

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

CLT (Cross Laminated Timber)
Oy Crosslam Kuhmo Ltd



EPD HUB, HUB-7968
Published on 28.10.2026, last updated on 28.10.2026, valid until 27.10.2031

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	Oy Crosslam Kuhmo Ltd
Address	Kivikatu 4, Kuhmo, Finland
Contact details	asiakaspalvelu@crosslam.fi
Website	www.crosslam.fi

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 16485 Round and sawn timber
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	Markus Pääkkönen
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Elena Antuña-Bernardo as an authorized verifier for EPD Hub

This EPD is intended for business-to-business 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	CLT (Cross Laminated Timber)
Additional labels	
Product reference	ETA 24/1158
Place(s) of raw material origin	Finland, Austria
Place of production	Finland, Kainuu, Kuhmo
Place(s) of installation and use	Finland, Europe Countries
Period for data	1-12/2025
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 (%)	13,1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m³
Declared unit mass	473 kg
Mass of packaging	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	70,5
GWP-total, A1-A3 ($kgCO_2e$)	-672
Secondary material, inputs (%)	0,14
Total energy use, A1-A3 (kWh)	3500
Net freshwater use, A1-A3 (m^3)	0,79

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Oy CrossLam Kuhmo Ltd is Finland's first manufacturer of cross-laminated timber (CLT). Crosslam CLT is made from slow-grown Finnish spruce and pine of strength class C24 or higher. Crosslam CLT is used as load-bearing and visible wall, floor and roof structures in detached houses, multi-storey apartment buildings, schools, day-care centres and public buildings in Finland and elsewhere in Europe.

PRODUCT DESCRIPTION

PRODUCT DESCRIPTION
CLT means Cross Laminated Timber. It is massive wood board that has three, five or seven layers of lamel cross-glued together. It is an industrially manufactured construction product that is always made to the specific
measurements for each customer. As the boards are cross laminated, they make a strong and stable product that can be used in both vertical and horizontal structures. The CLT-board manufactured by Crosslam is a strong, natural and environmentally friendly building product.
PRODUCT APPLICATION
CLT-boards manufactured by Crosslam have been used as the building material for public buildings, blocks of flats, nursing homes, detached houses, holiday homes, noise barriers, non settling logs and many other constructions and construction components. The simple manufacturing process of the CLT element enables tailored products, customised for each project.
TECHNICAL SPECIFICATIONS
Crosslam = CLT = Cross Laminated Timber means solid wood board that is made by cross-gluing together three, five or seven layers of lamel, i.e. regularized timber. It is an engineered wood product that is always made to the specific measurements for each customer.
Environmental Product Declaration created with One Click LCA
PRODUCT STANDARDS
The maximum dimensions of our CLT-board are 3.2 m x 12 m. The thickness of the board varies from 60 mm to 300 mm, depending on the end-use. The cross-glued massive wood boards are strong, and the measurements are stable. Therefore, CLT-elements can be used in both the vertical and horizontal structures of buildings.
PHYSICAL PROPERTIES OF THE PRODUCT
Thicknesses: 60 - 300 mm
Width: 3.2 m
Length: 12 m
Number of layers: 3, 5 or 7
Moisture content:. EN 13183 6-15%
Strength class of boards: EN 337, C24

Further information can be found at:
www.crosslam.fi

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals		
Minerals	1	Polyurethane glues and packaging
Fossil materials		
Bio-based materials	99	Spruce and pine

BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	211
Biogenic carbon content in packaging, kg C	0

1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m³
Mass per declared unit	473 kg
Functional unit	
Reference service life	50 years

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

A5 is not fully declared. Waste processing (from collection through to end-of-waste or final disposal) and full energy and biogenic carbon balancing are accounted for. Storage, product wastage, and installation into the building are excluded.

