Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Alterna towel dryers

from

Saint-Gobain Building Distribution (SGDS)

Program:	The International EPD® System, www.environdec.com
Program operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR): Construction Products PCR 2019:14 version 1.2.5
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
PCR review was conducted by: *The Technical Committee of the International EPD@ System.*
Life Cycle Assessment (LCA)
LCA accountability: Fanni Végvári, *EANDO AB*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by the individual verifier Third-party verifier: Vladimír Kočí, LCA Studio s.r.o, Czech Republic Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

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

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

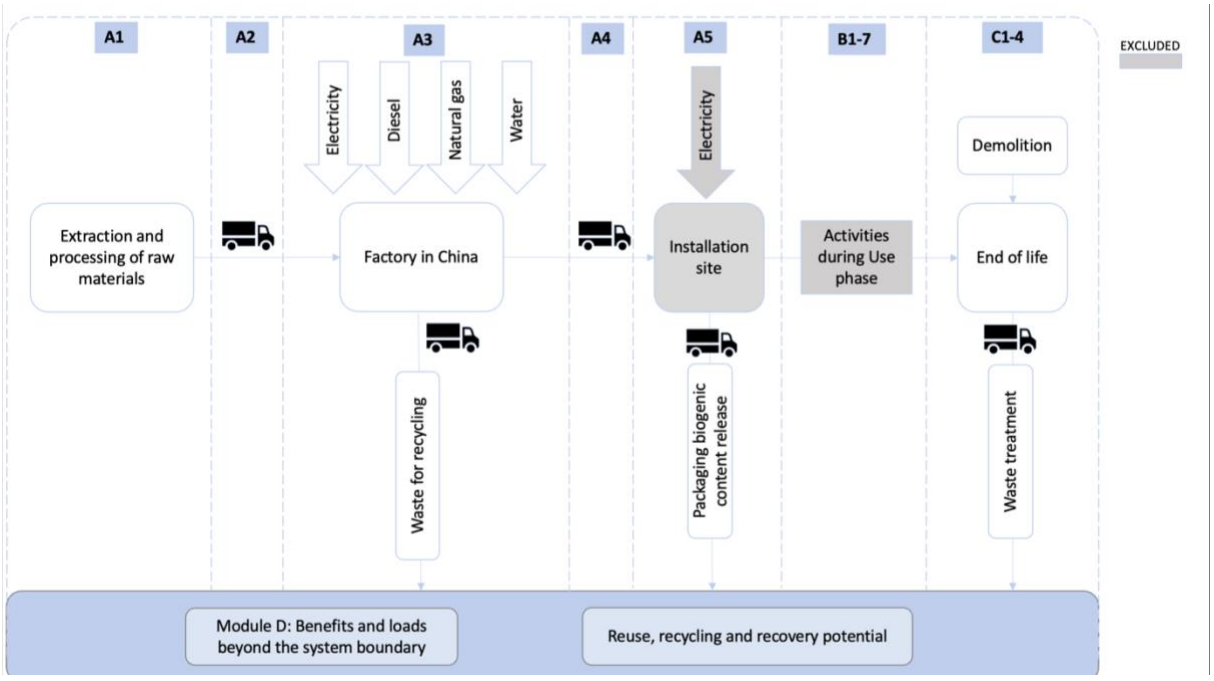
Owner of the EPD	Saint-Gobain Distribution Sweden
Contact	SGDS - Beriar Maroof (beriar.maroof@sgdsgruppen.se)
Description of the organisation	SGDS Gruppen - specialists in collaboration for more efficient business in construction and installation. SGDS Gruppen AB is the head company of some of Sweden's leading trading companies in construction, sheet metal, tiles and installation. All the companies have long and solid industry experience and provide most of Sweden's craftsmen with materials for various projects. Customers in different companies can also buy support items from the sister companies in the group, and in selected cases, we take joint projects to facilitate the logistics of the supply of goods, which is then often critical for a smooth construction project. • Optimera - construction trade for professional carpenters • Dahl – heat, plumbing and sanitary specialist • Bevego - building sheet metal, ventilation and technical insulation • Kakelspecialisten and Konradsson's Tiles - tiles, tiling and bathroom fittings The company's focus is on sales and services with direct contact to about 150,000 customers regularly. Saint-Gobain Distribution Sweden group (SGDS) is owned by Saint-Gobain with a presence in 64 countries and over 190 000 employees worldwide.
Name and location of production site	Zhejiang, China

Product information

Product name	Alterna towel dryer
Product identification	Towel dryers The EPD is a specific EPD for this product and not an average.
Product description	This product is made of steel, polymer mix, brass and ABS and is intended for use in drying towels but also function as bathroom radiators.
Use	Alterna towel dryers are used in bathrooms to dry wet towels but can also function as bathroom radiators.

