EcoImpact

Package Compare Report

Tuesday, 2023-07-25 11:48:25 AM

Goal & Scope

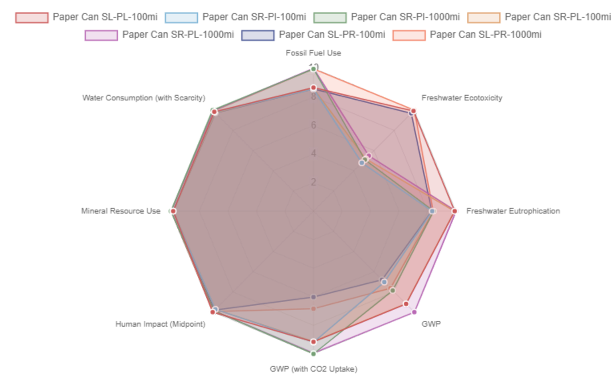
This report shows the environmental impact calculated using a screening Life Cycle Analysis. The analysis below can include the environmental impact for all life cycle phases in a Cradle-to-Grave analysis.

Analysis
Data Version: COMPASS 2023.2
User: katie.grote@trayak.com
Company: Trayak Inc
Number of BOMs in Analysis: 7
Status: Open
Type: Customer
Material Scrap Rates considered: No

Note: This COMPASS report uses life cycle inventory (LCI) data that represents an industry average for materials, manufacturing processes, and end of life impacts. The Life Cycle Analysis (LCA) in this report can be used for directional guidance in internal decision making and understanding trade-offs. COMPASS follows the guidelines of ISO 14040 in determining and documenting the scope, assumptions, consistent boundary conditions and data sources. According to ISO 14040, LCA results should not be used to make comparative assertions between competitive products to be disclosed to the public without first conducting a third party critical review.

Functional Unit: 1,000,000 item count
The environmental impact calculated in this analysis is for the packaging required to deliver the amount of product described by the functional unit. This includes the number of primary, secondary and tertiary packages shown below. These package numbers were calculated based on the pallet configuration modeled in the BOM. If the secondary and tertiary package data is not entered their environmental impact cannot be calculated.The analysis below can include the environmental impact for all life cycle phases in a Cradle-to-Grave analysis.

Package Name	# of Primary Packages	# of Secondary Packages	# of Tertiary Packages
Paper Can SL-PL-100mi	1,000,000	0	0
Paper Can SR-PI-100mi	1,000,000	0	0
Paper Can SR-PI-1000mi	1,000,000	0	0
Paper Can SR-PL-100mi	1,000,000	0	0
Paper Can SR-PL-1000mi	1,000,000	0	0
Paper Can SL-PR-100mi	1,000,000	0	0
Paper Can SL-PR-1000mi	1,000,000	0	0



Assumptions & Comments
All packaging/product components required to achieve the LCA goal are added to the BOM and included in the analysis : Yes
All significant manufacturing processes are included for the components of the BOM : Yes
Any components or manufacturing steps that are omitted are documented along with the reason for omission. : Yes
All relevant transportation modes & distances are included in the analysis. : Yes
Any proxies used for any of the data are documented. : Yes
All end-of-life rates for recycling, landfill, incineration etc. are appropriate for the selected end-of-life region. Any changes made are documented. : Yes

Total Environmental Impact

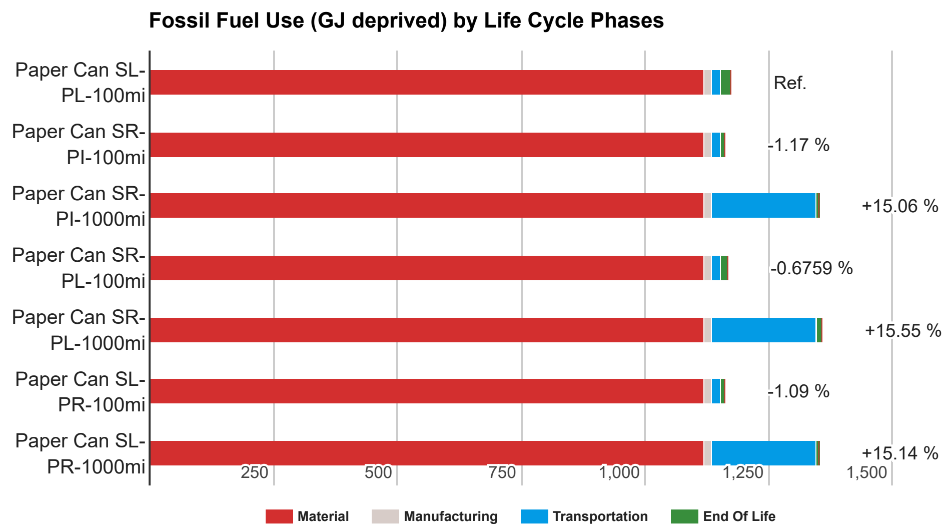
This section shows the total impact for each of the selected indicators used for the Life Cycle Analysis. Each indicator is composed of the material extraction, manufacturing, transportation, end of life, and use phase impacts. This will allow you to determine which life cycle phase has the greatest impact.

Note: The material phase measures the environmental footprint of extracting and processing materials. The manufacturing phase calculates the impact of the manufacturing or conversion processes that companies use to add value and create the package or product. Use phase includes the environmental impact during the useful life of the package/product. Typically, the use phase impact is due to the consumption of resources like electricity, fuel, or other consumables. For the transportation phase, the impact is calculated based on the mode of transportation (road, rail, air, sea) as well as the distances travelled. The end of life impact calculation incorporates the most likely fate of the product/package and its components based on typical curbside municipal waste management. Typical percentage rates for region based recycling, incineration, and landfill are used to calculate the impacts.

Fossil Fuel Use (GJ deprived)

This indicator considers the total quantity of fossil fuel consumed throughout the life cycle reported in megajoules (MJ) equivalents deprived/kg dissipated, which is based on an extraction-consumption-competition-adaptation approach. This indicator uses the Impact World+ method, uses the primary energy content, and assumes fossil resources mainly used for energy purposes. Fossil fuels include coal, petroleum, and natural gas.

Paper Can SL-PL-100mi	Material 1,119.97 (95.22%)	Manufacturing 13.53 (1.15%)	Transportation 21.2 (1.8%)	EndOfLife 21.46 (1.82%)	UsePhase 0 (0%)	Total 1,176.17
Paper Can SR-PI-100mi	Material 1,119.97 (96.35%)	Manufacturing 13.53 (1.16%)	Transportation 21.2 (1.82%)	EndOfLife 7.75 (0.6667%)	UsePhase 0 (0%)	Total 1,162.46
Paper Can SR-PI-1000mi	Material 1,119.97 (82.76%)	Manufacturing 13.53 (0.9998%)	Transportation 212.04 (15.67%)	EndOfLife 7.75 (0.5727%)	UsePhase 0 (0%)	Total 1,353.3
Paper Can SR-PL-100mi	Material 1,119.97 (95.87%)	Manufacturing 13.53 (1.16%)	Transportation 21.2 (1.82%)	EndOfLife 13.51 (1.16%)	UsePhase 0 (0%)	Total 1,168.22
Paper Can SR-PL-1000mi	Material 1,119.97 (82.41%)	Manufacturing 13.53 (0.9955%)	Transportation 212.04 (15.6%)	EndOfLife 13.51 (0.9939%)	UsePhase 0 (0%)	Total 1,359.06
Paper Can SL-PR-100mi	Material 1,119.97 (96.27%)	Manufacturing 13.53 (1.16%)	Transportation 21.2 (1.82%)	EndOfLife 8.64 (0.743%)	UsePhase 0 (0%)	Total 1,163.35
Paper Can SL-PR-1000mi	Material 1,119.97 (82.7%)	Manufacturing 13.53 (0.9991%)	Transportation 212.04 (15.66%)	EndOfLife 8.64 (0.6383%)	UsePhase 0 (0%)	Total 1,354.19



Simple Indicators

Computed based on the US Region

Differences for each BOM compared to the reference

Paper Can SR-PI-100mi
13.71 GJ deprived
2.24 Barrels of Oil
0.3663 Average Homes Powered Yearly

Paper Can SR-PI-1000mi
177.13 GJ deprived
28.95 Barrels of Oil
4.73 Average Homes Powered Yearly

Paper Can SR-PL-100mi
7.96 GJ deprived
1.3 Barrels of Oil
0.2125 Average Homes Powered Yearly

Paper Can SR-PL-1000mi
182.89 GJ deprived
29.89 Barrels of Oil
4.89 Average Homes Powered Yearly