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 product is composed primarily of softwood timber, with polyurethane adhesive and flexible polyurethane foam also used as raw materials in extraction and processing (A1). Raw materials are transported predominantly over short distances, with softwood board sourced locally by >32t EURO5 lorry travelling 0.8 km from World suppliers, polyurethane adhesive transported 2,678 km by >32t EURO5 lorry from World suppliers, and flexible polyurethane foam transported 508 km by >32t EURO6 lorry from World suppliers (A2).
Manufacturing involves pressing and finger-jointing operations. Electricity and heat are consumed during manufacturing, sourced from hydroelectric and nuclear generation as well as wood-chip co-generation. A market-based approach is used to model the electricity mix utilised in the factory. The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.). Its use is ensured throughout the validity period of this EPD. Energy losses during electricity transmission are considered. The product is packaged using recycled low-density polyethylene film. Tap water and lubricating oil are used as ancillary materials, alongside diesel consumed by forklift operations. Wood shavings generated by planing are 100% directed to recycling, with no transport required for waste collection. Wastewater is 100% directed to treatment, with no transport required for waste collection. Hazardous waste comprising solvents and lubricants is 100% directed to incineration, with no transport required for waste collection. Waste plastic is 100% directed to municipal incineration, transported 60 km by 7.5–16t EURO5 lorry from EU suppliers. Production losses are accounted for in the model, with a loss rate of 9.36% applied to softwood board (A3).

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.
A5 is not in scope. Only packaging waste is accounted for in this module.

The product and its packaging are transported to the construction site by a >32t EURO6 lorry over a distance of 495 km, based on the average of loads delivered during 2025 (A4).
Packaging waste is transported 50 km by a 16-32t EURO5 lorry to treatment facilities. The plastic packaging is managed across three end-of-life routes: 40% is recycled, 37% is incinerated with energy recovery, and 23% is sent to sanitary landfill, based on EUROSTAT data. Installation energy and materials were considered negligible (beneath cut-off) for the product and were therefore excluded from the LCA model (A5).

PRODUCT USE AND MAINTENANCE (B1-B7)

