Form 1（F-01s-02）

Product Environmental Aspects Declaration

EP and IJ printer（PCR-ID:AD-04）

No. AD-14-E534-A
Date of publication
12/12/2014

http://www.dell.com

Please direct any inquiries
or comments to
Regulatory_Compliance@Dell.com

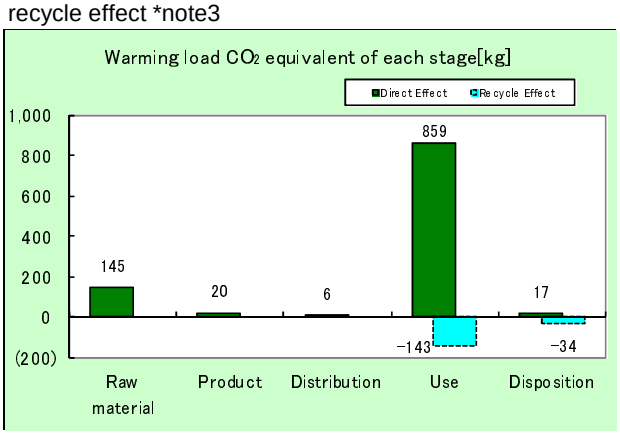
Dell™ Colour Printer - C2660dn

Marking technologies :
Electrophotographic Printer (EP)
Printing speed :
27 prints-per-minute(A4, B/W),
27 prints-per-minute(A4, color)
Maximum copy paper : A4
Duplex (standard)

Total of 437,400 sheets on the assumption of five years usage. Environmental impact by copypaper is not included.

Consumption and discharge in a life cycle	All the stage sum totals
Global Warming (CO_2 equivalent)	1,048 kg (871.4 kg)
Acidification (SO_2 equivalent)	1.89 kg (1.485 kg)
Energy resources (crude oil equivalent)	20,818 MJ (16,818 MJ)

※ Figures in ( ) indicated environmental impact including recycle effect *note3



Notes:

1. Original LCA data is available on PEIDS: Product Environmental Information Declaration Sheet, and Product Data Sheet.
2. Unified rules and requirements for EcoLeaf LCA, for intended product category, are available as a PSC: Product Specification Criteria. Visit EcoLeaf website under JEMAI homepage at http://www.jemai.or.jp/ecoleaf_e/ for details.
3. Recycle Effect illustrates an indirect influence to other products/services.
4. Basic Units used for calculations are based on Japan domestic data at this time, due to a lack of base data to establish localized Basic Unit for overseas locations adequately.
5. This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.

[Supplemental environmental information]

Certified Environmental Standards
- RAL-UZ 171 (Blue Angel)
- International Energy Star Program

PCR review was conducted by: PCR Deliberation Committee, January 01, 2008, Name of reprentative: Youji Uchiyama, University of Tsukuba, Graduate School
Independent verification of the declaration and data, according to ISO14025:2006 □internal ■external
Third party verifier: Keiichi Aramaki

Programme operator: Japan Environmental Management Association for Industry, ecoleaf@jemai.or.jp

* In the case of an business entity certified as an Ecoleaf-data-collection system, the names of certification auditors are written.
The EcoLeaf is an environmental labeling program that belongs to the ISO-Type Ⅲ category.

Form 2-B(F-02Bs-02)

Product Environmental Information Data Sheet (PEIDS)

Document control no.	F-02Bs-02
Product vendor	Fuji Xerox Co.,Ltd.
EcoLeaf registration no.	AD-14-E534-A

Unit Function DB version	v2.1
Characterization Factor DB version	v2.1

PCR name	EP and IJ printer		Product type	Dell Colour Printer - C2660dn			
PCR code	AD-04	Product weight (kg)	25.6	Package (kg)	4.8	Weight total (kg)	30.4

