

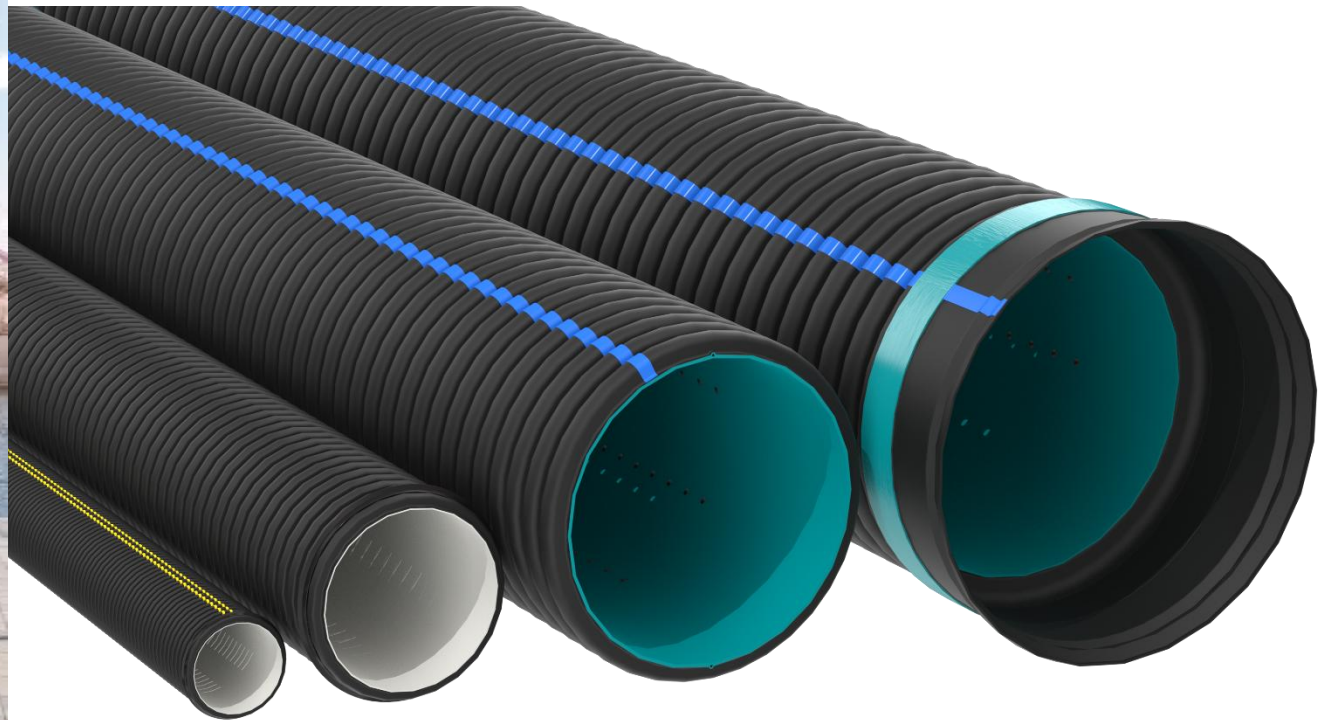


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EVODRAIN HARD PP (big dimensions)

Evopipes SIA



EPD HUB, EPD number HUB-4895

Published on 20.01.2026, last updated on 20.01.2026, valid until 19.01.2031

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



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Evopipes SIA
Address	Langervaldes street 2a, Jelgava, Latvia, LV-3002
Contact details	info@evopipes.lv
Website	www.evopipes.lv

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 options, A4-A5, and modules C1-C4, D
EPD author	Inese Meldere, Alise Dude; Evopipes SIA
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Sarah Curpen, 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	EVODRAIN perforated pipes (big dimensions)
Additional labels	EVODRAIN perforated (big dimensions)
Product reference	All products from group No.602 (product number starts with 602).
Place(s) of raw material origin	Netherlands, Germany
Place of production	Latvia
Place(s) of installation and use	Europe
Period for data	Calendar year 2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	<1%
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	7,97

