EPD Environmental Product Declaration

TWIST table

Report Data 05.12.2016

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 2016

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
Wood	22,62344	62,72%	Bibliographic data	Bibliographic data
Steel	7,7	21,35%	Bibliographic data	Bibliographic data
Coarrugated Board	4,925	13,65%	Bibliographic data	Bibliographic data
TOTAL	**35,24844**	**97,72%**		
% recicled materials		22,83%		
% reciclable materials		97,73%		

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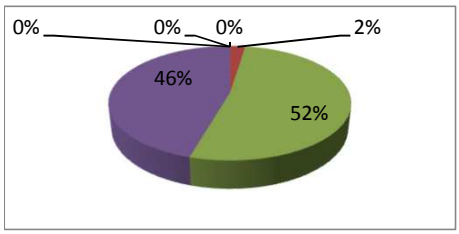
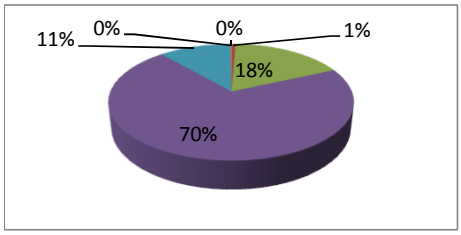
3. Impacts produced by category. Five substaces area included in each category have the greatest impact in each category

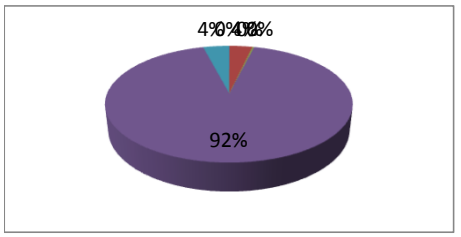
Impact category	Substance	Unit	Total
ACIDIFICATION	Substancias remanentes	kg SO2 eq	0
	Ammonia	kg SO2 eq	5,45986E-05
	Nitrogen oxides	kg SO2 eq	0,0011727
	Sulfur dioxide	kg SO2 eq	0,001025028
	0	0	0
	0	0	0
	TOTAL	kg SO2 eq	0,002252326



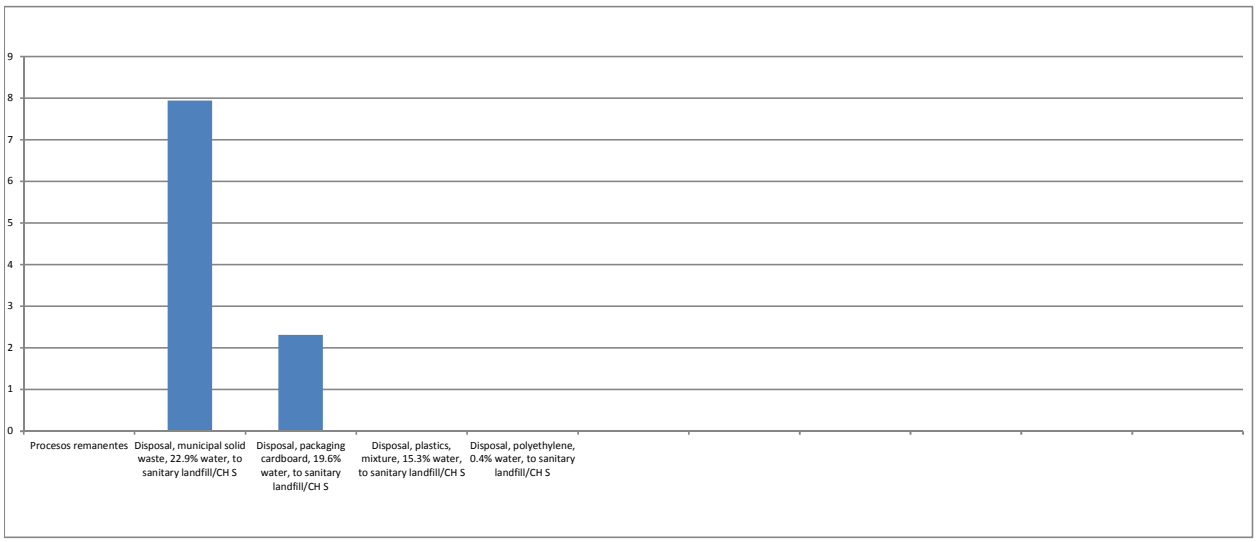
Impact category	Substance	Unit	Total
EUTROFIZATION	Substancias remanentes	kg PO4--- eq	2,40483E-05
	Nitrogen oxides	kg PO4--- eq	0,000304902
	Ammonium, ion	kg PO4--- eq	0,009052038
	COD, Chemical Oxygen Demand	kg PO4--- eq	0,035933175
	Nitrate	kg PO4--- eq	0,00577027
	Nitrite	kg PO4--- eq	9,76563E-05
	TOTAL	kg SO2 eq	0,051956568



