EPD Environmental Product Declaration

URBAN chair

Ref. UR5210T82

Report Data 22.03.2012

Certificates

ISO 9001:2008
ISO 14001:2004
ISO 14006. Ecodiseño
PEFC. Programme for the Endorsement of Forest Certification
FSC. Forest Stewardship Council
GBCe. Green Building Council Spain

1. Details of the system

Type	New Product	X	Redesign		Studied Year 2011

Declaration Scope: From extraction of raw materials to complete desk solution, including end of life.
The detail of each of the phases considered and its scope is included below

Materials	Production	Transport	Use	End of life
Including the extraction and processing of raw materials and component sourcing to its delivery at the Actiu Technological Park.	Consider the production and assembly processes used in Actiu.	Includes from the Actiu Technological Park to our customers facilities. Transport is provided through light commercial transport.	This stage has not environmentally relevance for life cycle analysis.	Any product can be disposed of in different ways, or become a resource. Drawing on national average dates, it is supposed that aluminium, wood and cardboard packaging is recycled, while the rest is treated as urban waste.

2. RAW MATERIALS USED FOR THE PRODUCT. Product specifications, including packaging

	KG of product solution	Percentage %	Quality of finishes	
			Production of raw materials	Processed
Corrugated Board	19,104	63,52%	Bibliographic data	Bibliographic data
Others	1,27	4,22%	Bibliographic data	Bibliographic data
Steel	2,63	8,75%	Bibliographic data	Bibliographic data
Aluminium	1,383	4,60%	Bibliographic data	Bibliographic data
Plastic	5,687	18,91%	Bibliographic data	Bibliographic data
TOTAL	**30,074**	**100,00%**		
% recicled materials		12,97%		
% reciclable materials		85,47%		

ACTIU product design is made to facilitate the separation of its components and recycling.

The product is designed to help companies LEED® certification. You can obtain LEED® credits with our product. On the one hand, contains a high percentage of recycled materials and is manufactured with low emissions to the atmosphere. On the other hand, has been designed with ergonomic standards. Finally, it can be easily recycled because it is designed for disassembly and identificacion of very simple components. This will help you achieve LEED® credits for employee health and innovation

The verification process life cycle analysis is performed by independent experts in Ecodesign (Consultant Business Area) and using the criteria of the standard ISO 14006 "Ecodesign".

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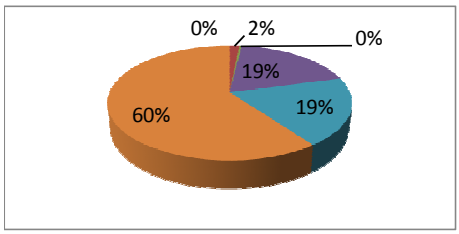
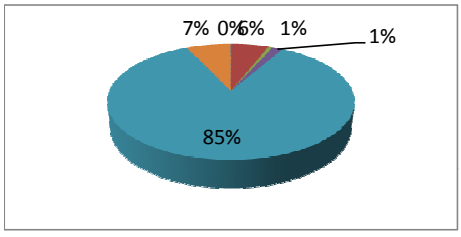
3. Impacts produced by category. Five substaces area included in each category have the greatest impact in each category

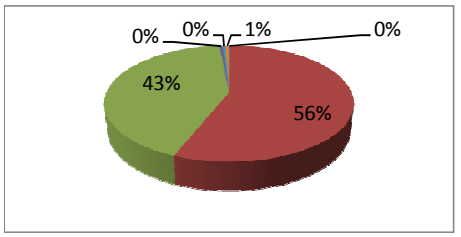
Impact category	Substance	Unit	Total
ACIDIFICATION	Substancias remanentes	kg SO2 eq	0
	Ammonia	kg SO2 eq	0,031333497
	Nitrogen dioxide	kg SO2 eq	0,007405817
	Nitrogen oxides	kg SO2 eq	0,393345257
	Sulfur dioxide	kg SO2 eq	0,399333706
	TOTAL	kg SO2 eq	2,079001438