ENVIRONMENTAL DATA SUMMARY

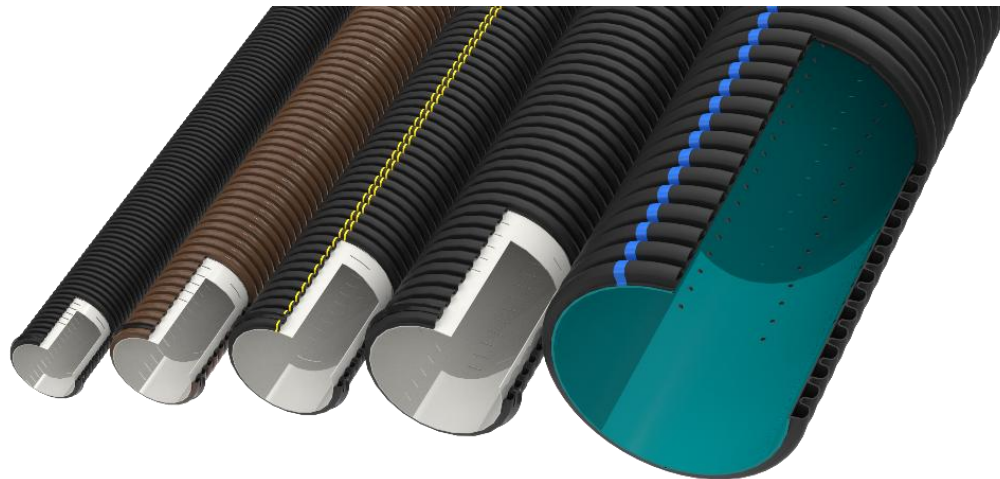
Declared unit	1 kg of plastic PP pipe (EVODRAIN HARD Big dimensions)
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,61
GWP-total, A1-A3 (kgCO ₂ e)	1,76
Secondary material, inputs (%)	1,33
Secondary material, outputs (%)	23
Total energy use, A1-A3 (kWh)	16,7
Net freshwater use, A1-A3 (m ³)	-0,08

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Evopipes is manufacturer of plastic pipe systems for electricity, telecom, water, wastewater and gas. Our production is based in Latvia, and we supply client's requests around the world.

Our main strategy is to design advanced pipeline products that increase work efficiency in the field of installing and exploiting pipe systems. We are certified according to EN ISO 9001 Quality Management system, EN ISO 14001 Environmental Management system and EN ISO 50001 Energy Management system.



PRODUCT DESCRIPTION

EVODRAIN HARD PP are hard (non-pliable) drainage pipes from polypropylene (PP) material. According to product standard DIN 4262-1 they feature double-wall construction (R2 type) with profiled (corrugated) external and smooth internal surface. The pipes are available with different types of perforation: (TP) type perforation- 360° totally perforated pipe with water inlet perforation openings evenly distributed around its ring; LP type perforation - 220° partially perforated pipe with perforation opening on pipe surface located symmetrically to the vertical axis of the pipe at 220° ±10° area, but the lower part of the pipe flow channel is unperforated; LP type perforation - 180° partially perforated pipe with perforation opening on pipe surface located symmetrically to the vertical axis of the pipe at 180° ±10° area, but the lower part of the pipe flow channel is unperforated; MP type perforation: ≤120° perforated multipurpose pipe whose perforation openings on the pipe surface are located symmetrically to the vertical axis of the pipe at max ≤120° area, but the lower part of the pipe flow channel is unperforated.

installations in: agriculture, forestry, in parks, squares and peat fields; temporary and permanent drainage at construction sites; stadiums and sport complexes; pavements, pedestrian and bicycle paths; landfills (liquid and biogas collection); road construction - with and without traffic load; airport territory infrastructure; harbours and docks infrastructure objects.

Parameter	Value
Size, mm	OD/ID 200 - 1000
Ring stiffness (SN class), N/m ²	4, 8, 16
Length, m	3 - 8
Colour	Black, brown

Further information can be found at:
www.evopipes.lv

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0,158	Spain
Fossil materials	99,842	Netherlands, Germany
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	0,854

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of plastic PP pipe (EVODRAIN HARD Big dimensions)
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	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

Modules not declared = ND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in 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.

Manufacturing materials (A1)

The first module includes extraction and production of raw materials used in manufacturing process, mainly polypropylene granulates, as well as additives

used in small amounts. Environmental impact for production of packaging materials and auxiliary materials is also included in this module. Transport for manufacturing materials (A2)

Transport distances of materials to manufacturing site was modelled taking account location of suppliers and transportation routes. Raw materials are transported by lorry, by boat and by ferry. Packaging materials and auxiliary tools are transported by lorry on the road.