LCA information

Functional unit / declared unit	1 kg of Alterna towel dryer
Reference service life	Not applicable
Database(s) and LCA software used	Calculation completed in LCA for Experts v10.7 with an integrated Ecoinvent database 3.8
System boundaries	Cradle to grave, with options. (A1-A3, A4, C1-C4, D)



More information

The EPD covers the following range of products from Dahl:

- Alterna towel dryer ”Caldo”
- Alterna towel dryer ”Scalda”
- Alterna towel dryer ”Divario”
- Alterna towel dryer ”Fiamma”
- Alterna towel dryer ”Calore”

All product ranges are produced in the same factory and have the same material composition with a slight difference in ratios. The worst-case product is represented in this EPD.

A1, Raw material supply

This module considers the extraction and processing of all raw materials, energy, and transportation which occur upstream of the studied manufacturing process.

A2, transport to the manufacturer

This module includes the transportation of raw materials to the manufacturing site.

A3, manufacturing

This module includes all resources used during the production of Alterna towel dryer and waste produced. This also includes additives and packaging material.

A4, Transport

Transportation from the manufacturing site in China to SGDS Gruppen’s distribution centre and then from the distribution centre to the building site is included.

A5, Construction installation

This stage is partially included to balance the biogenic content in packaging.

B1-B7 Use stage

This stage is not declared.

C1 Deconstruction/Demolition

This module includes the de-construction and/or demolition of the building. This is not relevant as the product included in this study is not used in the construction process.

C2 Transport

This module represents the transport distance to the waste processing facility.

C3 Waste processing

This module includes any waste treatment needed.

C4 Final disposal

This module includes any material that is landfilled.

D Benefits and loads beyond the system boundary

This module includes emission credits obtained from energy recovery and/or recycling materials.

Cut-off criteria:
All input and output flows in a unit process were considered i.e., taking into account the value of all flows in the unit process and the corresponding LCI where data was available. Data gaps were filled by conservative assumptions with average or generic data. Any assumptions in such case were documented. The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and at the information module level (5%).

Content declaration

Content

Content declaration*	Amount (kg)
Steel (cold rolled)	0,951
Polyester resin mix	0,028
Brass	0,006
ABS	0,016
Total	***1***

*Content declaration for Alterna towel dryer "Caldo" – representing the "Worst case" scenario.

Packaging materials	Weight, kg	Weight-% (versus the product)
Polyethylene film	0,012	1,2%
Cardboard box	0,102	10,2%
Wood pallet	0,074	7,4%
Total	***0,188***	18,8%

No substances that appear in the REACH candidate list of SVHC (Candidate List of Substances of Very High Concern) are present or used in the product concerning this EPD.

Modules declared and geographical scope

	Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beoyond system boundary
	Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Modules	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	CN	CN	CN	GLO	-	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Specidifc data used	Specific data used in module A3				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation products	2%*				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation sites	0%				-	-	-	-	-	-	-	-	-	-	-	-	-

*The difference between the heaviest product on the Alterna towel dryer “Caldo” range compared to that of the “Scalda” range.

