ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Iris Damper EKO-SI, Ekovent AB

EPD of multiple products, based on the results of a representative product

EPD HUB, HUB-4526

Published on 30.11.2025, last updated on 30.11.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

Created with One Click LCA

EKOVENT
Part of Lindab Group

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Ekovent AB
Address	Mejselgatan 7, Vellinge, Sweden
Contact details	info@ekovent.se
Website	www.ekovent.se

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Van Dong
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	EKO-SI
Additional labels	Appendix 1
Product reference	-
Place(s) of raw material origin	China
Place of production	Shanghai, China
Place(s) of installation and use	Europe
Period for data	Calendar year 2023
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	Appendix 1
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	7,2

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of EKO-SI-125
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	5,12
GWP-total, A1-A3 ($kgCO_2e$)	5,04
Secondary material, inputs (%)	28,7
Secondary material, outputs (%)	82,2
Total energy use, A1-A3 (kWh)	17,1
Net freshwater use, A1-A3 (m^3)	0,03

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

EKOVENT is one of Sweden's leading companies and has for more than 50 years developed, manufactured, and marketed products for ventilation and fire protection.

PRODUCT DESCRIPTION

The EKO-SI Iris Damper is designed for precise airflow regulation in circular ventilation ducts. Its construction ensures high measurement accuracy and complies with tightness class C. The standard design is made of galvanized steel with regulation plates and equipped with a rubber sealing gasket. The EKO-SI is available in sizes ranging from Ø80 mm to Ø800 mm.

This EPD covers multiple product sizes in the EKO-SI series. See the table for details on product names, GTIN numbers, and weights. GWP-total, GWP-GHG, and GWP-fossil values for all sizes, are presented in Appendix 1.

The data used in this EPD are calculated based on one kilogram of the representative product, EKO-SI-125.

Further information can be found at:
www.ekovent.se

PRODUCT IDENTIFICATION

Article	GTIN	Article weight [kg/piece]
EKO-SI-80	07350139874724	0,5
EKO-SI-100	07350139874731	0,7
EKO-SI-125	07350139874748	0,8
EKO-SI-160	07350139874755	1,0
EKO-SI-200	07350139874762	1,7
EKO-SI-250	07350139874779	2,3
EKO-SI-315	07350139874786	2,9
EKO-SI-400	07350139874793	5,0
EKO-SI-500	07350139874809	8,4
EKO-SI-630	07350139874816	11,9
EKO-SI-800	07350139874823	29,8

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	94,7	Asia
Minerals	-	-
Fossil materials	5,3	Asia
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,011

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of EKO-SI-125
Mass per declared unit	1 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	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. 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.

The product is manufactured in Shanghai, China by an external supplier. The product stage (A1-A3) covers all processes from raw material extraction to the finished product at the factory gate in Shanghai.

Module A1 includes the extraction and processing of all raw materials and the production of components. The average transport distance for incoming materials is approximately 43 km by lorry. Production losses are considered.

Incoming materials are inspected upon arrival to ensure compliance with specifications. Components are then laser-cut and subjected to quality control. The process continues with pressing and forming of individual parts. Assembly is carried out according to internal work instructions, where pressed and laser-cut components, along with purchased parts such as plastic elements, are joined together. Final inspection is performed using control sheets prior to packing and shipment to the customer. Process gases are included as ancillary materials, and waste management from production activities is covered under module A3.

A location-based approach is used in modelling the electricity mix utilized in the factory. The supply of electricity comes from the East China regional grid, including transmission and distribution losses. The grid electricity has a global warming potential of 0.84 kg CO_2e per kWh based on the dataset used, and electricity is the only energy source applied at the site.

The final product is assembled by hand and packed appropriately for its size using wooden pallets, cardboard, and plastic film. For manufacturing waste, it is assumed that 85% of steel is recycled and 15% sent to landfill, while plastic and rubber waste are conservatively assumed to go to landfill. The waste is transported approximately 30 km by lorry to local recycling facility.

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.

Module A4 covers the transport of the finished, packaged product from the factory gate to our distribution site in Vellinge, Sweden. This journey includes sea freight from the port of Shanghai to a Swedish port, followed by final road transport by lorry to Vellinge.

