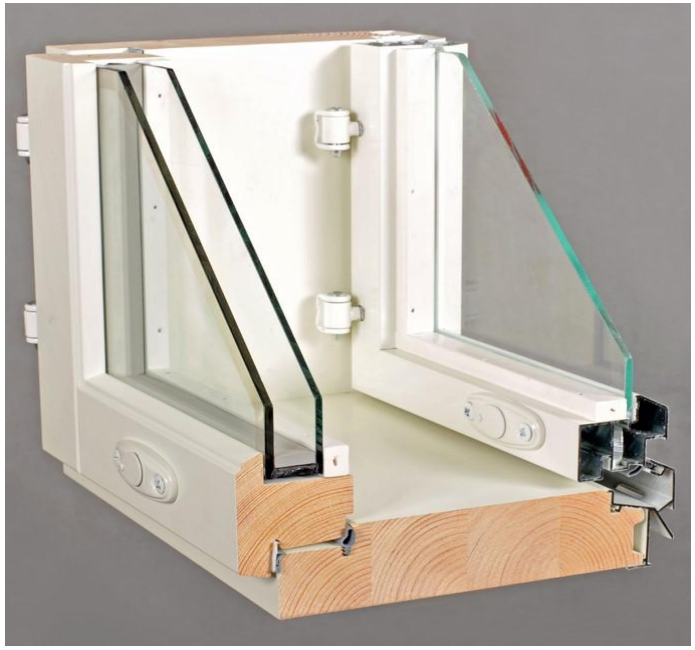
ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Piklas MSEA wood-aluminium window
Piklas Oy



EPD HUB, HUB-5515
Published on 24.02.2026, last updated on 24.02.2026, valid until 23.02.2031

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	Piklas Oy
Address	Ouluntie 14, 92930 Pyhäntä, Finland
Contact details	info@piklas.fi
Website	https://www.piklas.fi/

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.

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 EN 17213 Windows and doors
Sector	Manufactured 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	Sandra Järv, A-Insinöörit
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

PRODUCT

Product name	Piklas MSEA wood-aluminium window
Additional labels	-
Product reference	-
Place(s) of raw material origin	EU, Asia
Place of production	Pyhäntä, Finland
Place(s) of installation and use	Finland
Period for data	Calendar year of 2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	53

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m^2 of MSEA window
Declared unit mass	42,742 kg
Mass of packaging	9,65 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	64,1
GWP-total, A1-A3 ($kgCO_2e$)	29,8
Secondary material, inputs (%)	0,86
Secondary material, outputs (%)	55,5
Total energy use, A1-A3 (kWh)	543
Net freshwater use, A1-A3 (m^3)	1,52

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Piklas Oy is a domestic window and door manufacturer based in Pyhäntä, North Ostrobothnia. Piklas manufactures and supplies products to consumers for the construction and renovation of single-family homes, as well as to construction professionals for new construction or renovation projects of large properties.

Piklas emphasizes digitalization and customer orientation; online shopping, clear prices, easy ordering, and excellent customer service.

In 2024, Piklas had approximately 70 employees and a turnover of approximately 10 million. The factory has a capacity of 100,000 window and door units.

Piklas is a Finnish family company.

PRODUCT DESCRIPTION

The product studied is a double-frame, inward-opening wood-aluminium window with a double insulating glass element in the inner frame. The dimensions of the reference product are 1.23 x 1.48 m in size. The outer frame is made of aluminum and has one glass panel. Piklas MSEA window is a reliable and most common basic window and a suitable option for all properties.

Piklas products have been tested according to SFS 7031:2022 and EN 14352-1 standards.

Further information can be found at:
https://www.piklas.fi/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	11,41	Global
Minerals	54,83	Finland
Fossil materials	3,45	Global
Bio-based materials	30,31	Finland

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	5,62
Biogenic carbon content in packaging, kg C	3,87

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m^2 of MSEA window
Mass per declared unit	42,742 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

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 module considers transport of raw materials to the manufacturing site. Transport includes container ships, and >32-ton lorry, EURO5 methods.

The production process begins with the cutting and profiling of wooden blanks. Once shaped, the wooden components undergo surface treatment, starting with the application of a primer, followed by a topcoat. The inner and outer sashes are assembled, and the frames are sheeted and sealed. Aluminum components are also cut from pre-profiled blanks at this stage.

After these steps, assembly begins, where the frames are first assembled. The frame is glazed and equipped.

Finally, the completed window units are placed on pallets and packaged for delivery. In addition to wooden pallets, also plastic packaging is used.

During production, some production losses occur. These materials and their waste treatment emissions are included in the study. Waste treatment methods consider incineration and recycling and the average distance of 50 km for transporting waste, is assumed. Water is used in the manufacturing process, and the treatment of generated wastewater is included in the assessment.