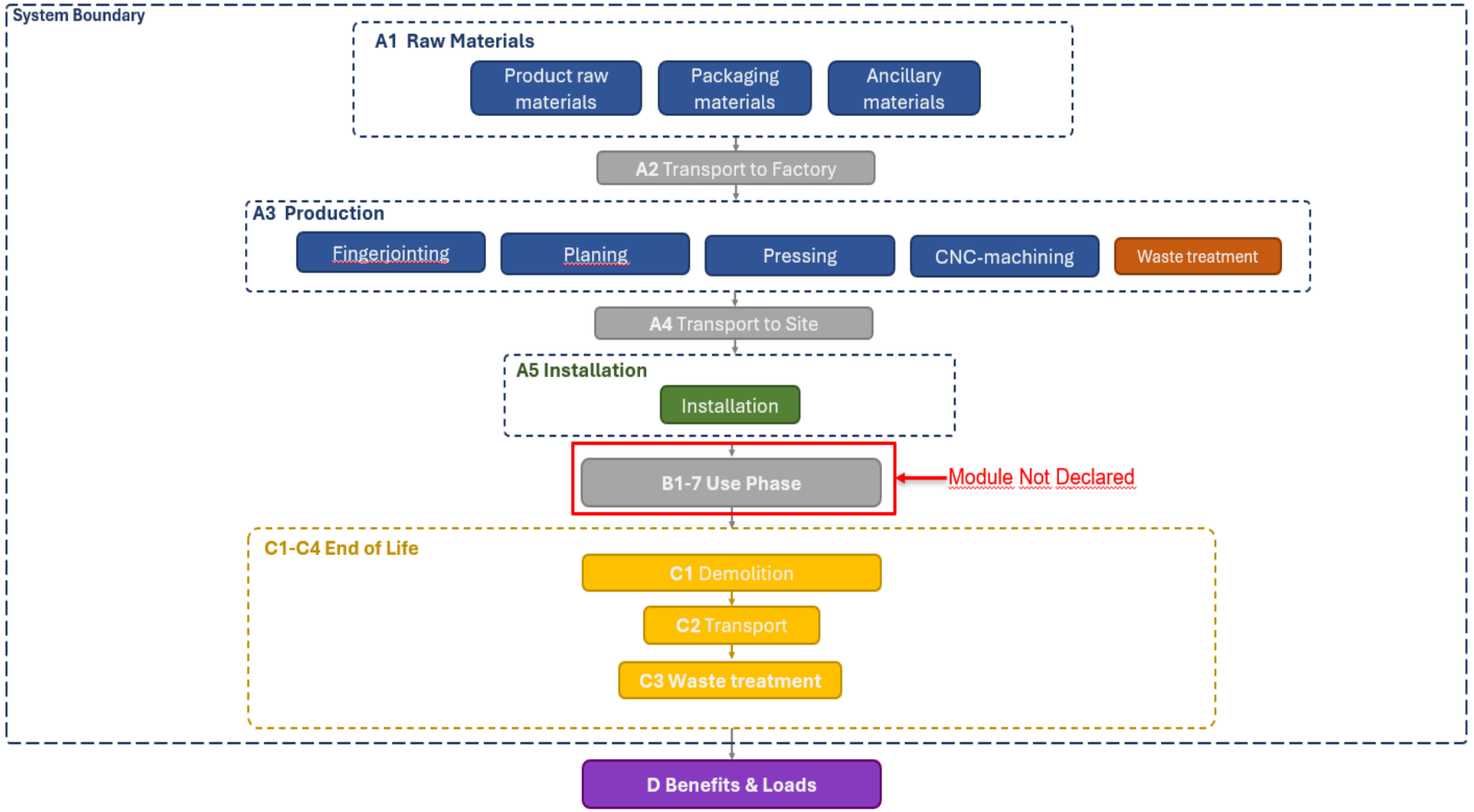
This stage is not included in the scope

PRODUCT END OF LIFE (C1-C4, D)

Deconstruction is assumed to be carried out manually for the product, and thus its energy requirements and impacts were considered negligible (beneath cut-off) for this study (C1). Transportation from demolition to waste treatment facility is accounted. Softwood waste is directed to three end-of-life routes based on Eurostat and BuildLCA 2020 data: 50% is incinerated with energy recovery, modelled using the untreated waste wood municipal incineration dataset; 24% is sent to landfill, modelled using the

untreated waste wood sanitary landfill dataset; and 26% is recycled through chipping up to the end-of-waste state, modelled using the industrial residual wood chipping dataset. Post-consumer waste is modelled using the cut-off approach in accordance with EN 15804+A2, whereby no upstream burdens from the previous product system are allocated to incoming secondary materials; burdens associated with waste treatment are borne by the product system generating the waste up to the end-of-waste state. The declared end-of-life scenarios reflect current practice and are considered representative of one of the most probable alternatives for the stated region. End-of-life location is the same as the installation location (C3-C4). In module D, the environmental benefits arising from the substitution of virgin residual wood by recovered secondary wood chips beyond the end-of-waste state are declared, softwood waste assumed to substitute post-consumer wood chip production. Also benefits of packaging recycling and incineration are counted in module D. Recycled packaging plastic replace virgin plastic and energy from incineration and replace energy for fossil fuels.

LIFE CYCLE FLOW 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.

For easier modelling and because of lack of accuracy in available modelling resources many constituents under 0,1% of product mass are excluded. These include some wood treatment chemicals which are all present in the product only in very small amounts and have no serious impact on the emissions of the product.

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	Physical Properties
Packaging material	Physical Properties
Ancillary materials	Not applicable
Manufacturing energy and waste	Physical Properties

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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 v3.2.5. 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‘.

