



Functional Unit



Scenario name	Alpha Arden
Product	Pen
Quantity	1 unit
Component 1	Tip CAS: 25038-59-9
Component 2	Dead weight CAS: 7439-89-6
Component 3	Clip
Component 4	Connection parts CAS: 25038-59-9
Component 5	Ink
Component 6	Skew top CAS: 25038-59-9
Component 7	Clip holder CAS: 25038-59-9
Component 8	Plunger&barrel CAS: 7429-90-5
Component 9	Mechanical part CAS: 9002-81-7
Component 10	Top ring CAS: 25038-59-9
Component 11	Stylus
Component 12	Refill spring
Scope	Cradle - Gate

Total Results

	 GHG (kg Co2-eq)	 Water Use (m3 world eq. deprived)	 Land Use (points)
Total	0.8495	0.1085	1.5160

Main Environmental Indicators

Results for Alpha Arden



GHG

Kg Co2-eq

The increase in the average global temperatures for 100 years as result of greenhouse gas (GHG) emissions. The greatest contributor is generally the combustion of fossil fuels such as coal, oil, and natural gas. Divided into 3 subcategories based on the emission source: (1) fossil resources, (2) bio-based resources, and (3) land use change.

Results	0.8495	Kg of Co2-eq
Benchmark	0.9013	Kg of Co2-eq
Savings	5.7%	
Avoided	0.05	Kg of Co2-eq



Equivalent to **0.4 Km** driven by an average private car



Water Use

m3 world eq.
deprived

The withdrawal of water from lakes, rivers or groundwater can contribute to the 'depletion' of available water. The impact category considers the availability or scarcity of water in the regions where the activity takes place, if this information is known.

Results	0.11	m3 world eq. deprived
Benchmark	0.12	m3 world eq. deprived
Savings	6.0%	
Avoided	0.01	m3 world eq. deprived



Land Use

Points

Use and transformation of land for agriculture, roads, housing, mining or other purposes. The impacts can vary and include loss of species, of the organic matter content of soil, or loss of the soil itself (erosion). This is a composite indicator measuring impacts on four soil properties (biotic production, erosion resistance, groundwater regeneration and mechanical filtration).

Results	1.52	Points
Benchmark	1.61	Points
Savings	5.8%	
Avoided	0.09	Points

Additional Environmental Indicators

For Alpha Arden

Category	Unit	Results	Benchmark	Diff %
Acidification	mol H+-Eq	0.004875495	0.0051377801	5.11%
Ecotoxicity, freshwater	CTUE	3.609811302	4.091232152	11.77%
Eutrophication, freshwater	kg P-Eq	0.0002028279	0.0002165116	6.32%
Eutrophication, marine	KG N-EQ	0.0009641023	0.0010313602	6.52%
Eutrophication, terrestrial	MOL N-EQ	0.0099179519	0.0105169311	5.70%
Human toxicity, cancer	CTUH	0.0000000028	0.0000000029	3.45%
Human toxicity, non-cancer	CTUH	0.0000000076	0.0000000079	3.80%
Ionizing radiation, human health	kBq U235-Eq	0.0801206765	0.0855111559	6.30%
Land use	Points	1.515995724	1.608650915	5.76%
Ozone depletion	kg CFC-11-Eq	0.00000001	0.0000000101	0.99%
Particulate matter	Disease incidence	0.0000000581	0.0000000617	5.83%
Photochemical ozone formation, human health	kg NMVOC-Eq	0.0027795164	0.0029423698	5.53%
Resource use, fossils	MJ, net calorific value	9.233323114	9.801884406	5.80%
Resource use, minerals and metals	kg Sb-Eq	0.0000006703	0.0000007094	5.51%
Water use	m3 world eq. deprived	0.1085151667	0.115369023	5.94%