

Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012 + A2:2019 for:

Swegon CASA air handling units

from

Swegon Group AB



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Programme information

Programme:	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com
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Product category rules (PCR): PCR 2019:14 Construction products. Version 1.11, date 2021-05-02.

PCR review was conducted by: The Technical Committee of the International EPD® System. Chair: Claudia A. Peña.
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Independent third-party verification of the declaration and data, according to ISO 14025:2006:

EPD process certification EPD verification

Third party verifier: Camilla Landén from Bureau Veritas Sweden

Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804.

Company information

Owner of the EPD

Swegon Group AB

Description of the organisation

People spend most of their time indoors, which is why we need a sound indoor climate for our health, well-being, and happiness. Swegon's ambition is to achieve the world's best indoor environment with the least possible impact on the external environment. Our business models, services, products, and systems are all designed to provide the right solution for each individual project.

Swegon Group AB is a market leading supplier in the field of indoor environment, offering solutions for ventilation, heating, cooling, and climate optimisation, as well as connected services and expert technical support. Swegon has subsidiaries in and distributors all over the world and 16 production plants in Europe, North America and India. The company employs more than 2 600 people.

Name and location of production site

Swegon Ilto Oy, Asessorinkatu 10, 20780 Kaarina, Finland

Product information

Product name

Swegon CASA air handling units

Product identification

The table below provides information on the product presented in this EPD.

Product	Representative product included in the EPD	Weight (kg)	Material composition
Air handling unit	Swegon CASA models	44.86 – 175.32	steel, aluminium, iron, plastics, mineral wool, electronics

Product description

The air handling unit is a device, which will provide healthy dust free air to buildings with a good energy efficiency. Energy efficiency is created with a good design and optimization between fans, heat exchanger, filtration, control and modular space requirements. Units can be mounted on the wall, ceiling or floor of a building and is used to regulate and circulate air as part of the ventilation system. Air handling units vary in size, air handling capacity, mounting options and appearance. The products have an estimated average lifetime of 25 years.

Products included in the EPD

This EPD concerns the Swegon CASA Air handling units representing the average environmental performance for several products as listed in the table below. Due to the variance in size and material composition, each of the products is studied separately in this EPD.

Product	Total weight (kg)
Swegon CASA W3xs	44.86
Swegon CASA W5	85.26
Swegon CASA R2	47.12
Swegon CASA R3	52.43
Swegon CASA R5	79.16
Swegon CASA R5H	54.51
Swegon CASA R7H	80.80
Swegon CASA R7V	101.13
Swegon CASA R9V	168.57
Swegon CASA R15V	175.32

UN CPC code

The CPC code applied is CPC 54632 Ventilation and air-conditioning equipment installation services.

Geographical scope

This EPD is site specific (products produced only in Kaarina, Finland). The main market areas of the products are Finland, Sweden, and Norway.

EPD Swegon CASA Air Handling Units

Content declaration

The content declaration includes the product components for the declared unit of product (1 piece of finished product) and the associated packaging materials. Therefore, the gross material weight is larger than specified in the product information table above. The weight of the wooden pallet is proportioned to its assumed reuse times (25 times by assumption).

Swegon CASA W3xs			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	29,35	56 %	0
aluminium	6,05	0 %	0
iron	2,02	56 %	0
plastics	2,25	0 %	0
mineral wool	0,00	0 %	0
electronics	0,25	0 %	0
others	4,86	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	2,60	6 %	
paper	0,47	1 %	
wooden pallet	0,22	0,5 %	

Swegon CASA W5			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	66,93	56 %	0
aluminium	10,10	0 %	0
iron	1,40	56 %	0
plastics	1,99	0 %	0
mineral wool	0,00	0 %	0
electronics	0,25	0 %	0
others	4,31	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	2,83	3 %	
paper	0,47	0,6 %	
wooden pallet	0,88	1 %	

Swegon CASA R2			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	32,45	56 %	0
aluminium	3,32	0 %	0
iron	0,85	56 %	0
plastics	1,00	0 %	0
mineral wool	6,12	0 %	0
electronics	0,30	0 %	0
others	2,72	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	2,21	5 %	
paper	0,47	1,0 %	
wooden pallet	0,15	0,3 %	

EPD Swegon CASA Air Handling Units

Swegon CASA R3			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	38,19	56 %	0
aluminium	5,61	0 %	0
iron	2,71	56 %	0
plastics	3,30	0 %	0
mineral wool	0,00	0 %	0
electronics	0,30	0 %	0
others	2,24	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	2,21	4 %	
paper	0,47	0,9 %	
wooden pallet	0,15	0,3 %	

