Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Araucoply® Plywood Products

EPD of multiple products, based on the average results of the product group (see full list of products in Table 1, page 6)

from

Arauco

Programme:	The International EPD® System, www.environdec.com EPD registered through the fully aligned regional programme: Hub EPD ® Latin America
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information

Programme information

Programme:	The International EPD® System EPD registered through the fully aligned regional programme/hub: EPD® Latin America www.epdamericalatina.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *CONSTRUCTION PRODUCTS, PCR 2019:14, VERSION 1.3.4, 2024-04-30, UN CPC Code 31411 Plywood consisting solely of sheets, of coniferous wood .* c-PCR-006 Wood and wood-based products for use in construction (EN 16485:2014). Version 2024-04-30.
PCR review was conducted by: *The Technical Committee of the International EPD System. See www.environdec.com for a list of members.* Review chair: *Claudia A. Peña, Director PNDA LCT SpA.* *The review panel may be contacted via the Secretariat* www.environdec.com/contact
Life Cycle Assessment (LCA)
LCA accountability: *Author: Mariana Aguirre Brockway* *Filiation: Edge Impact Latam.*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: *Sonia Valdivia, PhD* Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:

CELULOSA ARAUCO Y CONSTITUCIÓN S.A. (ARAUCO); further corporate information available at https://arauco.com/chile/.

Contact:

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Central office

Address: Av. El Golf 150, Piso 14, Las Condes, Santiago, Chile

Tel.: (56) 224-617- 200

Description of the organisation:

Celulosa Arauco y Constitución S.A. (ARAUCO) is a global forestry company providing sustainable and high-quality solutions for paper, apparel, construction, packaging, furniture and energy industries. Founded in 1979 when Celulosa Arauco S.A. merged with Celulosa Constitución S.A., both created by the Chilean Economic Development Agency - Corfo, and now acquired by Empresas Copec S.A. ARAUCO´s main office is based in Santiago, Chile. However, it is a global company operating on five continents, with 4 813 customers distributed around the world. ARAUCO has sales offices in 13 countries and sales representatives in a further 15 countries.

The company has industrial operations in Chile, Argentina, Brazil, Mexico, the United States and Canada. As well as industrial operations in Uruguay, through our 50% share in the Montes del Plata joint operation, and in Spain, Portugal, Germany and South Africa, through our 50% share in the Sonae ARAUCO joint venture.

In 2020 ARAUCO became certified[1] as a carbon neutral forestry company in the world and during this year the company obtained a net capture of 7.2 million tons of carbon dioxide, producing products made from 100% renewable, recyclable and biodegradable raw materials. ARAUCO has 509 thousand hectares of native forest, which are being conserved. Additionally, the company has 135 thousand areas of High Conservation Value (AAVC). AAVC are those areas of ARAUCO's heritage that contain especially significant and critical environmental and social values. See the company's integrated report for more information (Arauco, 2023).

Climate action plan

ARAUCO developed a climate action plan in 2019, focusing on climate, biodiversity, circular bioeconomy, and as announced during our appearance at COP 27 in 2022 – additionally including water in its plan. ARAUCO relies on the entire commitment chain, from caring for the trees in the future to developing renewable and biodegradable products.

ARAUCO´s sustainable goals:

- Climate – Reduce carbon dioxide emissions by 1 million tons by 2030

[1] 2020 and 2023 letters of certification available at: https://arauco.com/chile/sostenibilidad/certificaciones/

- Biodiversity –protect 142 endangered species in our local habitats, committed to restoring 50 hectares of native forests and expanding our network of 166 high conservation value areas.
- Circularity – Goal to achieve zero non-hazardous waste by 2030 – by maximizing the use of resources and consumables.
- Water – Measure its water footprint in 2023 and expand our ´Desafío agua´ (Water challenge) project
- Clean energy – increase the percentage of its energy sourced from NCRE
- Sustainable forestry management – Expand its ´protected productive landscapes´ forest management model.

Name and location of production site(s):

- Maderas Arauco S.A.- Planta Terciado Arauco, located in Los Horcones S/N - acceso sur, Arauco, Chile.
- Maderas Arauco S.A.- Planta Terciado Nueva Aldea, located in Autopista del Itata km 21 S/N, Ranquil, Chile.

Product information

Product name

All of the products included in this EPD are Arauco's ARAUCOPLY® Plywood Products.

Product identification

Product Name: Plywood
Synonyms: AraucoPly; Beaded Plywood; ColorShield Plywood Siding; Primed Plywood; Sanded Plywood; Plywood Siding.
UN CPC Code 31411 Plywood consisting solely of sheets, of coniferous wood.

Product description

ARAUCOPLY® is a Radiata Pine and phenolic resin plywood board, produced under international quality standards, including:

- FSC® Chain of Custody Certified (FSC®-C019364)
- TSCA VI/CARB Exempt (no added formaldehyde)
- ANSI/APA PRP 210 Compliant
- Premium siding (12 mm - 15/32" and 15 mm - 19/32") is grade-stamped and span-rated by TPI
- ACX and BCX grades meet PS1-22 underlayment requirements (Arauco, n.d.).

The study covers 130 products, produced in two plants. The products and some specifications are presented in Table 1 below. All products have the same raw materials, inputs and manufacturing process from start to finish.
The analysis has been done with a grouping of these products based on their uses and final terminations.

This grouping came from the company's technical expert, as follows:

- Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)
- Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)
- No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)
- No Apariencia - No Retapado (CD de linea/ Rech Prensa/ Rech Soplado)

- No Apariencia - Retapado (CD de cogeneración)
- Apariencia (AnC/ BC Deco)
- Apariencia (BC/ BD)
- No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)

No Apariencia product have in common that they have a higher number of natural attributes of the wood, like holes and live knots, while Apariencia have fewer of those attributes.

Within Apariencia, there is a further breakdown of products:

- Apariencia plus, with minimal superficial repairs and no natural defects in the wood, mainly associated with clear product (An/An, An/C, BC deco)
- Apariencia, products that present a smaller amount of natural wood defects, such as mainly live knots and minor repairs (AC, BC, and others).

Within No Apariencia, there is also further breakdown of products:

- Retapados, which have 100% solid and sanded face (Cp, CD de cogeneración)
- No Retapados, with open defects on the surface of the board and not sanded (CD de línea, Rech Prensa, Soplado)

It is important to mention that, although most of products don't have an impact variation higher than +/- 10%, 9mm products and Araucoply Plywood BC 8X2 T&G-M (Mould Prot) have over 10% for GWP-GHG for A1-A3, while other thicknesses present higher variation for other indicators. The variations for the different impact indicators are indicated in Appendix A. However, this EPD has included all products in one document. The reason behind this is that the production process is the same for all products, with only small variations in the use of some inputs depending on the expected appearance of a product, not affecting the possible uses and function of these. This complies with GPI for different products included in a single EPD.

Table 1- Overview of Arauco's products

#	Productc name	Lenght (mm)	Width (mm)	Thickness (mm)	Grouping
1	Araucoply Plywood AnAn	2 440	1 220	12	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 12
2	Araucoply Plywood AnAn	2 440	1 220	15	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15
3	Araucoply Plywood AnAn	2 440	1 220	18	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 18
4	Araucoply Plywood AnAn	2 440	1 220	21	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 21
5	Araucoply Plywood AnAn	2 440	1 220	25	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 25
6	Araucoply Plywood AnC	2 440	1 220	9	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9
7	Araucoply Plywood AnC	2 440	1 220	12	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 12
8	Araucoply Plywood AnC	2 440	1 220	15	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15
9	Araucoply Plywood AnC	2 440	1 220	18	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 18
10	Araucoply Plywood AnC	2 440	1 220	21	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 21
11	Araucoply Plywood AnC	2 440	1 220	25	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 25

12	Araucoply Plywood AC	2 440	1 220	6.5	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5
13	Araucoply Plywood AC	2 440	1 220	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
14	Araucoply Plywood AC	2 440	1 220	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
15	Araucoply Plywood AC	2 440	1 220	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
16	Araucoply Plywood AC	2 440	1 220	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
17	Araucoply Plywood AC	2 440	1 220	21	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 21
18	Araucoply Plywood AC	2 440	1 220	25	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25
19	Araucoply Plywood AC	2 440	1 220	30	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30
20	Araucoply Plywood AC	2 500	1 250	6.5	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5
21	Araucoply Plywood AC	2 500	1 250	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
22	Araucoply Plywood AC	2 500	1 250	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
23	Araucoply Plywood AC	2 500	1 250	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
24	Araucoply Plywood AC	2 500	1 250	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
25	Araucoply Plywood AC	2 500	1 250	21	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 21
26	Araucoply Plywood AC	2 500	1 250	25	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25
27	Araucoply Plywood AC	2 500	1 250	30	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30
28	Araucoply Plywood BC	2 440	1 220	6.5	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5
29	Araucoply Plywood BC	2 440	1 220	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
30	Araucoply Plywood BC	2 440	1 220	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
31	Araucoply Plywood BC	2 440	1 220	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
32	Araucoply Plywood BC	2 440	1 220	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
33	Araucoply Plywood BC	2 440	1 220	21	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 21

34	Araucoply Plywood BC	2 440	1 220	25	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25
35	Araucoply Plywood BC	2 440	1 220	30	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30
36	Araucoply Plywood BC	2 400	1 200	6.5	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5
37	Araucoply Plywood BC	2 400	1 200	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
38	Araucoply Plywood BC	2 400	1 200	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
39	Araucoply Plywood BC	2 400	1 200	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
40	Araucoply Plywood BC	2 400	1 200	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
41	Araucoply Plywood BC	2 400	1 200	21	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 21
42	Araucoply Plywood BC	2 400	1 200	25	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25
43	Araucoply Plywood BC	2 400	1 200	30	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30
44	Araucoply Plywood BC	2 500	1 250	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
45	Araucoply Plywood BC	2 500	1 250	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
46	Araucoply Plywood BCp Deco	2 440	1 220	15	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15
47	Araucoply Plywood BCp Deco	2 440	1 220	18	Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 18
48	Araucoply Plywood BCp	2 440	1 220	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
49	Araucoply Plywood BCp	2 440	1 220	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
50	Araucoply Plywood BCp	2 440	1 220	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
51	Araucoply Plywood BCp	2 440	1 220	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
52	Araucoply Plywood CpC	2 440	1 220	6.5	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 6.5
53	Araucoply Plywood CpC	2 440	1 220	9	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9
54	Araucoply Plywood CpC	2 440	1 220	12	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 12
55	Araucoply Plywood CpC	2 440	1 220	15	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15
56	Araucoply Plywood CpC	2 440	1 220	18	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 18