Environmental Information

Potential environmental impact – indicators according to EN 15804+A2

		Results per functional or declared unit: 1 kg										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO2 eq	2,63E+00	2,71E-02	1,01E+00	3,67E+00	3,82E-01	2,77E-01*	0,0E+00	7,23E-03	5,02E-02	2,29E-03	-3,11E+00
GWP-fossil	kg CO2 eq	2,63E+00	2,72E-02	1,25E+00	3,91E+00	3,81E-01	0,0E+00	0,0E+00	7,26E-03	5,02E-02	2,31E-03	-3,11E+00
GWP-biogenic	kg CO2 eq	3,30E-04	-3,77E-04	-2,41E-01	-2,41E-01	1,36E-03	2,77E-01*	0,0E+00	-1,01E-04	4,58E-06	-2,65E-05	-1,03E-03
GWP-luluc	kg CO2 eq	5,47E-04	2,49E-04	9,64E-04	1,76E-03	7,43E-06	0,0E+00	0,0E+00	6,63E-05	6,66E-07	2,27E-06	-1,97E-03
ODP	kg CFC-11 eq	2,05E-09	3,49E-15	4,07E-09	6,12E-09	4,93E-09	0,0E+00	0,0E+00	6,27E-16	7,40E-15	3,69E-15	-1,14E-11
AP	mole H+ eq	9,26E-03	3,25E-05	4,50E-03	1,38E-02	1,26E-02	0,0E+00	0,0E+00	1,35E-05	3,26E-05	7,17E-06	-2,20E-02
EP-freshwater	kg P eq	2,02E-04	9,81E-08	1,14E-05	2,13E-04	3,06E-07	0,0E+00	0,0E+00	2,61E-08	3,46E-09	2,02E-09	-3,81E-06
EP-marine	kg N eq	1,28E-03	1,11E-05	1,05E-03	2,34E-03	2,99E-03	0,0E+00	0,0E+00	5,60E-06	1,47E-05	1,80E-06	-2,19E-03
EP-terrestrial	mole N eq	1,33E-02	1,30E-04	1,11E-02	2,45E-02	3,28E-02	0,0E+00	0,0E+00	6,39E-05	1,67E-04	1,98E-05	-2,43E-02
POCP	kg NMVOC eq	4,81E-03	2,83E-05	3,07E-03	7,91E-03	8,48E-03	0,0E+00	0,0E+00	1,21E-05	3,79E-05	5,64E-06	-6,95E-03
ADP-minerals & metals	kg Sb eq	6,52E-05	1,77E-09	2,49E-07	6,55E-05	7,08E-09	0,0E+00	0,0E+00	4,62E-10	6,59E-11	6,12E-11	-1,00E-04
ADP-fossil	MJ	2,94E+01	3,66E-01	1,36E+01	4,34E+01	4,65E+00	0,0E+00	0,0E+00	9,74E-02	2,06E-02	3,34E-02	-4,19E+01
WDP	m3	8,23E-01	3,24E-04	1,47E+00	2,29E+00	9,11E-04	0,0E+00	0,0E+00	8,25E-05	6,35E-03	-3,04E-05	-7,22E-01
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption											

*NOTE: The biogenic content in packaging contributing to the GWP-biogenic is balanced out in A5 as positive as the packaging leaves the system boundary.

Use of resources

		Results per functional or declared unit: 1 kg										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	7,29E-01	2,66E-02	4,89E+00	5,65E+00	1,98E-02	0,0E+00	0,0E+00	6,89E-03	4,42E-03	3,00E-03	-9,17E+00
PERM	MJ	0,0E+00	0,0E+00	3,50E+00	3,50E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
PERT	MJ	7,29E-01	2,66E-02	8,39E+00	9,15E+00	1,98E-02	0,0E+00	0,0E+00	6,89E-03	4,42E-03	3,00E-03	-9,17E+00
PENRE	MJ	2,94E+01	3,67E-01	1,30E+01	4,28E+01	4,66E+00	0,0E+00	0,0E+00	9,76E-02	2,06E-02	3,34E-02	-4,19E+01
PENRM	MJ	9,67E-03	0,0E+00	5,62E-01	5,72E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
PENRT	MJ	2,94E+01	3,67E-01	1,36E+01	4,34E+01	4,66E+00	0,0E+00	0,0E+00	9,76E-02	2,06E-02	3,34E-02	-4,19E+01
SM	kg	7,80E-02	0,0E+00	0,0E+00	7,80E-02	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
RSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
NRSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
FW	m3	1,99E-02	2,91E-05	3,50E-02	5,49E-02	3,25E-05	0,0E+00	0,0E+00	7,59E-06	1,50E-04	3,77E-07	-2,27E-02
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water											

Additional voluntary indicators

		Results per functional or declared unit: 1 kg										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[2]	kg CO2 eq	2,53E+00	2,64E-02	9,65E-01	3,52E+00	3,76E-01	2,77E-01	0,0E+00	7,03E-03	5,02E-02	2,16E-03	-3,05E+00
Acronyms	GWP-GHG global warming potential - greenhouse gases											

Waste and output flows

Waste

		Results per functional or declared unit: 1 kg										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	kg	1,84E-05	1,14E-12	2,22E-08	1,84E-05	1,37E-11	0,0E+00	0,0E+00	3,61E-13	1,16E-12	2,76E-12	-4,79E-06
NHWD	kg	8,43E-02	5,59E-05	1,60E-01	2,44E-01	3,98E-04	0,0E+00	0,0E+00	1,41E-05	4,30E-03	4,79E-02	-3,27E-01
RWD	kg	1,39E-05	6,87E-07	3,21E-04	3,36E-04	5,12E-06	0,0E+00	0,0E+00	1,26E-07	8,53E-07	3,89E-07	-1,50E-03
Acronyms	HW Hazardous waste disposed; NHW Non-hazardous waste disposed; RW Radioactive waste disposed											

