

## Environmental Product Declaration (EPD)

According to ISO 14025 and EN

15804+A2:2019

# Gustavsberg Shower set 2.1

Registration number:	EPD-Kiwa-EE-239540-EN
Issue date:	27-04-2026
Valid until:	27-04-2031
Declaration owner:	Gustavsberg AB
Publisher:	Kiwa-Ecobility Experts
Programme operator:	Kiwa-Ecobility Experts
Status:	verified

kiwa



## 1 General information

### 1.1 PRODUCT

Gustavsberg Shower set 2.1

### 1.2 REGISTRATION NUMBER

EPD-Kiwa-EE-239540-EN

### 1.3 VALIDITY

**Issue date:** 27-04-2026

**Valid until:** 27-04-2031

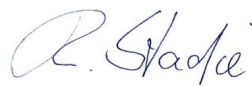
### 1.4 PROGRAMME OPERATOR

Kiwa-Ecobility Experts  
Wattstraße 11-13  
13355 Berlin  
DE



Raoul Mancke

*(Head of programme operations, Kiwa-Ecobility Experts)*



Dr. Ronny Stadie

*(Verification body, Kiwa-Ecobility Experts)*

### 1.5 OWNER OF THE DECLARATION

**Declaration owner:** Gustavsberg AB

**Address:** Odelbergsväg 11, 13440 Gustavsberg, Sweden

**E-mail:** info@orasgroup.com

**Website:** <https://www.gustavsberg.com/>

**Production location:** Xiamen Delmei Sanitary Ware Co., Ltd.

**Address production location:** 700-702, Caotang Rd, Tongan District, 361100 Xiamen, China

### 1.6 VERIFICATION OF THE DECLARATION

The independent verification is in accordance with the ISO 14025:2011. The LCA is in compliance with ISO 14040:2006 and ISO 14044:2006. The EN 15804+A2:2019 serves as the core PCR.

Internal  External



Max Laurén, Kiwa Sertifointi Oy

### 1.7 STATEMENTS

The owner of this EPD shall be liable for the underlying information and evidence. The programme operator Kiwa-Ecobility Experts shall not be liable with respect to manufacturer data, life cycle assessment data and evidence.

### 1.8 PRODUCT CATEGORY RULES

#### Kiwa-EE GPI R.4.0

Kiwa-Ecobility Experts, General Programme Instructions "Product Level", SOP EE 1203\_R.4.0 (18.12.2025)

#### Kiwa-EE GPI R.4.0 Annex B1

Kiwa-Ecobility Experts, General Programme Instructions "Product Level" – Annex B1 Environmental Information Programme according to EN 15804 / ISO 21930, SOP EE 1203\_R.4.0 (18.12.2025)

#### PCR B

Institut Bauen und Umwelt e.V. - Part B: Requirements on the EPD for Fittings and showers - v11 (2024-08-01)

### 1.9 COMPARABILITY

In principle, a comparison or assessment of the environmental impacts of different products is only possible if they have been prepared in accordance with EN 15804+A2:2019.

## 1 General information

For the evaluation of the comparability, the following aspects have to be considered in particular: PCR used, functional or declared unit, geographical reference, the definition of the system boundary, declared modules, data selection (primary or secondary data, background database, data quality), scenarios used for use and disposal phases, and the life cycle inventory (data collection, calculation methods, allocations, validity period). PCRs and general program instructions of different EPD program operators may differ. Comparability needs to be evaluated. For further guidance, see EN 15804+A2:2019 and ISO 14025.

### 1.10 CALCULATION BASIS

**LCA method R<THINK:** Ecobility Experts | EN15804+A2

**LCA software\*:** Simapro 9.6

**Characterization method:** RETHINK characterization method (see references for more details)

**LCA database profiles:** ecoinvent (for version see references)

**Version database:** v3.20e (2026-03-29)

*\* Simapro is used for calculating the characterized results of the Environmental profiles within R<THINK.*

### 1.11 LCA BACKGROUND REPORT

This EPD is generated on the basis of the LCA background report 'Gustavsberg Shower set 2.1' with the calculation identifier ReTHiNK-139540.

## 2 Product

### 2.1 PRODUCT DESCRIPTION

This specific-EPD refers to Shower Set 2.1. The product features a Nordic design that is compatible with all faucet series. It includes a three-function hand shower equipped with an anti-calcification system that reduces calcium deposits and facilitates cleaning.

The set is supplied with a PVC-free shower hose measuring 1.75 meters. The wall bracket can be fixed using either screws or adhesive and offers an adjustable center-to-center (c-c) measurement for flexible installation.

