205km (maximum transport distance; 230 km, minimum transport distance; 180km)
- Loading ratio: Average loading ratio; 45% (maximum loading ratio; 65%, minimum loading ratio; 29%)

2) Transport scenario
- Transport means: 4-ton truck
- Transport distance: 400km (twice the average transport distance of the survey)
- Loading ratio: 25% (weight ratio) (half the average loading ratio of the survey)

Annex F (informative): Assumptions for transport scenario in the distribution stage of containers and packaging for consumer use

The assumptions made in creating the scenarios provided in this PCR are as follows:

F.1 Transport Route

The following three transport routes are assumed.

a) Transport from domestic production site to store via domestic distribution warehouse: Route (1)
b) Transport from overseas production site to store via domestic distribution warehouse: Route (2)
c) Transport from domestic production site directly to store: Route (3)

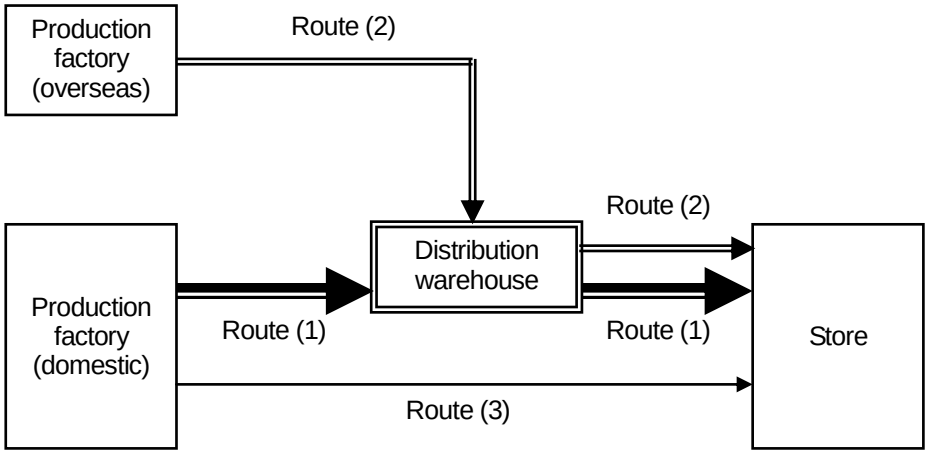


Fig. 1: Typical flow of distribution process of containers and packaging for consumer use

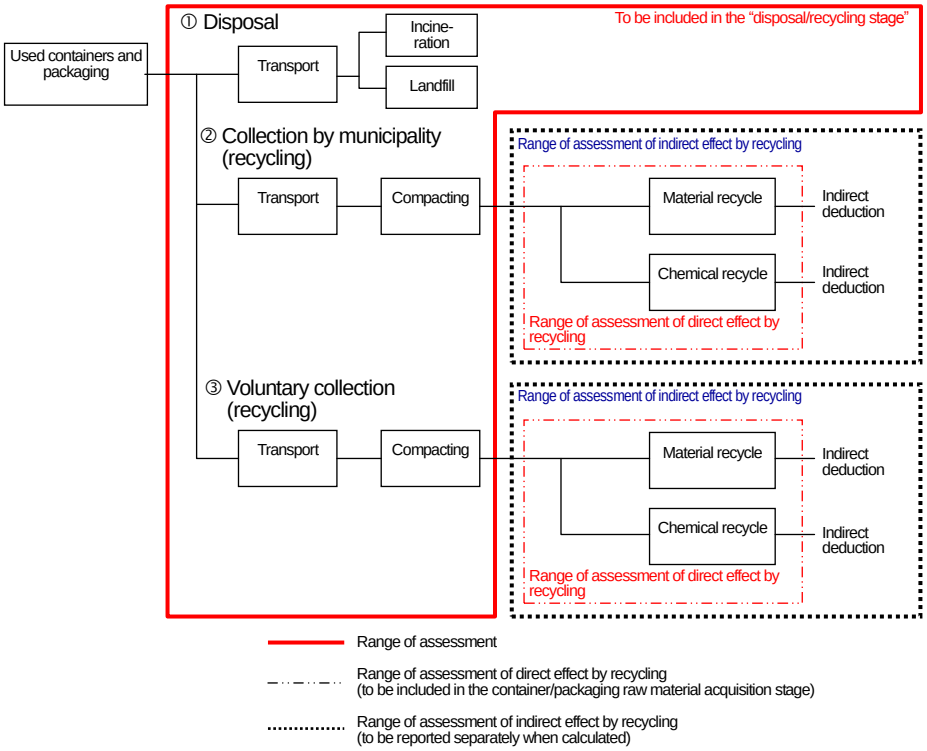
F.2 Transport distance, means, and loading ratio

Same as scenarios provided in “Annex E (informative) Assumptions made in creating transport scenario”.

