ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EPD HUB, HUB-4559
Published on 28.11.2025, last updated on 28.11.2030

Sarek ECO L1500

Aura Light AB

This EPD is intended for business-to-business and/or business-to-consumer communication. 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. 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.

MANUFACTURER AND SITE

Manufacturer	Aura Light AB
Address	Fönstergatan 17, 59821, Vimmerby, SE
Contact details	emil.gustavsson@auralight.com
Website	www.auralight.com
Place of production	Vimmerby, Sweden
Place(s) of raw material origin	Global, mainly Europe
Place(s) of installation and use	Europe
Period for data	Calendar Year 2024

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	Electrical product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, B6, and modules C1-C4, D
EPD author	Emil Gustavsson
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

PRODUCT SPECIFICATION

Product name	Sarek ECO L1500
Product number / reference	51138413520
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	2,68

PRODUCT CLASSIFICATION

Declared operating voltage, Volt	230
Light source color temperature, Kelvin	4000
Protection index for water and dust (IP)	23
Impact resistance index (IK)	5
Luminous flux, Lumen	13980
Electrical power, Watt	89
Luminous efficiency, Lm/W	157

PRODUCT DESCRIPTION

Sarek ECO is an efficient IP23 luminaire suitable for various applications. It comes as standard with two different light distributions, wide and medium. Easy installation thanks to its openable installation boxes at each end and 5- or 7-pole connection. The body is made of galvanized steel sheet. Available in three lengths.

ABOUT THE MANUFACTURER

Aura Light has delivered long-lasting lighting solutions since 1930. The concept was easy - to offer high-quality lighting at a good price. This concept remains the same to this day. We strive to offer modern technology in smart, sustainable lighting solutions that enable our customers to lower their costs, energy consumption, and environmental impact. We offer a wide range of complete lighting solutions that includes everything from smart lighting control to customized luminaires and energy-efficient light sources.

We believe in lighting as an integral part of the work environment, creating a sense of comfort, safety, and well-being. To achieve that, we work in an innovative and flexible way to arrive at solutions that exceed our customers' expectations. Aura Light's skilled staff and production facility are located in Vimmerby, Sweden, where we use our vast experience and considerable talents to create high-quality lighting solutions for our customers.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass, kg	3,673
Mass of packaging, kg	0,328
Functional unit	Provide lighting that delivers an outgoing artificial luminous flux of 1,000 lumens during a reference lifetime of 35,000 hours
Reference service life (years)	-
Assigned lifetime (hours)	100000
GWP-total, A1-A3 (kg CO_2e)	22
GWP-fossil, A1-A3 (kg CO_2e)	22,5
Secondary material, inputs (%)	14
Secondary material, outputs (%)	61,3
Total energy use, A1-A3 (kWh)	111
Net freshwater use, A1-A3 (m^3)	9,99E-01

LIFE CYCLE ASSESSMENT

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	X	ND	X	X	X	X	X
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demo.	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling

Modules not declared = ND.

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. 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

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 materials	No allocation
Ancillary materials	Allocated by mass
Manufacturing energy and waste	Allocated by mass

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.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	64,621	EU
Minerals	-	-
Fossil materials	8,895	Global, mainly EU
Bio-based materials	8,145	Global, mainly EU
Electronic parts	18,339	Global, mainly EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,000
Biogenic carbon content in packaging, kg C	0,133

SUBSTANCES, REACH - VERY HIGH CONCERN

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

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA Luminaire EPD Generator v2.2.7. The LCA and EPD have been prepared according to the reference standards, EN 50693, and ISO 14040/14044. Ecoinvent v3.10.1/3.11 and One Click LCA databases were used 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‘.

PRODUCT LIFE CYCLE

MANUFACTURING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production. The material losses occurring during the manufacturing processes are treated as per the waste handling practices in the factory, while scenario assumptions are made in the absence of exact data. The study also considers the fuels used by machines 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 made of metals, plastics, and electronic components. All components are transported to the production facility, where the main manufacturing processes are associated with assembly of different parts and components. The finished product is packaged with polyethylene, cardboard, and/or paper as packaging material before being sent to customers.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation distances from manufacturing sites to customer locations are based on sales volume-based weighted averages. In the absence of exact data, conservative assumptions are made (A4). Environmental impacts from installation include waste packaging materials (A5). The impacts of energy consumption and the used ancillary materials during installation are considered negligible.

