ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	GEZE GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-GEZ-20250311-IBC1-EN
Issue date	13.08.2025
Valid to	12.08.2030

Automatic Revolving Door

GEZE GmbH

GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION

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ECO PLATFORM
EPD
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Registration code: GlobalEPD B62.04-0002

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1. General Information

GEZE GmbH

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-GEZ-20250311-IBC1-EN

This declaration is based on the product category rules:

Automatic doors, automatic gates, and revolving door systems, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

13.08.2025

Valid to

12.08.2030

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Automatic Revolving Door

Owner of the declaration

GEZE GmbH
Reinhold-Vöster-Str. 21-29
71229 Leonberg
Germany

Declared product / declared unit

1 piece automatic revolving door

Scope:

This declaration and its LCA study are relevant to a group of 3 automatic revolving doors produced by GEZE GmbH and is thus an average EPD. The final assembly and production stage occurs at Edora Otomatik Kapı Sistemleri San. Tic.A.Ş., a subsidiary of GEZE GmbH in Ankara, Turkey. The standard GEZE automatic revolving door consists of a revolving door drive, with a frame height of 2.2 m and a frame width of 3.0 m.
The owner of the declaration shall be liable for the underlying informationand evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.
The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*.
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The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR			
Independent verification of the declaration and data according to ISO 14025:2011			
☐	internally	☒	externally

Dr.-Ing. Wolfram Trinius,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Within the GEZE product portfolio of automatic revolving doors, three automatic revolving door systems have been selected and form the basis of this average EPD. The three automatic revolving door systems included in this study are very similar in their composition and functionality. Revo.PRIME is the successor of TSA 325 NT with a new drive technology and a small canopy height of only 75 mm. Revo.PURE (new name for Revo.BASE) is the successor of TSA 355 using the drive technology of Revo.PRIME and is used as the entry model into the revolving door portfolio of GEZE GmbH. TSA 395 is the revolving door for big diameters up to 6000 mm, mainly used for shopping malls and other big entrance areas. For the use and application of the product, the respective national provisions at the place of use apply. For example, for use in Germany, the building codes of the federal states and the corresponding national specifications must be met.
For details, see the product-specific declaration of conformity. The CE- marking takes into account the proof of conformity with the respective harmonised standards based on appropriate legal provisions.

2.2 Application

The automatic revolving doors have a wide range of applications for pedestrian accessibility. They can be installed in buildings that require an easily accessible point of entry. For the best user experience, the speed of the automatic revolving doors can be adjusted to the traffic passing through while still adhering to all safety technology parameters. Sensors and activation devices support safe passage through the door. The application areas include all public and private buildings, including government buildings, shopping malls, representative buildings, airports and office buildings. The application areas are continuously being developed, as the GEZE clientele continues to grow.

2.3 Technical Data

Products are not harmonised in accordance with the CPR but in accordance with other provisions for the harmonisation of the EU. Per product, conformity declarations are available in which relevant standards and provisions are detailed. These are regularly updated, as per changes in the standards.

Technical data

Name	Value	Unit
Overall width	3000	mm
Passing height	2200	mm
Canopy height	75	mm
Outer radius door leaf	1430	mm
Total height of door system	2275	mm
Linear opening width	1359	mm
Toughened safety glass leaf thickness	8	mm
Inner diameter	2920	mm
IP Rating	IP 20 in canopy, IP 65 in floor	-
Ambient temperature	-15 to +5	°C
Total weight	858.3	kg

2.4 Delivery status

All GEZE automatic revolving door systems are delivered ready for installation. The systems are highly customized, with sizes specified for each application individually. The average revolving door as described above is specific with a door drive system, 3 leaves, and has the dimensions as described above.