Manufacturing process (A3)

1.Raw Materials conveying / dosing / mixing

Polyethylene and additives as finished compounds are supplied (in either plastic bags or bulk form) and filled into silos and storage bins. From silos raw materials are carried to each pipe extruder through vacuum pressure transfer system, then dosed by volumetric or gravimetric weighing system and mixed to compose a running formulation.

2.Extrusion

The raw materials are melted at high temperature in the extruders and pushed through a die-head to form a sleeve-in-sleeve structure / future double-layer pipe.

3.Cooling

Cooling of the corrugated pipes is done in a tank positioned after the corrugator, via water spraying nozzles. At the cooling stage there is stabilization of the product dimensions.

4.Printing

Ink-jet (or thermal ink-jet) printer marks the pipes at regular intervals with identification according to product name, size, strengths, class, perforation guideline and standard number.

5.Pipe profile perforation

Perforation of the corrugated pipe is done either:

- By rotating discs cutting the pipe at various angles around the circumference and distances between the slits (for pipes with diameters OD 200-400 and ID 300-400);
- By drilling the pipe with round bore at various angles around the circumference and distances between the drillholes (for pipes with diameters above OD 400 and ID 400).

6.Cutting

The pipes are being cut in required length and packed into wooden frames with PET ribbon.

7.Packaging

Packaging is made of wooden frames fixed with PET ribbons. Pipes with diameters of 800 or more are without packaging. The finished pipes are stored in holding area for inspection and quality acceptance.

8.Dispatch

After inspection and acceptance, the pipes are stored to await dispatch. 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)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Transportation from factory to construction site (A4)

Transportation from EVOPIPES factory to construction site creates impact to the environment and is calculated in product LCA. Products are delivered by lorry and ferry with average distance of 657 km; therefore, emissions are caused by fuel. During transportation there is no product or packaging loss.

Construction process (A5)

Pipes are installed underground using excavator (diesel energy) and sand-gravel mix to strengthen the pipe in trench. All waste occurs from packaging. 40% of plastic packaging gets recycled, 37% incinerated, 23% get landfilled. 32% of wood packaging gets recycled, 30% incinerated, 38% get landfilled.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

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

PRODUCT END OF LIFE (C1-C4, D)

Deconstruction (C1)

End of Life stage for product occurs when pipe needs to be replaced. Since the consumption of energy and resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed to be zero (this scenario is based on TEPPFA's calculations).

Transportation (C2)

At the end-of-life product assumed to be collected from demolition site and sent to recycling, incineration or landfill causing transportation emissions.

Recycling (C3)

23% of the end-of-life product assumed to be collected from demolition site and sent to recycling, 50% sent to incineration.

Disposal (C4)

