

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

BeRiche CC ES full-precut stair components TR
Sumitomo Forestry Crest Co., Ltd.



EPD HUB, HUB-8200
Published on 20.11.2026, last updated on 20.11.2026, valid until 19.11.2031

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

一般情報 - GENERAL INFORMATION

メーカー

MANUFACTURER

メーカー名 Manufacturer	Sumitomo Forestry Crest Co., Ltd.
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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 規格、スコープ、認証機関

EPD STANDARDS, SCOPE AND VERIFICATION

プログラムオペレータ Program operator	EPD Hub, hub@epdhub.com
参照規格 Reference standard	EN 15804:2012+A2:2019/AC:2021, ISO 14025 and 21930
PCR PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
c-PCR c-PCR	-
製品カテゴリ Sector	Construction product
EPD カテゴリ Category of EPD	Third party verified EPD
親 EPD 番号 Parent EPD number	-
EPD のスコープ Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD 申請者 EPD author	Jun Minamino
EPD 検証 EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD 検証者 EPD verifier	Afzal khan Peerukhan as an authorized verifier for EPD Hub

製品 - PRODUCT

製品名 Product name	BeRiche CC ES full-precut stair components TR
追加ラベル Additional labels	-
参照製品 Product reference	-
原材料の原産地 Place(s) of raw material origin	Thailand
製造地 Place of production	16-1, Isoura-cho, Niihama, Ehime, Japan
設置場所および使用場所 Place(s) of installation and use	Japan
廃棄・リサイクル場所 Place(s) of end-of-life	Japan
データ取得期間 Period for data	2025/1-2025/12
EPD 平均化 Averaging in EPD	No grouping
A1-A3 の GWP-fossil 変動率 Variation in GWP-fossil for A1-A3 (%)	-
国際標準商品識別コード Global Trade Item Number (GTIN)	-
ノルウェー建築製品データベース Norwegian Building Product Database (NOBB)	-
A1-A3 特定データ（%） A1-A3 Specific data (%)	59.2

環境影響データ概要 - ENVIRONMENTAL DATA SUMMARY

宣言単位 Declared unit	1m3 of Residential Interior Timber Stair Components
宣言単位あたりの質量 Declared unit mass	509.39 kg
梱包材の質量 Mass of packaging	33.82 kg
GWP-fossil, A1-A3 (kgCO2e) GWP-fossil, A1-A3 (kgCO2e)	936
GWP-total, A1-A3 (kgCO2e) GWP-total, A1-A3 (kgCO2e)	344
二次材料の投入(%) Secondary material, inputs (%)	0.32
エネルギー使用量計, A1-A3 (kWh) Total energy use, A1-A3 (kWh)	6190
水使用量計、A1-A3 (m3) Net fresh water use, A1-A3 (m3)	7.88

製品とメーカー-PRODUCT AND MANUFACTURER

メーカーの概要 - ABOUT THE MANUFACTURER

Sumitomo Forestry Crest, a member of Sumitomo Forestry Group, is the only comprehensive manufacturer of wooden interior building materials in Japan. With the concept of realising healthy and comfortable living, the company manufactures residential interior building materials (flooring, storage, etc), decorative boards and synthetic resin adhesives.
Description of businesses:・manufacture and sale of wooden housing materials and housing equipment・manufacture and sale of laminated timber, staircase components and counters・manufacture and sale of decorative boards・manufacture and sale of synthetic resin adhesives and chemical materials

製品説明 - PRODUCT DESCRIPTION

This is a staircase designed for residential use, manufactured through individual custom-order production tailored to the floor-to-floor height of each property. The product is made from rubberwood laminated lumber sourced from Thailand and Vietnam, finished with urethane coating. By pre-cutting each component at the plant, this staircase contributes to reduced construction time and reduced wood waste at building sites, enabling clean and precise installation in any property.
The stair components covered by this EPD consists of the following components: treads, top landing nosings, three-step winder treads, baseboards, risers, and stringers, and includes screws for installation.
The reason for selecting 1 m³ as the declared unit is to enable conversion based on the product dimensions and quantities listed in the bill of materials and shipping instructions, even for other stair components of different dimensions within the same product category covered by this EPD. In a typical residential home, the total volume of one set of staircase was approximately 0.24 m³.