2.5 Base materials/Ancillary materials

Name	Value	Unit
Glass	61.8	%
Aluminum	24.4	%
Stainless Steel	7.5	%
Motor-Gear-Unit	2.0	%
Steel	1.6	%
Plastics	1.6	%
Electronic components (other than motor-gear-unit)	1.1	%

This product contains substances listed in *the candidate list 1907/2006* (date: 12.12.2024) exceeding 0.1 percentage by mass: no
This product contains other carcinogenic, mutagenic, reprotoxic *(CMR)* substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: no
Biocide products were added to this construction product, or it has been treated with biocide products (this then concerns a treated product as defined by the *(EU) Ordinance on Biocide Products No. 528/2012*: no

2.6 Manufacture

The manufacturing of the automatic revolving doors takes place at the Edora Otomatik Kapı Sistemleri San. Tic.A.Ş. subsidiary in Ankara, Turkey. The manufacturing process of the GEZE automatic revolving doors begins with the gathering of the individual raw materials needed. This includes extruded, alloyed aluminium, bent and rolled steel needed for the frame as well as for the floor ring, coated and tempered safety glass, as well as the electronics needed for the battery and the motor-gear-unit. Additional inputs such as adhesives and plastics, including synthetic rubber, are also required. Once these have been gathered in the production facility, the aluminium is sawn to size and is given a powder coating. The steel and some of the plastics are also cut to size. Once these steps are completed, the doors are assembled and packed in plastic and cardboard packaging for their transport to the construction site. Both GEZE GmbH and Edora are certified according to *ISO 9001* and therefore, all processes, including manufacturing processes, are regulated by quality management. There is also a management process in place for suppliers.

2.7 Environment and health during manufacturing

Environment: The production plant of the subsidiary Edora in Ankara, Turkey is a certified production facility according to *ISO 9001*.

2.8 Product processing/Installation

The automatic revolving door systems are installed and commissioned by GEZE-trained assembly technicians. The installation involves drilling holes into the wall and drilling holes into the floor to install the floor ring. These activities are carried out with hand-held power tools. After that, the revolving door construction (drum walls, door leaves and roof) is mounted on the floor ring. Suitable façade connections on the side and on the roof are prepared by the service company with local materials.

2.9 Packaging

The GEZE automatic revolving doors are packaged to protect them from damage occurring during transportation. The doors are packaged in plastic film and corrugated cardboard and transported on wooden pallets. The plastic film and the

cardboard are sent to the municipal incineration for thermal use in other applications. The wooden pallets are always regathered by GEZE and used for subsequent deliveries.

2.10 Condition of use

To ensure the longevity of the product, regular inspections should be carried out as per national regulations and product documentation by a trained and qualified technician who understands the GEZE automatic revolving door systems. The number of service visits should be in accordance with national requirements and production documentation, as described in the GEZE service offers. The owner of the product should perform regular inspections and clean the doors as per GEZE recommendations.

2.11 Environment and health during use

There is no harmful emissive potential. If doors are correctly configured and maintenance recommendations are carried out, there is a minimal risk of personal injury.

2.12 Reference service life

The product has a reference service life of approximately 1,000,000 cycles or 20 years of average daily use with the recommended maintenance and service program. For this EPD, a lifetime of 20 years is considered.

2.13 Extraordinary effects

Fire

The product is not tested or certified according to *EN 13501:1*. The product primarily consists of glass, aluminium, and steel, which are considered non-flammable or flame-retardant.

Water

No foreseeable negative impacts are expected when the product is exposed to water.

Mechanical destruction

Not relevant.

2.14 Re-use phase

It is possible to reuse the product during its reference service life, as it can be moved from one entrance to another without any significant financial or energetical effort.

2.15 Disposal

All materials are sent to a recycling unit where they are either recycled (aluminium, glass, steel, stainless steel, electronics) or incinerated for energy recovery (plastics and cardboard).

Waste codes according to *European Waste Catalogue* in the states of manufacturing, use and end of life:

08 04 10 – waste adhesives
16 02 14 – electronic equipment
16 06 02 – Ni-Cd batteries
17 02 02 – glass
17 04 02 – aluminium
17 04 05 – iron and steel
20 01 39 – plastics
15 01 01 – cardboard packaging
15 01 02 – plastics packaging
15 01 03 – wood packaging

2.16 Further information

For further information and additional contact:
GEZE GmbH
Reinhold-Vöster-Str. 21-29
71229 Leonberg Germany
info.de@geze.com
www.geze.com

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to the declared unit of 1 piece of GEZE automatic revolving door system (frame height of 2.275 m, frame width of 3.0 m) as specified in IBU PCR Part B.