In/Out items \ Life Cycle Stage						Unit	Production		Distribution	Use	Disposition	Recycle Effect
							Raw material	Product				
Energy Consumption						MJ	2.74E+03	4.02E+02	9.57E+01	1.75E+04	9.53E+01	-4.00E+03
						Mcal	6.54E+02	9.59E+01	2.28E+01	4.18E+03	2.28E+01	-9.55E+02
Inventory anaiyses	Impact by Resource Consumption	Exhaustible resources	Energy resources		Coal	kg	1.80E+01	2.61E+00	3.88E-02	8.22E+01	5.75E-01	-1.66E+01
					Crude oil (for fuel)	kg	2.65E+01	3.00E+00	1.78E+00	1.52E+02	1.09E+00	-4.09E+01
					LNG	kg	5.53E+00	1.51E+00	4.60E-02	4.36E+01	2.82E-01	-3.78E+00
					Uranium content of an ore	kg	4.43E-04	1.77E-04	2.62E-06	3.79E-03	3.28E-05	-1.43E-04
			Mineral resources		Crude oil (for material)	kg	1.16E+01	0	2.41E-01	5.66E+01	0	-3.02E+01
					Iron content of an ore	kg	9.13E+00	0	0	6.74E+00	0	-8.72E+00
					Cu content of an ore	kg	5.27E-01	0	0	1.34E-01	0	-2.55E-01
					Al content of an ore	kg	1.08E+00	0	0	6.57E+00	0	-3.03E+00
					Ni content of an ore	kg	3.48E-01	0	0	1.08E+00	0	-1.77E-04
					C content of an ore	kg	4.74E-01	0	0	1.46E+00	0	-3.24E-03
					Mn content of an ore	kg	9.97E-02	0	0	2.30E-01	1.81E-02	-4.62E-02
					Pb content of an ore	kg	2.94E-02	0	0	1.09E-02	0	-2.07E-02
					Sn content of an ore	kg	0	0	0	0	0	0
					Zn content of an ore	kg	2.89E-01	0	0	1.07E-01	0	-2.04E-01
					Au content of an ore	kg	0	0	0	0	0	0
					Ag content of an ore	kg	0	0	0	0	0	0
					Silica Sand	kg	6.45E-01	0	0	1.82E-01	2.17E-02	-1.75E-01
					Halite	kg	5.01E+00	0	0	2.12E+01	7.49E-03	-3.00E-01
					Limestone	kg	2.44E+00	0	0	9.49E+00	2.53E-01	-1.72E+00
					Natural soda ash	kg	5.09E-02	0	0	5.87E-03	0	0
					Wood	kg	7.99E+00	0	6.80E-01	5.76E+01	0	-2.62E+01
					Water	kg	1.23E+04	2.27E+03	9.38E+01	6.55E+04	4.72E+02	-9.16E+03
	Impact by Emission/Discharge to the environment	to Atmosphere			CO2	kg	1.42E+02	2.03E+01	5.90E+00	8.37E+02	1.65E+01	-1.70E+02
					Sox	kg	1.26E-01	1.55E-02	3.09E-03	7.66E-01	1.12E-02	-1.78E-01
					Nox	kg	1.98E-01	1.23E-02	2.13E-02	1.13E+00	2.33E-02	-3.24E-01
					N2O	kg	1.40E-02	2.34E-04	9.27E-04	7.95E-02	3.57E-04	-2.36E-02
					CH4	kg	1.16E-03	4.72E-04	7.02E-06	9.99E-03	8.77E-05	-3.28E-04
					CO	kg	2.52E-02	3.00E-03	4.43E-03	1.73E-01	4.53E-03	-3.52E-02
					NMVOC	kg	2.28E-03	9.25E-04	1.37E-05	1.96E-02	1.72E-04	-6.42E-04
					CxHy	kg	6.38E-03	5.04E-05	6.64E-04	2.95E-02	2.18E-04	-1.10E-02
					Dust	kg	2.18E-02	6.64E-04	2.01E-03	9.85E-02	1.38E-03	-3.47E-02
		to Water system	to Water domain		BOD	kg	-	-	-	-	-	-
					COD	kg	-	-	-	-	-	-
					N total	kg	-	-	-	-	-	-
					P total	kg	-	-	-	-	-	-
					SS	kg	-	-	-	-	-	-
		to Soil system			Unspecified Solid Waste	kg	1.92E+00	9.32E-03	2.36E-02	3.09E+01	9.58E+00	-4.66E+00
					Slag	kg	3.67E+00	0	0	3.20E+00	3.42E-01	-3.30E+00
					Sludge	kg	2.16E+00	0	0	1.41E+01	0	-6.50E+00
					Low level radio-active waste	kg	3.10E-04	1.23E-04	1.83E-06	2.64E-03	2.30E-05	-1.00E-04
Impact assessment	by Res				Energy resources (crude oil equivalent)	kg	4.83E+01	7.94E+00	1.88E+00	2.89E+02	2.06E+00	-5.73E+01
					Mineral resources (Iron ore equivalent)	kg	4.21E+02	0	1.32E-01	9.41E+02	2.75E-01	-1.09E+02
	by Emission /Discharge to environment	to Atmosphere			Global Warming (CO2 equivalent)	kg	1.45E+02	2.04E+01	6.15E+00	8.59E+02	1.66E+01	-1.76E+02
					Acidification (SO2 equivalent)	kg	2.64E-01	2.41E-02	1.80E-02	1.56E+00	2.75E-02	-4.05E-01
					Ozone Depletion (CFC-11 equivalent)	kg	0	0	0	0	0	0
					Photochemical Oxidant	kg	1.24E-02	6.83E-04	1.09E-03	6.03E-02	7.27E-04	-1.88E-02
					Eutrophication (Phosphate equivalent)	kg	0	0	0	0	0	0