Subsequently, the product is transported from our distribution center in Vellinge to the construction site, assuming an average transportation distance of 425 km by lorry. This includes the transport of both the product and its packaging materials. The following estimated distances and transportation methods have been used for the scenario in this EPD.

Manufacturing site:	Shanghai, China
Distribution site:	Vellinge, Sweden

	Transportation distance A4	
Transportation mode	Manufacturing site to distribution center (km)	Distribution center to construction site (km)
Lorry	125	425
Ferry	≈19,000	-

A5 covers the installation of the product, which is assumed to be done by hand without any complex procedures. No material losses are expected during the installation process. Waste management of the packaging is also included, where the cardboard is assumed to be 90% recycled and 10% sent to landfill, while the wooden pallet is incinerated with energy recovery. The plastic film is assumed to be 30% recycled and 70% incinerated (Lindab Sustainability Rapport 2022).

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

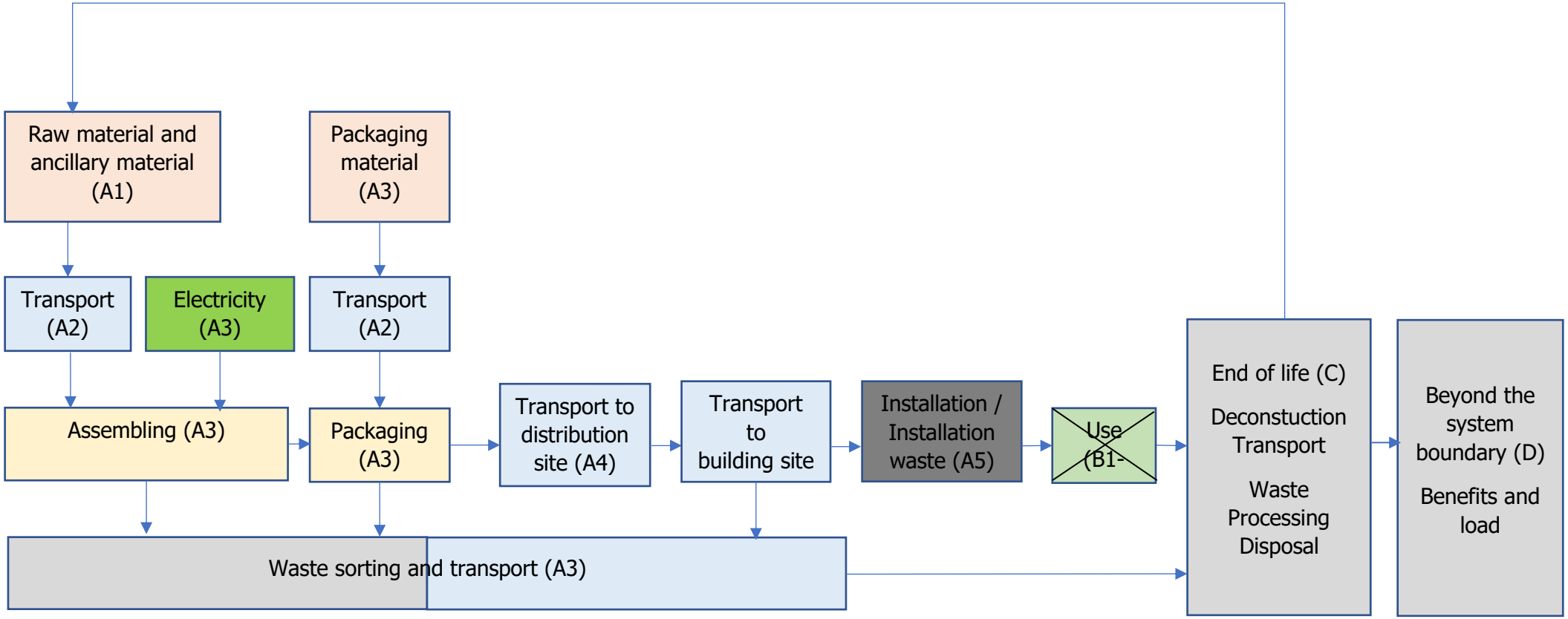
PRODUCT END OF LIFE (C1-C4, D)

At the end of life, the product is assumed to be dismantled manually using standard tools (C1). The dismantled product is assumed to be transported approximately 50 km by lorry to a local recycling facility (C2).

