epddanmark

ECO PLATFORM EPD VERIFIED

Owner:	Nilan A/S
No.:	MD-24090-EN_rev1
Issued:	27-08-2024
Revised:	22-10-2024
Valid to:	27-08-2029

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**

Owner of declaration
Nilan A/S
Nilanvej 2
DK-8722 Hedensted
CVR: 11 77 33 97

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
The declared products are listed below

- Comfort CT150
- Comfort CT500
- Comfort 200 TOP
- Comfort 350 Top
- Comfort 350L
- Comfort 300LR
- Comfort 450
- Comfort 600

Number of declared datasets/product variations: 8

Production site
The data for the LCA are based on aggregated yearly averages for the manufacture of ventilation units for buildings, assembled at the production facility of Nilan A/S at Hedensted in Denmark.

Product(s) use
This EPD is applicable for Nilans Comfort series which are ventilation Units (VU) in form of Bidirectional Ventilation Unit (BVU) of the type "Residential Ventilation Unit" (RVU), for connection to duct systems. The ventilation system features a highly efficient passive heat recovery mechanism through counterflow heat exchangers. The primary function of this ventilation unit in buildings is to guide incoming air through the air vents, ensuring a healthy and comfortable indoor climate by replacing stale indoor air with fresh outdoor air.

Declared/ functional unit
1 pc of ventilation unit

Year of production site data (A3)
The financial year 2022/2023 collected in the period 2024

EPD version
2: Corrected coating scaling errors affecting A1 results

Issued: 27-08-2024
Valid to: 27-08-2029

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:

Kim Christiansen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)

Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Product information

Product description

The declared products are small Air Handling Units (AHU) also called Ventilation Units (VU) or Bidirectional Ventilation Units (BVU) declared as Residential Ventilation Units (RVU's) according to COMMISSION REGULATION (EU) No 1253 and (EU) No 1254 for duct connections with an airflow of maximum 1000 m3/h (according to EN 13141-7 ducted mechanical supply and exhaust residential ventilation units).

The main product components are shown in the table below for each product.

Material	Comfort CT150	Comfort CT500	Comfort 200 TOP	Comfort 350 Top	Comfort 350L	Comfort 300LR	Comfort 450	Comfort 600
Unit	Weight% of declared product							
Adhesive	0.17	0.10	0.12	0.18	0.22	0.15	0.11	0.02
Aluminium	0.28	0.30	0.21	0.27	0.27	0.34	0.03	0.00
Brass	0.40	0.47	0.35	0.36	0.41	0.53	0.05	0.03
Copper	0.41	0.45	0.53	0.37	0.40	0.54	0.00	0.04
Electronics	4.23	3.33	3.60	4.00	4.81	4.06	1.51	1.17
Insulation	0.00	0.00	0.00	0.00	0.00	4.43	0.00	3.82
Plastic	19.15	19.99	17.82	26.10	27.85	16.93	11.10	14.50
Rubber	0.24	0.50	0.40	0.03	0.04	0.32	0.38	0.37
Stainless steel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Steel	75.11	74.84	76.97	68.69	66.00	72.70	86.81	80.02
Sum	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

The Comfort series are intended for use in HVAC (Heating, Ventilation and Air-Conditioning) systems for both residential and non-residential applications, as the key component in the HVAC-system responsible for the movement and conditioning of air to and from the conditioned space in the building.

The air flows varies between 168 and 800 m^3/hr between the products.

The reference point of the VU's are according to Ecodesign 1253 and 1254 the 'reference flow rate' (expressed in m3/s) which is "the abscissa value to a point on a curve in the flow rate/pressure diagram which is on or closest to a reference point at 70 % at least of the maximum flow rate and 50 Pa for ducted units. In contrast to the product definitions given in Ecodesign 1253 and 1254, all parts needed for a fully functional unit are included in this EPD (Ecodesign definitions of an RVU only covers casing, fans, bypass and control (CTRL). Other parts are not part of the definition, however supplementary HRS and filters are part of the definition if these are present.).

The full equipping of the BVU in this EPD includes parts such as casing and frame (incl. insulation), extract and supply air fans incl. motor, supply and extract air filter, heat recovery (HRS), controls, bypass, droplet eliminator, drip tray and condensation drain, control, sensors and cables including PM control, dampers on in and outlet if present and assembly parts, screws, sealant and sealing strips, locks and door hinges etc.

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Material	**Weight-% of packaging**
Corrugated board	6.8%
PE film	2.7%
Steel strips	3.2%
Wooden pallets	87.3%

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of ventilation units on the production site located in Hedensted. Product specific data are based on product specific material composition and annual company data related to waste and energy consumption for the financial year 2022/2023 collected in the period 2024.

Background data are based on the LCA for Experts LCA software and are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Hazardous substances

The BVU's do not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

The BVU's are covered by technical specifications in the production standard: EN13141-7 and EN 13142. For the EPD it follows EN 15804 version A2: 2019 and NPCR 030:2021 Part B for ventilations components - version 1.1.

Additionally, the VU's comply with the following EU directives:
- 1907/2006/EC REACH-Regulation
- 2009/125/EC Eco Design-directive
- 2011/65/EU RoHS-directive (Restriction of hazardous substances)
- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC-directive
- 2014/53/EU Radio Equipment Directive (RED)

Declaration of performance according to EU regulation 2009/125/EC - ecodesign requirements for ventilation units is available for all declared product variations.

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://www.nilan.dk/produkter/ventilation

Reference Service Life (RSL)

The lifetime of the BVU covered by this EPD is estimated to be 25 years, based on BUILD Report 2021:32 by Department of the Built Environment (Aalborg Universitet).

Picture of products and specifications for each variant

Product variant	**Description**	**Suitable for building types:**	**Airflow**
Comfort CT150 	Comfort CT150 can be installed outside the climate screen, but due to the low sound level, it is suitable for installation inside the home. The compact product makes it suitable for new built and refurbished of smaller building areas, where the space for the ventilation unit is limited and easy installation is desired. With its low power consumption and high heat recovery, the Comfort CT150 has achieved the highest energy label A+. Comfort CT150 has been certified in accordance with the German PassivHaus Institute for energy friendly products.	Designed for the small apartment or the dormitory, as well as small apartments, terraced houses and summer houses.	Max : 168 m3/h
Comfort CT500	Comfort CT500 has good insulation, so it can be installed outside the climate screen if desired. With Comfort CT500's low energy consumption, the unit achieves energy label A.	Designed for large single-family houses with a ventilation requirement of up to 500 m3/h.	Max : 500 m3/h