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

Output flows

		Results per functional or declared unit: 1 kg										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
CRU	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
MFR	kg	0,0E+00	0,0E+00	1,20E-01	1,20E-01	0,0E+00	0,0E+00	0,0E+00	0,0E+00	9,13E-01	0,0E+00	0,0E+00
MER	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	3,20E-02	0,0E+00	0,0E+00
EEE	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
EET	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	1,82E-01	0,0E+00	0,0E+00
Acronyms	CRU Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy											

Information on biogenic carbon content

Biogenic carbon content	**Unit per DU**	**Amount**
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	1,02E-01

1 kg biogenic carbon is equivalent to 44/12 kg CO2.

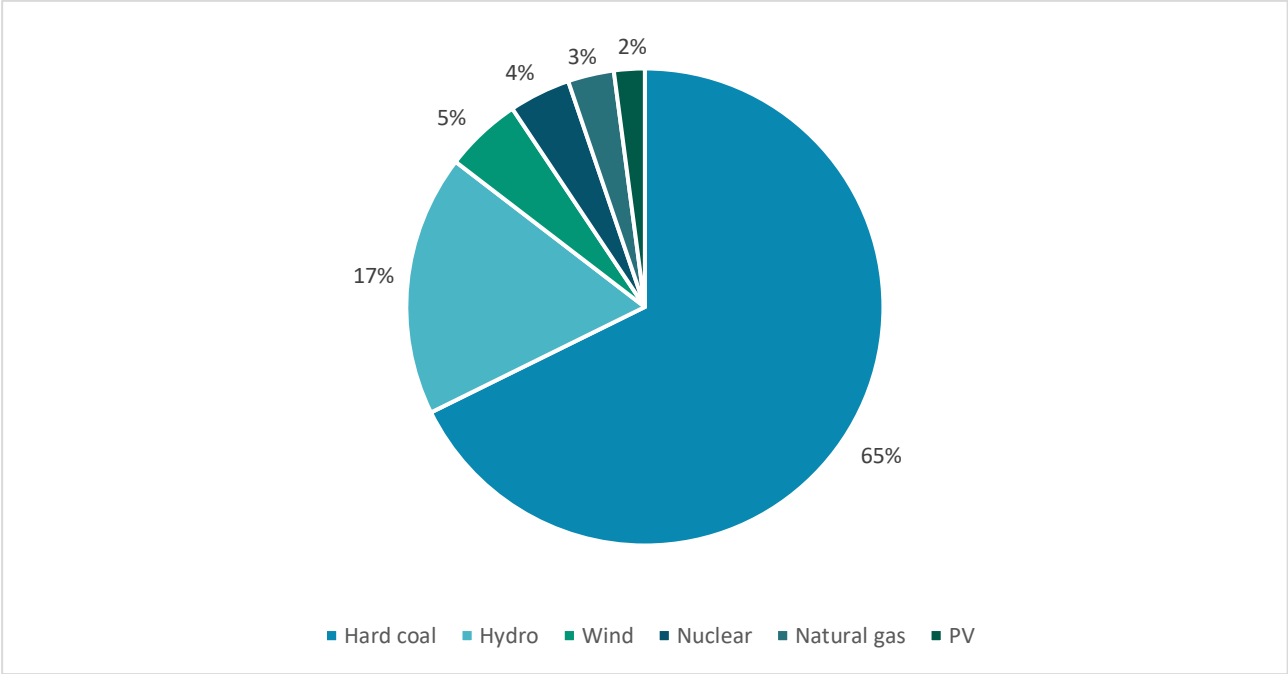
Disclaimers

ILCD classification	Indicator	Disclaimer
ILCD Type 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD Type 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD Type 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2
Disclaimer 1 – 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.		
Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.		

Additional information

Greenhouse gas emission from the use of electricity in the manufacturing phase.

Electricity mix	Reference	Value	Unit
China - 2028	Sphera	0,791	kg CO_2 eq./kWh



References

Construction Products PCR 2019:14 version 1.2.5	EPD International (2021): PCR 2019:14 Construction products and construction services, version 1.2.5
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
GPI	General Programme Instructions of the International EPD® System. Version 4.
ISO 14020:2000	Environmental labels and declarations — General principles
ISO 14025:2010	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14044:2006	Environmental management - Life cycle assessment - Requirements and guidelines
SCB – Swedish Statistics	(2020) Treated waste by treatment category and waste category. Every second year 2010 - 2020 https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__MI__MI0305/MI0305T003/