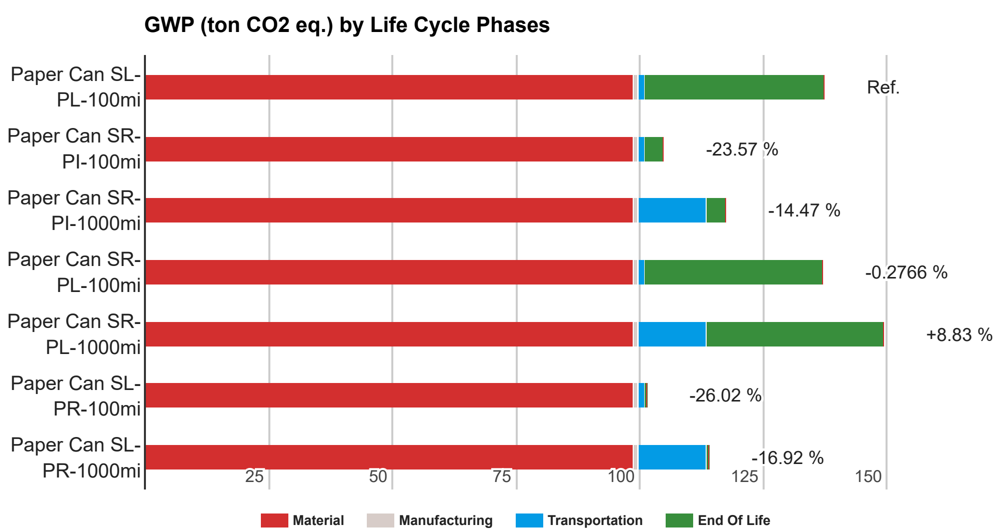
Paper Can SL-PR-100mi
12.82 GJ deprived
2.1 Barrels of Oil
0.3424 Average Homes Powered Yearly

Paper Can SL-PR-1000mi
178.02 GJ deprived
29.1 Barrels of Oil
4.76 Average Homes Powered Yearly

GWP (ton CO_2 eq.)

Global Warming Potential (GWP) considers the total quantity of greenhouse gasses (GHG) emitted throughout the life cycle reported in kilograms of CO2 equivalents. This calculation follows the IPCC Sixth Assessment Report (AR6) 2021 100a w/o CO2 Uptake method and considers climate feedback loops. It considers global warming potential for a 100-year timeframe.

Paper Can SL-PL-100mi	Material 98.77 (71.91%)	Manufacturing 0.7767 (0.5655%)	Transportation 1.39 (1.01%)	EndOfLife 36.42 (26.52%)	UsePhase 0 (0%)	Total 137.36
Paper Can SR-PI-100mi	Material 98.77 (94.09%)	Manufacturing 0.7767 (0.7399%)	Transportation 1.39 (1.32%)	EndOfLife 4.04 (3.85%)	UsePhase 0 (0%)	Total 104.98
Paper Can SR-PI-1000mi	Material 98.77 (84.08%)	Manufacturing 0.7767 (0.6612%)	Transportation 13.89 (11.83%)	EndOfLife 4.04 (3.44%)	UsePhase 0 (0%)	Total 117.48
Paper Can SR-PL-100mi	Material 98.77 (72.1%)	Manufacturing 0.7767 (0.567%)	Transportation 1.39 (1.01%)	EndOfLife 36.05 (26.31%)	UsePhase 0 (0%)	Total 136.98
Paper Can SR-PL-1000mi	Material 98.77 (66.07%)	Manufacturing 0.7767 (0.5196%)	Transportation 13.89 (9.29%)	EndOfLife 36.05 (24.11%)	UsePhase 0 (0%)	Total 149.49
Paper Can SL-PR-100mi	Material 98.77 (97.2%)	Manufacturing 0.7767 (0.7643%)	Transportation 1.39 (1.37%)	EndOfLife 0.6829 (0.672%)	UsePhase 0 (0%)	Total 101.62
Paper Can SL-PR-1000mi	Material 98.77 (86.55%)	Manufacturing 0.7767 (0.6806%)	Transportation 13.89 (12.17%)	EndOfLife 0.6829 (0.5984%)	UsePhase 0 (0%)	Total 114.12



Simple Indicators

Computed based on the US Region

Differences for each BOM compared to the reference

Paper Can SR-PI-100mi
32.38 ton CO_2 eq.

- **6.93** Passenger Vehicles Driven Yearly
- **127,726.95** Kilometers Driven by Passenger Vehicles Yearly
- **13,792.81** Liters of Gasoline Consumed
- **839.11** Tree Seedlings Grown for 10 Years
- **15.42** Hectares of Forests Yearly

Paper Can SR-PI-1000mi
19.88 ton CO_2 eq.

- **4.26** Passenger Vehicles Driven Yearly
- **78,410.12** Kilometers Driven by Passenger Vehicles Yearly
- **8,467.25** Liters of Gasoline Consumed
- **515.12** Tree Seedlings Grown for 10 Years

Paper Can SR-PL-100mi
0.3757 ton CO_2 eq.

- **0.0805** Passenger Vehicles Driven Yearly
- **1,481.97** Kilometers Driven by Passenger Vehicles Yearly
- **160.03** Liters of Gasoline Consumed
- **9.74** Tree Seedlings Grown for 10 Years

Paper Can SR-PL-1000mi
12.13 ton CO_2 eq.

- **2.6** Passenger Vehicles Driven Yearly
- **47,834.86** Kilometers Driven by Passenger Vehicles Yearly
- **5,165.53** Liters of Gasoline Consumed
- **314.25** Tree Seedlings Grown for 10 Years

Paper Can SL-PR-100mi
35.74 ton CO_2 eq.

- **7.65** Passenger Vehicles Driven Yearly
- **140,968.27** Kilometers Driven by Passenger Vehicles Yearly
- **15,222.69** Liters of Gasoline Consumed
- **926.1** Tree Seedlings Grown for 10 Years
- **17.02** Hectares of Forests Yearly

Paper Can SL-PR-1000mi
23.24 ton CO_2 eq.

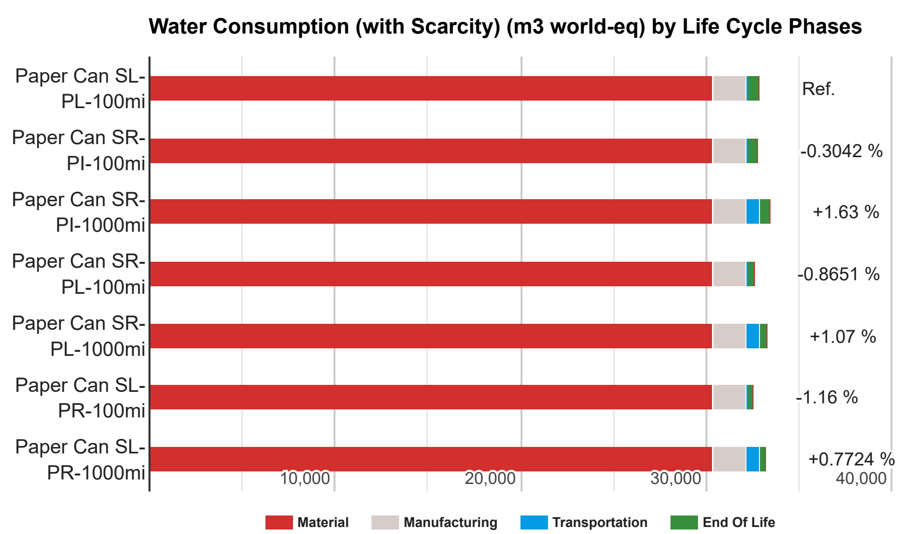
- **4.98** Passenger Vehicles Driven Yearly
- **91,651.44** Kilometers Driven by Passenger Vehicles Yearly
- **9,897.13** Liters of Gasoline Consumed
- **602.11** Tree Seedlings Grown for 10 Years

9.46 Hectares of Forests Yearly	**0.1789** Hectares of Forests Yearly	**5.77** Hectares of Forests Yearly	**11.06** Hectares of Forests Yearly

Water Consumption (with Scarcity) (m^3 world-eq)

This indicator considers the relative available water remaining per area in a watershed after the demand of humans, aquatic ecosystems, and manufacturing process has been met, compared to the world average. The AWARE method is used to calculate the water scarcity footprint, which looks at the potential to deprive another freshwater user by consuming freshwater in a given region. The water scarcity footprint is the water consumption inventory multiplied by a characterization factor, which is based on the availability and demand of freshwater in a given region. The characterization factors have a range of 0.1 to 100, with higher numbers associated with more water-scarce regions, and are dimensionless (m3 world eq./m3). The water scarcity footprint results are typically reported in m3 world-eq. but may be reported in liters world-eq. if there is a small quantity of water being considered in the analysis by EcoImpact-COMPASS.

