



PEP Ecopassport[®]

Product Environmental Profile – TCFS Performance Climate Changer[®] Custom Air Handling Unit
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Product Environmental Profile - PEP Ecopassport.
 Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations."

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Registration Number	TRNE-10005-V01.01-EN

Company Description

Trane Technologies® is a world leader in heating and cooling systems, services, and solutions. Together with our brands, Trane® and Thermo King®, we bring efficient and sustainable climate innovations to buildings, homes, and transportation.

Trane helps customers succeed by providing innovative solutions that optimize indoor environments through a broad portfolio of energy-efficient heating, ventilating, and air conditioning systems, buildings, contracting and energy services, parts support, and advanced controls for homes and commercial buildings.

Trane serves engineers, contractors, and building owners on all continents and in an array of markets including education, healthcare, government, industrial/ manufacturing, data centers, lodging, retail, and commercial real estate. With more than 900 U.S. patents to date, Trane creates comfortable and energy-efficient environments around the world.

Trane systems and services have a reputation for reliability, high quality, and advanced innovation; and are available through a powerful distribution network. Trane employees and distributors are respected industry-wide for their skills and performance in designing, manufacturing, marketing, and supporting commercial and residential systems.

Product Information	
Reference Product	TCFS Performance Climate Changer® Custom Air Handling Unit
Product Description	<p>Trane custom air handlers offer the highest level of flexibility and deliver precise performance, even in the most challenging applications.</p> <ul style="list-style-type: none"> • Top-to-bottom absolute thermal barrier to reduce harmful humidity. Trane custom air handlers deliver premium thermal performance. The no through-metal construction of the casing, including roof, base and panel seams minimizes heat transmission and keeps condensation from forming on the exterior. • Factory-installed controls simplify installation and optimize performance. Symbio® unit controls link the air handler with building automation systems, giving users seamless control over zones throughout your building. With factory-installed controls, there are no holes to drill through the air handler's casing, protecting its structural integrity and thermal performance. • Lab-tested data ensures the high performance your operations demand. Inline product testing is performed as part of the manufacturing process for custom air handlers, using prediction tools and software to predict key parameters—including leakage, deflection, acoustics and thermal measurements—to ensure product performance. Trane tests every custom AHU at the end of the line to verify its ability to meet performance requirements. <p>The unit selected for this EPD included the following selections:</p> <ul style="list-style-type: none"> • 4" double wall steel panels (walls) with R-25 foam insulation • 6" structural steel base with aluminum treadplate floors • Premium efficiency fan motors in both the return and supply fan sections • Economizer section for mixing outdoor air with return air • MERV 8 filters • AHRI ACHC-Certified (AHRI 410) hot water heating and chilled water cooling coils • Fully equipped with unit and motor controls
Functional Unit	Transfer 1 m ³ of air per hour for the ventilation and air treatment and filtration of a building over the reference lifetime of 17 years
Declared Unit	<p>To transfer air for ventilation and air filtration of a building with an air handling unit with a 40,776 air flow rate m³/h over the typical product lifetime of 17 years</p> <p><i>Note: the mathematical relationship between the functional and declared unit is such that the declared unit divided by its airflow rate in m³/h equals the functional unit.</i></p>
Other Products Covered	None
Reference Lifetime*	17 Years

*Reference lifetime was defined as 22 years by the Product Category Rules which governed this analysis.

Technical Characteristics	
Data Point	TCFS Performance Climate Changer® Air Handling Unit
Product Family	Air handling equipment
Equipment Type	Commercial bidirectional air handling unit
Nominal Airflow	40,776 m³/h 24,000 CFM
Operating Mode	Demand control ventilation
Functions Handled by the Product	Air handling, ventilation, filtration (MERV 8 & MERV 15 filters), heating, and cooling

Constituent Materials >> Total weight of the reference product: 11,952 kg					
Plastics as % of weight		Metals as % of weight		Others as % of weight	
Product only: 11,952 kg					
Polyurethane	5.4%	Steel	74.9%	Electronics	0.1%
		Aluminum	10.1%	Other miscellaneous	0.5%
		Copper	4.6		
		Stainless Steel	4.1%		
		Various Metals	0.2%		
Packaging only: 0 kg					
	0%		0%		0%
Total plastics	5.4%	Total metals	94.0%	Total others	0.6%