[Notes for readers: EcoLeaf common rules]

I. Stage related

A. "Production" stage is intended for two sub-stages listed below.

(1) "Raw material" production: consists of mining, transportation and raw material production.

(2) "Product" production: consists of the parts processing, assembly and installation.

B. "Distribution" stage is intended for transportation of produced product. Transportation of consumables and maintenance goods (e.g. replacement parts) for use of the product are included into "Use" stage.

C. "Use" stage is intended for use of the product (active mode, standby mode, etc.) and production, transportation to disposal/recycle of consumables/maintenance goods (e.g. replacement parts).

D. "Disposition/Recycle" stage is intended for environmental impacts by product disposition/recycle, and deduction by recycling (e.g. impact reduction of raw material production).

E. "Recycle Effect" illustrates an indirect environmental influences to other products/services by use of reclaimed materials/parts, and/or by supply of used products to other businesses for material reclaim/parts reuse.
Case 1: Use of reclaimed materials/parts: Sum of increase of environmental impact by collection activities of used materials/parts, and decrease by volume reduction of used materials/parts.
Case 2: Supply of used products to other businesses for material reclaim/parts reuse: Sum of increase of environmental impact by materials/parts reclaiming process, and decrease by volume reduction of new materials/parts production.

II. Inventory analyses

A. Data of mineral ore on "Exhaustible resources" are presented in weight of pure ingredients (e.g. iron, aluminum) in the ore.

B. Data on energy resources are presented based on origin in calorific value. e.g. Data on uranium ore presents weight of uranium concentrate, which is available for use as an atomic fuel.

C. Data of discharge to water system are in actual figure (not calculated using unit function in inventory analyses).

III Impact analyses

Result of the "Impact analyses" is found in converting results of inventory analyses into total amount of a reference material (e.g. CO_2 in case of "Global Warming").

A. Impact "by resource consumption" represents magnitude of impacts to resource depletion.

B. Impact "by emission/discharge to environment" represents magnitude of impacts to Atmosphere, Water and Soil system.

IV Data entry format

A. Exponential notation, after the decimal point to two, should be used.

B. Indicate "0" instead exponential notation, if the result of calculation or estimation is considered as "zero" or negligible in comparison to related results.

C. Indicate " — " if calculation nor estimation can not be done, in order to differentiate to indicate "zero".

(BGD for material production are for production from mineral ore. Those data do not include reclaiming processes like recovery from scrap.)

