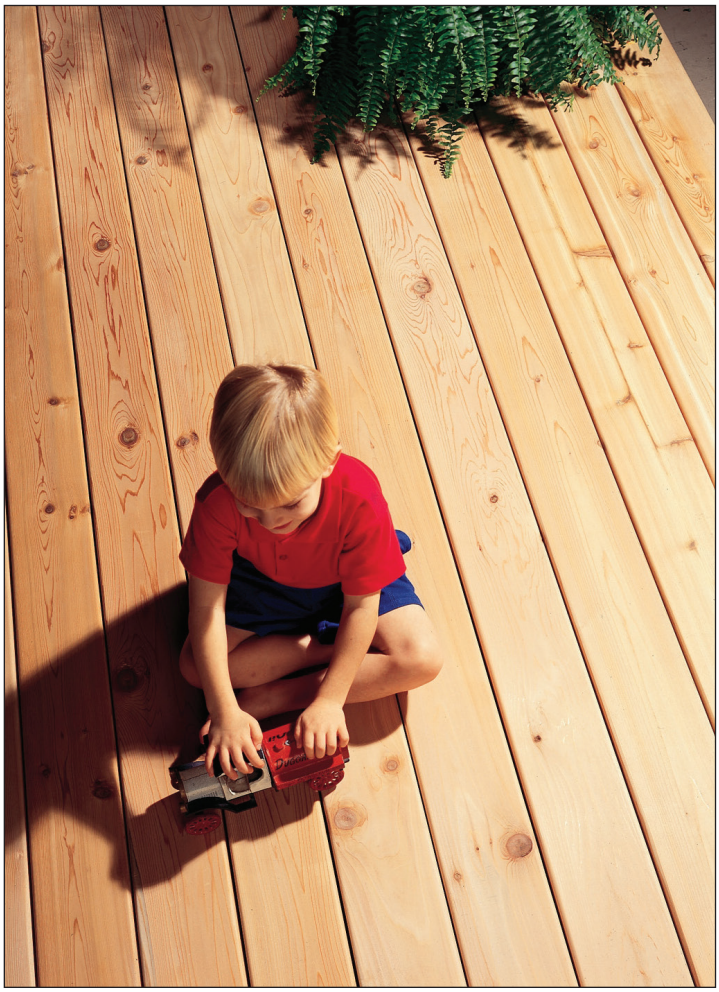
Environmental Product Declaration

Typical Western Red Cedar Decking

This Type III environmental declaration is developed according to UL PCR Part A and Part B, ISO 21930 and 14025 for average cedar decking products manufactured by the members of the Western Red Cedar Lumber Association. This environmental product declaration (EPD) reports environmental impacts based on established life cycle impact assessment (LCA) methods. The reported environmental impacts are estimates, and their level of accuracy may differ for a particular product line and reported impact. LCAs do not generally address site specific environmental issues of related to resource extraction or toxic effects of products on human health. Unreported environmental impacts include (but are not limited to) factors attributable to human health, land use change and habitat destruction. Forest certification systems and government regulations address some of these issues. The products in this EPD conform to: regulations of BC and forest certification schemes (Forest Stewardship Council (FSC), Sustainable Forestry initiative (SFI)). EPDs do not report product environmental performance against any benchmark.



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WESTERN RED CEDAR LUMBER ASSOCIATION
REALCEDAR
WRCLA

FPInnovations®

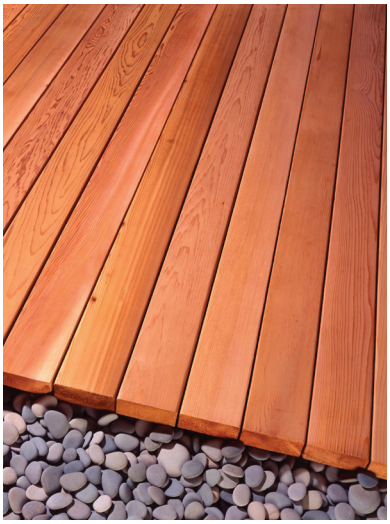
Manufacturer Information

This EPD addresses products from multiple manufacturers and represents an average for the membership of the Western Red Cedar Lumber Association (WRCLA), a non-profit trade association representing manufacturers of western red cedar products. This average is based on a sample that included four lumber manufacturing mills located in British Columbia (BC), which represented 16% of industry production in 2022. These data are combined with recent in-house coastal harvesting data, a survey of cedar nursery production in BC, and CORRIM (The Consortium for Research on Renewable Industrial Materials) forest management data.