Swegon CASA R5			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	55,60	56 %	0
aluminium	12,71	0 %	0
iron	2,71	56 %	0
plastics	4,16	0 %	0
mineral wool	0,00	0 %	0
electronics	0,30	0 %	0
others	3,59	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	1,80	2 %	
paper	0,47	0,6 %	
wooden pallet	0,22	0,3 %	

Swegon CASA R5H			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	36,18	56 %	0
aluminium	6,01	0 %	0
iron	1,63	56 %	0
plastics	1,70	0 %	0
mineral wool	5,05	0 %	0
electronics	0,30	0 %	0
others	3,39	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	3,17	6 %	
paper	0,47	0,9 %	
wooden pallet	0,44	0,8 %	

EPD Swegon CASA Air Handling Units

Swegon CASA R7H			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	58,23	56 %	0
aluminium	10,02	0 %	0
iron	0,09	56 %	0
plastics	2,00	0 %	0
mineral wool	6,60	0 %	0
electronics	0,30	0 %	0
others	1,84	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	0,38	0,4 %	
paper	0,47	0,5 %	
wooden pallet	0,88	1,1 %	

Swegon CASA R7V			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	77,96	56 %	0
aluminium	10,02	0 %	0
iron	1,49	56 %	0
plastics	1,94	0 %	0
mineral wool	7,18	0 %	0
electronics	0,30	0 %	0
others	1,93	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	0,38	0,4 %	
paper	0,47	0,5 %	
wooden pallet	0,88	0,9 %	

Swegon CASA R9V			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	121,15	56 %	0
aluminium	18,27	0 %	0
iron	1,45	56 %	0
plastics	2,24	0 %	0
mineral wool	22,50	0 %	0
electronics	0,30	0 %	0
others	2,25	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	0,38	0,2 %	
paper	0,47	0,3 %	
wooden pallet	0,88	0,5 %	

EPD Swegon CASA Air Handling Units

Swegon CASA R15V			
Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
steel	121,15	56 %	0
aluminium	18,80	0 %	0
iron	3,98	56 %	0
plastics	3,31	0 %	0
mineral wool	22,50	0 %	0
electronics	0,30	0 %	0
others	4,39	0 %	0
Packaging materials	Weight, kg	Weight-% versus the product	
corrugated board	0,38	0,2 %	
paper	0,47	0,3 %	
wooden pallet	0,88	0,5 %	

List of EU Chemicals Agency (ECHA) REACH SVHC substances contained in the product

No substances that appear in the REACH candidate list of SVHC (Candidate List of Substances of Very High Concern) are present or used in the products concerning this EPD.

LCA information

Declared unit

The declared unit is set to 1 piece of finished product which provides 30 – 320 l/s of circulated air (varying per product) over 25 years reference service life with 365 days of operation per year and 24 operating hours per day.

Reference service life

Reference service life for the air handling units is assumed 25 years.

