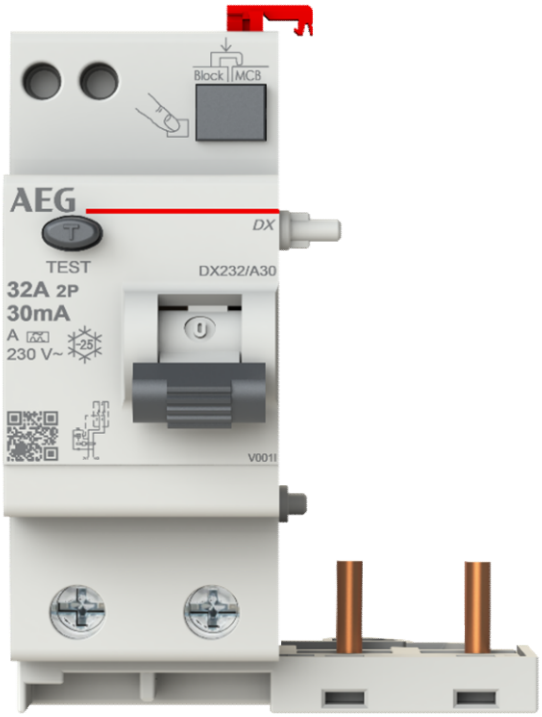
DX RCD blocks AEG

PEP ecopassport®

Product Environmental Profile



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Date of issue:	**November-24**	Validity period:	**5 years**
Independent verification of the declaration and data in compliance with ISO 14025: 2006			
Internal: ☐	**External:** X		
The PCR review was conducted by a panel og experts chaired by Julie Orgelet (Ddemain)			
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022 The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			

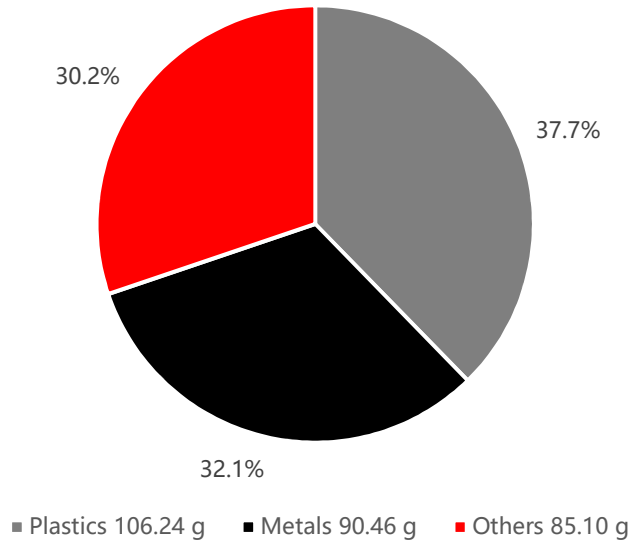
Purpose & Embedding Sustainability

Committed to continually promoting and embedding sustainability accros operations and value chain, aspiring to become a role model for others to follow. Focusing with this Purpose on reducing harmful emissions, preserving natural resources championing ethical and humane behaviour.

General information

Reference product	DX240/AC30 2CSB202090R1320
Description of the product	The DX RCD blocks are residual current blocks designed to be installed on the left side of the EN/EX series MCBs, in order to combine the protection against indirect contacts, offered by a standard RCCBs, with the protection against short circuit and overloads, offered by a standard MCBBs. This flexibility is an added advantage for the ones who desire to maintain the stock level at a minimum, providing a solution for wide range of applications with a handful of RCD blocks.
Functional unit	To protect people and premises at risk of fire or explosion against insulation defects in a circuit with rated voltage 230V, rated current 40A, with 2P poles, sensitivity 0.03 A, differential protection type AC, and Ingress Protection IP2X, in the Industrial application area, according to the appropriate use scenario, and during the 20-year reference service life of the product.
Other products covered	DX RCD Block family
Manufacturing address	Santa Palomba (Rome, Italy)

Constituent Materials



Total weight in reference product and packaging	**281.8**	**g**

Plastics as % of weight		**Metals as % of weight**		**Others as % of weight**	
Name and CAS number	Weight%	Name and CAS number	Weight%	Name and CAS number	Weight%
PA	14.4	**Copper**	13.1	**Carboard**	16.9
Glass fibre	11.0	**Steel**	10.5	**Wood**	10.6
PC	8.5	**Brass**	3.8	**Paper**	1.8
PET	2.5	**Iron**	3.7	**PCBA**	0.7
Other plastics	1.3	**Other metals**	1.0	**Resistor**	0.2

Total weight of the reference product is 199 g, plus packaging of 82.8 g.