	Comfort CT 500 is delivered tested and ready for operation. Installation and commissioning must be carried out by an authorized electrical installer.		
Comfort 200 TOP 	The unit is typically installed in the home within the climate shield, but the good insulation means that it can also be installed outside the climate shield. Comfort 200 Top size makes it very useful in renovation projects where there is often a lack of space. The low power consumption and the high heat recovery mean that the Comfort 200 Top achieves energy label A.	Designed for renovation projects in apartments and terraced houses.	Max : 308 m3/h
Comfort 350 Top 	Comfort 350 Top is a ventilation system with compact installation dimensions, which means that it can be installed in a 60 cm wide cabinet. Comfort 350 Top is designed so that it achieves low power consumption and high heat recovery. This combination means that it achieves energy label A.	Designed for homes and smaller commercial buildings with a ventilation requirement of up to 372 m^3/h.	Max : 372 m3/h
Comfort 350L 	Comfort 350L is designed so that it achieves low power consumption and high heat recovery. This combination means that it achieves energy label A.	Designed for renovation projects and new construction with a ventilation requirement of up to 372 m^3/h.	Max : 372 m3/h
Comfort 300LR	Comfort 300LR ensures a good indoor climate in the home and at the same time ensures a low	Designed for single-family	Max : 400 m3/h

	heat loss due to the highly efficient countercurrent exchanger and therefore achieves a nice energy label A.	houses or terraced houses.	
Comfort 450 	Comfort 450 is a well-tested unit that has been produced for more than 15 years with ongoing updates, where emphasis is placed on low energy consumption, and it therefore achieves a nice energy label A.	Designed for larger homes or smaller commercial buildings.	Max : 525 m3/h
Comfort 600 	Comfort 600 id equipped with a highly efficient counter-flow heat exchanger that ensures high heat recovery. The Comfort 600 is also equipped with two energy-friendly fans with EC motors that ensure low power consumption. Lastly, it is equipped with a bypass damper that directs some of the air past the heat exchange during the periods when heat recovery is not required. This results in a lower pressure loss in the aggregate, which result in a lower power consumption during those periods.	Designed for smaller commercial buildings or central ventilation in apartments.	Max : 800 m3/h

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 piece of BVU from the Comfort series.

Name	Comfort CT150	Comfort CT500	Comfort 200 TOP	Comfort 350 Top	Comfort 350L	Comfort 300LR	Comfort 450	Comfort 600	Unit
Declared unit	1	1	1	1	1	1	1	1	pc
Mass	32.8	72.0	43.0	37.8	34.4	55.9	72.5	124.4	Kg/pc
Conversion factor to 1 kg	0.0305	0.0139	0.0232	0.0264	0.0291	0.0179	0.0138	0.0080	kg

Functional unit

The functional unit is not defined as the use stages B1-B7 are not declared

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804 version A2:2019 as well as the NPCR 030:2021 Part B for ventilation components - version 1.1

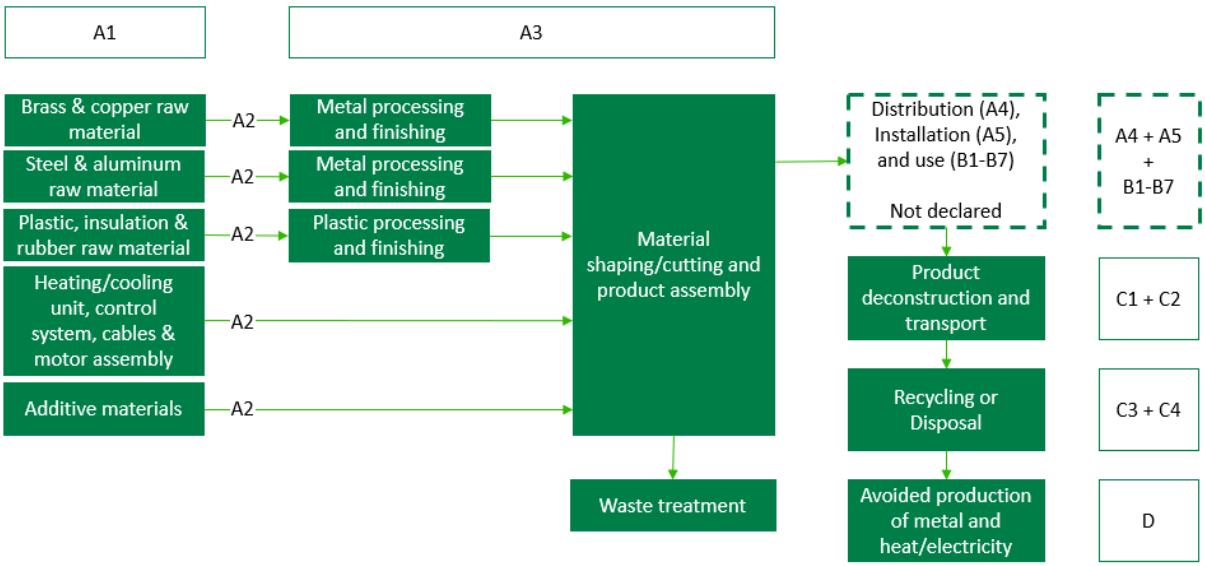
Guarantee of Origin – certificates

Foreground system:
No guarantees of origin or certificated are used for green electricity or energy in the production phase in the foreground system.

Background system:
For modelling energy production, the country specific residual mix is used, in accordance with the recommendations from EPD Denmark

Flowdiagram

The process diagram below represents the life cycle of a Comfort Series BVU product from Nilan A/S.



System boundary

This EPD is based on a cradle-to-gate LCA with modules C1-C4 and D, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal. The LCA results are declared in aggregated form for the product stage, which means, that the sub-modules A1, A2 and A3 are declared as one module A1-A3.

The production of the ventilation units are equal for each respective model, hence there are not a variation in the dimensions per product model. Initially, the frames are cut and assembled with a machine that runs on electricity. Then manually components are inserted into the unit, while electronics are wired in another area at the factory and later put together with the remaining product parts. Lastly all products undergo quality inspection and are then led to the packaging station, where they are stacked on pallets either as singular products or multiple on the same pallet. The products are secured on the pallets with cardboard. The amount of product on pallets and cardboard wrapping depends on each product and order.

Construction process stage (A4-A5) includes:

Installation on construction site is not included in this EPD.

The transport from Nilan to the construction site, is included with a default distance of 300 km modelled as road transport, as defined in the NPCR 030:2021 Part B for ventilation components - version 1.1.

Use stage (B1-B7) includes:

The use phase has not been included in this EPD.

For more specifications on the use stage, planning data, Ecodesign etc., visit the manufacturers website:

https://www.nilan.dk/produkter/ventilation

End of Life (C1-C4) includes:

The ventilation units are assumed disposed of in Denmark. The ventilation units are assumed dismantled using hand tools (C1) and transported 50 km to a local recycling (C2).

