EPD Environmental Product Declaration

WINNER-30 chair

Ref. W363LK52

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	X	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
Plastic	11,4082	61,21%	Bibliographic data	Bibliographic data
Aluminium	1,487	7,98%	Bibliographic data	Bibliographic data
Coarrugated Board	2,825	15,16%	Bibliographic data	Bibliographic data
Steel	2,1148	11,35%	Bibliographic data	Bibliographic data
Others	0,804	4,31%	Bibliographic data	Bibliographic data
TOTAL	**18,639**	**100,00%**		
% recicled materials		23,13%		
% reciclable materials		90,69%		

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 UNE 150301:2003 "Ecodesign".

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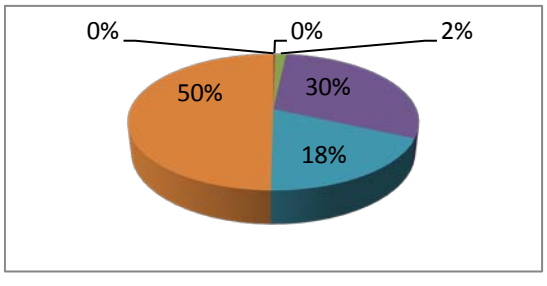
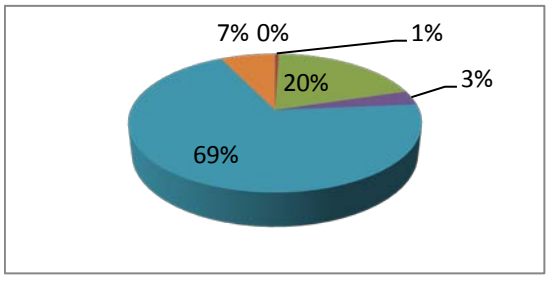
3. Impacts produced by category. Five substaces area included in each category have the greatest impact in each category

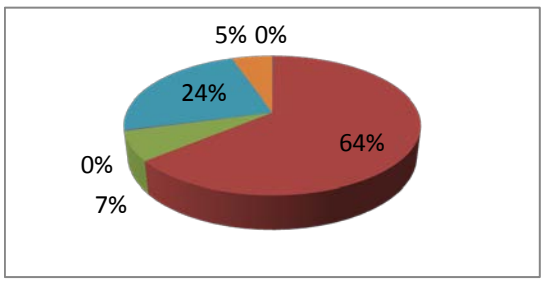
Impact category	Substance	Unit	Total
ACIDIFICATION			
	Remaining Substances	kg SO2 eq	0
	Ammonia	kg SO2 eq	0,001491509
	Nitrogen dioxide	kg SO2 eq	0,009073427
	Nitrogen oxides	kg SO2 eq	0,186625694
	Sulfur dioxide	kg SO2 eq	0,114303248
	Sulfur oxides	kg SO2 eq	0,308621357
	TOTAL	kg SO2 eq	0,620115235



