

GENERAL PRINCIPLES FOR ENVIRONMENTAL COMMUNICATION ON MASS MARKET PRODUCTS

PART 4: METHODOLOGICAL GUIDE FOR THE ENVIRONMENTAL ASSESSMENT OF FURNITURE PRODUCTS (FURNITURE)

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Preamble

This guide was authored by the working group WG 2 "Materials — Equipment", part of the environmental assessment of mass market goods platform, headed by ADEME (Mr CAUDRON/Mr FOURDRIN) with the AFNOR secretariat (Mr BALCAEN).

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The list of organizations involved in the follow-up, drafting and/or preparation of this guide can be found at the end.

This guide is designed to provide a methodological framework for assessing the environmental impacts of household furniture.

It sets out the general principles for the environmental assessment of mass market goods (part 0). These general principles lay out the guideline that product environmental impact assessments shall be carried out in accordance with the life cycle approach and the multi-criteria approach. The environmental communication indicators will be deemed compliant with the rules of the good practice guide for communication on mass market goods provided they comply with the general principles and cross-disciplinary methodological rules laid out in this part 0 and its annexes, as well as the rules specified in this sectoral guide.

It was authored by the FCBA Technological Institute for the sectoral working group WG7 Furniture for the ADEME AFNOR platform, chaired by UNIFA (Union of French furniture industries).

Several studies and reference documents have aided the members of WG 7 in drafting this guide (non-exhaustive list):

- The technical guide from French eco-label NF Environment Furniture
- The technical guide from European eco-label Wooden Furniture
- Collective activity headed by AFNOR and ADEME in the Alsace, Burgundy and Lorraine regions in 2012
- The PROPILAE collective study conducted by FCBA in 2019 on 10 furniture products.

The active members of WG7 who participated in the validation of this document are: ADEME, FCBA, HOP CUBE, MAAPRAT, MMO INTERNATIONAL and UNIFA.

This document amends BP X30-323-4 (September 2011) whose initial scope concerned wooden furniture.

These changes are justified by:

- the request by the general platform to broaden the scope of the guide to all household furniture
- the validity of the document published in September 2011
- the desire to take into account feedback on the environmental communication initiatives in this sector (TAFEA and TRAFEA)

1. Scope

Furniture is understood to mean:

- all furniture intended for domestic use (indoor and outdoor) to furnish living spaces such as living rooms, dining rooms, kitchens, bathrooms, bedrooms, home offices, gardens, etc. Furniture is used for one or more of the following functions: to store items, to hang items, to lie down, to sit, to eat, to work.

CPA codes (version 2.1) associated with the scope:

- 31.00 Seats and seat parts
- 31.02 Kitchen furniture
- 31.09 Other furniture
- 16.23 Cupboards and cupboard front panels

Subcontracted operations included in these CPA codes are excluded from the scope of this guide.

Kitchen furniture countertops are also excluded from the scope of the guide.

Table 1 provides a detailed list of the product categories covered by this guide.

2. Functional unit and reference flow

2.1. Functional unit

The functional units adopted for furniture are as follows:

Table 1 – List of functional units

Product category	Product category sub-	Functional unit	Rationale
Kitchen storage furniture	Kitchen	<p>¹To have 1 dm³ of storage space for one year</p> <p>Volume is defined as total product volume.</p>	<p>What: To store kitchen products and/or equipment</p> <p>How much: 1 dm³</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p> <p>Calculation method: based on gross volume (external furniture dimensions). This value is rounded down to the nearest whole number.</p>
Seats and seat parts (indoor and outdoor)	Seat, chair, bench	<p>To have one sitting place at least 50 cm wide for one year</p> <p>The sitting area is a minimum of 50 cm wide when the product is advertised as accommodating at least two people</p>	<p>What: To have a sitting place</p> <p>How much: a sitting place at least 50 cm wide</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p> <p>Calculation method: seat width measured at the seat back, rounded down to the nearest whole number</p>
Other furniture (indoor and outdoor)	Bathroom	<p>²To have 1 dm³ of storage space for one year</p> <p>Volume is defined as total product volume.</p>	<p>What: To store bathroom products and/or equipment</p> <p>How much: 1 dm³</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p> <p>Calculation method: based on gross volume (external furniture dimensions). This value is rounded down to the nearest whole number.</p>

¹ This definition concerns cabinetry and associated elements: feet, front panels, drawer fittings, accessories (hinges, etc.), swinging doors, handles. It excludes other kitchen components that may be integrated into cabinetry: countertops, baseboards, cornices, etc.

² This definition concerns cabinetry and associated elements: feet, front panels, drawer fittings, accessories (hinges, etc.), swinging doors, handles. It excludes other kitchen components that may be integrated into cabinetry: countertops, baseboards, cornices, etc.

Product category	Product sub-category	Functional unit	Rationale
	Dining table	To have a useful surface for one year	<p>What: To have a surface</p> <p>How much: a useful surface</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p> <p>Calculation method: a useful surface is defined as the minimum space between the perimeter divided by 60 cm and the table surface divided by 2400 cm² (60 x 40 cm²), rounded down to the nearest whole number.</p> <p>Extensions are counted in useful surfaces.</p>
	Office table (desk)	<p>A work surface, regardless of the size of the desk and its features, for one year³</p> <p>Regardless of the size of a desk for domestic use, it is intended for only one person.</p>	<p>What: To have a surface</p> <p>How much: a work surface</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p>
	Coffee table, side table	To have 1 dm ² of useful top horizontal surface for one year	<p>What: To have an area</p> <p>How much: 1 dm²</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p> <p>Calculation method: dimensions of the table top surface, rounded down to the nearest whole number</p>
	Bedframe <i>(bedframe and boxsprings excluded)</i>	<p>To have the frame structure required for one sleeping place at least 70 cm wide for one year</p> <p>Note: in order to be used for sleeping, the frame is but one part of a system that includes a boxspring and mattress. It is considered that the bedframe does not impact the consumption and emissions flows associated with the boxspring and mattress selected to perform the function. Thus, the environmental impacts of the boxspring and mattress are not attributed to the bedframe.</p>	<p>What: To have a frame structure for sleeping</p> <p>How much: one sleeping place at least 70 cm wide</p> <p>How: under normal use conditions</p> <p>How long: 1 year</p> <p>Calculation method: width, rounded down to the nearest whole number</p>

³ Desks sold to the general public are for one person only, regardless of dimensions. Therefore, the notion of "place" or "number of places" does not apply to the functional unit for this product category.

Product category	Product category	sub-	Functional unit	Rationale
	Bookcase		To have 1 dm ² of storage surface for one year	What: To store bookcase items How much: 1 dm ² How: under normal use conditions How long: 1 year Calculation method: based on the area of the horizontal slat surfaces, rounded down to the nearest whole number.
	Shelves			What: To cover a vertical area How much: 1 dm ² How: under normal use conditions How long: 1 year Calculation method: dimensions of the leaves including supports, rounded down to the first decimal place.
	Cupboard panel	front		To cover 1 dm ² of vertical area for one year.
	Non-bookcase storage		To have 1 dm ³ of storage space for one year Volume is defined as total product volume.	What: To store wardrobe items How much: 1 dm ³ How: under normal use conditions How long: 1 year Calculation method: based on gross volume (external furniture dimensions). This value is rounded down to the nearest whole number.
			- Wardrobe - Chest of drawers	

2.2. Reference flow

The 'products' under consideration are combinations of the products themselves and their packaging, meaning the furniture as well as its packaging system (as delivered to the consumer, e.g. cardboard, shrink-wrap, etc.).

