



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Bathroom Furniture

EPD HUB, EPD number HUB-4979

Published on 22.01.2026

Last updated on 09.07.2026

Valid until 21.01.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.



Created with One Click LCA

Royo®



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Royo
Address	Street Rio Vinalopó, 69 46930 Quart de Poblet (Valencia) Spain
Contact details	info@royogroup.com
Website	www.royogroup.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Sílvia Guillem (Sustainability Department, Roca Group)
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Yazan Badour, as authorized verifier acting for EPD HUB Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Bathroom Furniture
Additional labels	-
Product reference	-
Place(s) of raw material origin	Spain, Poland
Place of production	Spain, Poland
Place(s) of installation and use	Europe
Period for data	Calendar Year 2024
Averaging in EPD	Multiple products and multiple factories
Variation in GWP-fossil for A1-A3 (%)	+2,5
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	10,5

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of furniture
Declared unit mass	1 kg
Mass of packaging	0,224 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,2
GWP-total, A1-A3 (kgCO ₂ e)	-0,17
Secondary material, inputs (%)	16,2
Secondary material, outputs (%)	45,3
Total energy use, A1-A3 (kWh)	5,23
Net freshwater use, A1-A3 (m ³)	0,02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Royo is dedicated to designing and producing bathroom furniture, guided by a deep commitment to quality, design, innovation, sustainability, and service.

Royo is part of Roca Group, a family-owned global enterprise driven by the Purpose of contributing to the well-being of society by delivering solutions that enhance everyday spaces, while caring for People and the Planet, and fostering Prosperity. Its commitment to sustainable development is deeply rooted in the organization—both as a strategic priority and through concrete actions. It is reflected in initiatives that translate this ambition into measurable improvements, ensuring that its day-to-day operations consistently contribute to a more positive and lasting impact.

Further information can be found at www.royogroup.com and www.rocagroup.com

PRODUCT DESCRIPTION

This EPD covers furniture products. These products are mainly made of wood-based panels. Lateral and front panels are machined and coated. Final assembly process brings single highly customized piece of furniture. To calculate the environmental impact, a representative average product based on the total volume manufactured in 2024 has been considered.

Further information can be found at:
www.royogroup.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	9,45	EUROPE
Minerals	0	EUROPE
Fossil materials	5,52	EUROPE
Bio-based materials	85,03	EUROPE

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,322
Biogenic carbon content in packaging, kg C	0,054

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of furniture
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	ND	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Not declared = ND.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.

This EPD includes furniture products. These products are made of a mixture of bio-based materials (particle board) , fossil materials (ABS and PVC) and metals (zamack and steel) being particle board the main component. Lateral and front panels are machined and coated then assembly process is carried out.

The manufacturing process requires electricity for the different equipment. The finished product is packaged and sent to the warehouse. Transport from suppliers is calculated according to the corresponding sales volumes.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

TRANSPORT AND INSTALLATION (A4-A5)

Module not declared.

PRODUCT USE AND MAINTENANCE (B1-B7)

Module not declared.

PRODUCT END OF LIFE (C1-C4, D)

Furniture is easy to disassemble manually. Energy consumption and natural resources of the disassembling end-of-life product and the impacts of demolition process are assumed to be zero due to the negligible consumptions (C1).

Concerning the end-of-life product, it is assumed to be sent to the closest waste disposal facility by lorry, estimated to be 50km away (C2). The product is suitable for reuse and recycling.

The benefits and loads of recycling of the product and packaging waste are included in Module D.

SYSTEM DIAGRAM



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation, and end-of-life management are included. Further, water used for cleaning, as well as production, transportation and waste streams of the packaging materials used for delivering the raw materials to the factory are omitted since the quantified mass contribution is less than 0.1%. The production of capital equipment, construction activities, and infrastructure, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage.

The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	No allocation

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products and multiple factories
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	+2,5

Primary data represents the manufacturers manufacturing sites of Quart de Poblet (Spain) and Sztum (Poland) . The data was used to calculate average

impacts for the product. The primary data was averaged by calculating a weighted average of the sites consumption of raw materials and energy, and production of wastes. The share of production volume per each site was used in the weighting. GWP Variation is caused by different share of product types produced and share of electricity consumed per manufacturing site