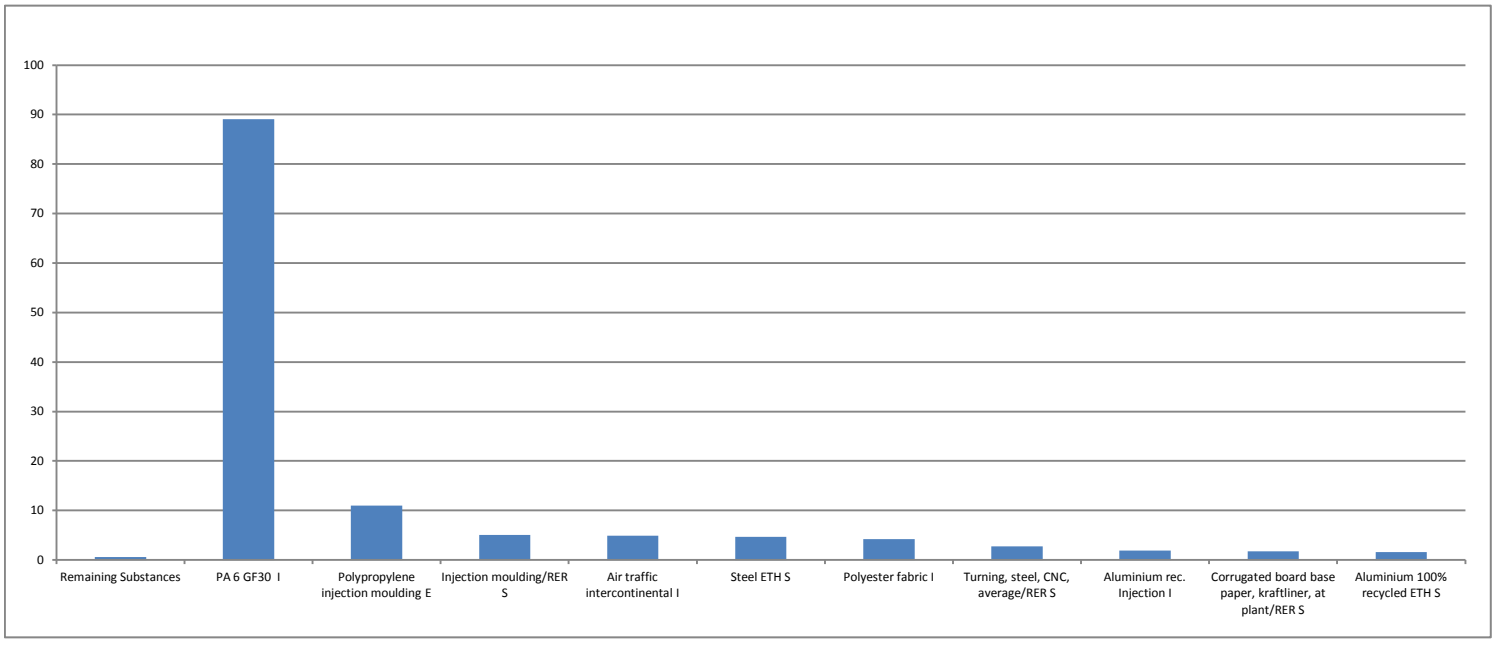
Impact category	Substance	Unit	Total
EUTROFIZATION			
	Remaining Substances	kg PO4--- eq	2,9449E-05
	Ammonia	kg PO4--- eq	0,000326268
	Dinitrogen monoxide	kg PO4--- eq	0,013895903
	Nitrogen dioxide	kg PO4--- eq	0,002359091
	Nitrogen oxides	kg PO4--- eq	0,04852268
	Ammonium, ion	kg PO4--- eq	0,005079591
	TOTAL	kg SO2 eq	0,093381306



Impact category	Substance	Unit	Total
GLOBAL WARMING			
	Remaining Substances	kg CO2 eq	0,123443191
	Carbon dioxide	kg CO2 eq	85,26049039
	Carbon dioxide, fossil	kg CO2 eq	9,160775616
	Carbon monoxide	kg CO2 eq	0,255010277
	Dinitrogen monoxide	kg CO2 eq	31,63990145
	Methane	kg CO2 eq	7,072293991
	TOTAL	kg SO2 eq	133,9697439