The functional lifespan of the furniture products is given in the Annex. The standard lifespans have been defined by professionals from the furniture industry and are based on product design. A different lifespan from the standard values may be claimed depending on the results obtained for performance tests specified in the Annex.

The reference flow is the amount of product required to provide the service expressed by the functional unit. In this case, the reference flow corresponds to a quantity $(1/D) \times$ product unit, where D is the product's lifespan (standard or functional, if applicable).

Specifically, the impacts shown therefore correspond to the lifespan impacts of a product unit (place, 1dm² surface, etc.) divided by its lifespan.

3. Environmental impact indicators

3.1. Reference flow

The environmental indicators used to quantify environmental impacts and for communication were selected according to the environmental impacts that they represent for the product category (see subclause 2.2 and Annex B on the justification for adopted environmental criteria) and their consistency with other environmental communication guides in the furniture sector.

The environmental impacts adopted to calculate the environmental information for the furniture category are:

- Climate change
- Freshwater eutrophication
- Acidification
- Depletion of natural resources
- Human toxicity, with carcinogenic effects

The environmental impacts adopted to communicate environmental information for the furniture category are:

- Climate change
- Freshwater eutrophication
- Acidification

3.2. Environmental indicator selection criteria

The following criteria grid was used to assess and select the indicators for the environmental information about furniture products. It is broken down by indicator in Annex B.

Table 2 – Criteria grid for selecting environmental indicators

Criteria grid for selecting environmental indicators	Definition, comments
Relevance	<ul style="list-style-type: none"> - Assessment of the environmental impact - Importance of the environmental impact - Distinguishing criterion for a majority of products on the market - Promotes eco-design options
Implementation, feasibility	<ul style="list-style-type: none"> - Possibility/ease of implementation for the database - Ability to access scientific data needed to characterize the indicator for the company
Consistency	Consistency with the recommendations of the ADEME / AFNOR platform Life cycle scope, product/packaging Consistency with other communicated indicators
Robustness, reliability	<ul style="list-style-type: none"> - Scientific and international recognition of the indicator - Methodological robustness - Reliability of modelling - Expected reliability of primary data - Reliability of the secondary data available

3.3. Calculation methods

The environmental impacts identified above are characterized using the environmental indicators set out in the following table. The indicators shall be expressed using ratios of the units indicated in the table to the functional units stated in Clause 1.

Table 3 – Environmental impact indicators, units, degree of precision, and calculation method

Environmental impacts	Impact indicators	Units used ⁴
Climate change	Greenhouse gas emissions	kg of CO ² eq. (carbon dioxide)
Water pollution	Freshwater eutrophication	kg of P eq.
Air and soil pollution	Acidification	Mol of H ⁺ eq.
Depletion of non-renewable natural resources	Depletion of natural resources	kg of Sb eq.
Human toxicity	Human toxicity, with carcinogenic effects	CTUh (Comparative Toxicity Units)

Characterization methods for environmental indicators are set out in the general principles for an environmental communication on mass-market products (Part 0).

3.4. Data at the origin of environmental impacts

The table below identifies the origin of the selected impacts, based on environmental assessments by the various stakeholders in working group WG7.

Environmental impacts	Product category
Climate change	— Raw materials — Transportation
Water pollution	— Raw materials (including textile manufacturing and surface treatments) — Transportation
Air and soil pollution	— Transportation — Raw materials
Depletion of non-renewable natural resources	— Raw materials — Transportation — Site manufacturing
Human toxicity	— Raw materials (metal manufacturing and surface treatment) — End of life cycle (incineration)

⁴ These units are linked to characterization methods and are provided as a guideline. These methods shall comply with the general principles for environmental communication on mass market goods (part 0).

4. Allocation rules between products and co-products, assessing the choice of methodological annexes

4.1. Furniture production stage: allocation of furniture production-site impacts⁵

Production site waste and energy consumption are understood to mean:

- Energy consumption
- Production of industrial waste

Values for each type of waste and energy consumption may be quantified or default values (semi-specific values) indicated in Clause 8 of this guide may be used.

Single-product manufacturing:

If the manufacturing facility produces only one type of furniture (only chairs, for example), then all annual waste and energy consumption is allocated to the production of all furniture manufactured during the year. A part of the site's waste and energy consumption will be allocated to the furniture studied on a pro rata basis according to its functional unit.

Multi-product manufacturing:

Multiple types of furniture in the broad sense of the term may be manufactured at a single production site, including tables, chairs, shelving, etc.

In this case, the waste and energy consumption of the production chain/site shall be ratioed to the quantity of raw material consumed or the number of units manufactured each year.

Note that this allocation system complies with the general principles for environmental communication on mass market goods (part 0), which recommends an allocational breakdown based on physical ratios by priority (mass, energy, etc.) if an allocational breakdown based on separate processes proves impossible and physical allocation is relevant.

Given the minor contribution that the on-site manufacturing step has on the total results, the choice of these allocation rules does not have a significant impact on the results.

4.2. Furniture distribution: Allocation of furniture production-site impacts

Environmental impacts associated with furniture distribution are allocated according to product mass.

4.3. Distribution site: Furniture impact allocation

The distribution site is excluded from the scope.

⁵ The relevance of these allocation methods for the production phase will be reassessed based on experiments conducted in this sector.

4.4. Modelling the use of recycled materials and material recycling

The subclauses below therefore relate to materials derived from recycling or those which are partially recycled during the production phase and not at the end of the life cycle.

4.4.1. Modelling the recycling of wood process scrap

The databases available for wood products are calculated using the inventory method, which is a method that is not accepted in the general principles for the environmental communication on mass market goods (part 0) in an open loop. Additionally, there is little data on assessing the benefits of recycling wooden materials, and work to assess it is underway.

The distribution of the benefits is set to 50/50 between whoever produces and whoever uses the recycled material. This choice could change depending on the work that is underway on this subject.

This modelling shall comply with the general principles for environmental communication on mass market goods (part 0).

4.4.2. Modelling the recycling of metal process scrap and post-incineration recycling

This modelling shall comply with the general principles for environmental communication on mass market goods (part 0), meaning that it shall use the same allocation rules for recycling impacts and benefits as for post-consumer materials.

4.4.3. Modelling the recycling of plastic process scraps

This modelling shall comply with the general principles for environmental communication on mass market goods (part 0).

4.4.4. Modelling other stages of recycling

This modelling shall comply with the general principles for environmental communication on mass market goods (part 0), which indicate the allocations for the various materials channels. "

4.5. Modelling energy recovery for end-of-life products

This modelling shall comply with the general principles for environmental communication on mass market goods (part 0).

5. End-of-life processing

The scope of the environmental information is the use of furniture distributed on the French market; thus, the products' end-of-life shall be modelled to represent the situation in France.

Precise assessment of the environmental impact of processing waste includes collection (containers, vehicles, transportation) and the various treatment processes (sorting-recycling, incineration, composting, methanization and storage at a residual waste disposal centre).

5.1. Furniture end-of-life

The eco-organization ECO-MOBILIER is in charge of collecting and processing domestic furniture in the end-of-life phase. It is responsible for producing national statistics on the final disposal of furniture waste. The adopted scenario is that of the most up-to-date processing of furniture waste, using sources of similar information published annually by ECO-MOBILIER or ADEME⁶.