In the recycling process (C3), steel components are sent for recycling with an assumed recovery rate of 85%, while 15% is sent to landfill (World Steel, 2020). Plastics and rubber are assumed to be 70% incinerated with energy recovery and 30% recycled (Lindab Sustainability Report, 2022). In module C4, the environmental impacts from final disposal are included. This is assumed to be the most common end-of-life practice for this product.

Module D accounts for the potential benefits and loads from energy recovery and material recycling at the end of life. Recycled steel is assumed to substitute primary steel production, while energy recovered from incineration of plastics, wood and packaging materials substitutes average electricity and heat production. The data and assumptions are based on Ecoinvent v3.10.1 (2024).

MANUFACTURING PROCESS AND SYSTEM BOUNDARY



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	No allocation
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

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

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 V3 and EPD System Verification v3.2.3. 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 and One Click LCA databases 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‘.

Lindab Sustainability Report (2022)
World Steel Association (2020)

ENVIRONMENTAL IMPACT DATA

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

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	4,70E+00	6,94E-03	3,33E-01	5,04E+00	3,03E-01	4,64E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,48E-03	1,22E-01	8,87E-04	-1,38E+00
GWP – fossil	kg CO_2e	4,73E+00	6,92E-03	3,78E-01	5,12E+00	3,03E-01	1,54E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,48E-03	1,22E-01	8,86E-04	-1,37E+00
GWP – biogenic	kg CO_2e	-3,66E-02	1,68E-06	-4,48E-02	-8,14E-02	5,22E-05	4,48E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,90E-06	-4,12E-05	-2,82E-07	-1,40E-02
GWP – LULUC	kg CO_2e	3,66E-03	2,34E-05	2,87E-04	3,97E-03	1,66E-04	2,05E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,40E-06	2,45E-05	5,07E-07	-4,75E-04
Ozone depletion pot.	kg CFC_{-11}e	3,80E-08	1,17E-10	1,09E-09	3,92E-08	4,91E-09	5,81E-12	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,89E-10	2,85E-10	2,57E-11	-4,53E-09
Acidification potential	mol H^+e	2,56E-02	3,16E-05	1,91E-03	2,75E-02	6,07E-03	2,58E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,97E-05	2,37E-04	6,28E-06	-5,45E-03
EP-freshwater[2)]	kg Pe	1,65E-03	5,59E-07	6,78E-05	1,72E-03	1,33E-05	1,16E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,38E-07	1,23E-05	7,29E-08	-5,86E-04
EP-marine	kg Ne	4,46E-03	1,21E-05	4,26E-04	4,90E-03	1,51E-03	1,23E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,75E-06	6,39E-05	2,40E-06	-1,20E-03
EP-terrestrial	mol Ne	7,06E-02	1,30E-04	4,48E-03	7,52E-02	1,68E-02	1,11E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,12E-05	6,26E-04	2,62E-05	-1,32E-02
POCP ("smog")[3)]	kg NMVOCe	2,50E-02	4,50E-05	1,24E-03	2,63E-02	4,75E-03	3,18E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,28E-05	1,84E-04	9,37E-06	-4,49E-03
ADP-minerals & metals[4)]	kg Sbe	4,78E-05	2,23E-08	2,36E-07	4,81E-05	5,40E-07	2,18E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,15E-08	1,31E-06	1,41E-09	-1,33E-05
ADP-fossil resources	MJ	5,33E+01	9,88E-02	4,30E+00	5,77E+01	3,90E+00	4,71E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,33E-01	2,69E-01	2,18E-02	-1,31E+01
Water use[5)]	m^3e depr.	1,35E+00	4,97E-04	5,65E-02	1,40E+00	1,41E-02	3,92E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,63E-04	1,01E-02	6,28E-05	-2,65E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	4,35E-07	6,81E-10	2,73E-08	4,63E-07	1,37E-08	3,71E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,99E-10	3,10E-09	1,43E-10	-9,11E-08
Ionizing radiation[6)]	kBq U235e	1,80E-01	9,00E-05	4,22E-02	2,22E-01	2,95E-03	1,66E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,72E-04	2,20E-03	1,37E-05	-2,00E-03
Ecotoxicity (freshwater)	CTUe	2,49E+01	3,58E-02	9,76E-01	2,59E+01	3,97E-01	2,66E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,77E-02	3,31E-01	1,82E-03	-3,32E+00