PRODUCT USE AND MAINTENANCE (B1-B7)

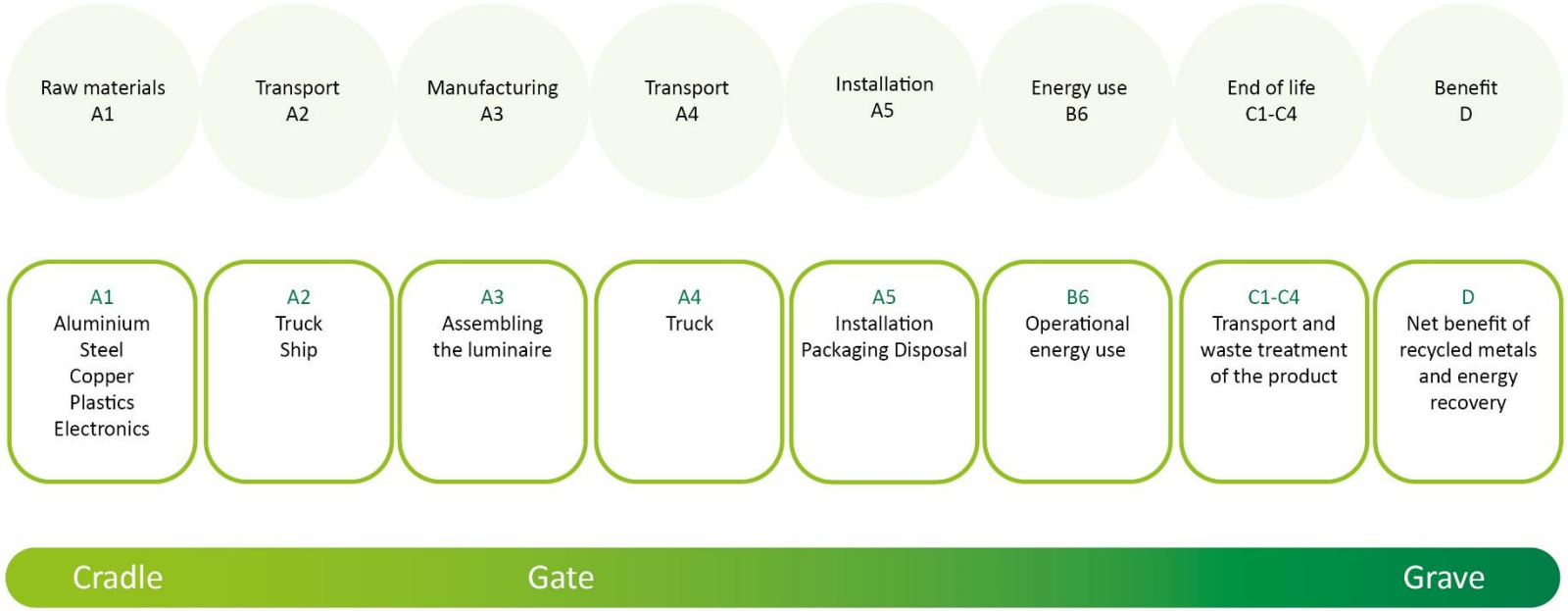
The product consume electricity during use phase and the scenario in this study is based on the Swedish electricity grid mix (B6). No energy savings due to controls are included in the scenario. The reference service lifetime (years) is based on assigned lifetime (hours) and application in Annex II. Impacts due to electricity production include direct emissions to air, transformation, and transmission losses.

PRODUCT END OF LIFE (C1-C4, D)

Consumption of energy and natural resources in demolition process is assumed to be negligible. It is assumed that the waste is collected separately and transported to the waste treatment centre. The transport distance is 150 km while the transportation method is assumed to be lorry (C2). According to EN 50693:2019, the sequence of treatment operations occurring to the product shall include de-pollution, fractions separation and preparation (dismantling, crushing, shredding, sorting), recycling, other material recovery, energy recovery and disposal. In this study, the default values from table G.4 of EN 50693 is used for treating materials in different waste treatment methods. Due to the material and energy recovery potential of parts in the lighting system, the end-of-life product is converted into recycled raw materials, while the energy recovered from incineration displaces electricity and heat production (D). The benefits and loads of incineration and recycling are included in Module D.

LIFE CYCLE FLOW DIAGRAM

The flowchart in the figure below illustrates the system boundaries for the analysis.



Additional technical information:
Please visit our website for more information, www.auralight.com.