Sources: <http://www.eco-mobilier.fr> or <http://www.ademe.fr/mediatheque>

5.2. Packaging end-of-life

The scenario adopted is that of the most up-to-date processing of household packaging waste in the end-of-life phase using the most up-to-date information, as well as information provided in the general principles for environmental communication on mass market goods (part 0).

6. Accounting for carbon storage

6.1. Carbon sequestration for furniture

In compliance with the general principles for environmental communication on mass market goods (part 0), carbon sequestration shall be counted during production of furniture containing wood components derived from a replanted forest or sustainable farming.

6.2. Landfilling and incineration

When end-of-life furniture is discarded and landfilled, the greenhouse gas emissions from the decomposition of the wood are counted.

6.3. Accounting for delayed greenhouse gas emissions

The methodological annex in the general principles for environmental communication on mass market goods (part 0) specifies whether or not to account for delayed greenhouse gas emissions. For furniture, it was decided that this guide would take time delay into account.

In accordance with these general principles, credit balances associated with delayed emissions shall not be directly included in the climate change indicator.

6.4. Accounting for changing land-use patterns

Changing land-use patterns will be accounted for in compliance with the general principles for environmental communication on mass market goods (part 0).

⁶ www.eco-mobilier.fr or www.ademe.fr/mediatheque

7. Assessment scope of adopted indicators

Environmental assessment of the furniture category shall take into account the life cycle stages set forth in the following diagram.

Some stages are excluded from the scope of the study. The list of these stages and the rationale for excluding them are provided in Table 4:

Table 4 – List of excluded stages and rationale for exclusions

Excluded phases	Rationale
Transport of packaging and production waste to an appropriate location	Cut-off rule (< 1.5% maximum)
Use ⁷	Cut-off rule (no flow)
Consumption of depots, warehouses and distributor platforms	Difficult-to-access data
Transporting post-sale servicing products.	Data not available
R&D, employee transport between home and work, to out-of-office missions, to product-related services such as advertising, canvassing and marketing.	Difficulty in allocating these flows to the product studied

⁷ Consumption of household maintenance products may have environmental impacts. However, use scenarios may differ greatly among users. Data is therefore not available.

These excluded steps are represented by an asterisk (*) in the chart below.

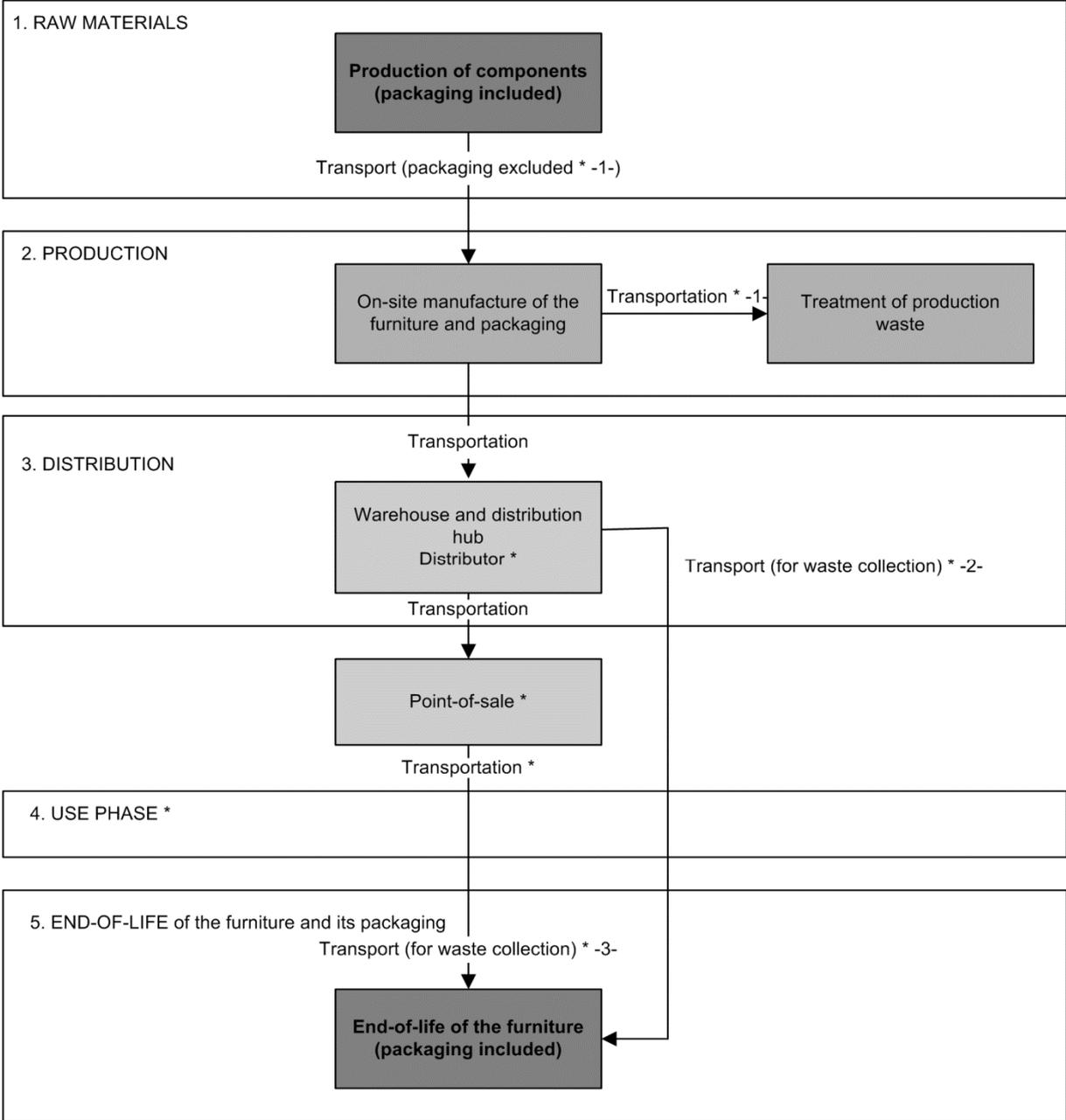


Figure 1 – Life cycle flowchart for furniture

-1- Cut-off rule: the environmental impact of packaging and production waste transport is negligible compared to the other steps of transportation taken into account.

-2-3- Difficulty in collecting data: This involves transporting defective products that are returned to either the warehouse or a distribution platform.

-4- Transportation of the product at the end of its life cycle draws on generic data.

The various steps of the study scope shall be completed using primary data, semi-specific data, or secondary data.