The product is then dismantled in an industrial shredder assuming average recovery of materials (C3). The fluff sorted from the shredded metal is landfilled (C4).

Re-use, recovery and recycling potential (D) includes:

The recycled metals are credited an avoided production of primary steel, aluminium, copper, brass and other motor components.

LCA results

LCA results for Comfort CT150

ENVIRONMENTAL IMPACTS PER pc Comfort CT150								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	1,49E+02	9,84E-01	0,00E+00	1,38E-01	1,50E+00	4,31E-01	-3,56E+01
GWP-fossil	[kg CO_2 eq.]	1,47E+02	9,73E-01	0,00E+00	1,36E-01	1,49E+00	4,37E-01	-3,58E+01
GWP-biogenic	[kg CO_2 eq.]	2,02E+00	2,23E-03	0,00E+00	3,00E-04	7,12E-03	-6,62E-03	2,02E-01
GWP-luluc	[kg CO_2 eq.]	7,81E-02	9,15E-03	0,00E+00	1,28E-03	2,87E-04	4,90E-04	-8,05E-03
ODP	[kg CFC 11 eq.]	5,44E-07	1,28E-13	0,00E+00	1,80E-14	2,11E-11	7,87E-13	3,95E-11
AP	[mol H^+ eq.]	5,86E-01	1,53E-03	0,00E+00	2,03E-04	2,14E-03	1,55E-03	-1,04E-01
EP-freshwater	[kg P eq.]	3,27E-04	3,61E-06	0,00E+00	5,05E-07	3,62E-06	7,39E-05	-1,04E-05
EP-marine	[kg N eq.]	1,01E-01	5,69E-04	0,00E+00	7,38E-05	6,71E-04	3,66E-04	-1,49E-02
EP-terrestrial	[mol N eq.]	1,09E+00	6,70E-03	0,00E+00	8,74E-04	7,10E-03	4,02E-03	-1,37E-01
POCP	[kg NMVOC eq.]	3,63E-01	1,35E-03	0,00E+00	1,78E-04	1,75E-03	1,15E-03	-5,93E-02
ADPm[1]	[kg Sb eq.]	8,64E-03	6,55E-08	0,00E+00	9,15E-09	3,41E-07	1,27E-08	-1,01E-03
ADPf[1]	[MJ]	2,00E+03	1,35E+01	0,00E+00	1,88E+00	2,38E+01	6,47E+00	-3,59E+02
WDP[1]	[m^3 world eq. deprived]	1,27E+01	1,19E-02	0,00E+00	1,67E-03	8,28E-02	7,60E-04	-3,00E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort CT150								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	7,57E-06	1,29E-08	0,00E+00	1,75E-09	1,74E-08	1,60E-08	-9,63E-07
IRP[2]	[kBq U235 eq.]	6,20E+00	3,77E-03	0,00E+00	5,27E-04	4,11E-01	1,10E-02	5,57E-01
ETP-fw[1]	[CTUe]	6,56E+02	9,64E+00	0,00E+00	1,35E+00	4,71E+00	5,29E+00	-3,22E+01
HTP-c[1]	[CTUh]	7,01E-07	1,96E-10	0,00E+00	2,73E-11	5,45E-10	3,13E-10	1,21E-08
HTP-nc[1]	[CTUh]	2,11E-06	8,70E-09	0,00E+00	1,22E-09	6,66E-09	2,66E-08	2,28E-08
SQP[1]	-	1,22E+03	5,62E+00	0,00E+00	7,86E-01	6,57E+00	6,77E-01	-1,70E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort CT150								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	2,83E+02	9,79E-01	0,00E+00	1,37E-01	8,78E+00	6,38E-01	5,55E+00
PERM	[MJ]	3,86E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	3,21E+02	9,79E-01	0,00E+00	1,37E-01	8,78E+00	6,38E-01	5,55E+00
PENRE	[MJ]	1,81E+03	1,35E+01	0,00E+00	1,89E+00	2,38E+01	6,47E+00	-3,59E+02
PENRM	[MJ]	1,96E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	2,01E+03	1,35E+01	0,00E+00	1,89E+00	2,38E+01	6,47E+00	-3,59E+02
SM	[kg]	6,39E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	2,82E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,31E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	5,30E-01	1,07E-03	0,00E+00	1,50E-04	6,32E-03	2,45E-04	-3,41E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort CT150								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	1,66E-05	4,18E-11	0,00E+00	5,84E-12	1,73E-09	4,98E-10	-2,49E-06
NHWD	[kg]	4,66E+00	2,06E-03	0,00E+00	2,88E-04	2,20E-02	9,29E+00	4,12E+00
RWD	[kg]	5,37E-02	2,53E-05	0,00E+00	3,53E-06	2,99E-03	7,63E-05	-8,74E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	6,02E+00	0,00E+00	0,00E+00	0,00E+00	2,33E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort CT150		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	1,88E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort CT500