Impact category	Substance	Unit	Total
GLOBAL WARMING	Substancias remanentes	kg CO2 eq	0,001635646
	Carbon dioxide, fossil	kg CO2 eq	0,370938557
	Dinitrogen monoxide	kg CO2 eq	0,025387438
	Methane, biogenic	kg CO2 eq	9,478612967
	Methane, fossil	kg CO2 eq	0,4182196
	0	0	0
	TOTAL	kg SO2 eq	10,29479421



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



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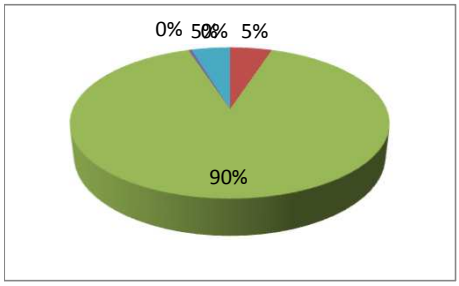
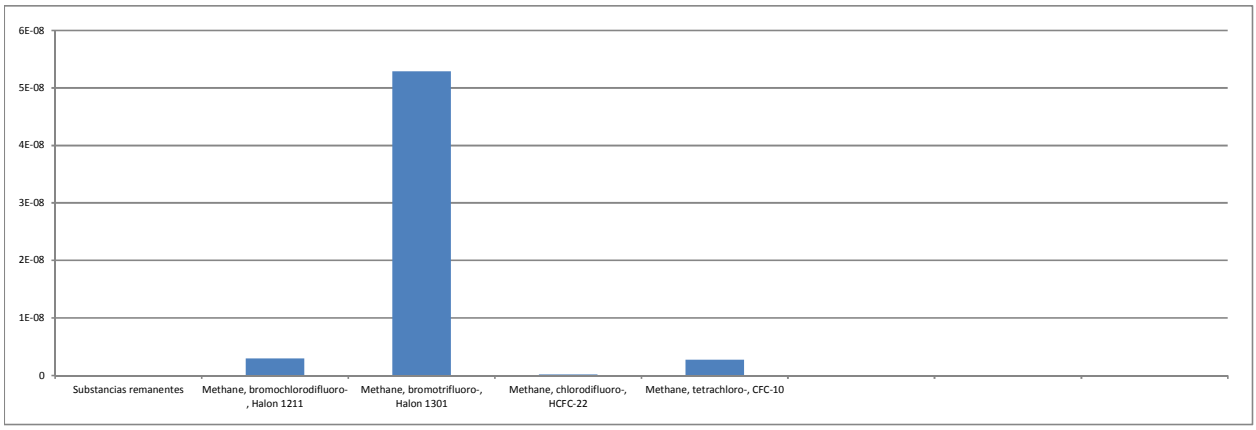
4. Impacts produced by category. Five substaces area included in each category have the greatest impact in each category

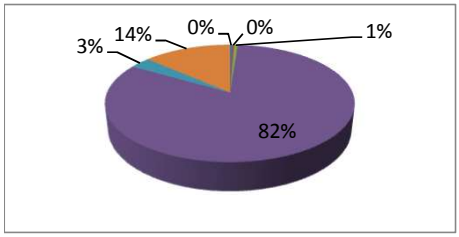
Impact category	Substance	Unit	Total
REDUCING OZONE	Substancias remanentes	kg CFC-11 eq	9,27784E-13
	Methane, bromochlorodifluoro-, Halon 1211	kg CFC-11 eq	2,97081E-09
	Methane, bromotrifluoro-, Halon 1301	kg CFC-11 eq	5,29151E-08
	Methane, chlorodifluoro-, HCFC-22	kg CFC-11 eq	2,18537E-10
	Methane, tetrachloro-, CFC-10	kg CFC-11 eq	2,75229E-09
	0	0	0
	TOTAL	kg SO2 eq	5,88577E-08



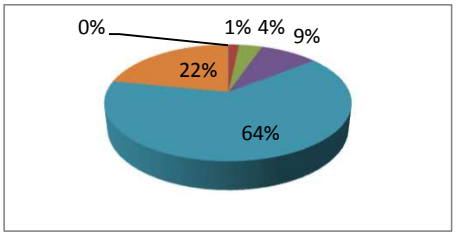
Impact of group elements (materials, processes, energy, use, transport and waste)