Life Cycle Stages	
Manufacturing	The manufacturing stage includes the production of raw and intermediate materials, as well as transportation to the manufacturer's last logistic platform for TCFS Air Handling Units. The final assembly of the product is carried out at Trane's plant in Fort Smith, AR, USA. As a member of SteelZero, Trane has pledged to procure, specify or stock 50% net-zero steel by 2030 and 100% net-zero steel by 2050. The main process steps for production include cutting, rolling, machining, brazing, welding, painting, sub- and final assemblies, and end-of-the-line testing.
Distribution	The transport from Trane's manufacturing facility to the customer was considered. The distance was calculated using averages for all shipped orders in 2024.
Installation	The installation stage includes diesel consumed by machinery used to move and place the product during installation.
Use	The use stage is conducted in alignment with the PSR, which models the electricity use of this commercial bidirectional air handling unit at its nominal airflow and pressure (24,000 CFM, 6.78 in H ₂ O) over the 17-year reference lifetime with 2,600 annual operating hours for the fans in the unit, 1,750 annual operating hours for the UV lights in the unit, and 400 annual operating hours for the unit electric heater. Replacement parts are also considered in this stage; filters are replaced annually, and the fan motor was replaced once over the reference lifetime.
End of Life	The end-of-life stage includes transportation to the end-of-life facility of the disposal of product. End of life fates were modeled by material for the region where they are being disposed of, in this case North America.
Benefits and loads beyond the system boundaries	Throughout the life cycle of the product, net loads and benefits beyond system boundaries are included.

Data Quality and Software	
Geographical Representativeness	The geographical scope of all life cycle stages (manufacturing, distribution, use, and end of life) of this PEP is North America. Overall geographic representativeness is considered good.
Temporal Representativeness	Primary data was collected from 2024. Secondary data refers to the Ecoinvent database published in 2023. The temporal coverage for each secondary process used in the LCA model is specified in the documentation section of individual Ecoinvent datasets.
Technological Representativeness	Overall technology representativeness is considered good.
Software and Database Used	Sima Pro Craft version 9.6 Ecoinvent Database Version 3.10

	Energy Model Used
Manufacturing	Manufacturing electricity considers the eGRID specific region from which the product is being manufactured in Ecoinvent's datasets (market for electricity, medium voltage {US-MRO}).
Distribution	No energy consumption occurs during the distribution stage.
Installation	No energy consumption occurs during the installation stage.
Use	Use stage electricity is modeled using an average North American grid mix dataset (market group for electricity, medium voltage {RNA}).
End of Life	No energy consumption occurs during the end-of-life stage.
Benefits and loads beyond the system boundaries	End of life benefits consider average North American electricity (market group for electricity, medium voltage {RNA}).

Environmental Impacts

Results are given per functional unit (transfer 1 m³ of air per hour) and per device (one TCFS unit). Obtain results per CFM by dividing the results per device by 24,000 (nominal airflow of this TCFS unit in CFM) or multiplying the results per functional unit by 1.699 (conversion factor from m³/h to CFM).

EN 15804 + A2 Environmental Impact Indicators, per m ³ /h corresponding to the functional unit										
		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Climate change - total	GWP	1.01E+02	kg CO2 eq	8.52E+00	1.80E-01	1.03E-02	8.87E-01	9.14E+01	4.21E-01	-1.98E+00
Climate change - fossil fuels	GWPf	1.00E+02	kg CO2 eq	8.55E+00	1.80E-01	1.03E-02	8.27E-01	9.06E+01	2.08E-01	-1.96E+00
Climate change - biogenics	GWPb	7.63E-01	kg CO2 eq	-6.41E-02	2.09E-05	1.23E-06	5.91E-02	5.55E-01	2.13E-01	-4.76E-03
Climate change - land use and land use transformation	GWPlu	3.08E-01	kg CO2 eq	3.23E-02	5.18E-06	3.02E-07	6.46E-04	2.75E-01	2.08E-05	-1.13E-02
Ozone depletion	ODP	1.51E-06	kg CFC-11 eq	1.34E-07	2.38E-09	1.39E-10	8.93E-07	4.83E-07	1.97E-09	-1.29E-08
Acidification	AP	3.38E-01	mole of H+ eq	9.40E-02	4.71E-04	2.88E-05	4.32E-03	2.39E-01	5.47E-04	-3.78E-02
Eutrophication, freshwater	Epf	6.98E-03	kg P eq	6.96E-04	4.38E-07	2.38E-08	3.62E-05	6.24E-03	4.99E-06	-1.31E-04
Eutrophication, marine aquatic	Epm	4.67E-02	kg of N eq	9.32E-03	1.70E-04	1.07E-05	7.21E-04	3.60E-02	4.49E-04	-2.44E-03
Eutrophication, terrestrial	Ept	5.28E-01	mole of N eq	1.11E-01	1.86E-03	1.18E-04	7.84E-03	4.06E-01	1.96E-03	-3.04E-02
Photochemical ozone formation	POCP	2.08E-01	kg NMVOC eq	3.70E-02	7.03E-04	4.36E-05	2.83E-03	1.67E-01	7.41E-04	-1.01E-02
Abiotic resource depletion – elements	ADPe	7.87E-04	kg Sb eq	7.70E-04	1.05E-08	5.89E-10	1.22E-05	4.53E-06	4.32E-07	-3.67E-04
Abiotic resource depletion – fossil fuels	ADPf	1.85E+03	MJ	1.01E+02	2.37E+00	1.36E-01	1.16E+01	1.73E+03	1.95E+00	-2.04E+01
Water use	WU	2.54E+01	m3 world eq	3.19E+00	2.18E-03	1.24E-04	1.28E-01	2.21E+01	-5.62E-02	-6.73E-01