Further information can be found at:
https://www.sumirin-crest.co.jp

主な原材料構成 - PRODUCT RAW MATERIAL MAIN COMPOSITION

原材料カテゴリ Raw material category	量、質量 - % Amount, mass- %	原材料の原産地 Material origin
金属 Metals	1.5	Taiwan
鉱物 Minerals	-	-
化石原料 Fossil materials	0.3	Japan
生物由来原料 Bio-based materials	98.2	Thailand, Vietnam

生物起源 CO2 含有量 - BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

製品の生物起源 CO2 含有量、kg C Biogenic carbon content in product, kg C	223.313
梱包材の生物起源 CO2 含有量、kg C Biogenic carbon content in packaging, kg C	6.676

機能単位と耐用年数 - FUNCTIONAL UNIT AND SERVICE LIFE

宣言単位 Declared unit	1m3 of Residential Interior Timber Stair Components

宣言単位あたりの質量 Mass per declared unit	509.39 kg
機能単位 Functional unit	-
参照耐用年数 Reference service life	-

化学物質、REACH 高懸念物質 - SUBSTANCES, REACH - VERY HIGH CONCERN

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

製品のライフサイクル - PRODUCT LIFE-CYCLE

システム境界 - SYSTEM BOUNDARY

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

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

Not declared = ND

製造と梱包 - 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 product is primarily made from machined and coated laminated timber. The laminated timber is sourced from Thailand or Vietnam and delivered to the Sumitomo Forestry Crest Co., Ltd. Niihama Plant via ocean freight（5000km～6000km）and truck transportation. Actual measurement data based on real procurement sources and transportation routes were used for the transportation distances and modes of transport for each raw material. The main manufacturing processes comprise two stages: machining and spraying (coating). The machining process involves cutting, shaping, and sanding, while the spraying process involves painting, drying, and polishing. During the manufacturing process, electricity, thermal energy (heat), and water are required to operate the various equipment. The product also incorporates multiple auxiliary materials, such as paints and colorants. The finished products are packaged in corrugated cardboard boxes for shipment. Regarding manufacturing losses, a portion of the sawdust and wood offcuts generated during the machining are used as fuel for a biomass boiler during the drying stage of the painting process. Wood waste is recycled externally, while paint waste is treated through external incineration. Actual measurement data were used for the transportation distances and modes of transport for each manufacturing waste material.

輸送と設置 - TRANSPORT AND INSTALLATION (A4-A5)

This EPD excludes the A4-A5 stage. Therefore, packaging wastes are considered in the end-of-life stage.

製品使用とメンテナンス - PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD excludes the use stage.

製品の廃棄・リサイクル段階 - PRODUCT END OF LIFE (C1-C4, D)

For demolition (C1), it is postulated that 0.00265L/kg of diesel fuel is consumed. This scenario is based on "Revised New Demolition Work Estimation" issued by

the Economic Research Association in April 2017.
The transport distance and method to processing facilities (C2) is postulated to be 50km by truck for all scenarios.

In this EPD, end-of-life (EOL) scenarios have been developed for each material category.

Wooden waste:
At the end of its lifetime, a timber product can have several end of life scenario options.
Because of the uncertainties surrounding waste disposal practices in the future, exact methods of disposal at the end of life is hard to determine. In this EPD, 92.1% of product wastes are assumed to be chipped and used as raw materials for wood-based boards and other wood products. 6.3% are assumed to be incinerated without energy recovery, and 1.6% are assumed to be landfilled.
The scenario is based on the results of a Survey of construction by-products in 2018 published by the Ministry of Land, Infrastructure and Transport, with the assumption of no material recycled between construction sites.