8. Consistency between primary and secondary data

Stage	Sub-stage	PCR				BASE IMPACTS				
		Primary data		Semi-specific data		Secondary data				
		Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Generic inventory data		
						Processes	Technical representativeness	Not present in the database, but an expression of need	Geographical representativeness	
Raw materials		- Quantity of each component: this quantity is expressed in mass for all materials except for wood, whose quantity is expressed in volume or mass. The limit for accounting for components is set at 100% of total product weight. This composition includes the product packaging.					SOLID WOOD - Production of sawn lumber for different wood varieties	-> Hardwood, Softwood -> Sustainable forest management / Unsustainable forest management	-> Oak, beech, cherry, chestnut, elm, teak, maritime pine, spruce, etc.	France, Europe, Asia, Africa, South America
		- Sustainable forest management					WOOD PANELS - Production of wood-based panels	WOOD PANELS -> Raw particleboard (Sustainable management / Unsustainable management) -> Melamine surfaced particleboard (Sustainable management / Unsustainable management) -> Plywood (Sustainable management / Unsustainable management) -> Raw MDF (Sustainable management / Unsustainable management) -> HDF (Sustainable management / Unsustainable management) -> Honeycomb cardboard (Sustainable management / Unsustainable management)	-> Lacquered MDF (Sustainable management / Unsustainable management) -> OSB (Sustainable management / Unsustainable management)	France, Europe
							THERMOPLASTICS Production and forming of granules, including recycled granules	-> HDPE, LDPE, PS (HIPS, GPPS), PES, PET, PVC, PP, ABS, PC, PMMA, POM, PLA -> Injection moulding, extrusion, thermoforming, blow moulding	-> Calendering, expansion for PS, Foaming -> Recycled material	World

		PCR						BASE IMPACTS			
Stage	Sub-stage	Primary data		Semi-specific data		Secondary data					
		Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Generic inventory data			
								Processes	Technical representativeness	Not present in the database, but an expression of need	Geographical representativeness
							THERMOSETTING MATERIALS Production and forming	-> Epoxy, PTFE, Unsaturated polyester resin, EVA	-> High-density polyurethane (PU) foam, Low-density PU foam, PU memory foam, Moulded PU foam, Soy PU foam	Europe	
							ELASTOMERS Production and forming	-> Butyl rubber, natural rubber, SBS, NBR	-> Natural latex, synthetic latex (SBR) .	World	
							STEEL Production and forming, including <u>recycled steel</u>	-> Galvanized steel	-> Profiled steel, Cold rolled steel, Hot rolled steel, Forged steel, Stainless steel -> arc welding, gas welding	World	
							NON-FERROUS METALS Production and forming, including <u>recycled for aluminium</u>		-> Copper, brass, bronze -> Aluminium -> Arc welding -> Extrusion, rolling, forging, anodizing	World	
							TEXTILES - Production of <u>yarns</u> and <u>filaments</u> (spinning and fibre preparation methods which are routinely associated with these fibres included), including recycled fibres	- Yarns (natural fibres): -> Conventional cotton, sheep's wool, silk, linen -> Organic cotton, recycled cotton, Merino wool, angora, cashmere, alpaca, feathers -> Hemp, jute, ramie, camel wool, cow hair, goat hair, horsehair, kapok, abaca, alfa, coconut, broom, sisal, sunn, henequen, maguay - Yarns and filaments (artificial fibres): -> Viscose -> Lyocell - Yarns and filaments (synthetic fibres):	World		

		PCR						BASE IMPACTS			
Stage	Sub-stage	Primary data		Semi-specific data		Secondary data		Generic inventory data			
		Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Processes	Technical representativeness	Not present in the database, but an expression of need	Geographical representativeness
								- Polychloroprene adhesive (neoprene) - Acrylic adhesive, water-based			
								- Polyester adhesive, solvent-based (styrene) - PVA adhesive (1 ingredient)			
							FINISHING PRODUCTS Product manufacturing	- PU paint with solvent - Solvent-free PU paint - PU lacquer - PU varnish - Acrylic varnish	- Water-based paint (acrylic or mixed) - UV lacquer - Water-based lacquer - PU varnish - Water-based stain - Alkyd stain - PU primer - Polyester primer		World
		- Quantities and types of materials (recycled percentage included, if relevant) used for packaging					- Production of packaging materials - Packaging material forming	- Transport pallet (Sustainable management / Unsustainable management)			France, Europe
TEXTILES <i>Complex, coated and bonded</i>	Complex					Electrical consumption and loss rate*	- Complex manufacturing	(variation in PU foam thicknesses and frame type: 6 processes)			World
	Coating			- Country		Electrical consumption and loss rate*	- Coating	-> PU coating (300g/m2), PVC coating (300g/m2), acrylic coating (300g/m2)			World
	Bonded					Electrical consumption and loss rate*	- Membrane production	PTFE membrane, PU membrane			World
TEXTILES	Fabric weaving			- Country		- Electricity consumption per weaving unit* - Loss rate:	- Electricity production - Weaving (infra, water, etc.) excluding energy consumption	- electricity mix consumption means			National World
	<i>Fabric manufacturing</i>			- Country - Knitting type (footwear or not)		- Loss rate: - Electricity consumption for "standard" knitting	- Electricity production - Knitting excluding electricity consumption	- electricity mix consumption means - Standard knitting (infra, water, etc.)			National World

		PCR						BASE IMPACTS					
Stage	Sub-stage	Primary data		Semi-specific data		Secondary data							
		Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Generic inventory data					
								Processes	Technical representativeness	Not present in the database, but an expression of need	Geographical representativeness		
	Sizing			- Country		- Electricity consumption		- Electricity production	electricity mix consumption means			National	
	Non-woven fabric			- Country		- Electricity consumption* - Loss rate:		- Electricity production - Production of non-woven textiles excluding energy consumption	electricity mix consumption means			National	World
TEXTILES <i>Finishing</i>	Level 1 (coarse)			- Country		- Electricity consumption* (upper limit) - Heat energy consumption* if necessary (upper limit) - finishing process consumption (physical value to be entered for process unit)		- Electricity production - Heat production - Level 1 finishing processes excluding energy consumption (with added water consumption; type and quantity of average chemical products, STEP included)	electricity mix consumption means 4 types of energy: coal, biomass, fuel oil, and gas - Dyeing - Printing - Complex chemical finishing - Mechanical finishing			National	Europe World
	Level 2 (average)			- Country		- Electricity consumption* (representative value) - Heat energy type and consumption* if necessary (representative value) - finishing process consumption (physical value to be entered for process unit)		- Electricity production - Heat production - Level 2 finishing processes excluding energy consumption, distinguished by 3 STEP efficacy levels (good, average/poor, none) (with added water consumption; type and quantity of average chemical products, STEP included)	electricity mix consumption means 4 types of energy: coal, biomass, fuel oil, and gas (Each process will be distinguished according to the 3 STEP levels – water treatment plant) - Thread dyeing - Fabric dyeing - Item dyeing Ultimately by material type: cotton, polyester, etc. - Dye printing - Digital printing			National	Europe World

		PCR						BASE IMPACTS			
Stage	Sub-stage	Primary data		Semi-specific data		Secondary data		Generic inventory data			
		Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Processes	Technical representativeness	Not present in the database, but an expression of need	Geographical representativeness
Furniture manufacturing									<ul style="list-style-type: none"> - Transfer printing 		
								<ul style="list-style-type: none"> - Pigment printing - Stain protection - Fire protection - Water-repellent - Anti-mite - Anti-bacterial - Anti-UV ray - Micro-encapsulation - Mercerization - Scraping - Shaving - Chemical washing - Mechanical washing - Laser washing - Ozone washing 			
	Assembly	Country		<ul style="list-style-type: none"> - Electricity consumption per production unit - Gas consumption per production unit - Fuel oil consumption per production unit - Wood consumption per production unit 				<ul style="list-style-type: none"> - Production of 4 energies : - Electricity production - Gas production - Fuel oil production - Wood combustion 	<ul style="list-style-type: none"> - electricity mix consumption means - average combustion of low-additive wood in a biomass boiler (CITEPA data, and not ECOINVENT) 		France, Europe, World
	Production waste			Scrap rates by type of material				<ul style="list-style-type: none"> - Production waste treatment processes for wood, ferrous metals, non-ferrous metals, plastic, glass, etc. 	<ul style="list-style-type: none"> - Landfilling - Incineration with energy recovery - Incineration without energy recovery - Material recycling 		
Transportation	Upstream			- Distance travelled between last supplier site			- load rate: 100% (truck)	Kilometric ton impact according to mode of	- truck		World