The manufacturing facility utilizes electricity generated from nuclear power. Wood production residues are used locally for heat production.
The use of nuclear 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.

Average distance of transportation from production plant to building site is assumed as 420 km and the transportation method is assumed to be freight, lorry >32 metric ton, EURO5.

Environmental impacts from installation into the building (A5) include emissions from the generation of packaging waste at the construction site. Packaging waste is presumed to be collected and transported to the waste facility, an average distance of 50 km has been presumed. The waste treatment scenario uses One Click LCA ready-made groups for an average scenario in Europe. These groups consist of Ecoinvent datasets.

Only electric handheld tools are used during the installation. The energy consumption during the window installation is minimal, thus the environmental impacts are also negligible.

PRODUCT USE AND MAINTENANCE (B1-B7)

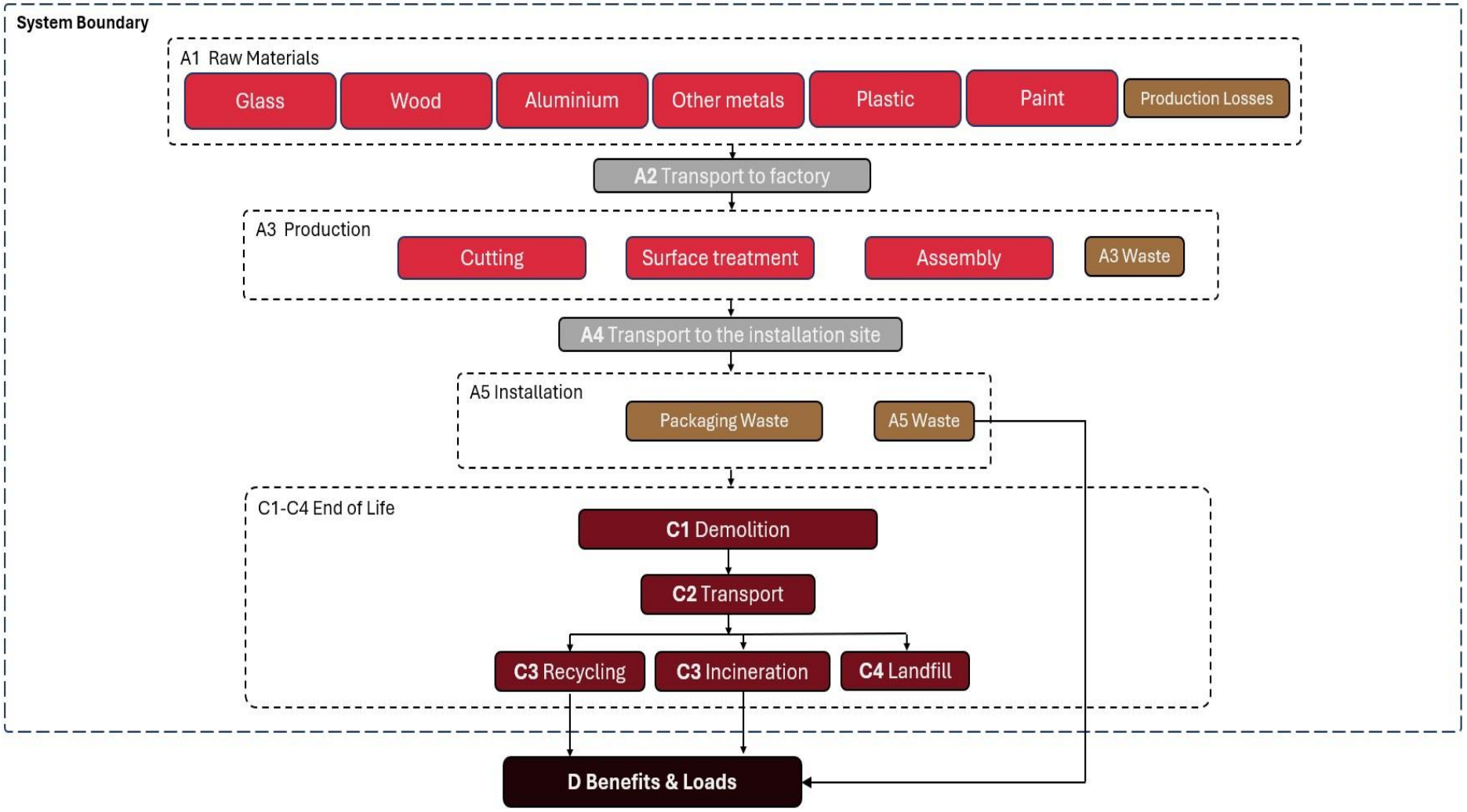
This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The consumption of energy and resources during the demolition phase is considered negligible. The end-of-life scenario applied is based on the standard EN 17213 (timber windows and doorsets). According to this scenario, 70% of the glass and a conservative 5% of the other materials are considered to be landfilled. The remaining share of the glass and metals are assumed to be recycled. Plastic and timber materials are considered to be incinerated after allocating the 5% share to the landfill. The assumed transport distance from the installation site to the waste treatment facility is 50 km.