Steel waste:
Steel waste is assumed to be 95.9% recycled and 4.1% landfilled. The scenario is based on the report Results of the 2018 survey on the actual status of construction by-products from Construction Recycling Promotion Plan published by Japanese Ministry of Land, Infrastructure, Transport and Tourism.

As this EPD does not include A5 stage, packaging wastes are considered in the end-of-life stage.

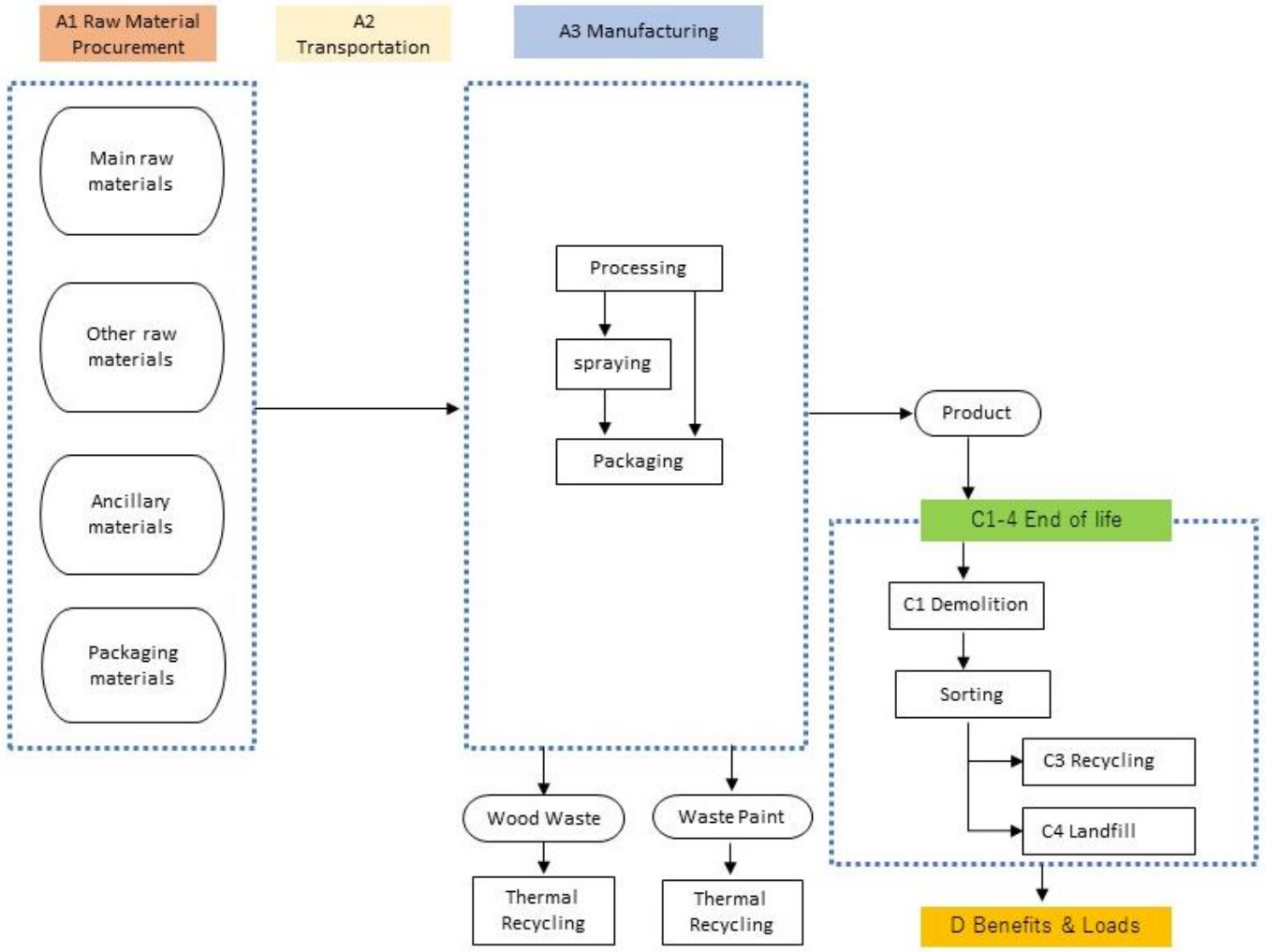
Paperboard (packaging):
According to the website of Corrugated Packaging Recycling Council, 94.8% of the waste paperboard are collected at proper facilities. Therefore, EOL scenario of paperboard is assumed to be 94.8% recycled and 5.2% incinerated without energy recovery.

