ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

PVC-U pipes with compact wall
TeraPlast

EPD HUB, HUB-6158
Published on 02.05.2026, last updated on 02.05.2026, valid until 02.05.2031

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	TeraPlast
Address	Calea Teraplast nr. 1 Sat Sărățel, Comuna Șieu-Măgheruș 427301 Bistrița-Năsăud Romania
Contact details	office@teraplast.ro
Website	https://www.teraplast.ro/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025, EN 16903:2025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4 and D
EPD author	Maricica Pop & LCA Institut
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Yazan Badour as an authorized verifier for EPD Hub

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	PVC-U pipes with compact wall
Additional labels	-
Product reference	-
Place(s) of raw material origin	Europe
Place of production	Sărățel, Romania
Place(s) of installation and use	Europe
Period for data	01.12.2024 - 01.12.2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
A1-A3 Specific data (%)	100

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
Mass of packaging	0.0375 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	2,14
GWP-total, A1-A3 ($kgCO_2e$)	2,11
Secondary material, inputs (%)	0,42
Secondary material, outputs (%)	75
Total energy use, A1-A3 (kWh)	4
Net freshwater use, A1-A3 (m^3)	0,03

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

TeraPlast Group is the largest polymer processor in South-Eastern Europe, with a total production capacity exceeding 200,000 tons annually. The Group has established itself as a key player in the regional construction and infrastructure materials market, driven by continuous investment in technology, sustainability, and operational efficiency. Its parent company, TeraPlast SA, has been listed on the Bucharest Stock Exchange since July 2, 2008, under the ticker symbol TRP, reflecting its commitment to transparency, corporate governance, and long-term value creation for shareholders.

Over time, TeraPlast Group has evolved into a fully integrated structure that spans the entire value chain. Its operations include manufacturing, recycling, distribution, and specialized services, supported by a diversified portfolio of companies. This integrated model enables the Group to maintain strong control over product quality, optimize costs, and respond efficiently to market demands across multiple European markets.

TeraPlast SA, the core entity of the Group, is a leading Romanian manufacturer of complete installation solutions for clean water and wastewater management, natural gas distribution, and cable protection infrastructure. Constant technological upgrades allow TeraPlast SA to produce a comprehensive range of products tailored to diverse applications and performance requirements.

Through its focus on innovation, quality, and sustainability, TeraPlast Group continues to consolidate its leadership position in the region while expanding its footprint in European markets.

PRODUCT DESCRIPTION

TeraPlast produces PVC-U pipes with solid walls in accordance with SR EN1401-1 for gravitational drainage and sewer systems and buried installation. The range of diameters is between 110mm and 500mm with the following ring stiffnesses and SDR's: SN2 (SDR51), SN4 (SDR41), SN8 (SDR34), SN16 (SDR27,6). The color of the pipes is orange RAL8023. Maximum temperature of wastewater transported by PVC-U systems is 60°C. The products are used for gravitational sewage and industrial waste outside buildings (code UD), buried with depths between 0.8 m and 6 m. Sealing is ensured by gaskets made of synthetic rubber (EPDM) with long life, which are mounted in the profiled element of the pipe socket. The pipes are delivered with the gaskets already installed. The pipes are delivered in wooden pallets, fastened with PET tape. Between pipes, Polystyrene cubes are layered for shock absorption during transport. The life expectancy of the pipes is 100 years.

Further information can be found at:
https://www.teraplast.ro/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	100	Europe
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.0147

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg

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	x	x	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.

The environmental impact calculation in the product phase takes into account all raw materials, packaging materials, auxiliary materials, waste, fuels, mineral oils and electricity consumed in all stages of the production process.

In the manufacture of PVC-U pipes, raw materials such as PVC powder, fillers, stabilizers, flow modifiers, lubricants and dyes are used. These raw materials are mixed in special equipment, and the resulting dry-blend is used to produce pipes through the extrusion process. The resulting pipes are packed in pallets, for the production of which PET strips, metal strips and wooden material are used, and the resulting pallets are transported and stored in specially arranged spaces. For the operation of the equipment, lubricating oils, cooling water used in a closed loop and electricity, including that produced by the installed photovoltaic systems, are used. Material losses are reintroduced into the process.