Product Description

Wood decking is a board-type product horizontally applied in a load-carrying capacity and as the final surfacing for an outdoor flat surface attached to a house and typically elevated above the ground. A decking product in the most common size is modeled for this EPD.

- Typical board size: 5/4" x 6" (31.75 mm x 152.4 mm)
- Grade: Average
- Product composition (on the basis of 1 m^2 installed decking with a 25-year service life):
  - Western red cedar lumber: 8.38 kg (oven-dry basis) (0.0247m^3)
  - Optional coating
  - Stain: 1.25 litres
  - Fasteners (2½" galvanized nails, No 8 or 10): 0.1 kg per 1 m^2 installed decking



Installed and used according to Western Red Cedar Lumber Association specifications (See https://www.realcedar.com/decking). Base case is an uncoated deck. An alternate scenario has regular applications of a stain coating.

Scope: Cradle-to-grave.

Functional unit: 1m^2 of decking assumed installed over a wood substructure.

Service life: 25 years.

Building life: 75 years.

Figure 1. Life cycle stages and information modules included in the system boundary

Production			Construction		Use							End-of-life				Benefits/Loads beyond system boundary
A1	*A2*	*A3*	*A4*	*A5*	*B1*	*B2*	*B3*	*B4*	*B5*	*B6*	*B7*	*C1*	*C2*	*C3*	*C4*	*D*
Resource extraction	Transportation to facility	Manufacturing	Transportation to manufacturing	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operation energy use	Water consumption	Demolition	Transportation	Sorting/separation	Disposal	Reuse/recovery/recycling
√	√	√	√	√	X	√	X	√	X	X	X	√	√	√	√	X

Life Cycle Assessment

Life cycle assessment (LCA) is a rigorous study of inputs and outputs over the entire life of a product or process and the associated environmental impact of those flows to and from nature. The underlying LCA supporting this EPD was performed by FPInnovations for WRCLA in 2017 and was third-party peer-reviewed by three member panel comprised of Thomas P Gloria at Industrial Ecology Consultants (Chair), James Salazar at WAP Sustainability Consulting, and Charles Thibodeau at CT Consultant. The LCA study collected primary data from western red cedar lumber operations in 2023 for the production year 2022.