ENVIRONMENTAL IMPACT DATA, RESULTS PER DECLARED UNIT

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	2,16E+01	1,84E-01	2,40E-01	2,20E+01	0,00E+00	4,70E-01	ND	ND	ND	ND	ND	5,77E+02	ND	0,00E+00	1,04E-01	5,21E-01	2,33E-01	-2,62E+00
GWP – fossil	kg CO_2e	2,16E+01	1,84E-01	7,15E-01	2,25E+01	0,00E+00	1,81E-02	ND	ND	ND	ND	ND	5,72E+02	ND	0,00E+00	1,04E-01	5,21E-01	2,33E-01	-3,61E+00
GWP – biogenic	kg CO_2e	0,00E+00	3,70E-05	-4,91E-01	-4,91E-01	0,00E+00	4,52E-01	ND	ND	ND	ND	ND	1,60E+00	ND	0,00E+00	2,26E-05	-2,74E-04	-2,65E-05	1,01E+00
GWP – LULUC	kg CO_2e	1,43E-02	6,59E-05	1,62E-02	3,06E-02	0,00E+00	9,52E-06	ND	ND	ND	ND	ND	3,52E+00	ND	0,00E+00	4,58E-05	1,38E-04	1,84E-05	-1,15E-02
Ozone depletion pot.	kg CFC_{-11}e	5,70E-07	3,65E-09	2,74E-08	6,01E-07	0,00E+00	1,93E-10	ND	ND	ND	ND	ND	2,61E-05	ND	0,00E+00	1,45E-09	1,04E-09	3,35E-10	-3,16E-08
Acidification potential	mol H^+e	5,21E-01	5,05E-04	5,60E-03	5,27E-01	0,00E+00	6,99E-05	ND	ND	ND	ND	ND	5,85E+00	ND	0,00E+00	3,45E-04	9,30E-04	1,23E-04	-1,69E-01
EP-freshwater[2)]	kg Pe	6,75E-03	1,23E-05	3,91E-04	7,15E-03	0,00E+00	2,70E-06	ND	ND	ND	ND	ND	3,03E-01	ND	0,00E+00	8,05E-06	4,93E-05	5,03E-06	-9,68E-03
EP-marine	kg Ne	3,20E-02	1,49E-04	1,64E-03	3,38E-02	0,00E+00	6,41E-05	ND	ND	ND	ND	ND	1,23E+00	ND	0,00E+00	1,12E-04	2,34E-04	2,42E-04	-7,85E-03
EP-terrestrial	mol Ne	1,73E+00	1,62E-03	1,43E-02	1,74E+00	0,00E+00	2,22E-04	ND	ND	ND	ND	ND	1,31E+01	ND	0,00E+00	1,22E-03	2,47E-03	5,41E-04	-1,08E-01
POCP ("smog")[3)]	kg NMVOCe	8,26E-02	7,86E-04	3,59E-03	8,69E-02	0,00E+00	8,89E-05	ND	ND	ND	ND	ND	3,24E+00	ND	0,00E+00	4,81E-04	7,01E-04	1,66E-04	-3,28E-02
ADP-minerals & metals[4)]	kg Sbe	3,59E-03	6,05E-07	3,00E-05	3,62E-03	0,00E+00	9,73E-08	ND	ND	ND	ND	ND	4,02E-02	ND	0,00E+00	3,40E-07	3,94E-06	4,55E-08	-2,57E-03
ADP-fossil resources	MJ	2,24E+02	2,58E+00	7,45E+01	3,01E+02	0,00E+00	1,97E-01	ND	ND	ND	ND	ND	9,82E+04	ND	0,00E+00	1,45E+00	1,22E+00	2,66E-01	-4,45E+01
Water use[5)]	m^3e depr.	2,57E+02	1,28E-02	1,04E+00	2,58E+02	0,00E+00	4,35E-03	ND	ND	ND	ND	ND	1,20E+03	ND	0,00E+00	6,74E-03	4,75E-02	1,55E-02	-2,01E+00

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	5,33E-06	1,40E-08	6,08E-08	5,41E-06	0,00E+00	1,15E-09	ND	ND	ND	ND	ND	6,59E-05	ND	0,00E+00	8,22E-09	1,13E-08	2,26E-09	-4,25E-07
Ionizing radiation[6)]	kBq U235e	1,65E+00	3,30E-03	5,06E+00	6,72E+00	0,00E+00	7,56E-04	ND	ND	ND	ND	ND	7,06E+03	ND	0,00E+00	1,18E-03	6,92E-03	2,78E-04	-4,21E-01
Ecotoxicity (freshwater)	CTUe	7,01E+02	3,48E-01	7,25E+00	7,08E+02	0,00E+00	1,38E+00	ND	ND	ND	ND	ND	5,97E+03	ND	0,00E+00	2,30E-01	1,37E+00	8,47E-01	-1,41E+02
Human toxicity, cancer	CTUh	3,90E-08	3,12E-11	6,12E-10	3,97E-08	0,00E+00	9,15E-12	ND	ND	ND	ND	ND	7,25E-07	ND	0,00E+00	1,76E-11	9,67E-11	6,92E-11	-2,25E-08
Human tox. non-cancer	CTUh	8,26E-07	1,62E-09	2,91E-08	8,57E-07	0,00E+00	4,96E-10	ND	ND	ND	ND	ND	3,75E-05	ND	0,00E+00	9,09E-10	5,41E-09	2,68E-09	-2,23E-06
SQP[7)]	-	5,42E+01	1,55E+00	3,70E+01	9,27E+01	0,00E+00	1,32E-01	ND	ND	ND	ND	ND	3,40E+04	ND	0,00E+00	8,67E-01	1,52E+00	4,09E-01	-9,97E+01

