

EPD Environmental Product Declaration

UMA chair

Ref. 7423N30

Report Data 06.03.2012

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 Redesign Studied Year 2010

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
Steel	7,79315	63,88%	Bibliographic data	Bibliographic data
Plastic	2,3614	19,36%	Bibliographic data	Bibliographic data
Coarrugated Board	1,27	10,41%	Bibliographic data	Bibliographic data
Others	0,7756	6,36%	Bibliographic data	Bibliographic data
TOTAL	12,20015	100,00%		
% recycled materials		10,41%		
% recyclable materials		78,55%		

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 identification 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 UNE 150301:2003 "Ecodesign".

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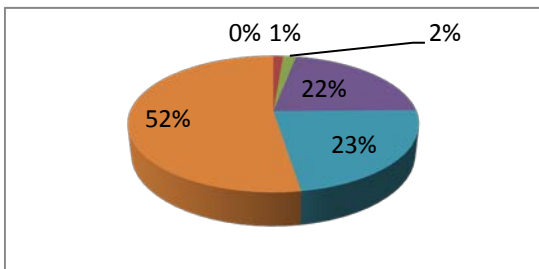
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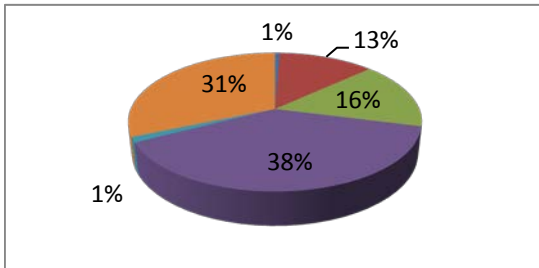
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3. Impacts produced by category. Five substances area included in each category have the greatest impact in each category

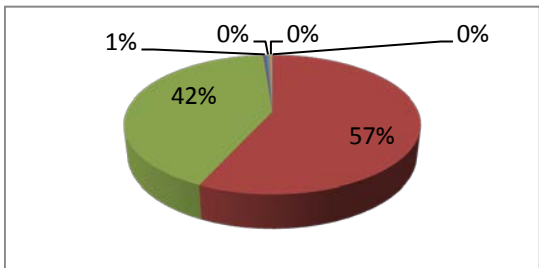
Impact category	Substance	Unit	Total
ACIDIFICATION	Remaining Substances	kg SO2 eq	0
	Ammonia	kg SO2 eq	0,006773897
	Nitrogen dioxide	kg SO2 eq	0,008915851
	Nitrogen oxides	kg SO2 eq	0,112421268
	Sulfur dioxide	kg SO2 eq	0,117639662
	Sulfur oxides	kg SO2 eq	0,272194314
	TOTAL	kg SO2 eq	0,517944991