Annex G (informative): Basic concept of disposal and recycling of containers and packaging

The following is the basic concept used in the calculation in the disposal/recycling stage specified in this PCR.

G.1 Conceptual chart of disposal/recycling flow of containers and packaging



G.2 Basic concept of range of assessment

a) With respect to used plastic containers and packaging to be disposed of, GHG emissions associated with transport to the treatment facility and proper waste treatment (incineration and landfill) shall be collected. The area enclosed by a solid line in "G.1 Conceptual chart of disposal/recycling flow of containers and packaging" above shows the coverage of the range of assessment.

b) Used plastic containers and packaging to be recycled shall be excluded from the range of assessment. The area enclosed by a dotted line in "G.1 Conceptual chart of disposal/recycling flow of containers and packaging" above is not covered in the range of assessment.

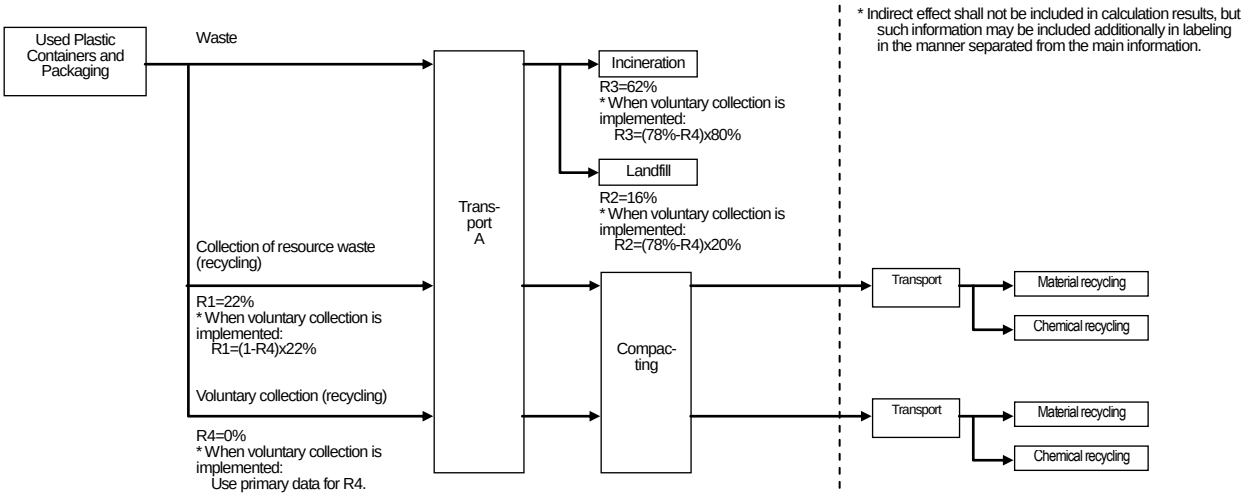
c) In the case of "closed recycling," GHG emissions associated with transport of used plastic containers and packaging to treatment facility and recycling preparation process shall be included in the "disposal/recycling stage", whereas GHG emissions associated with transport of used plastic containers and packaging ready to be recycled and the subsequent processes (transport from pre-treatment facility and recycling processing) shall be included in "Container/packaging raw material acquisition stage". Such coverage is shown by the area enclosed by a chain double-dashed line in "G.1 Conceptual chart of disposal/recycling flow of containers and packaging" above.

d) In the case of "open recycling", GHG emissions associated with transport of used plastic containers and packaging to treatment facility and recycling preparation process shall be included in "The disposal/recycling stage", whereas GHG emissions associated with transport of used plastic containers and packaging ready to be recycled and the subsequent processes (transport from pre-treatment facility and recycling processing) and GHG emissions due to indirect effect shall be not included.
However, when primary data collection is possible, and otherwise in the case of the products mentioned in No.11-6, [To calculate indirect effect], recycling system of which has been well-established, the indirect effect may be calculated separately from the direct effect and included additionally in labeling information.

