

Deliverable B2

PEF report summary

Company 1

*Product 2: ZERO7 Rete
chair*

Life Effige

| Environmental Footprint
| For Improving and
| Growing Eco-efficiency



Pilot company description	
Productive field	Manufacture Of Chairs And Armchairs For Office And Shops
Number of employees	52
Turnover/year	22M/2017
Nation	Italy

1. Methodology

This Product Environmental Footprint (PEF) study has been performed as a supporting study in the framework of the Life EFFIGE Project with the main objective of testing the Product Environmental Footprint Category Rules (PEFCR) developed for the product category "Office chair"

This supporting study has been carried out in compliance the Draft PEFCR for office chair published on 27 July 2018, the requirements of the PEF Guide (Annex II to Recommendation 2013/179/EU) and the PEF Pilot Guidance v.6.3. Since some of the requirements of the latest PEF Guidance (i.e. Impact assessment method, default dataset, etc.) can only be applied within the EU PEF Pilot Phase on products category covered by existing PEFCR, some modelling choices that differ from requirement of Guidance v.6.3 have been made, based on older versions of the document and expert judgment.

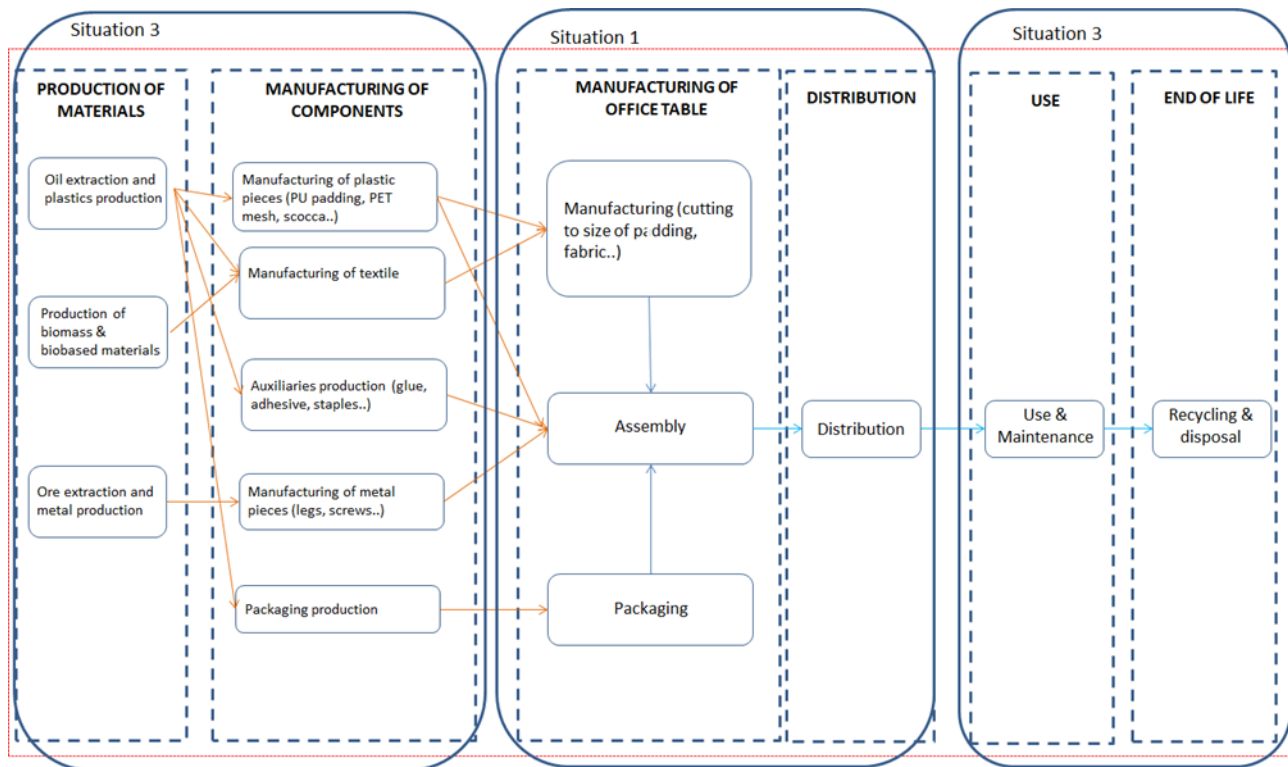
The default normalization factors provided by the PEF Guidance have been applied for the default impact categories.

2. Functional unit and system boundaries

The functional unit, as defined in the PEFCR, is ZERO7 Rete chair and the system boundaries were set from cradle to grave.