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 the 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	2,82E+01	4,48E-02	7,93E+00	3,62E+01	0,00E+00	-5,32E+00	ND	ND	ND	ND	ND	1,35E+04	ND	0,00E+00	1,99E-02	1,75E-01	5,26E-03	-6,66E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	4,20E+00	4,20E+00	0,00E+00	-4,20E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,82E+01	4,48E-02	1,21E+01	4,04E+01	0,00E+00	-9,53E+00	ND	ND	ND	ND	ND	1,35E+04	ND	0,00E+00	1,99E-02	1,75E-01	5,26E-03	-6,66E+00
Non-re. PER as energy	MJ	2,87E+02	2,58E+00	7,46E+01	3,64E+02	0,00E+00	1,97E-01	ND	ND	ND	ND	ND	9,82E+04	ND	0,00E+00	1,45E+00	-5,31E+00	-6,26E+00	-4,43E+01
Non-re. PER as material	MJ	1,03E+01	0,00E+00	1,37E-02	1,03E+01	0,00E+00	-1,37E-02	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	-5,14E+00	-5,20E+00	0,00E+00
Total use of non-re. PER	MJ	2,97E+02	2,58E+00	7,46E+01	3,74E+02	0,00E+00	1,83E-01	ND	ND	ND	ND	ND	9,82E+04	ND	0,00E+00	1,45E+00	-1,04E+01	-1,15E+01	-4,43E+01
Secondary materials	kg	5,14E-01	0,00E+00	0,00E+00	5,14E-01	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. secondary fuels	MJ	1,73E-02	1,50E-05	3,05E-02	4,79E-02	0,00E+00	1,60E-06	ND	ND	ND	ND	ND	9,81E-02	ND	0,00E+00	8,31E-06	5,89E-05	4,59E-06	-7,15E-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	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	9,69E-01	3,49E-04	2,95E-02	9,99E-01	0,00E+00	-2,92E-05	ND	ND	ND	ND	ND	3,51E+01	ND	0,00E+00	1,92E-04	1,02E-03	8,39E-05	-1,14E-01

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	3,72E+00	3,73E-03	6,00E-02	3,78E+00	0,00E+00	1,50E-03	ND	ND	ND	ND	ND	5,90E+01	ND	0,00E+00	2,53E-03	1,59E-02	1,18E-01	-1,49E+00
Non-hazardous waste	kg	4,36E+01	7,86E-02	1,61E+00	4,53E+01	0,00E+00	2,11E-01	ND	ND	ND	ND	ND	1,61E+03	ND	0,00E+00	4,75E-02	4,29E-01	1,20E+00	-4,79E+01
Radioactive waste	kg	6,91E-04	8,20E-07	1,08E-03	1,77E-03	0,00E+00	1,92E-07	ND	ND	ND	ND	ND	1,51E+00	ND	0,00E+00	2,88E-07	1,70E-06	6,89E-08	-1,09E-04