ENVIRONMENTAL IMPACTS PER pc Comfort CT500								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	3,92E+02	2,16E+00	0,00E+00	3,03E-01	3,18E+00	1,02E+00	-8,50E+01
GWP-fossil	[kg CO_2 eq.]	3,87E+02	2,14E+00	0,00E+00	3,00E-01	3,16E+00	1,04E+00	-8,55E+01
GWP-biogenic	[kg CO_2 eq.]	4,50E+00	4,91E-03	0,00E+00	6,59E-04	1,59E-02	-1,46E-02	4,85E-01
GWP-luluc	[kg CO_2 eq.]	1,99E-01	2,01E-02	0,00E+00	2,81E-03	6,34E-04	1,05E-03	-1,83E-02
ODP	[kg CFC 11 eq.]	1,90E-05	2,82E-13	0,00E+00	3,95E-14	4,64E-11	1,82E-12	9,67E-11
AP	[mol H^+ eq.]	1,63E+00	3,37E-03	0,00E+00	4,47E-04	4,54E-03	3,47E-03	-2,44E-01
EP-freshwater	[kg P eq.]	2,11E-03	7,93E-06	0,00E+00	1,11E-06	8,00E-06	1,85E-04	-2,42E-05
EP-marine	[kg N eq.]	2,74E-01	1,25E-03	0,00E+00	1,62E-04	1,42E-03	8,12E-04	-3,55E-02
EP-terrestrial	[mol N eq.]	2,93E+00	1,47E-02	0,00E+00	1,92E-03	1,50E-02	8,92E-03	-3,24E-01
POCP	[kg NMVOC eq.]	8,83E-01	2,97E-03	0,00E+00	3,92E-04	3,69E-03	2,55E-03	-1,41E-01
ADPm[1]	[kg Sb eq.]	2,43E-02	1,44E-07	0,00E+00	2,01E-08	7,60E-07	2,92E-08	-2,15E-03
ADPf[1]	[MJ]	5,28E+03	2,96E+01	0,00E+00	4,13E+00	5,03E+01	1,54E+01	-8,57E+02
WDP[1]	[m^3 world eq. deprived]	3,43E+01	2,62E-02	0,00E+00	3,66E-03	1,75E-01	-4,33E-03	-6,97E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort CT500								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	2,07E-05	2,84E-08	0,00E+00	3,85E-09	3,71E-08	3,52E-08	-2,26E-06
IRP[2]	[kBq U235 eq.]	1,76E+01	8,28E-03	0,00E+00	1,16E-03	8,69E-01	2,65E-02	1,33E+00
ETP-fw[1]	[CTUe]	1,72E+03	2,12E+01	0,00E+00	2,96E+00	1,02E+01	1,28E+01	-7,21E+01
HTP-c[1]	[CTUh]	4,31E-07	4,30E-10	0,00E+00	6,00E-11	1,20E-09	7,20E-10	2,95E-08
HTP-nc[1]	[CTUh]	5,44E-06	1,91E-08	0,00E+00	2,67E-09	1,45E-08	5,99E-08	7,89E-08
SQP[1]	-	3,20E+03	1,24E+01	0,00E+00	1,73E+00	1,44E+01	1,51E+00	-3,70E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort CT500								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	6,83E+02	2,15E+00	0,00E+00	3,01E-01	1,94E+01	1,47E+00	1,44E+01
PERM	[MJ]	1,16E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	7,99E+02	2,15E+00	0,00E+00	3,01E-01	1,94E+01	1,47E+00	1,44E+01
PENRE	[MJ]	4,86E+03	2,97E+01	0,00E+00	4,15E+00	5,03E+01	1,54E+01	-8,57E+02
PENRM	[MJ]	4,40E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	5,30E+03	2,97E+01	0,00E+00	4,15E+00	5,03E+01	1,54E+01	-8,57E+02
SM	[kg]	1,38E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	3,27E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,84E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	1,39E+00	2,36E-03	0,00E+00	3,29E-04	1,36E-02	4,23E-04	-8,18E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort CT500								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	3,90E-05	9,19E-11	0,00E+00	1,28E-11	3,75E-09	1,23E-09	-5,98E-06
NHWD	[kg]	1,19E+01	4,52E-03	0,00E+00	6,32E-04	4,74E-02	1,95E+01	1,00E+01
RWD	[kg]	1,50E-01	5,55E-05	0,00E+00	7,76E-06	6,36E-03	1,82E-04	-2,03E-03
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,53E+01	0,00E+00	0,00E+00	0,00E+00	5,21E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort CT500		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	4,00E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort 200TOP

ENVIRONMENTAL IMPACTS PER pc Comfort 200TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	1,89E+02	1,29E+00	0,00E+00	1,81E-01	1,98E+00	5,38E-01	-4,92E+01
GWP-fossil	[kg CO_2 eq.]	1,85E+02	1,27E+00	0,00E+00	1,79E-01	1,97E+00	5,45E-01	-4,94E+01
GWP-biogenic	[kg CO_2 eq.]	3,50E+00	2,93E-03	0,00E+00	3,93E-04	9,59E-03	-8,10E-03	2,83E-01
GWP-luluc	[kg CO_2 eq.]	1,01E-01	1,20E-02	0,00E+00	1,68E-03	3,85E-04	5,95E-04	-1,13E-02
ODP	[kg CFC 11 eq.]	1,69E-05	1,68E-13	0,00E+00	2,35E-14	2,82E-11	9,75E-13	5,59E-11
AP	[mol H^+ eq.]	6,81E-01	2,01E-03	0,00E+00	2,67E-04	2,83E-03	1,90E-03	-1,44E-01
EP-freshwater	[kg P eq.]	1,58E-03	4,73E-06	0,00E+00	6,61E-07	4,85E-06	9,34E-05	-1,43E-05
EP-marine	[kg N eq.]	1,26E-01	7,46E-04	0,00E+00	9,67E-05	8,87E-04	4,49E-04	-2,05E-02
EP-terrestrial	[mol N eq.]	1,34E+00	8,79E-03	0,00E+00	1,15E-03	9,38E-03	4,93E-03	-1,88E-01
POCP	[kg NMVOC eq.]	4,13E-01	1,77E-03	0,00E+00	2,34E-04	2,31E-03	1,41E-03	-8,19E-02
ADPm[1]	[kg Sb eq.]	9,46E-03	8,58E-08	0,00E+00	1,20E-08	4,59E-07	1,57E-08	-1,43E-03
ADPf[1]	[MJ]	2,46E+03	1,76E+01	0,00E+00	2,46E+00	3,13E+01	8,07E+00	-4,94E+02
WDP[1]	[m^3 world eq. deprived]	1,47E+01	1,56E-02	0,00E+00	2,19E-03	1,10E-01	8,88E-05	-4,17E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort 200TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	9,71E-06	1,69E-08	0,00E+00	2,30E-09	2,30E-08	1,96E-08	-1,33E-06
IRP[2]	[kBq U235 eq.]	8,13E+00	4,94E-03	0,00E+00	6,90E-04	5,40E-01	1,38E-02	8,94E-01
ETP-fw[1]	[CTUe]	7,34E+02	1,26E+01	0,00E+00	1,77E+00	6,26E+00	6,63E+00	-4,27E+01
HTP-c[1]	[CTUh]	5,64E-07	2,56E-10	0,00E+00	3,58E-11	7,31E-10	3,87E-10	1,71E-08
HTP-nc[1]	[CTUh]	2,71E-06	1,14E-08	0,00E+00	1,59E-09	8,87E-09	3,28E-08	4,15E-08
SQP[1]	-	2,43E+03	7,37E+00	0,00E+00	1,03E+00	8,78E+00	8,31E-01	-2,36E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort 200TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3,35E+02	1,28E+00	0,00E+00	1,79E-01	1,18E+01	7,90E-01	1,00E+01
PERM	[MJ]	1,16E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,51E+02	1,28E+00	0,00E+00	1,79E-01	1,18E+01	7,90E-01	1,00E+01
PENRE	[MJ]	2,27E+03	1,77E+01	0,00E+00	2,47E+00	3,13E+01	8,08E+00	-4,94E+02
PENRM	[MJ]	2,08E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	2,47E+03	1,77E+01	0,00E+00	2,47E+00	3,13E+01	8,08E+00	-4,94E+02
SM	[kg]	8,04E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	2,98E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,50E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	6,44E-01	1,41E-03	0,00E+00	1,96E-04	8,40E-03	2,84E-04	-4,75E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort 200TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	1,64E-05	5,48E-11	0,00E+00	7,66E-12	2,30E-09	6,28E-10	-3,48E-06
NHWD	[kg]	5,75E+00	2,70E-03	0,00E+00	3,77E-04	3,02E-02	1,12E+01	5,98E+00
RWD	[kg]	6,66E-02	3,31E-05	0,00E+00	4,63E-06	3,94E-03	9,53E-05	-6,43E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	8,35E+00	0,00E+00	0,00E+00	0,00E+00	3,15E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort 200TOP		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	3,67E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort 350TOP