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

TRANSPORT AND INSTALLATION (A4-A5)

Transportation from the factory to the construction site creates environmental impacts and is included in the study. The scenarios applied are based on EN 16903, which assumes an average transport distance of 150 km and a product loss of 2% during installation. The management of waste generated during installation is also modeled according to the assumptions defined in EN 16903. It is assumed that waste is transported 500 km to recycling, 150 km to incineration, and 50 km to landfill. The installation loss is further assumed to follow the same end-of-life distribution scenario as defined for Modules C1–C4 and D.

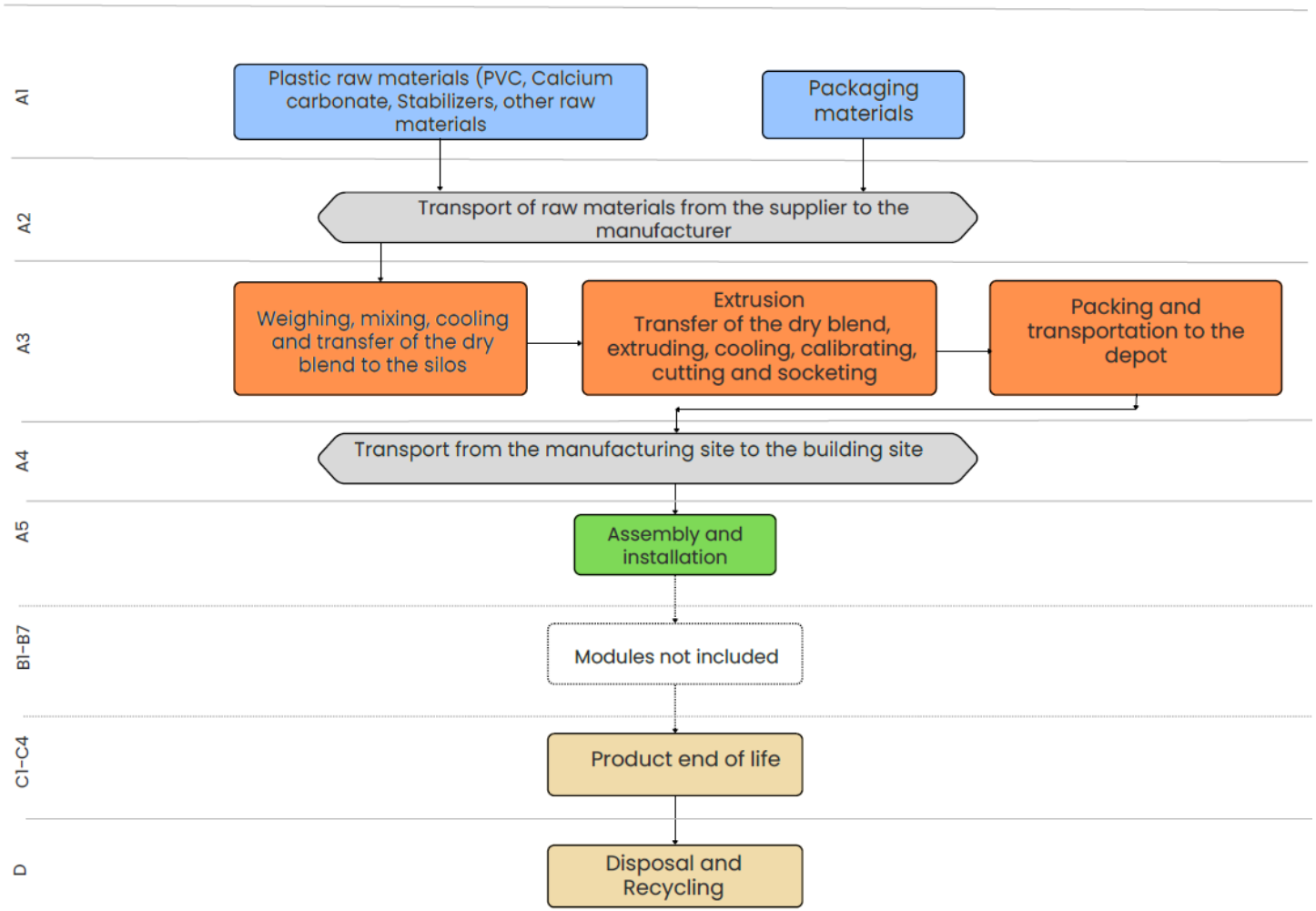
PRODUCT USE AND MAINTENANCE (B1-B7)

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At the end of the product life (C1–C4), damaged pipes or pipe segments are replaced, generating plastic waste that is transported to treatment facilities. It is assumed that waste is transported 500 km to recycling, 150 km to incineration, and 50 km to landfill. In accordance with the EU reference scenario, 33% of the waste is sent for recycling, 42% is treated by incineration with energy recovery, and 25% is assumed to be landfilled.