Weight of the product: 1 kg

The product is delivered in packaging made of corrugated cardboard, which should be recycled.

The following articles are included in the EPD:

Article code	Name
GB41106250	Shower set 2.1
GB4110625010	Shower set 2.1, 10pcs/bundle

The composition of the product is shown as follows.

Material	Share (%)
Stainless steel	38.29
ABS (Acrylonitrile Butadiene Styrene)	21.09
EPDM (Ethylene Propylene Diene Monomer)	10.65
POM (Polyoxymethylene)	9.27
PMMA (Polymethyl Methacrylate)	9.21
Lead-free brass	4.49
Polyethylene	2.04
Nickel	1.92
TPE (Thermoplastic Elastomer)	1.44
NBR (Nitrile Butadiene Rubber)	0.78
Other materials	0.82



### 2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

Shower set 2.1 is a system of bathroom components used to facilitate personal cleaning under a flow of water. Its primary application is to provide a sanitary and comfortable showering experience in a bathroom.

## 2 Product

### 2.3 REFERENCE SERVICE LIFE

#### RSL PRODUCT

The declaration of reference service life (RSL) is not mandatory as the use stage (Module B) is not included in this EPD. Spare parts are provided for the products for at least 10 years after the product has been discontinued. For the RSL, 10 years are used for Gustavsberg Shower set 2.1 in this EPD.

#### USED RSL (YR) IN THIS LCA CALCULATION:

10

### 2.4 TECHNICAL DATA

Max. tap capacity (at 300 kPa): 0.1 l/s

### 2.5 SUBSTANCES OF VERY HIGH CONCERN

The product does not contain any substances with particularly hazardous properties (Substances of Very High Concern, SVHC) that are included in the candidate list in a concentration exceeding 0.1% by weight.

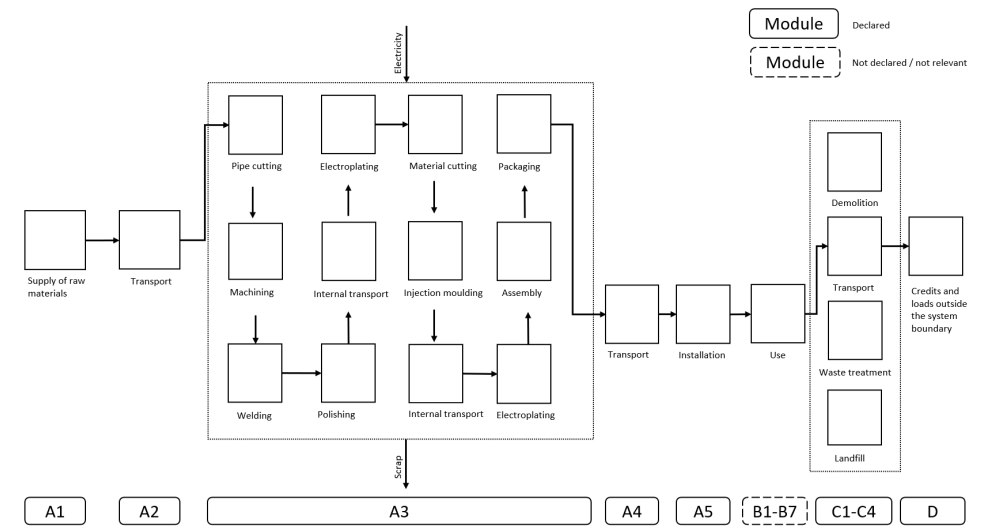
### 2.6 DESCRIPTION PRODUCTION PROCESS

The manufacture of Gustavsberg Shower set 2.1 takes place in Tong'an, Xiamen (China).

The production includes following steps:

1. Manufacturing of plastic components: Injection moulding of ABS components
2. Manufacturing of stainless steel components: Cutting, machining, welding and polishing of stainless steel pipes

3. Surface treatment processes: Electroplating of selected plastic and metal components
4. Assembly
5. Packaging



### 2.7 CONSTRUCTION DESCRIPTION

The product is installed manually. Prior to installation the lines must be flushed up to the faucet. The faucet is connected with the cold water line on the right and the hot water line on the left. Water pressure: max 1000 kPa, min 50kPa. Hot water temperature: max 70°C, min 45°C.

### 3 Calculation rules

#### 3.1 DECLARED UNIT

**piece**

According to the PCR, the declared unit is one piece shower set.