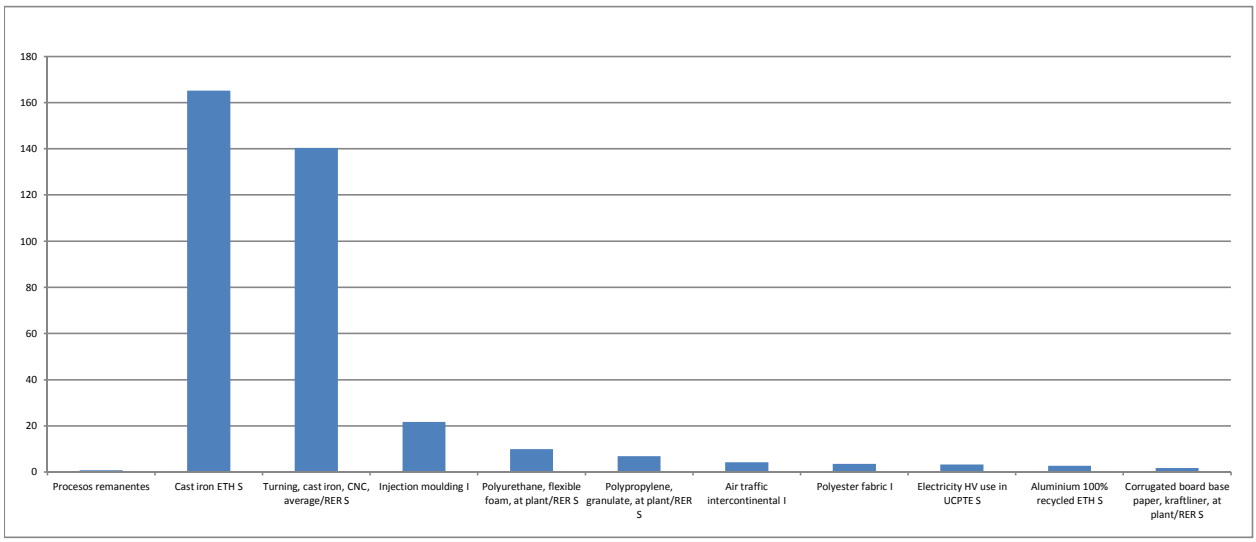
Impact category	Substance	Unit	Total
EUTROFIZATION	Substancias remanentes	kg PO4--- eq	0,00030708
	Ammonia	kg PO4--- eq	0,006854202
	Dinitrogen monoxide	kg PO4--- eq	0,000811
	Nitrogen dioxide	kg PO4--- eq	0,001925512
	Nitrogen oxides	kg PO4--- eq	0,102269767
	Ammonium, ion	kg PO4--- eq	0,008390552
	TOTAL	kg SO2 eq	0,188721096



Impact category	Substance	Unit	Total
GLOBAL WARMING	Substancias remanentes	kg CO2 eq	0,445729293
	Carbon dioxide	kg CO2 eq	192,5287616
	Carbon dioxide, fossil	kg CO2 eq	146,3209506
	Carbon monoxide	kg CO2 eq	1,613714288
	Carbon monoxide, fossil	kg CO2 eq	1,593698917
	Dinitrogen monoxide	kg CO2 eq	1,84658562
	TOTAL	kg SO2 eq	369,1591678



Impact of group elements (materials, processes, energy, use, transport and waste)