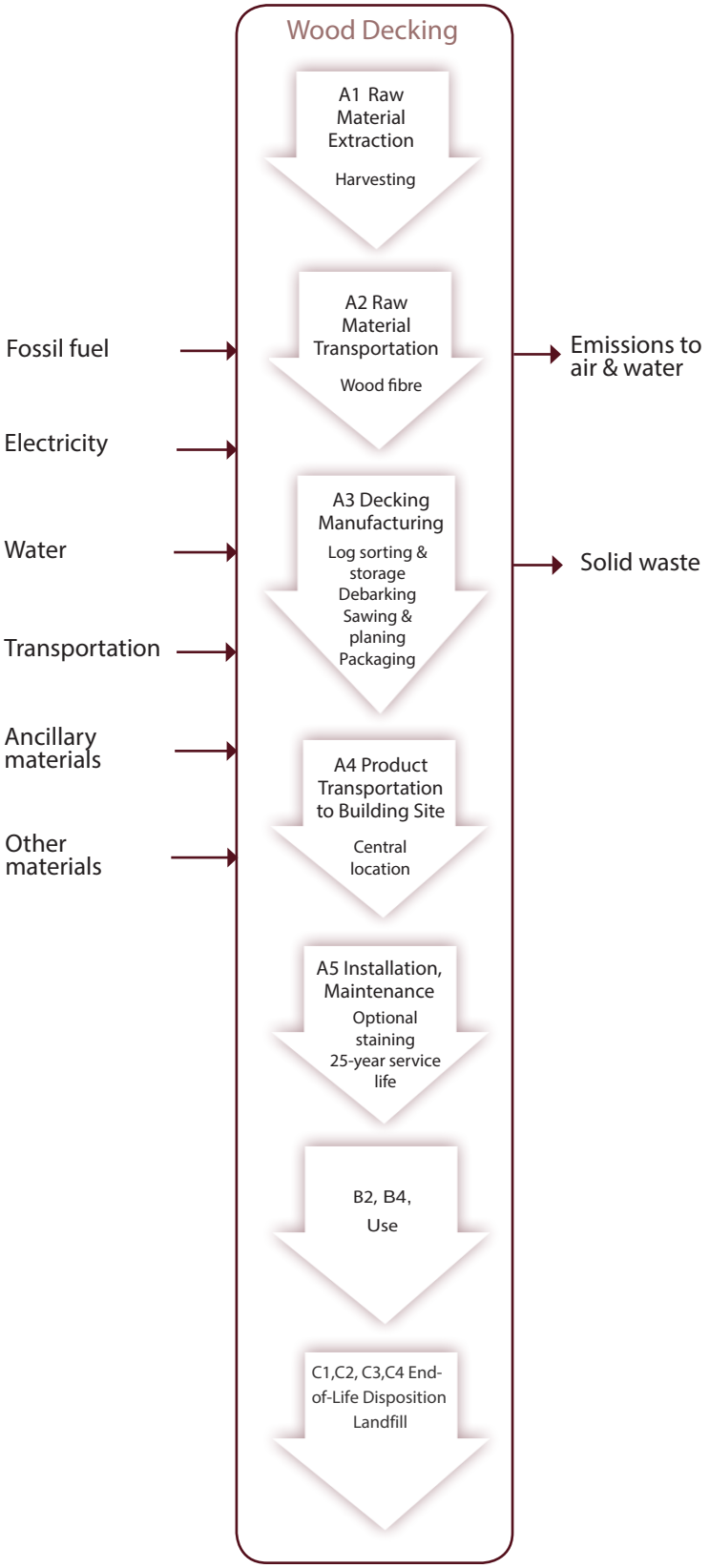
The system boundary includes all the production steps from extraction of raw materials from the earth (the cradle) through to final fate of the product at the end of its service life (the grave). See Figure 1 and Figure 2. The boundary includes the transportation of major inputs to, and within, each activity stage including the shipment of products to a hypothetical building site location in North America and eventual transportation to landfill.

The city of Minneapolis, USA was chosen as the typical building location, as a central location in North America.

This study followed the information modules defined in the wood products PCR:

- A1 – extraction (removal) of raw materials and processing;
- A2 – transportation of raw materials from an extraction site to a manufacturing site;
- A3 – manufacturing of the wood construction product, including packaging;
- A4 – construction stage (building product transport to construction site);
- A5 – installation;
- the use-phase (B1 use, B2 maintenance, and B4 replacement);
- end-of-life processes (C1, deconstruction, dismantling/demolition, C2, transport from building site to waste processing, and C4, disposal).

Figure 2. System boundary and process flows



Ancillary materials and other materials such as coatings, fasteners and packaging are included in the boundary unless below the cut-off criteria. Mass or energy flows are excluded if they account for less than 1% of model flows and less than 2% of life cycle impacts in all categories. Human activity and capital equipment are excluded. For the use phase, the use of water and cleaning solutions is common to all decking types and is excluded.

Twenty-five years is the expected life span for cedar decking according to WRCLA. This figure is supported by expert opinion, anecdotal evidence and product warranty claims. The base case deck is uncoated (no stain is applied and the deck is allowed to take on a natural weathered appearance). An alternate scenario is modeled that includes a stain application at installation and a re-application every three years there after. The life span of this scenerio is assumed to be the same as unstained.

LCI indicators

Use of resources:

Renewable primary energy career used as energy (RPRE)
Renewable primary energy career used as material (RPRM)
Non-renewable primary energy career used as energy (NRPRE)
Non-renewable primary energy career used as material (NRPRM)

Secondary material, secondary fuel, and recovered energy

Secondary material (SM)
Renewable secondary fuel (RSF)
Non-renewable secondary fuel (NRSF)
Recovered energy (RE)

Mandatory inventory parameters

Fresh water consumption (FW)

Indicators describing waste

Hazardous waste disposed (HWD)
Non-hazardous waste disposed (NHWD)
High level radioactive waste (HLRW)
Intermediate and low-level radioactive waste (ILLRW)
Components for reuse (CRU)
Materials for recycling (MR)
Materials for energy recovery (MER)
Recovered energy exported from the product system (EE)