Paper Can SL-PL-100mi	Material 30,386.65 (92.3%)	Manufacturing 1,775.29 (5.39%)	Transportation 70.62 (0.2145%)	EndOfLife 690.76 (2.1%)	UsePhase 0 (0%)	Total 32,923.32
Paper Can SR-PI-100mi	Material 30,386.65 (92.58%)	Manufacturing 1,775.29 (5.41%)	Transportation 70.62 (0.2152%)	EndOfLife 590.61 (1.8%)	UsePhase 0 (0%)	Total 32,823.18
Paper Can SR-PI-1000mi	Material 30,386.65 (90.82%)	Manufacturing 1,775.29 (5.31%)	Transportation 706.23 (2.11%)	EndOfLife 590.61 (1.77%)	UsePhase 0 (0%)	Total 33,458.78
Paper Can SR-PL-100mi	Material 30,386.65 (93.1%)	Manufacturing 1,775.29 (5.44%)	Transportation 70.62 (0.2164%)	EndOfLife 405.95 (1.24%)	UsePhase 0 (0%)	Total 32,638.51
Paper Can SR-PL-1000mi	Material 30,386.65 (91.32%)	Manufacturing 1,775.29 (5.34%)	Transportation 706.23 (2.12%)	EndOfLife 405.95 (1.22%)	UsePhase 0 (0%)	Total 33,274.12
Paper Can SL-PR-100mi	Material 30,386.65 (93.38%)	Manufacturing 1,775.29 (5.46%)	Transportation 70.62 (0.217%)	EndOfLife 309.44 (0.9509%)	UsePhase 0 (0%)	Total 32,542.01
Paper Can SL-PR-1000mi	Material 30,386.65 (91.59%)	Manufacturing 1,775.29 (5.35%)	Transportation 706.23 (2.13%)	EndOfLife 309.44 (0.9327%)	UsePhase 0 (0%)	Total 33,177.61



Simple Indicators

Computed based on the US Region

Differences for each BOM compared to the reference

Paper Can SR-PI-100mi

100.15 m^3 world-eq

26,459.32 Gallons of Water

1,538.38 Average Showers

4.21 People Showering Daily for a Year

0.0401 Olympic Sized Swimming

Paper Can SR-PI-1000mi

535.46 m^3 world-eq

141,467.92 Gallons of Water

8,225.13 Average Showers

22.53 People Showering Daily for a Year

0.2142 Olympic Sized Swimming

Paper Can SR-PL-100mi

284.81 m^3 world-eq

75,246.89 Gallons of Water

4,374.95 Average Showers

11.99 People Showering Daily for a Year

0.1139 Olympic Sized Swimming

Paper Can SR-PL-1000mi

350.8 m^3 world-eq

92,680.35 Gallons of Water

5,388.56 Average Showers

14.76 People Showering Daily for a Year

0.1403 Olympic Sized Swimming

Paper Can SL-PR-100mi

381.32 m^3 world-eq

100,744.29 Gallons of Water

5,857.41 Average Showers

16.05 People Showering Daily for a Year

0.1525 Olympic Sized Swimming Pools

Paper Can SL-PR-1000mi

254.29 m^3 world-eq

67,182.95 Gallons of Water

3,906.11 Average Showers

10.7 People Showering Daily for a Year

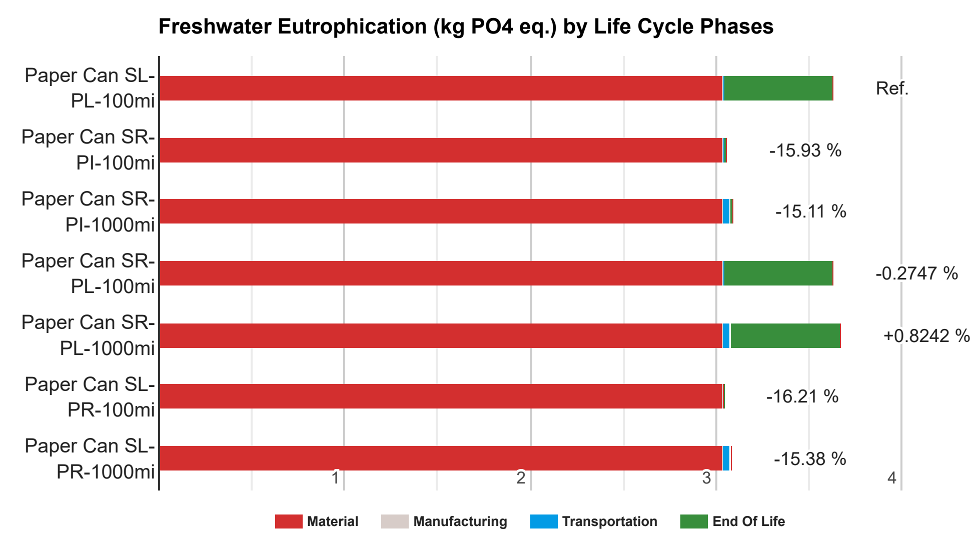
0.1017 Olympic Sized Swimming

Pools Pools Pools Pools Pools

Freshwater Eutrophication (kg PO_4 eq.)

Eutrophication is the abnormal increase in chemical nutrients that causes excessive plant/algal growth and decay resulting in an anoxic condition in freshwater systems, the major consequence being algal blooms. For freshwater systems, phosphorus is considered the limiting nutrient for eutrophication. Typically, these are emissions of phosphorus compounds released during the production of materials. For this indicator, the increase in phosphorus mass per kg discharged to freshwater is calculated with Impact World+ characterization factors, which uses the model from Helmes et al. (2012). Advection, retention, and water use are considered when looking at the fate of phosphorus in freshwater. This indicator is reported in phosphate (PO4) equivalents.

Paper Can SL-PL-100mi	Material 3.03 (83.39%)	Manufacturing 0.007 (0.1932%)	Transportation 0.0041 (0.1128%)	EndOfLife 0.5928 (16.31%)	UsePhase 0 (0%)	Total 3.64
Paper Can SR-PI-100mi	Material 3.03 (99.19%)	Manufacturing 0.007 (0.2298%)	Transportation 0.0041 (0.1341%)	EndOfLife 0.0138 (0.4507%)	UsePhase 0 (0%)	Total 3.06
Paper Can SR-PI-1000mi	Material 3.03 (98%)	Manufacturing 0.007 (0.227%)	Transportation 0.041 (1.33%)	EndOfLife 0.0138 (0.4453%)	UsePhase 0 (0%)	Total 3.09
Paper Can SR-PL-100mi	Material 3.03 (83.41%)	Manufacturing 0.007 (0.1932%)	Transportation 0.0041 (0.1128%)	EndOfLife 0.5916 (16.28%)	UsePhase 0 (0%)	Total 3.63
Paper Can SR-PL-1000mi	Material 3.03 (82.58%)	Manufacturing 0.007 (0.1913%)	Transportation 0.041 (1.12%)	EndOfLife 0.5916 (16.12%)	UsePhase 0 (0%)	Total 3.67
Paper Can SL-PR-100mi	Material 3.03 (99.54%)	Manufacturing 0.007 (0.2306%)	Transportation 0.0041 (0.1346%)	EndOfLife 0.003 (0.0971%)	UsePhase 0 (0%)	Total 3.05
Paper Can SL-PR-1000mi	Material 3.03 (98.35%)	Manufacturing 0.007 (0.2278%)	Transportation 0.041 (1.33%)	EndOfLife 0.003 (0.0959%)	UsePhase 0 (0%)	Total 3.08



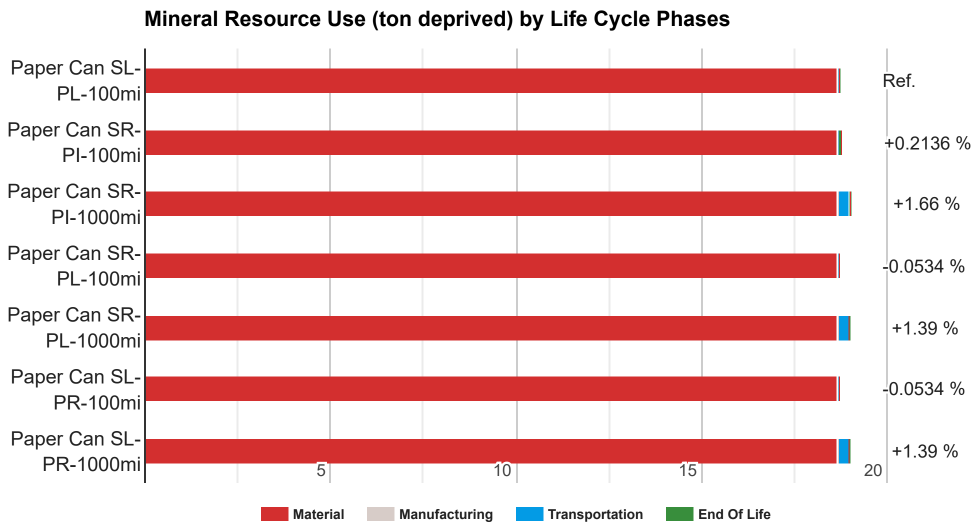
Freshwater Eutrophication Differences for each BOM compared to the reference

Paper Can SR-PI-100mi	Paper Can SR-PI-1000mi	Paper Can SR-PL-100mi	Paper Can SR-PL-1000mi	Paper Can SL-PR-100mi	Paper Can SL-PR-1000mi
0.579 kg PO_4 eq.	0.5421 kg PO_4 eq.	0.0011 kg PO_4 eq.	0.0358 kg PO_4 eq.	0.5898 kg PO_4 eq.	0.5529 kg PO_4 eq.