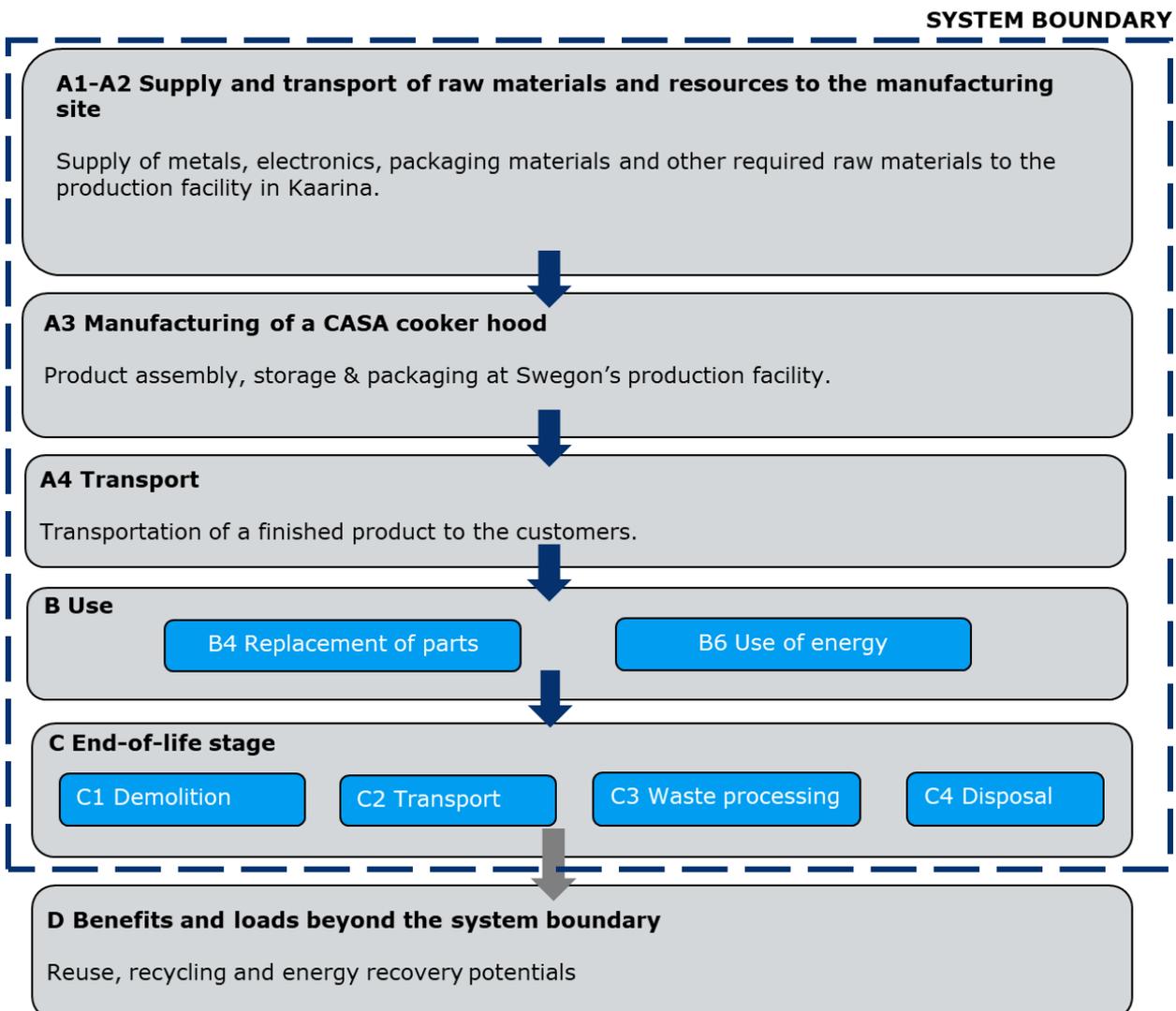
Time representativeness

The data used to model product manufacturing corresponds to year 2020. The data from generic databases are from 2010 – 2020, except for two used datasets that were from 2005 due to the lack of representative data. These datasets are for epoxy resin and polyether polyol, which are used in small amounts and have no significant impact on the results.

Database(s) and LCA software used

The LCA was modelled using the LCA software GaBi 10 Professional and the life cycle inventory datasets provided by Sphera and Ecoinvent.

System diagram



Product life cycle

Product stage (A1-A3)

The product stage takes into account the manufacture of raw materials, their transport to the production plant and the stages of the product manufacturing process.

A1: The production of raw materials includes the environmental impacts arising from the procurement, processing, and manufacture of all raw materials used in the products.

A2: Transportation of the raw materials to the production facility of Swegon in Kaarina, Finland. Specific transportation methods (truck, ferry, train) are taken into account.

A3: Manufacturing and packaging of the air handling units at the production site. In this case, manufacturing mainly refers to the assembling, configuring, and testing of the air handling units from pre-made parts. The assessment covers the electricity, heating, and water use needed during the production process. The electricity and heating are modelled as site-specific energy mixes provided by local energy companies. The waste streams from the manufacturing site include combustible waste, mixed waste, wood waste, cardboard, and metal scrap (iron, aluminum, copper). Combustible waste and wood waste are sent for energy recovery, cardboard and metal scrap for material recovery, and mixed waste for disposal.

Transportation (A4)

Transportation of the finished products from the production facility to three different market areas (Finland, Sweden, Norway). Average distances between the production facility and destinations are used. Variation of market shares between different products is taken into account.

Use (B)

Energy use during the product use phase and the replacement of filters are taken into account. Energy use refers to the daily estimated electricity consumption of the air handling unit. Filters are replaced by assumption once each year during the 25-year life cycle.

End of life cycle (C1-C4)

C1: The dismantling of the product is assumed to take place after the assumed 25-year lifecycle. The impacts from deconstruction were modelled based on literature data for energy use in demolition (Erlandsson & Pettersson, 2015).

C2: Transportation of the dismantled product for processing was assessed based on average waste transportation distances.