Reference unit: piece (p)

#### 3.2 CONVERSION FACTORS

Description	Value	Unit
Reference unit	1	p
Weight per reference unit	1.000	kg
Conversion factor to 1 kg	1.000030	p

#### 3.3 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

This is a Cradle to gate with options, modules C1-C4 and module D EPD. The life cycle stages included are as shown below:

(X = module included, ND = module not declared)

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

The modules of the EN 15804 contain the following:

Module A1 = Raw material supply	Module B5 = Refurbishment
Module A2 = Transport	Module B6 = Operational energy use
Module A3 = Manufacturing	Module B7 = Operational water use
Module A4 = Transport	Module C1 = De-construction / Demolition
Module A5 = Construction - Installation process	Module C2 = Transport
Module B1 = Use	Module C3 = Waste Processing
Module B2 = Maintenance	Module C4 = Disposal
Module B3 = Repair	Module D = Benefits and loads beyond the product system boundaries
Module B4 = Replacement	

#### 3.4 REPRESENTATIVENESS

This EPD is representative for Gustavsberg Shower set 2.1, a product of Gustavsberg AB. The results of this EPD are representative for European Union. Input materials are representative for China.

#### 3.5 CUT-OFF CRITERIA

For each unit process, the cut-off criteria of 1% of renewable and non-renewable primary energy usage and 1% of the total mass input of that unit process are complied with. The total neglected input flows do not exceed the limit of 5% of energy use and mass.

### 3 Calculation rules

#### Product stage (A1-A3)

All input flows (e.g. raw materials, transportation, energy use, packaging, etc.) and output flows (e.g. production waste) are considered in this LCA.

#### Construction process stage (A4-A5)

All input flows (e.g. transportation to the construction site, additional raw material use for construction, installation energy (use) of energy use for assembly, etc.) and output flows (e.g. construction waste, packaging waste, etc.) are considered in this LCA.

#### End of life stage (C1-C4)

All input flows (e.g. energy use for demolition or disassembly, transport to waste processing, etc.) and output flows (e.g. end-of-life waste processing of the product, etc.) are considered in this LCA. Demolition of the product is accomplished using hand tools with no associated emissions and negligible impacts.

#### Benefits and loads beyond the system boundary (Module D)

All benefits and loads beyond the system boundary resulting from reusable products, recyclable materials and/or useful energy carriers leaving the product system are considered in this LCA.

The following processes are excluded:

- Manufacturing of equipment used in production, buildings or any other capital asset
- Water and electricity consumption for the building
- Transportation of personnel to the plant
- Transportation of personnel within the plant
- Research and development activities
- Long-term emissions

### 3.6 ALLOCATION

The energy consumption is calculated based on the total consumption at the production site in 2024 (for all products manufactured) and are converted into the amount used solely for the production of the declared product. The amount of energy is given per piece of product manufactured.

No allocation is performed with regard to the use of secondary materials or fuels, co-products, plant-specific production processes or multi-input systems.

The polluter pays principle applies to the use of waste as a substitute for primary fuels or materials. Double counting is avoided.

### 3.7 DATA COLLECTION & REFERENCE PERIOD

All process-specific data are collected for the reference year 2024 (01.01.2024 - 31.12.2024).

### 3.8 ESTIMATES AND ASSUMPTIONS

For all raw materials used (raw materials, operating materials, packaging), a conservative approach for the transportation from suppliers (module A2) is applied. A distance of 3500 km by truck is considered for all components manufactured by the local suppliers in China. A payload factor of 50% is used for truck transports (suppliers, disposal transports and internal transports), which corresponds to a full delivery and empty return journey.

Excluded are the manufacturing of capital equipment, construction undertakings, and infrastructure development, along with the maintenance and operation of capital equipment. Additionally, activities related to personnel, as well as energy and water consumption associated with company management and sales, are also excluded.

For production waste in module A3, it is assumed that 5% of input raw materials are considered as production waste during the manufacturing process.

For module A4 (Transportation from the production gate to the construction site), it is estimated that the international transport includes 19000 km by ship and 1000 km by lorry (85% payload). The transport distances for all logistics stages in module A4 have been aggregated into a combined dataset for software compatibility.

The scenarios included are currently in use and are representative for one of the most likely scenario alternatives.

### 3.9 DATA QUALITY

The data are based on the annual average. Generic datasets from the ecoinvent database V3.9.1 are used for the secondary data, which refers to reference year 2022. This database is regularly maintained and meets the requirements of EN 15804+A2 (background data not older than 10 years). All consistent datasets contained in the ecoinvent database are documented and can be viewed in the online ecoinvent documentation. In the operating data survey all relevant process-specific data could be collected. The quality of the data can be thus considered as good.