Mineral Resource Use (ton deprived)

This indicator is expressed in kg of deprived resource/kg of dissipated resource, uses the material competition scarcity index (MACSI) from de Bruille (2014) as a midpoint indicator, and is pulled from Impact World+. The factor represents the fraction of material needed by future users that are not able to find a reliable substitute for the mineral. The MACSI varies from 0% to 100%, with the higher numbers corresponding to more competition among users and takes into account the amount of material remaining, the rate of resource dissipation, and the rate of user adaptation. The MACSI essentially relates to the fraction of a given material's users that will not be able to adapt to depletion of the material by using another resource.

Paper Can SL-PL-100mi	Material 18.67 (99.68%)	Manufacturing 0.0084 (0.0448%)	Transportation 0.0301 (0.1606%)	EndOfLife 0.0222 (0.1187%)	UsePhase 0 (0%)	Total 18.73
Paper Can SR-PI-100mi	Material 18.67 (99.48%)	Manufacturing 0.0084 (0.0447%)	Transportation 0.0301 (0.1602%)	EndOfLife 0.0585 (0.3118%)	UsePhase 0 (0%)	Total 18.77
Paper Can SR-PI-1000mi	Material 18.67 (98.07%)	Manufacturing 0.0084 (0.044%)	Transportation 0.3007 (1.58%)	EndOfLife 0.0585 (0.3073%)	UsePhase 0 (0%)	Total 19.04
Paper Can SR-PL-100mi	Material 18.67 (99.73%)	Manufacturing 0.0084 (0.0448%)	Transportation 0.0301 (0.1606%)	EndOfLife 0.0128 (0.0682%)	UsePhase 0 (0%)	Total 18.72
Paper Can SR-PL-1000mi	Material 18.67 (98.31%)	Manufacturing 0.0084 (0.0441%)	Transportation 0.3007 (1.58%)	EndOfLife 0.0128 (0.0673%)	UsePhase 0 (0%)	Total 18.99
Paper Can SL-PR-100mi	Material 18.67 (99.74%)	Manufacturing 0.0084 (0.0448%)	Transportation 0.0301 (0.1607%)	EndOfLife 0.0104 (0.0555%)	UsePhase 0 (0%)	Total 18.72
Paper Can SL-PR-1000mi	Material 18.67 (98.32%)	Manufacturing 0.0084 (0.0442%)	Transportation 0.3007 (1.58%)	EndOfLife 0.0104 (0.0547%)	UsePhase 0 (0%)	Total 18.99



Mineral Resource Use Differences for each BOM compared to the reference

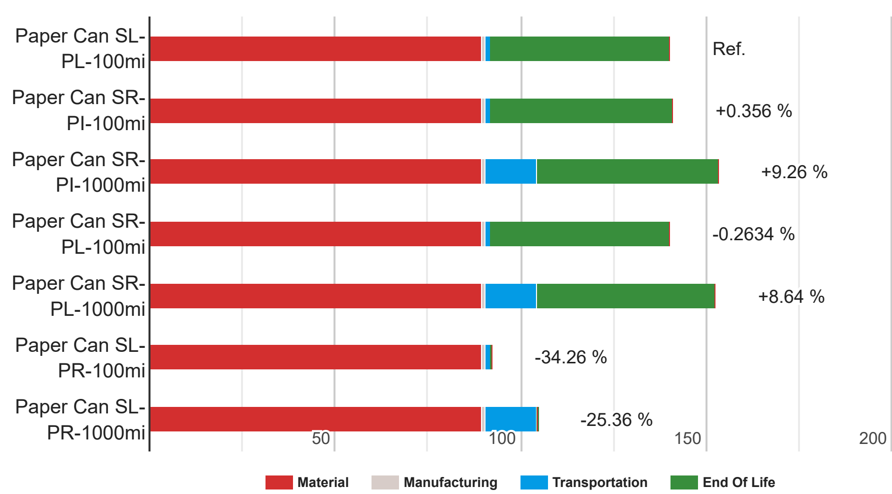
Paper Can SR-PI-100mi	Paper Can SR-PI-1000mi	Paper Can SR-PL-100mi	Paper Can SR-PL-1000mi	Paper Can SL-PR-100mi	Paper Can SL-PR-1000mi
0.0363 ton deprived	0.3069 ton deprived	0.0095 ton deprived	0.2612 ton deprived	0.0118 ton deprived	0.2588 ton deprived

GWP (with CO_2 Uptake) (ton CO_2 eq.)

Global Warming Potential (GWP) with CO2 uptake considers the total quantity of greenhouse gasses (GHG) emitted throughout the life cycle reported in kilograms of CO2 equivalents. This calculation follows the IPCC Sixth Assessment Report (AR6) 2021 100a w/ CO2 Uptake method. It considers global warming potential for a 100-year timeframe. This indicator also accounts for carbon sequestration and biogenic carbon emissions.

Paper Can SL-PL-100mi	Material 89.59 (63.78%)	Manufacturing 0.6755 (0.4809%)	Transportation 1.39 (0.9891%)	EndOfLife 48.81 (34.75%)	UsePhase 0 (0%)	Total 140.46
Paper Can SR-PI-100mi	Material 89.59 (63.56%)	Manufacturing 0.6755 (0.4792%)	Transportation 1.39 (0.9857%)	EndOfLife 49.3 (34.98%)	UsePhase 0 (0%)	Total 140.96
Paper Can SR-PI-1000mi	Material 89.59 (58.38%)	Manufacturing 0.6755 (0.4402%)	Transportation 13.89 (9.05%)	EndOfLife 49.3 (32.13%)	UsePhase 0 (0%)	Total 153.46
Paper Can SR-PL-100mi	Material 89.59 (63.95%)	Manufacturing 0.6755 (0.4822%)	Transportation 1.39 (0.9918%)	EndOfLife 48.43 (34.57%)	UsePhase 0 (0%)	Total 140.09
Paper Can SR-PL-1000mi	Material 89.59 (58.71%)	Manufacturing 0.6755 (0.4427%)	Transportation 13.89 (9.11%)	EndOfLife 48.43 (31.74%)	UsePhase 0 (0%)	Total 152.59
Paper Can SL-PR-100mi	Material 89.59 (97.02%)	Manufacturing 0.6755 (0.7315%)	Transportation 1.39 (1.5%)	EndOfLife 0.6848 (0.7416%)	UsePhase 0 (0%)	Total 92.34
Paper Can SL-PR-1000mi	Material 89.59 (85.45%)	Manufacturing 0.6755 (0.6443%)	Transportation 13.89 (13.25%)	EndOfLife 0.6848 (0.6532%)	UsePhase 0 (0%)	Total 104.84

GWP (with CO2 Uptake) (ton CO2 eq.) by Life Cycle Phases



Simple Indicators

Computed based on the US Region

Differences for each BOM compared to the reference

Paper Can SR-PI-100mi
0.4933 ton CO_2 eq.
- **0.1056** Passenger Vehicles Driven Yearly
- **1,945.86** Kilometers Driven by Passenger Vehicles Yearly
- **210.13** Liters of Gasoline Consumed
- **12.78** Tree Seedlings Grown for 10 Years

Paper Can SR-PI-1000mi
13 ton CO_2 eq.
- **2.78** Passenger Vehicles Driven Yearly
- **51,268.48** Kilometers Driven by Passenger Vehicles Yearly
- **5,536.31** Liters of Gasoline Consumed
- **336.81** Tree Seedlings Grown for 10 Years

Paper Can SR-PL-100mi
0.3775 ton CO_2 eq.
- **0.0808** Passenger Vehicles Driven Yearly
- **1,488.91** Kilometers Driven by Passenger Vehicles Yearly
- **160.78** Liters of Gasoline Consumed
- **9.78** Tree Seedlings Grown for 10 Years
- **0.1797** Hectares of Forests Yearly

Paper Can SR-PL-1000mi
12.13 ton CO_2 eq.
- **2.6** Passenger Vehicles Driven Yearly
- **47,833.71** Kilometers Driven by Passenger Vehicles Yearly
- **5,165.4** Liters of Gasoline Consumed
- **314.25** Tree Seedlings Grown for 10 Years

Paper Can SL-PR-100mi
48.13 ton CO_2 eq.
- **10.31** Passenger Vehicles Driven Yearly
- **189,830.17** Kilometers Driven by Passenger Vehicles Yearly
- **20,499.13** Liters of Gasoline Consumed
- **1,247.1** Tree Seedlings Grown for 10 Years
- **22.91** Hectares of Forests Yearly