57	Araucoply Plywood CpC	2 440	1 220	21	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 21
58	Araucoply Plywood CpC	2 440	1 220	25	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 25
59	Araucoply Plywood CpC	2 440	1 220	30	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 30
60	Araucoply Plywood CpC	2 400	1 200	6.5	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 6.5
61	Araucoply Plywood CpC	2 400	1 200	9	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9
62	Araucoply Plywood CpC	2 400	1 200	12	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 12
63	Araucoply Plywood CpC	2 400	1 200	15	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15
64	Araucoply Plywood CpC	2 400	1 200	18	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 18
65	Araucoply Plywood CpC	2 400	1 200	21	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 21
66	Araucoply Plywood CpC	2 400	1 200	25	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 25
67	Araucoply Plywood CpC	2 400	1 200	30	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 30
68	Araucoply Plywood CpD	2 400	1 200	6.5	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 6.5
69	Araucoply Plywood CpD	2 400	1 200	9	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9
70	Araucoply Plywood CpD	2 400	1 200	12	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 12
71	Araucoply Plywood CpD	2 400	1 200	15	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15
72	Araucoply Plywood CpD	2 400	1 200	18	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 18
73	Araucoply Plywood CpD	2 400	1 200	21	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 21
74	Araucoply Plywood CpD	2 400	1 200	25	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 25
75	Araucoply Plywood CpD	2 400	1 200	30	No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 30
76	Araucoply Plywood CD COGEN	2 440	1 220	6.5	No Apariencia - Retapado (CD de cogeneración)- 6.5
77	Araucoply Plywood CD COGEN	2 440	1 220	9	No Apariencia - Retapado (CD de cogeneración)- 9
78	Araucoply Plywood CD COGEN	2 440	1 220	12	No Apariencia - Retapado (CD de cogeneración)- 12
79	Araucoply Plywood CD COGEN	2 440	1 220	15	No Apariencia - Retapado (CD de cogeneración)- 15
80	Araucoply Plywood CD COGEN	2 440	1 220	18	No Apariencia - Retapado (CD de cogeneración)- 18
81	Araucoply Plywood CD COGEN	2 440	1 220	21	No Apariencia - Retapado (CD de cogeneración)- 21
82	Araucoply Plywood CD COGEN	2 440	1 220	25	No Apariencia - Retapado (CD de cogeneración)- 25
83	Araucoply Plywood CD COGEN	2 440	1 220	30	No Apariencia - Retapado (CD de cogeneración)- 30
84	Araucoply Plywood CD COGEN	2 400	1 200	6.5	No Apariencia - Retapado (CD de cogeneración)- 6.5
85	Araucoply Plywood CD COGEN	2 400	1 200	9	No Apariencia - Retapado (CD de cogeneración)- 9
86	Araucoply Plywood CD COGEN	2 400	1 200	12	No Apariencia - Retapado (CD de cogeneración)- 12

87	Araucoply Plywood CD COGEN	2 400	1 200	15	No Apariencia - Retapado (CD de cogeneración)- 15
88	Araucoply Plywood CD COGEN	2 400	1 200	18	No Apariencia - Retapado (CD de cogeneración)- 18
89	Araucoply Plywood CD COGEN	2 400	1 200	21	No Apariencia - Retapado (CD de cogeneración)- 21
90	Araucoply Plywood CD COGEN	2 400	1 200	25	No Apariencia - Retapado (CD de cogeneración)- 25
91	Araucoply Plywood CD COGEN	2 400	1 200	30	No Apariencia - Retapado (CD de cogeneración)- 30
92	Araucoply Plywood MU	2 440	1 220	6.5	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5
93	Araucoply Plywood MU	2 440	1 220	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
94	Araucoply Plywood MU	2 440	1 220	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
95	Araucoply Plywood MU	2 440	1 220	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
96	Araucoply Plywood MU	2 440	1 220	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
97	Araucoply Plywood MU	2 440	1 220	21	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 21
98	Araucoply Plywood MU	2 440	1 220	25	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25
99	Araucoply Plywood MU	2 440	1 220	30	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30
100	Araucoply Plywood MU	2 400	1 200	6.5	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5
101	Araucoply Plywood MU	2 400	1 200	9	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9
102	Araucoply Plywood MU	2 400	1 200	12	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12
103	Araucoply Plywood MU	2 400	1 200	15	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15
104	Araucoply Plywood MU	2 400	1 200	18	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18
105	Araucoply Plywood MU	2 400	1 200	21	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 21
106	Araucoply Plywood MU	2 400	1 200	25	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25
107	Araucoply Plywood MU	2 400	1 200	30	Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30
108	Araucoply Plywood BC Deco - Grooved	2 440	1 220	9	Apariencia (AnC/ BC Deco)- 9
109	Araucoply Plywood BC Deco - Grooved	2 440	1 220	12	Apariencia (AnC/ BC Deco)- 12
110	Araucoply Plywood BC Deco - Grooved	2 440	1 220	15	Apariencia (AnC/ BC Deco)- 15

111	Araucoply Plywood BC 8X2 T&G	2 440	610	12	Apariencia (BC/ BD)- 12
112	Araucoply Plywood BC 8X2 T&G-M	2 440	610	15	Apariencia (BC/ BD)- 15
113	Araucoply Plywood BC 8X2 T&G-M	2 440	610	18	Apariencia (BC/ BD)- 18
114	Araucoply Plywood BC 8X2 T&G-M	2 440	610	21	Apariencia (BC/ BD)- 21
115	Araucoply Plywood BC 8X2 T&G-M (Mould Prot)	2 440	610	18	Apariencia (BC/ BD)- 18
116	Araucoply Plywood BC 8X2 T&G-M4	2 400	610	18	Apariencia (BC/ BD)- 18
117	Araucoply Plywood BC 8X2 T&G-M4	2 440	610	18	Apariencia (BC/ BD)- 18
118	Araucoply Plywood BC 8X2 T&G-M4	2 400	610	21	Apariencia (BC/ BD)- 21
119	Araucoply Plywood BC 8x4 T&G	2 440	1 220	12	Apariencia (BC/ BD)- 12
120	Araucoply Plywood BC 8x4 T&G-M	2 440	1 220	15	Apariencia (BC/ BD)- 15
121	Araucoply Plywood BC 8x4 T&G-M	2 440	1 220	18	Apariencia (BC/ BD)- 18
122	Araucoply Plywood BC 8x4 T&G-M	2 440	1 220	21	Apariencia (BC/ BD)- 21
123	Araucoply Plywood CpC 8X4 T&G	2 440	1 220	12	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 12
124	Araucoply Plywood CpC 8X4 T&G-M	2 440	1 220	15	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 15
125	Araucoply Plywood CpC 8X4 T&G-M	2 440	1 220	18	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 18
126	Araucoply Plywood CpC 8X4 T&G-M	2 440	1 220	21	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 21
127	Araucoply Plywood CpC T&G SH	2 400	1 200	12	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 12
128	Araucoply Plywood CpC T&G-M SH	2 400	1 200	15	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 15
129	Araucoply Plywood CpC T&G-M SH	2 400	1 200	18	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 18
130	Araucoply Plywood CpC T&G-M SH	2 400	1 200	21	No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 21

Description of grouping of products is presented below. Common physical and chemical properties of Arauco's plywood products are presented in Table 2. For more information, please review the products Safety Data Sheet (Arauco, 2022).

Table 2- Main properties of Arauco's plywood products

Property	
Physical state	Solid
Appearance	Colour varies by product
Odor	No distinctive odour

Solubility	Insoluble in water

ARAUCOPLY® Plywood AnAn

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood An/An has a clear premium face and backface, with superior appearance for decorative finishes and timber's natural look. No defects, patches or repairs are accepted. Main applications include Cabinets and all type of furniture, showing face and back face, tables and counter tops, decorative panels for walls and ceilings. General DIY projects.	12/15/18/21/25	2 440 x 1 220

Illustration 1- ARAUCOPLY® AnAn plywood product.

ARAUCOPLY® Plywood AnC

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood An/C has a clear premium face, free of knots and defects. Has a high appearance quality and it mainly used in applications including Cabinets and all type of furniture showing mainly face; as example decorative panels for walls, ceilings, and general DIY projects.	9/12/15/18/21/25	2 440 x 1 220

Illustration 2- ARAUCOPLY® AnC plywood product.

ARAUCOPLY® Plywood AC

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood A/C has a high-quality solid face, normally clear. Is a very versatile product, mainly used for all kind of DIY projects, cabinets, carpentry, decorative and industrial applications	6.5/9/12/15/18/21/25/30	2 440 x 1 220 / 2 500 x 1 250

Illustration 3- ARAUCOPLY® AC plywood product.

ARAUCOPLY® Plywood BDeco/Cp

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood BDeco/CP has a clear premium face, superior dimensional stability, and strength. Has a solid backface, well sanded. Main applications include laminated plywood (glass fiber) for interiors of trucks, industrial projects, and different uses in construction.	15/18	2 440 x 1 220

Illustration 4- ARAUCOPLY® B Deco / Cp plywood product (face BDeco and backface Cp).

ARAUCOPLY® Plywood BCp

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B/CP has a normally clear and solid face, with good dimensional stability and strength. Has a solid backface, well sanded. Main applications are concrete forming, packaging material, especially wooden crates, industrial projects, carpentry, and furniture.	9/12/15/18	2 440 x 1 220

Illustration 5- ARAUCOPLY® BCp plywood product

ARAUCOPLY® Plywood BC

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B/C has a good visual quality and solid face, versatility, good dimensional stability, and strength. Main applications are concrete forming, carpentry, industrial projects, and furniture.	6.5/9/12/15/18/21/25/30	2 440 x 1 220 / 2 400 x 1 200 / 2 500 x 1 250

Illustration 6- ARAUCOPLY® BC plywood product

ARAUCOPLY® Plywood CpC

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood Cp/C are panels with great dimensional stability and with excellent physical mechanical resistance. Main applications include concrete forming and general applications for construction, like flooring and roofing.	6.5/9/12/15/18/21/25/30	2 440 x 1 220 / 2 400 x 1 200

Illustration 7- ARAUCOPLY® CP (CpC) plywood product

ARAUCOPLY® Plywood CpD

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood CP/D panels has a solid and good quality face, sanded to 150 grids. Main applications in construction like roofing, flooring, structural walls. It has a high dimensional stability and excellent mechanical and physical resistance, allowing an outside and inside use.	6.5/9/12/15/18/21/25/30	2 400 x 1 200

Illustration 8- ARAUCOPLY® CP (CpD) plywood product

ARAUCOPLY® Plywood CD

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood C/D panels has a main use in construction, in applications like roofing, flooring, structural walls. It has a high dimensional stability and excellent mechanical and physical resistance, allowing an outside and inside use.	6.5/9/12/15/18/21/25/30	2 440 x 1 220 / 2 400 x 1 200