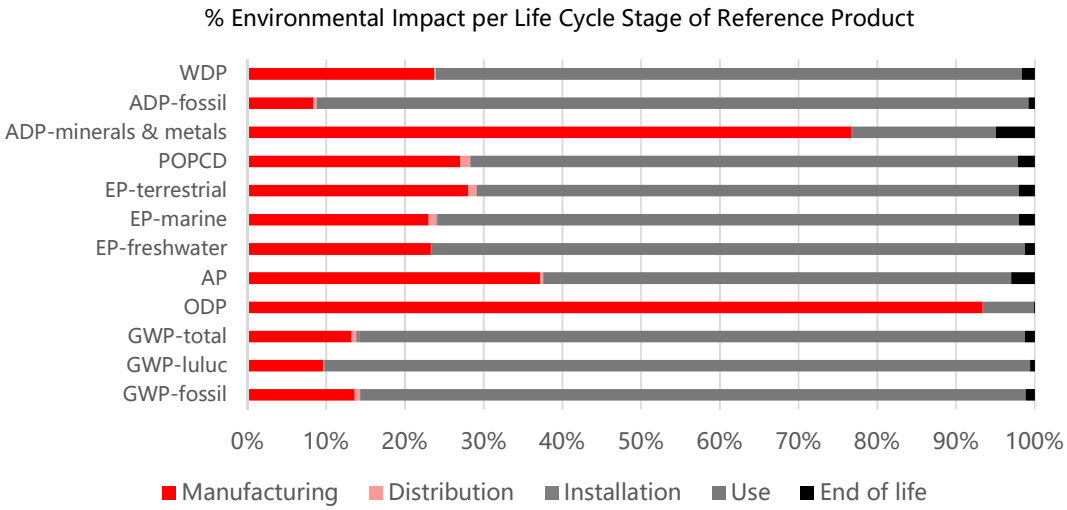
Additional Information

Manufacturing	The manufacturing stage includes the production and transportation to the manufacturer's last logistic platform of the product and its packaging. The production occurs at the factory located in Santa Palomba (Rome, Italy).
Distribution	The transport from Santa Palomba factory to Vignate, Milan (Santa Palomba 1st internal customer) was considered. For the distribution of the product from Vignate to the final customer, the intracontinental transport scenario provided by PCR-ed4-EN-2021 09 06 standard was adopted, considering the European macro-area for the use phase.
Installation	The installation phase only implies manual activities and no energy is consumed. This phase includes the disposal of the packaging of the product. Statistical average data from Eurostat database were considered for the disposal of the packaging. The year of Eurostat's data extraction is 2023.
Use	During the use phase, DX240/AC30 dissipate some electricity due to power losses. The energy consumption has been calculated as follow: - Nominal current load rate as 50%; - RSL of 20 years; - Functioning time of 30% of the RSL (α). No maintenance is planned for the product.
End of life	The default end of life scenario provided by the IEC/TR 62635 document has been adopted, considering the product transport by lorry over 1000 km and its disposal.
Benefits and loads beyond the system boundaries	The potential benefits derives from the impacts prevented by recycling and waste to energy recovery of the product and its packaging.

Environmental Impacts

Reference lifetime	20 years
Product category	Blocks and differential switches
Installation elements	No installation materials are required in the life cycle of the product.
Use scenario	The formula for the calculation of the use stage electricity consumption is: E_use [kWh] = (P_use*8760*RSL*α)/1000
Geographical representativeness	Global
Technological representativeness	Technological representativeness refers to the specific production process for primary data.
Software and database used	SimaPro 9.5.0.0 and ecoinvent 3.9.1
Energy model used	
Manufacturing	ABB GO energy mix 2022. The energy-related processes used for the remaining inputs are those included in the ecoinvent v3.9.1 datasets.
Installation	No energy consumption occur during the installation stage. The energy-related processes used for the inputs of the installation stage are those included in the ecoinvent datasets selected for the analysis.
Use	Electricity, low voltage {RER}| market group for electricity, low voltage | Cut-off, S
End of life	The energy-related processes used for the inputs of the end-of-life stage are those included in the ecoinvent datasets selected for the analysis.