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	-2,34E-01	3,40E-02	3,39E-02	-1,66E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-02	1,88E+00	7,02E-01	-7,04E-01
GWP – fossil	kg CO ₂ e	9,40E-01	3,40E-02	2,24E-01	1,20E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-02	8,35E-02	4,75E-03	-5,73E-01
GWP – biogenic	kg CO ₂ e	-1,18E+00	6,55E-06	-1,96E-01	-1,37E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,59E-06	1,79E+00	6,97E-01	-1,30E-01
GWP – LULUC	kg CO ₂ e	1,98E-03	1,25E-05	5,93E-03	7,92E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,57E-06	1,78E-05	2,12E-06	-1,35E-04
Ozone depletion pot.	kg CFC ₋₁₁ e	2,27E-08	6,52E-10	5,68E-09	2,90E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,99E-10	2,22E-10	7,87E-11	-9,16E-09
Acidification potential	mol H ⁺ e	5,07E-03	1,08E-04	1,11E-03	6,28E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,61E-05	1,43E-04	2,29E-05	-3,31E-03
EP-freshwater ²⁾	kg Pe	6,22E-03	2,31E-06	8,48E-05	6,31E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,50E-06	7,42E-06	2,26E-06	-3,15E-04
EP-marine	kg Ne	1,12E-03	3,63E-05	4,00E-04	1,56E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,17E-05	6,17E-05	1,13E-04	-7,04E-04
EP-terrestrial	mol Ne	1,24E-02	3,95E-04	3,20E-03	1,60E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,37E-04	5,82E-04	9,12E-05	-7,26E-03
POCP (“smog”) ³⁾	kg NMVOCe	4,49E-03	1,69E-04	1,04E-03	5,70E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,73E-05	1,55E-04	3,98E-05	-2,35E-03
ADP-minerals & metals ⁴⁾	kg Sbe	2,16E-05	1,07E-07	9,29E-07	2,27E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,71E-08	2,08E-07	6,92E-09	-1,16E-05
ADP-fossil resources	MJ	1,62E+01	4,81E-01	5,05E+00	2,17E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,83E-01	1,92E-01	6,80E-02	-7,97E+00
Water use ⁵⁾	m ³ e depr.	4,84E-01	2,38E-03	1,33E-01	6,20E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,38E-03	2,92E-02	3,61E-04	-1,27E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	7,68E-08	2,86E-09	1,05E-08	9,02E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,86E-09	1,60E-09	4,93E-10	-5,20E-08
Ionizing radiation ⁶⁾	kBq I1235e	1,23E-01	5,81E-04	1,10E-01	2,34E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,56E-04	1,68E-03	7,49E-05	-8,31E-02
Ecotoxicity (freshwater)	CTUe	5,51E+00	6,30E-02	4,04E+01	4,59E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,03E-02	5,30E-01	1,40E-01	-1,66E+00
Human toxicity, cancer	CTUh	7,09E-09	5,74E-12	2,36E-10	7,33E-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,26E-12	2,38E-11	1,17E-12	-4,33E-10
Human tox. non-cancer	CTUh	1,66E-08	3,05E-10	1,69E-09	1,86E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,82E-10	1,28E-09	1,36E-10	-9,90E-09
SQP ⁷⁾	-	3,46E+01	3,41E-01	1,94E+01	5,43E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,57E-01	1,25E-01	1,56E-01	-1,68E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	-2,29E+00	8,00E-03	1,25E+00	-1,03E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,98E-03	-9,81E+00	-4,26E+00	-2,51E+00
Renew. PER as material	MJ	9,64E+00	0,00E+00	3,12E+00	1,28E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-9,68E+00	-3,08E+00	2,10E+00
Total use of renew. PER	MJ	7,35E+00	8,00E-03	4,37E+00	1,17E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,98E-03	-1,95E+01	-7,33E+00	-4,09E-01
Non-re. PER as energy	MJ	1,35E+01	4,81E-01	4,71E+00	1,87E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,83E-01	-1,31E+00	-4,97E-01	-8,16E+00
Non-re. PER as material	MJ	2,76E+00	0,00E+00	1,38E-01	2,90E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,14E+00	-7,60E-01	1,08E+00
Total use of non-re. PER	MJ	1,63E+01	4,81E-01	4,85E+00	2,16E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,83E-01	-3,45E+00	-1,26E+00	-7,08E+00
Secondary materials	kg	1,62E-01	2,16E-04	1,18E-01	2,81E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,22E-04	3,24E-04	2,44E-05	1,34E-01
Renew. secondary fuels	MJ	1,10E+00	2,74E-06	6,68E-02	1,17E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,55E-06	3,97E-06	4,55E-07	-1,22E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,58E-02	6,65E-05	3,03E-03	1,89E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,08E-05	4,00E-04	-9,85E-04	-4,30E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	4,73E-01	7,09E-04	1,31E-02	4,87E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,73E-04	6,87E-03	1,23E-04	-4,25E-01
Non-hazardous waste	kg	2,33E+00	1,46E-02	3,13E-01	2,66E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,88E-03	5,46E-01	1,33E+00	-1,85E+00
Radioactive waste	kg	2,56E-05	1,44E-07	2,62E-05	5,20E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,28E-08	4,29E-07	1,83E-08	-2,11E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	4,53E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,27E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,74E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	9,34E-01	3,37E-02	2,34E-01	1,20E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,95E-02	8,42E-02	2,90E-02	-5,70E-01
Ozone depletion Pot.	kg CFC ₁₁ e	2,05E-08	5,19E-10	4,61E-09	2,56E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,38E-10	1,89E-10	6,29E-11	-8,46E-09
Acidification	kg SO ₂ e	4,15E-03	8,21E-05	8,47E-04	5,08E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,05E-05	1,05E-04	1,70E-05	-2,70E-03
Eutrophication	kg PO ₄ ³ e	2,79E-02	2,07E-05	1,69E-03	2,96E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,24E-05	3,14E-05	2,68E-05	-4,08E-04
POCP (“smog”)	kg C ₂ H ₄ e	3,99E-04	7,73E-06	9,47E-05	5,02E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,53E-06	8,32E-06	6,83E-06	-1,91E-04
ADP-elements	kg Sbe	1,99E-05	1,04E-07	9,18E-07	2,09E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,57E-08	2,01E-07	6,72E-09	-1,16E-05
ADP-fossil	MJ	1,46E+01	4,71E-01	3,18E+00	1,83E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,78E-01	1,63E-01	6,68E-02	-6,56E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	9,42E-01	3,40E-02	2,30E-01	1,21E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-02	8,35E-02	4,75E-03	-5,74E-01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO₂ is set to zero.