Declared unit and mass reference

Name	Value	Unit
Declared unit	1	pce.
Mass reference	858.3	kg/pce
Mass packaging	34.0	kg

This EPD is based on three different door variants. For each variant, a separate LCA was calculated. A weighted average result was calculated based on the production volume of each type. The production process and location is the same for each variant, while the material mass shares may differ.

3.2 System boundary

Type of EPD: cradle to gate with options.

The following life cycle stages were considered:
Production Stage:

- A1 - Raw material extraction and processing
- A2 - Transport of raw material to manufacturer
- A3 - Manufacturing

Construction Stage:

- A4 - Transport of manufactured product to construction site
- A5 - Packaging waste processing and installation

Use stage related to the operation of the building:

- B4 - Replacement
- B6 - Operational energy use (Energy consumption for operation)

End of Life Stage:

- C1 - Demolition
- C2 - Transport to waste processing
- C3 - Waste processing for recycling. This includes provision of all materials, products and energy, as well as the processing and transport of packaging, plus all waste processing up to the end -of- waste state.
- C4 Disposal Benefits and loads beyond the system boundaries:
- D - Declaration of all benefits and loads

3.3 Estimates and assumptions

Transportation

For those raw materials for which the transport distances are not known, a transport with a EURO6 lorry over a distance of 100 km was assumed.

Use Phase

For the use phase, it is assumed that the automatic revolving door system is used in Germany. Thus, a European electricity mix was considered.

EoL Phase

In the End-of-Life stage, a recycling scenario with a 100 % collection rate was assumed for all components of the doors, which can be mechanically or thermally recycled. This includes steel, stainless steel, aluminum, glass, plastic, as well electronic components. The plastic components plus the

packaging are sent to energy recovery within a waste incineration process. The remaining materials are recycled.

These processes are assumed to happen within Europe. Furthermore, a transport distance with a EURO6 lorry of 100 km has been assumed.

3.4 Cut-off criteria

In this study, all available data from the production process are considered, meaning all raw materials used and electric power consumption. This includes those flows contributing less than 1 % mass or energy (if available).
Impacts relating to the production of machines and facilities required during production are out of the scope of this assessment.

3.5 Background data

For the life cycle modelling of the products analysed, the *Ecoinvent 3.10.1* databank developed by *GreenDelta* was used. Furthermore, the E*N15804 Add-on* from *GreenDelta* was used as well. To ensure comparability of the results in the LCA, generic RER or German datasets were used for energy, transportation and materials. For the manufacturing process, datasets specific to Turkey or for RoW were used to model the manufacturing in Ankara, Turkey.

3.6 Data quality

The requirements for data quality and background data correspond to the specifications of the *IBU PCR Part A*. Throughout the selection of datasets from the *Ecoinvent 3.10.1.* databank, reviews were conducted regarding the regionality and age of said datasets. It was the aim of this study to as accurately reflect the individual processes along the life cycle of the product as possible. The information describing the actual production process, i.e. information on material losses and energy requirements, comes from the manufacturer GEZE and is therefore considered to be of high quality. Processes from ecoinvent are mostly European to reflect the processes that happen in Turkey. Country-specific information was not available which would have further improved the precision of the dataset and thus the results. For any processes that happen in Germany (use and end-of-life treatment), German datasets were used wherever possible. Otherwise, European datasets were used. In cases where not even European datasets were available, Global datasets were used.

All datasets are complete and conform to the system boundaries and the criteria for exclusion of inputs and outputs.

3.7 Period under review

The period under review, used for the gathering of data on the aforementioned 3 automatic revolving doors, is 2023 - 2024 (12-month average).

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Europe

3.9 Allocation

The emissions from production and use, as well as the end-of-life treatment and potential credits, are all allocated to the declared product. Since there are no co-products, no allocation is necessary.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. All relevant background datasets are taken from *Ecoinvent 3.10.1* with the *EN15804+A2 add-on*.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	16.6	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	3.8	l/100km
Transport distance	100	km
Capacity utilisation (including empty runs)	60	%

Note: The environmental impacts presented in Module A4 and C2 refer to a distance of 100 km. The production site is in Ankara. Depending on where the door is installed, the environmental impacts in Module A4 and C2 must be scaled to the actual transport distance.