Notes: characterization factors use the -1/+1 biogenic carbon storage assessment methodology

Inventory Flow Indicators, per m³/h corresponding to the functional unit

		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	PERE	2.62E+02	MJ	2.05E+01	3.80E-03	2.25E-04	9.19E-01	2.41E+02	3.29E-02	-6.37E+00
Use of renewable primary energy resources used as raw materials	PERM	1.29E+00	MJ	1.29E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.39E-02
Total use of renewable primary energy resources	PERT	2.65E+02	MJ	2.31E+01	3.80E-03	2.25E-04	9.19E-01	2.41E+02	3.29E-02	-6.40E+00
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	PENRM	3.83E+00	MJ	3.83E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.91E-01
Use of non-renewable primary energy resources used as raw materials	PENRE	1.84E+03	MJ	9.72E+01	2.37E+00	1.36E-01	1.16E+01	1.73E+03	1.95E+00	-2.02E+01
Total use of non-renewable primary energy resources	PENRT	1.85E+03	MJ	1.05E+02	2.37E+00	1.36E-01	1.16E+01	1.73E+03	1.95E+00	-2.06E+01
Use of secondary materials	USM	7.15E-01	kg	7.15E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	URSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	UNRSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	NUFW	1.20E+00	m ³	1.23E-01	7.95E-05	4.53E-06	4.59E-03	1.07E+00	-1.24E-03	-3.46E-02
Hazardous waste disposed	HWD	7.65E-02	kg	3.83E-03	1.92E-05	1.10E-06	1.32E-02	4.49E-02	1.45E-02	-1.64E-04
Non-hazardous waste disposed	NHWD	3.61E+00	kg	1.28E+00	9.83E-05	5.49E-06	7.19E-02	8.60E-01	1.40E+00	-4.24E-02
Radioactive waste disposed	RWD	9.80E-03	kg	1.29E-04	8.51E-08	5.05E-09	1.79E-05	9.65E-03	4.00E-07	-2.11E-05
Components for re-use	CRU	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	2.19E+00	kg	1.13E+00	0.00E+00	0.00E+00	4.61E-02	0.00E+00	1.01E+00	0.00E+00
Materials for energy recovery	MER	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	EE	1.90E-01	MJ	0.00E+00	0.00E+00	0.00E+00	2.06E-03	0.00E+00	1.88E-01	0.00E+00
Biogenic carbon content in the product	BCC	6.36E-04	kg C	6.36E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.32E-04
Biogenic carbon content in accompanying packaging	BCCP	0.00E+00	kg C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TRACI 2.1 Environmental Impact Indicators, per m³/h corresponding to the functional unit