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	9,22E-01	3,34E-02	2,31E-01	1,19E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,94E-02	8,43E-02	2,62E-02	-5,65E-01
Ozone Depletion	kg CFC ₁₁ e	2,42E-08	6,87E-10	5,92E-09	3,08E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,15E-10	2,34E-10	8,30E-11	-9,82E-09
Acidification	kg SO ₂ e	2,19E-02	9,56E-05	9,16E-04	2,29E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,87E-05	1,29E-04	2,08E-05	-2,80E-03
Eutrophication	kg Ne	1,03E-02	1,03E-05	8,36E-04	1,11E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,21E-06	3,89E-05	5,12E-05	-4,30E-04
POCP (“smog”)	kg O ₃ e	8,27E-02	2,52E-03	1,62E-02	1,02E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,50E-03	3,35E-03	5,56E-04	-4,09E-02
ADP-fossil	MJ	1,14E+01	4,81E-01	2,78E+00	1,46E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,83E-01	-1,31E+00	-4,97E-01	-8,20E+00

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Market for electricity, medium voltage, Spain, Ecoinvent, 0.20 kgCO₂e/kWh
2. Market for diesel, Albania, Ecoinvent, 0.93 kgCO₂e/kg
3. Market for petrol, 5% ethanol by volume from biomass, World, Ecoinvent, 1.09 kgCO₂e/kg
4. Heat and power co-generation, biogas, gas engine, World, Ecoinvent, 0.15 kgCO₂e/kWh

End-of-life scenario documentation - C1-C4 (Data source)

1. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.09 kg
2. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.0047 kg
3. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0031 kg
4. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.01 kg
5. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 2.2E-4 kg
6. Exported Energy: Electricity, Ecoinvent, 0.013 MJ
7. Exported Energy: Electricity, Ecoinvent, 0.018 MJ
8. Exported Energy: Electricity, Ecoinvent, 0.12 MJ
9. Exported Energy: Electricity, Ecoinvent, 1.0396 MJ
10. Exported Energy: Thermal, Ecoinvent, 0.018 MJ
11. Exported Energy: Thermal, Ecoinvent, 0.026 MJ
12. Exported Energy: Thermal, Ecoinvent, 0.16 MJ
13. Exported Energy: Thermal, Ecoinvent, 1.43 MJ
14. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.0023 kg
15. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.012 kg
16. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 1.3E-4 kg

17. Treatment of waste polyvinylchloride, municipal incineration, Ecoinvent, 0.0037 kg
18. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.094 kg
19. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.0091 kg
20. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.01 kg
21. Treatment of waste polypropylene, municipal incineration, Ecoinvent, 0.022 kg
22. Wood chipping, industrial residual wood, stationary electric chipper, Ecoinvent, Materials for recycling, 0.22 kg
23. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.43 kg
24. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.033 kg
25. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.2 kg
26. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.042 kg
27. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.035 kg
28. Exported Energy: Electricity, Ecoinvent, 0.074 MJ
29. Exported Energy: Electricity, Ecoinvent, 0.0014 MJ
30. Exported Energy: Thermal, Ecoinvent, 0.1 MJ
31. Exported Energy: Thermal, Ecoinvent, 0.0019 MJ
32. Treatment of waste polyethylene, municipal incineration, Ecoinvent, Materials for recycling, 2.0E-4 kg

Scenario information	Value
Scenario assumptions e.g. transportation	To landfill: 50 km To recycling: 150 km for the product and 50 km for the packaging To incineration: 150 km for the product and 50 km for the packaging

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

Yazan Badour, as authorized verifier acting for EPD HUB Limited 22.01.2026

