

# Life **Effige**

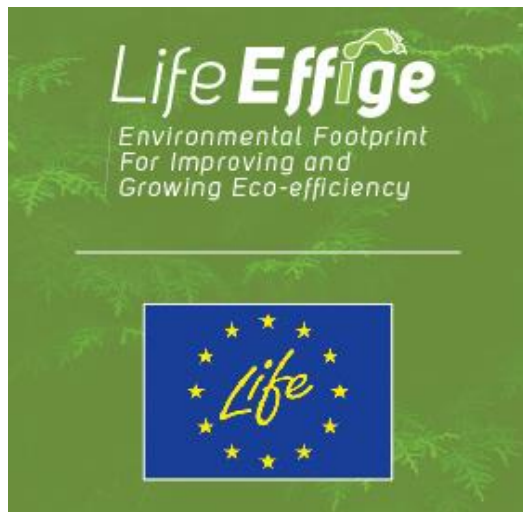
Environmental Footprint  
For Improving and  
Growing Eco-efficiency



# Project consortium



**Life Effige**  
Environmental Footprint  
For Improving and  
Growing Eco-efficiency



**Sant'Anna**  
Scuola Universitaria Superiore Pisa



Budget 1,642,867 €

1/09/2017 – 30/06/2021

# Project main goal



- The EFFIGE project was designed to meet the need for a clear and consistent range of indicators through trialing the Product Environmental Footprint (PEF). This method of calculating the environmental footprint of products and services was endorsed by the European Commission via Recommendation 179/2013. The four sectors involved in the trial are of particular relevance for the “Made in Italy” economy:
- foundries, wood-processing and furniture, the agri-food industry and catering services

- The PEF can provide reliable, replicable, comparable and verifiable information. It also allows products' environmental impact to be calculated on the basis of an approach linked to their entire life cycle, thus providing a more accurate and comparable assessment of the complete environmental impact of a product or service.

<https://www.youtube.com/watch?v=8hvwke721b4&t=5s>

# Others goals



- Identifying the main **obstacles** to overcome in order to make PEF methodology
- Creating **tools** to facilitate PEF integration with other existing environmental policy-related tools
- Designing **improvement plan** with actions to reduce the PEF in each company
- **Assessing the environmental improvements** achieved by the companies (PEF was applied in 2018 and after the improvement actions in 2021)
- Assessing whether the action taken was replicable via an applicability test on the methodology trialed within the project in other European countries

15 companies attended the project and tested the PEF on their products:

- Food: mustard and nougat
- Catering: school meal
- Foundry: mechanic component
- Furniture: desk and chair for office

# Main project activities



1. PEFCR development (1 for each supply chain)
2. PEF implementation
3. Hot spot identification and design of improvement plan
4. Training initiatives (60 training sessions)
5. Establishment of two WGs: «No green washing» and «PEF internalization»

From 2017 to 2021

# Project results



- 23 PEF reports
- 46 improvements actions were implemented by 11 companies. Totally 16 second PEF reports emerged. The 11 companies compared the first and second PEF results validating the improvements.
- Three tools for PEF dissemination
- A guideline to valorize the PEF results in companies communication and marketing strategies



# Environmental improvements



Reduction of food waste through educational activities for users of the service to prevent food waste in the consumption phase



Purchase of electricity from renewable sources, for the management of production activities inside the kitchen



Replacement of the use of disposable dishes with reusable and dishwasher safe dishes, thanks to the expansion of the number of them

Catering field



Desk office

Reduction of the metal parts necessary for the production of the product



5-10% reduction in packaging material



10% reduction in energy consumption for production

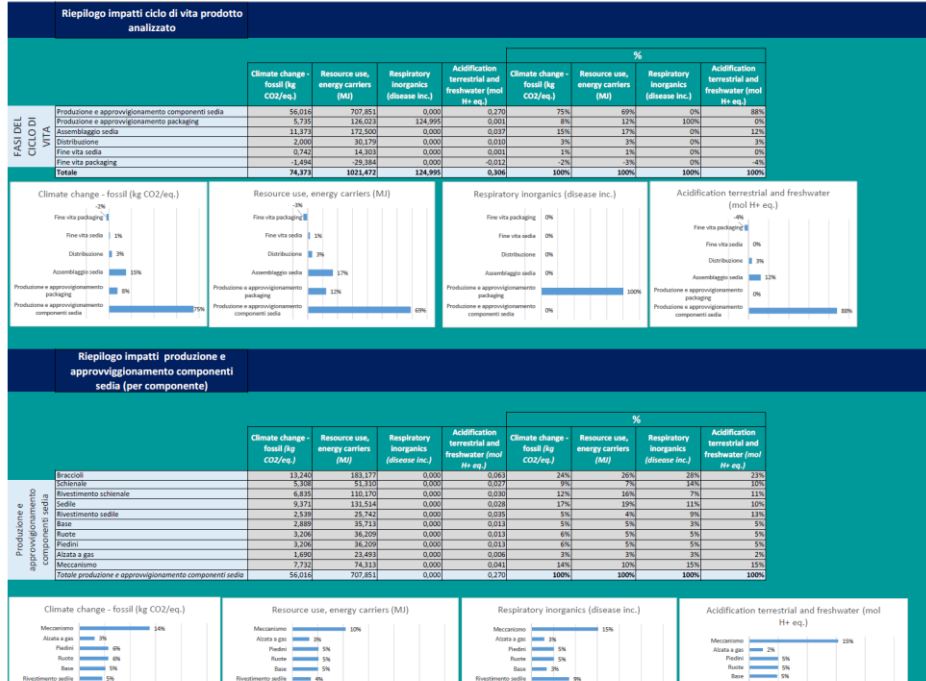
# EFFIGE tool: Eco design tool

For office chair this tool allows to select the environmental friendly components and the raw materials to reduce the PEF of chair

