

63rd ARGE ANNUAL CONFERENCE
Stratford-upon-Avon
10TH – 11TH September

ARGE EPD Project

Project status and EPDs content

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Project progress since Conference 2014

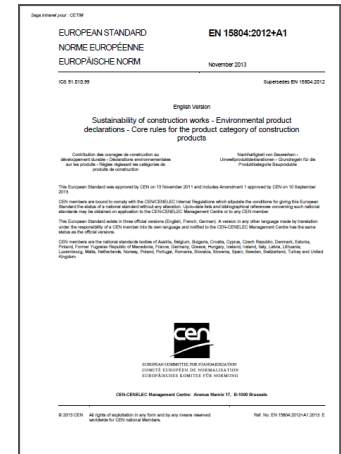
2 main objectives



Harmonized rules for measuring environmental impacts of building hardware

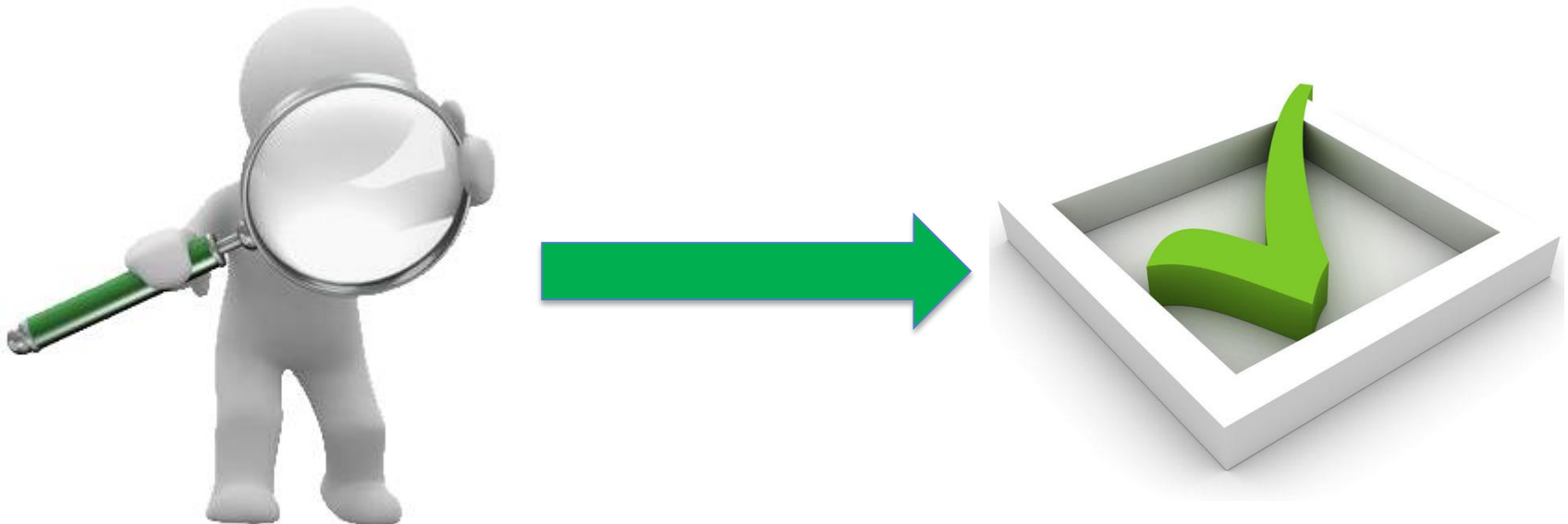


Production of common EPD to satisfy the market demand and to reduce the cost for companies



Next steps of the project

- PCR validation by IBU to fit its programme requirements
- EPDs verification by IBU and third-party verifier -> some adjustments in current draft EPDs