Common base of mandatory indicators



Environmental impact indicators

Indicator		Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
GWP	Total	kg CO2 eq.	1.92E+01	2.53E+00	1.19E-01	8.91E-02	1.62E+01	2.38E-01	-5.02E-01
	Fossil	kg CO2 eq.	1.85E+01	2.52E+00	1.19E-01	5.43E-03	1.56E+01	2.13E-01	-5.33E-01
	Biogenic	kg CO2 eq.	6.63E-01	9.94E-03	9.23E-05	8.36E-02	5.45E-01	2.47E-02	3.21E-02
	Luluc	kg CO2 eq.	4.35E-02	4.18E-03	5.65E-05	2.26E-06	3.90E-02	2.58E-04	-5.97E-04
ODP		kg CFC-11 eq.	4.63E-06	4.32E-06	2.62E-09	1.15E-10	2.98E-07	4.98E-09	-2.54E-08
AP		H+ eq.	1.51E-01	5.61E-02	4.95E-04	2.78E-05	8.96E-02	4.52E-03	-2.00E-02
EP	Freshwater	kg P eq.	1.96E-02	4.57E-03	8.54E-06	6.68E-07	1.48E-02	2.44E-04	-1.67E-03
	Marine	kg N eq.	1.96E-02	4.52E-03	1.88E-04	2.45E-05	1.45E-02	3.98E-04	-1.23E-03
	Terrestrial	mol N eq.	1.90E-01	5.34E-02	2.00E-03	1.16E-04	1.31E-01	3.86E-03	-1.63E-02
POPCD		kg NMVOC eq.	6.05E-02	1.63E-02	7.52E-04	4.27E-05	4.21E-02	1.28E-03	-4.85E-03
ADP	Minerals & metals	kg SB eq.	1.04E-03	7.96E-04	3.24E-07	1.92E-08	1.89E-04	5.12E-05	-6.41E+00
	Fossil	MJ	3.93E+02	3.28E+01	1.75E+00	6.44E-02	3.55E+02	3.08E+00	-6.41E+00
WDP		m³ eq. depr.	5.35E+00	1.27E+00	8.37E-03	3.95E-04	3.98E+00	8.77E-02	-3.42E-01

Resource use indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
PERE	MJ	8.70E+01	6.84E+00	2.57E-02	2.41E-03	7.97E+01	4.30E-01	0.00E+00
PERM	MJ	1.43E+00	1.43E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	8.84E+01	8.27E+00	2.57E-02	2.41E-03	7.97E+01	4.30E-01	0.00E+00
PENRE	MJ	3.90E+02	3.03E+01	1.75E+00	6.44E-02	3.55E+02	3.08E+00	0.00E+00
PENRM	MJ	2.55E+00	2.55E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.93E+02	3.28E+01	1.75E+00	6.44E-02	3.55E+02	3.08E+00	0.00E+00

Common base of mandatory indicators

Use of secondary materials, water, and energy resources

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
SM	kg	3.52E-02	3.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m³	3.30E-01	3.92E-02	2.75E-04	2.59E-05	2.88E-01	2.83E-03	-8.24E-03

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
HWD	kg	1.63E-03	9.73E-04	1.09E-05	3.84E-07	6.24E-04	1.90E-05	-1.32E-05
N-HWD	kg	2.30E+00	5.68E-01	1.54E-01	1.86E-02	1.43E+00	1.30E-01	-1.07E-01
RWD	kg	2.64E-03	6.21E-05	5.35E-07	5.94E-08	2.56E-03	1.00E-05	-3.84E-06

Output flow indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
CfRu	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MfR	kg	3.16E-01	1.04E-01	0.00E+00	5.26E-02	0.00E+00	1.59E-01	0.00E+00
MfER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ	9.57E-02	0.00E+00	0.00E+00	7.19E-02	0.00E+00	2.38E-02	0.00E+00

Other indicators

Indicator		Unit	Total
Biogenic Carbon	Product	kg of C	2.57E-05
	Packaging	kg of C	4.46E-02