Installation into the building (A5)

Name	Value	Unit
Electricity consumption	0.054	kWh
Ouput substances following waste treatment on site (paper/cardboard packaging)	33.7	kg
Ouput substances following waste treatment on site (plastic packaging)	0.348	kg

Replacement (B4) / Refurbishment (B5)

Name	Value	Unit
Replacement cycle	9	Number/RSL
Replacement of worn parts	5.22	kg

Reference service life

Name	Value	Unit
Reference service life (according to ISO 15686-1, -2, -7 and -8)	20	a

Operational energy use (B6) and Operational water use (B7)

Electricity consumption is calculated as follows:

- 2.5 h of operation per day with 62 W/h
- 21.5 h of stand-by per day with 29 W/h
- 365 days of operation
- Annual consumption: 284.2 kWh/a
- Lifetime: 20 years

Name	Value	Unit
Electricity consumption	5683	kWh

End of life (C1-C4)

Name	Value	Unit
Collected separately waste type aluminium, steel, glass, plastics, electronics, etc.	858.3	kg
Incineration of plastic parts (Thermal energy)	13.8	kg
Recycling aluminium, steel, stainless steel, glass, electronics	844.5	kg

5. LCA: Results

Results shown are calculated according to *EN 15804+A2*

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MNR	X	MNR	X	MND	X	X	X	MND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Automatic revolving door

Parameter	Unit	A1	A2	A3	A4	A5	B4	B6	C1	C2	C3	D
GWP-total	kg CO_2 eq	2.68E+03	5.31E+01	4.54E+02	1.7E+01	5.52E+01	1.03E+02	1.93E+03	2.27E-02	1.63E+01	1.29E+02	-1.4E+03
GWP-fossil	kg CO_2 eq	2.65E+03	5.31E+01	4.54E+02	1.7E+01	2E+00	1.02E+02	1.86E+03	2.27E-02	1.63E+01	1.22E+02	-1.4E+03
GWP-biogenic	kg CO_2 eq	9.82E+00	3.68E-02	-3.78E+00	1.17E-02	5.32E+01	2.08E-01	6.59E+01	-4.36E-05	1.13E-02	7.26E+00	-4.26E+00
GWP-luluc	kg CO_2 eq	1.87E+01	1.76E-02	3.62E+00	5.63E-03	2.95E-04	1.1E-01	5.67E+00	2.24E-06	5.41E-03	6.44E-02	-1.95E+00
ODP	kg CFC11 eq	4.13E-05	1.06E-06	4.89E-06	3.37E-07	1.59E-08	1.07E-06	3.43E-05	2.01E-10	3.24E-07	7.79E-07	-2.74E-05
AP	mol H^+ eq	2.08E+01	1.11E-01	2.25E+00	3.53E-02	9.58E-03	3.38E+00	1.09E+01	6.05E-05	3.4E-02	3E-01	-9.83E+00
EP-freshwater	kg P eq	1.15E+00	3.6E-03	3.28E-01	1.15E-03	1.58E-04	6.03E-02	1.73E+00	9.57E-06	1.1E-03	1.76E-02	-7.92E-01
EP-marine	kg N eq	3.66E+00	2.66E-02	4.57E-01	8.48E-03	4.93E-03	1.08E-01	1.72E+00	1.38E-05	8.16E-03	6.7E-02	-1.68E+00
EP-terrestrial	mol N eq	3.37E+01	2.87E-01	4.14E+00	9.15E-02	4.3E-02	1.14E+00	1.54E+01	1.38E-04	8.8E-02	6.76E-01	-1.85E+01
POCP	kg NMVOC eq	1.07E+01	1.84E-01	1.36E+00	5.87E-02	1.09E-02	5.51E-01	5.07E+00	4.18E-05	5.64E-02	2.2E-01	-5.57E+00
ADPE	kg Sb eq	1.07E-01	1.77E-04	3.99E-04	5.65E-05	3.33E-06	6.75E-03	2.51E-02	1.05E-07	5.43E-05	1.48E-03	-1.4E-01
ADPF	MJ	3.21E+04	7.47E+02	5.7E+03	2.38E+02	8.78E+00	1.42E+03	4.33E+04	3E-01	2.29E+02	5.85E+02	-1.62E+04
WDP	m^3 world eq deprived	1.29E+03	3.65E+00	1.61E+02	1.17E+00	2.52E+00	1.32E+02	1.18E+03	2.01E-03	1.12E+00	1.64E+01	-3.92E+02