ENVIRONMENTAL IMPACTS PER pc Comfort 350TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	1,86E+02	1,13E+00	0,00E+00	1,59E-01	1,61E+00	6,41E-01	-3,84E+01
GWP-fossil	[kg CO_2 eq.]	1,82E+02	1,12E+00	0,00E+00	1,57E-01	1,60E+00	6,49E-01	-3,86E+01
GWP-biogenic	[kg CO_2 eq.]	3,49E+00	2,58E-03	0,00E+00	3,46E-04	7,67E-03	-9,28E-03	2,19E-01
GWP-luluc	[kg CO_2 eq.]	9,95E-02	1,05E-02	0,00E+00	1,47E-03	3,09E-04	6,70E-04	-8,65E-03
ODP	[kg CFC 11 eq.]	1,12E-05	1,48E-13	0,00E+00	2,07E-14	2,27E-11	1,15E-12	4,32E-11
AP	[mol H^+ eq.]	7,52E-01	1,77E-03	0,00E+00	2,35E-04	2,30E-03	2,19E-03	-1,12E-01
EP-freshwater	[kg P eq.]	1,19E-03	4,16E-06	0,00E+00	5,82E-07	3,89E-06	1,14E-04	-1,12E-05
EP-marine	[kg N eq.]	1,30E-01	6,56E-04	0,00E+00	8,51E-05	7,21E-04	5,15E-04	-1,61E-02
EP-terrestrial	[mol N eq.]	1,38E+00	7,73E-03	0,00E+00	1,01E-03	7,62E-03	5,66E-03	-1,47E-01
POCP	[kg NMVOC eq.]	4,69E-01	1,56E-03	0,00E+00	2,05E-04	1,88E-03	1,62E-03	-6,40E-02
ADPm[1]	[kg Sb eq.]	1,11E-02	7,55E-08	0,00E+00	1,05E-08	3,68E-07	1,84E-08	-1,08E-03
ADPf[1]	[MJ]	2,58E+03	1,55E+01	0,00E+00	2,17E+00	2,56E+01	9,64E+00	-3,87E+02
WDP[1]	[m^3 world eq. deprived]	1,60E+01	1,38E-02	0,00E+00	1,92E-03	8,90E-02	-2,01E-03	-3,23E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort 350TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	1,00E-05	1,49E-08	0,00E+00	2,02E-09	1,87E-08	2,23E-08	-1,04E-06
IRP[2]	[kBq U235 eq.]	8,44E+00	4,35E-03	0,00E+00	6,07E-04	4,40E-01	1,66E-02	6,44E-01
ETP-fw[1]	[CTUe]	8,73E+02	1,11E+01	0,00E+00	1,55E+00	5,05E+00	7,99E+00	-3,41E+01
HTP-c[1]	[CTUh]	5,41E-07	2,25E-10	0,00E+00	3,15E-11	5,87E-10	4,54E-10	1,32E-08
HTP-nc[1]	[CTUh]	3,14E-06	1,00E-08	0,00E+00	1,40E-09	7,16E-09	3,79E-08	2,74E-08
SQP[1]	-	2,40E+03	6,48E+00	0,00E+00	9,06E-01	7,06E+00	9,56E-01	-1,80E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort 350TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3,44E+02	1,13E+00	0,00E+00	1,58E-01	9,45E+00	9,27E-01	6,88E+00
PERM	[MJ]	1,16E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,60E+02	1,13E+00	0,00E+00	1,58E-01	9,45E+00	9,27E-01	6,88E+00
PENRE	[MJ]	2,29E+03	1,56E+01	0,00E+00	2,18E+00	2,56E+01	9,65E+00	-3,87E+02
PENRM	[MJ]	3,02E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	2,59E+03	1,56E+01	0,00E+00	2,18E+00	2,56E+01	9,65E+00	-3,87E+02
SM	[kg]	6,75E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	2,92E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,43E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	6,86E-01	1,24E-03	0,00E+00	1,73E-04	6,79E-03	2,83E-04	-3,69E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort 350TOP								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	1,80E-05	4,82E-11	0,00E+00	6,74E-12	1,86E-09	7,64E-10	-2,70E-06
NHWD	[kg]	5,49E+00	2,37E-03	0,00E+00	3,32E-04	2,38E-02	1,25E+01	4,51E+00
RWD	[kg]	7,16E-02	2,91E-05	0,00E+00	4,07E-06	3,21E-03	1,14E-04	-7,66E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	7,19E+00	0,00E+00	0,00E+00	0,00E+00	2,51E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort 350TOP		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	3,68E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort 350L