### 3 Calculation rules

The primary data are collected and provided by **Gustavsberg AB** and most of the datasets selected in the LCA for raw materials refer to **Rest-of-the-World** as the geographical reference, representing the average global production.

Aspect	Data quality assessment
Time-related coverage	The primary data represent the current situation of the date of study (2024) or as close as possible (<5 years). The secondary data are updated within last 10 years.
Geographical coverage	Most of the datasets selected for the LCA refer to Rest-of-the-World as the geographical reference, representing the average global production.
Technology coverage	The data are representative of the technology used in production processes.
Completeness	Specific data are benchmarked with literature data. Simple validation checks (e.g. mass or energy balances) are performed. As the primary data regarding transportation in China is not

available, a conservative scenario is applied, assuming a transport distance of 3500 km by lorry.

Representativeness	The data fulfill the defined time-related, geographical, and technological scope.
Precision	The data used are as representative as possible. The data are derived from credible sources, and references are provided.
Reproducibility	Information about the method and data (reference source) are provided.
Sources of the data	The data are derived from credible sources, and references are provided.

#### 3.10 POWER MIX

In this EPD, the national power mix of China is considered in the calculation of the environmental impacts, referring to the location-based approach. No CO2 certificates are considered. The GWP-total of the electricity is calculated as 0.97 kg CO2 eq./kWh.

## 4 Scenarios and additional technical information

### 4.1 TRANSPORT TO CONSTRUCTION SITE (A4)

For the transport from production place to assembly/user, the following scenario is assumed for module A4 of this EPD.

	Value and unit
Vehicle type used for transport	International transport (19000 km by ship and 1000 km by lorry (85% payload))
Fuel type and consumption of vehicle	
Distance	1 km
Capacity utilisation (including empty returns)	
Bulk density of transported products	
Volume capacity utilisation factor	

### 4.2 ASSEMBLY (A5)

The following information describes the scenarios for flows entering the system and flows leaving the system at module A5.

#### FLOWS ENTERING THE SYSTEM

There are no significant environment impacts as a result of materials or energy used in the construction stage (A5).

#### FLOWS LEAVING THE SYSTEM

The following output flows leaving the system at module A5 are assumed.

Description	Value	Unit
Output materials as result of loss during construction	0	%
Output materials as result of waste processing of materials used for installation/assembly at the building site	0.000	kg
Output materials as result of waste processing of used packaging	0.240	kg

### 4.3 DE-CONSTRUCTION, DEMOLITION (C1)

No inputs are needed for the product at the de-construction / demolition phase

### 4.4 TRANSPORT END-OF-LIFE (C2)

The following distances and transport conveyance are assumed for transportation during end of life for the different types of waste processing.

## 4 Scenarios and additional technical information

Waste Scenario	Transport conveyance	Not removed (stays in work) [km]	Landfill [km]	Incineration [km]	Recycling [km]	Re-use [km]
(ei3.9.1) Metals, others (i.a. fasteners, fittings) (NMD ID 50)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50
(ei3.9.1) finishes (adhered to wood, plastic, metal) (NMD ID 2)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50
(ei3.9.1) elastomeres (i.a. epdm) (i.a. roofing, foils) (NMD ID 20)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50
(ei3.9.1) plastics, via residue (NMD ID 43)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50
(ei3.9.1) copper (i.a. sheets, pipes) (NMD ID 41)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50
(ei3.9.1) polyolefines (i.a. pe,pp) (i.a. pipes, foils) (NMD ID 57)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50
(ei3.9.1) Metals, mixed (via residue (NMD ID 49)	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)	0	100	150	50	50

The transport conveyance(s) used in the scenario(s) for transport during end of life has the following characteristics.

	Value and unit
Vehicle type used for transport	(ei3.9.1) Lorry (Truck), unspecified (default)   market group for (GLO)
Fuel type and consumption of vehicle	not available
Capacity utilisation (including empty returns)	50 % (loaded up and return empty)
Bulk density of transported products	inapplicable
Volume capacity utilisation factor	1

### 4.5 END OF LIFE (C3, C4)

The scenario(s) assumed for end of life of the product are given in the following tables. First the assumed percentages per type of waste processing are displayed, followed by the assumed amounts.