Illustration 9- ARAUCOPLY® CD plywood product

ARAUCOPLY® Plywood MU (Multi-Use)

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood MU panels are basically a grade coming from a downfall of appearance grades like AC, BC, etc. As such has many uses as recovery panels in shorter formats, with a clear face. Main applications are for furniture, DIY and decorative projects, carpentry.	6.5/9/12/15/18/21/25/30	2 440 x 1 220 / 2 400 x 1 200

Illustration 10- ARAUCOPLY@ MU (Multi- Use) plywood product

ARAUCOPLY® Plywood BC Deco - Grooved

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B Deco Grooved have excellent visual quality and is one of the best appearance grade products we have. Perfect for interior uses (siding) and various design projects, offering an attractive solution serving for multiple applications. Can also be used in exterior projects, as cladding.	9/12/15	2 440 x 1 220

Illustration 11- ARAUCOPLY® BC Deco – Grooved plywood product

ARAUCOPLY® Plywood BC T&G

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B/C T&G panels have main applications in the construction industry. Easy to work with in construction of floors, ceilings, and walls. The tongue and groove configuration (2 or 4 sides) is a good help for a quick job in construction.	12	2 440 x 610 / 2 440 x 1 220

Illustration 12- ARAUCOPLY® BC T&G plywood product

ARAUCOPLY® Plywood BC T&G-M

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B/C T&G - M panels have 2 sides with T&G configuration. Main applications in the construction industry if customers require a clear face for the work. Easy to work with in construction of floors, ceilings, and walls. The tongue and groove configuration are a good help for a quick job in construction.	15/18/21	2 440 x 610 / 2 440 x 1 220

Illustration 13- ARAUCOPLY® BC T&G-M plywood product

ARAUCOPLY® Plywood BC T&G-M (Mould Prot)

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B/C T&G - M panels have 2 sides with T&G configuration, plus an antifungal treatment. This allows panels to be used in exterior, for construction, avoiding fungus attack. Main applications in the construction industry. Easy to work with in construction of floors, ceilings, and walls. The tongue and groove configuration are a good help for a quick job in construction.	18	2 440 x 610

Illustration 14- ARAUCOPLY® BC T&G-M (Mould Prot) plywood product

ARAUCOPLY® Plywood BC T&G-M4

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood B/C T&G - M4 panels have 4 sides with T&G configuration. Main applications in the construction industry. Easy to work with in construction of floors, ceilings, and walls. The tongue and groove configuration are a good help for a quick job in construction.	18/21	2 440 x 610 / 2 400 x 610

Illustration 15- ARAUCOPLY® BC T&G-M4 plywood product

ARAUCOPLY® Plywood CpC T&G

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood CpC T&G. Main applications in the construction industry. Easy to work with in construction of floors, ceilings, and walls. The tongue and groove configuration (2 or 4 sides) is a good help for a quick job in construction.	12	2 440 x 1 220 / 2 400 x 1 200

Illustration 16- ARAUCOPLY® CpC T&G plywood product

ARAUCOPLY® Plywood CpC T&G-M

Product description	Thicknesses (mm)	Size (mm)
Araucoply Plywood CpC T&G-M panels have 2 sides with T&G configuration. Main applications in the construction industry when a solid face is just enough for the work. Easy to work with in construction of floors, ceilings, and walls. The tongue and groove configuration are a good help for a quick job in construction.	15/18/21	2 440 x 1 220 / 2 400 x 1 200

Illustration 17- ARAUCOPLY® CpC T&G-M plywood product

UN CPC code

Code 314111 Plywood consisting solely of sheets, of coniferous wood.

Geographical scope

For this EPD, the geographical scope of ARAUCOPLY® Plywood Products is Europe.

LCA information

For the Environmental Indicators calculations of multiple products, Arauco declares the average results of the 130 products. These have been appropriately weighted according to the production volume of each one of them and, in the same line, further tables regarding their content report weighted average values.

Uncertainty Analysis

According to ISO 14044, three techniques shall be considered:

- Completeness check
- Sensitivity check
- Consistency check

Completeness check

Table 3 presents the completeness check, following Table B9 of ISO 14044. Data is available and complete for the different processes.

Table 3- Completeness check

Unit process	Availability	Complete	Action required
Material production	Yes	Yes	None
Energy supply	Yes	Yes	None
Transport	Yes	Yes	None
Processing	Yes	Yes	None
Packaging	Yes	Yes	None
Use	Yes	Yes	None
End of life	Yes	Yes	None

Sensitivity check

The uncertainty of the emission factors has been calculated using Monte Carlo analysis in Simapro software and presented in Table 4.

Table 4- Uncertainty analysis of emission factors per module, GWP-GHG

Module	Lower range (%)	Higher range (%)
A1- Raw Materials	-25%	30%
A1- Energy	-17%	17%
A2	-40%	41%
A3- Inputs	-14%	13%
A3- Packaging	-32%	34%
A3- Waste	-61%	64%
A4	-40%	41%
A5	-12%	15%
C1	-6%	6%
C2	-40%	41%
C3	-58%	77%
C4	-47%	50%
D	27%	-24%

In terms of data, a qualitative analysis has been done following that option in UNEP 2011- Global Guidance Principles for Life Cycle Assessment Databases. This is presented in Table 5.

Table 5- Qualitative sensitivity check

Assumption or limitation	Impact on LCA results	Discussion
Exclusion of employees, capital good and infrastructure	Low	See "Exclusion of small amounts and cut off criteria".
Maintenance during use	Unknown	Maintenance depends greatly on the use given to the product, which is difficult to estimate given the wide range of options.
Impact threshold and truncation error	Unknown, this study has not attempted to quantify the truncation error.	Impact thresholds and truncation error is a perennial issue for all process based LCIs. Exclusion of multiple small components in an LCI (even if individually they are below a small chosen % level) can lead to non-negligible overall impacts. This is particularly true when comparing very different options, as is the case of the different types of wall systems.

Consistency check

The consistency check attempts to determine whether the assumptions, methods, models and data are consistent. Data source, data accuracy, technology coverage, time related coverage, data age and geographical coverage need to be considered in this analysis. Table 6 presents the results of the consistency check for this LCI.

Table 6- Consistency check

Check	Source	Evaluation	Action
Data source	Specific data for core processes Generic data for downstream processes	Ok	None
Data accuracy	Good	Ok	None
Data age	2 years	Ok	None
Technology coverage	State of the art	Ok	None
Time- related coverage	Recent	Ok	None
Geographical coverage	Chile for Arauco's processes Europe for downstream modules	OK	None

Declared unit

This LCA considers a declared unit of 1 m^3 of plywood products (All products have a density of 518 kg/m^3 and moisture content of 8%), following the guidelines of the PCR2019:14, c-PCR-006 and the EN16485.

The products are produced in Chile and used in Europe.

Reference service life

Given the scope of the analysis (cradle-to-gate with options) no reference service life is relevant.

Time representativeness

The representative timeframe for this EPD is year 2022, based on production data for all Araucoply® products from January to December of the indicated year.

Database(s) and LCA software used

The primary database is Ecoinvent v3.10 and the life cycle assessment software utilized is SimaPro Expert (PRé Sustainability).

Description of system boundaries

The scope of this LCA is Cradle to Gate with modules A4-A5, C1–C4, module D (A1–A3 + C + D and additional modules).

Uncertainties surrounding the use and maintenance of the following modules precluded their inclusion in the modelling.
B1 – material emissions from usage
B2 – maintenance
B3 – repair
B4 – replacement
B5 – refurbishment
B6 – operational energy use
B7 – operational water use.

See system diagram below.

System diagram

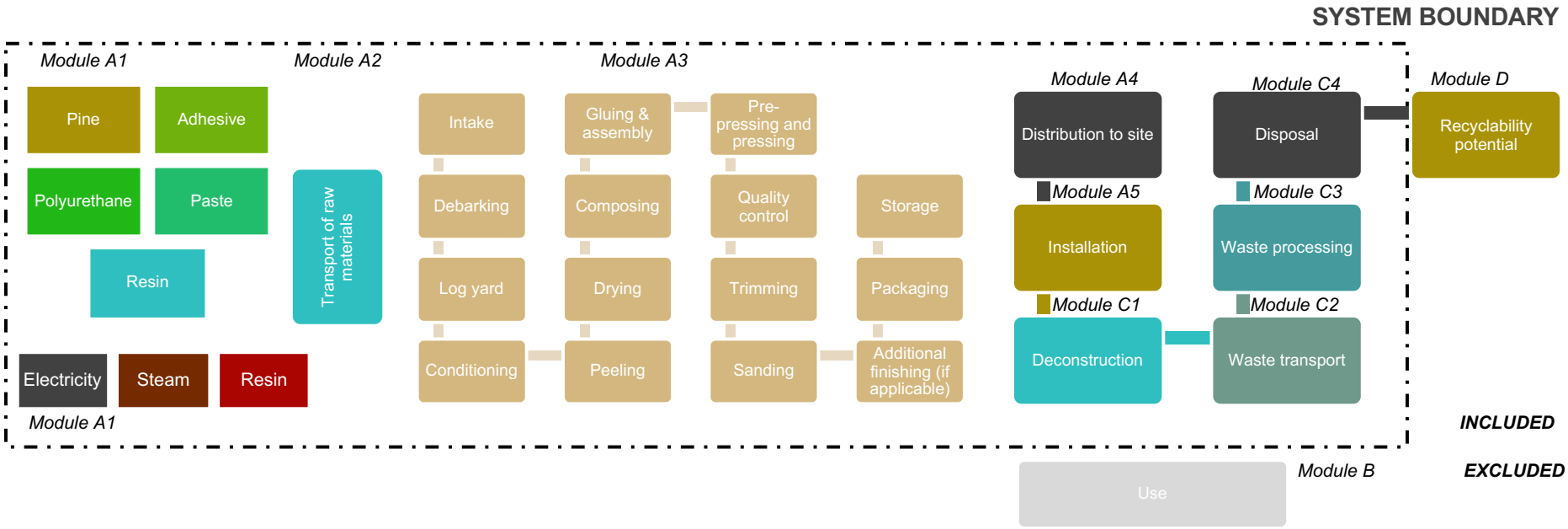


Figure 1- System diagra

The manufacturing process (Module A3) indicated in the previous diagram can be described as follows:

- **Intake:** Logs arriving at the facility are received and inspected.
- **Debarking:** The outer bark layer is removed from the logs.
- **Log yard:** Debarked logs are stored in a designated area called the log yard. Here, they are sprayed with water and chemicals for preservation.
- **Conditioning:** Logs are placed in hot water chambers to soften and prepare the wood fibers for processing.
- **Peeling:** A lathe spins the logs against a blade, producing thin sheets of wood veneer.
- **Drying:** The veneer sheets are dried to achieve an optimal moisture content.
- **Composing:** Individual sheets might be bonded together with glue for specific product requirements.
- **Gluing & assembly:** Adhesive is applied to the sheets, and they are layered together to form boards.
- **Pre-pressing & pressing: T**he boards are pressed under high pressure to achieve consistency and density.
- **Quality control:** Boards are meticulously inspected and repaired to eliminate imperfections, ensuring a high-quality product.
- **Trimming:** Boards are cut to their precise final dimensions.
- **Sanding:** The surfaces of the boards are sanded for smoothness and a finished look.
- **Additional finishing (if applicable):** Depending on the desired outcome, the boards may undergo further processes like grooving, cutting, or painting.
- **Packaging & Storage:** Finished products are packaged for storage and distribution.