Contributions of the programme holder IBU

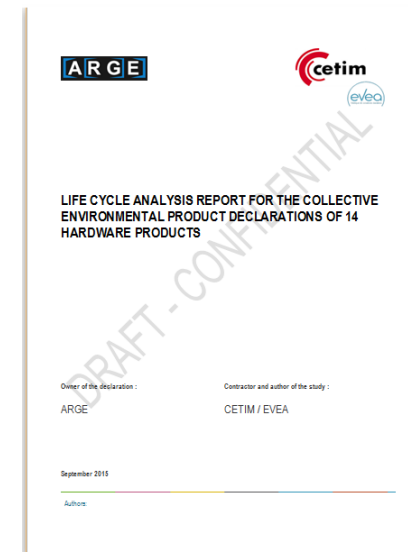
- Why IBU and what for ?
 - Experience (especially with German association)
 - Recognition
 - Worldwide approach on EPD matter (mutual agreement with other programme operator)
 - Close link with EcoPlatform
 - Verification fees



Presentation of the 14 EPDs

Product categories

EPDs	Additional concerned products
Locks	
Locking cylinders	
Padlocks	
Panic exit devices	
Door and windows handles	
Hinges	
Windows fittings	
Shutter hardware devices	
Door closers	Door coordinators
Sliding door gears	
Glass-door gears	
Letter boxes	
Push button locks	
Electro-mechanical devices	EM locks, EM cylinders, EM handles, EM push button locks



Content of each EPD

Example : ARGE EPD for Locks

- Structure and Content
 - Defined in IBU PCR
 - Product description
 - Application
 - Materials
 - Manufacturing
 - Service life
 - Calculation rules
 - Scenarios and assumptions
 - LCA results
 - Additional information



One word concerning declared unit

- For an easy use of ARGE collective EPDs, the results of environmental impacts are given for 1 kg of products, allowing to consider specific products



3. LCA: Calculation rules

3.1 Functional Unit / Declared Unit

The functional unit is defined as:

“Secure a door in the closed position, for a reference mass of 1kg of locks and over a reference service life of 30 years”

	Value	Unit
Functional Unit	1	kg
Conversion factor to 1kg	1	-

3.2 System boundary

The analysis of the product life cycle includes the production and transport of the raw materials