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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	-7,47E+02	8,44E-01	7,47E+01	-6,72E+02	2,34E+01	5,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,74E+00	5,69E+02	1,80E+02	-2,55E+02
GWP – fossil	kg CO_2e	6,45E+01	8,43E-01	5,14E+00	7,05E+01	2,34E+01	5,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,74E+00	4,52E+00	1,29E+00	-5,05E+01
GWP – biogenic	kg CO_2e	-8,13E+02	1,83E-04	6,95E+01	-7,43E+02	1,38E-02	-2,15E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,65E+02	1,78E+02	-2,04E+02
GWP – LULUC	kg CO_2e	8,79E-01	3,78E-04	1,26E-02	8,92E-01	8,73E-03	2,02E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,46E-03	3,52E-03	8,16E-04	-1,71E-01
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	1,70E-06	1,24E-08	2,31E-07	1,94E-06	5,30E-07	2,67E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,14E-07	5,54E-08	3,28E-08	-1,33E-06
Acidification potential	mol H^+e	4,54E-01	2,86E-03	5,17E-02	5,09E-01	5,69E-02	1,34E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,64E-02	4,24E-02	8,98E-03	-3,13E-01
EP-freshwater[2)]	kg Pe	1,91E-02	6,79E-05	1,42E-03	2,06E-02	1,71E-03	4,13E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,03E-04	2,32E-03	9,83E-04	-4,26E-02
EP-marine	kg Ne	1,75E-01	9,35E-04	1,90E-02	1,95E-01	1,50E-02	9,38E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,67E-03	2,10E-02	4,17E-02	-7,86E-02
EP-terrestrial	mol Ne	1,85E+00	1,02E-02	2,20E-01	2,08E+00	1,62E-01	5,68E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,44E-02	2,01E-01	3,69E-02	-7,79E-01
POCP ("smog")[3)]	kg NMVOCe	7,77E-01	4,21E-03	5,02E-02	8,32E-01	9,51E-02	1,64E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,89E-02	5,11E-02	1,50E-02	-2,27E-01
ADP-minerals & metals[4)]	kg Sbe	2,32E-04	2,36E-06	2,53E-05	2,60E-04	6,97E-05	1,38E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,16E-05	9,60E-06	2,85E-06	-1,24E-04
ADP-fossil resources	MJ	1,12E+03	1,22E+01	1,36E+03	2,49E+03	3,55E+02	2,27E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E+02	5,19E+01	2,81E+01	-1,13E+03
Water use[5)]	m^3e depr.	3,05E+01	6,14E-02	1,59E+01	4,65E+01	2,06E+00	1,66E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,55E-01	8,22E+00	1,35E-01	-3,07E+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	2,69E-05	8,42E-08	9,65E-07	2,79E-05	2,32E-06	1,58E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,75E-07	4,46E-07	2,04E-07	-8,11E-06
Ionizing radiation[6]	kBq U235e	1,10E+01	1,06E-02	7,08E+01	8,18E+01	3,97E-01	9,40E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,78E-02	5,65E-01	2,75E-02	-2,99E+01
Ecotoxicity (freshwater)	CTUe	2,30E+03	2,14E+00	6,66E+02	2,96E+03	3,05E+02	2,43E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,59E+01	2,71E+01	1,34E+01	-1,98E+03
Human toxicity, cancer	CTUh	5,31E-08	1,39E-10	4,56E-09	5,78E-08	3,90E-09	3,03E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,28E-09	7,07E-09	3,86E-10	-1,54E-08
Human tox. non-cancer	CTUh	8,24E-07	7,90E-09	1,55E-07	9,87E-07	2,28E-07	1,13E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,27E-08	4,69E-07	3,02E-08	-6,03E-07
SQP[7]	-	8,32E+04	1,23E+01	6,58E+02	8,39E+04	3,57E+02	2,81E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,13E+02	1,25E+01	6,58E+01	-6,36E+03