Annex H (normative): Scenarios for disposal and recycling of containers and packaging

The scenarios for disposal/recycling specified in this PCR consist of "H.1 Scenario common to all plastic containers and packaging," "H.2 Scenario for designated PET bottles (scenario for individual field)," and "H.3 Scenario for foamed polystyrene containers (scenario for individual field)".
Plastic containers and packaging other than those in the individual fields shall be subject to the scenario common to all plastic containers and packaging.

H.1 Scenario common to all plastic containers and packaging



H.1.1 Method of calculating ratio between disposal and recycling

Based on the statistic data mentioned below, ratio between disposal and recycling of used plastic containers and packaging was calculated as follows.

a) Total amount of used plastic containers and packaging: W0
The value obtained by subtracting the amount of designated PET bottles collected, W2 (amount of sorted collection in municipalities added by amount of collected business-related bottles), in 2008 announced by the Council for PET Bottle Recycling from the amount of waste containers and packaging, W1 (amount of containers and packaging in non-industrial waste), in 2008 announced by the Plastic Waste Management Institute:
W1 W2 W0
3.54 million tons - 0.445 million tons = 3.095 million tons

b) Ratio of recycling (collection ratio of resource waste): R1
The value obtained by dividing the amount of sorted collection of containers and packaging, W3 (recycled plastic containers and packaging), in 2008 by the total amount of used plastic containers and packaging, W0, in the same year; according to the data announced by the Ministry of Environment:
W3 W0 R1
0.672 million tons / 3.095 million tons = 22%

c) Ratio of landfill: R2
The value obtained by dividing the amount of landfilled non-industrial waste, W4, in 2008 by the total amount of non-industrial waste, W5, in the same year; according to the data announced by the Plastic Waste Management Institute:
W4 W5 R2
0.8 million tons / 5.02 million tons = 16%

d) Ratio of incineration: R3
It is assumed that waste is incinerated unless recycled "b) Ratio of recycling" and landfilled "c) Ratio of landfill".
R1 R2 R3
1 - (22% + 16%) = 62%

e) When voluntary collection is implemented, calculate the annual collection ratio of the containers and packaging,

R4 (by dividing amount collected by total amount shipped), and follow the formulas below to obtain the ratios of the processes other than voluntary collection.
R1 = (1 - R4) x 22%
R2 = (1 - R1 - R4) x 16% / (16% + 62%) = (78% - R4) x 20%
R3 = (1 - R1 - R4) x 62% / (16% + 62%) = (78% - R4) x 80%

H.1.2 Waste-derived GHG emissions generated from incineration

The factor of GHG emissions associated with incineration process is GHG emissions generated from combustion of the fuel input to incinerate the waste. Therefore, it is necessary to calculate the GHG emissions derived from carbon contained in the waste separately, and include it additionally.
Assuming that no greenhouse gas other than CO_2 is generated from combustion of resin, CO_2 emissions calculated on the basis of the carbon contained in the resin shall be deemed as the GHG emissions.
The followings are the examples of carbon content ratios in the resin and the method of calculation.

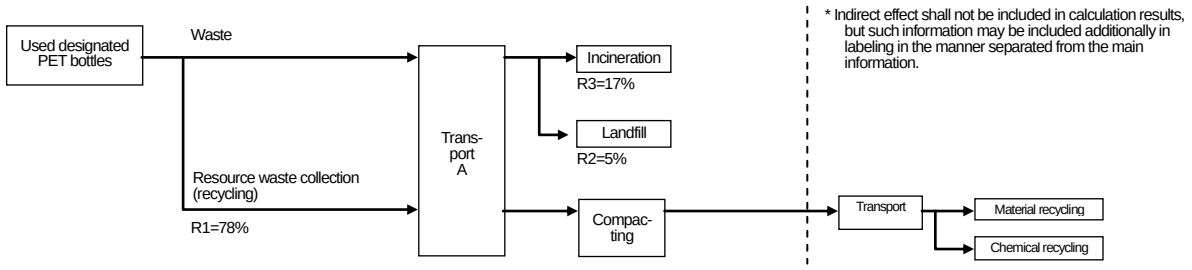
a) Examples of carbon content ratios

PP: 85.7%, PE: 85.7%, PS: 92.3%, PVC: 38.4%, PET: 62.5%
Note that, if the type of resin is unknown, the content ratio of PS, 92.3%, shall be used to avoid underestimation.