Impact category	Substance	Unit	Total
PHOTOCHEMICAL SMOG	Substancias remanentes	kg C2H4 eq	1,41839E-05
	Carbon monoxide, biogenic	kg C2H4 eq	6,84666E-06
	Carbon monoxide, fossil	kg C2H4 eq	2,03433E-05
	Methane, biogenic	kg C2H4 eq	0,002843584
	Methane, fossil	kg C2H4 eq	0,000109101
	NMVOC, non-methane volatile orga	kg C2H4 eq	0,000469303
	TOTAL	kg SO2 eq	0,003512563



Impact category	Substance	Unit	Total
NON-RENEWABLE RESOURCES	Substancias remanentes	MJ eq	0,005958561
	Coal, brown, in ground	MJ eq	0,128003726
	Coal, hard, unspecified, in ground	MJ eq	0,290053489
	Gas, natural, in ground	MJ eq	0,726537882
	Oil, crude, in ground	MJ eq	5,109366965
	Uranium, in ground	MJ eq	1,752242012
	TOTAL	kg SO2 eq	8,012162635



WASTE	Total NO HAZARDOUS	KG	5,36E-05
	Total HAZARDOUS	KG	20

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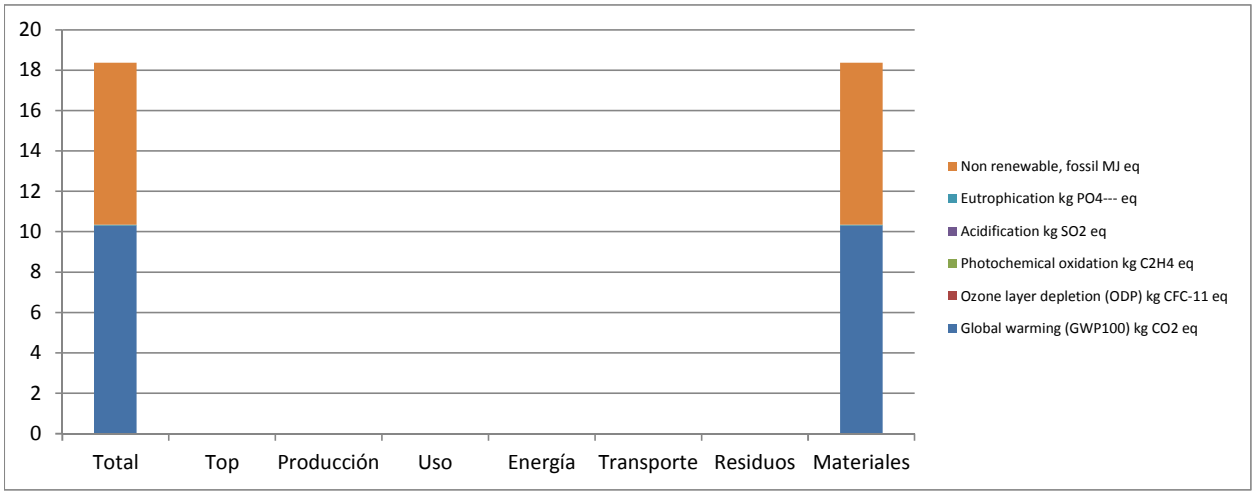
5. Impact produced by life cycle stage. In includes six stages: Production, Use, Energy, Transport, Waste and Materials.

Impact Categry	Uts.	Total	Top	Production	Use	Energy	Trsp.	Waste	Mat.
Global warming (GWP100)	kg CO2 eq	10,29479421	0	0	0	0	0	0	10,29
Ozone layer depletion (ODP)	kg CFC-11 eq	5,88577E-08	0	0	0	0	0	0	6E-08
Photochemical oxidation	kg C2H4 eq	0,003512563	0	0	0	0	0	0	0,004
Acidification	kg SO2 eq	0,002252326	0	0	0	0	0	0	0,002
Eutrophication	kg PO4--- eq	0,051956568	0	0	0	0	0	0	0,052
Non renewable, fossil	MJ eq	8,012162635	0	0	0	0	0	0	8,012



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 Board from recycled Wood fibers Adhesives for thickness table set without VOC contents. Sustainable E1 Woods according to EN 13986 / low emissions that do not emit formaldehyde. 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: 98% 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 14006 "Ecodesign"

ISO 14006 "Ecodesign"

Environmental impacts methods

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