## 4 Scenarios and additional technical information

Waste Scenario	Region	Not removed (stays in work) [%]	Landfill [%]	Incineration [%]	Recycling [%]	Re-use [%]
(ei3.9.1) Metals, others (i.a. fasteners, fittings) (NMD ID 50)	NL	0	5	5	90	0
(ei3.9.1) finishes (adhered to wood, plastic, metal) (NMD ID 2)	NL	0	0	100	0	0
(ei3.9.1) elastomeres (i.a. epdm) (i.a. roofing, foils) (NMD ID 20)	NL	0	10	85	5	0
(ei3.9.1) plastics, via residue (NMD ID 43)	NL	0	20	80	0	0
(ei3.9.1) copper (i.a. sheets, pipes) (NMD ID 41)	NL	0	5	0	95	0
(ei3.9.1) polyolefines (i.a. pe,pp) (i.a. pipes, foils) (NMD ID 57)	NL	0	10	85	5	0
(ei3.9.1) Metals, mixed (via residue (NMD ID 49)	NL	0	5	5	90	0

Waste Scenario	Not removed (stays in work) [kg]	Landfill [kg]	Incineration [kg]	Recycling [kg]	Re-use [kg]
(ei3.9.1) Metals, others (i.a. fasteners, fittings) (NMD ID 50)	0.000	0.019	0.019	0.345	0.000
(ei3.9.1) finishes (adhered to wood, plastic, metal) (NMD ID 2)	0.000	0.000	0.211	0.000	0.000
(ei3.9.1) elastomeres (i.a. epdm) (i.a. roofing, foils) (NMD ID 20)	0.000	0.013	0.109	0.006	0.000
(ei3.9.1) plastics, via residue (NMD ID 43)	0.000	0.038	0.154	0.000	0.000
(ei3.9.1) copper (i.a. sheets, pipes) (NMD ID 41)	0.000	0.002	0.000	0.043	0.000
(ei3.9.1) polyolefines (i.a. pe,pp) (i.a. pipes, foils) (NMD ID 57)	0.000	0.002	0.017	0.001	0.000
(ei3.9.1) Metals, mixed (via residue (NMD ID 49)	0.000	0.001	0.001	0.017	0.000
<b>Total</b>	<b>0.000</b>	<b>0.076</b>	<b>0.512</b>	<b>0.412</b>	<b>0.000</b>

### 4.6 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D)

The presented Benefits and loads beyond the system boundary in this EPD are based on the following calculated Net output flows in kilograms and Energy recovery displayed in MJ Lower Heating Value.

Waste Scenario	Net output flow [kg]	Energy recovery [MJ]
(ei3.9.1) Metals, others (i.a. fasteners, fittings) (NMD ID 50)	0.191	0.000
(ei3.9.1) finishes (adhered to wood, plastic, metal) (NMD ID 2)	0.000	7.424
(ei3.9.1) elastomeres (i.a. epdm) (i.a. roofing, foils) (NMD ID 20)	0.006	3.054
(ei3.9.1) plastics, via residue (NMD ID 43)	0.000	3.586
<b>Total</b>	<b>0.257</b>	<b>14.461</b>

## 4 Scenarios and additional technical information

Waste Scenario	Net output flow [kg]	Energy recovery [MJ]
(ei3.9.1) copper (i.a. sheets, pipes) (NMD ID 41)	0.041	0.000
(ei3.9.1) polyolefines (i.a. pe,pp) (i.a. pipes, foils) (NMD ID 57)	0.001	0.398
(ei3.9.1) Metals, mixed (via residue (NMD ID 49)	0.017	0.000
<b>Total</b>	<b>0.257</b>	<b>14.461</b>

## 5 Results

For the impact assessment long-term emissions (>100 years) are not considered. The results of the impact assessment are only relative statements that do not make any statements about end-points of the impact categories, exceedance of threshold values, safety margins or risks. The following tables show the results of the indicators of the impact assessment, of the use of resources as well as of waste and other output flows.