		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Ozone depletion	OD	1.84E-06	kg CFC-11 eq	2.73E-08	1.47E-10	8.03E-07	1.02E-06	1.58E-09	-1.71E-08	-8.59E-10
Global warming	GW	9.14E+01	kg CO ₂ eq	2.21E+00	1.02E-02	8.20E-01	9.00E+01	1.11E-01	-1.73E+00	-8.01E-02
Smog	SG	2.23E+00	kg O ₃ eq	7.90E-02	6.84E-04	4.42E-02	2.24E+00	6.77E-03	-1.47E-01	-6.91E-03
Acidification	A	1.83E-01	kg SO ₂ eq	6.72E-03	2.60E-05	3.67E-03	2.02E-01	2.66E-04	-2.97E-02	-1.59E-03
Eutrophication	E	5.20E-02	kg N eq	2.11E-03	1.76E-06	4.22E-04	5.04E-02	1.81E-05	-1.01E-03	-7.47E-05
Carcinogenics	C	7.52E-08	CTUh	1.23E-08	7.72E-12	9.71E-09	2.45E-07	8.12E-11	-1.92E-07	-4.00E-09
Non carcinogenics	NC	1.90E-06	CTUh	2.09E-07	1.49E-09	1.15E-07	3.63E-06	1.77E-08	-2.07E-06	-1.37E-07
Respiratory effects	RE	1.44E-01	kg PM _{2.5} eq	7.09E-03	4.15E-06	8.06E-04	1.40E-01	4.51E-05	-4.41E-03	-2.12E-04
Ecotoxicity	EX	6.03E+00	CTUe	9.80E-01	3.09E-02	2.01E+00	1.29E+01	3.68E-01	-1.02E+01	-7.10E-01
Fossil fuel depletion	FFD	1.11E+02	MJ surplus	2.26E+00	1.92E-02	9.89E-01	1.09E+02	2.09E-01	-1.36E+00	-5.82E-02

EN 15804 + A2 Environmental Impact Indicators, per device corresponding to the reference product										
		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Climate change - total	GWP	8.62E+05	kg CO2 eq	7.24E+04	1.53E+03	8.76E+01	7.53E+03	7.76E+05	3.58E+03	-1.68E+04
Climate change - fossil fuels	GWPF	8.52E+05	kg CO2 eq	7.26E+04	1.53E+03	8.76E+01	7.03E+03	7.69E+05	1.77E+03	-1.67E+04
Climate change - biogenics	GWpB	6.48E+03	kg CO2 eq	-5.45E+02	1.78E-01	1.05E-02	5.02E+02	4.72E+03	1.81E+03	-4.04E+01
Climate change - land use and land use transformation	GWPlu	2.62E+03	kg CO2 eq	2.75E+02	4.40E-02	2.56E-03	5.49E+00	2.34E+03	1.77E-01	-9.64E+01
Ozone depletion	ODP	1.29E-02	kg CFC-11 eq	1.14E-03	2.02E-05	1.18E-06	7.59E-03	4.11E-03	1.67E-05	-1.10E-04
Acidification	AP	2.87E+03	mole of H+ eq	7.98E+02	4.01E+00	2.45E-01	3.67E+01	2.03E+03	4.64E+00	-3.21E+02
Eutrophication, freshwater	Epf	5.93E+01	kg P eq	5.91E+00	3.72E-03	2.02E-04	3.07E-01	5.30E+01	4.24E-02	-1.12E+00
Eutrophication, marine aquatic	Epm	3.97E+02	kg of N eq	7.91E+01	1.44E+00	9.12E-02	6.13E+00	3.06E+02	3.82E+00	-2.07E+01
Eutrophication, terrestrial	Ept	4.49E+03	mole of N eq	9.39E+02	1.58E+01	1.00E+00	6.66E+01	3.45E+03	1.67E+01	-2.58E+02
Photochemical ozone formation	POCP	1.77E+03	kg NMVOC eq	3.14E+02	5.97E+00	3.70E-01	2.40E+01	1.42E+03	6.29E+00	-8.61E+01
Abiotic resource depletion – elements	ADPe	6.69E+00	kg Sb eq	6.54E+00	8.93E-05	5.00E-06	1.04E-01	3.84E-02	3.67E-03	-3.12E+00
Abiotic resource depletion – fossil fuels	ADPf	1.57E+07	MJ	8.59E+05	2.01E+04	1.15E+03	9.86E+04	1.47E+07	1.66E+04	-1.73E+05
Water use	WU	2.15E+05	m3 world eq	2.71E+04	1.85E+01	1.05E+00	1.09E+03	1.88E+05	-4.77E+02	-5.72E+03

Note: characterization factors use the -1/+1 biogenic carbon storage assessment methodology