Optional indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
Tot PE	MJ	4.81E+02	4.11E+01	1.78E+00	6.68E-02	4.35E+02	3.51E+00	0.00E+00
Efp	Dise inc	5.72E-07	2.13E-07	1.23E-08	4.98E-10	3.29E-07	1.75E-08	-5.93E-08
IrHH	kBq U-235 eq	1.03E+01	2.44E-01	2.21E-03	2.38E-04	1.00E+01	3.91E-02	-1.49E-02
ETX FW	CTUe	1.45E+02	8.03E+01	8.44E-01	6.41E-02	5.97E+01	3.92E+00	-2.51E+01
HTX CE	CTUh	1.98E-08	1.04E-08	5.19E-11	7.49E-12	7.34E-09	1.95E-09	-2.45E-09
HTX N-CE	CTUh	1.02E-06	6.53E-07	1.26E-09	7.28E-11	2.93E-07	7.65E-08	-2.38E-07
IrLS	Pt	1.09E+02	3.60E+01	1.78E+00	3.62E-02	6.93E+01	2.38E+00	-7.04E+00

Glossary

Environmental impact Indicators	
GWP-total	Global Warming Potential total (Climate hange)
GWP-fossil	Global Warming Potential fossil
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
EP-freshwater	Eutrophication potential - freshwater compartment
EP-marine	Eutrophication potential - fraction of nutrients reachin marine end compartment
EP-terrestrial	Eutrophication potential - Accumulated Exceedance
POCP	Formation potential of tropospheric ozone
ADP-m&m	Abiotic Depletion for non-fossil resources potential
ADP-fossil	Abiotic Depletion for fossil resources potential, WDP
WDP	Water deprivation potential

Resource indicators	
PENRE	Use of non-renewable primary energy excluding renewable primary energy resources used as raw material
PENRM	Use of non-renewable primary energy resources used as raw material
PENRT	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials
PERE	Use of renewable primary energy excluding non-renewable primary energy resources used as raw material.
PERM	Use of renewable primary energy resources used as raw material
PERT	Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)

Secondary materials, water and energy resources		Waste category indicators	
SM	Use of secundary materials	HWD	Hazardous waste disposed
RSF	Use of renewable secondary fuels	N-HWD	Non-hazardous waste disposed
NRSF	Use of non-renewable secondary fuels	RWD	Radioactive waste disposed
FW	Net use of fresh water		

Output flow indicators		Optional indicators	
CfRu	Components for re-use	Tot PE	Total use of primary energy during the life cycle
MfR	Materials for recycling		
MfER	Materials for energy recovery	Efp	Emissions of Fine particles
EE	Exported Energy	IrHH	Ionizing radiation, human health
		ETX FW	Ecotoxicity, freshwater
		HTX CE	Human toxicity, carcinogenic effects
		HTX N-CE	Human toxicity, non-carcinogenic effects
		IrLS	Impact related to Land use / soil quality

Approach for extrapolation rules applied to a homogeneous environmental family

The PEP can cover products different from the reference product if they belong to a homogeneous environmental family. This means that the group of products must satisfy the following characteristics:

- same function;
- same product standard;
- same manufacturing technology: the same type of materials and same manufacturing processes.

The DX RCD blocks AEG residual current blocks product family satisfy these conditions, so extrapolation rules were applied to assess the environmental impact of the products belonging to the family, following the PCR indication. No extrapolation rules are set in the PSR; thus, the next steps have been followed to define the extrapolation rule:

- Analyse the products covered by the PEP belonging to the same homogenous family;
- Perform the LCA of a representative product of the homogeneous family;
- Identify and quantify the product parameters that vary between the various products of the homogeneous environmental family (i.e. dimensions, the weight of parts, materials, energy consumption. etc.).

Lastly, a sensitivity analysis was performed for each life cycle stage to identify which parameters of the ones selected are sensitive to environmental impacts to create extrapolation rules.

The parameters identified are listed below and differ between the different stages of the life cycle:

- for the manufacturing. distribution. installation and end-of-life stages:
  - weight of the product;
  - weight of the packaging.
- for manufacturing only:
  - assembly energy consumption.
- for the use stage:
  - energy consumption.

The representative products considered for the calculation of the extrapolation rules is DX240/AC30 (product code 2CSB202090R1320).

The results of the sensitive analysis show that the sensitive parameters are the weight of the product and the use stage consumption.