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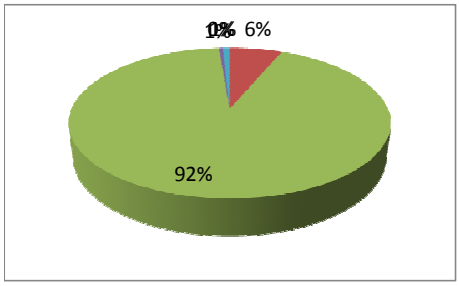
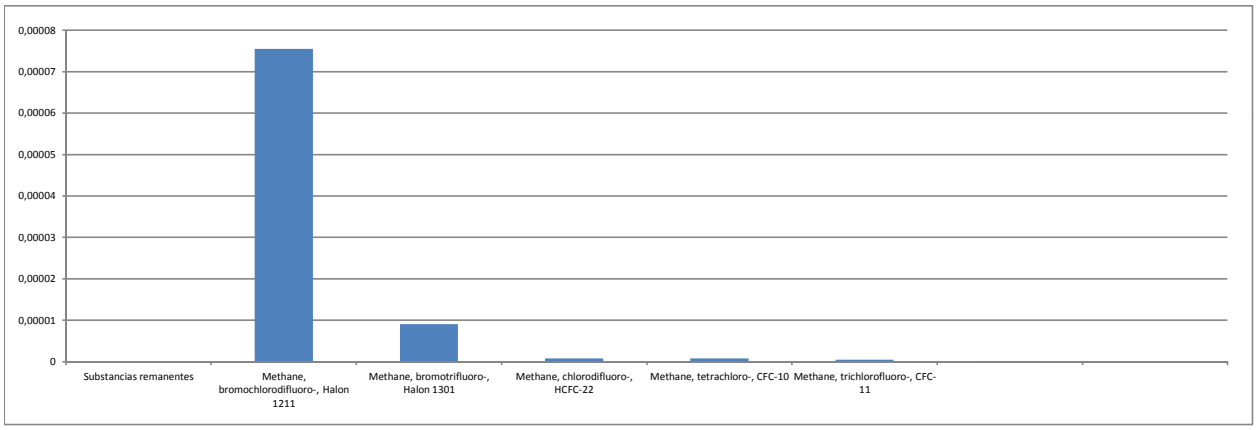
4. Impacts produced by category. Five substaces area included in each category have the greatest impact in each category

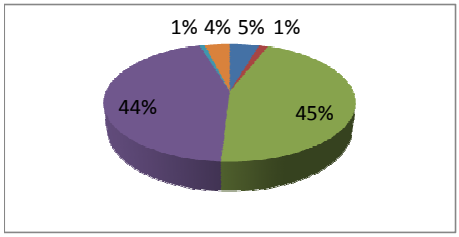
Impact category	Substance	Unit	Total
REDUCING OZONE	#¡REF!	kg CFC-11 eq	1,84295E-10
	Methane, bromochlorodifluoro-,	kg CFC-11 eq	5,46982E-06
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	8,02564E-05
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	3,79468E-07
	Methane, tetrachloro-, CFC-10	kg CFC-11 eq	7,29297E-07
	Methane, trichlorofluoro-, CFC-11	kg CFC-11 eq	1,35801E-07
	TOTAL	kg SO2 eq	8,6971E-05



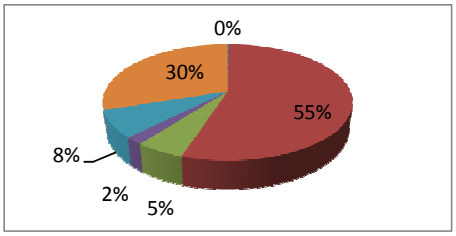
Impact of group elements (materials, processes, energy, use, transport and waste)



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Substancias remanentes	kg C2H4 eq	0,002792412
	Butane	kg C2H4 eq	0,000842893
	Carbon monoxide	kg C2H4 eq	0,027751774
	Carbon monoxide, fossil	kg C2H4 eq	0,027407561
	Ethane	kg C2H4 eq	0,000485026
	Ethene	kg C2H4 eq	0,002369936
	TOTAL	kg SO2 eq	0,452639727



Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Substancias remanentes	MJ eq	6,270289215
	Coal, 18 MJ per kg, in ground	MJ eq	1393,775861
	Coal, 29.3 MJ per kg, in ground	MJ eq	136,9623188
	Coal, brown, 8 MJ per kg, in ground	MJ eq	50,35268324
	Coal, brown, in ground	MJ eq	193,0554027
	Coal, hard, unspecified, in ground	MJ eq	765,3411784
	TOTAL	kg SO2 eq	5840,17145