Inventory Flow Indicators, per device corresponding to the reference product

		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	PERE	2.23E+06	MJ	1.74E+05	3.23E+01	1.91E+00	7.81E+03	2.04E+06	2.80E+02	-5.41E+04
Use of renewable primary energy resources used as raw materials	PERM	1.09E+04	MJ	1.09E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.18E+02
Total use of renewable primary energy resources	PERT	2.25E+06	MJ	1.96E+05	3.23E+01	1.91E+00	7.81E+03	2.04E+06	2.80E+02	-5.43E+04
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	PENRM	3.25E+04	MJ	3.25E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.62E+03
Use of non-renewable primary energy resources used as raw materials	PENRE	1.57E+07	MJ	8.26E+05	2.01E+04	1.15E+03	9.86E+04	1.47E+07	1.66E+04	-1.71E+05
Total use of non-renewable primary energy resources	PENRT	1.57E+07	MJ	8.91E+05	2.01E+04	1.15E+03	9.86E+04	1.47E+07	1.66E+04	-1.75E+05
Use of secondary materials	USM	6.07E+03	kg	6.07E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	URSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	UNRSF	0.00E+00	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	NUFW	1.02E+04	m3	1.04E+03	6.75E-01	3.85E-02	3.90E+01	9.13E+03	-1.06E+01	-2.94E+02
Hazardous waste disposed	HWD	6.50E+02	kg	3.25E+01	1.63E-01	9.31E-03	1.13E+02	3.81E+02	1.24E+02	-1.40E+00
Non-hazardous waste disposed	NHWD	3.06E+04	kg	1.09E+04	8.35E-01	4.66E-02	6.11E+02	7.31E+03	1.19E+04	-3.60E+02
Radioactive waste disposed	RWD	8.32E+01	kg	1.10E+00	7.23E-04	4.29E-05	1.52E-01	8.20E+01	3.40E-03	-1.79E-01
Components for re-use	CRU	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	MFR	1.86E+04	kg	9.57E+03	0.00E+00	0.00E+00	3.91E+02	0.00E+00	8.62E+03	0.00E+00
Materials for energy recovery	MER	0.00E+00	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	EE	1.61E+03	kg	0.00E+00	0.00E+00	0.00E+00	1.75E+01	0.00E+00	1.60E+03	0.00E+00
Biogenic carbon content in the product	BCC	5.40E+00	kg C	5.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.67E+00
Biogenic carbon content in accompanying packaging	BCCP	0.00E+00	kg C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TRACI 2.1 Environmental Impact Indicators, per device corresponding to the reference product

		Total Life Cycle Impacts (Excluding Module D)		Manufacturing A1-A3	Distribution A4	Installation A5	Maintenance B2	Operational Energy Use B6	End of Life C1-C4	Module D
Ozone depletion	OD	1.56E-02	kg CFC-11 eq	2.32E-04	1.25E-06	6.82E-03	8.68E-03	1.34E-05	-1.45E-04	-7.30E-06
Global warming	GW	7.77E+05	kg CO2 eq	1.88E+04	8.66E+01	6.97E+03	7.64E+05	9.46E+02	-1.47E+04	-6.80E+02
Smog	SG	1.89E+04	kg O3 eq	6.71E+02	5.81E+00	3.75E+02	1.90E+04	5.75E+01	-1.25E+03	-5.87E+01
Acidification	A	1.56E+03	kg SO2 eq	5.71E+01	2.21E-01	3.11E+01	1.72E+03	2.26E+00	-2.52E+02	-1.35E+01
Eutrophication	E	4.42E+02	kg N eq	1.79E+01	1.50E-02	3.59E+00	4.28E+02	1.54E-01	-8.57E+00	-6.35E-01
Carcinogenics	C	6.39E-04	CTUh	1.04E-04	6.56E-08	8.25E-05	2.08E-03	6.90E-07	-1.63E-03	-3.40E-05
Non carcinogenics	NC	1.62E-02	CTUh	1.78E-03	1.27E-05	9.81E-04	3.08E-02	1.50E-04	-1.76E-02	-1.16E-03
Respiratory effects	RE	1.22E+03	kg PM2.5 eq	6.03E+01	3.52E-02	6.85E+00	1.19E+03	3.83E-01	-3.75E+01	-1.80E+00
Ecotoxicity	EX	5.13E+04	CTUe	8.33E+03	2.62E+02	1.71E+04	1.09E+05	3.13E+03	-8.69E+04	-6.04E+03
Fossil fuel depletion	FFD	9.42E+05	MJ surplus	1.92E+04	1.63E+02	8.40E+03	9.24E+05	1.78E+03	-1.15E+04	-4.94E+02

Comparability

EPDs published within the same product category, though originating from different programs, may not be comparable. Full conformance with a PCR allows PEP comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible.

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Date of issue: 2-2026	Validity period: 5 years
Independent verification of the declaration and data in compliance with ISO 14025:2006	
Internal:	External: <input checked="" type="checkbox"/>
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)	
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019	
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"	



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