PP strapping band (packaging):
The EOL scenario is assumed to be 25% recycled, 57% energy recovery, 10% incinerated and 8% landfilled based on the report published by Ministry of Environment.

Paper:
For paper wastes, EOL scenario is assumed to be 66.3% recycled and 33.7% incinerated according to the statistics published by Paper Recycling Promotion Center in Japan.

Based on EOL scenarios, the benefits and loads are considered in D for cases where there is recycling, reuse and energy recovery.

ライフサイクルフロー図- LIFE CYCLE FLOW DIAGRAM



ライフサイクルアセスメント - LIFE-CYCLE ASSESSMENT

カットオフ基準 - 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.

データの検証- 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.

配分、推定 - 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: auxiliary materials and energy are allocated by mass.

データタイプ - Data type	配分 - Allocation
原材料 - Raw materials	No allocation
梱包材 - Packaging materials	Not applicable
補助材料 - Ancillary materials	Physical Properties
製造エネルギーと廃棄物 - Manufacturing energy and waste	Physical Properties

製品と製造拠点の平均化 - PRODUCT & MANUFACTURING SITES GROUPING

平均化の種類 - Type of grouping	No grouping
平均化の方法 - Grouping method	Not applicable
A1-A3 における GWP-fossil の変動率 - Variation in GWP-fossil for A1-A3 (%)	-

This EPD is product and factory specific and does not contain average calculations.

LCA ソフトウェアと参考文献 - 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. Ecoinvent v3.11/3.12 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent v3.11/3.12 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2’.

環境影響データ - 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.

主な環境影響指標 - 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	-3.49E+02	5.54E+01	6.38E+02	3.44E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.19E+00	4.31E+00	5.55E+02	5.62E+01	-8.41E+02
GWP – fossil	kg CO_2e	3.16E+02	5.54E+01	5.65E+02	9.36E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.19E+00	4.31E+00	1.61E+01	7.42E-01	-3.71E+00
GWP – biogenic	kg CO_2e	-6.66E+02	1.64E-04	7.16E+01	-5.94E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.88E-04	1.49E-05	5.39E+02	5.55E+01	-8.36E+02
GWP – LULUC	kg CO_2e	1.17E+00	3.08E-02	1.01E+00	2.21E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.31E-04	1.99E-03	6.83E-02	2.56E-04	-7.25E-01
Ozone depletion pot.	kg $CFC_{-11}e$	7.99E-06	8.13E-07	2.74E-05	3.62E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.70E-08	6.44E-08	1.19E-07	8.70E-09	-1.02E-06
Acidification potential	mol H^+e	1.65E+00	6.02E-01	2.74E+00	4.99E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.64E-02	1.07E-02	8.49E-02	6.44E-03	3.14E-03
EP-freshwater[2)]	kg Pe	1.70E-01	4.09E-03	8.99E-02	2.64E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.67E-04	4.78E-04	5.84E-03	3.14E-04	-1.22E-03
EP-marine	kg Ne	5.59E-01	2.37E-01	5.78E-01	1.37E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E-02	2.65E-03	2.32E-02	5.92E-03	-8.02E-03
EP-terrestrial	mol Ne	4.95E+00	2.63E+00	5.85E+00	1.34E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.36E-01	2.84E-02	2.34E-01	3.14E-02	-8.94E-02
POCP [3)]	kg NMVOCe	1.70E+00	7.42E-01	6.65E+00	9.08E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.07E-02	1.53E-02	7.76E-02	8.35E-03	-6.87E-02
ADP-minerals & metals[4)]	kg Sbe	2.49E-03	1.35E-04	2.82E-04	2.91E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.87E-06	1.45E-05	3.93E-05	1.92E-06	-7.59E-05
ADP-fossil resources	MJ	4.86E+03	7.25E+02	7.21E+03	1.28E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.76E+01	6.09E+01	1.97E+02	7.20E+00	-3.58E+01
Water use[5)]	m^3e depr.	1.85E+02	3.09E+00	3.68E+03	3.87E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.74E-01	3.36E-01	3.14E+00	1.27E+00	2.30E+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.