The system boundaries are "cradle to grave" e includes all the processes, namely:

- Production and supply of raw materials;
- Production and supply of components and packaging;
- Production and assembly of the product ZERO7 Rete chair within the company productive site;
- Distribution of the product ZERO7 Rete chair
- Use and maintenance;
- End of life of the product ZERO7 Rete chair and of the packaging.



Primary data have been collected for the production and manufacturing office table process, referred to year 2017.

3. Product environmental footprint results

In this supporting study the relevant life cycle stages, processes, elementary flows and impact categories have been identified for ZERO7 Rete chair analysed and compared to that identified in the screening study.

For ZERO7 Rete chair, the most relevant impact categories are:

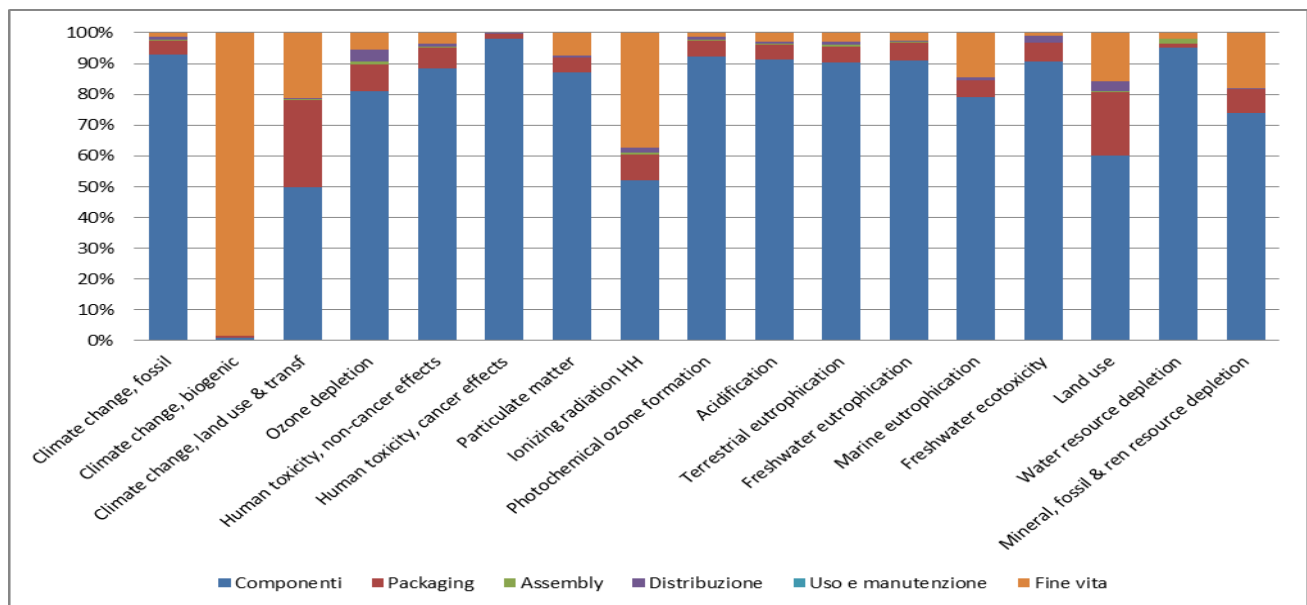
- Climate change, fossil;
- Particulate matter;
- Photochemical ozone formation;
- Acidification;
- Marine eutrophication
- Mineral, fossil and renewable resource depletion.

The PEF supporting study confirms the relevant impact categories emerged in the PEF screening study, but differently, the terrestrial eutrophication does not emerge as relevant.

Categoria d'impatto	Unità	Totale	
Totale	mPt	94,85051194	100%
Climate change, fossil	mPt	11,21229439	12%
Climate change, biogenic	mPt	0,960648534	1%
Climate change, land use & transf	mPt	0,006661859	0%
Ozone depletion	mPt	0,154952127	0%
Particulate matter	mPt	13,85877904	15%
Ionizing radiation HH	mPt	3,12201351	3%
Photochemical ozone formation	mPt	9,860249923	10%
Acidification	mPt	9,760360618	10%
Terrestrial eutrophication	mPt	5,4177214	6%
Freshwater eutrophication	mPt	2,687483154	3%
Marine eutrophication	mPt	7,201826839	8%
Land use	mPt	0,829501109	1%
Water resource depletion	mPt	3,087205489	3%
Mineral, fossil & ren resource depletion	mPt	26,69081394	28%