Foreground data sources and quality

Life cycle data has been sourced from material quantity data and production process data from:

- Data collection spreadsheets filled by Arauco.
- Literature research to fill remaining data gaps.

For modules A4-A5-C and D a representative scenario of the most probable alternatives is used.

Allocation

Allocation of co-products

For Arauco's plywood production there are several co-products. According to the PCR, given the different value of the products, economic allocation was performed. The economic value has been calculates based on the sales revenue (total production mutiplied by selling value).

Allocation of waste

According to EN15804, the allocation of waste in the manufacturing process follows the polluter pays principle. The impacto of everything that goes to lanfdill is allocated to the company. For waste going to recycling, impact until end-of-waste is allocated to Arauco.

Allocation of reuse, recycling and recovery

Following EN16485:2014, for wood and wood-based products, the default scenario for the quantification of potential benefits in module D are the following:

- for recycling, substitution of primary material from forest and/or sawmills for the production of wood-based boards (e.g. particle board);

- for energy recovery, substitution of heat from fossil fuels, e.g. natural gas as a conservative choice.

This is aligned with statistics provided by PEF regarding uses of wood-based products in Europe, which have been used for the calculations of module D. As indicated by EN16485:2014, the impacts are calculated as follows:

- By adding all output flows. For Arauco only data in module C is considered for recycling or energy recovery;
- By adding the impacts connected to the recycling or recovery process from beyond the system boundary;
- By applying a value correction factor.

Exclusion of small amounts and cut off criteria

Cut-off criteria

It is common practice in LCA/LCI protocols to propose exclusion limits for inputs and outputs that fall below a threshold % of the total, but with the exception that where the input/output has a “significant” impact it should be included. According to the PCR 2019:14, Life cycle inventory data shall according to EN 15804 + A2 include a minimum of 95% of total inflows (mass and energy) per module. Inflows not included in the LCA shall be documented in the EPD.

For Arauco, 100% of inputs and outputs of the process have been included in the inventory; therefore no cut-off was applied.

System boundary for infrastructure, capital goods and employees

In accordance with the PCR 2019:14 Construction Products (v1.3.4), the following system boundaries are applied to manufacturing equipment and employees:

- Environmental impact from infrastructure, construction, production equipment, and tools that are not directly consumed in the production process are not accounted for in the LCI. Capital equipment and buildings typically account for less than a few percent of nearly all LCIs and this is usually smaller than the error in the inventory data itself. For this project, it is assumed that capital equipment makes a negligible contribution to the impacts as per Frischknecht et al. (Frischknecht, 2007) with no further investigation.
- Personnel-related impacts, such as transportation to and from work, are also not accounted for in the LCI. The impacts of employees are also excluded from inventory impacts on the basis that if they were not employed for this production or service function, they would be employed for another. It is very hard to decide what proportion of the impacts from their whole lives should count towards their employment. For this project, the impacts of employees are excluded.

Life Cycle Inventory

Raw materials and energy (Module A1)

The main component of plywood products is round pine wood, followed by resin, which is used as the adhesive for the different layers that make up the product. Data of these raw materials was provided by Arauco.

Electricity information

Electricity used by Arauco is produced in biomass boilers in companies adjacent to Arauco and Nueva Aldea, under the name Arauco Bioenergía S.A. The inputs and outputs of the broiler was obtained and modelled in Simapro® software.

The emission factors obtained (GWP-GHG), are the following:

- Arauco: 0.0209 $kgCO_2$ eq./kWh
- Nueva Aldea: 0.0265 $kgCO_2$ eq./kWh

Transport of inputs (Module A2)
Distance from suppliers to both plants for the different inputs was supplied by Arauco.

Manufacturing (Module A3)
Inputs and outputs of the manufacturing process was supplied by Arauco. Inputs are mostly chemicals and water for cleaning and protection of logs. Outputs include waste and the co-products, whose allocation was presented in the allocation section above.

Arauco to site (Module A4)
This module includes the weighted average distribution by percentage for European markets, calculated from sales data provided by the company. Transport to port is by land, while the rest of the trip is by ship. Road distance was calculated via Google Maps, while sea distance comes from Sea Distances (https://sea-distances.org/).

Installation (Module A5)
For installation, the scenario is realistic and representative of one of the most probable alternatives of use. Specifically, the scenario is the use of plywood as part of walls, floors or ceilings. The ancillary materials needed include power tool usage and screws to put them in place. The specific inputs of the process and assumptions for calculation are the following:

- Energy (electricity) consumption for construction and deconstruction has been calculated based on the consumption of 0.2 kWh of electricity per m^3 of plywood installed, which is assumed to be a conservative estimate based on up to 12 minutes of power tool usage (average 1kW power rating).
- For installation, for a 1 m^2 of area, 9 screws are assumed to be needed. This is multiplied by the number of screws needed for a 1 m of thickness of the board, if 40mm screws are used. The estimated weight of a screw is 0.4 g.

A 5% product waste is assumed for installation. A conservative assumption of all packaging and lost product going to landfill was used.

Deconstruction (Module C1)
Deconstruction of plywood only considers electricity. The value follows the same assumption from installation presented in the previous section and is considered representative and most probable alternative.

Transport (Module C2)
An assumption of 50km delivery distance to landfill or to recovery/recycling or reuse of products was made, based on the distance from likely construction sites within major cities to main landfill sites for the area. This is consistent with other studies, including a techno-economic and environmental assessment of construction and demolition waste management in the European Union[2].

[2] Garcia et al, 2024. Techno-economic and environmental assessment of construction and demolition waste management in the European Union. Available at: https://circulareconomy.europa.eu/platform/sites/default/files/2024-01/JRC135470_01_1.pdf

Waste processing (Module C3)
The end-of-life modelling is based on the most realistic scenario, using average values for waste treatment in the different European countries, following PEF data coming from Eurostat (European Commission, 2020).

Reuse, energy recovery and recycling are considered in module C3, while incineration and landfill are included in module C4.

In terms of processes, reuse doesn't consider any, while energy recovery and recycling assume the sorting and chipping of plywood to be used in further processes.

Disposal (Module C4)
Values aligned to PEF data coming from PEF (European Commission, 2020).

Recyclability potentials (Module D)

Given the end-of-life scenarios of plywood, the benefits are presented below:

- Energy recovery: since energy recovery happens in Europe, the assumption is made that plywood to recovery avoids the production of heat through natural gas. The specific energy avoided is based on the calorific value of wood pellets (17MJ/kg of product). The efficiency of the energy recovery process for electricity is assumed to be 0.5 (Grosso et al, 2010). The proportion of material in the product that is used for energy recovery (R3) comes from PEF (European Commission, 2020), depending on the country where each product is sold, averaging 0.4 among them. The allocation factor of energy recovery (B), as indicated by PEF is considered 0.
- Recycling: it assumes the plywood converts into wood chips. A loss of quality of the product is assumed because of recycling to wood chips. The correction factor is estimated at 0.2. R2 values come from PEF, which is 0.3 for wood. The allocation factor of burdens and credits between supplier and user of recycled material (A) is considered 0.8 according to PEF (European Commission, 2020).

More information

Additional details on the LCA practitioner are:

- Practitioner: Mariana Aguirre Brockway
- Filiation: Edge Impact Latam
- Company website: https://www.edgeimpact.global/
- Practitioner's contact email: mariana.aguirre@edgeimpact.global

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	RoW GLO	RoW GLO	RoW GLO	RoW GLO	RoW EU	-	-	-	-	-	-	-	RoW EU	Ro W EU	RoW EU	RoW EU	RoW EU
Specific data used	87%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	>10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	<10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X: Included in the EPD

ND: Module not declared

The use of the results of modules A1-A3 without considering the results of module C is discouraged.

Based on the definition of specific data from the PCR2019:14, the data for the different inputs and the manufacturing process is specific data. Regarding transport, although distances to suppliers is available, there is no further information, therefore it is considered as proxy data. This gives 87% of specific data.

It is important to mention that, although most of products don't have a variation higher than +/-10%, 9mm products and Araucoply Plywood BC 8X2 T&G-M (Mould Prot) have over 10% for GWP-GHG for A1-A3, while other thicknesses present higher variation for other indicators. The variations for the different impact indicators are indicated in Appendix A. However, this EPD has included all products in one document. The reason behind this is that the production process is the same for all products, with only small variations in the use of some inputs depending on the expected appearance of a product, not affecting the possible uses and function of these. This complies with GPI 4.0 for different products included in a single EPD.

Variation by sites was also calculated according to the production in each site for the different products.

Content information

Table below has the main components of plywood products. Pine wood is the main component of the product. This pine is sourced from another company in the Arauco holding and produced in Chile. The forests have different certifications, such as carbon neutral, PEFC and FSC. The relevant certifications can be found in the footnote[3].

Product components	Weight, kg	% versus one unit of product	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg	
Round pine wood	415.12	80%		100	%
				0.26	kg C/kg
Water	41.44	8%			
Paste	0.53	0.1%			
Polyurethane	0.51	0.1%			
Resin (adhesive)	60.22	12%			
Tape	0.06	0.01%			
String	0.12	0.02%			
TOTAL	518				
Packaging materials	**Weight, kg**	**Classification**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**	
Stretch film	0.20	Distribution packaging	0.04%		
Polyethylene	0.05	Distribution packaging	0.01%		
Plastic bands	0.27	Distribution packaging	0.05%		
Cardboard corners	0.03	Distribution packaging	0.01%	0.17	kg C/kg
Wood caps	1.81	Distribution packaging	0.35%	0.26	kg C/kg
TOTAL	2.36		0.46%	0.43	kg C/kg

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per declared unit
Formaldehyde, oligomeric reaction products with phenol / Resin, phenol formaldehyde / Phenol, polymer with formaldehyde / Phenol-formaldehyde resin / Phenol-formaldehyde copolymer / T-77 / Phenol resin / Phenoplasts / Bakelite / Phenol-formaldehyde condensations products / Phenolic resin /Phenol/formaldehyde copolymer, novolak type	1533716-785-6	9003-35-4	4.5%

[3] The different certifications of Arauco's Wood can be find in the following link: https://arauco.com/chile/sostenibilidad/certificaciones/

As indicated in the dangerous substances list, the product contains phenol- formaldehyde polymer. As it is indicated in the products safety data sheet (Arauco, 2022), the hazard information indicated in that document only applies when the product is altered downstream by cutting, sanding, heating or other means of significant dust or fume is generated. Classification for physical alteration resulting in dust or fume:
Resp. Sens. 1 H334
Skin Sens. 1 H317
Carc. 1A H350
STOT SE 3 H335
STOT RE 1 H372

Please refer to the products' safety data sheet for hazard statements, precautionary statements and supplement information (Arauco, 2022).