### 5.1 ENVIRONMENTAL IMPACT INDICATORS PER PIECE

#### CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1- A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO <sub>2</sub> eq.	6.31E+0	5.21E-1	1.77E+0	8.59E+0	3.74E-1	4.09E-1	0.00E+0	1.56E-2	1.31E+0	6.40E-3	-1.21E+0
GWP-f	kg CO <sub>2</sub> eq.	6.24E+0	5.19E-1	2.13E+0	8.89E+0	3.74E-1	1.54E-2	0.00E+0	1.56E-2	1.31E+0	6.40E-3	-1.21E+0
GWP-b	kg CO <sub>2</sub> eq.	6.20E-2	1.69E-4	-3.69E-1	-3.07E-1	1.77E-4	3.94E-1	0.00E+0	5.08E-6	2.64E-4	3.64E-6	-1.99E-4
GWP-luluc	kg CO <sub>2</sub> eq.	5.92E-3	1.85E-3	4.13E-3	1.19E-2	5.27E-4	1.44E-5	0.00E+0	5.56E-5	5.19E-5	5.47E-7	-5.82E-4
ODP	kg CFC11 eq.	6.79E-8	9.24E-9	1.76E-8	9.47E-8	5.45E-8	5.43E-10	0.00E+0	2.77E-10	1.30E-8	2.17E-11	-4.87E-8
AP	mol H+ eq.	8.38E-2	2.49E-3	1.24E-2	9.87E-2	7.32E-3	9.00E-5	0.00E+0	7.46E-5	3.07E-4	6.18E-6	-3.37E-2
EP-fw	kg P eq.	3.11E-4	5.17E-6	6.39E-5	3.80E-4	5.58E-6	2.15E-7	0.00E+0	1.55E-7	1.62E-6	1.18E-8	-6.39E-5
EP-m	kg N eq.	6.34E-3	9.45E-4	2.68E-3	9.96E-3	1.53E-3	3.60E-5	0.00E+0	2.84E-5	9.81E-5	4.43E-6	-1.41E-3
EP-T	mol N eq.	7.08E-2	1.01E-2	2.66E-2	1.08E-1	1.71E-2	3.84E-4	0.00E+0	3.02E-4	1.09E-3	2.52E-5	-2.10E-2
POCP	kg NMVOC eq.	2.84E-2	3.44E-3	7.85E-3	3.96E-2	4.67E-3	1.29E-4	0.00E+0	1.03E-4	3.02E-4	1.03E-5	-8.21E-3
ADP-mm	kg Sb-eq.	3.51E-4	1.63E-6	1.59E-6	3.54E-4	3.98E-7	6.12E-8	0.00E+0	4.88E-8	3.21E-7	1.93E-9	-4.62E-4
ADP-f	MJ	9.48E+1	7.44E+0	2.33E+1	1.25E+2	5.38E+0	1.70E-1	0.00E+0	2.23E-1	4.78E-1	1.92E-2	-1.59E+1
WDP	m <sup>3</sup> world eq.	2.83E+0	4.06E-2	3.62E-1	3.23E+0	3.28E-2	1.65E-3	0.00E+0	1.22E-3	2.23E-2	6.02E-4	-9.63E-1

**GWP-total**=Global Warming Potential total (GWP-total) | **GWP-f**=Global Warming Potential fossil fuels (GWP-fossil) | **GWP-b**=Global Warming Potential biogenic (GWP-biogenic) | **GWP-luluc**=Global Warming Potential land use and land use change (GWP-luluc) | **ODP**=Depletion potential of the stratospheric ozone layer (ODP) | **AP**=Acidification potential, Accumulated Exceedance (AP) | **EP-fw**=Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater) | **EP-m**=Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine) | **EP-T**=Eutrophication potential, Accumulated Exceedance (EP-terrestrial) | **POCP**=Formation potential of tropospheric ozone (POCP) | **ADP-mm**=Abiotic depletion potential for non fossil resources (ADP mm) | **ADP-f**=Abiotic depletion for fossil resources potential (ADP fossil) | **WDP**=Water (user) depreciation potential, deprivation-weighted water consumption (WDP)

## 5 Results

### ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	disease incidence	4.58E-7	5.13E-8	1.67E-7	6.77E-7	1.90E-8	1.57E-9	0.00E+0	1.54E-9	2.63E-9	1.35E-10	-9.04E-8
IR	kBq U235 eq.	1.52E-1	2.90E-3	3.40E-2	1.89E-1	1.78E-2	2.05E-4	0.00E+0	8.71E-5	1.51E-3	1.55E-5	-7.82E-3
ETP-fw	CTUe	5.54E+1	5.49E+0	1.00E+1	7.09E+1	2.17E+0	2.27E-1	0.00E+0	1.65E-1	5.99E+0	2.27E-1	-2.34E+1
HTP-c	CTUh	1.99E-8	2.75E-10	1.61E-9	2.18E-8	1.43E-10	3.00E-11	0.00E+0	8.26E-12	7.22E-10	6.33E-13	-1.96E-9
HTP-nc	CTUh	3.16E-7	5.98E-9	1.80E-8	3.40E-7	2.41E-9	2.11E-10	0.00E+0	1.79E-10	3.04E-9	3.27E-11	-4.67E-7
SQP	Pt	2.65E+1	5.87E+0	2.34E+1	5.57E+1	1.82E+0	6.49E-2	0.00E+0	1.76E-1	1.83E-1	4.39E-2	-2.48E+1