Life Effige Environmental Footprint For Improving and Growing Eco-efficiency		Ecodesign tool Sedula da ufficio				Impatti			Impatti prodotto benchmark		
		Climate change - fossil (kg CO <sub>2</sub> /eq.)	Resource use, energy carriers (MJ)	Respiratory inorganics (disease inc.)	Acidification terrestrial and freshwater (mol H <sup>+</sup> /eq.)	Climate change - fossil (kg CO <sub>2</sub> /eq.)	Resource use, energy carriers (MJ)	Respiratory inorganics (disease inc.)			
<b>Componenti sedia</b>											
<b>Materiali</b>											
	Polipropilene vergine + Stampaggio	1 kg	3,272	92,910	9,688E-08	0,013					
	Acciaio	2 kg	9,894	89,175	6,893E-07	0,049					
			<b>13,166</b>	<b>182,084</b>	<b>7,862E-07</b>	<b>0,062</b>	<b>3,455</b>	<b>98,113</b>	<b>1,023E-07</b>		
<b>Approvvigionamento</b>											
	Camion Euro 5	100 km	0,050	0,751	3,461E-09	0,000					
	Nave	700 km	0,024	0,341	7,154E-10	0,001					
			-	-	-	-					
			<b>0,074</b>	<b>1,092</b>	<b>4,176E-09</b>	<b>0,001</b>	<b>0,175</b>	<b>2,645</b>	<b>1,218E-08</b>		
<b>Braccioni</b>											
<b>Materiali</b>											
	Polipropilene 90% riciclato + Stampaggio	0,05 kg	0,135	3,632	3,793E-09	0,001					
	Legno	1 kg	0,142	1,831	3,922E-08	0,001					
	Acciaio	1 kg	4,947	44,587	3,447E-07	0,024					
			<b>5,224</b>	<b>50,050</b>	<b>3,877E-07</b>	<b>0,026</b>	<b>6,881</b>	<b>157,246</b>	<b>3,702E-07</b>		
<b>Approvvigionamento</b>											
	Camion Euro 5	200 km	0,068	1,027	4,729E-09	0,000					
	Nave	700 km	0,017	0,233	4,889E-10	0,000					
			-	-	-	-					
			<b>0,084</b>	<b>1,260</b>	<b>5,218E-09</b>	<b>0,001</b>	<b>0,106</b>	<b>1,611</b>	<b>7,417E-09</b>		
<b>Schienale</b>											
<b>Materiali</b>											
	Tessuto in Poliestere	1 kg	6,820	109,947	1,906E-07	0,030					
			<b>6,820</b>	<b>109,947</b>	<b>1,906E-07</b>	<b>0,030</b>	<b>8,086</b>	<b>92,489</b>	<b>1,504E-06</b>		
<b>Approvvigionamento</b>											
	Camion Euro 5	50 km	0,008	0,125	5,768E-10	0,000					
	Nave	400 km	0,007	0,097	2,044E-10	0,000					
			-	-	-	-					
			<b>0,015</b>	<b>0,223</b>	<b>7,812E-10</b>	<b>0,000</b>	<b>0,161</b>	<b>2,442</b>	<b>1,125E-08</b>		
<b>Rivestimento schienale</b>											
<b>Materiali</b>											
	Polipropilene 100% riciclato + Stampaggio	3 kg	6,766	107,415	1,224E-07	0,015					
	Legno	0,5 kg	0,071	0,915	1,961E-08	0,000					
	Acciaio	0,5 kg	2,473	22,284	1,723E-07	0,012					
			<b>9,310</b>	<b>130,624</b>	<b>3,143E-07</b>	<b>0,027</b>	<b>1,836</b>	<b>37,362</b>	<b>6,857E-08</b>		



# Eco design tool



# Communication tool

Convert the PEF results in simple indicators

**Life Cycle Communication tool** Inserisci i valori degli indicatori di impatto

### Cambiamento climatico

Inserisci il valore dell'indicatore:  Unità di misura kg CO2 eq.

L'indicatore *Cambiamento Climatico (Climate Change - fossil)* indica la quantità di emissioni di gas a effetto serra di origine fossile generate direttamente o indirettamente nell'intero ciclo di vita di un prodotto o di un servizio. È misurato in kg CO2 equivalenti.

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### Impronta Idrica

Inserisci il valore dell'indicatore:  Unità di misura m3 H2O eq.

L'indicatore *Impronta Idrica (Water Use)* indica la quantità d'acqua consumata direttamente o indirettamente nell'intero ciclo di vita di un prodotto o di un servizio. È misurato in metri cubi di acqua equivalenti.

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### Eutrofizzazione delle acque dolci

Inserisci il valore dell'indicatore:  Unità di misura kg P eq.

L'indicatore *Eutrofizzazione delle Acque dolci (Freshwater Eutrophication)* indica la quantità di sostanze nutritive in ambiente acquatico, principalmente azoto (N) e fosforo (P), che inducono la crescita delle alghe, che sottraggono ossigeno all'acqua, causando moria dei pesci. È misurato in kg di fosforo equivalenti.

► Istruzioni **Inserisci i dati** Risultati\_per\_Categoria Impatto Risultati\_per\_Sfera Consumatore Valutazione Qualità Dato Database ...

- On line tool to Know the PEF methodology



<https://pefstarter.enea.it/>



# Thanks

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<https://www.lifeeffige.eu/en/>