		PCR						BASE IMPACTS			
Stage	Sub-stage	Primary data		Semi-specific data		Secondary data					
		Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Activity data, to be linked to database inventory data	Elementary flows and data not directly linked to the database	Generic inventory data			
								Processes	Technical representativeness	Not present in the database, but an expression of need	Geographical representativeness
				and manufacturing site - type of transportation See general principles (part 0)				transportation	- boat - airplane		
	Downstream		-	- Distance travelled between the manufacturing site and the point of sale or storage site for products sold by mail order - type of transportation See general principles (part 0) - load rate: 50% (truck) - empty backhaul rate: 75% (truck)	-			Kilometric ton impact according to mode of transportation	- truck - boat - airplane		
End of life	Treatment of end-of-life DEA							- Impact of bulky waste processing according to French scenario (collection included) OR - Impact of furniture waste treatment according to eco-organization data	- Landfilling - Incineration with energy recovery - Incineration without energy recovery - Recycling processes (to be defined, no specific request in guide)		France
	Treatment of end-of-life packaging						Cardboard packaging recycling rate	- Impact of end-of-life household packaging waste treatment	- Landfilling - Incineration with energy recovery - Incineration without energy recovery - Material recycling		France

9. Values for semi-specific data

— Semi-specific data for production loss rates:

Solid wood: 55%

Wood panel: 30%

Metal: 10%

Plastic: 10%

Glass: 12%

Other: 50%

Semi-specific data for the manufacturing site's energy consumption⁸. To use the values below, the mix of energies used on the manufacturing site should be selected first, followed by the type of product studied.

The values shown are from data collected from household furniture manufacturers. Future updates of this guide shall refine these values based on the feedback received from users of the guide.

		STORAGE (dm ³)	STORAGE (dm ²)	CUPBOARD	TABLES	CHAIRS
4 energy mix	Electricity (Wh/UF)	9.3	9.3	9.3	9.3	9.3
	Gas (Wh/UF)	1.7	1.7	1.7	1.7	1.7
	Fuel oil (J/UF)	0.1	0.1	0.1	0.1	0.1
	Wood (g/UF)	4.0	4.0	4.0	4.0	4.0
Electricity/Fuel oil/Wood mix	Electricity (Wh/UF)	156.7	484.4	484.4	484.4	484.4
	Fuel oil (J/UF)	0.0	0.0	0.0	0.0	0.0
	Wood (g/UF)	65.2	201.5	201.5	201.5	201.5
Electricity/Gas/Fuel oil mix	Electricity (Wh/UF)	19.2	19.2	19.2	19.2	19.2
	Gas (Wh/UF)	26.5	26.5	26.5	26.5	26.5
	Fuel oil (J/UF)	0.6	0.6	0.6	0.6	0.6
Electricity/Gas mix	Electricity (Wh/UF)	139.2	176.1	23.4	5230.6	5230.6
	Gas (Wh/UF)	248.2	314.4	14.6	9337.1	9337.1
Electricity/Wood mix	Electricity (Wh/UF)	1220.0	2.1	12545.5	12545.5	12545.5
	Wood (g/UF)	890.2	878.8	29048.7	29048.7	29048.7
Electricity	Electricity (Wh/UF)	65.9	65.9	65.9	65.9	65.9

⁸ This data was determined using environmental communication programs in this sector (TAFEA and TAFEA).

— Semi-specific data for textiles

Complex, laminate and bonded

- Production country: Default energy mix proposed by the ADEME database

Fabric manufacturing (woven, knitted, lace, non-woven)

- Manufacturing country: Default energy mix proposed by the ADEME database

Spinning

- Spinning country: Default energy mix proposed by the ADEME *Knitting database*
- Knitting country: Default energy mix proposed by the ADEME database

Finishing

- Finishing country: Default energy mix proposed by the ADEME database

Transportation

- Hypothetical textile production sites and manufacturing methods (IMPACTS database processes)

Stage / Circuit	Asia circuit	Europe circuit	Turkey circuit*
Fibre extraction / production	1000 kms truck	18000 kms boat + 1500 kms truck	
Spinning	100% Asia	100% Asia	100% Asia
Weaving	100% Asia	100% Europe	100% Turkey
Finishing	100% Asia	100% Europe	100% Turkey

*If the various manufacturing phases are carried out in Northern Africa, refer to the Turkey circuit

- Hypothetical distances and default modes of transportation for production phases

Stage / Circuit	Asia circuit	Europe circuit	Turkey circuit*
Fibre extraction / production	1000 kms truck	18000 kms boat + 1500 kms truck	
Spinning	1000 kms truck	1000 kms truck	18000 kms boat + 1500 kms truck
Weaving	1000 kms truck	18000 kms boat + 1500 kms truck	18000 kms boat + 1500 kms truck
Finishing	1000 kms truck	1000 kms truck	1000 kms truck

10. Validity of data over time and frequency of updates

The general principles for environmental communication on mass market goods (part 0) provide for updating environmental information when a variation of more than 20% of the environmental impact for the unit is observed after a product modification.

Within the scope of this guide, environmental information shall be updated when the total weight of the product varies by more than 10%. In the furniture sector, this type of variation in weight corresponds to the creation and marketing of a new product, and therefore requires that environmental impacts be recalculated.

The other rules set out in these general principles on this point also apply to furniture.

The data will be stored by the company marketing the product for the entire duration that the model is sold on the market.

11. Type of data needed to confirm the results

Data related to drawing up the communication shall be accessible to all within a transparent framework, at no cost and under appropriate conditions (i.e. report, website, etc.). These data pertain to assumptions, data acquisition methods, the link between primary and secondary data, emissions factors, and assessment limitations.

There is no obligation to communicate the following results to the consumer:

- material composition included in the composition of the functional unit,
- the manufacturing processes,
- the places of manufacture,
- the modes of transportation,
- the type of energy consumed,
- the test report results, if any,
- the allocation choice made at the production site.

However, this data shall still be kept for the inspection authorities, specifying and recording:

- the primary data,
- the semi-specific data,
- the generic data.

12. References

- 2010/2011 ADEME – FCBA - PROPILAE collective programme: ACV of 10 furniture products
- 2011/2012 ADEME – AFNOR - Feedback on the Furniture branch in Alsace, Lorraine and Burgundy (France)
http://www.lorraine.ademe.fr/sites/default/files/files/DI/Production%20et%20conso%20durable/Action%20regionale/Guide_Ameublement_ADEME.pdf
- 2012/2013 DGCIS – FCBA - TAFEA programme
http://www.fcba.fr/sites/default/files/files/2013_Affichage_Guide%20avis%20et%20recommandations.pdf

Annex A

Lifespan rationale

The standard lifespans have been defined by professionals from the furniture industry and are based on product design. A different lifespan from the standard values may be claimed depending on the results obtained for performance tests specified below.