b) Example of calculation method

When 10g of PP resin is incinerated;
Waste-derived GHG emissions generated from incineration: 10g x 85.7% x 44 / 12 = 31.4g - CO_2e

H.2 Scenario for designated PET bottles (scenario for individual field)



H.2.1 Method of calculating ratio between disposal and recycling

Based on the statistic data mentioned below, ratio between disposal and recycling of used designated PET bottles was calculated as follows.

a) Ratio of recycling (collection ratio of resource waste): R1
The value obtained by dividing the amount of designated PET bottles collected, W1 (amount of sorted collection in municipalities added by amount of collected business-related bottles), in 2008 by the total amount of designated PET bottles sold, W0, in the same year; according to the data announced by the Council for PET Bottle Recycling:

W1	W0	R1

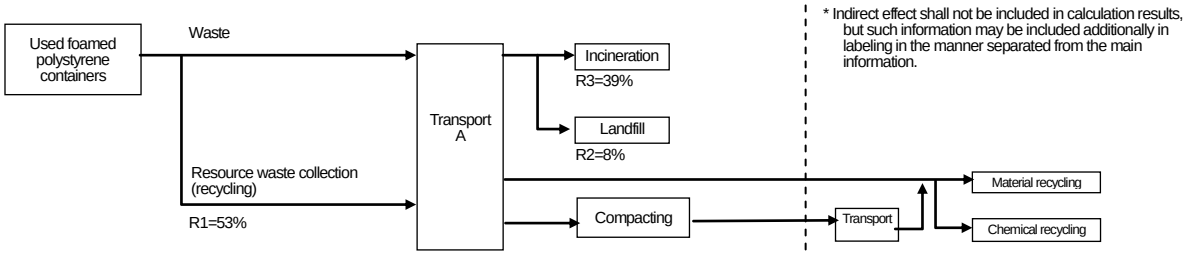
445 thousand tons / 571 thousand tons = 78%

b) Ratio of landfill: R2, and ratio of incineration: R3
The ratio of the designated PET bottles which are not recycled shall be distributed as follows by applying the ratio of landfill and ratio of incineration obtained following “H.1.1 Method of calculating ratio between disposal/ recycling” in “H.1 Scenario common to all plastic containers and packaging”.
R2 = (1 - 78%) x 16% / (16% + 62%) = 5%
R3 = (1 - 78%) x 62% / (16% + 62%) = 17%

H.2.2 Waste-derived GHG emissions generated from incineration

Calculate and include according to the scenario specified in “H.1.2 Waste-derived GHG emissions generated from incineration”.

H.3 Scenario for foamed polystyrene containers (scenario for individual field)



H.3.1 Method of calculating ratio between disposal and recycling

Based on the statistic data mentioned below, ratio between disposal and recycling of used foamed polystyrene containers was calculated as follows.

a) Ratio of recycling (collection ratio of resource waste): R1

The value obtained by dividing the amount of material-recycled foamed polystyrene containers, W1 (including those chemical-recycled), in 2008 by the total amount of foamed polystyrene containers to be collected, W0, in the same year; according to the data announced by Japan Expanded Polystyrene Association (JEPSRA Information 2009-2010):

W1 W0 R1

82.2 thousand tons / 155 thousand tons = 53%

b) Ratio of landfill: R2

The value obtained by dividing the amount of landfilled industrial waste, W3, in 2008 by the total amount of industrial waste, W4, in the same year; according to the data announced by the Plastic Waste Management Institute:

W3 W4 R2

0.42 million tons / 4.96 million tons = 8%

c) Ratio of incineration: R3

It is assumed that waste is incinerated unless recycled “a) Ratio of recycling” and landfilled “b) Ratio of landfill”.