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



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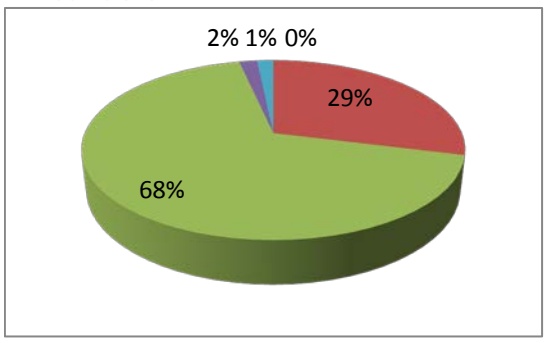
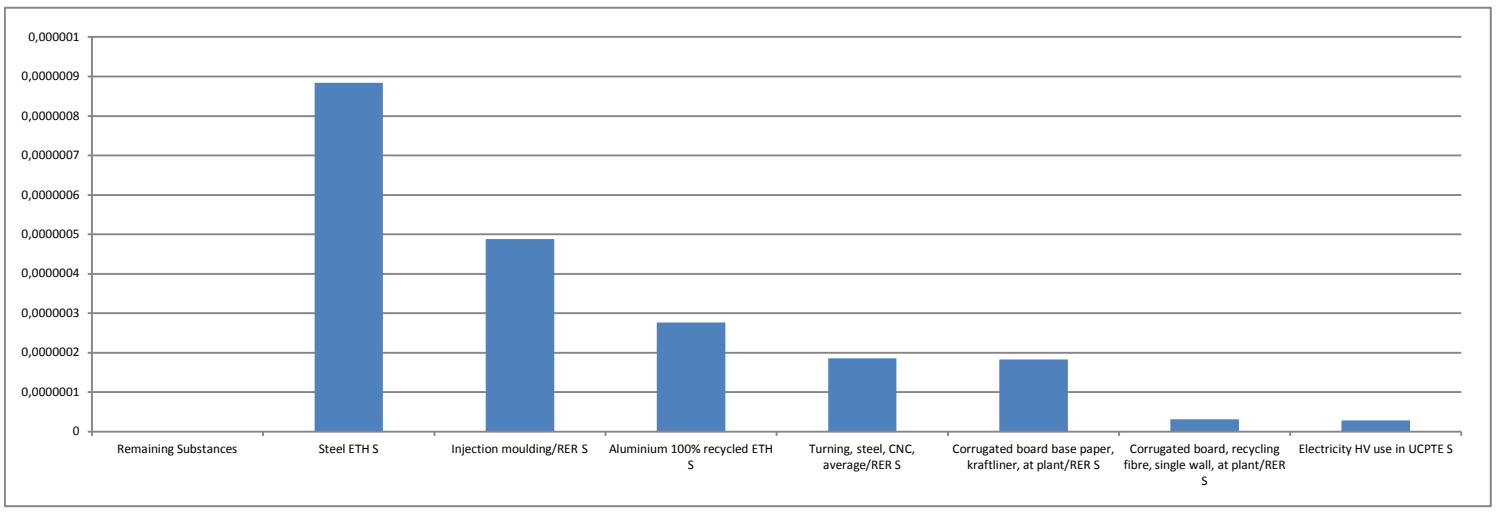
4. Impacts produced by category. Five substaces area included in each category have the greatest impact in each category

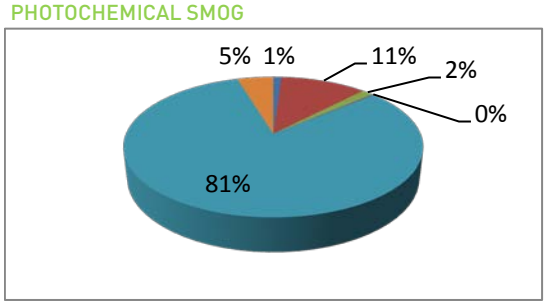
Impact category	Substance	Unit	Total
REDUCING OZONE	Remaining Substances	kg CFC-11 eq	2,58086E-11
	Methane, bromochlorodifluoro-, Halon 1211	kg CFC-11 eq	6,12362E-07
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	1,43252E-06
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	3,82364E-08
	Methane, tetrachloro-, CFC-10	kg CFC-11 eq	3,45575E-08
	Methane, trichlorofluoro-, CFC-11	kg CFC-11 eq	9,46529E-09
	TOTAL	kg SO2 eq	2,12716E-06



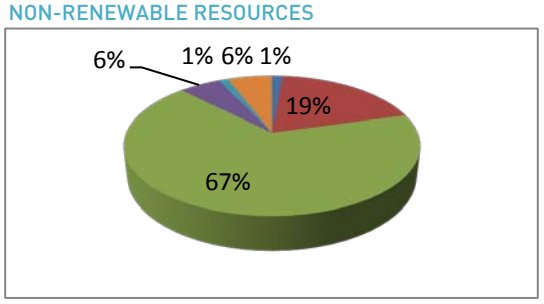
Impact of group elements (materials, processes, energy, use, transport and waste)



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Remaining Substances	kg C2H4 eq	0,000414721
	Carbon monoxide	kg C2H4 eq	0,004385527
	Carbon monoxide, fossil	kg C2H4 eq	0,000601716
	Ethene	kg C2H4 eq	8,82855E-05
	Hydrocarbons, unspecified	kg C2H4 eq	0,032174372
	Methane	kg C2H4 eq	0,001844946
	TOTAL	kg SO2 eq	0,068467318



Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Remaining Substances	MJ eq	4,159816848
	Coal, 18 MJ per kg, in ground	MJ eq	57,16219708
	Coal, 29.3 MJ per kg, in ground	MJ eq	199,4854612
	Coal, brown, 10 MJ per kg, in groun	MJ eq	16,112052
	Coal, brown, 8 MJ per kg, in ground	MJ eq	3,526175595
	Coal, brown, in ground	MJ eq	17,32383663
	TOTAL	kg SO2 eq	1638,844597