Additional inventory parameters

Biogenic carbon removal from the product (BCRP)
Biogenic carbon emissions from the product (BCEP)
Biogenic carbon removal from packaging (BCRK)
Biogenic carbon emissions from packaging (BCEK)
Biogenic carbon emissions from combustion of waste from renewable sources used in production (BCEW)

Environmental Performance

Environmental impacts were calculated using IPCC GWP100 (2021), TRACI (Tool for the Reduction and Assessment of Chemical and other Environmental Impacts) version 2.1 (the life cycle impact assessment methodology developed by the U.S. Environmental Protection Agency), and CML-baseline v4.7.

Environmental impacts per functional unit of cedar decking are shown in Table 1 and Table 2. Impact indicators used are global warming potential (GWP), acidification potential, eutrophication potential, smog potential, ozone depletion potential, and abioptic resource depletion potential (fossil). Life cycle inventory (LCI) indicators are shown in Table 3 and 4. Energy consumption for maintenance (periodic power washing) during use is excluded, as it is difficult to estimate and common to all decking types.

Allocation of environmental burdens to cedar decking and its co-products is done according to mass allocation principles.

End-of-life assumptions

It is common for construction and demolition debris to end up in landfill – the US EPA estimates that 69% of construction and demolition wood debris is directed to landfills and 31% is recovered for energy (20%), mulch (8%), and to produce engineered wood (3%) (US EPA, 2020).

About 3% of wood disposed in landfills decay and emit landfill gas that contain methane. In USA, landfills are equipped with landfill gas (LFG) collection systems with 90% landfill gas capture efficiency (US EPA, 2023) and >99% methane flaring/utilization efficiency (US EPA, 2024).

Table 1. Environmental performance, 100 ft^2 of installed WRC decking by life cycle stage for 75 year building life – absolute values

Impact Category	Unit	Total	Resource extraction	Roundwood transport	Decking manufacturing	Transport to Customer	Installation	Use	Maintenance	Replacement	Dismantling	Waste Transport	Sorting	Disposal
			A1	A2	A3	A4	A5	B1,	B2	B4	C1	C2	C3	C4
GWP100 - fossil	kg CO_2 eq	145.25	11.61	1.97	1.60	19.14	5.02	-	25.05	78.69	-	0.90	-	1.27
GWP100 – biogenic C emissions	kg CO_2 eq	183.43	0.01	0.02	0.28	0.11	1.09	-	0.93	3.02	-	0.01	-	177.97
GWP100 – biogenic C removals	kg CO_2 eq	-521.98	-173.99	-	-	-	-	-		-347.99		-	-	-
GWP100 total	kg CO_2 eq	-193.30	-162.37	1.98	1.88	19.26	6.11	-	25.97	-266.28		0.90	-	179.24
Ozone depletion	kg CFC-11 eq	9.45E-06	6.63E-07	3.27E-09	2.47E-07	9.53E-07	3.71E-08	-	3.55E-06	3.81E-06	-	1.67E-09	-	1.79E-07
Acidification	kg SO_2 eq	0.83	0.05	0.01	0.01	0.14	0.02	-	0.12	0.47	-	4.57E-03	-	0.01
Eutrophication	kg N eq	0.19	0.01	0.00	0.00	0.01	-0.01	-	0.07	0.02	-	3.70E-04	-	0.08
Smog	kg O_3 eq	21.55	1.36	0.31	0.36	4.29	0.19	-	1.59	13.02	-	0.12	-	0.30
Abiotic depletion (fossil fuel)	MJ, LHV	1883.49	160.99	24.54	30.27	245.95	51.82	-	313.49	1027.14	-	12.52	-	16.78

Table 2. Environmental performance, 1 m^2 of installed WRC decking by life cycle stage for 75 year building life – absolute values