C3: In this end-of-life scenario, it was assumed that steel, aluminium, iron, copper, and the metal content in WEEE in the product will be recycled as material and other materials (e.g. plastics) sent for energy recovery. Following current recycling practices, the life cycle assessment has been made on the assumption that 95 % of steel, aluminium, and iron, 99 % of copper, and 90 % of the metal content in WEEE will be recycled as material.

C4: 1 – 10 % (depending on the material) of the demolition waste generated is assumed to end up in final deposition.

Benefits and loads beyond the system boundary (D)

Materials delivered for material recycling can be used to make secondary material, thus avoiding the use of virgin raw material. The life cycle assessment has been made on the assumption that 90 – 99 % of the products' materials (depending on the material) end up in material recovery at the end of the life cycle.

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System boundaries

The system boundary was set at cradle to gate with options, including modules A1-A3, module C1-C4, module D and optional modules B4 and B6. The life cycle stages included are described in the table below:

	Product stage			Construction stage		Use stage							End-of-life stage				Non-life cycle impacts		
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
Modules declared	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ND	ND	ND	ND	<input checked="" type="checkbox"/>	ND	<input checked="" type="checkbox"/>	ND	<input checked="" type="checkbox"/>						
Module	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement of parts	Extensive repairs	Use of energy	Use of water	Demolition	Transport	Waste processing	Waste disposal	Reuse	Recovery	Recycling
Geography	EU	EU	FI	FI, SE, NO	-	-	-	-	FI, SE, NO	-	-	FI, SE, NO	FI, SE, NO	FI, SE, NO	FI, SE, NO	FI, SE, NO	FI, SE, NO	FI, SE, NO	FI, SE, NO
Specific data used	>75%	>90%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	Not relevant (results presented product-specifically, not averaged)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	Not relevant (site-specific EPD)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

X = Module declared ND = Not declared

	Compulsory modules in cradle to gate with options
	Optional modules by scenario

Cut-off criteria

The study applies a cut-off criterion of a maximum of 5 % of neglected input flows of energy usage and mass per module.

Allocation

Allocation has been avoided whenever possible by collecting product specific environmental data. In case of manufacturing energy use, where allocation could not be avoided, the consumption of electricity and heating in Swegon production facilities were allocated per working hours for assembly of each product. No other allocations were made in this assessment.

Scenarios and general assumptions

The scenarios and assumptions applied in this study for all the life cycle stages included are based on data provided by Swegon and correspond to the most likely scenario. The following scenarios and general assumptions were made in the studied lifecycle stages:

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Transport (A2, A4, C2): All trucks used in transportation were assumed to be class EURO5 trucks.

A3: Material losses are very small. If there are material spillage it will go to waste and then be allocated to the products / working hour.

A4: Product distribution to clients was assessed based on average distances between the production facility and destinations in three market areas.

B4: The replacement of parts was assessed with one annual replacement of the filter of the air handling unit.

B6: The energy use was assessed with respect to the annual electricity consumption of each air handling unit based on estimated 24 hours of daily usage.

End-of-life: Assumed material losses in recycling of the product in the end-of-life scenarios follow the current recycling practices in Finland: 95 % of steel and aluminium and 90 % of metal content in WEEE is assumed to be recycled as material. 5 or 10 % (respectively) of the demolition waste generated is assumed to end up in disposal.

Data quality

Site-specific production data has been collected for 2020 from the production site. The upstream and downstream processes have been modelled based on environmental data from generic databases (Sphera and Ecoinvent). The collected data was reviewed in terms of consistency, and it is estimated as good quality.

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Environmental performance for CASA air handling units

The impacts are expressed per functional unit: One piece of finished product which provides 30 – 320 l/s of 30 – 320 l/s of circulated air (varying per product) over 25 years reference service life with 365 days of operation per year and 24 operating hours per day.

The results are presented in scientific form. Data interpretation example: $1,31E-2 = 1,31 \cdot 10^{-2} = 0,0131$.

According to the EN 15804 standard, environmental declarations for construction products may not be comparable if they have not been prepared in accordance with that standard or if a different notified unit has been used.