For Arauco, there is biogenic CO_2 stored both in the product. The numbers used for the calculations are as following:

- Biogenic carbon content: 888 $kgCO_2/m^3$
    - This comes from a dry mass of 490 kg/m^3 and carbon content of 0.494 kg C/kg of dry mass

Some of this is lost thought the manufacturing process and co-products, resulting in 666 $kgCO_2$ stored in the product.

Results of the environmental performance indicators

The following sections provide the environmental information, for the weighted average plywood products by Arauco. Appendix A presents the variation of results for the different products and indicators.

The EF package used for the calculations is EF3.1

Figure 2 to Figure 8 present different impact contributions that allow for a better understanding of the results, which will be described in the following sections. It's important to notice that percentages represent each module's contribution to a specific impact indicator. Because of the negative numbers, to ensure the total is not higher than 100%, calculation considers the absolute value of the results for each module.

Potential environmental impacts

- Overall, the life cycle stage with the highest environmental impact contribution is A1 (raw materials and energy) as can be seen in Figure 2 for the different global warming potential indicators and in Figure 3 for other impact indicators. In Figure 2, fossil global warming potential contributes to 52% of total emissions, while land use and land use change global warming contributes to 89%. Global warming potential biogenic, and therefore total as well (Figure 2) show the CO_2 uptake of the pine (non- native species) used to manufacture the plywood. Since this CO_2 has to be released again in the life cycle of the product, module C3 (waste processing) shows an important impact contribution, since this is where most of the CO_2 is assumed to be emitted again to the atmosphere. There is also some contribution in C4 (disposal), but it is lower because landfill and incineration are only a small fraction of the end of life of the products sold in Europe. Table 7 presents how biogenic carbon was treated according to Annex 2 of PCR2019:14. This is also consistent with Figure 1 of EN 16485 for the characterization of biogenic carbon fluxes in cases where carbon neutrality can be assumed.
- In Figure 3 the contribution of A1 ranges from 39% (AP= acidification potential) to 80% (ADP minerals&metals = Abiotic depletion potential minerals & metals), averaging 57%. The second average impact contribution comes from A4 (transport to customers), with 18%. This can be explained by the long distance to the European markets. All other modules present a small impact contribution (lower than 10%). A relevant contribution is module A3 (manufacturing) to eutrophication potential (17%), coming from waste generated in the process.
- As can be seen in both Figure 2 and Figure 3, module D (benefits from the next life cycle) mostly has a negative impact, meaning a positive contribution thanks to the reuse, recycling and waste to energy of the product at the end of its life.
- Figure 4 has the specific total global warming potential contribution of the different inputs and outputs in all modules. As previously mentioned, pine wood has a negative contribution in module A1, which compensates in modules C3 (waste processing) and C4 (disposal) when the life of the product finishes. Module D (benefits) is also negative because of recycling, reusing and waste to energy. In terms of inputs emissions, the resin has the single highest contribution, with 13%. The transport to customers has the second highest contribution, with 4%, while the transport of inputs has 2% of the total impact.

Mandatory impact category indicators according to EN 15804

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.

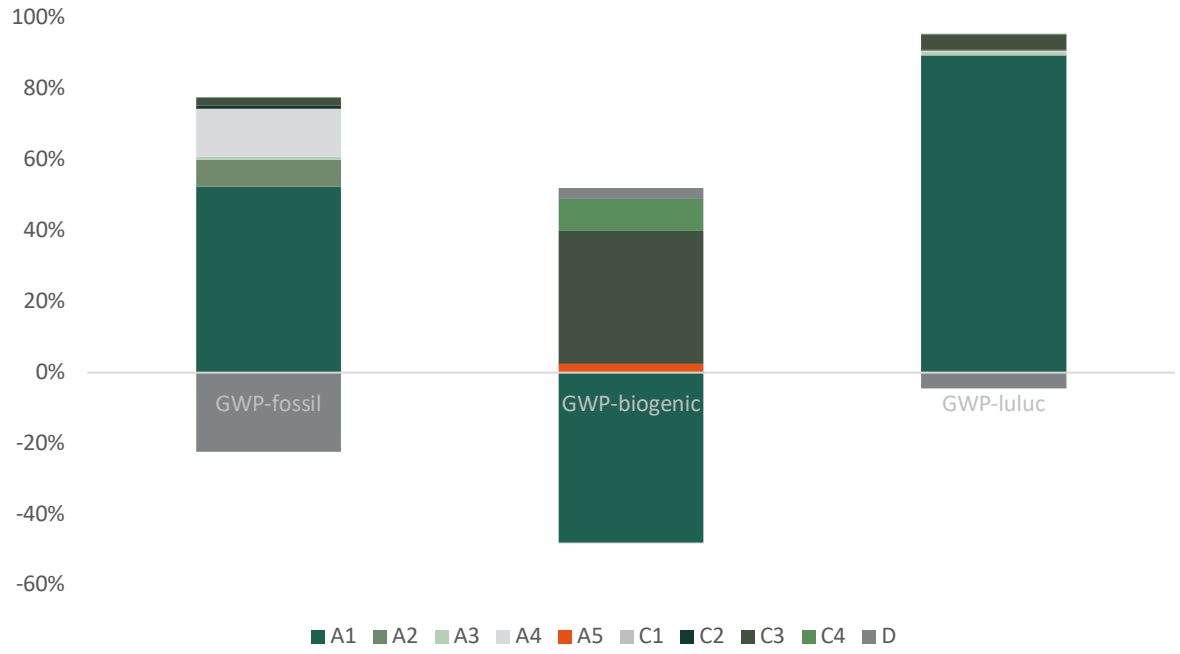
Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	3.36E+02	7.45E+01	4.82E-01	4.12E-02	4.84E+00	1.17E+01	4.09E-01	-1.23E+02
GWP-biogenic	kg CO_2 eq.	-6.66E+02	2.58E-03	3.48E+01	1.02E-04	2.02E-04	5.20E+02	1.26E+02	4.23E+01
GWP-luluc	kg CO_2 eq.	6.45E-01	2.14E-03	2.85E-04	9.29E-05	1.40E-04	3.20E-02	1.38E-05	-3.21E-02
GWP-total	kg CO_2 eq.	-3.30E+02	7.46E+01	3.53E+01	4.14E-02	4.84E+00	5.32E+02	1.26E+02	-8.13E+01
ODP	kg CFC 11 eq.	6.68E-06	1.09E-06	8.88E-09	1.10E-09	6.44E-08	1.39E-07	6.29E-09	-5.25E-06
AP	mol H^+ eq.	1.79E+00	2.10E+00	2.54E-03	9.88E-05	1.27E-02	5.89E-02	3.76E-03	2.38E-01
EP-freshwater	kg P eq.	2.14E-01	1.84E-03	8.51E-04	4.18E-05	2.99E-04	8.09E-03	2.03E-03	-1.11E-02
EP-marine	kg N eq.	6.24E-01	5.25E-01	9.79E-03	2.66E-05	4.55E-03	1.98E-02	3.05E-02	1.43E-01
EP-terrestrial	mol N eq.	6.68E+00	5.83E+00	9.54E-03	2.85E-04	4.99E-02	2.09E-01	1.92E-02	1.57E+00
POCP	kg NMVOC eq.	2.39E+00	1.56E+00	3.83E-03	8.59E-05	1.89E-02	6.34E-02	9.57E-03	7.77E-01
ADP-minerals&metals*	kg Sb eq.	4.17E-05	1.19E-06	2.72E-07	1.70E-09	2.84E-07	6.41E-07	1.67E-08	-1.93E-06
ADP-fossil*	MJ	6.33E+03	9.25E+02	8.33E+00	9.06E-01	6.40E+01	1.59E+02	5.64E-02	-2.08E+03
WDP	m^3	4.97E+01	4.14E-01	5.98E-02	1.09E-02	5.94E-02	6.62E-01	4.17E-03	-1.51E+01
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

Table 7- Results of GWP- Biogenic

	A1-A2	A3	A4-A5	C1-C2	C3-C4	Sum A-C
GWP-biogenic (CO, CH4 etc)	0.12	0.001	1.49	0.000	13.14	14.75
GWP- biogenic (CO_2 for non-product/packaging content)	0.00	0.000	0.000	0.000	0.000	0.000
GWP-biogenic (product or packaging content as CO_2)	-666.13	-0.000	33.32	0.000	632.81	0.000
GWP- biogenic (as reported in the EPD)	-666.02	-0.001	34.81	0.000	645.95	14.75

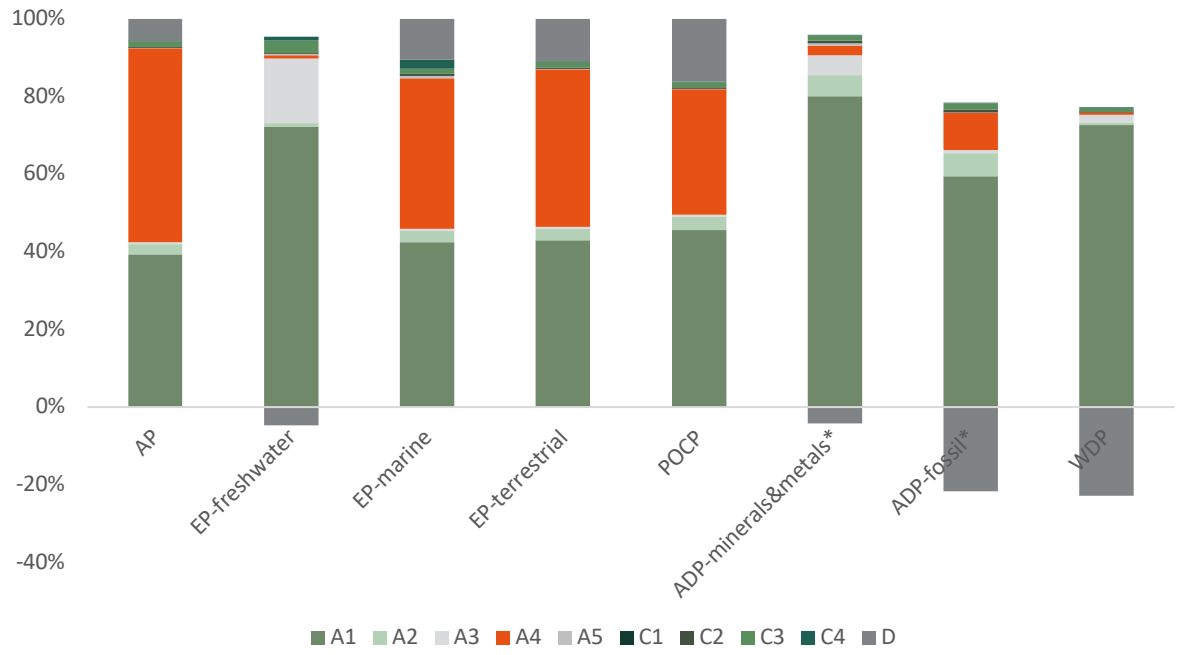
According to EN 16485, carbon neutrality has been assumed. For wood, biogenic carbon balance over the life cycle is zero, while the total GWP is different than zero because of CH_4.

