Product Certifications

Stackabl x Maison Gerard
Feat. Jamei Drake and
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Product Certifications

STA
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EPD READY, VERIFIED VERY LOW-CARBON PERFORMANCE

Stackabl's product-specific Environmental Product Declaration confirms very low embodied carbon performance relative to comparable decorative lighting fixtures with integrated LED systems. This outcome is driven by a material strategy centered on upcycled inputs and efficient, localized manufacturing, resulting in minimal embodied emissions from the product's structural and acoustic components.

As with all lighting products, integrated LED and electronic components inherently carry embodied carbon. Within this unavoidable constraint, Stackabl's system performs at the very low end of the decorative lighting category, with the majority of remaining cradle-to-gate emissions attributable to electronics rather than materials, fabrication, or assembly.

The verified EPD dataset provides transparent, third-party–reviewed environmental data and may be used to support LEED, WELL, and other performance-based sustainability pathways, positioning Stackabl as a materially efficient, low-impact option for architectural lighting applications.

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 21930 & ISO 14025

Pendant Lamp
Stackabl

EPD Status: In progress
Product-specific Environmental Product Declaration prepared using One Click LCA. Third-party verification and registration pending.

Life Cycle Assessment study has been performed in accordance with the requirements of ISO 21930 & ISO 14025, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Stackabl
Address	213 Sterling Rd, Toronto, ON M6R 2B2, Toronto, Canada
Contact details	jeff@stackabl.shop
Website	www.stackabl.shop

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	ISO 21930:2017 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options, A4
EPD author	OneClick LCA
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	#VERIFIER#

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with ISO 21930 and if they are not compared in a building context.

PRODUCT

Product name	Pendant Lamp
Additional labels	
Product reference	1
Place(s) of raw material origin	USA, Canada, China
Place of production	Canada
Place(s) of installation and use	USA, Canada, Europe
Period for data	2024-2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	
GTIN (Global Trade Item Number)	-
A1-A3 Specific data (%)	0.73

ENVIRONMENTAL DATA SUMMARY

Declared unit	1
Declared unit mass	8.53 kg
Mass of packaging	kg
GWP-TRACI, A1-A3 ($kgCO_2e$)	3.14E+01
Secondary material, inputs (%)	19.8
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	269
Net freshwater use, A1-A3 (m^3)	292

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Stackabl is a design studio manufacturing a tech solution that converts textile and manufacturing waste into bespoke, acoustic lighting and furniture.

PRODUCT DESCRIPTION

Customizable acoustic pendant lamp made from upcycled felt and industrial waste using Stackabl's digital fabrication system. Locally produced with integrated LED lighting, circular design, and minimal environmental impact.

Further information can be found at:
www.stackabl.shop

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals		
Minerals		
Fossil materials		
Bio-based materials		

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1
Mass per declared unit	8.53 kg
Functional unit	
Reference service life	

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

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

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

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.

Production of Stackabl pendant lamps using upcycled felt and recycled aluminum. Includes raw material sourcing, transport, manufacturing, assembly, and packaging stages (A1–A3) verified per EN 15804 and ISO 14025.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Transport of finished pendant lamps to installation site by regional road freight. Installation includes mounting and wiring with negligible material use. Packaging reused or recycled from manufacturing stage.

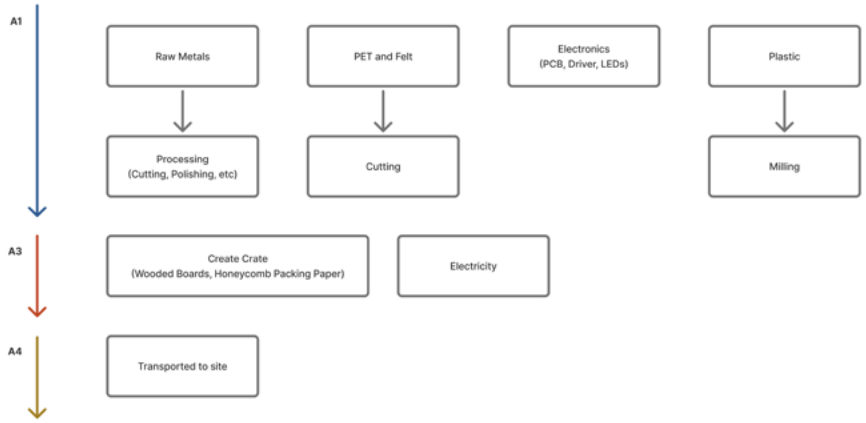
PRODUCT USE AND MAINTENANCE (B1-B7)