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 piece Automatic revolving door

Parameter	Unit	A1	A2	A3	A4	A5	B4	B6	C1	C2	C3	D
PERE	MJ	9.44E+03	1.28E+01	1.72E+03	4.09E+00	3.35E-01	3.74E+02	1.19E+04	2.75E-03	3.94E+00	6.65E+01	-2.18E+03
PERM	MJ	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	9.44E+03	1.28E+01	1.72E+03	4.09E+00	3.35E-01	3.74E+02	1.19E+04	2.75E-03	3.94E+00	6.65E+01	-2.18E+03
PENRE	MJ	3.08E+04	6.77E+02	5.48E+03	2.16E+02	8.28E+00	1.38E+03	4.25E+04	2.93E-01	2.08E+02	5.49E+02	-1.56E+04
PENRM	MJ	1.31E+03	6.94E+01	2.25E+02	2.22E+01	4.96E-01	4.2E+01	8.4E+02	6.07E-03	2.13E+01	3.58E+01	-5.79E+02
PENRT	MJ	3.21E+04	7.47E+02	5.7E+03	2.38E+02	8.78E+00	1.42E+03	4.33E+04	3E-01	2.29E+02	5.85E+02	-1.62E+04
SM	kg	2.87E+02	8.54E-01	9.75E+01	2.73E-01	2.88E-02	1.71E+00	6.23E+02	9.67E-05	2.62E-01	9.36E+02	-1.38E+02
RSF	MJ	6.17E+01	2.39E-01	2.53E+01	7.62E-02	2.75E-03	4.26E-01	3.62E+02	2.8E-05	7.33E-02	1.24E+00	-2.16E+01
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0
FW	m^3	3.22E+01	1E-01	3.81E+00	3.2E-02	4.05E-02	3.45E+00	3.74E+01	2.26E-04	3.08E-02	4.03E-01	-1.16E+01

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 = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 piece Automatic revolving door

Parameter	Unit	A1	A2	A3	A4	A5	B4	B6	C1	C2	C3	D
HWD	kg	6.3E+02	7.41E-01	1.17E+01	2.37E-01	5.71E-01	1.46E+01	4.78E+01	1.94E-04	2.28E-01	6.51E+00	-3.63E+02
NHWD	kg	1.02E+03	8.21E+00	5.06E+01	2.62E+00	3.54E+01	2.6E+02	3.8E+02	3.01E-03	2.52E+00	1.89E+02	-7.73E+02
RWD	kg	9.65E-02	2.41E-04	1.29E-03	7.69E-05	5.31E-06	4.04E-03	3.07E-01	6.46E-07	7.39E-05	1.12E-03	-2.77E-02
CRU	kg	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	1.51E+02	7.74E-01	6.24E+01	2.47E-01	1.57E-02	1.67E+00	6.05E+02	9E-05	2.38E-01	1.72E+01	-9.42E+01
MER	kg	2.77E-02	1.07E-04	1.14E-02	3.42E-05	1.24E-06	1.92E-04	1.63E-01	1.26E-08	3.29E-05	5.58E-04	-9.71E-03

EEE	MJ	3.54E+01	1.27E-01	1.13E+00	4.05E-02	1.34E-02	1.65E+01	1.93E+02	5.83E-03	3.9E-02	9.65E+00	-1.73E+01
EET	MJ	6.05E+01	1.8E-01	5.37E-01	5.73E-02	3.74E-03	8.61E-01	6.94E+00	2.12E-04	5.52E-02	2.84E+00	-2.58E+01

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:
1 piece Automatic revolving door

