THE JOURNEY FROM 16 IMPACT CATEGORIES TO ONE SINGLE SCORE

Impact Categories

16 environmental impact categories describe how humans harm the planet through production and construction.

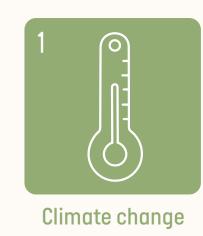
Normalization

The impact categories are measured in different units. To be able to compare them to each other, results from each category are converted into a common reference unit. This process is called normalization. The common reference unit in PEF LCA is the environmental impacts of an average global person over one year.

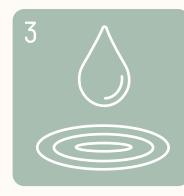
Weighting

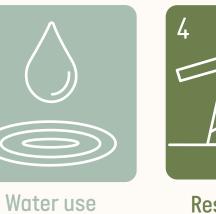
Not all impact categories are considered equally important. To get the weighted results, the normalized results are multiplied by their weighting factor*.

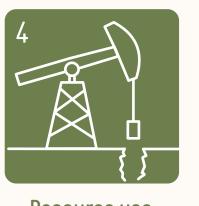
Now, the product's impact on the environmental categories is comparable.



Particulate matter







Resource use



Land use

Eutrophication

freshwater

minerals and metals

ozone formation

Human toxicity,

cancer



Acidification





terrestrial

Ecotoxicity

freshwater

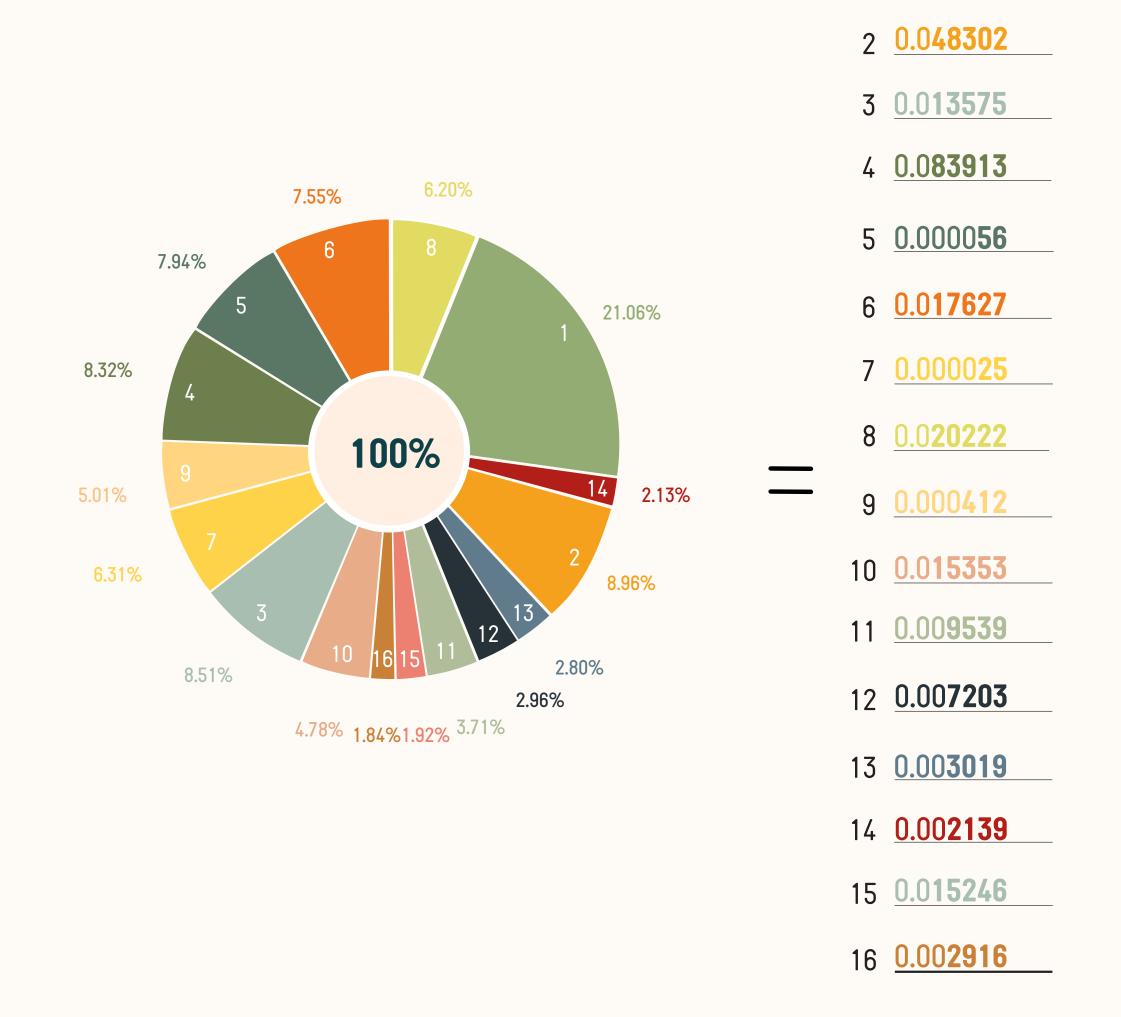






noncancer

1 2587.449781 kg CO ₂ eq Disease Disea				
2 0.000321 incidence 3 0.539089 3 1829.474203 M³ world eq 4 65561.667349 M.J 4 1.008575 5 573.633041 Dimensionless 6 0.014854 kg Sb eq 7 0.000021 kg CFC-11 eq 8 18.124273 Mol H+eq 9 34.671085 Kbq U-235 eq 10 13.124030 kg NMV0C eq 11 45.446968 Mol N eq 12 4.756349 kg N eq 12 0.243352 13 0.173241 kg P eq 14 0.000002 CTUh 15 0.794073	1	2587.449781		1 0.342569
4 65561.667349 M.J 5 573.633041 Dimensionless 6 0.014854 kg Sb eq 7 0.000021 kg CFC-11 eq 8 18.124273 Mol H+eq 9 34.671085 Kbq U-235 eq 10 13.124030 kg NMV0C eq 11 45.446968 Mol N eq 12 4.756349 kg N eq 13 0.173241 kg P eq 14 0.000002 CTUh 15 0.794073	2	0.000321		2 <u>0.539089</u>
5 573.633041 Dimensionless 6 0.014854 kg Sb eq 7 0.000021 kg CFC-11 eq 8 18.124273 Mol H+eq 9 34.671085 Kbq U-235 eq 10 13.124030 kq NMV0C eq 11 45.446968 Mol N eq 12 4.756349 kg N eq 13 0.173241 kg P eq 14 0.000002 CTUh 15 0.794073	3	1829.474203	M ³ world eq	3 <u>0.159519</u>