N/A; Use and maintenance (B1–B7) not included in EPD scope as product operation and servicing impacts are negligible.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

End-of-life includes disassembly, transport, and recycling of aluminum and felt components. Metal parts are 100% recyclable; felt can be downcycled or used for energy recovery. Waste processing (C1–C4) modeled per EN 15804.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	
Packaging material	
Ancillary materials	
Manufacturing energy and waste	

PRODUCT & MANUFACTURING SITES GROUPING

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

This EPD is product and factory-specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub - North America v1.1.3. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11, EPDs with TRACI methodologies, and the Federal LCA Commons as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	1.77E+01	0.00E+00	1.37E+01	3.14E+01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ozone Depletion	kg $CFC_{-11}e$	3.37E-07	0.00E+00	4.51E-07	7.88E-07	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acidification	kg SO_2e	5.57E+00	0.00E+00	1.35E-01	5.70E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Eutrophication	kg Ne	9.75E-03	0.00E+00	2.51E-01	2.61E-01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
POCP (“smog”)	kg O_3e	3.10E+00	0.00E+00	1.60E+00	4.70E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADP-fossil	MJ	1.18E+02	0.00E+00	1.58E+02	2.76E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[1)]	MJ	8.17E+01	0.00E+00	4.80E+02	5.61E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renew. PER as material	MJ	6.35E-02	0.00E+00	7.46E+02	7.46E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renew. PER	MJ	8.17E+01	0.00E+00	1.23E+03	1.31E+03	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-re. PER as energy	MJ	1.99E+02	0.00E+00	1.97E+02	3.96E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-re. PER as material	MJ	1.10E+00	0.00E+00	2.87E+01	2.98E+01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-re. PER	MJ	2.01E+02	0.00E+00	2.26E+02	4.26E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Secondary materials	kg	1.69E+00	0.00E+00	1.35E+00	3.04E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renew. secondary fuels	MJ	8.12E-03	0.00E+00	1.13E+01	1.13E+01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-ren. secondary fuels	MJ	1.04E-04	0.00E+00	0.00E+00	1.04E-04	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	2.92E+02	0.00E+00	2.41E-01	2.92E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	7.87E+00	0.00E+00	9.90E-01	8.86E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-hazardous waste	kg	2.14E+02	0.00E+00	1.71E+01	2.32E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Radioactive waste	kg	6.91E-04	0.00E+00	1.00E-03	1.69E-03	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.58E-07	0.00E+00	2.87E-04	2.87E-04	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	4.17E-08	0.00E+00	2.15E-10	4.19E-08	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	1.78E+01	0.00E+00	1.38E+01	3.17E+01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	2.75E-07	0.00E+00	3.55E-07	6.31E-07	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acidification	kg SO_2e	2.44E-01	0.00E+00	1.35E-01	3.78E-01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Eutrophication	kg PO_4^3e	5.08E-02	0.00E+00	3.27E-01	3.78E-01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
POCP (“smog”)	kg C_2H_4e	1.32E-02	0.00E+00	1.03E-02	2.35E-02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADP-elements	kg Sbe	5.03E-03	0.00E+00	2.97E-04	5.33E-03	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADP-fossil	MJ	1.88E+02	0.00E+00	1.89E+02	3.77E+02	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Market for electricity, medium voltage, Ontario, Ecoinvent, 0.0812 kgCO2e/kWh
2. Market for electricity, medium voltage, Ontario, Ecoinvent, 0.0812 kgCO2e/kWh
3. Market for electricity, medium voltage, Ontario, Ecoinvent, 0.0812 kgCO2e/kWh

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	60% - Typical of small-batch, locally delivered furniture or lighting products. Vehicles rarely operate at full volume capacity because lamps are lightweight but bulky; accounting for return trips and partial loads, 60% is a reasonable and conservative estimate.
Bulk density of transported products	0.00E+00
Volume capacity utilization factor	

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

#SIGNATURE#