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*



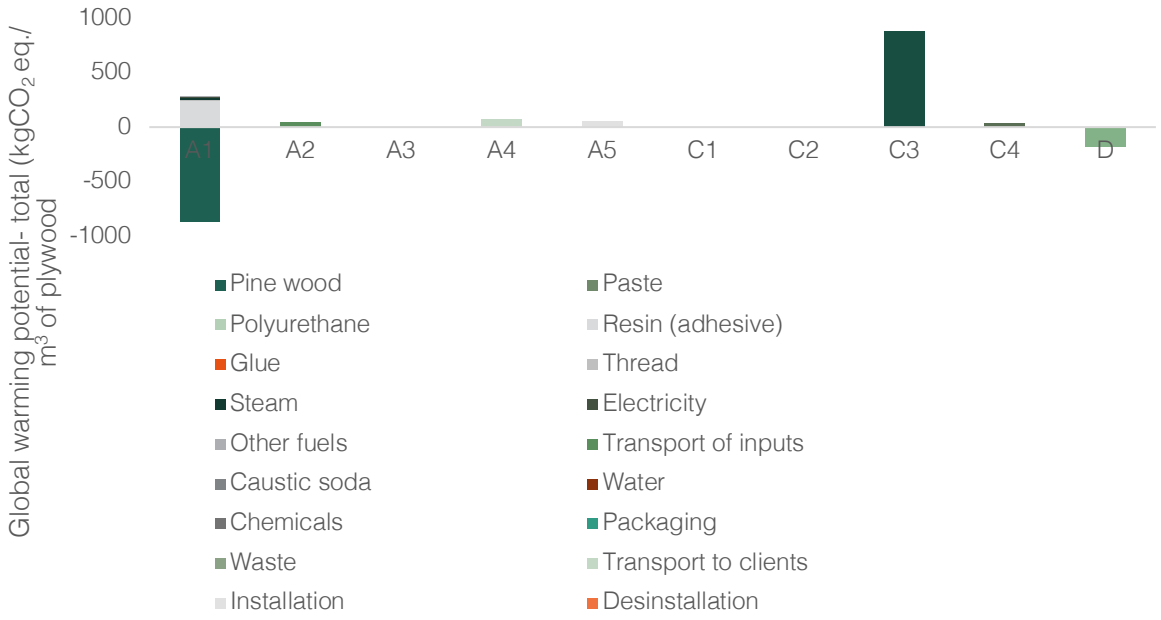
GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change

Figure 2 – Percentage contribution of life cycle stages to the different global warming potential categories for the weighted average plywood products manufactured by Arauco.



AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

Figure 3 – Percentage contribution of life cycle stages to the different potential environmental categories for the weighted average plywood products manufactured by Arauco.



A1= Raw material supply; A2= Transport from supplier; A3= Manufacturing; A4= Transport to customer; A5= Construction, installation; C1= Deconstruction, demolition; C2= Transport to waste processing; C3= Waste processing; C4= Disposal; D= Reuse, recycling or recovery

Figure 4- Contribution of main inputs and outputs for total global warming potential by module

Additional mandatory and voluntary impact category indicators

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	3.36E+02	7.46E+01	2.10E+00	4.14E-02	4.84E+00	1.17E+01	1.44E+01	-7.84E+01

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Additional voluntary indicators e.g. the voluntary indicators from EN 15804

Resource use indicators

- According to Figure 5 below, module A1-A3 has a very relevant contribution to energy use, specifically renewable energy in materials (PERM) and non-renewable energy use (PENRE). In the case of PERM, the contribution A1-A3 has 50% contribution to the indicator, while in the case of PENRE, the contribution of the module is 60%. In PERM, A1's relevant contribution is because of the pine wood, which has a high heating value. It's important to mention that, following the guidelines of the PCR , the energy as material in the product and in the packaging has to be deducted either in the installation or the end of life, which explains the "negative" impact in modules A5, C3 and C4 in Figure 5, and in

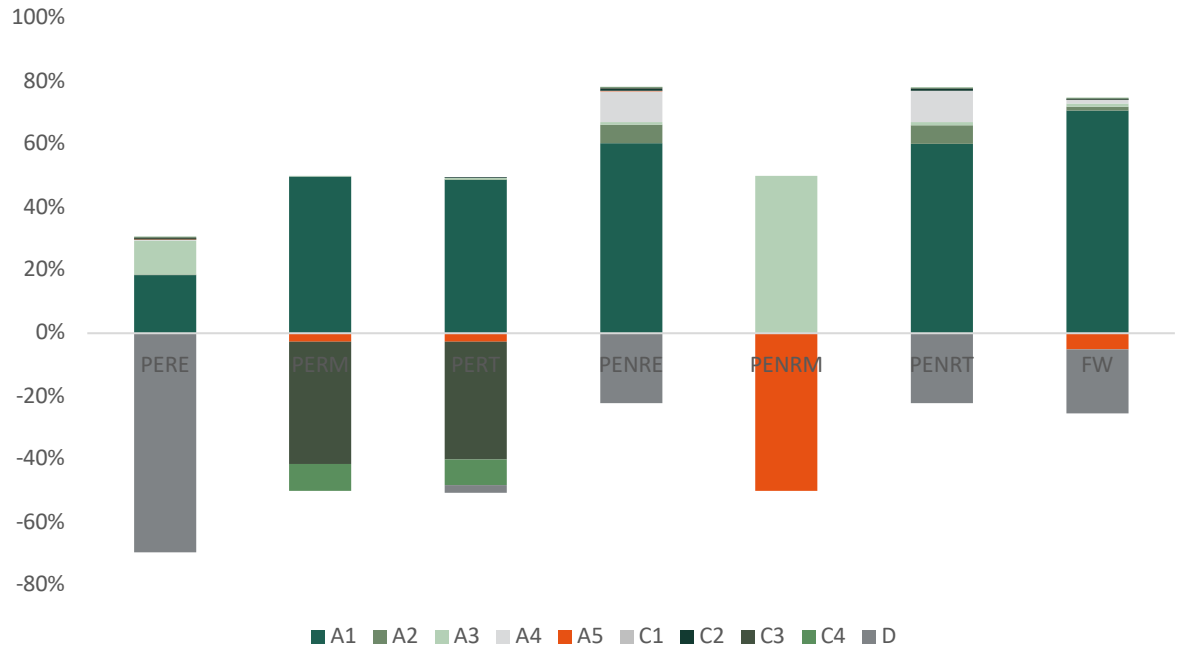
the installation and end of life in Figure 6 . Table 8 provides the values for the different energy indicators, where PERM and PENRM have a total of zero for A-C.

- Module D (benefit) also has a positive impact (which shows as negative in Figure 5) in the use of resources.
- In terms of use of net fresh water (FW), according to Figure 5, 71% of use of water comes from module A1, with module A3 contributing only 1%. Specifically, resin production has a relevant contribution (63%) to this indicator.
- Figure 6 shows the specific contribution to total energy use per inputs and outputs. As previously mentioned, pine wood as a very relevant contribution, which adds to 33% of total energy use. Although much lower, resin also has an important energy use (17%). Other inputs have negligible energy use.

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1.99E+02	1.77E+00	6.88E-01	5.46E-01	1.04E-01	3.65E+00	1.19E-02	-4.67E+02
PERM	MJ	9.41E+03	0.00E+00	-5.16E+02	0.00E+00	0.00E+00	-7.31E+03	-1.58E+03	0.00E+00
PERT	MJ	9.61E+03	1.77E+00	-5.15E+02	5.46E-01	1.04E-01	-7.31E+03	-1.58E+03	-4.67E+02
PENRE	MJ	6.33E+03	9.25E+02	8.33E+00	9.06E-01	6.40E+01	2.57E+01	5.64E-02	-2.08E+03
PENRM	MJ.	2.10E+01	0.00E+00	-2.10E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	6.35E+03	9.25E+02	-1.32E+01	9.06E-01	6.40E+01	2.57E+01	5.64E-02	-2.08E+03
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	1.34E+00	1.95E-02	-9.50E-02	1.52E-03	2.15E-03	6.85E-03	1.64E-04	-3.70E-01
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

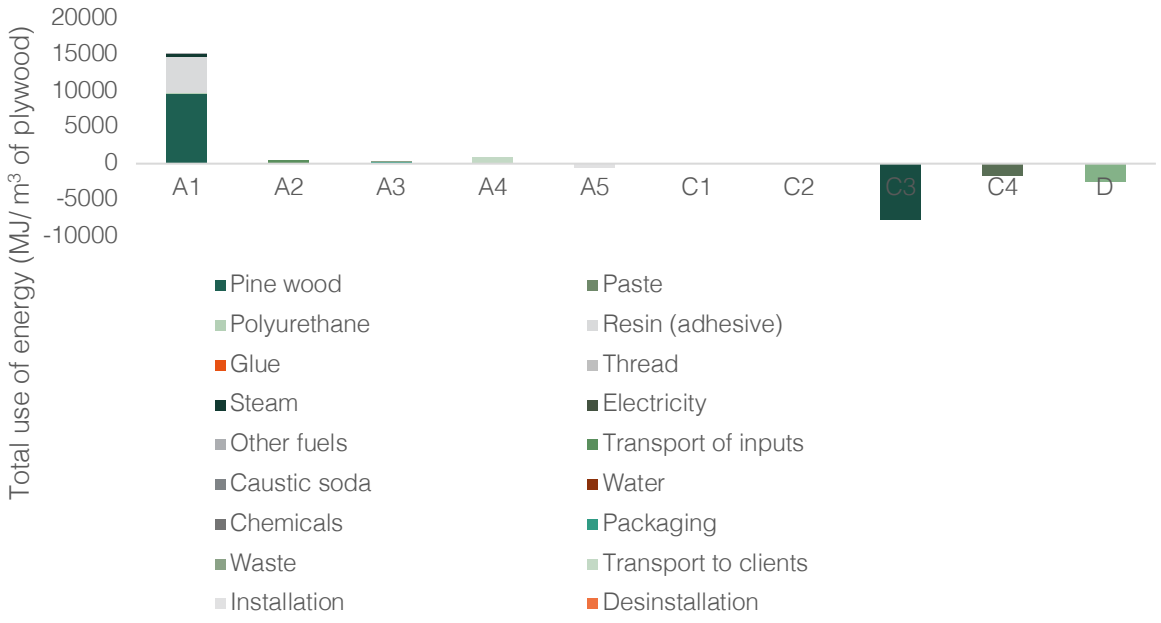
Table 8- Results of modelling the primary energy use indicators (option A of PCR2019:14)