— **Storage furniture (cabinets, chests of drawers, shelves and bookcases)**

Lifespan	Furniture type		3 doors + 3 drawers unit (180x100x55 cm)	2 doors wardrobe (200x230x60 cm)	Chest of drawers (130x80x55 cm)	Standard
	Test type					
5 years	All categories by default					
10 years	Resistance to handling under mobile element load:		Level 1 20 000 cycles	Level 1 20 000 cycles	Level 1 20 000 cycles	Pr NF D 62025
	- hinges					§ 7.1.3
	- drawer sliders					§ 7.5.3
	- sliding elements					§ 7.1
	Deflection under load (on trays/shelves)		0.5 < value ≤ 1%	0.5 < value ≤ 1%	0.5 < value ≤ 1%	Pr NF D 62025 § 7.2.1
15 years	Resistance to handling under mobile element load:		Level 2 40 000 cycles	Level 2 40 000 cycles	Level 2 40 000 cycles	Pr NF D 62025
	- hinges					§ 7.1.3
	- drawer sliders					§ 7.5.3
	- sliding elements					§ 7.1
	Deflection under load (on trays/shelves)		Value ≤ 0.5%	Value ≤ 0.5%	Value ≤ 0.5%	Pr NF D 62025 § 7.2.1
	Structure and base rigidity		Strain amplitude: ≤ 15 mm/m at 200Nm torque; Number of cycles: 10	Strain amplitude: ≤ 15 mm/m at 200Nm torque; Number of cycles: 10	Strain amplitude: ≤ 15 mm/m at 200Nm torque; Number of cycles: 11	FCBA Protocol MQCert 2000-225

— **Kitchen storage furniture**

The standard lifespans have been defined by professionals from the furniture industry and are based on product design. A different lifespan from the standard values may be claimed depending on the results obtained for performance tests specified in the Annex.

Lifespan	Furniture type (structure material the most highly representative of the range) Test type	100 cm-wide bottom unit 2 doors	Standard	100 cm-wide bottom unit 2 drawers	Standard	100 cm-wide bottom unit 2 shelves	Standard
		5 years	All categories by default				
10 years	Resistance to handling under mobile element load: hinges, drawer sliders	30 000 cycles	Pr NF D 62025 § 7.3.1	20 000 cycles	Pr NF D 62025 § 7.1.5		
	Deflection under load (on trays/shelves)					0.5 < Value ≤ 1%	Pr NF D 62025 § 6.2.1
15 years	Resistance to handling under mobile element load: hinges, drawer sliders	60 000 cycles	Pr NF D 62025 § 7.3.1	60 000 cycles	Pr NF D 62025 § 7.1.5		
	Deflection under load (on trays/shelves)					Value ≤ 0.5%	Pr NF D 62025 § 6.2.1

— **Bathroom storage furniture**

The standard lifespans have been defined by professionals from the furniture industry and are based on product design. A different lifespan from the standard values may be claimed depending on the results obtained for performance tests specified in the Annex.

Lifespan	Furniture type (structure material the most highly representative of the range) Test type	80 cm-wide bottom unit 2 doors	Standard	80 cm-wide bottom unit 2 drawers	Standard	80 cm-wide bottom unit 2 shelves	Standard
		5 years	All categories by default				
10 years	Resistance to handling under mobile element load: hinges, drawer sliders	20 000 cycles	Pr NF D 62025 § 7.3.1	20 000 cycles	Pr NF D 62025 § 7.1.5		
	Deflection under load (on trays/shelves)					0.5 < Value ≤ 0.5%	Pr NF D 62025 § 6.2.1
15 years	Resistance to handling under mobile element load: hinges, drawer sliders	Level 2 40 000 cycles	Pr NF D 62025 § 7.3.1	Level 2 40 000 cycles	Pr NF D 62025 § 7.1.5		
	Deflection under load (on trays/shelves)					Value ≤ 0.5%	Pr NF D 62025 § 6.2.1

— **Table (indoor and outdoor)**

The standard lifespans have been defined by professionals from the furniture industry and are based on product design. A different lifespan from the standard values may be claimed depending on the results obtained for performance tests specified in the Annex.

Lifespan	Furniture type				
	Test type	High table – Round tabletop (115 cm / 4 feet)	High table – Rectangular tabletop (180x75 cm / 4 feet)	Coffee table 60 cm high	Standard
5 years	All categories by default				
10 years	Horizontal strain (10 000 cycles – 300 N for tables > 600 mm from ground)	50 > amplitude > 20 mm	50 > amplitude > 20 mm	50 > amplitude > 20 mm	EN 12521
20 years	Horizontal strain (10 000 cycles – 300 N for tables > 600 mm from ground)	Amplitude ≤ 20 mm	Amplitude ≤ 20 mm	Amplitude ≤ 20 mm	EN 12521

— **Chair, seat, bench (indoor and outdoor)**

The standard lifespans have been defined by professionals from the furniture industry and are based on product design.

- Indoor furniture

Lifespan	Furniture type				
	Test type	Chair/bench without armrest	Seat/bench with armrest	Stool	Standard
5 years	All categories by default				
10 years	Safety test	X	x	X	EN 12520
15 years	Safety test	X	X	X	EN 12520
	Seat and seat back combined strain	25.000 cycles for seat : 1.000 N seat back : 300 N Collapse < 3 cm	25.000 cycles for seat : 1.000 N seat back : 300 N Collapse < 3 cm		NF EN 12520/ EN 1728:2000 (6.7)
	Seat front edge strain	20.000 cycles 800 N	20.000 cycles 800 N	20.000 cycles 800 N	NF EN 12520/ EN 1728:2000 (6.8)
	Armrest strain		10.000 cycles 400 N (for multi-person seats test on one armrest)		NF EN 12520/ EN 1728:2000 (6.10)

- Outdoor furniture

Lifespan	Furniture type				Standard
	Test type	Chair/bench without armrest	Seat/bench with armrest	Stool	
3 years	All categories by default				
10 years	Safety test	X	x	X	EN 581 Parts 1 & 2
15 years	Safety test	X	X	X	EN 581 Parts 1 & 2
	Seat and seat back combined strain	25.000 cycles for seat : 1.000 N seat back : 300 N Collapse < 3 cm	25.000 cycles for seat : 1.000 N seat back : 300 N Collapse < 3 cm		NF EN 12520/ EN 1728:2000 (6.7)
	Seat front edge strain	20.000 cycles 800 N	20.000 cycles 800 N	20.000 cycles 800 N	NF EN 12520/ EN 1728:2000 (6.8)
	Armrest strain		10.000 cycles 400 N (for multi-person seats test on one armrest)		NF EN 12520/ EN 1728:2000 (6.10)

— Cupboard front panel

The standard lifespans have been defined by professionals from the furniture industry and are based on product design.

Lifespan	Furniture type		Standard
	Test type	Sliding door	
5 years	All categories by default		
10 years	Safety test	X	EN 14749
15 years	Safety test	X	EN 14749
	Resistance to handling	Value \geq 50 000 cycles	XP D 62025
20 years	Safety test	X	EN 14749
	Resistance to handling	Value \geq 73 000 cycles	XP D 62025 § 7.1.3

— **Bedframe**

The standard lifespans have been defined by professionals from the furniture industry and are based on product design.

Lifespan	Furniture type		Standard	Bunk bed	Standard/Decree
	Test type				
5 years	All categories by default				
20 years	Safety test		X	X	Decree No. 95/949 of 25/08/95



Annex B

Rationale for adopted environmental criteria

The standard lifespans have been defined by professionals from the furniture industry and are based on product design. A different lifespan from the standard values may be claimed depending on the results obtained for performance tests specified below.