Module D accounts for the benefits and loads beyond the system boundary resulting from recycling and incineration with energy recovery in modules A5 and C3. The benefit of recycling arises from the substitution of virgin raw materials with secondary materials generated through recycling processes. The benefit of incineration with energy recovery is associated with the substitution of conventional energy production through the recovered energy.

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.

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

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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 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‘.

SFS-EN 17213:2020. Windows and doors. Environmental Product Declarations. Product category rules for windows and pedestrian doorsets.

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	3,74E+01	1,41E+00	-9,08E+00	2,98E+01	2,41E+00	1,47E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-01	2,10E+01	3,93E+00	-2,90E+01
GWP – fossil	kg CO_2e	5,77E+01	1,41E+00	5,00E+00	6,41E+01	2,41E+00	5,43E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-01	1,23E+00	2,89E+00	-2,95E+01
GWP – biogenic	kg CO_2e	-2,05E+01	1,05E-04	-1,42E+01	-3,47E+01	5,07E-04	1,42E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,64E-05	1,98E+01	1,04E+00	1,15E+00
GWP – LULUC	kg CO_2e	2,84E-01	5,68E-04	8,27E-02	3,67E-01	9,05E-04	5,00E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,16E-04	2,45E-04	2,48E-04	-6,33E-01
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	4,08E-06	2,61E-08	1,74E-07	4,28E-06	4,85E-08	5,44E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,34E-08	6,04E-09	1,89E-08	-5,80E-07
Acidification potential	mol H^+e	3,97E-01	6,71E-03	2,86E-02	4,32E-01	7,77E-03	1,85E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,56E-03	3,19E-03	3,37E-03	-1,99E-01
EP-freshwater[2)]	kg Pe	8,86E-03	9,58E-05	1,26E-03	1,02E-02	1,62E-04	8,75E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,67E-05	1,68E-04	5,26E-05	-1,66E-02
EP-marine	kg Ne	6,13E-02	2,05E-03	9,33E-03	7,26E-02	2,64E-03	1,96E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,52E-04	1,47E-03	1,12E-03	-3,00E-02
EP-terrestrial	mol Ne	7,06E-01	2,25E-02	1,01E-01	8,29E-01	2,87E-02	7,52E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,26E-03	1,37E-02	9,45E-03	-2,90E-01
POCP ("smog")[3)]	kg NMVOCe	2,52E-01	8,69E-03	2,65E-02	2,87E-01	1,27E-02	2,46E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,88E-03	3,66E-03	4,20E-03	-1,13E-01
ADP-minerals & metals[4)]	kg Sbe	9,31E-04	3,76E-06	1,62E-05	9,51E-04	6,65E-06	9,25E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,35E-06	3,27E-06	1,46E-06	-7,76E-05
ADP-fossil resources	MJ	7,97E+02	2,03E+01	5,28E+02	1,35E+03	3,49E+01	4,70E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E+01	4,17E+00	1,65E+01	-4,72E+02
Water use[5)]	m^3e depr.	7,82E+06	1,01E-01	8,33E+00	7,82E+06	1,79E-01	1,30E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,50E-02	9,34E-01	6,85E-02	-5,41E+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	3,88E-06	1,35E-07	3,20E-07	4,33E-06	2,40E-07	3,25E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,06E-08	3,93E-08	5,41E-08	-2,34E-06
Ionizing radiation[6)]	kBq U235e	3,11E+00	2,21E-02	3,82E+01	4,14E+01	4,21E-02	1,23E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,18E-02	2,15E-02	8,83E-03	-8,74E+00
Ecotoxicity (freshwater)	CTUe	4,17E+02	2,46E+00	1,53E+01	4,35E+02	4,11E+00	1,62E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,53E+00	2,35E+01	5,11E+01	-1,03E+02
Human toxicity, cancer	CTUh	8,45E-01	2,36E-10	4,04E-09	8,45E-01	3,96E-10	1,69E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,31E-10	6,22E-10	5,13E-09	-5,01E-08
Human tox. non-cancer	CTUh	2,84E-06	1,28E-08	7,37E-08	2,92E-06	2,27E-08	9,08E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,13E-09	3,03E-08	1,02E-08	-3,33E-07
SQP[7)]	-	1,80E+03	1,95E+01	8,31E+02	2,65E+03	3,51E+01	4,40E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,19E+00	5,73E+00	1,12E+01	-5,15E+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	4,29E+02	3,09E-01	9,47E+01	5,24E+02	5,68E-01	-1,39E+02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,71E-01	-2,03E+02	-1,05E+01	-1,73E+02
Renew. PER as material	MJ	1,82E+02	0,00E+00	1,58E+02	3,41E+02	0,00E+00	-1,58E+02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,73E+02	-9,12E+00	7,98E+00
Total use of renew. PER	MJ	6,11E+02	3,09E-01	2,53E+02	8,65E+02	5,68E-01	-2,98E+02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,71E-01	-3,77E+02	-1,96E+01	-1,65E+02
Non-re. PER as energy	MJ	8,90E+02	2,03E+01	5,20E+02	1,43E+03	3,49E+01	-2,38E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E+01	-1,45E+01	-1,97E+00	-4,78E+02
Non-re. PER as material	MJ	2,39E+01	0,00E+00	7,85E+00	3,17E+01	0,00E+00	-7,85E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,27E+01	-1,19E+00	1,29E+01
Total use of non-re. PER	MJ	9,14E+02	2,03E+01	5,28E+02	1,46E+03	3,49E+01	-1,02E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E+01	-3,72E+01	-3,17E+00	-4,65E+02
Secondary materials	kg	3,66E-01	8,78E-03	1,07E-01	4,81E-01	1,51E-02	3,34E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,92E-03	6,41E-03	6,43E-03	8,82E+00
Renew. secondary fuels	MJ	7,89E-02	1,06E-04	5,49E-03	8,45E-02	1,90E-04	3,32E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,23E-05	1,83E-04	3,74E-05	4,30E-02
Non-ren. secondary fuels	MJ	1,27E-01	0,00E+00	4,79E-03	1,32E-01	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	1,27E+00	2,92E-03	2,38E-01	1,52E+00	5,15E-03	-1,21E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,59E-03	1,12E-02	-6,47E-02	-1,20E+00