The products included in the DX RCD blocks AEG residual current blocks product family and considered for the application of the extrapolation rules are resented in Table 1.

Table 1 - DX RCD blocks AEG residual current blocks products considered for the application of the extrapolation rules

Product ID	Product Name	Tp	In (A)	S (mA)	Np	IP	Ue (V)	Weight (g)	Average power loss @50%In (W)
2CSB202190R1320	DX240/A30	A	40	30	2	2X	230	200	0.84
2CSB202190R3320	DX240/A300	A	40	300	2	2X	230	200	0.84
2CSB202190R4320	DX240/A500	A	40	500	2	2X	230	200	0.84
2CSB202090R1320	DX240/AC30	AC	40	30	2	2X	230	200	0.84
2CSB202090R3320	DX240/AC300	AC	40	300	2	2X	230	200	0.84
2CSB202490R1320	DX240/AI30	Ai=A-APR	40	30	2	2X	230	200	0.84
2CSB202290R3320	DX240/SI300	Si	40	300	2	2X	230	200	0.84
2CSB202190R1630	DX263/A30	A	63	30	2	2X	230	200	1.4175
2CSB202190R3630	DX263/A300	A	63	300	2	2X	230	200	1.4175
2CSB202190R4630	DX263/A500	A	63	500	2	2X	230	200	1.4175
2CSB202090R1630	DX263/AC30	AC	63	30	2	2X	230	200	1.4175
2CSB202090R3630	DX263/AC300	AC	63	300	2	2X	230	200	1.4175
2CSB202490R1630	DX263/AI30	Ai=A-APR	63	30	2	2X	230	200	1.4175
2CSB202290R5630	DX263/SI1000	Si	63	1000	2	2X	230	200	1.4175
2CSB202290R3630	DX263/SI300	Si	63	300	2	2X	230	200	1.4175
2CSB202290R4630	DX263/SI500	Si	63	500	2	2X	230	200	1.4175
2CSB203190R3630	DX363/A300	A	63	300	3	2X	230	265	1.995
2CSB203190R4630	DX363/A500	A	63	500	3	2X	230	265	1.995
2CSB203090R1630	DX363/AC30	AC	63	30	3	2X	230	265	1.995
2CSB203090R3630	DX363/AC300	AC	63	300	3	2X	230	265	1.995
2CSB203190R1630	DX363/A30	A	63	30	3	2X	230	265	1.995
2CSB203290R5630	DX363/SI1000	Si	63	1000	3	2X	230	265	1.995
2CSB203290R3630	DX363/SI300	Si	63	300	3	2X	230	265	1.995
2CSB204190R1320	DX440/A30	A	40	30	4	2X	230	164	1.2575
2CSB204190R3320	DX440/A300	A	40	300	4	2X	230	164	1.2575
2CSB204190R4320	DX440/A500	A	40	500	4	2X	230	164	1.2575
2CSB204090R1320	DX440/AC30	AC	40	30	4	2X	230	164	1.2575
2CSB204090R3320	DX440/AC300	AC	40	300	4	2X	230	164	1.2575
2CSB204090R4320	DX440/AC500	AC	40	500	4	2X	230	164	1.2575
2CSB204490R1320	DX440/AI30	Ai=A-APR	40	30	4	2X	230	164	1.2575
2CSB204190R1630	DX463/A30	A	63	30	4	2X	230	325	1.7525
2CSB204190R3630	DX463/A300	A	63	300	4	2X	230	325	1.7525
2CSB204190R4630	DX463/A500	A	63	500	4	2X	230	325	1.7525
2CSB204090R1630	DX463/AC30	AC	63	30	4	2X	230	325	1.7525
2CSB204090R3630	DX463/AC300	AC	63	300	4	2X	230	325	1.7525
2CSB204090R4630	DX463/AC500	AC	63	500	4	2X	230	325	1.7525
2CSB204490R1630	DX463/AI30	Ai=A-APR	63	30	4	2X	230	325	1.7525
2CSB204290R5630	DX463/SI1000	Si	63	1000	4	2X	230	325	1.7525
2CSB204290R3630	DX463/SI300	Si	63	300	4	2X	230	325	1.7525
2CSB204290R4630	DX463/SI500	Si	63	500	4	2X	230	325	1.7525
2CSB202191R1320	DXV240/A30	A	40	30	2	2X	230	200	0.84

Extrapolation rules calculations

The extrapolation rules have been calculated based on the environmental impact assessment results of the reference product DX240/AC30 (code 2CSB202090R1320) and the sensitivity analysis carried out.