PM=Potential incidence of disease due to PM emissions (PM) | IR=Potential Human exposure efficiency relative to U235 (IRP) | ETP-fw=Potential Comparative Toxic Unit for ecosystems (ETP-fw) | HTP-c=Potential Comparative Toxic Unit for humans (HTP-c) | HTP-nc=Potential Comparative Toxic Unit for humans (HTP-nc) | SQP=Potential soil quality index (SQP)

### CLASSIFICATION OF DISCLAIMERS TO THE DECLARATION OF CORE AND ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

ILCD classification	Indicator	Disclaimer
ILCD type / level 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 / level 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 / level 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

## 5 Results

ILCD classification	Indicator	Disclaimer
	Potential Soil quality index (SQP)	2
<p><b>Disclaimer 1</b> – 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.</p>		
<p><b>Disclaimer 2</b> – 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 experienced with the indicator.</p>		

### 5.2 INDICATORS DESCRIBING RESOURCE USE AND ENVIRONMENTAL INFORMATION BASED ON LIFE CYCLE INVENTORY (LCI)

#### PARAMETERS DESCRIBING RESOURCE USE

Abbr.	Unit	A1	A2	A3	A1- A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	1.31E+1	1.05E-1	2.49E+0	1.56E+1	1.10E-1	6.20E-3	0.00E+0	3.16E-3	5.04E-2	6.21E-4	-3.43E+0
PERM	MJ	0.00E+0	0.00E+0	3.09E+0	3.09E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ	1.31E+1	1.05E-1	5.58E+0	1.87E+1	1.10E-1	6.20E-3	0.00E+0	3.16E-3	5.04E-2	6.21E-4	-3.43E+0
PENRE	MJ	7.85E+1	7.45E+0	2.25E+1	1.08E+2	5.39E+0	1.70E-1	0.00E+0	2.24E-1	4.78E-1	1.92E-2	-1.56E+1
PENRM	MJ	1.63E+1	0.00E+0	8.03E-1	1.71E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-2.12E-1
PENRT	MJ	9.48E+1	7.45E+0	2.33E+1	1.26E+2	5.39E+0	1.70E-1	0.00E+0	2.24E-1	4.78E-1	1.92E-2	-1.59E+1
SM	Kg	1.55E-1	0.00E+0	7.33E-3	1.62E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-8.41E-3
RSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	m <sup>3</sup>	7.74E-2	1.80E-3	1.01E-2	8.93E-2	1.16E-3	8.23E-5	0.00E+0	5.40E-5	1.12E-3	2.09E-5	-2.05E-2

**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 resources | **SM**=Use of secondary material | **RSF**=Use of renewable secondary fuels | **NRSF**=Use of non-renewable secondary fuels | **FW**=Net use of fresh water

## 5 Results

### OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	Kg	2.89E-4	4.74E-5	4.72E-5	3.84E-4	1.21E-5	1.04E-6	0.00E+0	1.42E-6	2.60E-6	9.30E-8	-1.09E-4
NHWD	Kg	3.04E+0	4.92E-1	5.01E-1	4.03E+0	1.09E-1	6.60E-2	0.00E+0	1.48E-2	5.38E-1	7.59E-2	-9.58E-2
RWD	Kg	9.33E-5	1.70E-6	2.35E-5	1.18E-4	2.54E-5	1.51E-7	0.00E+0	5.11E-8	1.09E-6	8.98E-9	-4.41E-6

**HWD**=Hazardous waste disposed | **NHWD**=Non-hazardous waste disposed | **RWD**=Radioactive waste disposed

### ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
CRU	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	Kg	0.00E+0	0.00E+0	2.06E-2	2.06E-2	0.00E+0	1.80E-1	0.00E+0	0.00E+0	4.12E-1	0.00E+0	0.00E+0
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	MJ	0.00E+0	0.00E+0	2.24E-1	2.24E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.72E+0
EEE	MJ	0.00E+0	0.00E+0	1.30E-1	1.30E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.74E+0

**CRU**=Components for re-use | **MFR**=Materials for recycling | **MER**=Materials for energy recovery | **EET**=Exported Energy, Thermic | **EEE**=Exported Energy, Electric

## 5 Results

### 5.3 INFORMATION ON BIOGENIC CARBON CONTENT PER PIECE

#### BIOGENIC CARBON CONTENT

The following Information describes the biogenic carbon content in (the main parts of) the product at the factory gate per piece:

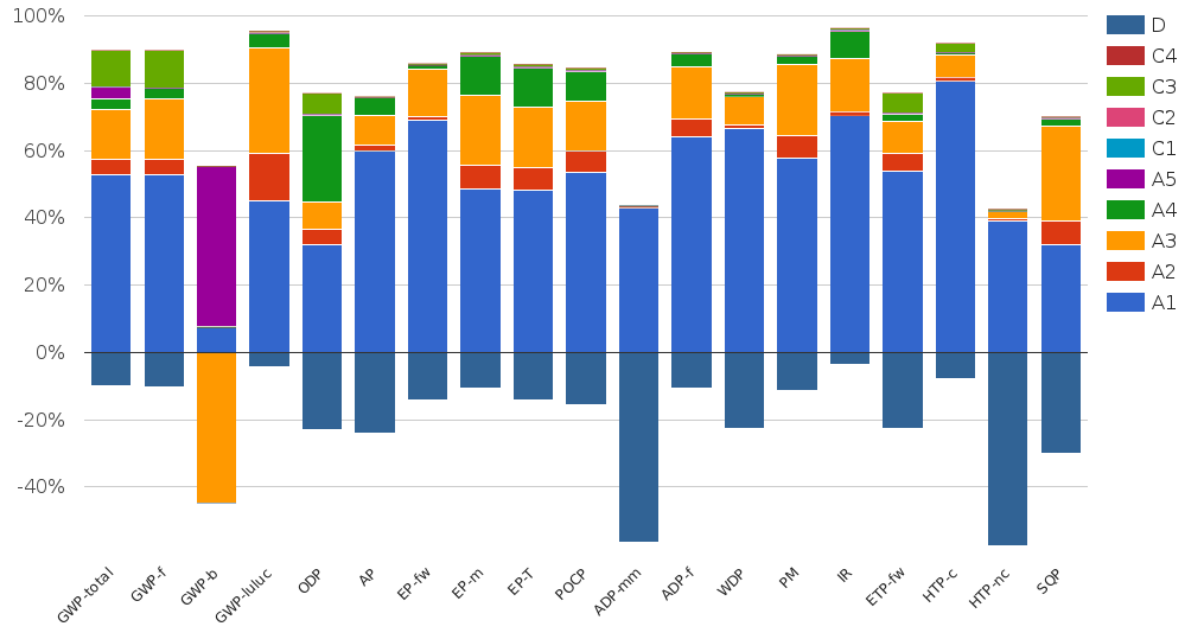
Biogenic carbon content	Amount	Unit
Biogenic carbon content in the product	0	kg C
Biogenic carbon content in accompanying packaging	0.1091	kg C

#### UPTAKE OF BIOGENIC CARBON DIOXIDE

The following amount of carbon dioxide uptake is taken into account. Related uptake and release of carbon dioxide in downstream processes are not taken into account in this number although they do appear in the presented results. One kilogram of biogenic Carbon content is equivalent to 44/12 kg of biogenic carbon dioxide uptake.

Uptake Biogenic Carbon dioxide	Amount	Unit
Packaging	0.4	kg CO2 (biogenic)

## 6 Interpretation of results



In most impact categories, the environmental impact of Gustavsberg Shower set 2.1 is predominantly determined by the extraction and processing of raw materials (module A1), followed by the manufacturing processes (module A3). Among the raw materials (module A1), stainless steel results in the largest environmental impact, accounting for 47.7% of the GWP-total.

## 7 References

### ISO 14040

ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework; EN ISO 14040:2006

### ISO 14044

ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines; EN ISO 14044:2006

### ISO 14025

ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

### EN 15804+A2

EN 15804:2012+A2:2019/AC:2021, Sustainability of Buildings - Environmental Product Declarations - Framework Development Rules by Product Category

### Kiwa-EE GPI R.4.0

Kiwa-Ecobility Experts, General Programme Instructions “Product Level”, SOP EE 1203\_R.4.0 (18.12.2025)

### Kiwa-EE GPI R.4.0 Annex B1

Kiwa-Ecobility Experts, General Programme Instructions “Product Level” – Annex B1 Environmental Information Programme according to EN 15804 / ISO 21930, SOP EE 1203\_R.4.0 (18.12.2025)

### PCR B

Institut Bauen und Umwelt e.V. - Part B: Requirements on the EPD for Fittings and showers - v11 (2024-08-01)

### Ecoinvent

ecoinvent Version 3.9.1 (December 2022)

### R<THINK characterization method

ecoinvent 3.9.1: EN 15804+A2 indicators (EF 3.1)

## 8 Contact information

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