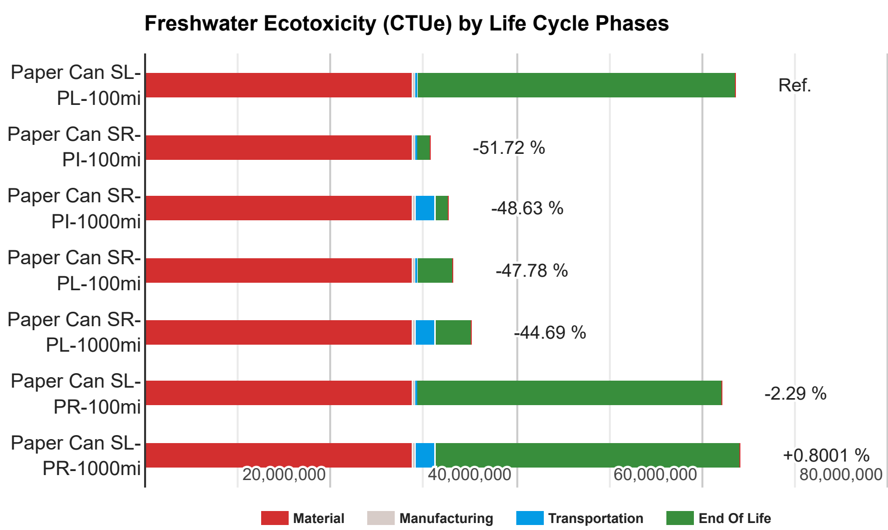
Paper Can SL-PR-1000mi
35.62 ton CO_2 eq.
- **7.63** Passenger Vehicles Driven Yearly
- **140,507.55** Kilometers Driven by Passenger Vehicles Yearly
- **15,172.94** Liters of Gasoline Consumed
- **923.08** Tree Seedlings Grown for 10 Years

0.2349 Hectares of Forests Yearly | 6.19 Hectares of Forests Yearly | 5.77 Hectares of Forests Yearly | 16.96 Hectares of Forests Yearly

Freshwater Ecotoxicity (CTUe)

This indicator is a measure of the ecotoxicity impact of chemical releases to air, water, and land using aquatic toxicity factors and is calculated using the Impact World+ midpoint indicator with exclusion of long-term emissions. Impact World+ uses and adapts USEtox, a scientific consensus model, to calculate characterization factors for freshwater ecotoxicity. This indicator is reported in comparative toxic units (CTUe) per unit mass of chemical emitted. CTUe corresponds to the potentially affected fraction (PAF) of the species exposed in the ecosystem for a given time and water volume per unit mass of a chemical emitted.

Paper Can SL-PL-100mi	Material 28,856,145.93 (45.35%)	Manufacturing 221,683.39 (0.3484%)	Transportation 218,293.38 (0.3431%)	EndOfLife 34,331,841.45 (53.96%)	UsePhase 0 (0%)	Total 63,627,964.16
Paper Can SR-PI-100mi	Material 28,856,145.93 (93.93%)	Manufacturing 221,683.39 (0.7216%)	Transportation 218,293.38 (0.7106%)	EndOfLife 1,425,109.16 (4.64%)	UsePhase 0 (0%)	Total 30,721,231.87
Paper Can SR-PI-1000mi	Material 28,856,145.93 (88.28%)	Manufacturing 221,683.39 (0.6782%)	Transportation 2,182,933.83 (6.68%)	EndOfLife 1,425,109.16 (4.36%)	UsePhase 0 (0%)	Total 32,685,872.31
Paper Can SR-PL-100mi	Material 28,856,145.93 (86.84%)	Manufacturing 221,683.39 (0.6671%)	Transportation 218,293.38 (0.6569%)	EndOfLife 3,933,034.42 (11.84%)	UsePhase 0 (0%)	Total 33,229,157.13
Paper Can SR-PL-1000mi	Material 28,856,145.93 (81.99%)	Manufacturing 221,683.39 (0.6299%)	Transportation 2,182,933.83 (6.2%)	EndOfLife 3,933,034.42 (11.18%)	UsePhase 0 (0%)	Total 35,193,797.58
Paper Can SL-PR-100mi	Material 28,856,145.93 (46.41%)	Manufacturing 221,683.39 (0.3566%)	Transportation 218,293.38 (0.3511%)	EndOfLife 32,876,300.49 (52.88%)	UsePhase 0 (0%)	Total 62,172,423.2
Paper Can SL-PR-1000mi	Material 28,856,145.93 (44.99%)	Manufacturing 221,683.39 (0.3456%)	Transportation 2,182,933.83 (3.4%)	EndOfLife 32,876,300.49 (51.26%)	UsePhase 0 (0%)	Total 64,137,063.65



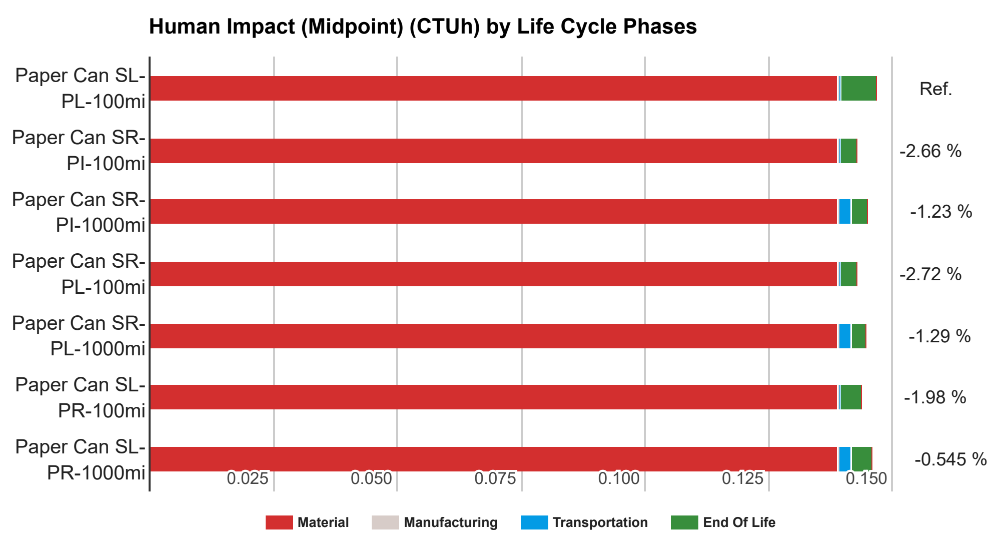
Freshwater Ecotoxicity Differences for each BOM compared to the reference

Paper Can SR-PI-100mi	Paper Can SR-PI-1000mi	Paper Can SR-PL-100mi	Paper Can SR-PL-1000mi	Paper Can SL-PR-100mi	Paper Can SL-PR-1000mi
32,906,732.29 CTUe	30,942,091.84 CTUe	30,398,807.02 CTUe	28,434,166.58 CTUe	1,455,540.95 CTUe	509,099.49 CTUe

Human Impact (Midpoint) (CTUh)

This is a midpoint indicator calculating the quantity of short-term environment emissions resulting in cancer & toxic non-cancer impacts to humans released throughout the life cycle. This midpoint indicator reports these metrics in terms of Comparative Toxic Units human (CTUh). This indicator is calculated using Impact World+, which uses and adapts USEtox to generate toxicity characterization factors. Inhalation of household and industrial indoor emissions and ingestion of pesticide residues from crops are considered. According to the ILCD (International Reference Life Cycle Data System) Handbook: Recommendations for Life Cycle Impact Assessment in the European context, "the compatibility between midpoint and endpoint recommendations is ensured since the midpoint indicator defined in USEtox as Comparative Toxic Units (CTUhuman) corresponds to cases of cancer and non cancer, whereas the severity factor reflects the Disability Adjusted Life Years per case.

Paper Can SL-PL-100mi	Material 0.1391 (94.73%)	Manufacturing 0.00018674 (0.1272%)	Transportation 0.0002 (0.1362%)	EndOfLife 0.0073 (5%)	UsePhase 0 (0%)	Total 0.1468
Paper Can SR-PI-100mi	Material 0.1391 (97.35%)	Manufacturing 0.00018674 (0.1307%)	Transportation 0.0002 (0.14%)	EndOfLife 0.0034 (2.38%)	UsePhase 0 (0%)	Total 0.1429
Paper Can SR-PI-1000mi	Material 0.1391 (95.94%)	Manufacturing 0.00018674 (0.1288%)	Transportation 0.0023 (1.59%)	EndOfLife 0.0034 (2.35%)	UsePhase 0 (0%)	Total 0.145
Paper Can SR-PL-100mi	Material 0.1391 (97.4%)	Manufacturing 0.00018674 (0.1308%)	Transportation 0.0002 (0.14%)	EndOfLife 0.0033 (2.33%)	UsePhase 0 (0%)	Total 0.1428
Paper Can SR-PL-1000mi	Material 0.1391 (95.99%)	Manufacturing 0.00018674 (0.1289%)	Transportation 0.0023 (1.59%)	EndOfLife 0.0033 (2.3%)	UsePhase 0 (0%)	Total 0.1449
Paper Can SL-PR-100mi	Material 0.1391 (96.64%)	Manufacturing 0.00018674 (0.1297%)	Transportation 0.0002 (0.1389%)	EndOfLife 0.0045 (3.09%)	UsePhase 0 (0%)	Total 0.1439
Paper Can SL-PR-1000mi	Material 0.1391 (95.25%)	Manufacturing 0.00018674 (0.1279%)	Transportation 0.0023 (1.57%)	EndOfLife 0.0045 (3.05%)	UsePhase 0 (0%)	Total 0.146



Human Impact (Midpoint) Differences for each BOM compared to the reference

Paper Can SR-PI-100mi	Paper Can SR-PI-1000mi	Paper Can SR-PL-100mi	Paper Can SR-PL-1000mi	Paper Can SL-PR-100mi	Paper Can SL-PR-1000mi
0.0039 CTUh	0.0018 CTUh	0.004 CTUh	0.0019 CTUh	0.0029 CTUh	0.0007944 CTUh

Input Package Bill of Material (BOM)

This section outlines the input given for the Life Cycle Analysis in the form of complete BOMs. For each component, the material, manufacturing process, number of occurrences, and mass is listed.