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 reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,17E-05	0,00E+00	0,00E+00	1,17E-05	0,00E+00	2,69E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	2,25E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	8,40E-14	0,00E+00	0,00E+00	8,40E-14	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	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	1,51E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	2,05E+00	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	6,37E-02	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	8,62E-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	7,97E-02	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	1,18E+00	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	2,14E+01	1,83E-01	7,34E-01	2,23E+01	0,00E+00	5,99E-02	ND	ND	ND	ND	ND	5,72E+02	ND	0,00E+00	1,03E-01	5,20E-01	2,32E-01	-3,61E+00
Ozone depletion Pot.	kg CFC_{-11}e	5,16E-07	2,91E-09	2,48E-08	5,44E-07	0,00E+00	1,57E-10	ND	ND	ND	ND	ND	2,47E-05	ND	0,00E+00	1,16E-09	8,73E-10	2,75E-10	-2,73E-08
Acidification	kg SO_2e	3,39E-01	3,94E-04	4,34E-03	3,44E-01	0,00E+00	5,39E-05	ND	ND	ND	ND	ND	4,66E+00	ND	0,00E+00	2,64E-04	7,43E-04	8,94E-05	-1,49E-01
Eutrophication	kg PO_4^3e	6,68E-02	9,64E-05	1,21E-03	6,81E-02	0,00E+00	4,90E-05	ND	ND	ND	ND	ND	8,39E-01	ND	0,00E+00	6,43E-05	1,20E-04	4,06E-05	-6,04E-03
POCP (“smog”)	kg C_2H_4e	1,04E-02	3,81E-05	3,02E-04	1,07E-02	0,00E+00	1,42E-05	ND	ND	ND	ND	ND	2,92E-01	ND	0,00E+00	2,37E-05	4,39E-05	9,13E-06	-6,82E-03
ADP-elements	kg Sbe	3,59E-03	5,91E-07	3,01E-05	3,63E-03	0,00E+00	9,51E-08	ND	ND	ND	ND	ND	4,04E-02	ND	0,00E+00	3,32E-07	3,91E-06	3,94E-08	-2,56E-03
ADP-fossil	MJ	2,73E+02	2,53E+00	7,59E+00	2,83E+02	0,00E+00	1,84E-01	ND	ND	ND	ND	ND	5,13E+03	ND	0,00E+00	1,43E+00	1,11E+00	2,62E-01	-3,76E+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	2,16E+01	1,84E-01	7,31E-01	2,25E+01	0,00E+00	1,81E-02	ND	ND	ND	ND	ND	5,75E+02	ND	0,00E+00	1,04E-01	5,21E-01	2,33E-01	-3,62E+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 characterization factor for biogenic CO2 is set to zero.

ENVIRONMENTAL IMPACT DATA, RESULTS PER FUNCTIONAL UNIT

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_2 éq/FU	5,40E-01	4,61E-03	6,01E-03	5,51E-01	0,00E+00	1,18E-02	ND	ND	ND	ND	ND	1,44E+01	ND	0,00E+00	2,59E-03	1,30E-02	5,83E-03	-6,56E-02
GWP – fossil	kg CO_2 éq/FU	5,40E-01	4,61E-03	1,79E-02	5,62E-01	0,00E+00	4,52E-04	ND	ND	ND	ND	ND	1,43E+01	ND	0,00E+00	2,59E-03	1,30E-02	5,83E-03	-9,04E-02
GWP – biogenic	kg CO_2 éq/FU	0,00E+00	9,27E-07	-1,23E-02	-1,23E-02	0,00E+00	1,13E-02	ND	ND	ND	ND	ND	4,01E-02	ND	0,00E+00	5,66E-07	-6,87E-06	-6,63E-07	2,52E-02
GWP – LULUC	kg CO_2 éq/FU	3,59E-04	1,65E-06	4,06E-04	7,67E-04	0,00E+00	2,38E-07	ND	ND	ND	ND	ND	8,82E-02	ND	0,00E+00	1,15E-06	3,45E-06	4,62E-07	-2,87E-04
Ozone depletion pot.	kg CFC_{11}e/FU	1,43E-08	9,15E-11	6,86E-10	1,51E-08	0,00E+00	4,82E-12	ND	ND	ND	ND	ND	6,53E-07	ND	0,00E+00	3,62E-11	2,59E-11	8,38E-12	-7,92E-10
Acidification potential	mole H^+e/FU	1,31E-02	1,27E-05	1,40E-04	1,32E-02	0,00E+00	1,75E-06	ND	ND	ND	ND	ND	1,47E-01	ND	0,00E+00	8,64E-06	2,33E-05	3,08E-06	-4,22E-03
EP-freshwater[2)]	kg Pe/FU	1,69E-04	3,07E-07	9,80E-06	1,79E-04	0,00E+00	6,76E-08	ND	ND	ND	ND	ND	7,59E-03	ND	0,00E+00	2,02E-07	1,23E-06	1,26E-07	-2,42E-04
EP-marine	kg Ne/FU	8,00E-04	3,74E-06	4,10E-05	8,45E-04	0,00E+00	1,61E-06	ND	ND	ND	ND	ND	3,08E-02	ND	0,00E+00	2,80E-06	5,85E-06	6,05E-06	-1,97E-04
EP-terrestrial	mol Ne/FU	4,32E-02	4,06E-05	3,58E-04	4,36E-02	0,00E+00	5,55E-06	ND	ND	ND	ND	ND	3,27E-01	ND	0,00E+00	3,05E-05	6,17E-05	1,36E-05	-2,71E-03
POCP ("smog")[3)]	kg NMVOCe/	2,07E-03	1,97E-05	8,98E-05	2,18E-03	0,00E+00	2,23E-06	ND	ND	ND	ND	ND	8,11E-02	ND	0,00E+00	1,20E-05	1,76E-05	4,15E-06	-8,22E-04
ADP-minerals & metals[4)]	kg Sbe/FU	8,98E-05	1,51E-08	7,50E-07	9,06E-05	0,00E+00	2,44E-09	ND	ND	ND	ND	ND	1,01E-03	ND	0,00E+00	8,51E-09	9,86E-08	1,14E-09	-6,42E-05
ADP-fossil resources	MJ/FU	5,61E+00	6,47E-02	1,87E+00	7,54E+00	0,00E+00	4,94E-03	ND	ND	ND	ND	ND	2,46E+03	ND	0,00E+00	3,64E-02	3,05E-02	6,67E-03	-1,11E+00
Water use[5)]	m^3e priv. /FU	6,43E+00	3,19E-04	2,60E-02	6,46E+00	0,00E+00	1,09E-04	ND	ND	ND	ND	ND	3,00E+01	ND	0,00E+00	1,69E-04	1,19E-03	3,88E-04	-5,03E-02