[Notes for readers: Target product specific]

A." Raw material" in "Production" includes environmental impacts generated during mining - transportation - material production phases of the main body

B. " Product" in "production" includes environmental impacts of processing of the parts (injection, blow-, press- and glass-molding).

C. Regarding the basis and the basic units for calculations during distribution stages

D. Regarding the basis and the basic units for calculations during use and consumption stage

E. The recycling impacts are calculated assuming that 40% of the end-of-life printers are recovered from users according to PCR (AD-04).

F. The impacts of materilal production of recycled materials are included in the values with minus as a recycling effect.

G. This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.

Form 3(F-03s-02)

Product data sheet

(Input data and parameters for LCA)

Document control no.	F-03s-02
Product vendor	Fuji Xerox Co.,Ltd.
EcoLEaf registration no.	AD-14-E534-A

PCR name	EP and IJ printer (PCR-ID : AD-04)	Product type	Dell Colour Printer - C2660dn					
LCA/LCIA in units of:	1 product	Product weight (kg)	25.6	Package (kg)	4.8	Weight total (kg)	30.4	

1. Product information (per unit): parts etc. by material and by process/assembly method

	Breakdown of primary materials				Math breakdown of parts, which need to apply Processing / Assembly Base Units (Parts B, C)			
	Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
Product	Normal steel (kg)	7.23E+00	paper (kg)	3.74E+00	Press molding:Iron (kg)	9.27E+00	Parts assembly (kg)	2.32E+01
	Stainless steel (kg)	2.20E+00	semiconductor substrates (kg)	1.06E+00	Press molding:Nonferrous metal (kg)	1.51E+00		
	aluminum (kg)	9.54E-01	medium-sized motor (kg)	8.34E-01	Injection molding (kg)	1.33E+01		
	other metals (kg)	7.18E-01			Glass molding (kg)	2.94E-01		
	thermoplastic resins (kg)	1.19E+01						
	thermosetting resins (kg)	1.17E+00						
	rubber (kg)	2.77E-01						
	glass (kg)	2.94E-01						
	Subtotal	2.48E+01	Subtotal	5.64E+00				
	Total			3.04E+01	Subtotal	2.43E+01	Subtotal	2.32E+01

Note

2. Production site information (per unit): Consumption and discharge/emission for production/processing/assembly within the site.

SOx and NOx should be indicated in SO_2, NO_2 equivalent.

Consumption	Classification	Energy	Material	Energy	Energy	Material			
	Distribution	Electricity (kWh)	Clean water (kg)	LPG (kg)	Urban gas (13A) (m3)	Industrial water (kg)			
	Quantity	1.51E+01	7.00E+01	3.09E-02	2.62E-01	2.17E+02			
	Note								
Emission/Discharge	Classification								
	Distribution								
	Quantity								
	Note								

Note

3. Distribution stage information (per unit): means, distance, loading ratio, consumptions and emissions/discharges.

Distribution	Means of transportation	Diesel truck: 10 ton (kg･km)	Diesel truck: 10 ton (kg･km)	Diesel truck: 10 ton (kg･km)	Diesel truck: 10 ton (kg･km)	Freight by ship (kg･km)	Freight by ship (kg･km)	Freight by ship (kg･km)	Freight by ship (kg･km)
	Conditions	Mass(kg)	Distance（km)	Loading Ratio(%w)	Load(kg･km)	Mass(kg)	Distance（km)	Loading Ratio(%w)	Load(kg･km)
	Quantity	3.10E+01	7.00E+01	6.20E+01	3.50E+03	3.10E+01	2.55E+03	1.00E+02	7.89E+04
	Note								
	Means of transportation	Diesel truck: 10 ton (kg･km)	Diesel truck: 10 ton (kg･km)	Diesel truck: 10 ton (kg･km)	Diesel truck: 10 ton (kg･km)	Consumption	Consumption	Consumption	Consumption
	Conditions	Mass(kg)	Distance（km)	Loading Ratio(%w)	Load(kg･km)	Corrugated cardboard (kg)	Cardboard (kg)	High density polyethylene (kg)	Low density polyethylene (kg)
	Quantity	3.10E+01	1.00E+02	6.20E+01	5.00E+03	9.91E-02	2.05E-01	1.68E-01	7.43E-02
	Note								
	Means of transportation	Process	Process						
	Conditions	Recycle: to corrugated cardboard (kg)	Recycle: to Thermoplastic pellet (kg)						
	Quantity	3.04E-01	2.42E-01						
	Note								