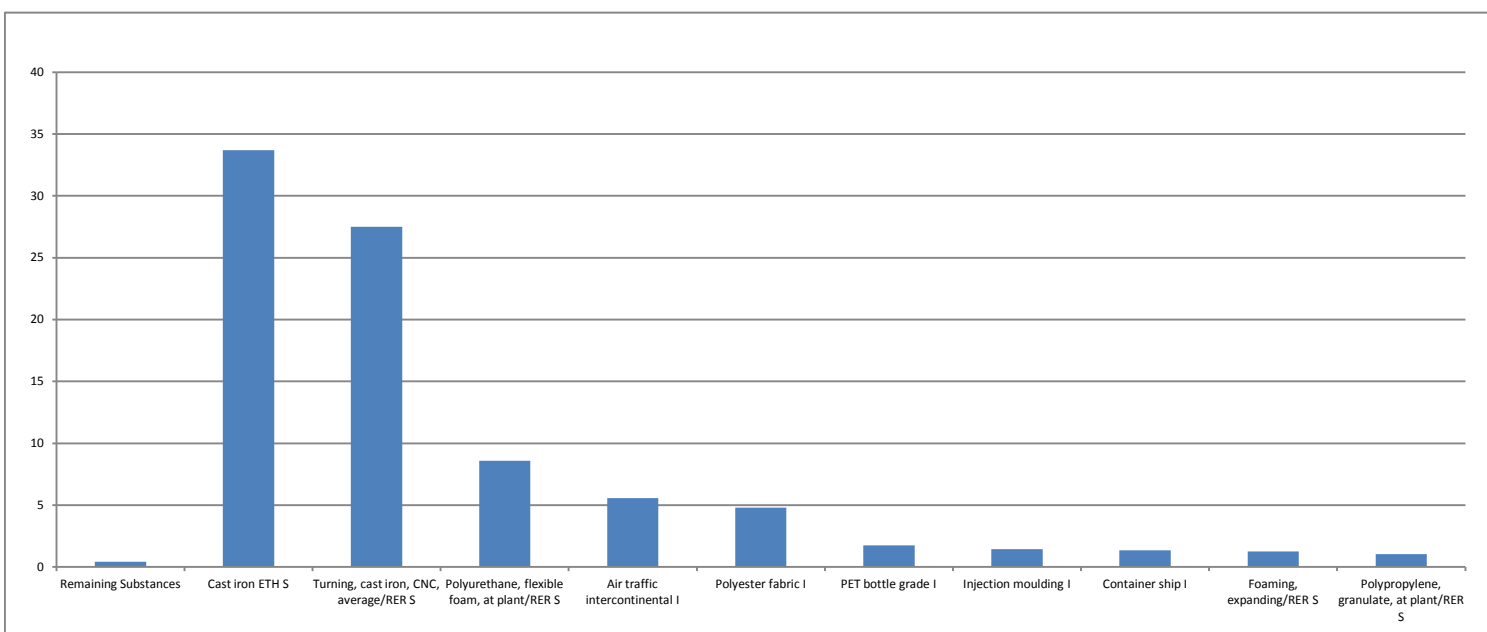
Impact category	Substance	Unit	Total
EUTROFIZATION	Remaining Substances	kg PO4--- eq	7,10509E-05
	Ammonia	kg PO4--- eq	0,00148179
	Ammonium, ion	kg PO4--- eq	0,001864127
	COD, Chemical Oxygen Demand	kg PO4--- eq	0,004519358
	Dinitrogen monoxide	kg PO4--- eq	0,000141207
	Nitrate	kg PO4--- eq	0,003697742
	TOTAL	kg SO2 eq	0,05347809



Impact category	Substance	Unit	Total
GLOBAL WARMING	Remaining Substances	kg CO2 eq	0,088085841
	Carbon dioxide	kg CO2 eq	48,1175691
	Carbon dioxide, fossil	kg CO2 eq	35,61918815
	Carbon monoxide	kg CO2 eq	0,384008118
	Carbon monoxide, fossil	kg CO2 eq	0,324451014
	Dinitrogen monoxide	kg CO2 eq	0,321518191
	TOTAL	kg SO2 eq	90,94687692



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



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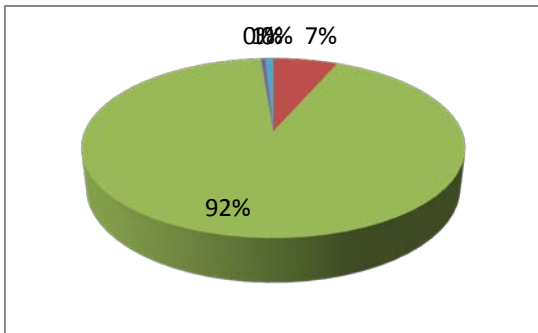
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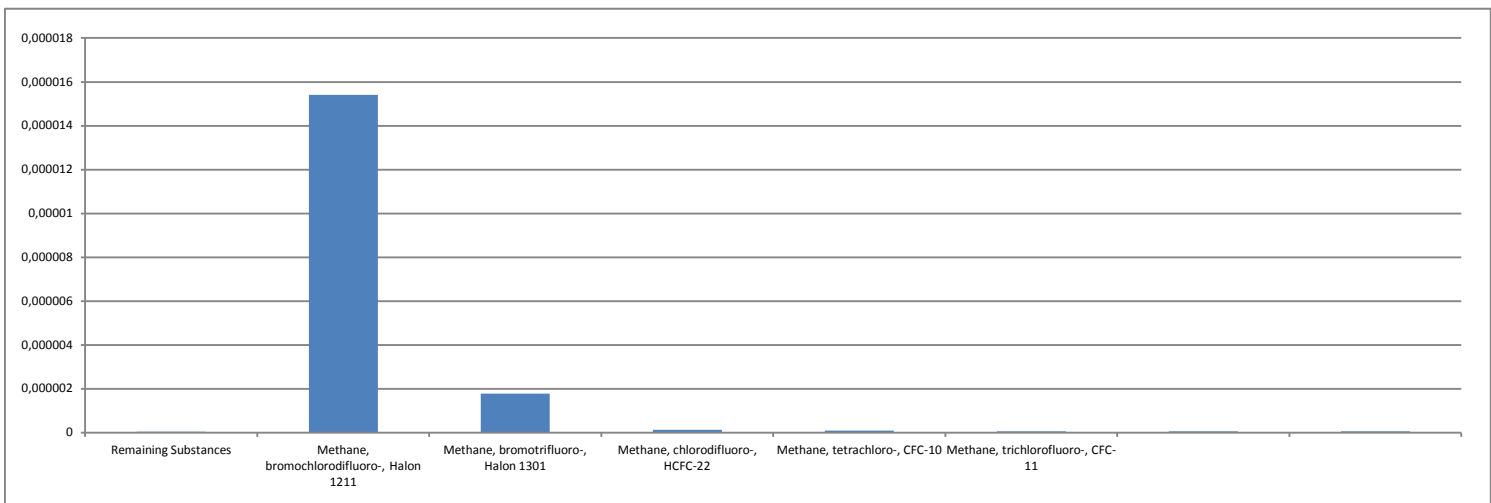
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4. Impacts produced by category. Five substances area included in each category have the greatest impact in each category