6	4	65561.667349	MJ	4 <u>1.008575</u>
7 0.000021 kg CFC-11 eq 8 18.124273 Mol H+eq 9 34.671085 Kbq U-235 eq 10 13.124030 kg NMV0C eq 11 45.446968 Mol N eq 12 4.756349 kg N eq 13 0.173241 kg P eq 14 0.000002 CTUh 15 0.794073	5	573.633041	Dimensionless	5 <u>0.000700</u>
8 18.124273 Mol H+eq 9 34.671085 Kbq U-235 eq 10 13.124030 kg NMV0C eq 11 45.446968 Mol N eq 12 4.756349 kg N eq 13 0.173241 kg P eq 14 0.000002 CTUh 15 0.794073	6	0.014854	kg Sb eq	6 <u>0.233469</u>
9 34.671085 Kbq U-235 eq 10 13.124030 kg NMV0C eq 11 45.446968 Mol N eq 12 4.756349 kg N eq 13 0.173241 kg P eq 14 0.000002 CTUh 15 0.794073	7	0.000021	kg CFC-11 eq	7 0.000394
10	8	18.124273	Mol H+eq	8 <u>0.326155</u>
11	9	34.671085	Kbq U-235 eq	$\frac{\cdot}{\cdot}$ $\left(\begin{array}{c} \cdot \\ \cdot \\ \cdot \end{array}\right)$ $\left(\begin{array}{c} \cdot \\ \cdot \\ \cdot \\ \cdot \end{array}\right)$ $\left(\begin{array}{c} \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \end{array}\right)$ $\left(\begin{array}{c} \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \end{array}\right)$ $\left(\begin{array}{c} \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \end{array}\right)$ $\left(\begin{array}{c} \cdot \\ \cdot $
12 4.756349 kg N eq 12 0.243352 13 0.173241 kg P eq 13 0.107814 14 0.000002 CTUh 14 0.100438 15 45037.101032 CTUe 15 0.794073	10	13.124030	kg NMVOC eq	10 0.321201
13 <u>0.173241 kg P eq</u> 13 <u>0.107814</u> 14 <u>0.000002 CTUh</u> 14 <u>0.100438</u> 15 <u>45037.101032 CTUe</u> 15 <u>0.794073</u>	11	45.446968	Mol N eq	11 0.257118
14	12	4.756349	kg N eq	12 <u>0.243352</u>
15 <u>45037.101032</u> CTUe 15 <u>0.794073</u>	13	0.173241	kg P eq	13 <u>0.107814</u>
	14	0.000002	CTUh	14 <u>0.100438</u>
16 <u>0.000020 CTUh</u> 16 <u>0.158473</u>	15	45037.101032	CTUe	15 <u>0.794073</u>
	16	0.0000 20	CTUh	16 <u>0.158473</u>



PEF single score = 0.311692

The single score reflects the overall environmental performance of a product. The single score is obtained by adding up all the weighted results.



0.311692 PEF single score

1 0.072145