ENVIRONMENTAL IMPACTS PER pc Comfort 350L								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	1,78E+02	1,03E+00	0,00E+00	1,44E-01	1,46E+00	6,11E-01	-3,35E+01
GWP-fossil	[kg CO_2 eq.]	1,74E+02	1,02E+00	0,00E+00	1,43E-01	1,45E+00	6,19E-01	-3,37E+01
GWP-biogenic	[kg CO_2 eq.]	3,43E+00	2,34E-03	0,00E+00	3,14E-04	6,75E-03	-8,83E-03	1,90E-01
GWP-luluc	[kg CO_2 eq.]	9,50E-02	9,58E-03	0,00E+00	1,34E-03	2,73E-04	6,37E-04	-8,07E-03
ODP	[kg CFC 11 eq.]	8,66E-08	1,35E-13	0,00E+00	1,88E-14	2,01E-11	1,09E-12	3,66E-11
AP	[mol H^+ eq.]	7,52E-01	1,61E-03	0,00E+00	2,13E-04	2,07E-03	2,09E-03	-1,00E-01
EP-freshwater	[kg P eq.]	3,69E-04	3,78E-06	0,00E+00	5,28E-07	3,44E-06	1,09E-04	-1,01E-05
EP-marine	[kg N eq.]	1,26E-01	5,96E-04	0,00E+00	7,73E-05	6,54E-04	4,90E-04	-1,41E-02
EP-terrestrial	[mol N eq.]	1,35E+00	7,02E-03	0,00E+00	9,15E-04	6,92E-03	5,38E-03	-1,30E-01
POCP	[kg NMVOC eq.]	4,51E-01	1,42E-03	0,00E+00	1,87E-04	1,71E-03	1,54E-03	-5,61E-02
ADPm[1]	[kg Sb eq.]	1,15E-02	6,86E-08	0,00E+00	9,58E-09	3,24E-07	1,75E-08	-1,07E-03
ADPf[1]	[MJ]	2,50E+03	1,41E+01	0,00E+00	1,97E+00	2,28E+01	9,19E+00	-3,37E+02
WDP[1]	[m^3 world eq. de-prived]	1,60E+01	1,25E-02	0,00E+00	1,75E-03	8,22E-02	-1,96E-03	-2,91E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort 350L								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease inci-dence]	9,85E-06	1,35E-08	0,00E+00	1,84E-09	1,67E-08	2,13E-08	-9,24E-07
IRP[2]	[kBq U235 eq.]	8,07E+00	3,95E-03	0,00E+00	5,52E-04	3,92E-01	1,58E-02	5,48E-01
ETP-fw[1]	[CTUe]	8,91E+02	1,01E+01	0,00E+00	1,41E+00	4,49E+00	7,61E+00	-3,15E+01
HTP-c[1]	[CTUh]	6,40E-07	2,05E-10	0,00E+00	2,86E-11	5,18E-10	4,32E-10	1,12E-08
HTP-nc[1]	[CTUh]	3,12E-06	9,11E-09	0,00E+00	1,27E-09	6,36E-09	3,61E-08	1,82E-08
SQP[1]	-	2,36E+03	5,89E+00	0,00E+00	8,23E-01	6,24E+00	9,10E-01	-1,75E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort 350L								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3,35E+02	1,03E+00	0,00E+00	1,43E-01	8,34E+00	8,82E-01	5,15E+00
PERM	[MJ]	1,16E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,51E+02	1,03E+00	0,00E+00	1,43E-01	8,34E+00	8,82E-01	5,15E+00
PENRE	[MJ]	2,23E+03	1,41E+01	0,00E+00	1,98E+00	2,28E+01	9,19E+00	-3,37E+02
PENRM	[MJ]	2,87E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	2,51E+03	1,41E+01	0,00E+00	1,98E+00	2,28E+01	9,19E+00	-3,37E+02
SM	[kg]	6,05E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	2,86E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,36E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	6,82E-01	1,12E-03	0,00E+00	1,57E-04	6,09E-03	2,68E-04	-3,19E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort 350L								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	1,76E-05	4,38E-11	0,00E+00	6,12E-12	1,65E-09	7,28E-10	-2,33E-06
NHWD	[kg]	5,29E+00	2,16E-03	0,00E+00	3,01E-04	2,36E-02	1,19E+01	3,94E+00
RWD	[kg]	7,04E-02	2,65E-05	0,00E+00	3,70E-06	2,85E-03	1,09E-04	-7,00E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	6,39E+00	0,00E+00	0,00E+00	0,00E+00	2,23E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort 350L		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	3,68E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort 300LR

ENVIRONMENTAL IMPACTS PER pc Comfort 300LR								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	3,17E+02	1,68E+00	0,00E+00	2,35E-01	2,49E+00	7,02E-01	-6,32E+01
GWP-fossil	[kg CO_2 eq.]	3,13E+02	1,66E+00	0,00E+00	2,32E-01	2,48E+00	7,13E-01	-6,35E+01
GWP-biogenic	[kg CO_2 eq.]	3,91E+00	3,80E-03	0,00E+00	5,10E-04	1,19E-02	-1,11E-02	3,57E-01
GWP-luluc	[kg CO_2 eq.]	1,73E-01	1,56E-02	0,00E+00	2,18E-03	4,78E-04	8,32E-04	-1,52E-02
ODP	[kg CFC 11 eq.]	4,16E-06	2,19E-13	0,00E+00	3,06E-14	3,49E-11	1,30E-12	6,83E-11
AP	[mol H^+ eq.]	1,44E+00	2,61E-03	0,00E+00	3,46E-04	3,53E-03	2,58E-03	-1,89E-01
EP-freshwater	[kg P eq.]	9,26E-04	6,15E-06	0,00E+00	8,59E-07	6,02E-06	1,18E-04	-1,89E-05
EP-marine	[kg N eq.]	2,30E-01	9,68E-04	0,00E+00	1,26E-04	1,11E-03	6,14E-04	-2,67E-02
EP-terrestrial	[mol N eq.]	2,50E+00	1,14E-02	0,00E+00	1,49E-03	1,18E-02	6,75E-03	-2,46E-01
POCP	[kg NMVOC eq.]	7,40E-01	2,30E-03	0,00E+00	3,03E-04	2,90E-03	1,92E-03	-1,06E-01
ADPm[1]	[kg Sb eq.]	2,21E-02	1,11E-07	0,00E+00	1,56E-08	5,70E-07	2,10E-08	-1,97E-03
ADPf[1]	[MJ]	4,21E+03	2,29E+01	0,00E+00	3,20E+00	3,84E+01	1,05E+01	-6,38E+02
WDP[1]	[m^3 world eq. deprived]	3,05E+01	2,03E-02	0,00E+00	2,84E-03	1,42E-01	3,08E-03	-5,46E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort 300LR								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	1,82E-05	2,20E-08	0,00E+00	2,98E-09	2,84E-08	2,70E-08	-1,74E-06
IRP[2]	[kBq U235 eq.]	1,41E+01	6,42E-03	0,00E+00	8,97E-04	6,62E-01	1,78E-02	9,10E-01
ETP-fw[1]	[CTUe]	1,43E+03	1,64E+01	0,00E+00	2,29E+00	7,73E+00	8,53E+00	-5,93E+01
HTP-c[1]	[CTUh]	9,27E-07	3,33E-10	0,00E+00	4,65E-11	9,07E-10	5,18E-10	2,07E-08
HTP-nc[1]	[CTUh]	4,59E-06	1,48E-08	0,00E+00	2,07E-09	1,10E-08	4,44E-08	4,16E-08
SQP[1]	-	3,05E+03	9,57E+00	0,00E+00	1,34E+00	1,09E+01	1,13E+00	-3,32E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort 300LR								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	5,82E+02	1,67E+00	0,00E+00	2,33E-01	1,46E+01	1,05E+00	7,37E+00
PERM	[MJ]	1,25E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	7,06E+02	1,67E+00	0,00E+00	2,33E-01	1,46E+01	1,05E+00	7,37E+00
PENRE	[MJ]	3,97E+03	2,30E+01	0,00E+00	3,21E+00	3,84E+01	1,05E+01	-6,38E+02
PENRM	[MJ]	2,62E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	4,23E+03	2,30E+01	0,00E+00	3,21E+00	3,84E+01	1,05E+01	-6,38E+02
SM	[kg]	1,07E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	3,14E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,69E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	1,20E+00	1,83E-03	0,00E+00	2,55E-04	1,05E-02	4,48E-04	-5,99E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort 300LR								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	3,36E-05	7,12E-11	0,00E+00	9,95E-12	2,84E-09	7,98E-10	-4,37E-06
NHWD	[kg]	1,00E+01	3,50E-03	0,00E+00	4,90E-04	4,27E-02	1,59E+01	7,44E+00
RWD	[kg]	1,25E-01	4,30E-05	0,00E+00	6,01E-06	4,84E-03	1,24E-04	-1,78E-03
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,14E+01	0,00E+00	0,00E+00	0,00E+00	3,95E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort 300LR		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	4,23E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort 450m