Swegon CASA W3xs

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	2,30E+02	2,77E+00	3,28E+00	2,36E+02	5,89E-01	1,57E+01	2,04E+02	1,63E-02	3,70E-02	2,02E+01	2,75E-02	-1,21E+02
Global warming potential (GWP) – biogenic	kg CO2e	5,58E+00	-3,24E-03	-8,66E-01	4,71E+00	-6,90E-04	2,11E-01	1,91E-02	1,28E-05	-4,45E-05	3,17E+00	-7,98E-04	1,56E+00
Global warming potential (GWP) – luluc	kg CO2e	1,72E-01	2,26E-02	1,67E-02	2,11E-01	4,80E-03	1,01E-02	3,87E-02	1,39E-06	3,06E-04	2,62E-02	8,07E-05	-4,27E-02
Global warming potential (GWP) – total	kg CO2e	2,36E+02	2,79E+00	2,43E+00	2,41E+02	5,93E-01	1,59E+01	2,04E+02	1,63E-02	3,73E-02	2,34E+01	2,67E-02	-1,20E+02
Ozone depletion (ODP)	kg CFC11e	5,56E-06	5,46E-16	3,19E-07	5,88E-06	1,16E-16	1,83E-06	1,41E-13	3,51E-09	7,38E-18	1,12E-11	1,07E-16	-1,68E-07
Acidification (AP)	mol H+e	9,20E-01	1,13E-02	1,92E-02	9,50E-01	2,29E-03	9,09E-02	7,37E-02	1,70E-04	4,17E-04	3,61E-02	1,96E-04	-4,49E-01
Eutrophication (EP) – freshwater	kg PO4e	3,28E-02	8,22E-06	1,41E-03	3,42E-02	1,75E-06	4,78E-03	3,28E-05	4,91E-07	1,11E-07	4,37E-05	4,61E-08	-1,42E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	1,87E-01	1,89E-03	9,10E-03	1,98E-01	3,84E-04	4,78E-02	7,31E-03	2,89E-05	7,22E-05	4,35E-03	1,76E-05	-3,01E-02
Eutrophication (EP) – marine	kg Ne	1,78E-01	5,33E-03	9,48E-03	1,93E-01	1,08E-03	2,68E-02	2,00E-02	7,53E-05	2,11E-04	1,04E-02	5,08E-05	-7,35E-02
Eutrophication (EP) – terrestrial	mol Ne	1,71E+00	5,92E-02	6,15E-02	1,83E+00	1,20E-02	1,86E-01	2,19E-01	8,24E-04	2,32E-03	1,14E-01	5,58E-04	-7,94E-01
Photochemical ozone formation (POCP)	kg NMVOCe	5,08E-01	1,22E-02	1,43E-02	5,35E-01	2,40E-03	6,40E-02	5,42E-02	2,26E-04	3,87E-04	3,46E-02	1,54E-04	-2,42E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	3,04E-03	2,45E-07	3,66E-05	3,08E-03	5,21E-08	1,59E-04	2,54E-04	6,57E-09	3,31E-09	4,87E-06	2,59E-09	-1,79E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	3,21E+03	3,69E+01	4,77E+01	3,29E+03	7,83E+00	3,08E+02	2,02E+02	2,22E-01	4,98E-01	2,02E+02	3,64E-01	-1,40E+03
Water deprivation potential (WDP) ¹	m3e depr.	1,20E+02	2,57E-02	2,60E+00	1,23E+02	5,45E-03	1,23E+01	3,53E+02	5,34E-04	3,47E-04	1,28E+00	2,95E-03	-5,06E+01