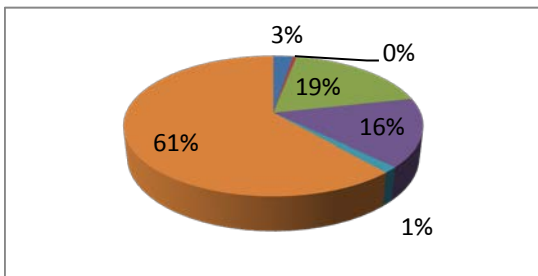
Impact category	Substance	Unit	Total
REDUCING OZONE	#iREF!	kg CFC-11 eq	6,46044E-11
	Methane, bromochlorodifluoro-, Halon 1211	kg CFC-11 eq	1,14573E-06
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	1,62304E-05
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	7,75008E-08
	Methane, tetrachloro-, CFC-11	kg CFC-11 eq	1,42865E-07
	Methane, trichlorofluoro-, CFC-11	kg CFC-11 eq	2,32235E-08
	TOTAL	kg SO2 eq	1,76198E-05



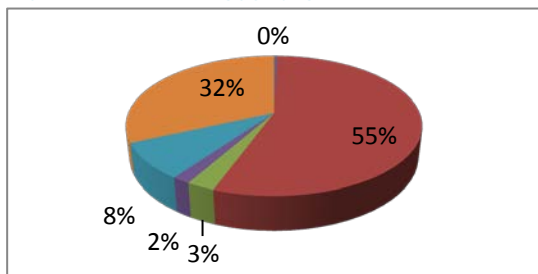
Impact of group elements (materials, processes, energy, use, transport and waste)



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Remaining Substances	kg C2H4 eq	0,000893144
	Butane	kg C2H4 eq	0,000175077
	Carbon monoxide	kg C2H4 eq	0,006603961
	Carbon monoxide, fossil	kg C2H4 eq	0,005579731
	Ethene	kg C2H4 eq	0,000479658
	Hydrocarbons, unspecified	kg C2H4 eq	0,021858228
	TOTAL	kg SO2 eq	0,122377613



Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Remaining Substances	MJ eq	1,564064063
	Coal, 18 MJ per kg, in ground	MJ eq	284,7563161
	Coal, 29.3 MJ per kg, in ground	MJ eq	13,4561671
	Coal, brown, 8 MJ per kg, in ground	MJ eq	8,644800102
	Coal, brown, in ground	MJ eq	43,06841463
	Coal, hard, unspecified, in ground	MJ eq	163,663385
	TOTAL	kg SO2 eq	1411,000564