ZERO7 Rete Relevant Impact categories

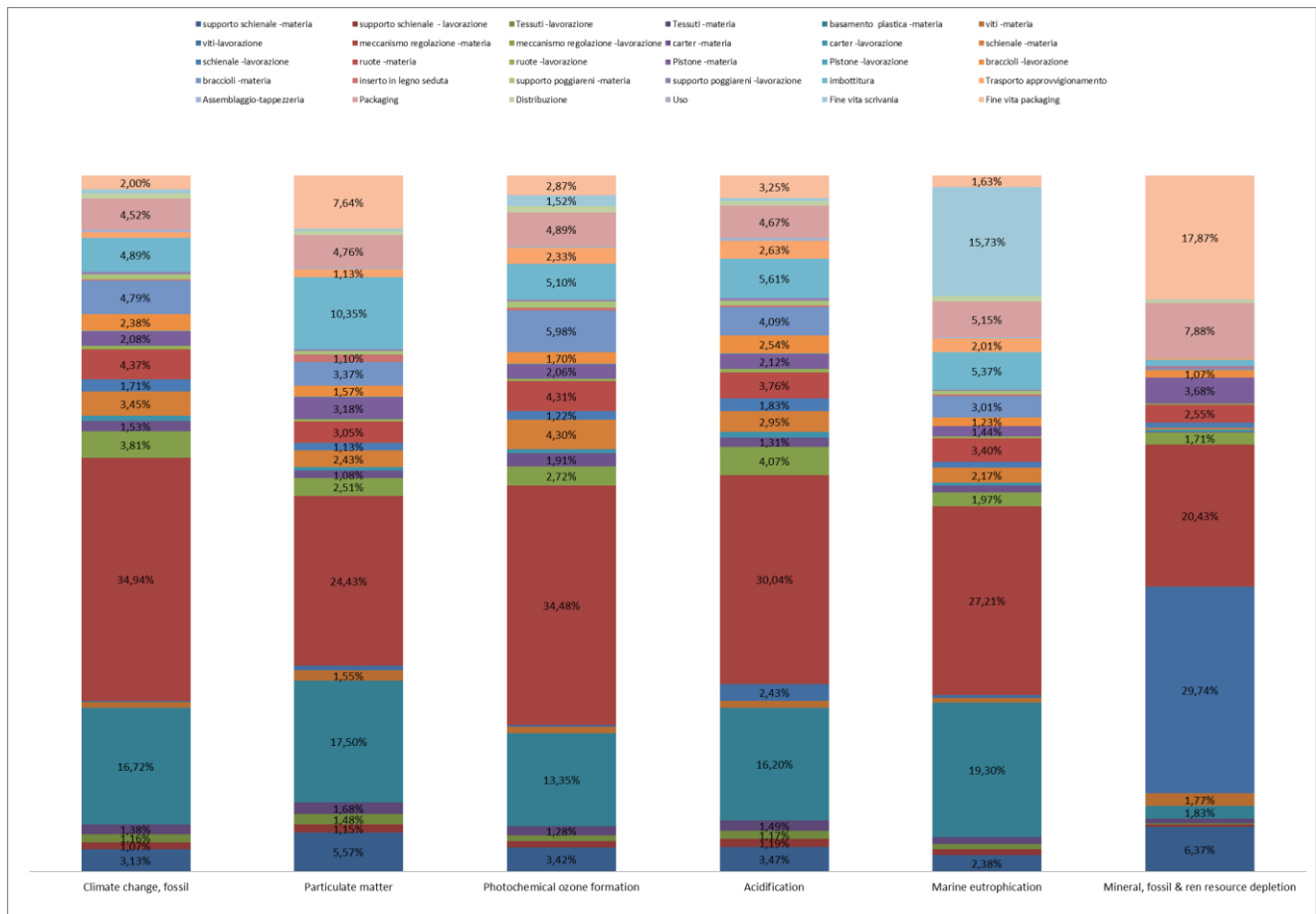
For all the impact category, the most relevant life cycle stage of the ZERO7 Rete is the components production, which contribute ranges from 74% to 93%,



ZERO7 Rete Relevant Life Cycle Phases

The most relevant processes identified are:

- Components of the adjustment chair's mechanism
- Plastic base
- Chair's backrest support
- Processing of the chair mechanism
- Back, wheels, armrests, padding, piston processing phase
- Packaging production
- End of life packaging phase
- End of life chair phase



ZERO7 Rete chair relevant processes

The most relevant elementary flows are:

- Mineral and fossil resource depletion from plastic padding phase;
- Particulate matter and Photochemical ozone formation from the raw material processing and extraction;
- Marine eutrophication from the chair's end of life phase
- Particulate matter and acidification from packaging production and its end of life;
- Mineral and fossil resource depletion from Back, wheels, armrests, padding, piston processing phase

As an input for the improvement of the PEF CR it is suggested to add additional alloying elements within the list on mandatory data to be included in the PEF Study.