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 /FU	1,34E-07	3,50E-10	1,52E-09	1,35E-07	0,00E+00	2,88E-11	ND	ND	ND	ND	ND	1,65E-06	ND	0,00E+00	2,06E-10	2,82E-10	5,67E-11	-1,06E-08
Ionizing radiation[6)]	kBq U235e/FU	4,14E-02	8,26E-05	1,27E-01	1,68E-01	0,00E+00	1,89E-05	ND	ND	ND	ND	ND	1,77E+02	ND	0,00E+00	2,94E-05	1,73E-04	6,96E-06	-1,05E-02
Ecotoxicity (freshwater)	CTUe/FU	1,75E+01	8,72E-03	1,81E-01	1,77E+01	0,00E+00	3,47E-02	ND	ND	ND	ND	ND	1,50E+02	ND	0,00E+00	5,75E-03	3,42E-02	2,12E-02	-3,53E+00
Human toxicity, cancer	CTUh/FU	9,77E-10	7,81E-13	1,53E-11	9,93E-10	0,00E+00	2,29E-13	ND	ND	ND	ND	ND	1,82E-08	ND	0,00E+00	4,41E-13	2,42E-12	1,73E-12	-5,64E-10
Human tox. non-cancer	CTUh/FU	2,07E-08	4,07E-11	7,29E-10	2,14E-08	0,00E+00	1,24E-11	ND	ND	ND	ND	ND	9,40E-07	ND	0,00E+00	2,28E-11	1,35E-10	6,71E-11	-5,57E-08
SQP[7)]	-/FU	1,36E+00	3,87E-02	9,27E-01	2,32E+00	0,00E+00	3,31E-03	ND	ND	ND	ND	ND	8,52E+02	ND	0,00E+00	2,17E-02	3,81E-02	1,02E-02	-2,50E+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/FU	7,07E-01	1,12E-03	1,99E-01	9,07E-01	0,00E+00	-1,33E-01	ND	ND	ND	ND	ND	3,38E+02	ND	0,00E+00	4,99E-04	4,37E-03	1,32E-04	-1,67E-01
Renew. PER as material	MJ/FU	0,00E+00	0,00E+00	1,05E-01	1,05E-01	0,00E+00	-1,05E-01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ/FU	7,07E-01	1,12E-03	3,04E-01	1,01E+00	0,00E+00	-2,38E-01	ND	ND	ND	ND	ND	3,38E+02	ND	0,00E+00	4,99E-04	4,37E-03	1,32E-04	-1,67E-01
Non-re. PER as energy	MJ/FU	7,18E+00	6,47E-02	1,87E+00	9,11E+00	0,00E+00	4,94E-03	ND	ND	ND	ND	ND	2,46E+03	ND	0,00E+00	3,64E-02	-1,33E-01	-1,57E-01	-1,11E+00
Non-re. PER as material	MJ/FU	2,59E-01	0,00E+00	3,44E-04	2,59E-01	0,00E+00	-3,44E-04	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	-1,29E-01	-1,30E-01	0,00E+00
Total use of non-re. PER	MJ/FU	7,44E+00	6,47E-02	1,87E+00	9,37E+00	0,00E+00	4,59E-03	ND	ND	ND	ND	ND	2,46E+03	ND	0,00E+00	3,64E-02	-2,62E-01	-2,87E-01	-1,11E+00
Secondary materials	kg/FU	1,29E-02	0,00E+00	0,00E+00	1,29E-02	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. secondary fuels	MJ/FU	4,34E-04	3,75E-07	7,65E-04	1,20E-03	0,00E+00	4,01E-08	ND	ND	ND	ND	ND	2,46E-03	ND	0,00E+00	2,08E-07	1,48E-06	1,15E-07	-1,79E-05
Non-ren. secondary fuels	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3/FU	2,43E-02	8,74E-06	7,38E-04	2,50E-02	0,00E+00	-7,30E-07	ND	ND	ND	ND	ND	8,78E-01	ND	0,00E+00	4,82E-06	2,56E-05	2,10E-06	-2,86E-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/FU	9,31E-02	9,35E-05	1,50E-03	9,47E-02	0,00E+00	3,75E-05	ND	ND	ND	ND	ND	1,48E+00	ND	0,00E+00	6,34E-05	3,99E-04	2,95E-03	-3,74E-02