Human toxicity, cancer	CTUh	4,31E-09	1,71E-12	7,88E-11	4,39E-09	6,02E-11	4,53E-13	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,59E-12	2,17E-11	1,63E-13	-2,23E-10
Human tox. non-cancer	CTUh	4,95E-08	7,05E-11	1,95E-09	5,16E-08	1,53E-09	2,54E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,44E-11	1,20E-09	3,75E-12	-1,09E-08
SQP[7)]	-	1,84E+01	7,78E-02	6,03E+00	2,45E+01	1,09E+00	2,68E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,07E-02	4,99E-01	4,28E-02	-4,95E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	3,67E+00	1,50E-03	5,10E-01	4,18E+00	4,40E-02	-2,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,33E-03	4,75E-02	2,10E-04	-1,48E+00
Renew. PER as material	MJ	1,17E+00	0,00E+00	3,63E-01	1,53E+00	0,00E+00	-4,08E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,12E+00	0,00E+00	-1,68E-01
Total use of renew. PER	MJ	4,84E+00	1,50E-03	8,73E-01	5,71E+00	4,40E-02	-6,71E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,33E-03	-1,07E+00	2,10E-04	-1,65E+00
Non-re. PER as energy	MJ	5,29E+01	9,90E-02	4,23E+00	5,72E+01	3,90E+00	-1,54E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,33E-01	-1,45E+00	2,18E-02	-1,31E+01
Non-re. PER as material	MJ	3,44E-01	0,00E+00	1,65E-02	3,61E-01	0,00E+00	-2,19E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-3,19E-01	0,00E+00	6,54E-01
Total use of non-re. PER	MJ	5,33E+01	9,90E-02	4,24E+00	5,76E+01	3,90E+00	-3,73E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,33E-01	-1,77E+00	2,18E-02	-1,24E+01
Secondary materials	kg	2,87E-01	4,43E-05	2,95E-03	2,90E-01	1,84E-03	7,71E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,19E-05	3,68E-04	5,47E-06	7,56E-01
Renew. secondary fuels	MJ	1,81E-03	5,60E-07	8,34E-03	1,01E-02	1,11E-05	3,75E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,83E-07	1,48E-05	1,13E-07	6,70E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,65E-02	1,50E-05	1,32E-03	2,79E-02	3,66E-04	3,21E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,82E-05	2,27E-04	2,26E-05	-3,93E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,25E+00	1,77E-04	4,30E-02	1,29E+00	5,38E-03	9,13E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,94E-04	4,76E-03	2,40E-05	-4,51E-01
Non-hazardous waste	kg	1,47E+01	3,29E-03	3,40E-01	1,50E+01	8,87E-02	1,12E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,09E-03	1,11E-01	5,49E-04	-3,52E+00
Radioactive waste	kg	4,42E-05	2,21E-08	1,03E-05	5,45E-05	7,27E-07	4,22E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,27E-08	5,63E-07	3,33E-09	1,95E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	5,00E-02	5,00E-02	0,00E+00	5,45E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,22E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,21E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,29E-01	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,92E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,09E-01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,22E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,20E-01	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	4,81E+00	6,90E-03	3,75E-01	5,19E+00	3,01E-01	1,59E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,42E-03	1,22E-01	8,78E-04	-1,36E+00
Ozone depletion Pot.	kg CFC_{-11}e	3,46E-08	9,32E-11	1,04E-09	3,57E-08	3,90E-09	4,73E-12	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,50E-10	2,36E-10	2,04E-11	-5,00E-09
Acidification	kg SO_2e	1,91E-02	2,35E-05	1,56E-03	2,07E-02	4,85E-03	1,88E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,59E-05	1,89E-04	4,65E-06	-4,39E-03
Eutrophication	kg PO_4^3e	7,64E-03	6,96E-06	4,23E-04	8,06E-03	5,60E-04	6,64E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,00E-06	2,96E-05	1,48E-06	-8,03E-04
POCP (“smog”)	kg C_2H_4e	1,71E-03	1,98E-06	9,21E-05	1,80E-03	2,50E-04	1,84E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-06	1,17E-05	4,40E-07	-6,87E-04
ADP-elements	kg Sbe	4,74E-05	2,18E-08	2,31E-07	4,76E-05	5,29E-07	2,09E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,08E-08	1,30E-06	1,38E-09	-1,32E-05
ADP-fossil	MJ	5,04E+01	9,74E-02	3,57E+00	5,40E+01	3,85E+00	4,42E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,30E-01	2,31E-01	2,15E-02	-1,33E+01