For the manufacturing stage, distribution stage and end-of-life stage, the parameter considered for the calculation of the LCIA impacts of the variants is the weight of the product. For the use stage, the parameter considered for the calculation of the LCIA impacts of the variants is the average power loss during this stage.

The calculation of the LCIA impacts of the variants through these parameters indicated that the correlation between the impacts of the representative product and the variants is linear. For the creation of the extrapolation rules, the extrapolation principle applied is a linear correlation concerning weight for the production, distribution and end-of-life phase and concerning average power loss for the use phase. Each environmental indicator value shall be calculated using the following formulas:

- For the manufacturing stage, distribution stage, installation stage, and end-of-life stage:

$$y = a_n x_1 + b_n$$

where x_1 is the *weight of the product*.

- For use stage:

$$y = a_n x_2 + b_n$$

where x_2 is the *average power loss* of the product.

For the weight and average power loss data of the variants, please refer to the previous Table 1.

Table 2 reports the linear coefficients a_n & b_n for each life cycle stage.

Table 2 - Linear coefficients for the environmental impact calculation of the DX RCD blocks AEG products

IMPACT CATEGORY	MANUFACTURING		DISTRIBUTION		INSTALLATION		USE		END OF LIFE	
	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4	a_5	b_5
GWP-total	1.16E-02	2.11E-01	4.21E-04	3.51E-02	0.00E+00	8.91E-02	1.93E+01	-4.26E-14	1.19E-03	-7.77E-16
GWP-fossil	1.15E-02	2.17E-01	4.21E-04	3.50E-02	0.00E+00	5.43E-03	1.86E+01	-4.26E-14	1.07E-03	-2.78E-16
GWP-biogenic	8.94E-05	-7.93E-03	3.26E-07	2.71E-05	0.00E+00	8.36E-02	6.49E-01	5.66E-15	1.24E-04	-1.01E-16
GWP-luluc	1.52E-05	1.14E-03	1.99E-07	1.66E-05	0.00E+00	2.26E-06	4.64E-02	1.53E-16	1.29E-06	-1.63E-19
ODP	2.16E-08	6.65E-09	9.27E-12	7.71E-10	0.00E+00	1.15E-10	3.55E-07	7.41E-22	2.49E-11	-4.96E-24
AP	2.68E-04	2.48E-03	1.75E-06	1.45E-04	0.00E+00	2.78E-05	1.07E-01	3.61E-16	2.26E-05	-1.21E-17
EP-freshwater	2.22E-05	1.33E-04	3.02E-08	2.51E-06	0.00E+00	6.68E-07	1.76E-02	6.59E-17	1.22E-06	1.08E-19
EP-marine	2.01E-05	5.00E-04	6.63E-07	5.51E-05	0.00E+00	2.45E-05	1.72E-02	1.39E-17	1.99E-06	-3.25E-19
EP-terrestrial	2.43E-04	4.74E-03	7.07E-06	5.88E-04	0.00E+00	1.16E-04	1.56E-01	-3.61E-16	1.93E-05	-1.04E-17
POCP	7.46E-05	1.43E-03	2.66E-06	2.21E-04	0.00E+00	4.27E-05	5.01E-02	2.08E-16	6.42E-06	-1.73E-18
ADPE	3.89E-06	1.82E-05	1.14E-09	9.51E-08	0.00E+00	1.92E-08	2.25E-04	-2.71E-19	2.56E-07	-2.71E-20
ADPF	1.49E-01	3.01E+00	6.19E-03	5.15E-01	0.00E+00	6.44E-02	4.23E+02	0.00E+00	1.54E-02	-8.88E-15
WDP	5.94E-03	8.46E-02	2.96E-05	2.46E-03	0.00E+00	3.95E-04	4.74E+00	2.66E-15	4.38E-04	4.16E-16
PE	1.69E-01	7.37E+00	6.29E-03	5.23E-01	0.00E+00	6.68E-02	5.18E+02	4.09E-12	1.76E-02	6.22E-15
PERE	1.96E-02	2.93E+00	9.07E-05	7.54E-03	0.00E+00	2.41E-03	9.49E+01	3.98E-13	2.15E-03	-1.11E-16
PERM	7.76E-06	1.43E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	1.96E-02	4.36E+00	9.07E-05	7.54E-03	0.00E+00	2.41E-03	9.49E+01	3.98E-13	2.15E-03	-1.11E-16
PENRE	1.37E-01	2.92E+00	6.19E-03	5.15E-01	0.00E+00	6.44E-02	4.23E+02	2.27E-13	1.54E-02	-3.11E-15
PENRM	1.23E-02	8.64E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	1.49E-01	3.01E+00	6.19E-03	5.15E-01	0.00E+00	6.44E-02	4.23E+02	2.27E-13	1.54E-02	-3.11E-15
SM	0.00E+00	3.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	1.62E-04	6.86E-03	9.73E-07	8.09E-05	0.00E+00	2.59E-05	3.42E-01	8.33E-16	1.41E-05	-8.24E-18
HWD	4.68E-06	3.77E-05	3.85E-08	3.20E-06	0.00E+00	3.84E-07	7.43E-04	3.90E-18	9.52E-08	-2.71E-20
NHWD	2.56E-03	5.57E-02	5.44E-04	4.52E-02	0.00E+00	1.86E-02	1.70E+00	6.66E-15	6.51E-04	-4.44E-16
RWD	2.85E-07	5.05E-06	1.89E-09	1.57E-07	0.00E+00	5.94E-08	3.05E-03	1.73E-18	5.02E-08	-7.12E-20
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	2.52E-04	5.34E-02	0.00E+00	0.00E+00	0.00E+00	5.26E-02	0.00E+00	0.00E+00	7.97E-04	1.42E-15
MER	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.19E-02	0.00E+00	0.00E+00	1.19E-04	5.20E-17
PM	9.72E-10	1.85E-08	4.35E-11	3.62E-09	0.00E+00	4.98E-10	3.91E-07	3.18E-22	8.74E-11	-1.65E-23
IRP	1.12E-03	1.99E-02	7.82E-06	6.50E-04	0.00E+00	2.38E-04	1.19E+01	6.04E-14	1.95E-04	-2.78E-17
ETP-fw	3.90E-01	2.23E+00	2.98E-03	2.48E-01	0.00E+00	6.41E-02	7.11E+01	1.85E-13	1.96E-02	1.24E-14
HTP-c	4.82E-11	7.62E-10	1.83E-13	1.53E-11	0.00E+00	7.49E-12	8.74E-09	4.47E-23	9.73E-12	1.12E-23
HTP-nc	3.15E-09	2.40E-08	4.45E-12	3.70E-10	0.00E+00	7.28E-11	3.48E-07	0.00E+00	3.83E-10	-2.38E-22
SQP	9.93E-02	1.61E+01	6.30E-03	5.24E-01	0.00E+00	3.62E-02	8.25E+01	-1.14E-13	1.19E-02	-1.02E-14
Biogenic C product	1.28E-07	-2.03E-20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic C packaging	0.00E+00	4.46E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