WASTE	Total NO HAZARDOUS	KG	33,6
	Total HAZARDOUS	KG	0,124

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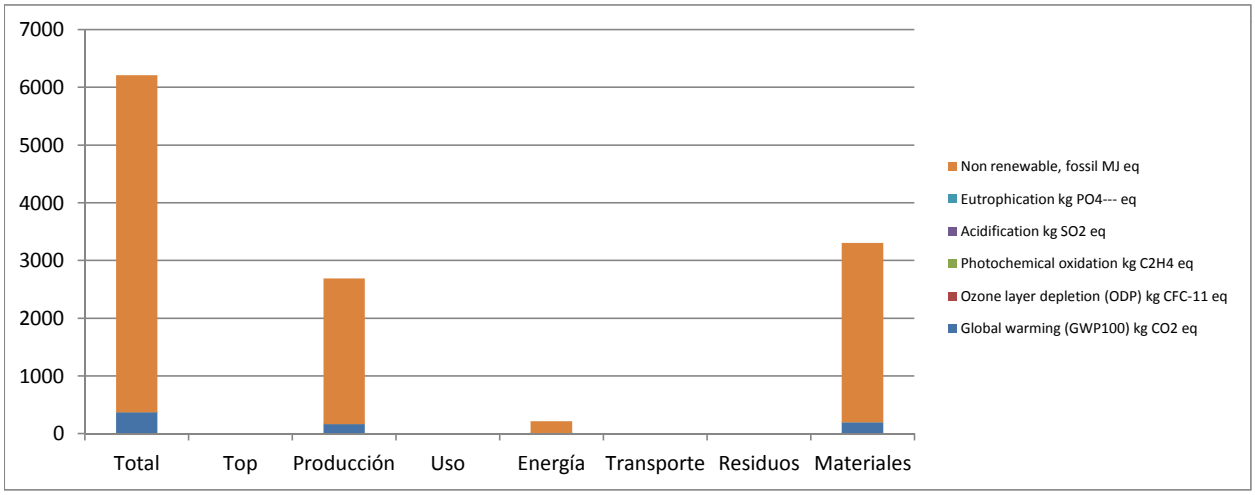
5. Impact produced by life cycle stage. In includes six stages: Production, Use, Energy, Transport, Waste and Materials.

Impact Categry	Uts.	Total	Top	Production	Use	Energy	Trsp.	Waste	Mat.
Global warming (GWP100)	kg CO2 eq	369,1591678	0	162,1171008	0	7,391115247	5,932	0	193,7
Ozone layer depletion (ODP)	kg CFC-11 eq	8,6971E-05	0	9,04134E-06	0	9,22807E-07	1E-09	0	8E-05
Photochemical oxidation	kg C2H4 eq	0,452639727	0	0,136930214	0	0,005509288	0,004	0	0,306
Acidification	kg SO2 eq	2,079001438	0	0,693132682	0	0,039571685	0,045	0	1,301
Eutrophication	kg PO4--- eq	0,188721096	0	0,116946368	0	0,002556595	0,006	0	0,063
Non renewable, fossil	MJ eq	5840,17145	0	2525,618629	0	205,8615125	0,027	0	3109



6. Ecodesign improvements considered.

ACTIU products are designed considering different environmental strategies. According to their level of complexitiy, the strategies used are classified into one of the following. Here are some of the choices for ecodesign significant product.

PRODUCT STRATEGY ECODESIGN	CHOICES
Low impact materials selection	Designed to be manufactured with 13% recycled materials
	Powder paint with no VOC amissions
	Limitation on use of hazardous substances. Whithout chromium, mercury, cadmium
Optimization of product techniques	Optimizing energy use throughout the production process
	Low manufacturing energy consumption. Minimum environmental impact.
	Painting processes of high technology systems.
	Recovery unused paint in the process. Zero emissions of VOCs.
	Closed water circuits. Heat recovery.
	Automated manufacturing systems. Planning the cutting process.
Optimization of distribution system	Reducing energy. Removable systems. Low volume packaging. Spaces optimization.
	Saving energy and Flexibility. Modular system adaptable between diferent models.
Optimization of product life	Long life guarantees
	Adaptability and growth facilities.
	Replacement parts possibilities.
	Easy Maintenace
Optimization of the end of system life	Easy separation of product components
	High degree of recyclability of the product: 85%
	Packaging reuse system between ACTIU and its providers to avoid waste generation

Bibliography and references

ISO 14025 Environmental labels and declarations – Type III

UNE-EN-ISO 150301:2003 "Ecodesign".

ISO 14044:2006 "Environmental management. Life cycle analysis. Requirements and guidelines"

ISO 14006 "Ecodesign"

Environmental impacts methods

Data base: ETH-ESU System processes, Ecoinvent system processes, IDEMAT, EDIP, IPCC, Ecological Scarcity 2006.