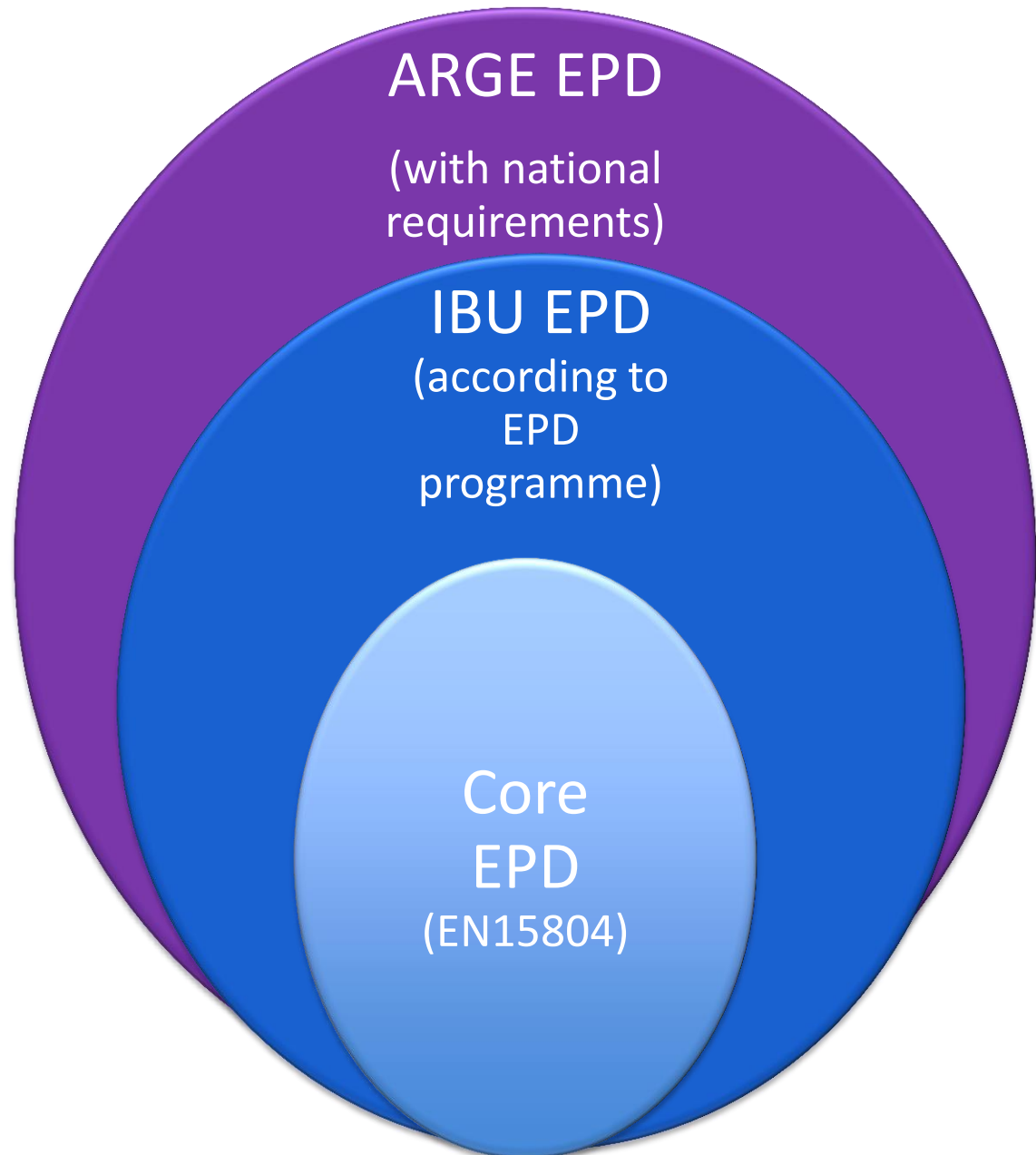
3.6 Data c

The objective environment throughout the 14040, ISO 1 regarding the criteria: The time fact comes from: Data collected manufacture averaged dat

Specificities of ARGE EPDs to be useable across Europe

Modular approach for :

- easy-to-read documents
- Future integration of new requirements (US, other countries, ...)
- Maintenance and additional costs (verification for instance)



Modular approach through an example

Creation of a specific appendix to add required additional information

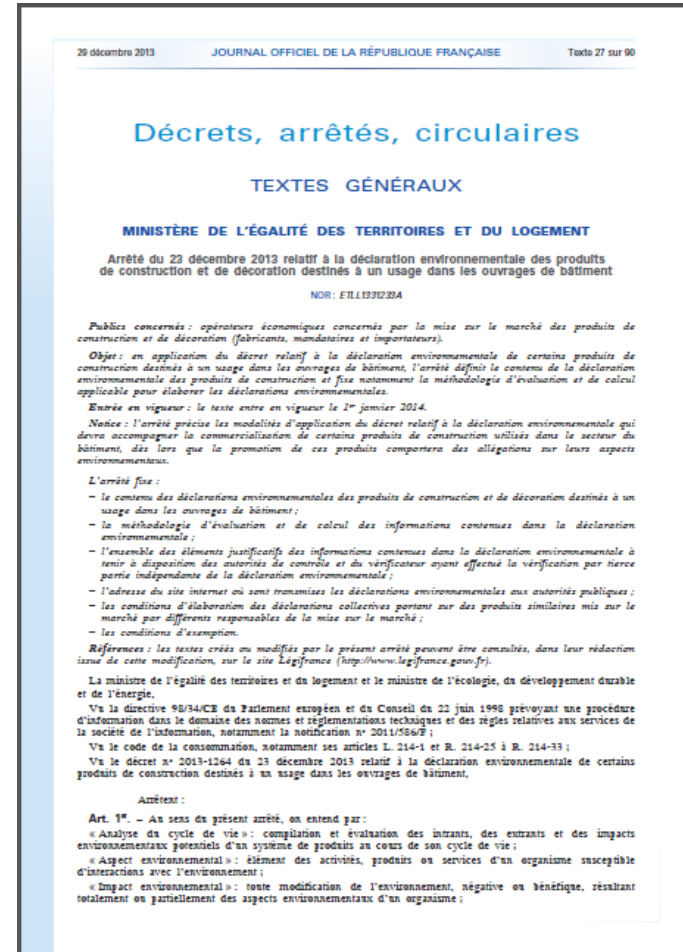
- 2 more indicators (Water pollution and Air pollution)
- *Information on sanitary aspects*