GWP-total: Global warming potential - total; **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 - freshwater; **EP-marine**: Eutrophication potential - marine; **EP-terrestrial**: Eutrophication potential - terrestrial; **POCP**: Photochemical ozone creation potential; **ADPE**: Abiotic depletion potential - non-fossil resources; **ADPF**: Abiotic depletion potential - fossil resources; **WDP**: Water deprivation potential; **PE**: Total use of primary energy during the life cycle; **PERE**: Use of renewable primary energy as energy carrier; **PERM**: Use of renewable primary energy resources used as raw materials; **PERT**: Total use of renewable primary energy; **PENRE**: Use of non-renewable primary energy as energy carrier; **PENRM**: Use of non-renewable primary energy resources used as raw materials; **PENRT**: Total use of non-renewable primary energy resource; **SM**: Use of secondary material; **RSF**: Use of renewable secondary fuels; **NRSF**: Use of non-renewable secondary fuels; **FW**: Net use of fresh water; **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; **EE**: Exported energy – total; **PM**: Particulate matter emissions; **IRP**: Ionizing radiation, human health; **ETP-fw**: Eco-toxicity – freshwater; **HTP-c**: Human toxicity, cancer effect; **HTP-nc**: Human toxicity, non-cancer effects; **SQP**: Land use related impacts/Soil quality.

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