MANUFACTURING PROCESS



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.

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. An inconsistency between PENRT and ADP-fossil results was identified for the end-of-life modules due to the background datapoint used for waste polyethylene treatment in sanitary landfill. This inconsistency originates from the background database.

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	Allocated by mass
Packaging material	Allocated by mass
Ancillary materials	Allocated by mass
Manufacturing energy and waste	Allocated by mass

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.4. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 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_2e	2,03E+00	1,11E-01	-2,28E-02	2,11E+00	5,00E-02	1,28E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,19E-03	1,36E+00	2,99E-02	-1,25E+00
GWP – fossil	kg CO_2e	2,02E+00	1,11E-01	1,60E-02	2,14E+00	5,00E-02	7,34E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,19E-03	1,36E+00	2,99E-02	-1,25E+00
GWP – biogenic	kg CO_2e	5,77E-03	2,47E-05	-5,20E-02	-4,62E-02	0,00E+00	5,39E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,38E-03
GWP – LULUC	kg CO_2e	2,21E-03	4,94E-05	1,33E-02	1,55E-02	1,88E-05	3,14E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,42E-06	3,38E-05	1,83E-06	-1,09E-03
Ozone depletion pot.	kg CFC-$_{11}$e	9,60E-09	1,65E-09	6,10E-10	1,19E-08	1,01E-09	2,93E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,35E-11	3,23E-10	7,23E-11	-4,09E-08
Acidification potential	mol H^+e	8,13E-03	3,78E-04	8,99E-05	8,59E-03	1,61E-04	1,89E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,32E-05	2,52E-04	1,99E-05	-5,49E-03
EP-freshwater[2)]	kg Pe	2,93E-04	8,61E-06	6,44E-06	3,08E-04	3,37E-06	6,77E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,16E-07	7,29E-06	2,94E-07	-4,28E-04
EP-marine	kg Ne	1,74E-03	1,24E-04	2,46E-05	1,89E-03	5,49E-05	5,08E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,35E-06	1,35E-04	6,62E-05	-9,02E-04
EP-terrestrial	mol Ne	1,80E-02	1,35E-03	2,42E-04	1,96E-02	5,97E-04	4,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,63E-05	1,12E-03	8,11E-05	-9,29E-03
POCP ("smog")[3)]	kg NMVOCe	9,51E-03	5,57E-04	1,01E-04	1,02E-02	2,63E-04	2,27E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,00E-05	2,92E-04	3,52E-05	-5,64E-03
ADP-minerals & metals[4)]	kg Sbe	3,29E-06	3,11E-07	3,31E-07	3,93E-06	1,38E-07	9,09E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,50E-08	2,30E-07	6,30E-09	-6,81E-06
ADP-fossil resources	MJ	8,10E+00	1,61E+00	2,35E-01	9,94E+00	7,24E-01	2,46E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-02	2,92E-01	6,21E-02	-3,24E+01
Water use[5)]	m^3e depr.	2,34E+00	7,95E-03	4,36E-01	2,78E+00	3,71E-03	5,72E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,85E-04	3,77E-02	3,04E-04	-3,10E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterizations 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.