Paper Can SL-PL-100mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit
Paper Can SL-PL-100mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Landfilled, Paper Landfilled						1	161 km	Can Loose End	
Paper Can Steel Landfilled, Paper Landfilled (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			0 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			0 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			0 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Item 3		0 %	0 %		0 g	1			0 %

Paper Can SR-PI-100mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit
Paper Can SR-PI-100mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Recycled, Paper Incinerated						1	161 km	Can Loose End	
Paper Can Steel Recycled, Paper Incinerated (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			100 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			0 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			0 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			
Item 3		0 %	0 %		0 g	1			0 %

Paper Can SR-PI-1000mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit
Paper Can SR-PI-1000mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Recycled, Paper Incinerated						1	1,610 km	Can Loose End	
Paper Can Steel Recycled, Paper Incinerated (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			100 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			0 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			0 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			
Item 3		0 %	0 %		0 g	1			0 %

Paper Can SR-PL-100mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit

Paper Can SR-PL-100mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Recycled, Paper Landfilled						1	161 km	Can Loose End	
Paper Can Steel Recycled, Paper Landfilled (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			100 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			0 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			0 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			
Item 3		0 %	0 %		0 g	1			0 %

Paper Can SR-PL-1000mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit
Paper Can SR-PL-1000mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Recycled, Paper Landfilled						1	1,610 km	Can Loose End	
Paper Can Steel Recycled, Paper Landfilled (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			100 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			0 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			0 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			
Item 3		0 %	0 %		0 g	1			0 %

Paper Can SL-PR-100mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit

Paper Can SL-PR-100mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Landfilled, Paper Recycled						1	161 km	Can Loose End	
Paper Can Steel Landfilled, Paper Recycled (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			0 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			100 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			100 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			
Item 3		0 %	0 %		0 g	1			0 %

Paper Can SL-PR-1000mi

BOM Classifications

BOM Name	Quantity(Each)	Mfg. Region	Sales-Use Region	Base Unit
Paper Can SL-PR-1000mi	1000000	US	US	item count

Category	SKU	Brand	Product Type	Status	Channel	Launch Date	Retired Date
NA		NA	NA	NA	NA	NA	NA

Name	Material	PCR %	PIR %	Manufacturing Process	Mass Per Occurrence	#	Transport	Component Type	EOL Recycling Potential
Paper Can Steel Landfilled, Paper Recycled						1	1,610 km	Can Loose End	
Paper Can Steel Landfilled, Paper Recycled (1 item count)						1			
Steel Base	Steel	10 %	0 %		25.23 g	1			0 %
Paper Composite Cylinder						1			
Recycled Paperboard	Unbleached Kraft Paper	90 %	10 %		27.1 g	1			100 %
Kraft Paper	Unbleached Kraft Paper	0 %	0 %		3.9 g	1			100 %
Aluminum Foil	Aluminum	0 %	0 %	Aluminum Sheet Rolling (0.2 to 6 mm)	0.4 g	1			0 %
HDPE Film	High-Density Polyethylene (HDPE)	0 %	0 %	Film Extrusion	0.5 g	1			0 %
PET Film	Polyethylene Terephthalate (PET)	0 %	0 %	Film Extrusion	0.8 g	1			0 %
PVA Adhesive	Polyvinyl Acetate (PVA)	0 %	0 %		0.3 g	1			3 %
SP (1 PPs per)						1			
Item 2		0 %	0 %		0 g	1			0 %
TP (1 SPs per)						1			
Item 3		0 %	0 %		0 g	1			0 %

Compare BOM Details

Name	Unit Of Measure	Quantity	Total Package Weight/Unit Product Ratio	Primary Package Cube Efficiency %	Secondary Package Cube Efficiency %	Tertiary Package (Pallet) Cube Efficiency %	Primary Package Recyclable Score	EOL Recycling Potential	EOL Recycling Potential (%)	EOL Waste Potential	EOL Waste Potential (%)	EOL Total Mass
Paper Can SL-PL-100mi	Each	1,000,000	58.23 g/item count	0	0	0	5	9 kg	0.0155	58.22 ton	99.98	58.23 ton
Paper Can SR-PI-100mi	Each	1,000,000	58.23 g/item count	0	0	0	5	25.24 ton	43.34	32.99 ton	56.66	58.23 ton
Paper Can SR-PI-1000mi	Each	1,000,000	58.23 g/item count	0	0	0	5	25.24 ton	43.34	32.99 ton	56.66	58.23 ton
Paper Can SR-PL-100mi	Each	1,000,000	58.23 g/item count	0	0	0	5	25.24 ton	43.34	32.99 ton	56.66	58.23 ton
Paper Can SR-PL-1000mi	Each	1,000,000	58.23 g/item count	0	0	0	5	25.24 ton	43.34	32.99 ton	56.66	58.23 ton
Paper Can SL-PR-100mi	Each	1,000,000	58.23 g/item count	0	0	0	5	31.01 ton	53.25	27.22 ton	46.75	58.23 ton
Paper Can SL-PR-1000mi	Each	1,000,000	58.23 g/item count	0	0	0	5	31.01 ton	53.25	27.22 ton	46.75	58.23 ton

Component EOL Percentage Breakdown

Paper Can SL-PL-100mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Landfilled, Paper Landfilled				
Paper Can Steel Landfilled, Paper Landfilled (1 item count)				
Steel Base	0 %	0 %	0 %	100 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	0 %	0 %	0 %	100 %

Kraft Paper	0 %	0 %	0 %	100 %
Aluminum Foil	0 %	0 %	0 %	100 %
HDPE Film	0 %	0 %	0 %	100 %
PET Film	0 %	0 %	0 %	100 %
PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %
TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Paper Can SR-PI-100mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Recycled, Paper Incinerated				
Paper Can Steel Recycled, Paper Incinerated (1 item count)				
Steel Base	100 %	0 %	0 %	0 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	0 %	100 %	0 %	0 %
Kraft Paper	0 %	100 %	0 %	0 %
Aluminum Foil	0 %	100 %	0 %	0 %
HDPE Film	0 %	100 %	0 %	0 %
PET Film	0 %	100 %	0 %	0 %
PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %
TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Paper Can SR-PI-1000mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Recycled, Paper Incinerated				
Paper Can Steel Recycled, Paper Incinerated (1 item count)				
Steel Base	100 %	0 %	0 %	0 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	0 %	100 %	0 %	0 %
Kraft Paper	0 %	100 %	0 %	0 %
Aluminum Foil	0 %	100 %	0 %	0 %

HDPE Film	0 %	100 %	0 %	0 %
PET Film	0 %	100 %	0 %	0 %
PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %
TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Paper Can SR-PL-100mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Recycled, Paper Landfilled				
Paper Can Steel Recycled, Paper Landfilled (1 item count)				
Steel Base	100 %	0 %	0 %	0 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	0 %	0 %	0 %	100 %
Kraft Paper	0 %	0 %	0 %	100 %
Aluminum Foil	0 %	0 %	0 %	100 %
HDPE Film	0 %	0 %	0 %	100 %
PET Film	0 %	0 %	0 %	100 %
PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %
TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Paper Can SR-PL-1000mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Recycled, Paper Landfilled				
Paper Can Steel Recycled, Paper Landfilled (1 item count)				
Steel Base	100 %	0 %	0 %	0 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	0 %	0 %	0 %	100 %
Kraft Paper	0 %	0 %	0 %	100 %
Aluminum Foil	0 %	0 %	0 %	100 %
HDPE Film	0 %	0 %	0 %	100 %
PET Film	0 %	0 %	0 %	100 %

PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %
TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Paper Can SL-PR-100mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Landfilled, Paper Recycled				
Paper Can Steel Landfilled, Paper Recycled (1 item count)				
Steel Base	0 %	0 %	0 %	100 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	100 %	0 %	0 %	0 %
Kraft Paper	100 %	0 %	0 %	0 %
Aluminum Foil	0 %	0 %	0 %	100 %
HDPE Film	0 %	0 %	0 %	100 %
PET Film	0 %	0 %	0 %	100 %
PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %
TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Paper Can SL-PR-1000mi

Name	EOL Recycling Potential %	EOL Waste to Energy Potential %	EOL Composting Potential %	EOL Landfill Potential %
Paper Can Steel Landfilled, Paper Recycled				
Paper Can Steel Landfilled, Paper Recycled (1 item count)				
Steel Base	0 %	0 %	0 %	100 %
Paper Composite Cylinder	0 %	0 %	0 %	0 %
Recycled Paperboard	100 %	0 %	0 %	0 %
Kraft Paper	100 %	0 %	0 %	0 %
Aluminum Foil	0 %	0 %	0 %	100 %
HDPE Film	0 %	0 %	0 %	100 %
PET Film	0 %	0 %	0 %	100 %
PVA Adhesive	3 %	19 %	0 %	78 %
SP (1 PPs per)				
Item 2	0 %	0 %	0 %	0 %

TP (1 SPs per)				
Item 3	0 %	0 %	0 %	0 %

Material Utilization Details

This section is used to determine the total quantities of various materials within the BOM. The total mass per packaging or product system is added up as well as the total mass of all of the packaging or product systems in this comparison. The equivalency comparison considers different pallet efficiencies and calculates the total mass of packaging or product that is being considered in the analysis.