追加(オプション)の環境影響指標 - 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	5.45E-05	2.78E-06	1.03E-05	6.76E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.32E-06	3.42E-07	1.14E-06	9.32E-08	-1.55E-06
Ionizing radiation[6)]	kBq U235e	1.74E+01	4.67E-01	8.90E+00	2.68E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.88E-02	5.03E-02	1.17E+00	9.56E-03	6.82E-01
Ecotoxicity (freshwater)	CTUe	1.48E+04	1.27E+02	6.42E+03	2.14E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.86E+01	1.37E+01	5.71E+02	3.35E+01	-3.57E+02
Human toxicity, cancer	CTUh	5.18E-07	1.07E-08	5.90E-08	5.88E-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.29E-10	6.82E-10	4.65E-09	1.18E-09	-1.40E-08
Human tox. non-cancer	CTUh	2.91E-06	3.19E-07	4.00E-06	7.23E-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.31E-09	3.71E-08	1.58E-07	7.27E-08	3.11E-08
SQP[7)]	-	1.54E+05	2.96E+02	3.09E+03	1.57E+05	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.47E+00	4.53E+01	1.25E+04	6.44E+00	-1.06E+04

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.

天然資源の利用 - 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	1.11E+04	8.42E+00	-1.08E+03	9.99E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.24E-01	8.83E-01	-3.38E+03	-7.34E+02	2.84E+03
Renew. PER as material	MJ	5.39E+03	0.00E+00	4.33E+02	5.82E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-5.36E+03	-4.64E+02	-5.01E+03
Total use of renew. PER	MJ	1.64E+04	8.42E+00	-6.47E+02	1.58E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.24E-01	8.83E-01	-8.73E+03	-1.20E+03	-2.17E+03
Non-re. PER as energy	MJ	3.85E+03	7.25E+02	6.92E+03	1.15E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.76E+01	6.09E+01	1.91E+02	5.60E+00	-4.53E+01
Non-re. PER as material	MJ	1.02E+03	0.00E+00	1.09E+01	1.03E+03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-9.47E+02	-8.20E+01	-1.88E+00
Total use of non-re. PER	MJ	4.87E+03	7.25E+02	6.93E+03	1.25E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.76E+01	6.09E+01	-7.56E+02	-7.64E+01	-4.72E+01
Secondary materials	kg	1.65E+00	3.69E-01	2.26E+01	2.46E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.80E-02	2.69E-02	1.22E-01	1.28E-02	1.73E+01
Renew. secondary fuels	MJ	9.27E+00	2.50E-03	7.81E+02	7.91E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.33E-05	3.48E-04	2.20E-03	6.18E-05	2.48E-02
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	2.45E+00	7.34E-02	5.36E+00	7.88E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.33E-03	8.46E-03	7.12E-02	-2.14E-02	5.83E-01

8) PER = Primary energy resources.