Non-hazardous waste	kg/FU	1,09E+00	1,97E-03	4,04E-02	1,13E+00	0,00E+00	5,27E-03	ND	ND	ND	ND	ND	4,02E+01	ND	0,00E+00	1,19E-03	1,07E-02	2,99E-02	-1,20E+00
Radioactive waste	kg/FU	1,73E-05	2,05E-08	2,71E-05	4,44E-05	0,00E+00	4,81E-09	ND	ND	ND	ND	ND	3,77E-02	ND	0,00E+00	7,21E-09	4,25E-08	1,72E-09	-2,72E-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/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg/FU	2,92E-07	0,00E+00	0,00E+00	2,92E-07	0,00E+00	6,73E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	5,63E-02	0,00E+00	0,00E+00
Materials for energy rec	kg/FU	2,10E-15	0,00E+00	0,00E+00	2,10E-15	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,79E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	5,12E-02	0,00E+00	0,00E+00
Exported energy: Electricity	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,59E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	2,16E-02	0,00E+00	0,00E+00
Exported energy: Heat	MJ/FU	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,00E-03	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	2,97E-02	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_2 éq./FU	5,36E-01	4,58E-03	1,84E-02	5,59E-01	0,00E+00	1,50E-03	ND	ND	ND	ND	ND	1,43E+01	ND	0,00E+00	2,58E-03	1,30E-02	5,81E-03	-9,03E-02
Ozone depletion Pot.	kg CFC-$_{11}$e/FU	1,29E-08	7,28E-11	6,21E-10	1,36E-08	0,00E+00	3,93E-12	ND	ND	ND	ND	ND	6,18E-07	ND	0,00E+00	2,90E-11	2,19E-11	6,87E-12	-6,83E-10
Acidification	kg SO_2e/FU	8,49E-03	9,85E-06	1,09E-04	8,60E-03	0,00E+00	1,35E-06	ND	ND	ND	ND	ND	1,17E-01	ND	0,00E+00	6,62E-06	1,86E-05	2,24E-06	-3,73E-03
Eutrophication	kg PO_4^3e/FU	1,67E-03	2,41E-06	3,02E-05	1,71E-03	0,00E+00	1,23E-06	ND	ND	ND	ND	ND	2,10E-02	ND	0,00E+00	1,61E-06	3,00E-06	1,02E-06	-1,51E-04
POCP (“smog”)	kg C_2H_4e/FU	2,60E-04	9,53E-07	7,57E-06	2,69E-04	0,00E+00	3,55E-07	ND	ND	ND	ND	ND	7,30E-03	ND	0,00E+00	5,93E-07	1,10E-06	2,29E-07	-1,71E-04
ADP-elements	kg Sbe/FU	9,00E-05	1,48E-08	7,53E-07	9,08E-05	0,00E+00	2,38E-09	ND	ND	ND	ND	ND	1,01E-03	ND	0,00E+00	8,31E-09	9,80E-08	9,86E-10	-6,42E-05
ADP-fossil	MJ/FU	6,83E+00	6,33E-02	1,90E-01	7,08E+00	0,00E+00	4,61E-03	ND	ND	ND	ND	ND	1,28E+02	ND	0,00E+00	3,59E-02	2,78E-02	6,55E-03	-9,41E-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/FU	5,40E-01	4,61E-03	1,83E-02	5,63E-01	0,00E+00	4,52E-04	ND	ND	ND	ND	ND	1,44E+01	ND	0,00E+00	2,59E-03	1,30E-02	5,83E-03	-9,07E-02