Impact Category	Unit	Total	Resource extraction	Roundwood transport	Decking manufacturing	Transport to Customer	Installation	Use	Maintenance	Replacement	Dismantling	Waste Transport	Sorting	Disposal
			A1	A2	A3	A4	A5	B1,	B2	B4	C1	C2	C3	C4
GWP100 - fossil	kg CO_2 eq	15.63	1.25	0.21	0.17	2.06	0.54	-	2.70	8.47	-	0.10	-	0.14
GWP100 – biogenic C emissions	kg CO_2 eq	19.74	1.08E-03	2.15E-03	0.03	0.01	0.12	-	0.10	0.33	-	8.80E-04	-	19.16
GWP100 – biogenic C removals	kg CO_2 eq	-56.19	-18.73	-	-	-	-	-	-	-37.46	-	-	-	-
GWP100 – total	kg CO_2 eq	-20.81	-17.48	0.21	0.20	2.07	0.66		2.80	-28.66	-	0.10	-	19.29
Ozone depletion	kg CFC-11 eq	1.02E-06	7.14E-08	3.52E-10	2.66E-08	1.03E-07	3.99E-09	-	3.82E-07	4.10E-07	-	1.80E-10	-	1.93E-08
Acidification	kg SO_2 eq	0.09	0.01	1.08E-03	1.08E-03	0.02	2.15E-03	-	0.01	0.05	-	4.92E-04	-	1.17E-03
Eutrophication	kg N eq	0.02	1.08E-03	-	-	1.08E-03	-1.08E-03	-	0.01	2.15E-03	-	3.98E-05	-	0.01
Smog	kg O_3 eq	2.32	0.15	0.03	0.04	0.46	0.02	-	0.17	1.40	-	0.01	-	0.03
Abiotic depletion (fossil fuel)	MJ, LHV	202.74	17.33	2.64	3.26	26.47	5.58	-	33.74	110.56	-	1.35	-	1.81

Table 3. LCI parameters for 100 ft² of installed WRC decking by life cycle stage for 75 year building life – absolute values

Parameter	Unit	Amount												
		Total	A1	A2	A3	A4	A5	B1	B2	B4	C1	C2	C3	C4
RPR_E	MJ, LHV	124.75	0.48	0.16	98.77	1.44	2.11	-	21.23	0.18	-	0.03	-	0.36
RPR_M	MJ, LHV	6,907.06	2,302.35	-	-	-	-	-	-	4604.71	-	-	-	-
$NRPR_E$	MJ, LHV	1,934.17	161.66	24.90	31.02	248.88	55.72	-	336.73	1044.35	-	12.70	-	18.22
$NRPR_M$	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	-
SM	kg	-	-	-	-	-	-	-	-	-	-	-	-	-
RSF	MJ, LHV	507.41	-	-	169.14	-	-	-	-	338.27	-	-	-	-
NRSF	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	-
RE	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	-
FW	m^3	-	-	-	3.33E-03	-	-	-	-	6.67E-03	-	-	-	-
HWD	kg	2.57E-03	3.77E-04	4.90E-06	7.80E-06	5.73E-05	1.12E-05	-	1.17E-03	9.16E-04	-	2.50E-06	-	2.14E-05
NHWD	kg	279.72	0.01	0.02	3.33E-03	0.16	12.77	-	2.58	25.90	-	0.01	-	238.24
HLRW	kg	1.50E-04	1.84E-06	1.04E-06	7.00E-07	8.57E-06	2.66E-06	-	1.01E-04	2.96E-05	-	5.32E-07	-	4.20E-06
ILLRW	kg	7.76E-04	4.17E-06	2.33E-06	1.60E-06	1.91E-05	5.93E-06	-	6.67E-04	6.62E-05	-	1.19E-06	-	9.36E-06
CRU	kg	-	-	-	-	-	-	-	-	-	-	-	-	-
MR	kg	28.54	-	-	-	-	-	-	-	-	-	-	28.54	-
MER	kg	63.53	-	-	-	-	-	-	-	-	-	-	63.53	-
EE	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	13.50
BCRP	kg CO_2	-521.98	-173.99	-	-	-	-	-	-	-347.99	-	-	-	-
BCEP	kg CO_2	183.44	0.01	0.02	0.28	0.11	1.09	-	0.92	3.02	-	0.01	-	177.97
BCRK	kg CO_2	--	-	-	-	-	-	-	-		--	-	-	--
BCEK	kg CO_2	-	-	-	-	-	-	-	-		-	-	-	-
BCEW	kg CO_2	-	-	-	-	-	-	-	-		-	-	-	-

Table 4. LCI parameters for 1 m^2 of installed WRC decking by life cycle stage for 75 year building life – absolute values