— Criteria adopted

Assessment of indicator relevance	Assessment sub-criterion	Greenhouse gas emission (with storage)	Air acidification	Eutrophication (freshwater)	Depletion of natural resources	Human toxicity, with carcinogenic effects
Relevance	Assessment of an environmental impact of the product category and which is attributable to the product	+++	++	++	+++	++
	Severity of the environmental impact	- Indicator required by the general principles for environmental communication on mass market goods (part 0). - consumer action is possible for wood (choice of wood sourced from sustainably-managed forest) - promotes eco-design options	- indicator that highlights certain stages such as transportation that appear little if at all in other indicators	Average	Average	Average
	Distinguishing criterion for a majority of products on the market	+++	With respect to major imports in particular	?	Yes	?
	Promotes eco-design options	+++	+	++	+++	+
Implementation, feasibility	Possibility/ease of implementation for the database	+++	+++	+++	++	+
	Ability to access scientific data needed to characterize the indicator for the company	++	++	++	++	+
Consistency	Consistency with the recommendations of the ADEME / AFNOR platform	Consistent with the recommendations of the ADEME/AFNOR platform Scope: life cycle, product-packaging pair	Consistent with the recommendations of the ADEME/AFNOR platform Scope: life cycle, product-packaging pair	Consistent with the recommendations	Consistent with the recommendations	Consistent with the recommendations
	Life cycle scope, product/packaging	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair
	Consistency with other communicated indicators	+++ Mainly concerns the raw materials	+++ Supplements data from the greenhouse effect indicator in relation to transportation	++ Mainly concerns textiles	Redundant with the climate change indicator	Complementary
Robustness, reliability	Scientific and international recognition of the indicator	Indicator recognized on the international and scientific scene Expected reliability of primary data +++ Reliability of the secondary data available +	Indicator recognized on the international and scientific scene Expected reliability of primary data +++ Reliability of the secondary data available +	+++	+++	+
	Methodological robustness, relative reliability of the indicator	High	High	High	High	Low
	Reliability of modelling	+++ The use phase is excluded from the scope	+++ The use phase is excluded from the scope	++ The use phase is excluded from the scope	++ The use phase is excluded from the scope	++ The use phase is excluded from the scope
	Expected reliability of primary data	+++	+++	+++	+++	++
	Reliability of the secondary data available	+++ Depends on the composition of the database with respect to materials, processes, and energy mixes	+++	+++	+++	+
CONCLUSION		TAKEN INTO ACCOUNT IN ENVIRONMENTAL COMMUNICATION	TAKEN INTO ACCOUNT IN ENVIRONMENTAL COMMUNICATION	TAKEN INTO ACCOUNT IN ENVIRONMENTAL COMMUNICATION	TAKEN INTO ACCOUNT IN ENVIRONMENTAL COMMUNICATION (NOT COMMUNICATED)	TAKEN INTO ACCOUNT IN ENVIRONMENTAL COMMUNICATION (NOT COMMUNICATED)

— Criteria excluded

Assessment of indicator relevance	Assessment sub-criterion	Consumption of non-renewable energy	Consumption of renewable energy	Water consumption	Destruction of the ozone layer	Photochemical ozone formation	Aquatic toxicity	Land toxicity	Non-hazardous waste	Hazardous waste
Relevance	Assessment of an environmental impact of the product category and which is attributable to the product	+++	+++	+++	+++	+++	+++	+++	+++	+++
	Severity of the environmental impact	Low	High	Very low	High for one product Low for the other products	Average	Low	High	Average	High
	Distinguishing criterion for a majority of products on the market	Yes	No	Yes						
	Promotes eco-design options	Yes	No	Yes						
Implementation, feasibility	Possibility/ease of implementation for the database	++	++	++	++	+	+	+	++ Average scenario adopted by default Rules for recycled materials to be applied	++ Average scenario adopted by default Rules for recycled materials to be applied
	Ability to access scientific data needed to characterize the indicator for the company	+++	+++	++	++	++	+	+	++	++
Consistency	Consistency with the recommendations of the ADEME / AFNOR platform	Flow indicator: noncompliant	Flow indicator: noncompliant	Flow indicator: noncompliant	Consistent with the recommendations	Consistent with the recommendations	?	?	Flow indicator: noncompliant	Flow indicator: noncompliant
	Life cycle scope, product/packaging	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair	All phases of life cycle except use Product/packaging pair
	Consistency with other communicated indicators	Partially redundant with the greenhouse gas indicator	May appear to contradict the greenhouse gas indicator				Complementary	Complementary	Complementary	Complementary
Robustness, reliability	Scientific and international recognition of the indicator	+++	++	+++	+++	++	No scientific consensus	No scientific consensus	++	++
	Methodological robustness, relative reliability of the indicator	High	High	High	High	Average	Low	Low	Average	Low
	Reliability of modelling	Average	Low: depends on the scenario adopted	Low: depends on the scenario adopted						
	Expected reliability of primary data	High	High	High	High	High	Low	Low	Average	Average
	Reliability of the secondary data available	Average	Average	Average	Average	Average	Low	Average	Average	Average
Conclusion										

Annex C

Densities for wood varieties and wood panels

The table below gives default data on the densities of various wood-based materials:

Variety, type of panel	Density (kg/m ³)
SOLID*	
Alder	530
Chestnut	620
Oak	710
Ash	720
Beech	680
Larch	600
Cherry	610
Walnut	660
Elm	640
Maritime pine	510
Scotch pine	530
Fir, spruce	450
WOOD PANELS	
Chipboard	670
MDF panel	710
Maritime pine plywood	620
Beech/birch plywood	750
Poplar plywood	400-500

*(at 12% average humidity)

Annex D

Definitions of environmental indicators⁹

Climate change

Contributing to climate change corresponds to the increase in the average temperature of the atmosphere, caused by an increased concentration of anthropogenic greenhouse gases in the atmosphere.

Human activity--whether industrial, agricultural or domestic (e.g. home heating, travel)--contributes to this phenomenon, particularly because of the fossil fuel it uses.

There are many greenhouse gases, but the main ones are carbon dioxide (CO₂), water vapour, methane (CH₄), nitrous oxide (N₂O) and hydrofluorocarbons.

Internationally, climate scientists acknowledge a direct link between increased greenhouse gas emissions resulting from human activities and recent changes to the Earth's climate, also known as climate change. This thus results in an increase in extreme weather events such as floods, storms, heat waves and droughts.

The numerous potential consequences of climate change include public health impacts, impact on agriculture, and loss of biodiversity.

Freshwater eutrophication

Eutrophication of an aqueous medium is characterized by the introduction of nutrients, in the form of nitrogen and phosphate compounds, which leads to the development or proliferation of algae and lack of oxygen in the environment.

The eutrophication of fresh water is mainly due to phosphate compounds. The influx of phosphates in the natural environment comes from agriculture (fertilizer use, animal waste) as well as industrial and domestic waste (human waste, detergents and laundry detergents).

Air acidification

Air acidification is primarily due to emissions of nitrogen oxides, sulphur oxides, ammonia and hydrochloric acid.

Sulphur oxide emissions mainly result from the use of sulphur-containing fossil fuels (coal, lignite, petroleum coke, fuel oil, heating oil and diesel).

Nitrogen oxides result mainly from burning fossil fuels and from certain industrial processes. The primary emitters are large combustion plants, as well as motor vehicles.

Hydrochloric acid is produced mainly by the combustion of chlorinated fossil fuels (coal, fuel oil) and the incineration of household waste. Ammonia is primarily produced by the agricultural sector.

These pollutants are transformed into acids in the presence of moisture. Acid fallout, in the form of rain, for example, can damage ecosystems as well as buildings.

⁹ Source: Equivalent communication of ACV results to the general public – Methods and Standards – Bleu Safran for ADEME - 2013

Depletion of non-renewable resources

This indicator reflects the impoverishment of the environment in non-renewable mineral and fossil resources such as iron, zinc, natural gas, coal, oil, etc.