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	4,74E-05	2,18E-08	2,31E-07	4,76E-05	5,29E-07	2,09E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,08E-08	1,30E-06	1,38E-09	-1,32E-05
Hazardous waste disposed	kg	1,25E+00	1,77E-04	4,30E-02	1,29E+00	5,38E-03	9,13E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,94E-04	4,76E-03	2,40E-05	-4,51E-01
Non-haz. waste disposed	kg	1,47E+01	3,29E-03	3,40E-01	1,50E+01	8,87E-02	1,12E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,09E-03	1,11E-01	5,49E-04	-3,52E+00
Air pollution	m^3	2,21E+03	1,56E+00	2,85E+02	2,50E+03	5,62E+01	1,14E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,70E+00	9,16E+00	2,02E-01	-6,49E+02
Water pollution	m^3	1,45E+01	4,90E-02	9,30E-01	1,55E+01	2,00E+00	2,65E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,38E-02	1,58E-01	1,11E-02	3,44E-01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	4,73E+00	6,94E-03	3,78E-01	5,12E+00	3,03E-01	1,54E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,48E-03	1,22E-01	8,87E-04	-1,37E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity, high voltage, production mix, eastChinaGrid, Ecoinvent, 0.84 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry 16-32 metric ton, EURO6, 425 km
2. Market group for transport, freight, lorry, unspecified, 45 km
3. Market for transport, freight, sea, container ship, 19078 km
4. Market for transport, freight, lorry 16-32 metric ton, EURO6, 80 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	0,00E+00
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste paperboard, inert material landfill, Ecoinvent, 5.9E-4 kg
2. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0053 kg
3. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.01 kg
4. Exported Energy: Electricity, Ecoinvent, 0.99 MJ
5. Exported Energy: Electricity, Ecoinvent, 0.0016 MJ
6. Exported Energy: Thermal, Ecoinvent, 1.21 MJ
7. Exported Energy: Thermal, Ecoinvent, 0.0091 MJ
8. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 1.5E-4 kg
9. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 3.5E-4 kg

Use stages scenario documentation - C1-C4 (Data source)

1. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.806 kg
2. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.142 kg
3. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.013 kg
4. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.003 kg
5. Treatment of waste rubber, unspecified, municipal incineration, Ecoinvent, 0.029 kg
6. Exported Energy: Electricity, Ecoinvent, 0.088 MJ
7. Exported Energy: Electricity, Ecoinvent, 0.021 MJ
8. Exported Energy: Thermal, Ecoinvent, 0.5 MJ
9. Exported Energy: Thermal, Ecoinvent, 0.12 MJ
10. Market group for waste plastic, mixture, Ecoinvent, 0.007 kg

Scenario information	Value
Scenario assumptions e.g. transportation	Transported 50 km by lorry

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 15802+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

Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub Limited
30.11.2025

APPENDIX 1. SCALING TABLE

CLIMATE IMPACT VARIATION IN EKO-SI SERIES (MODULES A1-A3)

The table below presents the total climate impact results for modules A1-A3 (Cradle-to-gate) for all sizes in the EKO-SI series. Variation in impact is due to differences in material composition and size.

RESULTS FOR ALL DIMENSIONS

Dimension	Mass [kg]	A1-A3, EN 15804+A2		
		$GWP\text{-}_{Total}$	$GWP\text{-}_{Fossil}$	$GWP\text{-}_{GHG}$
80	0,5	5,08	5,15	5,16
100	0,7	5,05	5,11	5,12
125	0,8	5,04	5,12	5,12
160	1,0	5,06	5,11	5,12
200	1,7	5,08	5,1	5,1
250	2,3	5,09	5,09	5,09
315	2,9	5,08	5,08	5,08
400	5,0	5,09	5,07	5,08
500	8,4	5,1	5,07	5,08
630	11,9	5,11	5,07	5,08
800	29,8	5,12	5,07	5,07