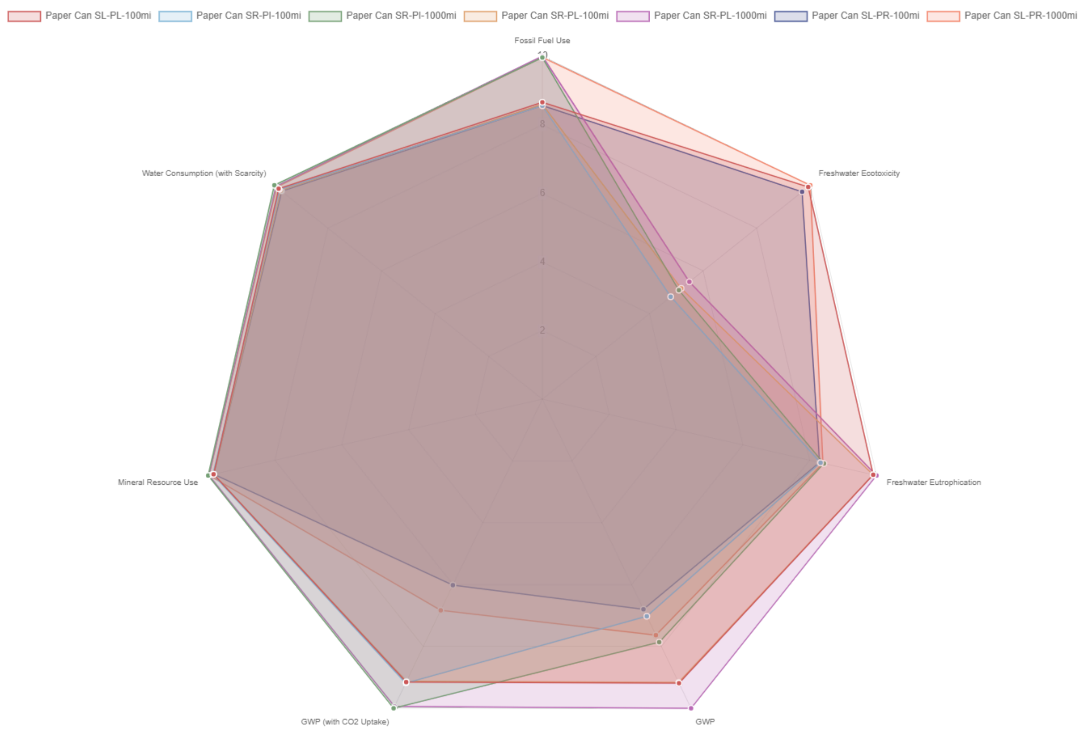
Material	**PCR %**	**Paper Can PL-100mi**	**SL-Paper Can PI-100mi**	**SR-Paper Can PI-1000mi**	**SR-Paper Can PL-100mi**	**SR-Paper Can PL-1000mi**	**SR-Paper Can PR-100mi**	**SL-Paper Can PR-1000mi**	**SL-**
Steel	10 %	25.23 ton	25.23 ton	25.23 ton	25.23 ton	25.23 ton	25.23 ton	25.23 ton	
Unbleached Kraft Paper	90 %	27.1 ton	27.1 ton	27.1 ton	27.1 ton	27.1 ton	27.1 ton	27.1 ton	
Unbleached Kraft Paper	0 %	3.9 ton	3.9 ton	3.9 ton	3.9 ton	3.9 ton	3.9 ton	3.9 ton	
Aluminum	0 %	400 kg	400 kg	400 kg	400 kg	400 kg	400 kg	400 kg	
High-Density Polyethylene (HDPE)	0 %	500 kg	500 kg	500 kg	500 kg	500 kg	500 kg	500 kg	
Polyethylene Terephthalate (PET)	0 %	800 kg	800 kg	800 kg	800 kg	800 kg	800 kg	800 kg	
Polyvinyl Acetate (PVA)	0 %	300 kg	300 kg	300 kg	300 kg	300 kg	300 kg	300 kg	
Total		58.23 ton	58.23 ton	58.23 ton	58.23 ton	58.23 ton	58.23 ton	58.23 ton	

EcoScore Module

This section provides a bigger picture sustainability analysis comparing various products/packages and where they fall on the chart. This allows you to visualize how these differing products are aligning with your companyâ€™s sustainability goals.

Overview

Normalized values rank each BOM's attribute to a 0-10 scale. A lower score is better.



Attribute Name	Paper Can SL-PL-100mi (Reference BOM)	Paper Can SR-PI-100mi	Paper Can SR-PI-1000mi	Paper Can SR-PL-100mi	Paper Can SR-PL-1000mi	Paper Can SL-PR-100mi	Paper Can SL-PR-1000mi
	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Fossil Fuel Use (GJ deprived)	1,176.17 **Ref.**	1,162.46 **-1.17%**	1,353.3 **+15.06%**	1,168.22 **-0.6764%**	1,359.06 **+15.55%**	1,163.35 **-1.09%**	1,354.19 **+15.14%**
Freshwater Ecotoxicity (CTUe)	63,627,964.16 **Ref.**	30,721,231.87 **-51.72%**	32,685,872.31 **-48.63%**	33,229,157.13 **-47.78%**	35,193,797.58 **-44.69%**	62,172,423.2 **-2.29%**	64,137,063.65 **+0.8001%**
Freshwater Eutrophication (kg PO4 eq.)	3.64 **Ref.**	3.06 **-15.93%**	3.09 **-14.91%**	3.63 **-0.0309%**	3.67 **+0.9841%**	3.05 **-16.22%**	3.08 **-15.21%**

GWP (ton CO2 eq.)	137.36 **Ref.**	104.98 **-23.57%**	117.48 **-14.47%**
136.98 **-0.2735%**	149.49 **+8.83%**	101.62 **-26.02%**	114.12 **-16.92%**
GWP (with CO2 Uptake) (ton CO2 eq.)	140.46 **Ref.**	140.96 **+0.3512%**	153.46 **+9.25%**
140.09 **-0.2687%**	152.59 **+8.63%**	92.34 **-34.26%**	104.84 **-25.36%**
Mineral Resource Use (ton deprived)	18.73 **Ref.**	18.77 **+0.1937%**	19.04 **+1.64%**
18.72 **-0.0505%**	18.99 **+1.39%**	18.72 **-0.0632%**	18.99 **+1.38%**
Water Consumption (with Scarcity) (m3 world-eq)	32,923.32 **Ref.**	32,823.18 **-0.3042%**	33,458.78 **+1.63%**
32,638.51 **-0.8651%**	33,274.12 **+1.07%**	32,542.01 **-1.16%**	33,177.61 **+0.7724%**

Notes

Packaged Product Shelf Life	Packaged Product Shelf Life value taken from Primary Package