Human toxicity

Human activities sometimes require the use of substances that may be emitted into the atmosphere and the environment. These can be potentially hazardous to human health and carcinogenic if inhaled or swallowed.

Annex E

Tracking changes to this guide

This document amends BP X30-323-4 (September 2011) whose initial scope concerned wooden furniture.

These changes are justified by:

- the request by the general platform to broaden the scope of the guide to all household furniture.
- The validity of the document published in September 2011
- The desire to take into account the feedback on the environmental communication initiatives in this sector (TAFEA and TRAFEA)

The changes were proposed at a WG7 meeting by various stakeholders: UNIFA, FCBA, ADEME.

This document was subjected to critical review at the request of ADEME with a panel devoted to this task:

- Patrick Hervier - FNE
- Jad Zoghaïb – Solinnen
- Olivier Derceville – VALOR Consultants

Comments were analysed at the WG7 meeting and this document was updated.

In general, all subclauses have been changed to enhance clarity.

More specifically, the following subclauses have been changed:

- Introduction: addition of a CPA nomenclature
- 1.1 Functional units: details provided in a third column in the table
- 3 Allocation rules: details and additions

All changes are tracked in the critical review report.

List of organizations involved in the follow-up, drafting and/or preparation of this guide

3 SUISES FRANCE
ABIBOIS
ACDLEC - ASSO CTRES DISTRIBUTEURS E LECLERC
ACV PLUS
ADEME
ADIB FRANCHE-COMTE
ADEO SERVICES
ADISSEO FRANCE SAS
AFNOR
AFNOR CERTIFICATION
AFNOR DEVELOPPEMENT
AFPIA-SOLFI2A
AIMCC
AIRELE
ALBHADES PROVENCE
ALSAPAN FURNITURE SAS
ALTADEV
ALTERNATIVE CARBONE
ANNE MARIE JOANNES DESPAUX
ANTHONY BOULE
APCMA
APESA INNOVATION
API – ASIA PACIFIC INSPECTION LTD
APL ASSOCIATION POUR LA PROMOTION DE LA LITERIE
ATIBT

BEATRICE BELLINI

BIO INTELLIGENCE SERVICE
BRICO DEPOT
Bureau de Normalisation du Bois et de l'Ameublement
BURIE
BUT INTERNATIONAL SA
CAROLINE SOREZ
CARTON ONDULE DE FRANCE
CAUVAL INDUSTRIES
CCD - CENTRE DE LA CONSOMMATION DURABLE
CCI 77
CETIM
CGDD - COMMISSARIAT GEN DEVELOPPEMENT DURABLE
CGI
CGP PRIMAGAZ

CHABERT MARILLIER PRODUCTION
CHAMBRE DES METIERS & DE L'ARTISANAT
CMI – CARREFOUR MARCHANDISES INTERNATIONALES
CODDE – CONCEPTION DVPT DURABLE ENVT
COHN&WOLFE
CONFORAMA FRANCE
COOPERATIVE MU
COPIREL
COULIDOOOR
CQFDD
CSO CNRS
CTP - CENTRE TECHNIQUE DU PAPIER
CYCLECO
CYNAPSIS
DECATHLON
DECATHLON SA - B TWIN
DGCCRF
DGE / SEN
DIVA FRANCE
DOREL FRANCE SA
DUNLOPILLO
ECO SYSTEMES
ECO2 INITIATIVE
ECO ACT
ECOEFF
ECOLOMY
ECO-MOBILIER
ECOPULSE SARL
ECOVER FRANCE
EMC DISTRIBUTION
ENVIRO STRATEGIES
ETABLISSEMENTS DAVILAINE
ETS CHABOT SA
ETS HORTICOLES GEORGES TRUFFAUT
ETS SOGAL FABRICATION
EUROSIT SA
EVEA – EVALUATION & ACCOMPAGNEMENT
FCBA
FCD - FEDE COMMERCE DISTRIBUTION
FEDERATION DE LA PLASTURGIE
FEDERATION DES FAMILLES DE FRANCE
FERMOB
FLORENT CHALOT
FLY
FNAEM
FOURNIER
FPS – DEF PRO ENTREPRISES SPORTS LOISIRS
FREDERICADET
GIE PARISOT
GAUTIER FRANCE
GENERALE FRANCAISE DE LITERIE

GINGKO 21
GIRARDOT CEDRIC
GREENEX SERVICE
GREENFLEX
GROFILLEX SAS
GSA – GROUPE SALMON ARC EN CIEL SAS
HELENE LELIEVRE
HERMES INTERNATIONAL
HILDING ANDERS BRETAGNE
HOP CUBE
IAE
IKEA FRANCE SNC
IMMUNOCTEM
IMPEX SAS
INTERTEK FRANCE
INTERTEK SUSTAINABILITY SOLUTIONS
JAMES EVENISTES
JJA
KOHLER FRANCE - JACOB DELAFON
KOHLER FRANCE SAS
L'ATELIER DU JOUR
LA BOSSELLERIE
LA REDOUTE
LAFUMA MOBILIER S.A.S
LE LIT NATIONAL F. PEJAUDIER
LESTRA SPORT SA
LIST – Luxembourg INST OF SCIENCE & TECHNOLOGY
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LOGIDESIGN-ARENE
MAISONS DU MONDE
MANUEST SA
MARION HUET
MATERIC LUNDIA
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MAXIME THARIN
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MINISTERE DE L'INDUSTRIE
MMO
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PARISOT MEUBLES
PHILIPPE SONNETTE
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PRICEWATERHOUSECOOPERS ADVISORY
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SAUTHON INDUSTRIES
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SILVE
SO CO FAL
SOC FONTENAIENNE D'AMEUBLEMENT -SELF
SOKOA
STE NOUVELLE INTERPLUME
STEELCASE SA
STEPHANE RABEHANTA
STRATEGREEN
SYNDICAT FRANÇAIS DE LA LITERIE
SYNDICAT NATIONAL DES PLUMES ET DUVETS
TFT – THE FOREST TRUST
TRISTAN D'AVEZAC
UNIFA – INDUSTRIES FRANCAISES AMEUBLEMENT
VALCO
VALDELIA
VERTBAUDET
WEAVE AIR
WEBER INDUSTRIES
WIFOR SA
WILLIAM TERRY CONSEIL
WM88
WOMEN IN EUR FOR A COMMON FUTURE
WWF FRANCE
YOLIMA FAUCHET

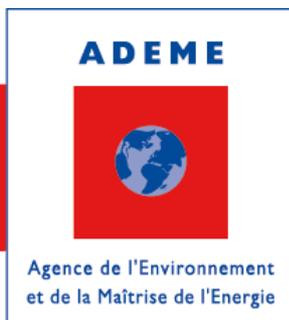
List of organizations represented at the validation of this guide (environmental assessment platform meeting on 14 April 2015)

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The French Environment and Energy Management Agency (ADEME) participates in the implementation of public policy in the areas of the environment, energy and sustainable development. The agency provides expertise and advisory services to businesses, local authorities, government bodies and the general public, in order to help them strengthen their environmental action. It also helps finance projects, from research to implementation, in the areas of waste management, soil conservation, energy efficiency and renewable energy, air quality and noise abatement.

ADEME is a public agency under the joint authority of the Ministry of Ecology, Sustainable Development and Energy, and the Ministry for Higher Education and Research.



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