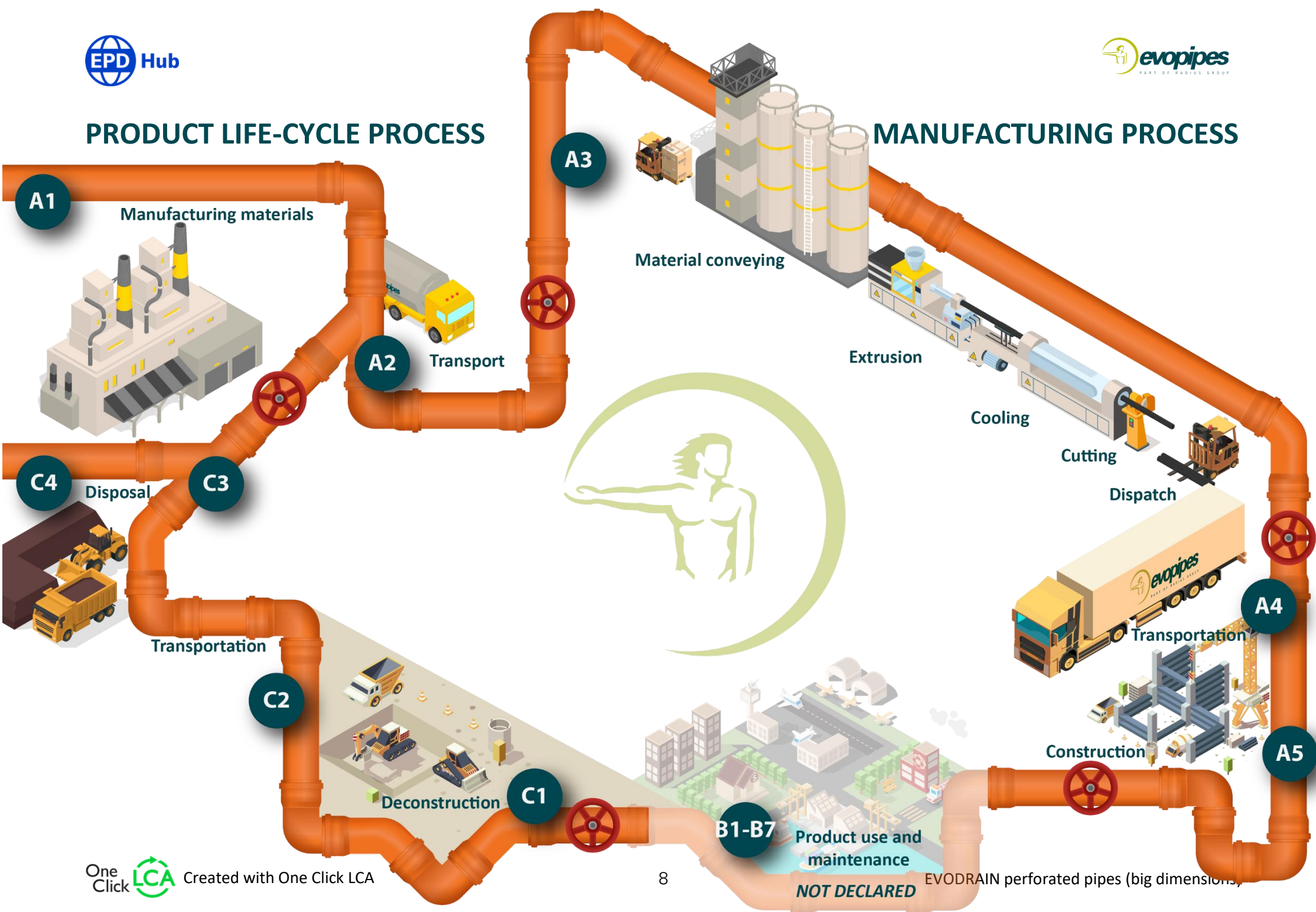
27% of products are assumed to be landfilled at the end-of-life.

Benefits and loads beyond system boundary (D)

To look at benefits outside system boundaries, recycled packaging material can be processed into granules, used as a secondary raw material, and incinerated products (wooden frames) are being converted to energy.

PRODUCT LIFE-CYCLE PROCESS

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 that is 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.

The study does not exclude any modules or processes that are defined as mandatory according to EN 15804A1:2012+A2:2019 and EPD HUB product category rules (PCR). The study does not exclude any hazardous materials or substances. In product life cycle calculations include all materials and processes from acquisition of raw materials to product end-of-life stages. Only energy that is used for product de-construction at the end-of-life stage is cut-off due to negligible amount usage.

The modules B1-B7 have not been calculated or included in LCA calculations.

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 made according to 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 or volume
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3, %	<1%

This EPD represents an average of two products under product name EVODRAIN. Flow quantities are weighted by the annual product output from each of them (EVORAIN and GIGAPIPE). Impacts on GWP fossil in A1-A3 modules, because of variance of raw materials mix and packaging materials between each of these two products, is about +/-1%. EVORAIN GWP fossil in A1-A3 is equal to 2,16 kg CO₂e (HUB-0061); GIGAPIPE GWP fossil in A1-A3 is equal to 2,18 kg CO₂e (HUB-0088).