Parameter	Unit	Amount												
		Total	A1	A2	A3	A4	A5	B1	B2	B4	C1	C2	C3	C4
RPR_E	MJ, LHV	13.43	0.05	0.02	10.63	0.16	0.23	-	2.29	0.02	-	2.91E-03	-	0.04
RPR_M	MJ, LHV	743.47	247.82	-	-	-	-	-	-	-	-	-	-	-
$NRPR_E$	MJ, LHV	208.19	17.40	2.68	3.34	26.79	6.00	-	36.25	-	-	1.37	-	1.96
$NRPR_M$	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	-
SM	kg	-	-	-	-	-	-	-	-	-	-	-	-	-
RSF	MJ, LHV	54.62	-	-	18.21	-	-	-	-	36.41	-	-	-	-
NRSF	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	-
RE	MJ, LHV	-	-	-	-	-	-	-	-	-	-	-	-	-
FW	m^3	1.08E-03	-	-	3.59E-04	-	-	-	-	7.18E-04	-	-	-	-
HWD	kg	2.77E-04	4.05E-05	5.27E-07	8.40E-07	6.17E-06	1.21E-06	-	1.26E-04	9.86E-05	-	2.69E-07	-	2.30E-06
NHWD	kg	3.01E+01	7.18E-04	2.51E-03	3.59E-04	0.02	1.37	-	0.28	2.79E	-	1.08E-03	-	25.6
HLRW	kg	1.62E-05	1.98E-07	1.12E-07	7.53E-08	9.22E-07	2.86E-07	-	1.09E-05	3.19E-06	-	5.73E-08	-	4.52E-07
ILLRW	kg	8.36E-05	4.48E-07	2.50E-07	1.72E-07	2.05E-06	6.39E-07	-	7.18E-05	7.12E-06	-	1.28E-07	-	1.01E-06
CRU	kg	-	-	-	-	-	-	-	-	-	-	-	-	-
MR	kg	3.07	-	-	-	-	-	-	-	-	-	-	3.07	-
MER	kg	6.84	-	-	-	-	-	-	-	-	-	-	6.84	-
EE	MJ, LHV	1.45	-	-	-	-	-	-	-	-	-	-	-	1.45
BCRP	kg CO_2	-56.19	-18.73	-	-	-	-	-	-	-37.46	-	-	-	-
BCEP	kg CO_2	19.7	7.18E-04	1.79E-03	0.03	0.01	0.12	-	0.10	0.33	-	1.08E-03	-	19.16
BCRK	kg CO_2	--	-	-	-	-	-	-	-		--	-	-	--
BCEK	kg CO_2	-	-	-	-	-	-	-	-		-	-	-	-
BCEW	kg CO_2	-	-	-	-	-	-	-	-		-	-	-	-

Table 5. Environmental impacts per 1 m^2 of installed WRC decking calculated using CML-1A Baseline method calculated for the non-stained scenario

Impact Category	Unit	Total	Resource extraction	Roundwood transport	Decking manufacturing	Transport to Customer	Installation	Use	Maintenance	Replacement	Dismantling	Waste Transport	Sorting	Disposal
			A1	A2	A3	A4	A5	B1,	B2	B4	C1	C2	C3	C4
Abiotic depletion	kg Sb eq	3.46E-05	7.33E-10	1.23E-10	6.62E-10	1.70E-09	1.31E-08	-	3.45E-05	3.26E-08	-	6.26E-11	-	6.15E-10
Abiotic depletion (fossil fuels)	MJ	202.74	17.33	2.64	3.26	26.47	5.58	-	33.65	110.56	-	1.35	-	1.81
Global warming (GWP100a)	kg CO2 eq	16.63	1.24	0.21	0.17	2.06	0.63	-	2.71	8.64	-	0.10	-	0.85
Ozone depletion (ODP)	kg CFC-11 eq	8.08E-07	5.35E-08	2.18E-10	2.00E-08	7.66E-08	3.33E-09	-	3.32E-07	3.07E-07	-	1.11E-10	-	1.44E-08
Human toxicity	kg 1,4-DB eq	7.87	0.28	0.17	0.02	1.21	0.18	-	2.09	3.72	-	0.08	-	0.11
Fresh water aquatic ecotoxicity.	kg 1,4-DB eq	5.99	0.01	0.06	3.74E-03	0.45	0.88	-	1.50	2.81	-	0.03	-	0.25
Marine aquatic ecotoxicity	kg 1,4-DB eq	12681.93	380.23	226.97	23.62	1592.69	599.29	-	3825.95	5645.61	-	115.77	-	262.38
Terrestrial ecotoxicity	kg 1,4-DB eq	0.03	6.78E-05	1.14E-05	2.96E-05	1.52E-04	4.02E-03	-	0.01	0.01	-	0.00	-	0.01
Photochemical oxidation	kg C2H4 eq	3.45E-03	1.56E-04	4.11E-05	3.86E-05	4.21E-04	2.36E-04	-	5.37E-04	1.79E-03	-	5.52E-05	-	1.80E-04
Acidification	kg SO2 eq	0.07	3.95E-03	9.38E-04	1.13E-03	1.21E-02	2.42E-03	-	0.01	0.04	-	4.04E-04	-	9.41E-04
Eutrophication	kg PO4--- eq	0.02	1.05E-03	1.90E-04	2.13E-04	2.54E-03	-2.24E-04	-	4.03E-03	0.01	-	7.83E-05	-	4.02E-03