WASTE	Total NO HAZARDOUS	KG	6,74
	Total HAZARDOUS	KG	0,0924



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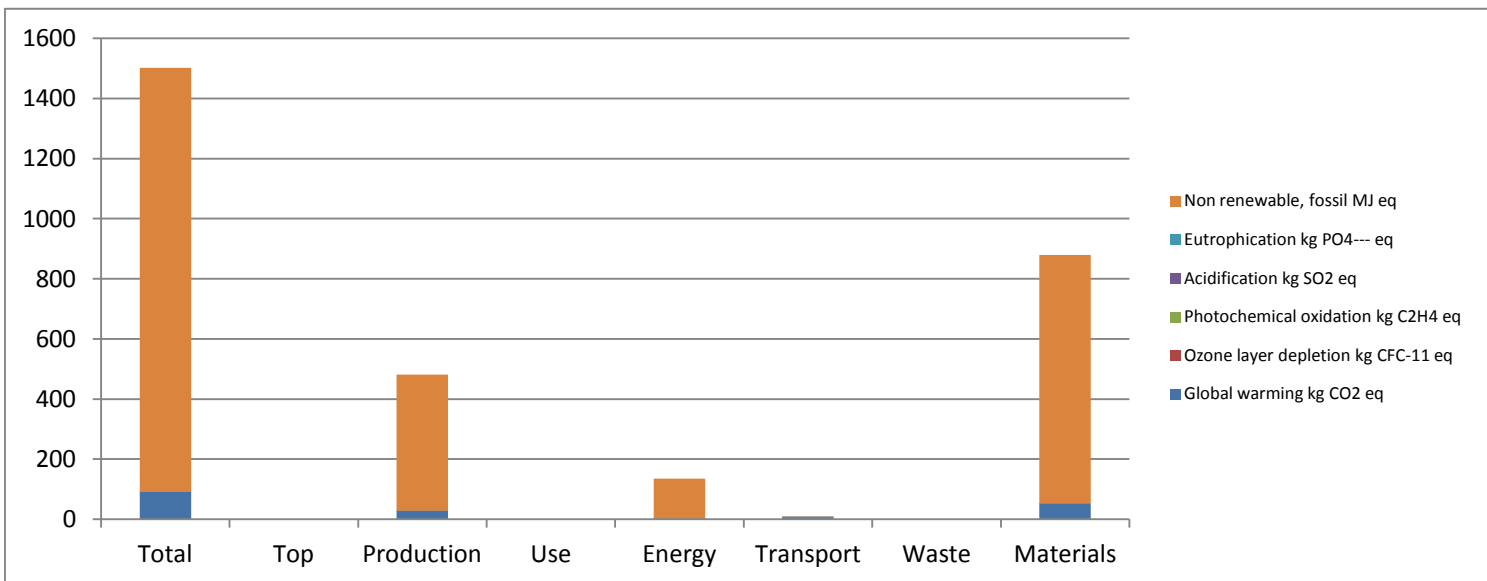
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5. Impact produced by life cycle stage. In includes six stages: Production, Use, Energy, Transport, Waste and Materials.

Impact Category	Uts.	Total	Top	Production	Use	Energy	Trsp.	Waste	Mat.
Global warming	kg CO2 eq	90,94688	0	28,93359	0	2,314212	7,489	0,000172	52,21
Ozone layer depletion	kg CFC-11 eq	0,0000176	0	0,00000177	0	0,000000132	7E-10	0	2E-05
Photochemical oxidation	kg C2H4 eq	0,122378	0	0,020658	0	0,003021	0,005	0,00000014	0,094
Acidification	kg SO2 eq	0,517945	0	0,103869	0	0,013181	0,051	0,00000216	0,349
Eutrophication	kg PO4--- eq	0,053478	0	0,020527	0	0,001345	0,007	0,000000443	0,024
Non renewable, fossil	MJ eq	1411,001	0	452,019	0	132,3395	0,014	0	826,6



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6. Ecodesign improvements considered.

ACTIU products are designed considering different environmental strategies. According to their level of complexity, 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 10% recycled materials
	100% recycled aluminium
	Powder paint with no VOC emissions
	Limitation on use of hazardous substances. Without chromium, mercury, cadmium
Optimization of product techniques	Recycled cardboard packaging
	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.
Optimization of distribution system	Closed water circuits. Heat recovery.
	Automated manufacturing systems. Planning the cutting process.
Optimization of product life	Reducing energy. Removable systems. Low volume packaging. Spaces optimization.
	Saving energy and Flexibility. Modular system adaptable between different models.
	Long life guarantees
	Adaptability and growth facilities.
Optimization of the end of system life	Replacement parts possibilities.
	Easy Maintenance
	Easy separation of product components
	High degree of recyclability of the product: 79%
	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"

UNE 150301:2003 "Ecodesign"

Environmental impacts methods

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