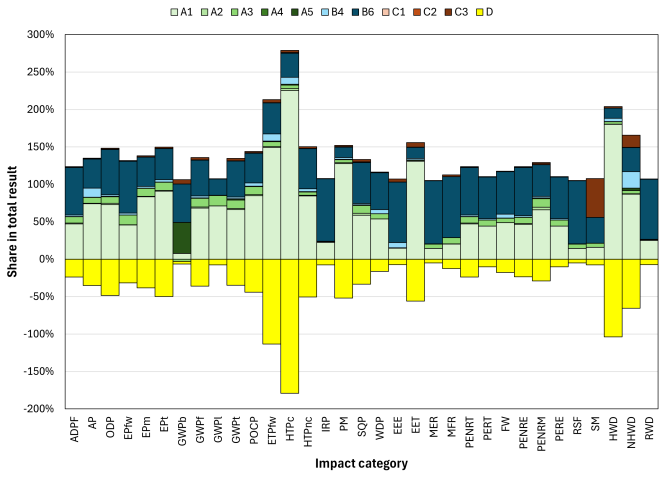
Parameter	Unit	A1	A2	A3	A4	A5	B4	B6	C1	C2	C3	D
PM	Disease incidence	3.54E-04	3.91E-06	1.11E-05	1.25E-06	7.96E-08	6.16E-06	3.9E-05	2.09E-10	1.2E-06	4.94E-06	-1.44E-04
IR	kBq U235 eq	3.25E+02	9.69E-01	5.21E+00	3.09E-01	2.01E-02	1.35E+01	1.2E+03	2.13E-03	2.98E-01	4.37E+00	-1.1E+02
ETP-fw	CTUe	2.79E+04	2.03E+02	1.24E+03	6.49E+01	6.28E+01	1.82E+03	7.73E+03	5.58E-02	6.24E+01	7.65E+02	-2.12E+04
HTP-c	CTUh	3.1E-05	3.77E-07	6.49E-07	1.2E-07	1.23E-08	1.29E-06	4.42E-06	2.61E-11	1.16E-07	4.23E-07	-2.47E-05
HTP-nc	CTUh	5.15E-05	4.84E-07	2.77E-06	1.54E-07	1.14E-07	2.26E-06	3.28E-05	2.9E-10	1.49E-07	1.49E-06	-3.08E-05
SQP	SQP	1.04E+04	4.51E+02	1.82E+03	1.44E+02	2.53E+00	3.35E+02	9.63E+03	2.99E-02	1.39E+02	5.79E+02	-5.86E+03

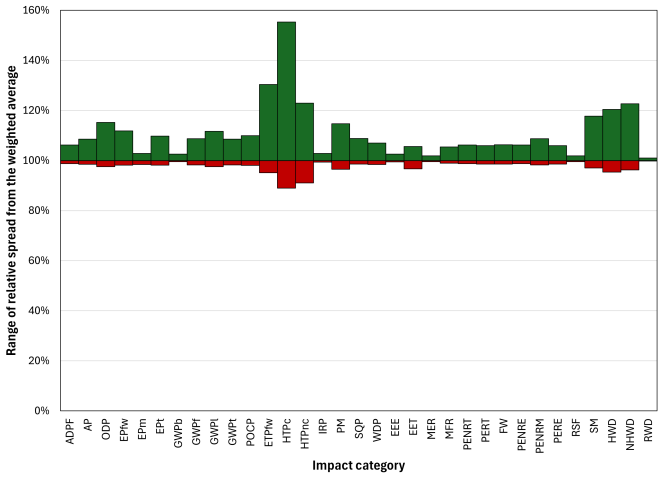
PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

6. LCA: Interpretation





As can be seen, the production stage (A1-A3) has on average the highest impact across all impact categories with an average share of 75.4 %. These impacts can mostly be attributed to the production of aluminium and glass. This is due to their high material mass share.
The second highest impact share is the actual use phase (B6) with an average share of 51.4 % across all impact categories. The latter, however, can be significantly reduced by using green electricity to operate the doors.

In the graph above, the 100 % line represents the baseline value of the weighted average. Depending on the door variant and performance category considered, the results can differ from this baseline within a range of -11 to +55 %. The average variation across all performance categories is -2 to +11 %. Not included in this graph is the impact category ADPE, which has a much higher range of -1426 to +4320 % showing that this specific impact category reacts more sensitively to changes in the material composition.

7. Requisite evidence

8. References

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