Appendix of Sustainable Packaging Attributes that can be used in SCORE

Bio-Renewable Content	Refers to the percentage of bio-based content contained in the Material. This percentage can vary from 0% to 100%. Not all materials will have bio-based content. Primarily paper and plastics will have this content.
Certified Content	Refers to Material sources that have been certified by third party certification programs deemed relevant by the COMPASS user. The definition of 'Certified' varies by user. A wide range of certification programs exist, and COMPASS does not provide guidance on which of these programs may be relevant to users' decision-making. Prior to data input, users are encouraged to create a list of which certification programs they support, and then use this list as the basis for data entry. For example, forest product certification programs that may be of interest to users include the Forest Stewardship Council (FSC), Pan European Forest Council (PEFC) or Sustainable Forestry Initiative (SFI). The percent certified range is between 0% to 100%. Note: %CERTIFIED is a user specified attribute and does not impact the life cycle impact assessment of a package or packaging system or product.
Chain of Custody Known	The linked set of organizations, from point of harvest or extraction to point of purchase, that have held legal ownership or physical control of raw materials or recycled materials, used in packaging constituents, packaging components, or packaging systems. EcoImpact asks how much of the Chain of Custody is known for the component. A complete chain of custody is measured by a value of 100%. This means that each party in the supply chain is under contractual obligation and is able to disclose proof of their material source(s) through purchasing agreements, inventory records, etc.
Damage Rate	Damage rate measures the frequency a component is damaged during transportation, with the goal of transporting the product to its destination. Damage rate is entered on each component and is rolled up at each package and at the packaging system level or product level.
EOL Waste Potential	This is the potential for the package/product to be either landfilled, incinerated or composted at end of life based on the current municipal waste infrastructure in the selected region.
EPR Fees	EPR Fees are calculated for manufacturers based on a cost per kg of material produced. EcoImpact calculates the total cost for Packages and Packaging Systems or Product based on entered in cost per kg of material.
Fossil Fuel Use	This indicator considers the total quantity of fossil fuel consumed throughout the life cycle reported in megajoules (MJ) equivalents deprived/kg dissipated, which is based on an extraction-consumption-competition-adaptation approach. This indicator uses the Impact World+ method, uses the primary energy content, and assumes fossil resources mainly used for energy purposes. Fossil fuels include coal, petroleum, and natural gas.
Freshwater Ecotoxicity	This indicator is a measure of the ecotoxicity impact of chemical releases to air, water, and land using aquatic toxicity factors and is calculated using the Impact World+ midpoint indicator with exclusion of long-term emissions. Impact World+ uses and adapts USEtox, a scientific consensus model, to calculate characterization factors for freshwater ecotoxicity. This indicator is reported in comparative toxic units (CTUe) per unit mass of chemical emitted. CTUe corresponds to the potentially affected fraction (PAF) of the species exposed in the ecosystem for a given time and water volume per unit mass of a chemical emitted.
Freshwater Eutrophication	Eutrophication is the abnormal increase in chemical nutrients that causes excessive plant/algal growth and decay resulting in an anoxic condition in freshwater systems, the major consequence being algal blooms. For freshwater systems, phosphorus is considered the limiting nutrient for eutrophication. Typically, these are emissions of phosphorus compounds released during the production of materials. For this indicator, the increase in phosphorus mass per kg discharged to freshwater is calculated with Impact World+ characterization factors, which uses the model from Helmes et al. (2012). Advection, retention, and water use are considered when looking at the fate of phosphorus in freshwater. This indicator is reported in phosphate (PO_4) equivalents.
GWP	Global Warming Potential (GWP) considers the total quantity of greenhouse gasses (GHG) emitted throughout the life cycle reported in kilograms of CO_2 equivalents. This calculation follows the IPCC Sixth Assessment Report (AR6) 2021 100a w/o CO_2 Uptake method and considers climate feedback loops. It considers global warming potential for a 100-year timeframe.
GWP (with CO_2 Uptake)	Global Warming Potential (GWP) with CO_2 uptake considers the total quantity of greenhouse gasses (GHG) emitted throughout the life cycle reported in kilograms of CO_2 equivalents. This calculation follows the IPCC Sixth Assessment Report (AR6) 2021 100a w/ CO_2 Uptake method. It considers global warming potential for a 100-year timeframe. This indicator also accounts for carbon sequestration and biogenic carbon emissions.
Material Scrap Rate	Percentage of material scrap of a manufacturing process. Default percentages are pulled from industry average processes. This value can be edited to reflect improved efficiency or yield of manufacturing process. Changing this value affects the LCA of material, manufacturing, and inbound transportation impact. Only available for components with one manufacturing process per material.

Mineral Resource Use	This indicator is expressed in kg of deprived resource/kg of dissipated resource, uses the material competition scarcity index (MACSI) from de Bruille (2014) as a midpoint indicator, and is pulled from Impact World+. The factor represents the fraction of material needed by future users that are not able to find a reliable substitute for the mineral. The MACSI varies from 0% to 100%, with the higher numbers corresponding to more competition among users and takes into account the amount of material remaining, the rate of resource dissipation, and the rate of user adaptation. The MACSI essentially relates to the fraction of a given material’s users that will not be able to adapt to depletion of the material by using another resource.
Packaged Product Shelf Life	The ratio of a productâ€™s shelf life in packaging to a productâ€™s shelf life without packaging. Measure the length of time a product in packaging is suitable for sale compared to a product not in packaging. Compare only same product types in same packaging types. This metric does not apply to products which do not have a clearly defined shelf life. Do not take and compare measures of different types of products in the same types of packaging or of same types of products in different types of packaging.
Packaging Recovery Rate	The mass fraction or absolute mass of packaging recovered from all sources (commercial and residential) based on relevant waste management statistics. Determine if packaging conforms to the criteria for recoverability as per the relevant standards above. Include disclosure of material aspects of the package/product that would preclude recovery, e.g. color, material combinations, or coatings. If criteria are fulfilled, express total recovery rate as % of total packaging weight put on the market that is effectively recovered and provide the breakdown per practiced recovery option. Material Recycling: measure each type of packaging produced and/or used for which national waste management recycling rates exist. Note that depending upon the packaging (type, shape, size, color) true recycling rates might not coincide with national recycling rates for specific material or packaging category. Composting: measure each type of packaging produced and/or used for which national waste management industrial composting rates exist. Note that in many regions the rate of composted organic waste may not coincide with the rate of composted packaging waste due to lack of acceptance. Energy Recovery: If packaging is deemed to have energy recovery value and appropriate infrastructure exists, use national waste management statistics. If data is available, measure by material type. Packaging going to final disposal and nonrecovered littering is implicitly calculated from the recovery rate and does not need to be measured separately.
Packaging Reuse Rate	The number of times packaging accomplishes the same use, rotation, or trip for which it was conceived and designed within its life cycle. Determine if packaging conforms to definition of reusability per EN 13429 and ISO/CD 18603. If packaging is deemed reusable per referenced standards and guidelines, include all reused packaging components or packaging units. This metric can be used for primary, secondary, and tertiary packaging. In cases where several packaging levels are being reused, their individual rates should be reported separately and not be cumulated.
Packaging To Product Weight	Packaging to Product Weight Ratio: The ratio of the weight of all packaging material used compared to the weight of the product or functional unit delivered. This is automatically calculated in EcoImpact.
Post Consumer Recycled Content (PCR)	This is the percentage of post-consumer recycled content contained in the Material as defined by ISO 14021. % PCR for materials usually range between 0% to 100%. PCR is not available for all materials.
Post Industrial Recycled Content (PIR)	Post Industrial waste in the form of scrap, rejects etc that is collected from industries and used as recycled content in a new product/package.
Primary Package Cube Efficiency	Ratio of Product volume and Primary package volume. This shows how much empty or head space is there in the primary package. A higher % denotes more efficient use of the Primary package volume and reduced empty space.
Primary Package MCI (0-1)	This is the material circularity index calculated for the primary package.
Primary Package Recyclable SCORE (0-5)	0 - Contaminant: Contaminates the recycling stream 1 - Not Accepted: Not accepted by recycling plants 2 - Little: Very little acceptance but is trending towards becoming more acceptable 3 - Limited: Has a limited acceptance 4 - Becoming Widely: In process of being widely accepted 5 - Widely Accepted
Secondary Package Cube Efficiency	Ratio of total Product Volume in secondary package and Secondary package volume. This shows how much of the secondary package volume is occupied by the product. A higher % denotes more efficient use of Secondary package and reduced empty space.
Secondary Package Recyclable SCORE (0-5)	0 - Contaminant: Contaminates the recycling stream 1 - Not Accepted: Not accepted by recycling plants 2 -Little: Very little acceptance but is trending towards becoming more acceptable 3 - Limited: Has a limited acceptance 4 - Becoming Widely: In process of being widely accepted 5 - Widely Accepted
Single Use Plastic	Single Use Plastic
Tertiary Package Cube Efficiency	Ratio of total Product Volume on Pallet and Pallet Volume. This shows how much of the tertiary package volume is

	occupied by the product. A higher % denotes more efficient palletization and reduced empty space.
Total Cost of Packaging	The total cost of all materials, energy, equipment and direct labor used during the sourcing of raw, recycled and reused materials and the production, filling, transport and/or disposal of packaging materials, packaging components or units of packaging.
Water Consumption (with Scarcity)	This indicator considers the relative available water remaining per area in a watershed after the demand of humans, aquatic ecosystems, and manufacturing process has been met, compared to the world average. The AWARE method is used to calculate the water scarcity footprint, which looks at the potential to deprive another freshwater user by consuming freshwater in a given region. The water scarcity footprint is the water consumption inventory multiplied by a characterization factor, which is based on the availability and demand of freshwater in a given region. The characterization factors have a range of 0.1 to 100, with higher numbers associated with more water-scarce regions, and are dimensionless (m3 world eq./m3). The water scarcity footprint results are typically reported in m3 world-eq. but may be reported in liters world-eq. if there is a small quantity of water being considered in the analysis by EcoImpact-COMPASS.
Weight Reduction	Packaging weight reduction can be calculated as the difference between the immediate, previous, and present packaging design. For environmental relevance, packaging weight reduction should be communicated by material category. Sometimes when package/products are light-weighted, this can require other parts of the packaging system (e.g. secondary packaging) to increase in weight to protect a thinner, more fragile part of the package/product. These weight increases and reductions should be clearly communicated, considered, and quantified.