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	3,24E+00	3,04E-02	3,49E-01	3,62E+00	5,05E-02	3,15E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,76E-02	2,09E-01	3,93E-02	-5,77E+00
Non-hazardous waste	kg	6,84E+01	5,88E-01	3,16E+01	1,01E+02	1,01E+00	2,14E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,45E-01	1,80E+01	8,89E+01	-7,43E+01
Radioactive waste	kg	3,56E-03	5,45E-06	8,02E-03	1,16E-02	1,04E-05	3,08E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,90E-06	5,48E-06	2,16E-06	-2,31E-03

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	1,26E-02	0,00E+00	1,03E+00	1,04E+00	0,00E+00	3,10E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,17E+01	0,00E+00	0,00E+00
Materials for energy rec	kg	4,04E-02	0,00E+00	6,60E-04	4,11E-02	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,20E+01	0,00E+00	0,00E+00
Exported energy	MJ	3,88E-01	0,00E+00	3,83E-02	4,27E-01	0,00E+00	1,61E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,80E+01	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	8,41E-02	0,00E+00	0,00E+00	8,41E-02	0,00E+00	6,79E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,56E+01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	5,36E-02	0,00E+00	0,00E+00	5,36E-02	0,00E+00	9,33E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,33E+00	0,00E+00	0,00E+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	5,80E+01	1,41E+00	5,08E+00	6,45E+01	2,41E+00	5,44E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-01	1,23E+00	2,89E+00	-3,02E+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

DATA SOURCES

Manufacturing energy scenario documentation

1. Heat production, light fuel oil, at boiler 100kW condensing, non-modulating, Albania, Ecoinvent, 0.0969 kgCO2e/MJ
2. Heat and power co-generation, wood chips, 6667 kW, state-of-the-art 2014, Finland, Ecoinvent, 0.0026 kgCO2e/MJ
3. Cross-laminated timber production, Europe, Ecoinvent, -509.721604 kgCO2e/m3
4. Electricity production, nuclear, boiling water reactor, Finland, Ecoinvent, 0.0077 kgCO2e/kWh
5. Electricity voltage transformation from high to medium voltage, Finland, Ecoinvent, 0.14 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry >32 metric ton, EURO5, 420 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	0,00E+00
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation waste)

Scenario information	Value			
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	Polyethylene packaging waste			0,175
	Wood packaging waste			9,479
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg		Recycling	Energy recovery	Disposal
	PE	0,07	0,065	0,04
	Wood	3,033	2,844	3,602
Direct emissions to ambient air, soil and water / kg	0			

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

Scenario information	Value
Collection process – kg collected separately	42,74
Collection process – kg collected with mixed construction waste	-
Recovery process – kg for re-use	-
Recovery process – kg for recycling	11,69
Recovery process – kg for energy recovery	13,17
Disposal (total) – kg for final deposition	17,88
Scenario assumptions e.g. transportation	Transportation to waste processing assumes a distance between 50 and 500 km by >32 metric ton lorry (Euro 5)

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

Vera Durão, as an authorised verifier acting for EPD Hub Limited

24.02.2026