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	3,94E+00	2,22E-02	1,81E+00	5,78E+00	1,18E-02	-4,26E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-03	2,51E-02	9,72E-04	-2,05E+00
Renew. PER as material	MJ	1,31E-02	0,00E+00	4,72E-01	4,85E-01	0,00E+00	-4,72E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-9,81E-03	-3,27E-03	8,20E-02
Total use of renew. PER	MJ	3,96E+00	2,22E-02	2,28E+00	6,26E+00	1,18E-02	-8,98E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,07E-03	1,53E-02	-2,30E-03	-1,97E+00
Non-re. PER as energy	MJ	7,24E+00	1,61E+00	1,83E-01	9,03E+00	7,25E-01	-5,77E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-02	-3,02E+01	-9,73E+00	-3,56E+01
Non-re. PER as material	MJ	8,64E-01	0,00E+00	4,67E-02	9,11E-01	0,00E+00	7,74E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-6,48E-01	-2,16E-01	3,20E+00
Total use of non-re. PER	MJ	8,10E+00	1,61E+00	2,30E-01	9,94E+00	7,25E-01	1,97E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-02	-3,08E+01	-9,94E+00	-3,24E+01
Secondary materials	kg	4,20E-03	6,86E-04	1,89E-03	6,78E-03	3,14E-04	1,83E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,32E-05	1,29E-03	2,25E-05	3,44E-01
Renew. secondary fuels	MJ	1,32E-02	8,71E-06	1,59E-02	2,92E-02	3,96E-06	5,84E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,22E-07	9,80E-06	4,21E-07	-3,22E-05
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	2,25E-02	2,37E-04	1,02E-02	3,29E-02	1,07E-04	6,03E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,17E-05	3,53E-04	-9,24E-04	-8,87E-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	4,14E-02	2,72E-03	1,60E-03	4,57E-02	1,05E-03	1,35E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,32E-04	1,41E-02	1,09E-04	-6,22E-02
Non-hazardous waste	kg	1,56E+00	5,04E-02	1,78E-01	1,79E+00	2,10E-02	1,22E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,44E-03	5,52E-01	1,24E+00	-7,65E+00
Radioactive waste	kg	3,39E-05	3,47E-07	3,54E-07	3,46E-05	2,16E-07	7,17E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,66E-08	4,01E-07	1,51E-08	-4,99E-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	0,00E+00	0,00E+00	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	0,00E+00	1,20E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,30E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	4,20E-01	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,40E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,77E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,90E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,85E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,50E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,92E+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_2e	2,01E+00	1,10E-01	3,11E-02	2,16E+00	4,97E-02	7,44E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,16E-03	1,36E+00	2,86E-02	-1,23E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	7,52E-09	1,32E-09	5,68E-10	9,40E-09	8,01E-10	2,33E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,66E-11	2,72E-10	5,78E-11	-3,30E-08
Acidification	kg SO_2e	6,65E-03	2,88E-04	7,11E-05	7,01E-03	1,22E-04	1,53E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-05	1,82E-04	1,48E-05	-4,61E-03
Eutrophication	kg PO_4^3e	1,69E-03	7,03E-05	4,14E-04	2,17E-03	3,10E-05	4,75E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,51E-06	5,50E-05	9,65E-06	-8,84E-04
POCP (“smog”)	kg C_2H_4e	5,06E-04	2,57E-05	9,04E-06	5,41E-04	1,15E-05	1,22E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,00E-06	1,41E-05	5,54E-06	-3,74E-04
ADP-elements	kg Sbe	3,05E-06	3,03E-07	3,27E-07	3,68E-06	1,35E-07	8,56E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,46E-08	2,21E-07	6,12E-09	-6,72E-06
ADP-fossil	MJ	2,01E+00	1,10E-01	3,11E-02	2,16E+00	4,97E-02	7,44E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,16E-03	1,36E+00	2,86E-02	-1,23E+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_2e	2,02E+00	1,11E-01	2,92E-02	2,16E+00	5,00E-02	7,37E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,19E-03	1,36E+00	2,99E-02	-1,25E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterizations 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 characterizations factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity, Romania, residual mix, 2024, Romania, One Click LCA, 0.30 kgCO2e/kWh
2. Electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted, Romania, Ecoinvent, 0.0883 kgCO2e/kWh
3. Market for diesel, Romania, Ecoinvent, 0.87 kgCO2e/kg

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry 16-32 metric ton, EURO5, 450 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	5,19E-04
Volume capacity utilization factor	1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	-
Water use (m^3)	-
Ancillary materials: type and mass (kg)	-
Waste materials: type and mass (kg)	0.02 kg of plastic pipes & 0.0375 kg of wooden pallets.
Waste materials: output routes	For plastic pipes: 0.0067 kg recycling, 0.0084 kg incineration with energy recovery & 0.005 kg landfilled. For wooden pallets: 0.012 kg recycled, 0.01125 kg incinerated & 0.01425 kg landfilled.
Direct emissions (kg)	-

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	-
Collection process: Mixed waste (kg)	-
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0,33
Recovery: energy recovery (kg)	0,42
Disposal (kg)	0,25
Scenario assumptions e.g. transportation (mode, km) & other	It is assumed that waste is transported 500 km to recycling, 150 km to incineration, and 50 km to landfill

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 an authorized verifier for EPD Hub Limited 02.05.2026

VERIFIED ISO 14025