ENVIRONMENTAL IMPACTS PER pc Comfort 450m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	2,81E+02	2,17E+00	0,00E+00	3,05E-01	3,43E+00	6,15E-01	-9,45E+01
GWP-fossil	[kg CO_2 eq.]	2,77E+02	2,15E+00	0,00E+00	3,01E-01	3,41E+00	6,24E-01	-9,50E+01
GWP-biogenic	[kg CO_2 eq.]	4,56E+00	4,94E-03	0,00E+00	6,63E-04	1,80E-02	-9,69E-03	5,55E-01
GWP-luluc	[kg CO_2 eq.]	1,23E-01	2,02E-02	0,00E+00	2,82E-03	7,16E-04	7,25E-04	-1,49E-02
ODP	[kg CFC 11 eq.]	4,24E-06	2,84E-13	0,00E+00	3,97E-14	5,25E-11	1,13E-12	1,22E-10
AP	[mol H^+ eq.]	7,43E-01	3,39E-03	0,00E+00	4,50E-04	4,98E-03	2,26E-03	-2,44E-01
EP-freshwater	[kg P eq.]	7,14E-04	7,98E-06	0,00E+00	1,12E-06	9,06E-06	1,03E-04	-2,36E-05
EP-marine	[kg N eq.]	1,63E-01	1,26E-03	0,00E+00	1,63E-04	1,53E-03	5,36E-04	-3,79E-02
EP-terrestrial	[mol N eq.]	1,75E+00	1,48E-02	0,00E+00	1,93E-03	1,61E-02	5,89E-03	-3,41E-01
POCP	[kg NMVOC eq.]	5,31E-01	2,99E-03	0,00E+00	3,94E-04	3,98E-03	1,68E-03	-1,53E-01
ADPm[1]	[kg Sb eq.]	8,05E-03	1,45E-07	0,00E+00	2,02E-08	8,61E-07	1,84E-08	-1,10E-03
ADPf[1]	[MJ]	3,39E+03	2,97E+01	0,00E+00	4,15E+00	5,65E+01	9,22E+00	-9,46E+02
WDP[1]	[m^3 world eq. deprived]	1,44E+01	2,64E-02	0,00E+00	3,69E-03	1,81E-01	2,47E-03	-6,82E+00
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort 450m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	1,17E-05	2,86E-08	0,00E+00	3,87E-09	4,13E-08	2,36E-08	-2,28E-06
IRP[2]	[kBq U235 eq.]	1,04E+01	8,33E-03	0,00E+00	1,16E-03	9,79E-01	1,56E-02	2,04E+00
ETP-fw[1]	[CTUe]	8,31E+02	2,13E+01	0,00E+00	2,98E+00	1,15E+01	7,49E+00	-5,90E+01
HTP-c[1]	[CTUh]	3,34E-06	4,32E-10	0,00E+00	6,04E-11	1,36E-09	4,53E-10	3,71E-08
HTP-nc[1]	[CTUh]	4,01E-06	1,92E-08	0,00E+00	2,69E-09	1,62E-08	3,88E-08	1,50E-07
SQP[1]	-	3,09E+03	1,24E+01	0,00E+00	1,74E+00	1,63E+01	9,89E-01	-2,04E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort 450m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	4,67E+02	2,16E+00	0,00E+00	3,02E-01	2,19E+01	9,20E-01	3,29E+01
PERM	[MJ]	1,34E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	6,01E+02	2,16E+00	0,00E+00	3,02E-01	2,19E+01	9,20E-01	3,29E+01
PENRE	[MJ]	3,19E+03	2,98E+01	0,00E+00	4,17E+00	5,65E+01	9,22E+00	-9,46E+02
PENRM	[MJ]	2,13E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	3,41E+03	2,98E+01	0,00E+00	4,17E+00	5,65E+01	9,22E+00	-9,46E+02
SM	[kg]	1,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	3,24E-24	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	3,81E-23	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	7,65E-01	2,37E-03	0,00E+00	3,31E-04	1,50E-02	3,87E-04	-9,48E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort 450m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	2,05E-05	9,24E-11	0,00E+00	1,29E-11	4,22E-09	7,01E-10	-6,96E-06
NHWD	[kg]	7,88E+00	4,55E-03	0,00E+00	6,36E-04	3,95E-02	1,39E+01	1,13E+01
RWD	[kg]	8,55E-02	5,58E-05	0,00E+00	7,80E-06	7,17E-03	1,09E-04	-2,38E-04
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,53E+01	0,00E+00	0,00E+00	0,00E+00	5,81E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort 450m		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	4,47E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