10.2 LCA: Results (with additional indicators required by the norm XP P01-064/CN)

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: declared unit and product																
Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP	[kg CO2-Eq.]	5,40E+00	5,89E-01	5,71E-03	0	0	0	0	0	0	0	0	5,05E-03	2,47E-03	3,66E-01	-
ODP	[kg CFCT1-Eq.]	3,47E-07	1,08E-07	3,51E-10	0	0	0	0	0	0	0	0	9,26E-10	2,71E-10	2,66E-09	-
AP	[kg SO2-Eq.]	1,19E-01	2,39E-03	1,55E-05	0	0	0	0	0	0	0	0	2,05E-05	1,03E-05	1,34E-04	-
EP	[kg (PO4)3-Eq.]	1,72E-02	4,06E-04	5,05E-06	0	0	0	0	0	0	0	0	3,48E-06	1,17E-06	2,55E-04	-
POCP	[kg Ethene Eq.]	6,26E-03	2,68E-04	3,20E-06	0	0	0	0	0	0	0	0	2,30E-06	5,65E-07	5,99E-05	-
ADPE	[kg Sb Eq.]	5,55E-03	1,95E-06	4,09E-09	0	0	0	0	0	0	0	0	1,67E-08	1,06E-09	2,51E-08	-
ADPF	[MJ]	7,22E+01	8,97E+00	2,87E-02	0	0	0	0	0	0	0	0	7,69E-02	3,77E-02	2,32E-01	-
WP	[m³]	2,89E+00	2,08E-01	1,23E-03	0	0	0	0	0	0	0	0	1,78E-03	6,08E-04	5,29E-02	-
AP	[m³]	2,36E+03	8,09E+01	3,69E-01	0	0	0	0	0	0	0	0	6,93E-01	1,23E-01	3,27E+00	0

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources; WP = Water Pollution; AP = Air Pollution

RESULTS OF THE LCA - RESOURCE USE: declared unit and product																
Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	Unit	9,58E+00	1,12E-01	1,74E-03	0	0	0	0	0	0	0	0	9,61E-04	4,72E-03	1,20E-02	-
PERM	[MJ]	1,94E+00	0	-7,20E-01	0	0	0	0	0	0	0	0	0	0	0	-
PERT	[MJ]	1,15E+01	1,12E-01	-7,19E-01	0	0	0	0	0	0	0	0	9,61E-04	4,72E-03	1,20E-02	-
PENRE	[MJ]	7,55E+01	9,13E+00	3,53E-02	0	0	0	0	0	0	0	0	7,82E-02	5,68E-02	2,65E-01	-



French regulation concerning Environmental Declaration of Construction Products

Example of evolution regarding US specificities

- Link with LEED certification
- UL PCR and mutual recognition between UL and IBU
- Some differences concerning the way to calculate environmental impacts (TRACI method instead of CML, ...)



Project plan

General process	2014												2015												2016	
	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February		
Project management																										
ARGE conference							C1												C2							
Step 1 : Definition of study boundaries																										
Project launch																										
- Kick-off meeting		M1																								
Feasibility studies of generic EPD																										
- Market share data collection by ARGE																										
- Task force for the choice of volunteer manufacturers and preparation of data collection					WC1																					
- Data collection by companies with CETIM tools and support										16-janv																
- CETIM study																										
- Decision meeting on product categories												M2														
Step 2 : PCR writing																										
Integration of national and European specific requirements																										
Writing European Hardware PCR																										
Exchange with program holders										M3	M4															
Adaptation of ARGE PCR in IBU																										
Validation of PCR																										
Step 3 : Generic EPD production																										
Data collection												M5	M6													
LCA calculation																										
EPD writing																										
Background reports writing																										
Review / Verification phase																										
- EPD verification by IBU (completeness, ...) (2 weeks)																										
- EPD verification by third party verifier (4 weeks)																										
Modifications of EPDs and background reports																										
- EPD final review and publication by IBU (2 weeks)																										
Restitution meeting																								M7		

EPD available by December if verification runs to plan

Delivery of EPD verified by

M7