Interpretation

Base case conditions

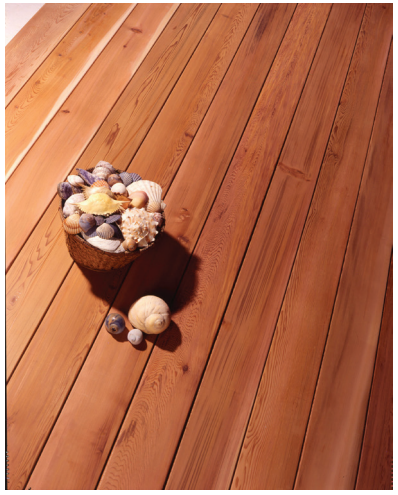
Cedar decking products have a 25-year service life with no coatings and no board replacements.
Minneapolis was chosen as the default location for describing the LCIA results as it is a central location in the US.

Limitations

Minneapolis, although central to the US, this location is not fully representative of conditions across the entire US.

Sustainable forestry

Western red cedar products from WRCLA members come from forests that are independently certified as legal and sustainable.



Carbon Balance

	Kg CO_2eq. per 100 ft^2 installed decking
Forest carbon uptake in WRC decking	-521.98
Life cycle greenhouse gas emissions (fossil)	145.25
Biogenic CO_2 emissions	183.43
Net GWP	-193.30

Note: *Carbon content in cedar 51.54% on oven dry basis (Lamlom and Savidge, 2003)

Table 6. Environmental impacts per 1 m^2 of installed WRC decking with regular application of stain

Impact category	Unit	Per 100 ft2 of installed decking	Per 1 m^2 of installed decking
GWP100 - fossil	kg CO_2 eq	345.74	37.22
GWP100 - biogenic	kg CO_2 eq	186.41	20.07
Ozone depletion	kg CFC-11 eq	4.00E-05	4.31E-06
Acidification	kg SO_2 eq	1.65	0.18
Eutrophication	kg N eq	0.70	0.08
Smog	kg O_3 eq	31.47	3.39
Abiotic depletion (fossil fuels)	MJ	5,651.43	608.33

Table 7. Environmental impacts per 1 m^2 of installed WRC decking with regular application of stain calculated using CML-1A Baseline method

Impact Category	Unit	Total
Abiotic depletion	kg Sb eq	5.60E-05
Abiotic depletion (fossil fuels)	MJ	608.31
Global warming (GWP100a)	kg CO2 eq	38.08
Ozone depletion (ODP)	kg CFC-11 eq	3.60E-06
Human toxicity	kg 1,4-DB eq	15.81
Fresh water aquatic ecotoxicity.	kg 1,4-DB eq	13.47
Marine aquatic ecotoxicity	kg 1,4-DB eq	32,016.25
Terrestrial ecotoxicity	kg 1,4-DB eq	0.08
Photochemical oxidation	kg C2H4 eq	0.01
Acidification	kg SO2 eq	0.16
Eutrophication	kg PO4--- eq	0.05

Glossary

Primary Energy Consumption

Primary energy is the total energy consumed by a process including energy production and delivery losses. Energy is reported in megajoules (MJ).