廃棄・リサイクル段階 — 廃棄 - 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	2.26E+01	4.55E+00	4.36E+00	3.15E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.58E-02	4.16E-01	1.51E+00	2.44E-01	-3.48E+00
Non-hazardous waste	kg	5.57E+02	4.58E+01	1.46E+02	7.49E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.10E+00	6.37E+00	3.17E+01	5.56E+01	-2.15E+01
Radioactive waste	kg	4.36E-03	1.11E-04	1.57E-03	6.04E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.06E-06	1.20E-05	2.84E-04	2.37E-06	1.60E-04

廃棄・リサイクル段階 — 出力フロー - END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.88E-09	0.00E+00	7.62E+01	7.62E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	4.97E+02	2.54E+00	0.00E+00
Materials for energy rec	kg	9.83E-18	0.00E+00	6.21E+01	6.21E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	1.30E-01	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	3.12E+00	0.00E+00	0.00E+00
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	4.71E-01	0.00E+00	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	2.65E+00	0.00E+00	0.00E+00

環境影響 - 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	3.15E+02	5.51E+01	5.67E+02	9.37E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.16E+00	4.28E+00	1.69E+01	1.27E+00	-5.09E+00
Ozone depletion Pot.	kg CFC_{-11}e	7.34E-06	6.47E-07	2.43E-05	3.23E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.14E-08	5.14E-08	9.96E-08	7.21E-09	-6.73E-07
Acidification	kg SO_2e	1.28E+00	4.40E-01	2.24E+00	3.96E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.26E-02	8.60E-03	6.76E-02	4.56E-03	8.49E-03
Eutrophication	kg PO_4^3e	3.89E+00	9.28E-02	7.44E-01	4.72E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.68E-03	2.39E-03	1.18E-02	1.91E-03	-2.71E-02
POCP	kg C_2H_4e	1.54E-01	2.71E-02	1.42E-01	3.23E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.45E-03	7.92E-04	5.93E-03	4.93E-04	-5.67E-03
ADP-elements	kg Sbe	2.03E-03	1.32E-04	2.75E-04	2.43E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.81E-06	1.42E-05	3.87E-05	1.69E-06	-8.37E-05
ADP-fossil	MJ	4.58E+03	7.18E+02	7.16E+03	1.25E+04	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.71E+01	6.02E+01	1.79E+02	7.05E+00	-4.56E+01

環境影響 - ENVIRONMENTAL IMPACTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Radioactive waste, high	kg	1.29E-03	3.26E-05	2.06E-04	1.52E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.05E-06	3.52E-06	8.87E-05	6.94E-07	5.44E-05
Radioactive waste, int/low	kg	3.21E-03	7.83E-05	2.72E-03	6.01E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.01E-06	8.53E-06	1.95E-04	1.67E-06	1.06E-04

シナリオドキュメント- SCENARIO DOCUMENTATION

データソース - DATA SOURCES

製造エネルギーのシナリオドキュメント - Manufacturing energy scenario documentation

1. Heat production, untreated waste wood, at furnace 1000-5000 kW, World, Ecoinvent, 2.07 kgCO2e/kg
2. Electricity, consumption mix w/o renewables, Japan, 2023, Japan, One Click LCA, 0.92 kgCO2e/kWh

廃棄・リサイクル段階のシナリオドキュメント– End of life (C1-C4) - Scenario documentation

シナリオパラメータ - Scenario parameter	数値- Value
回収プロセス：分別回収（kg） Collection process: collected separately (kg)	543.21
回収プロセス：混合廃棄物（kg） Collection process: Mixed waste (kg)	-
再生：再使用（kg） Recovery: re-use (kg)	-
再生：リサイクル（kg） Recovery: recycling (kg)	500
再生：エネルギー回収（kg） Recovery: energy recovery (kg)	0.13
廃棄（kg） Disposal (kg)	43.1
シナリオの前提条件（例：輸送［手段、km］およびその他） Scenario assumptions e.g. transportation (mode, km) & other	Transported 50 km by lorry

検証報告 - 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

Afzal khan Peerukhan as an authorized verifier for EPD Hub Limited
20.11.2026