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Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	5,09E+02	2,12E+00	9,63E+01	6,08E+02	4,51E-01	1,59E+01	6,12E+04	1,16E-03	2,87E-02	8,49E+01	4,91E-02	- 3,00E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	5,09E+02	2,12E+00	9,63E+01	6,08E+02	4,51E-01	1,59E+01	6,12E+04	1,16E-03	2,87E-02	8,49E+01	4,91E-02	- 3,00E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	3,21E+03	3,70E+01	4,77E+01	3,30E+03	7,86E+00	3,08E+02	2,02E+02	2,22E-01	5,00E-01	2,02E+02	3,64E-01	- 1,40E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	3,21E+03	3,70E+01	4,77E+01	3,30E+03	7,86E+00	3,08E+02	2,02E+02	2,22E-01	5,00E-01	2,02E+02	3,64E-01	- 1,40E+03
Use of secondary material (SM)	kg	1,76E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	5,43E-23	0,00E+00	0,00E+00	5,43E-23	0,00E+00							
Use of non-renewable secondary fuels (NRSF)	MJ	6,37E-22	0,00E+00	0,00E+00	6,37E-22	0,00E+00							
Net use of fresh water (FW)	m ³	3,48E+00	2,43E-03	1,58E-01	3,64E+00	5,16E-04	2,87E-01	1,37E+02	1,24E-05	3,28E-05	7,80E-02	8,99E-05	- 1,74E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	8,94E-04	1,95E-09	1,06E-07	8,95E-04	4,14E-10	0,00E+00	9,62E-07	0,00E+00	2,63E-11	6,16E-08	3,87E-11	-4,73E-07
Non-hazardous waste disposed (NHWD)	kg	1,86E+01	5,80E-03	3,65E-02	1,87E+01	1,23E-03	0,00E+00	1,32E+01	0,00E+00	7,84E-05	8,98E-01	1,82E+00	-1,67E+01
Radioactive waste disposed (RWD)	kg	5,26E-02	6,71E-05	1,27E-04	5,28E-02	1,43E-05	0,00E+00	5,00E-03	0,00E+00	9,07E-07	1,15E-02	3,83E-06	-3,79E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	1,33E+00	1,33E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,70E+01	2,05E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	1,30E+00	1,30E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,82E+00	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,04E-05	1,58E-07	2,39E-07	1,08E-05	2,88E-08	1,11E-06	1,27E-06	4,50E-09	2,26E-09	5,21E-07	2,43E-09	-4,78E-06
Ionising radiation, human health	kBq U235 eq.	2,38E+01	9,81E-03	4,05E-01	2,42E+01	2,08E-03	1,25E+00	4,53E-01	1,02E-03	1,33E-04	1,15E+00	4,02E-04	-9,16E+00
Ecotoxicity, freshwater ¹	CTUe	3,23E+03	2,74E+01	6,92E+01	3,33E+03	5,81E+00	1,10E+03	8,94E+01	1,27E-01	3,70E-01	5,71E+01	2,08E-01	-4,14E+02
Human toxicity, cancer ¹	CTUh	6,29E-07	5,53E-10	3,52E-09	6,33E-07	1,17E-10	1,33E-07	1,50E-06	6,26E-12	7,52E-12	8,05E-09	3,06E-11	-1,18E-07
Human toxicity, non-cancer ¹	CTUh	3,42E-06	3,31E-08	5,45E-08	3,51E-06	7,00E-09	1,46E-06	9,07E-07	9,10E-11	4,33E-10	4,64E-07	3,38E-09	-2,06E-06
Land Use ¹	Pt	5,67E+02	1,27E+01	2,38E+02	8,18E+02	2,69E+00	3,79E+01	5,18E+01	2,85E-02	1,71E-01	6,98E+01	7,35E-02	-9,61E+01

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	2,19E+02	2,68E+00	3,18E+00	2,25E+02	5,71E-01	1,42E+01	2,03E+02	1,60E-02	3,59E-02	1,95E+01	2,64E-02	-1,17E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	3,29 kg C