Global Warming Potential

This impact category refers to the potential change in the earth's climate due to accumulation of greenhouse gases and subsequent trapping of heat from reflected sunlight that would otherwise have passed out of the earth's atmosphere. Greenhouse gas refers to several different gases including carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). For global warming potential, these gas emissions are tracked and their potencies reported in terms of equivalent units of CO_2.

Acidification Potential

Acidification refers to processes that increase the acidity of water and soil systems as measured by hydrogen ion concentrations (H+) and are often manifested as acid rain. Damage to plant and animal ecosystems can result, as well as corrosive effects on buildings, monuments and historical artifacts. Atmospheric emissions of nitrogen oxides (NO_x) and sulphur dioxide (SO_2) are the main agents affecting these processes. Acidification potential is reported in terms of H^+ mole equivalent per kilogram of emission.

Eutrophication Potential

Eutrophication is the fertilization of surface waters by nutrients that were previously scarce, leading to a proliferation of aquatic photosynthetic plant life which may then lead to further consequences including foul odor or taste, loss of aquatic life, or production of toxins. Eutrophication is caused by excessive emissions to water of phosphorus (P) and nitrogen (N). This impact category is reported in units of N equivalent.

Smog Potential

Photochemical smog is the chemical reaction of sunlight, nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the atmosphere. Ground-level ozone is an indicator, and NO_x emissions are a key driver in the creation of ground-level ozone. This impact indicator is reported in units of O_3equivalent.

Ozone Depletion Potential

This impact category addresses the reduction of protective ozone within the atmosphere caused by emissions of ozone-depleting substances such as chlorofluorocarbons (CFCs). Reduction in ozone in the stratosphere leads to increased ultraviolet-B radiation reaching earth, which can have human health impacts as well as damage crops, materials and marine life. Ozone depletion potential is reported in units of equivalent CFC-11.

Source: Bare et al, 2003.

Freshwater consumption

Use of freshwater when release into the original watershed does not occur because of evaporation, product integration, or discharge into different watersheds, or the sea.

LCI databases and versions

DATASMART (2021), ecoinvent 3.8, and USLCI(2015)

LCA Software

SimaPro v9.4.0.3

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About this EPD

Declaration no: 20250228-WRC-02
PCR: UL Environment: Product Category Rules for Building-Related Products and Services, Part A: Life Cycle Assessment Calculation Rules and Report Requirements, v4.0. Part B: Structural and Architectural Wood Products EPD Requirements UL 10010-9 v.1.1

- EPDs from different programs may not be comparable.

- Comparison of the environmental performance of construction products using EPD information shall be based on the product's use and impacts at the construction works level. EPDs may not be used for comparability purposes when not considering the construction works energy use phase. EPDs are comparable only when all stages of a life cycle have been considered, when use equivalent scenarios with respect to construction works. However, variations and deviations are possible due to use of different LCA software and background LCI datasets.

- While this EPD does not address landscape level forest management impacts, potential impacts may be addressed through requirements put forth in regional regulatory frameworks, ASTM 7612-15 guidance, and ISO 21930 Section 7.2.11 including notes therein. These documents, combined with this EPD, may provide a more complete picture of environmental and social performance of wood products.

- While this EPD does not address all forest management activities that influence forest carbon, wildlife habitat, endangered species, and soil and water quality, these potential impacts may be addressed through other mechanisms such as regulatory frameworks and/or forest certification systems which, combined with this EPD, will give a more complete picture of environmental and social performance of wood products.

- EPDs can complement but cannot replace tools and certifications that are designed to address environmental impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, etc.
National or regional life cycle averaged data for raw material extraction does not distinguish between extraction practices at specific sites and can greatly affect the resulting impacts.

- Accuracy of Results: EPDs regularly rely on estimations of impacts; the level of accuracy in estimation of effect differs for any particular product line and reported impact when averaging data. Variability was estimated in this EPD by calculating the weighted average lumber production of the survey participants.

Explanatory materials on the background LCA can be obtained from Western Red Cedar Lumber Association

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Independent verification of the declaration and data, according to ISO 21930:2017 and ISO 14025:2006

☐ internal ☒ external

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Data for the underlying LCA was provided by Downie Timber Ltd., Gilbert Smith Forest Products, Interfor Corporation, Western Forest Products Inc, and Power Wood Corporation.

Markets of applicability:
North America and Netherlands

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