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 characterization factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION DATA SOURCES

Manufacturing energy scenario documentation – A3 (Energy data source)

1. Energy supply, electricity transformation and distribution, distribution low voltage, Electricity, low voltage, residual mix, Sweden, ecoinvent 3.10.1, 0.0648 kgCO2e/kWh

Transport scenario documentation - A4

1. Transport, freight, lorry 16-32 metric ton, EURO6, 357 km

Installation scenario documentation - A5 (Waste materials data source)

1. Corrugated board box production, 0.328 kg

Use stages scenario documentation - B6-B7 (Energy data source)

1. Energy supply, electricity transformation and distribution, distribution low voltage, Electricity, low voltage, residual mix, Sweden, 8900.0 kWh

TRANSPORT SCENARIO DOCUMENTATION - A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50 %
Bulk density of transported products / kg/m³	3,33E+02
Volume capacity utilization factor (factor: =1 or <1 or ≥1 for compressed or nested packaged products)	1

INSTALLATION SCENARIO DOCUMENTATION - A5

Scenario parameter	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m³	0
Other resource use / kg	0
Direct emissions to ambient air, soil and water / kg	0

USE STAGES SCENARIO DOCUMENTATION - B6-B7 USE OF ENERGY AND WATER

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	Not applicable
Net fresh water consumption / m³	0
Power output of equipment / kW	89
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc. / Units as appropriate	
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants / Units as appropriate	The product is most often used in several application areas, with a majority in offices, industry and distribution. An annual operating of 4000 hours has been assumed based on the distribution of the application areas and in accordance with the European standard EN 15193-1. The reference service life is assumed to be 25 years in accordance with previous mentioned standard. See Appendix II.

END OF LIFE SCENARIO DOCUMENTATION

Scenario information	Value
Collection process – kg collected separately	3,673
Collection process – kg collected with mixed construction waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	2,25E+00
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	1,10E+00
Scenario assumptions e.g. transportation	Lorry, 16-32 metric ton, EURO5; 150 km

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.

Vera Durão, as an authorised verifier acting for EPD Hub Limited
28.11.2025

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: Hai Ha Nguyen
Tool verification validity: 28 March 2025 - 27 March 2028

ANNEX I

Methodology

To create a transparent and representative Environmental Product Declaration (EPD), we have conducted a thorough selection of products from our existing product family. In this selection, we aimed to include products that represent the entire range of environmental performance – from the most optimized and sustainable versions to those with potentially greater environmental impact.

By declaring products that reflect this spectrum, we provide a fair view of the potential variation in environmental footprint within our product portfolio. This approach enables our customers and stakeholders to gain a more nuanced understanding of the products' environmental impact and to make informed choices based on their specific needs and sustainability goals.

It is important to note that lighting control technology is currently excluded from the basis of this EPD. However, we want to emphasize that adding this technology can lead to significant emission reductions in the B6 module, with a potential reduction of between 25 and 50 percent. We are committed to exploring and implementing technologies that reduce our environmental impact, and lighting control is one example of such an opportunity.

To ensure a consistent and relevant assessment of our products' environmental impact, we have used the Swedish electricity mix as a parameter in our calculations. This applies both to manufacturing emissions related to electricity consumption and during lifetime calculations. The choice of this electricity mix reflects our business's geographical context and provides a realistic picture of energy-related emissions.

We believe that this method provides an honest and transparent picture of our products' environmental impact and underscores our commitment to sustainability and continuous product improvement.

ANNEX II

Reference lifetime and energy consumption

The following methodology can be applied to compare environmental performance of different lighting solutions.
The assigned lifetime of the luminaire is 100,000 h corresponds to an operational lifetime dependent on the operating hours of the application seen in table below, in accordance with EN 15193.

Building type	Annual operating hours	Operational lifetime in years
Residential buildings	3500	29
Offices	2500	40
Education	2000	50
Hospitals	5000	20
Hotels	5000	20
Restaurants	2500	40
Sports facilities	4000	25
Wholesale and retail services	5000	20
Manufacturing factories	4000	25

For the national scaling of the B6-module we´ve used public data for average emission/kWh during reporting year for each country and applied calculations accordingly.
*(Energy consumption * Assigned lifetime) * Regional energy coefficient =Scaled Co2e*

	Co2e/kWh	Scaled B6 (GWP-total)
European Average	0,33 kg	**2,94E+03**
Sweden Average	0,0642 kg	**5,71E+02**
Norwegian Average	0,033 kg	**2,94E+02**
German Average	0,334 kg	**2,97E+03**

Furthermore, the calculations do not include any energy saving from using controls. If a light management system is applicable, a reduction factor can be used. This factor should represent a relevant scenario for any project. The factors to be applied are presented in the table below according to IEC PAS 63629.

Light Management Function	Reduction	Factor
No controls	0	1,00
Daylight controls	25%	0,75
Presence controls	25%	0,75
Presence and daylight controls	45%	0,55
Luminaire capable of communicating with an external Light Management System	50%	0,50