EPD Swegon CASA air handling units

Swegon CASA W5

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	4,28E+02	1,31E+00	3,45E+00	4,33E+02	1,07E+00	3,18E+01	2,35E+02	3,09E-02	7,05E-02	3,32E+01	5,87E-02	-
Global warming potential (GWP) – biogenic	kg CO2e	1,23E+01	-1,56E-03	-	1,01E+01	-1,27E-03	4,30E-01	2,19E-02	2,44E-05	-8,48E-05	3,08E+00	-1,71E-03	3,14E+00
Global warming potential (GWP) – luluc	kg CO2e	2,88E-01	1,07E-02	1,90E-02	3,18E-01	8,72E-03	2,05E-02	4,45E-02	2,65E-06	5,82E-04	4,95E-02	1,72E-04	-6,88E-02
Global warming potential (GWP) – total	kg CO2e	4,41E+02	1,32E+00	1,24E+00	4,43E+02	1,08E+00	3,22E+01	2,35E+02	3,10E-02	7,10E-02	3,63E+01	5,72E-02	2,35E+02
Ozone depletion (ODP)	kg CFC11e	1,22E-05	2,59E-16	3,69E-07	1,26E-05	2,11E-16	3,68E-06	1,62E-13	6,67E-09	1,41E-17	1,88E-11	2,28E-16	-1,18E-07
Acidification (AP)	mol H+e	1,66E+00	4,41E-03	2,43E-02	1,69E+00	3,44E-03	1,85E-01	8,48E-02	3,23E-04	7,94E-04	6,92E-02	4,18E-04	-8,09E-01
Eutrophication (EP) – freshwater	kg PO4e	6,93E-02	3,89E-06	1,58E-03	7,09E-02	3,17E-06	9,71E-03	3,78E-05	9,34E-07	2,11E-07	8,24E-05	9,86E-08	-1,05E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	3,79E-01	7,33E-04	1,05E-02	3,90E-01	5,70E-04	9,63E-02	8,40E-03	5,49E-05	1,37E-04	7,92E-03	3,77E-05	-5,22E-02
Eutrophication (EP) – marine	kg Ne	3,31E-01	2,03E-03	1,15E-02	3,45E-01	1,57E-03	5,41E-02	2,30E-02	1,43E-04	4,01E-04	1,90E-02	1,09E-04	-1,42E-01
Eutrophication (EP) – terrestrial	mol Ne	3,16E+00	2,26E-02	8,02E-02	3,26E+00	1,76E-02	3,79E-01	2,52E-01	1,57E-03	4,42E-03	2,06E-01	1,19E-03	1,53E+00
Photochemical ozone formation (POCP)	kg NMVOCe	9,53E-01	4,13E-03	1,97E-02	9,77E-01	3,10E-03	1,30E-01	6,23E-02	4,30E-04	7,36E-04	6,69E-02	3,29E-04	-4,64E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	3,45E-03	1,16E-07	1,80E-05	3,47E-03	9,45E-08	3,22E-04	2,93E-04	1,25E-08	6,31E-09	9,34E-06	5,54E-09	-1,73E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	5,84E+03	1,74E+01	5,11E+01	5,90E+03	1,42E+01	6,21E+02	2,32E+02	4,23E-01	9,48E-01	3,67E+02	7,79E-01	2,71E+03
Water deprivation potential (WDP) ¹	m3e depr.	2,21E+02	1,22E-02	3,72E+00	2,24E+02	9,90E-03	2,46E+01	4,06E+02	1,02E-03	6,60E-04	1,26E+00	6,30E-03	1,11E+02

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	8,35E+02	1,00E+00	1,78E+02	1,01E+03	8,18E-01	3,24E+01	7,04E+04	2,20E-03	5,45E-02	1,60E+02	1,05E-01	- 5,04E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	8,35E+02	1,00E+00	1,78E+02	1,01E+03	8,18E-01	3,24E+01	7,04E+04	2,20E-03	5,45E-02	1,60E+02	1,05E-01	- 5,04E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	5,84E+03	1,75E+01	5,11E+01	5,91E+03	1,43E+01	6,21E+02	2,32E+02	4,23E-01	9,51E-01	3,67E+02	7,79E-01	- 2,72E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	5,84E+03	1,75E+01	5,11E+01	5,91E+03	1,43E+01	6,21E+02	2,32E+02	4,23E-01	9,51E-01	3,67E+02	7,79E-01	- 2,72E+03
Use of secondary material (SM)	kg	3,83E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	5,43E-23	0,00E+00	0,00E+00	5,43E-23	0,00E+00							
Use of non-renewable secondary fuels (NRSF)	MJ	6,37E-22	0,00E+00	0,00E+00	6,37E-22	0,00E+00							
Net use of fresh water (FW)	m ³	6,25E+00	1,15E-03	2,81E-01	6,53E+00	9,36E-04	5,74E-01	1,58E+02	2,36E-05	6,25E-05	1,26E-01	1,92E-04	- 3,56E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	7,26E-04	9,23E-10	2,11E-07	7,26E-04	7,51E-10	0,00E+00	1,11E-06	0,00E+00	5,01E-11	1,11E-07	8,27E-11	-1,06E-06
Non-hazardous waste disposed (NHWD)	kg	3,16E+01	2,75E-03	6,43E-02	3,17E+01	2,24E-03	0,00E+00	1,51E+01	0,00E+00	1,49E-04	9,40E-01	3,89E+00	-2,86E+01
Radioactive waste disposed (RWD)	kg	7,93E-02	3,18E-05	6,37E-05	7,94E-02	2,59E-05	0,00E+00	5,75E-03	0,00E+00	1,73E-06	2,13E-02	8,18E-06	-6,10E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	2,66E+00	2,66E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,58E+01	4,08E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	2,60E+00	2,60E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,47E+00	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,74E-05	3,26E-08	2,87E-07	1,77E-05	1,99E-08	2,22E-06	1,47E-06	8,55E-09	4,31E-09	9,27E-07	5,19E-09	-8,64E-06
Ionising radiation, human health	kBq U235 eq.	4,62E+01	4,65E-03	4,47E-01	4,66E+01	3,78E-03	2,60E+00	5,21E-01	1,94E-03	2,52E-04	2,11E+00	8,61E-04	-1,57E+01
Ecotoxicity, freshwater ¹	CTUe	5,40E+03	1,29E+01	7,73E+01	5,49E+03	1,05E+01	2,19E+03	1,03E+02	2,41E-01	7,04E-01	1,07E+02	4,44E-01	-6,68E+02
Human toxicity, cancer ¹	CTUh	9,54E-07	2,62E-10	5,72E-09	9,60E-07	2,13E-10	2,64E-07	1,72E-06	1,19E-11	1,43E-11	1,13E-08	6,55E-11	-1,81E-07
Human toxicity, non-cancer ¹	CTUh	6,02E-06	1,54E-08	7,21E-08	6,11E-06	1,25E-08	2,92E-06	1,04E-06	1,73E-10	8,24E-10	9,96E-07	7,22E-09	-3,24E-06
Land Use ¹	Pt	1,04E+03	6,00E+00	4,18E+02	1,46E+03	4,88E+00	7,68E+01	5,95E+01	5,42E-02	3,26E-01	1,32E+02	1,57E-01	-1,38E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	4,09E+02	1,27E+00	3,33E+00	4,14E+02	1,04E+00	2,87E+01	2,34E+02	3,04E-02	6,83E-02	3,18E+01	5,66E-02	-2,28E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	4,18 kg C