WASTE	Total NO HAZARDOUS	KG	5,48
	Total HAZARDOUS	KG	0,146

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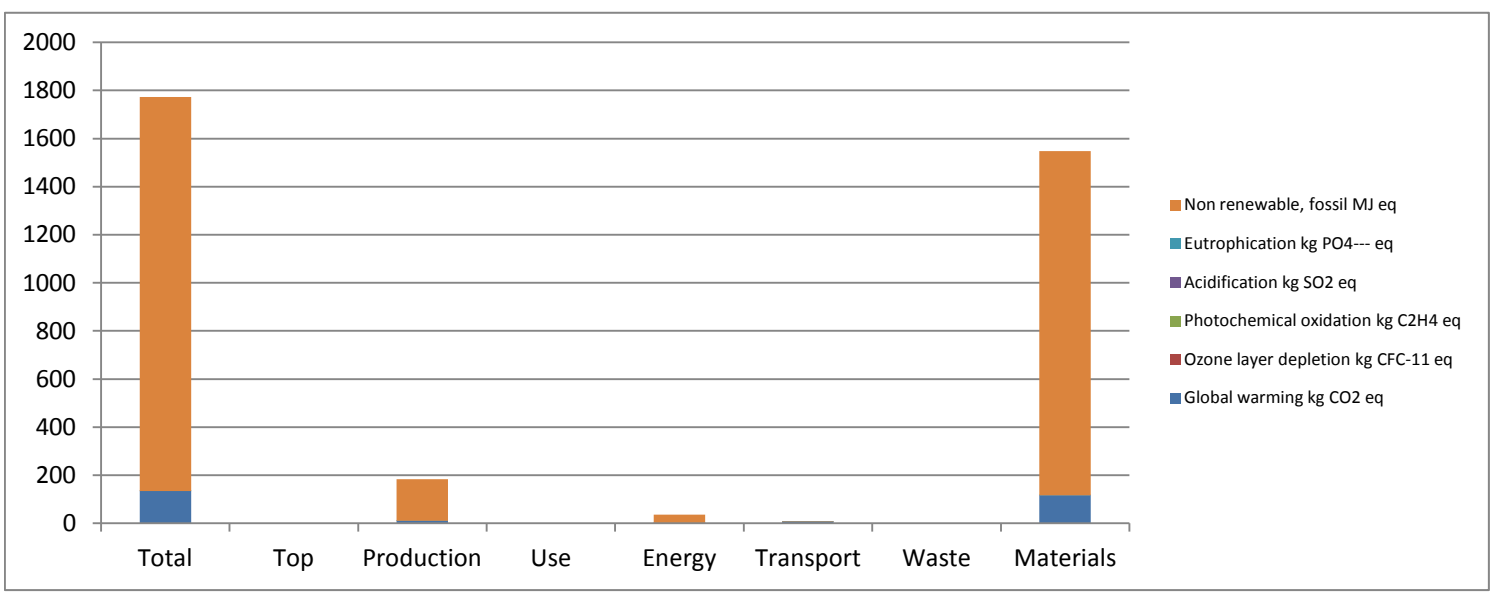
5. Impact produced by life cycle stage. In includes six stages: Production, Use, Energy, Transport, Waste and Materials.

Impact Categry	Uts.	Total	Top	Production	Use	Energy	Trsp.	Waste	Mat.
Global warming	kg CO2 eq	133,9697	0	9,79539	0	0,75841	6,656	0	116,8
Ozone layer depletion	kg CFC-11 eq	0,00000213	0	0,000000673	0	5,23E-08	5E-10	0	1E-06
Photochemical oxidation	kg C2H4 eq	0,068467	0	0,008143	0	0,000676	0,004	0	0,055
Acidification	kg SO2 eq	0,620115	0	0,057387	0	0,003673	0,046	0	0,513
Eutrophication	kg PO4--- eq	0,093381	0	0,003997	0	0,000362	0,006	0	0,083
Non renewable, fossil	MJ eq	1638,845	0	173,9445	0	34,89335	0,009	0	1430



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 23% recycled materials
	100% recycled aluminium
	Powder paint with no VOC amissions
	Limitation on use of hazardous substances. Whithout chromium, mercury, cadmium
	Recycled cardboard packaging
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: 91%
	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.