R1 R2 R3

1 - (53% + 8%) = 39%

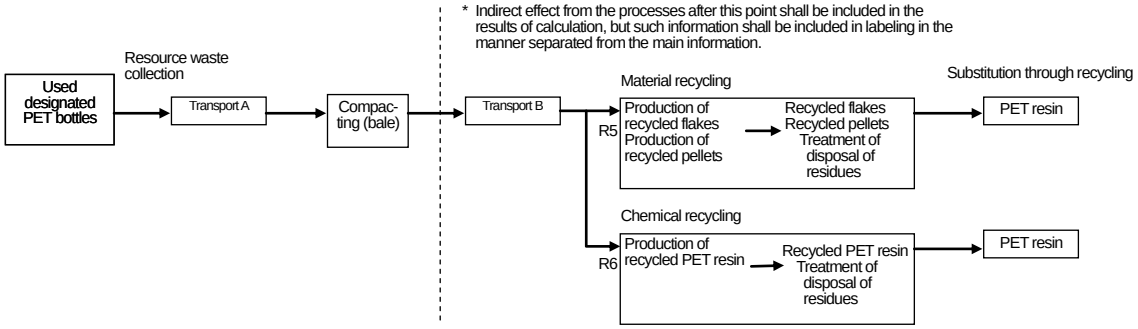
H.3.2 Waste-derived GHG emissions generated from incineration

Calculate and include according to the scenario specified in “H.1.2 Waste-derived GHG emissions generated from incineration”.

Annex I (informative): Scenario for indirect recycling of containers and packaging

The following is the basic concept of the indirect recycling specified in this PCR.

I.1.1 Flow chart of indirect recycling of designated PET bottles



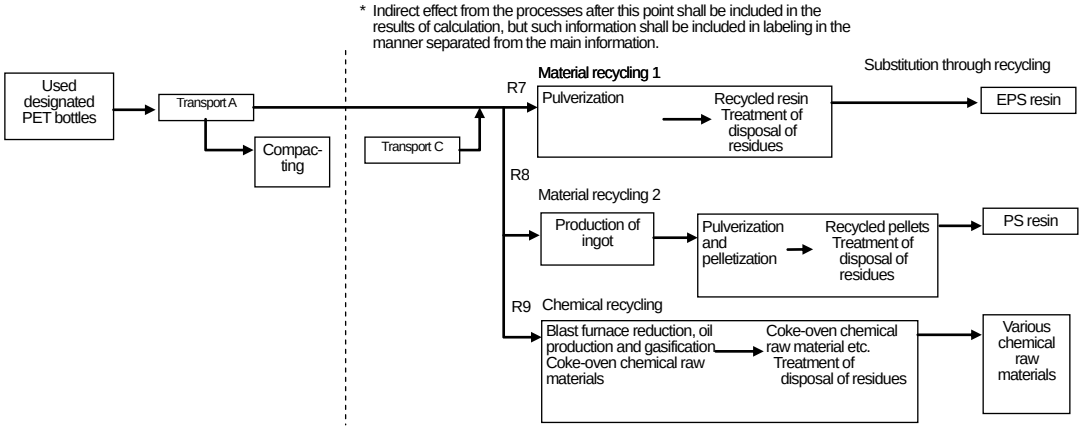
I.1.2 Basic concept of secondary data in indirect recycling of designated PET bottles

Calculation shall be made by referring to the published data below, and the results of calculation shall be approved at the time of verification.

a) Calculation of the GHG emissions associated with transport from intermediate processing facility to recycling facility "Transport B" shall be made by referring to "Quantitative Analysis of Recycling of Containers and Packaging Waste (Nomura Research Institute, Ltd.; March 1995)" and other articles.

b) Calculation of the GHG emissions associated with "manufacturing of recycled flakes/pellets (material recycling)" and "manufacturing of recycled PET resin (chemical recycling)" at recycling facility shall be made by referring to "Report on Inventory Analysis of PET Bottles (Council for PET Bottle Recycling; August 2004)" and other articles.

I.2.1 Flow chart of indirect recycling of foamed polystyrene containers



I.2.2 Basic concept of secondary data in indirect recycling of foamed polystyrene containers

Calculation shall be made by referring to the published data below, and the results of calculation shall be approved at the time of verification.

a) Calculation of the GHG emissions associated with transport from intermediate processing facility to recycling facility "Transport C" shall be made by referring to "Quantitative Analysis of Recycling of Containers and Packaging Waste (Nomura Research Institute, Ltd.; March 1995)" and other articles.

b) Calculation of the GHG emissions associated with "material recycling 1 and 2" at recycling facility shall be made by referring to "Report on Analysis and Investigation of Environmental Load (LCI) of EPS Products (Japan

Expanded Polystyrene Association; November 2006)" and other articles.

c) Calculation of GHG emissions associated with "chemical recycle" at recycling facility shall be made by referring to "Evaluation of Environmental Load, etc. associated with Recycling Method of Plastic Containers and Packaging (Japan Containers and Packaging Recycling Association; June 2007)" and other articles.