Note

4. Use stage (per unit): use condition (mode, term) including active mode, standby mode and maintenance.

4.1 Product and accessories subject to this analysis

Product	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	Electroplated steel Plate (kg)	Stainless steel plate (kg)	Electricity (kWh)	Press molding: Iron (kg)	Copper plate (kg)	Polypropylene (kg)	PET (kg)	Polycarbonate (kg)
	Quantity	1.98E+00	6.80E+00	7.61E+02	8.78E+00	3.35E-01	8.23E-01	2.38E+00	1.36E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	POM (polyacetal) (kg)	ABS (kg)	Assembled circuit board (kg)	Unsaturated polyester	Phenol resin (PF) (kg)	Parts assembly (kg)	Furnace LNG (kg)	PA66 (Polyamide 66)
	Quantity	3.08E+00	3.37E+01	2.37E-01	1.71E+01	1.64E-01	6.16E+01	4.49E+00	1.79E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	Aluminum plate (kg)	Press molding: Nonferrous metal (kg)	Polystyrene (kg)	Furnace urban gas (13A) (m3)	Industrial water (kg)	Polycarbonate-ABS (70/30) (kg)	Cold-Rolled steel plate (kg)	Nitrile-butadiene rubber (NBR) (kg)
	Quantity	6.21E+00	6.55E+00	1.55E+00	1.83E+00	2.77E+03	3.68E-02	2.38E+00	5.05E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	Corrugated cardboard (kg)	Expandable hard polyurethane (Hard) (kg)	Low density polyethylene (kg)	Injection molding (kg)	Paper (Western style) (kg)	Clean water (kg)	Diesel truck: 10 ton (kg･km)	Freight by ship (kg･km)
	Quantity	2.70E+01	7.99E+00	9.90E-01	5.16E+01	1.60E-02	2.56E+02	2.52E+04	1.50E+05
	Note								

Note

4.2 Disposition/Recycle information on consumables and replacement parts

	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Deduction	Consumption

Consumables	Distribution	Diesel truck: 4 ton (kg･km)	Shredding (kg)	Sorting: Iron (by magnetic force) (kg)	Incineration: Biomass (paper) (kg)	Incineration to landfill (as ash) (kg)	Landfill: General waste (kg)	Corrugated cardboard (kg)	Recycle: to corrugated cardboard (kg)
	Quantity	1.10E+04	1.03E+02	1.03E+02	1.62E+01	4.12E+01	1.08E+01	1.08E+01	1.08E+01
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction	Consumption	Consumption	Consumption	Consumption
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	ABS (kg)	Recycle: to cold-rolled steel (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Recycle: to Aluminum plate (kg)	Recycle: to copper plate (kg)
	Quantity	4.47E+00	2.49E+00	1.81E-01	2.73E+01	4.47E+00	3.02E+01	2.49E+00	1.81E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption				
	Distribution	Sorting: Plastics (by relative density difference in water) (kg)	Recycle: to Thermoplastic pellet (kg)	Incineration: Industrial waste (kg)	Landfill: Industrial waste (kg)				
	Quantity	2.75E+01	2.73E+01	2.05E-01	4.70E-02				
	Note								