LCA results for Comfort 600m

ENVIRONMENTAL IMPACTS PER pc Comfort 600m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	4,96E+02	3,73E+00	0,00E+00	5,23E-01	5,38E+00	1,38E+00	-1,55E+02
GWP-fossil	[kg CO_2 eq.]	4,90E+02	3,68E+00	0,00E+00	5,17E-01	5,35E+00	1,40E+00	-1,56E+02
GWP-biogenic	[kg CO_2 eq.]	5,78E+00	8,46E-03	0,00E+00	1,14E-03	2,91E-02	-2,13E-02	9,13E-01
GWP-luluc	[kg CO_2 eq.]	1,86E-01	3,46E-02	0,00E+00	4,84E-03	1,15E-03	1,58E-03	-2,38E-02
ODP	[kg CFC 11 eq.]	1,92E-06	4,87E-13	0,00E+00	6,80E-14	8,40E-11	2,52E-12	2,03E-10
AP	[mol H^+ eq.]	1,39E+00	5,81E-03	0,00E+00	7,71E-04	7,84E-03	4,98E-03	-3,96E-01
EP-freshwater	[kg P eq.]	9,18E-04	1,37E-05	0,00E+00	1,91E-06	1,45E-05	2,35E-04	-3,81E-05
EP-marine	[kg N eq.]	2,87E-01	2,15E-03	0,00E+00	2,80E-04	2,40E-03	1,18E-03	-6,19E-02
EP-terrestrial	[mol N eq.]	3,17E+00	2,54E-02	0,00E+00	3,31E-03	2,52E-02	1,29E-02	-5,57E-01
POCP	[kg NMVOC eq.]	9,33E-01	5,12E-03	0,00E+00	6,75E-04	6,23E-03	3,69E-03	-2,51E-01
ADPm[1]	[kg Sb eq.]	1,32E-02	2,48E-07	0,00E+00	3,47E-08	1,38E-06	4,08E-08	-1,63E-03
ADPf[1]	[MJ]	6,30E+03	5,10E+01	0,00E+00	7,12E+00	8,93E+01	2,07E+01	-1,55E+03
WDP[1]	[m^3 world eq. deprived]	4,71E+01	4,52E-02	0,00E+00	6,32E-03	2,82E-01	3,10E-03	-1,11E+01
Caption	GWP-total = Globale 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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							

ADDITIONAL ENVIRONMENTAL IMPACTS PER pc Comfort 600m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	2,08E-05	4,90E-08	0,00E+00	6,64E-09	6,54E-08	5,17E-08	-3,70E-06
IRP[2]	[kBq U235 eq.]	1,75E+01	1,43E-02	0,00E+00	1,99E-03	1,55E+00	3,52E-02	3,43E+00
ETP-fw[1]	[CTUe]	1,50E+03	3,65E+01	0,00E+00	5,10E+00	1,83E+01	1,69E+01	-9,25E+01
HTP-c[1]	[CTUh]	7,14E-06	7,41E-10	0,00E+00	1,03E-10	2,19E-09	1,01E-09	6,17E-08
HTP-nc[1]	[CTUh]	6,54E-06	3,30E-08	0,00E+00	4,61E-09	2,58E-08	8,56E-08	2,64E-07
SQP[1]	-	5,11E+03	2,13E+01	0,00E+00	2,98E+00	2,61E+01	2,18E+00	-3,09E+01
Caption	PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Soil Quality (dimensionless)							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							
Disclaimers	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.							
	[2] 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.							

RESOURCE USE PER pc Comfort 600m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	7,36E+02	3,71E+00	0,00E+00	5,18E-01	3,52E+01	2,05E+00	5,63E+01
PERM	[MJ]	2,35E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	9,71E+02	3,71E+00	0,00E+00	5,18E-01	3,52E+01	2,05E+00	5,63E+01
PENRE	[MJ]	6,04E+03	5,12E+01	0,00E+00	7,15E+00	8,93E+01	2,07E+01	-1,55E+03
PENRM	[MJ]	2,84E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	6,32E+03	5,12E+01	0,00E+00	7,15E+00	8,93E+01	2,07E+01	-1,55E+03
SM	[kg]	2,21E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	[MJ]	2,06E-22	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	2,42E-21	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	1,79E+00	4,06E-03	0,00E+00	5,68E-04	2,38E-02	8,03E-04	-1,56E+01
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

WASTE CATEGORIES AND OUTPUT FLOWS PER pc Comfort 600m								
Parameter	**Unit**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	3,43E-05	1,58E-10	0,00E+00	2,21E-11	6,74E-09	1,59E-09	-1,15E-05
NHWD	[kg]	1,29E+01	7,80E-03	0,00E+00	1,09E-03	5,88E-02	3,00E+01	1,87E+01
RWD	[kg]	1,47E-01	9,57E-05	0,00E+00	1,34E-05	1,14E-02	2,44E-04	-5,19E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	2,78E+01	0,00E+00	0,00E+00	0,00E+00	9,33E+01	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Caption	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							
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: $1,95*10^2$ or 195, while 1,12E-11 is the same as $1,12*10^{-11}$ or 0,0000000000112.							

BIOGENIC CARBON CONTENT PER pc Comfort 600m		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0,00E+00
Biogenic carbon content in accompanying packaging	[kg C]	5,94E+00
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Additional information

LCA interpretation

The results show that the production of steel and aluminum (A1) are the dominating process in most of the environmental impact categories and to some extend the corresponding avoided production of materials beyond the system boundary (D). This stems especially from the metal content that is costly to produce but which, even combined with the other sealant materials, can be recycled at the end-of-life. The packaging materials (pallets and cardboard) contribute to a biogenic CO_2 uptake.

Technical information on scenarios

Reference service life

RSL information		Unit
Reference service Life	25 Years	Reference service Life
Declared product properties	Technical specifications and guidance can be obtained from direct contact to Nilan A/S at +45 7675 2500 or nilan@nilan.dk	
Design application parameters		
Assumed quality of work		
Outdoor environment		
Indoor environment		
Usage conditions		
Maintenance		

Transport to the building site (A4)

Scenario information	Value	Unit
Fuel type	Diesel	-
Vehicle type	Truck, Euro 6, 26 - 28t gross weight / 18.4t payload capacity	-
Transport distance	300	km
Capacity utilisation (including empty runs)	55	%
Gross density of products transported	46 - 173	kg/m^3

End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	0	kg
Collected with mixed waste	33.8 - 124.4	kg
For reuse	0	kg
For recycling	23.2 - 94.8	kg
For energy recovery	6.4 - 23.3	kg
For final disposal	1.5 - 6.3	kg
Assumptions for scenario development	Products are shredded as mixed waste at an appropriate metal recycler in Denmark	

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Steel	18.00 - 88.60	kg
Aluminium	0.00 - 0.24	kg
Copper	0.00 - 0.27	kg
Brass	0.82 - 1.11	kg
Electronics	0.93 - 1.95	kg

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A2 chapter 7.4.2.

References

Publisher	www.epddanmark.dk Template version 2023.1
Programme operator	Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	Maria Preilev Hansen Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA software /background data	Thinkstep GaBi 10.6 Database version 2021.2 www.gabi-software.com
3rd party verifier	Kim Christensen Kimconsult DK

General programme instructions
General Programme Instructions, version 2.0, spring 2020
www.epddanmark.dk

EN 15804
DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

EN 15942
DS/EN 15942:2011 – " Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

ISO 14025
DS/EN ISO 14025:2010 – " Environmental labels and declarations – Type III environmental declarations – Principles and procedures"

ISO 14040
DS/EN ISO 14040:2008 – " Environmental management – Life cycle assessment – Principles and framework"

ISO 14044
DS/EN ISO 14044:2008 – " Environmental management – Life cycle assessment – Requirements and guidelines"