Indicator	A1-A3	A4-A5	C1-C2	C3	C4	A-C
PERE	199	2	1	4	0	206
PERM	9 409	-516	0	-7 310	-1 583	0
PERT	9 608	-514	1	-7 306	-1 583	206
PENRE	6 331	934	65	26	0	7 356
PENRM	21	-21	0	0	0	0
PENRT	6 352	912	65	26	0	7 355



PERT = Total use of renewable primary energy resources; PENRT = Total use of non-renewable primary energy re-sources; FW = Use of net fresh water

Figure 5- Percentage contribution of life cycle stages to the different resource use categories for the weighted average plywood products manufactured by Arauco



A1= Raw material supply; A2= Transport from supplier; A3= Manufacturing; A4= Transport to customer; A5= Construction, installation; C1= Deconstruction, demolition; C2= Transport to waste processing; C3= Waste processing; C4= Disposal; D= Reuse, recycling or recovery

Figure 6 - Contribution of main inputs and outputs of total energy use by module

Waste indicators

- Figure 7 presents the waste flows categories contribution per module. Depending on the category, the contribution per module is different, which is explained in the following bullet points:
    - For hazardous waste disposed, module A3 (manufacturing) has the highest contribution (96%), because of the hazardous waste in the plywood manufacturing, mostly in the form of phenol. In terms of non- hazardous waste, this module also has a contribution of 8%.
    - Module A5 (installation) has the highest contribution to non-hazardous waste, with 89%, arising mostly from the product waste and the packaging, which is assumed to go to landfill as a most conservative scenario.
    - Module A1 (raw materials and energy) has an 82% contribution to radioactive waste. This contribution comes mostly from the resin.
    - According to the end-of-life faith of plywood, waste processing (module C3) has 100% contribution in components material for recycling and materials for energy recovery.
- Figure 8 has a breakdown of inputs and outputs contribution to non- hazardous waste. As previously mentioned, the product waste and packaging waste in the installation (module A5) have a very significant contribution.

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.95E+00	4.71E-03	4.74E-05	1.86E-06	4.38E-04	3.74E-05	3.60E-05	-9.39E-03
Non-hazardous waste disposed	kg	3.07E+00	1.79E-02	2.65E+01	2.83E-04	2.74E-03	1.60E-02	1.54E-04	-1.32E-01
Radioactive waste disposed	kg	2.42E-03	4.07E-05	8.02E-06	5.57E-06	2.30E-06	8.95E-05	2.71E-07	-3.27E-04

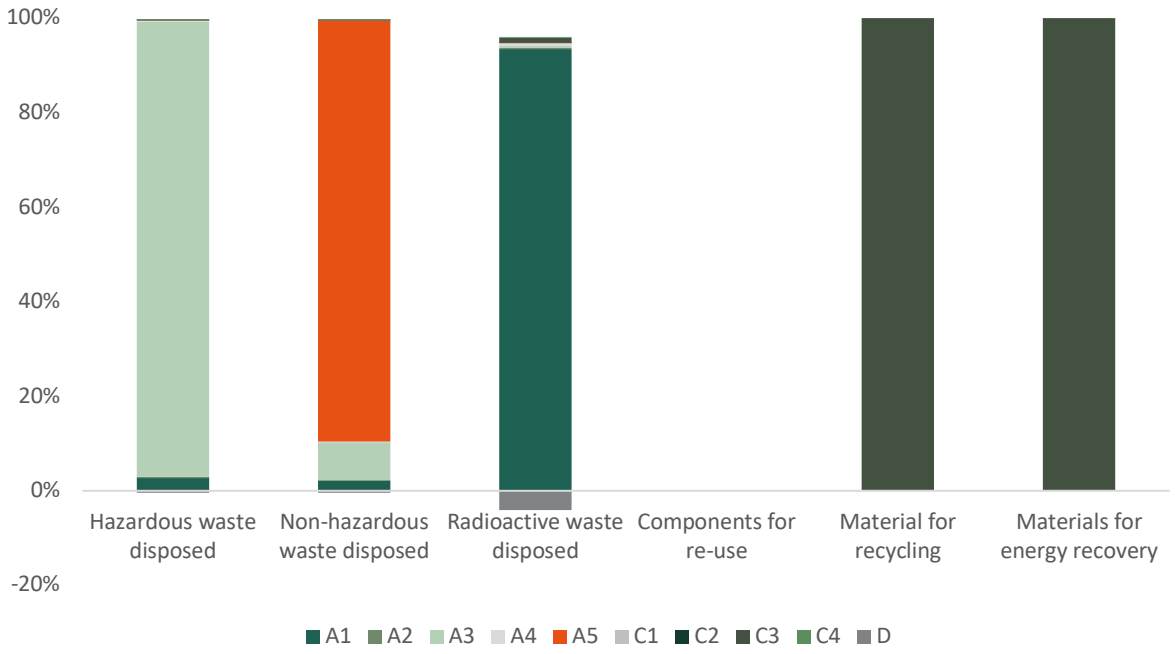
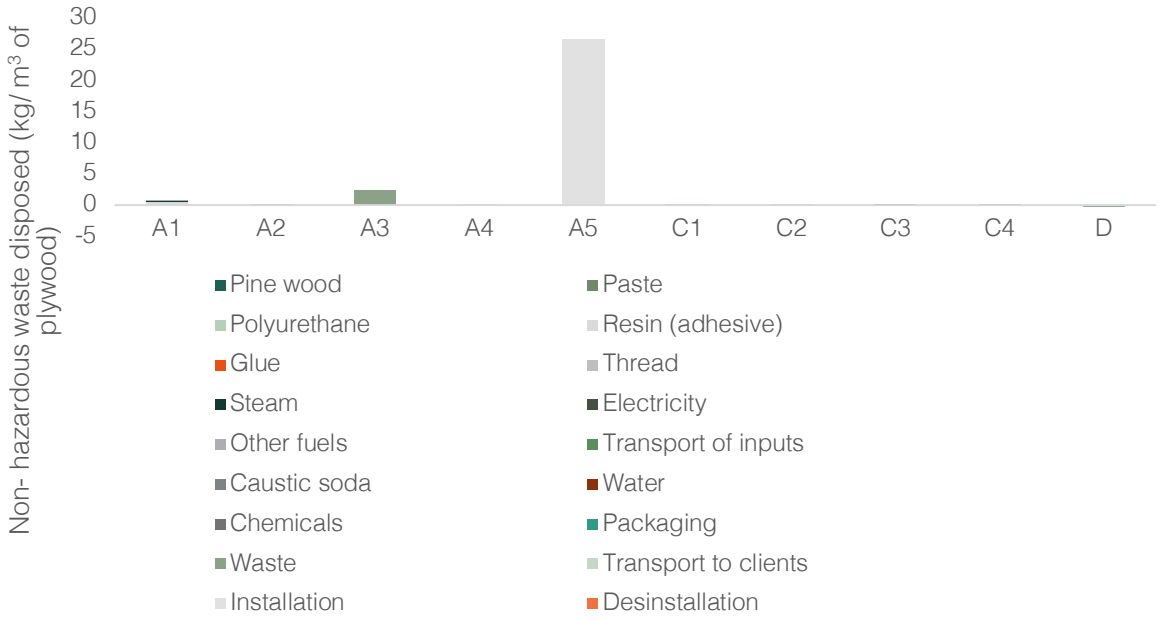


Figure 7– Percentage contribution of life cycle stages to waste flows categories for the weighted average plywood products manufactured by Arauco



A1= Raw material supply; A2= Transport from supplier; A3= Manufacturing; A4= Transport to customer; A5= Construction, installation; C1= Deconstruction, demolition; C2= Transport to waste processing; C3= Waste processing; C4= Disposal; D= Reuse, recycling or recovery

Figure 8– Contribution of main inputs and outputs of non-hazardous waste by module

Output flow indicators

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0	0	0	0	0	0.00E+00	0	0
Material for recycling	kg	6.08E-01	0	0	0	0	1.48E+02	0	0
Materials for energy recovery	kg	7.42E-01	0	0	0	0	2.57E+02	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

Additional social and economic information

Sustainability in the value chain

Suppliers are subject to evaluation processes according to different levels. Critical suppliers undergo a financial assessment annually, while all active suppliers associated with service contract areas undergo a monthly risk assessment, through which their debt level is reviewed.
Actions are generated monthly for each supplier according to the classification obtained.
Furthermore, purchasing practices towards suppliers are continually reviewed to ensure alignment with the Supplier Code of Conduct and to avoid potential conflicts with ESG requirements.
Because at ARAUCO we intend to move forward in becoming a Zero Non-Hazardous Waste company, as one of its sustainability objectives, we are working on a gradual process of reducing waste. To achieve this, we require the development of specialist suppliers and the internal knowledge to produce this new raw material.

Play Local

This initiative carried out in Chile and Brazil proposes to strengthen the local economies where we have a presence. This is how we increase the purchase of goods and the contracting of local services, promoting wellbeing through companies in each place.

Commitment to our people

At ARAUCO we seek to promote the development of people, teams and the organization. To achieve this, we implement programs and processes on a permanent basis, the objective of which is for employees to prepare to face present and future business challenges.
For this purpose, we have learning initiatives, based on internal knowledge and capabilities, in which we incorporate innovative and agile methodologies that allow us to prepare for adaptation to different realities.
At the same time, with the objective of reinforcing the commitment and rewarding the performance of those who are part of ARAUCO, we are committed to supporting interest in the search for professional development challenges within our company.
During 2023, 8 486 employees (46% of the total workforce) participated in training processes. Our programs were focused mainly on business needs, both to strengthen technical aspects and specific skills, addressing all segments. Among the topics that were worked on, safety, environment, diversity and inclusion, operational excellence and processes stand out.