Note

5. Disposition/Recycle stage information (per product): process method and scenarios

Scenario	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Deduction	Consumption
	Distribution	Diesel truck: 4 ton (kg･km)	Shredding (kg)	Sorting: Iron (by magnetic force) (kg)	Incineration: Biomass (paper) (kg)	Incineration to landfill (as ash) (kg)	Landfill: General waste (kg)	Corrugated cardboard (kg)	Recycle: to corrugated cardboard (kg)
	Quantity	2.94E+03	2.89E+01	2.89E+01	2.25E+00	8.03E+00	7.98E+00	1.50E+00	1.50E+00
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction	Consumption	Consumption	Consumption	Consumption
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	ABS (kg)	Recycle: to cold-rolled steel (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Recycle: to Aluminum plate (kg)	Recycle: to copper plate (kg)
	Quantity	3.94E+00	3.81E-01	6.65E-01	5.24E+00	3.94E+00	6.73E+00	3.81E-01	6.65E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption				
	Distribution	Sorting: Plastics (by relative density difference in water) (kg)	Recycle: to Thermoplastic pellet (kg)	Incineration: Industrial waste (kg)	Landfill: Industrial waste (kg)				
	Quantity	5.68E+00	5.24E+00	1.12E-01	3.29E-01				
	Note								

Note

6. Others

A. Product information:
All the parts mass per unit sorted by materials and by processes/assembly are included. The motor mass is included in common parts.

B. Production site information:
The energy consumption & material use during the main body assemby and cartridge & toner shipment are included.
The environmental impacts that are exhausted from the production site in the atmosphere and the water system are included.

C. Distribution stage information:
The total distance of the transportation in Japan of 100km is used according to PCR (AD-04) and the transportation overseas includes the transportation by track in China and by ship between China and Japan.

D. Product and accessories subject to this analysis:
The power consumption is calculated assuming the use period of five years and 437,400 sheets printed during the use period according to the PCR (AD-04).
The toner consumption is summed up over the five years from the toner consumption data per sheet using our print pattern with 5% coverage.
The production impacts of the cartridges and toner used during the use period of five years are included.
The impacts of the maintenance parts used and the transportation impacts of the maintenace during the use period of five years are included in this stage.

E. Disposal/Recycle information on the consumables and the maintenance parts during use stage:
The recycling information of the toner, the developer, the drums and the maintainance parts used during the use period of five years are included .
The recycling processing impacts are included as plus and the production impacts of the recycled materials are included as minus.

F. Disposal/Recycle stage information:
The information on the products recovered from users is included.
The recycling processing impacts are included as plus and the production impacts of the recycled materials are included as minus.

G. This declaration was produced using Product Category Rule intended for a product model sold inthe Japanese market and using the qualitative and quantitative data collected in Japan. Names of the basic units used in this declaration are :

Cold-Rolled steel plate	Press molding: Iron
Electroplated steel Plate	Press molding: Nonferrousmetal
Hot Dipped steel plate	Injection molding
Stainless Steel Plate	Glass molding
Copper plate	Parts assembly
Aluminum plate	Diesel truck:4 ton (kg･km)
Glass	Diesel truck:10 ton
High density polyethylene	Freight by ship
Low density polyethylene	Electricity
Polypropylene	Furnace urban gas (13A)
Polystyrene	Furnace LNG
Polycarbonate	Urban gas (13A)
Polycarbonate-ABS (70/30)	LPG
POM (Polyacetal)	Industrial water
ABS	Clean water (kg)
MMA Resin	Shredding
PA66 (Polyamide 66)	Sorting:Iron(by magnetic force)
PET	Sorting: Nonferrous metal(by eddy current with windforce)
Expandable hardpolyurethane (Hard)	Sorting: Plastics (by relativedensity difference in water)
Unsaturated Polyester (UP)	Incineration to landfill(as ash)
Phenol Resin (PF)	Incineration: Industrial waste
Nitrile-butadiene rubber(NBR)	Incineration: Biomass(paper)
Corrugated cardboard	Landfill: General waste
Cardboard	Landfill: Industrial waste
Paper (Western style)	Recycle: to cold-rolled steel
Assembled circuit board	Recycle: to copper plate
Medium-sized motor	Recycle: to Aluminum plate
Lubricant	Recycle: to Thermoplasticpellet
	Recycle: to corrugatedcardboard

These Basic Units are obtained from Ecoleaf Environmental Label LCI Common Basic Unit List (V.2.1). URL is listed below.
http://www.ecoleaf-jemai.jp/application/data/basicunit_en20150601.pdf