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	9,89E+03	1,68E-01	3,56E+02	1,03E+04	5,47E+00	1,47E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,54E+00	-4,00E+03	-1,92E+03	5,99E+02
Renew. PER as material	MJ	6,23E+03	0,00E+00	-5,34E+02	5,70E+03	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-4,33E+03	-1,37E+03	1,52E+03
Total use of renew. PER	MJ	1,61E+04	1,68E-01	-1,78E+02	1,60E+04	5,47E+00	1,47E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,54E+00	-8,33E+03	-3,29E+03	2,12E+03
Non-re. PER as energy	MJ	1,04E+03	1,22E+01	1,30E+03	2,35E+03	3,55E+02	-1,80E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E+02	5,19E+01	2,81E+01	-1,13E+03
Non-re. PER as material	MJ	0,00E+00	0,00E+00	1,93E+01	1,93E+01	0,00E+00	-1,93E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,65E+00
Total use of non-re. PER	MJ	1,04E+03	1,22E+01	1,32E+03	2,37E+03	3,55E+02	-3,73E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E+02	5,19E+01	2,81E+01	-1,12E+03
Secondary materials	kg	6,40E-01	5,20E-03	5,10E-01	1,15E+00	1,50E-01	7,14E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,78E-02	8,46E-02	1,02E-02	2,35E-03
Renew. secondary fuels	MJ	1,59E-02	6,62E-05	3,19E-02	4,79E-02	1,98E-03	5,74E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,07E-04	1,93E-04	1,91E-04	-3,64E-03
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	4,35E-01	1,81E-03	3,53E-01	7,90E-01	4,79E-02	-2,17E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,66E-02	6,35E-02	-4,20E-01	-6,67E-01

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	2,69E+00	2,40E-02	6,02E-01	3,32E+00	5,17E-01	6,25E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,90E-01	1,59E+00	4,90E-02	-2,66E+00
Non-hazardous waste	kg	1,08E+02	4,49E-01	4,57E+01	1,55E+02	1,06E+01	7,51E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,52E+00	2,46E+02	5,64E+02	-2,20E+02
Radioactive waste	kg	2,90E-03	2,60E-06	1,68E-02	1,97E-02	9,76E-05	2,39E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,39E-05	1,45E-04	6,74E-06	-7,67E-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	0,00E+00	0,00E+00	4,48E+01	4,48E+01	0,00E+00	1,80E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,23E+02	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	2,69E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,11E+03	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	1,13E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	4,68E+02	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	1,56E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,43E+02	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	6,54E+01	8,44E-01	5,15E+00	7,14E+01	2,34E+01	5,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,74E+00	4,53E+00	1,29E+00	-5,07E+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 and power co-generation, wood chips, 6667 kW, state-of-the-art 2014, Finland, Ecoinvent, 0.0026 kgCO2e/MJ
2. Electricity production, nuclear, pressure water reactor, Finland, Ecoinvent, 0.0070 kgCO2e/kWh
3. Electricity production, hydro, run-of-river, Finland, Ecoinvent, 0.0044 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry, >32 metric ton, diesel, EURO 6, 495 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	474
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)	PE, 0.45 kg
Waste materials: output routes	PE, World, 0.45 kg (40% recycling, 37% incineration without energy recovery, 23% landfill, based on Eurostat)
Direct emissions (kg)	

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	473
Collection process: Mixed waste (kg)	0
Recovery: re-use (kg)	0
Recovery: recycling (kg)	123
Recovery: energy recovery (kg)	0
Disposal (kg)	114
Scenario assumptions e.g. transportation (mode, km) & other	Wood, Incineration, Lorry >32t EURO5, 150 km Wood, Landfill, Lorry >32t EURO5, 50 km Wood, Recycling, Lorry >32t EURO5, 250 km

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

Elena Antuña-Bernardo as an authorized verifier for EPD Hub Limited
28.10.2026