Annex J (informative): Information Disclosure Sheet

Date of disclosure:

Information Disclosure Sheet

1. Product information				
1.1	Verification ID		Registration date	
1.2	Product name		Container - Intermediate processed goods	
1.3	Product specifications			

2. Company information			
2.1	Company name	Name	
		Dept.	
2.2	Contact information	Address	
		Phone number	

3. Information on CO_2e emissions				
3.1	Unit to be labeled			
3.2	Subtotal of each stage (subtotal of each stage viewed from user of container/packaging)			
	Raw material acquisition stage (Raw material acquisition, manufacture and transport of container/packaging)			kg-CO_2e
	Disposal/recycling stage (Disposal and recycling of container/packaging)			kg-CO_2e
3.3	Total value			kg-CO_2e
3.4	Accessories included in calculation (handle, label, cap, etc.)			
3.5	Life cycle stage included in calculation (check if included)			
	Raw material acquisition stage		Container/packaging production stage	
	Container/packaging transport stage		Disposal/recycling stage	
3.6	Additional information to be labeled			
3.7	Remarks			

4. Approved PCR, GHG Emission Factor Database		
4.1	Approved PCR name	
4.2	Approved PCR ID	
4.3	Name of GHG Emission Factor Database	

Annex K (informative): Bibliography

K.1 Guidelines of CFP (Carbon Footprint of Products) system (revised edition):
The CFP rules study committee (July 16, 2010)

K.2 Standards of PCR (Product Category Rules) development (revised edition):
The CFP rules study committee (July 16, 2010)

K.3 Specifications of CFP Label and Displaying Other Information:
The Ministry of Agriculture, Forestry and Fisheries, the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure, Transport and Tourism, and the Ministry of the Environment (August 3, 2009)

K.4 Tentative Database of GHG Emission Factors for the CFP Pilot Project:
The CFP Pilot Project Secretariat (Japan Environmental Management Association for Industry) (August 18, 2009)

K.5 Act on the Promotion of Effective Utilization of Resources:
Enforced in April 2001 (promulgated in June 2000; partially amended the "Law for Promotion of Utilization of Recyclable Resources" enacted in 1991)

K.6 "EcoLeaf Method of Calculating Product Environmental Load during Recycling/Reuse":
EcoLeaf Secretariat, Japan Environmental Management Association for Industry (March 1, 2004)

K.7 Carbon Footprint in Distribution Industry:
Ikuhiro Ohno: A collection of lectures presented at the "Carbon Footprint" Lecture Meeting of the Institute of Life Cycle Assessment, Japan; p. 74 (August 1, 2008)

K.8 Current Situation of Production, Disposal and Recycling of Plastic Products:
Plastic Waste Management Institute (December 2009)

K.9 Annual Report on PET Bottle Recycling 2009:
Council for PET Bottle Recycling (November 2009)

K.10 Material Recycling Volume in 2008 (including Chemical Recycling Volume):
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K.11 Quantitative Analysis of Recycling of Containers and Packaging Waste:
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K.12 Report on Inventory Analysis of PET Bottles:
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K.13 Report on Analysis and Investigation of Environmental Load (LCI) of EPS Products:
Japan Expanded Polystyrene Association (November 2006)

K.14 Evaluation of Environmental Load, etc. Associated with Recycling Method of Plastic Containers and Packaging:
Japan Containers and Packaging Recycling Association (June 2007)

[PCR revision histories]

Approved PCR ID	Release date	Contents revised
PA-BC-02	September 8, 2010	(1) Changed corresponding to the revisions of the basic rules. (2) Adapting the contents to the new PCR draft template. (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 mutatis mutandis to “No.2-(7): Handling of recycling standards” provided in the “Standards of PCR development”.) (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 “Standards of PCR development”.)