Production process, transportation, installation, demolition and waste treatment are the same for both products.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 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	2,33E+00	2,05E-01	-7,71E-01	1,76E+00	1,10E-01	3,35E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,57E-02	1,35E+00	3,23E-02	-9,42E-01
GWP – fossil	kg CO ₂ e	2,32E+00	2,05E-01	8,49E-02	2,61E+00	1,10E-01	2,49E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,57E-02	1,35E+00	3,23E-02	-9,93E-01
GWP – biogenic	kg CO ₂ e	1,36E-03	3,92E-05	-8,57E-01	-8,55E-01	1,93E-05	8,53E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,56E-06	-2,46E-05	-1,70E-05	5,17E-02
GWP – LULUC	kg CO ₂ e	1,27E-03	9,38E-05	8,34E-04	2,20E-03	4,77E-05	1,26E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,03E-06	2,49E-05	1,97E-06	-9,61E-04
Ozone depletion pot.	kg CFC-11e	1,06E-07	2,99E-09	1,36E-09	1,11E-07	1,88E-09	3,26E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,32E-10	2,82E-10	7,81E-11	-3,09E-08
Acidification potential	mol H ⁺ e	7,05E-03	2,87E-03	4,54E-04	1,04E-02	1,87E-03	2,02E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,36E-05	2,27E-04	2,15E-05	-4,62E-03
EP-freshwater ²⁾	kg Pe	4,24E-04	1,17E-05	1,54E-04	5,90E-04	5,17E-06	3,23E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,22E-06	5,68E-06	3,18E-07	-4,09E-04
EP-marine	kg Ne	1,40E-03	7,61E-04	1,90E-03	4,06E-03	4,88E-04	8,40E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,76E-05	1,19E-04	7,15E-05	-7,17E-04
EP-terrestrial	mol Ne	1,44E-02	8,42E-03	1,58E-03	2,44E-02	5,40E-03	9,19E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,92E-04	1,05E-03	8,76E-05	-7,26E-03
POCP (“smog”) ³⁾	kg NMVOCe	1,26E-02	2,48E-03	6,62E-04	1,57E-02	1,56E-03	2,74E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,90E-05	2,70E-04	3,81E-05	-4,24E-03
ADP-minerals & metals ⁴⁾	kg Sbe	2,10E-05	4,07E-07	3,48E-07	2,17E-05	1,95E-07	5,36E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,38E-08	1,72E-07	6,80E-09	-5,02E-06
ADP-fossil resources	MJ	7,41E+01	2,78E+00	1,27E+00	7,82E+01	1,46E+00	3,18E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,28E-01	2,45E-01	6,71E-02	-2,54E+01
Water use ⁵⁾	m ³ e depr.	5,22E-01	1,13E-02	3,94E-02	5,73E-01	5,69E-03	2,21E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,13E-03	3,89E-02	3,29E-04	-2,75E-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	5,56E-08	1,51E-08	6,28E-09	7,71E-08	6,86E-09	5,12E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,57E-09	1,84E-09	4,86E-10	-3,02E-08
Ionizing radiation ⁶⁾	kBq I1235e	1,72E-01	1,94E-03	1,37E-02	1,88E-01	1,20E-03	7,52E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,99E-04	1,14E-03	6,67E-05	-2,12E-01
Ecotoxicity (freshwater)	CTUe	5,64E+00	3,19E-01	4,69E+00	1,06E+01	1,39E-01	3,46E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,23E-02	3,74E-01	1,00E-01	-1,86E+00
Human toxicity, cancer	CTUh	5,09E-10	3,70E-11	7,70E-11	6,23E-10	2,05E-11	4,11E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,59E-12	5,65E-11	1,58E-12	-1,63E-10
Human tox. non-cancer	CTUh	1,97E-08	1,36E-09	7,14E-09	2,82E-08	6,58E-10	1,05E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,48E-10	2,17E-09	3,11E-10	-8,02E-09
SQP ⁷⁾	-	6,68E+00	1,82E+00	8,90E+01	9,75E+01	8,15E-01	1,65E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,30E-01	2,54E-01	1,56E-01	-4,33E+00