Commitment to local development

The development of the communities where we are present is important to us, which is why at ARAUCO we seek to methodically promote development efforts through a relationship model.
With the aim of positively impacting many people, adapting to the reality of each place and country where we operate, we install capabilities and establish alliances, that support local development, well-being and the sustainability of the environment.
All our sustainable local development projects are aligned with one of the axes of our sustainability strategy: contributing to the Sustainable Development Goals (SDGs).

Some projects are:
Arauco Educational Foundation
The work of leaders and teachers in academic communities is key to generating educational changes. Therefore, part of our work focuses on promoting and strengthening their training, which generates a

positive impact on their students. During 2023, 821 teachers from 67 educational establishments, serving 7 845 students, directly benefited.

Campus Arauco
Seven years ago, thanks to a DUOC UC and ARAUCO alliance, this professional institute was created located in the commune of Arauco. Its objective is to strengthen professional technical training, providing practical applications in the workplace, in areas linked to the productive vocation of the region.
In numbers during 2023 Campus Arauco had 6 courses taught (five duals), 1 349 students enrolled, and more than 800 students trained and qualified to date.

Inacap – ARAUCO Agreement
During 2023, we signed an agreement with Inacap, aimed at strengthening technical training and improving the employability of young people in key areas such as digitalization and automation. This program allows dual training in our facilities, offering students the possibility of working on both a degree and innovation projects, while teachers stay up to date on technological developments, thus benefiting both students and the industry.
This program will benefit students and teachers at 30 locations located in the 16 regions of Chile.

Habitability and Territory Program
We promote housing solutions for collaborators, contractors and neighbouring communities. We are able to leverage public resources to manage and process land to develop projects for community purposes. To achieve this, we work together with public and private organizations, actively collaborating with national, regional and local authorities.
Until 2023 we have collaborated for the construction of 2 460 homes delivered.

Open Forest
Since 2021, we have opened access to part of our forest area with the aim that communities can develop activities that promote the care and conservation of nature, enjoying the environmental, social and cultural values that forests provide.
Forests are not only shelters for biodiversity, but also educational, sports, recreational and cultural settings in which people are the true protagonists.
During 2023 more than 43 026 people participated in the program and 18 bicycle tracks on company property.

For More Information, visit Arauco's Integrated Report: https://arauco.com/mo/wp-content/uploads/sites/25/2024/05/ARAUCO-INTEGRATED-REPORT-2023.pdf

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Appendix A

Product variation

Product	Impact indicator	Variation to average (%)
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	GWP-fossil	-18%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	GWP-total	18%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	ODP	-25%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	EP-freshwater	-17%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	ADP-minerals&metals*	-30%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	ADP-fossil*	-20%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	WDP	-25%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	GWP-GHG[1]	-18%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	PERE	-12%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	PENRE	-20%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	PENRT	-20%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	FW	-25%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 9	Radioactive waste disposed	-21%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15	ODP	-15%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15	ADP-minerals&metals*	-21%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15	WDP	-14%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15	PERE	-15%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15	FW	-13%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 15	Radioactive waste disposed	-11%
Apariencia (AnAn/ AnC/ BC Deco/ BcP Deco)- 21	ADP-minerals&metals*	-17%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 6.5	ADP-minerals&metals*	102%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	GWP-fossil	-17%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	GWP-total	16%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	ODP	-22%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	AP	-11%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	EP-freshwater	-13%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	POCP	-11%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	ADP-minerals&metals*	32%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	ADP-fossil*	-19%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	WDP	-22%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	GWP-GHG[1]	-17%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	PERE	-15%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	PENRE	-19%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	PENRT	-19%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	FW	-21%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 9	Radioactive waste disposed	-18%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12	ADP-minerals&metals*	42%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 12	Radioactive waste disposed	11%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15	ODP	-12%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15	WDP	-11%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 15	FW	-11%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18	ADP-minerals&metals*	31%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 18	Radioactive waste disposed	11%

Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 25	PERE	14%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30	PERE	14%
Apariencia (AB/ AC/ BC/ BCp/ MU/ Rechazo Mix)- 30	Radioactive waste disposed	11%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	GWP-fossil	-18%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	GWP-total	17%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	ODP	-23%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	EP-freshwater	-17%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	ADP-minerals&metals*	-13%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	ADP-fossil*	-20%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	WDP	-24%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	GWP-GHG[1]	-18%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	PENRE	-20%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	PENRT	-20%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	FW	-23%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 9	Radioactive waste disposed	-20%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15	ODP	-14%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15	ADP-minerals&metals*	-19%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15	WDP	-13%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 15	FW	-12%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 21	ADP-minerals&metals*	-11%
No Apariencia - Retapado (Cp: CpC/ CpD/ CpCp)- 25	PERE	12%
No Apariencia - Retapado (CD de cogeneración)- 6.5	PERE	-17%
No Apariencia - Retapado (CD de cogeneración)- 6.5	Non-hazardous waste disposed	16%
No Apariencia - Retapado (CD de cogeneración)- 9	GWP-fossil	-19%
No Apariencia - Retapado (CD de cogeneración)- 9	GWP-total	18%
No Apariencia - Retapado (CD de cogeneración)- 9	ODP	-25%
No Apariencia - Retapado (CD de cogeneración)- 9	AP	-17%
No Apariencia - Retapado (CD de cogeneración)- 9	EP-freshwater	-13%
No Apariencia - Retapado (CD de cogeneración)- 9	EP-marine	-14%
No Apariencia - Retapado (CD de cogeneración)- 9	EP-terrestrial	-14%
No Apariencia - Retapado (CD de cogeneración)- 9	POCP	-15%
No Apariencia - Retapado (CD de cogeneración)- 9	ADP-minerals&metals*	-14%
No Apariencia - Retapado (CD de cogeneración)- 9	ADP-fossil*	-22%
No Apariencia - Retapado (CD de cogeneración)- 9	WDP	-26%
No Apariencia - Retapado (CD de cogeneración)- 9	GWP-GHG[1]	-19%
No Apariencia - Retapado (CD de cogeneración)- 9	PERE	-27%
No Apariencia - Retapado (CD de cogeneración)- 9	PENRE	-22%
No Apariencia - Retapado (CD de cogeneración)- 9	PENRT	-21%
No Apariencia - Retapado (CD de cogeneración)- 9	FW	-25%
No Apariencia - Retapado (CD de cogeneración)- 9	Radioactive waste disposed	-22%
No Apariencia - Retapado (CD de cogeneración)- 12	Non-hazardous waste disposed	12%
No Apariencia - Retapado (CD de cogeneración)- 15	ODP	-14%
No Apariencia - Retapado (CD de cogeneración)- 15	ADP-minerals&metals*	-16%
No Apariencia - Retapado (CD de cogeneración)- 15	WDP	-13%
No Apariencia - Retapado (CD de cogeneración)- 15	PERE	-13%
No Apariencia - Retapado (CD de cogeneración)- 15	FW	-13%
No Apariencia - Retapado (CD de cogeneración)- 21	ADP-minerals&metals*	-15%
No Apariencia - Retapado (CD de cogeneración)- 25	PERE	16%
No Apariencia - Retapado (CD de cogeneración)- 25	Non-hazardous waste disposed	-11%
No Apariencia - Retapado (CD de cogeneración)- 30	PERE	12%
Apariencia (AnC/ BC Deco)- 9	GWP-fossil	-19%
Apariencia (AnC/ BC Deco)- 9	GWP-total	18%
Apariencia (AnC/ BC Deco)- 9	ODP	-25%

Apariencia (AnC/ BC Deco)- 9	AP	-13%
Apariencia (AnC/ BC Deco)- 9	EP-freshwater	-16%
Apariencia (AnC/ BC Deco)- 9	POCP	-11%
Apariencia (AnC/ BC Deco)- 9	ADP-minerals&metals*	-29%
Apariencia (AnC/ BC Deco)- 9	ADP-fossil*	-21%
Apariencia (AnC/ BC Deco)- 9	WDP	-26%
Apariencia (AnC/ BC Deco)- 9	GWP-GHG[1]	-19%
Apariencia (AnC/ BC Deco)- 9	PERE	-17%
Apariencia (AnC/ BC Deco)- 9	PENRE	-21%
Apariencia (AnC/ BC Deco)- 9	PENRT	-21%
Apariencia (AnC/ BC Deco)- 9	FW	-25%
Apariencia (AnC/ BC Deco)- 9	Radioactive waste disposed	-22%
Apariencia (AnC/ BC Deco)- 15	ODP	-15%
Apariencia (AnC/ BC Deco)- 15	ADP-minerals&metals*	-21%
Apariencia (AnC/ BC Deco)- 15	WDP	-14%
Apariencia (AnC/ BC Deco)- 15	PERE	-17%
Apariencia (AnC/ BC Deco)- 15	FW	-13%
Apariencia (AnC/ BC Deco)- 15	Radioactive waste disposed	-11%
Apariencia (BC/ BD)- 12	PERE	12%
Apariencia (BC/ BD)- 15	ODP	-11%
Apariencia (BC/ BD)- 15	ADP-minerals&metals*	14%
No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 12	PERE	18%
No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 12	Radioactive waste disposed	11%
No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 15	ODP	-12%
No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 15	ADP-minerals&metals*	-16%
No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 15	WDP	-11%
No Apariencia - Retapado (CpC/ Rech Ranurado/ Rech T&G)- 15	Non-hazardous waste disposed	-14%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	GWP-fossil	16%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	GWP-total	-15%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	ODP	207%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	EP-freshwater	19%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	ADP-minerals&metals*	54%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	ADP-fossil*	14%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	WDP	109%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	GWP-GHG[1]	16%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	PENRE	14%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	PENRT	14%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	FW	95%
Araucoply Plywood BC 8X2 T&G-M (Mould Prot) 2440x610x18	Non-hazardous waste disposed	54%

Average values

Impact indicator	Unit	Value
ADP-fossil*	MJ	6.12.E+03
ADP-minerals&metals*	kg Sb eq.	3.58.E-05
AP	mol H^+ eq.	1.76.E+00
EP-freshwater	kg P eq.	6.76.E-02
EP-marine	kg N eq.	6.24.E-01
EP-terrestrial	mol N eq.	6.66.E+00
FW	m^3	1.31.E+00
GWP-fossil	kg CO_2 eq.	3.26.E+02
GWP-GHG[1]	kg CO_2 eq.	3.26.E+02
GWP-total	kg CO_2 eq.	-3.40.E+02
Non-hazardous waste disposed	kg	3.03.E+00
ODP	kg CFC 11 eq.	6.75.E-06
POCP	kg NMVOC eq.	2.36.E+00
PERE	MJ	1.96.E+02
PENRE	MJ	6.12.E+03
PENRT	MJ	6.15.E+03
Radioactive waste disposed	kg	2.33.E-03
WDP	m^3	4.87.E+01

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