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	1,91E+00	3,10E-02	1,20E+01	1,40E+01	1,72E-02	-5,84E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,13E-03	1,85E-02	1,05E-03	-7,05E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	6,80E+00	6,80E+00	0,00E+00	-6,80E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,93E-01
Total use of renew. PER	MJ	1,91E+00	3,10E-02	1,88E+01	2,08E+01	1,72E-02	-1,26E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,13E-03	1,85E-02	1,05E-03	-3,12E-01
Non-re. PER as energy	MJ	4,21E+01	2,78E+00	1,15E+00	4,61E+01	1,46E+00	3,17E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,28E-01	-2,89E+01	-1,05E+01	-2,76E+01
Non-re. PER as material	MJ	3,20E+01	0,00E+00	7,80E-02	3,21E+01	0,00E+00	-7,80E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,34E+01	-8,64E+00	7,73E+00
Total use of non-re. PER	MJ	7,41E+01	2,78E+00	1,22E+00	7,81E+01	1,46E+00	3,16E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,28E-01	-5,23E+01	-1,91E+01	-1,99E+01
Secondary materials	kg	1,33E-02	1,19E-03	5,52E-03	2,00E-02	6,34E-04	2,08E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,71E-05	9,85E-04	2,43E-05	2,42E-01
Renew. secondary fuels	MJ	4,54E-04	1,04E-05	1,85E-05	4,83E-04	4,81E-06	8,72E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,23E-06	7,12E-06	4,55E-07	-2,46E-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	m³	1,38E-02	3,23E-04	-9,86E-02	-8,45E-02	1,56E-04	3,19E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,37E-05	3,21E-04	-9,98E-04	-9,61E-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	8,62E-02	4,20E-03	5,69E-03	9,61E-02	1,95E-03	9,77E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,86E-04	1,32E-02	1,18E-04	-5,14E-02
Non-hazardous waste	kg	1,90E+01	7,14E-02	9,98E+01	1,19E+02	3,34E-02	2,87E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,15E-03	6,01E-01	1,34E+00	-5,98E+00
Radioactive waste	kg	4,38E-05	4,73E-07	3,49E-06	4,78E-05	2,95E-07	1,84E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,86E-08	2,92E-07	1,63E-08	-5,42E-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	4,10E-02	4,10E-02	0,00E+00	1,51E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,30E-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	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,60E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+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	3,19E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+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	4,42E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+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	2,29E+00	2,04E-01	9,20E-02	2,59E+00	1,09E-01	2,49E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,56E-02	1,35E+00	3,09E-02	-9,72E-01
Ozone depletion Pot.	kg CFC ₁₁ e	8,55E-08	2,38E-09	1,11E-09	8,90E-08	1,49E-09	2,62E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,85E-10	2,38E-10	6,24E-11	-2,50E-08
Acidification	kg SO ₂ e	5,82E-03	2,27E-03	3,37E-04	8,43E-03	1,49E-03	1,46E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,09E-05	1,63E-04	1,59E-05	-3,91E-03
Eutrophication	kg PO ₄ ³ e	1,96E-03	2,96E-04	1,33E-03	3,59E-03	1,84E-04	3,22E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,97E-06	5,04E-05	1,04E-05	-6,83E-04
POCP (“smog”)	kg C ₂ H ₄ e	6,84E-04	1,25E-04	6,31E-05	8,73E-04	7,94E-05	1,19E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,65E-06	1,23E-05	5,98E-06	-2,94E-04
ADP-elements	kg Sbe	2,07E-05	3,98E-07	3,38E-07	2,14E-05	1,91E-07	5,29E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,28E-08	1,63E-07	6,61E-09	-4,95E-06
ADP-fossil	MJ	7,11E+01	2,75E+00	1,03E+00	7,49E+01	1,44E+00	3,06E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,25E-01	2,25E-01	6,60E-02	-2,16E+01

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	2,33E+00	2,05E-01	8,57E-02	2,62E+00	1,10E-01	2,50E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,57E-02	1,35E+00	3,23E-02	-9,94E-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.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

1. Electricity production, hydro, run-of-river, Latvia, Ecoinvent, 0.0044 kgCO₂e/kWh
2. Liquefied petroleum gas, import from RoW, Albania, Ecoinvent, 1.08 kgCO₂e/kg

Transport scenario documentation – A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO5, 331 km
2. Transport, freight, sea, ferry, 327 km

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	-
Volume capacity utilization factor	<1

Installation scenario documentation – A5 (Installation resources)

1. Gravel and sand quarry operation, Ecoinvent, 226.0 kg
2. Diesel, burned in building machine, Ecoinvent, 15.0 MJ

Installation scenario documentation – A5 (Installation waste)

1. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0014 kg
2. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 0.0013 kg
3. Exported Energy: Electricity, Ecoinvent, 0.0085 MJ
4. Exported Energy: Electricity, Ecoinvent, 0.31 MJ
5. Exported Energy: Thermal, Ecoinvent, 0.012 MJ
6. Exported Energy: Thermal, Ecoinvent, 0.43 MJ
7. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 7.8E-4 kg
8. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.15 kg
9. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.14 kg
10. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.18 kg

End of life stages scenario documentation – D (Data source)

1. Diesel, burned in building machine, Ecoinvent, 0.0 kWh
2. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.23 kg
3. Treatment of waste polypropylene, municipal incineration, Ecoinvent, 0.5 kg
4. Exported Energy: Electricity, Ecoinvent, 2.61 MJ
5. Exported Energy: Thermal, Ecoinvent, 3.59 MJ
6. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.27 kg

Scenario information	Value
Scenario assumptions e.g. transportation	Transport to recycling site: 250km, to incineration site: 150km, to landfill: 50km

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

Sarah Curpen, as authorized verifier acting for EPD HUB Limited
20.01.2026