EPD Swegon CASA air handling units

Swegon CASA R2

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO ₂ e	2,14E+02	1,86E+00	2,64E+00	2,18E+02	9,12E-01	2,57E+01	2,13E+02	1,71E-02	3,89E-02	1,99E+01	2,64E-02	-1,03E+02
Global warming potential (GWP) – biogenic	kg CO ₂ e	5,75E+00	-2,14E-03	-6,46E-01	5,10E+00	-9,89E-04	3,40E-01	1,99E-02	1,35E-05	-4,68E-05	4,89E+00	-7,67E-04	2,58E+00
Global warming potential (GWP) – luluc	kg CO ₂ e	1,56E-01	1,52E-02	1,42E-02	1,86E-01	7,48E-03	1,64E-02	4,05E-02	1,46E-06	3,21E-04	2,38E-02	7,76E-05	-2,94E-02
Global warming potential (GWP) – total	kg CO ₂ e	2,19E+02	1,87E+00	2,01E+00	2,23E+02	9,18E-01	2,61E+01	2,13E+02	1,71E-02	3,92E-02	2,48E+01	2,57E-02	-1,01E+02
Ozone depletion (ODP)	kg CFC11e	6,63E-06	3,67E-16	2,75E-07	6,91E-06	1,81E-16	3,01E-06	1,47E-13	3,68E-09	7,76E-18	5,56E-12	1,03E-16	-7,54E-08
Acidification (AP)	mol H+e	8,62E-01	8,80E-03	1,87E-02	8,89E-01	7,09E-03	1,49E-01	7,71E-02	1,78E-04	4,38E-04	3,51E-02	1,88E-04	-3,24E-01
Eutrophication (EP) – freshwater	kg PO ₄ e	5,18E-02	5,52E-06	1,23E-03	5,31E-02	2,72E-06	7,81E-03	3,43E-05	5,15E-07	1,17E-07	3,99E-05	4,43E-08	-6,02E-04
Eutrophication (EP) – freshwater	kg Phosphate eq.	2,56E-01	1,48E-03	8,18E-03	2,66E-01	1,21E-03	7,83E-02	7,64E-03	3,03E-05	7,59E-05	4,18E-03	1,70E-05	-2,25E-02
Eutrophication (EP) – marine	kg Ne	1,97E-01	4,22E-03	8,99E-03	2,11E-01	3,52E-03	4,38E-02	2,09E-02	7,89E-05	2,22E-04	1,00E-02	4,88E-05	-5,98E-02
Eutrophication (EP) – terrestrial	mol Ne	1,81E+00	4,67E-02	6,15E-02	1,92E+00	3,88E-02	3,04E-01	2,29E-01	8,64E-04	2,44E-03	1,12E-01	5,36E-04	-6,46E-01
Photochemical ozone formation (POCP)	kg NMVOCe	4,98E-01	1,03E-02	1,47E-02	5,23E-01	9,89E-03	1,05E-01	5,66E-02	2,37E-04	4,06E-04	3,42E-02	1,48E-04	-1,97E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	8,06E-03	1,65E-07	1,32E-05	8,08E-03	8,11E-08	2,62E-04	2,66E-04	6,89E-09	3,48E-09	4,45E-06	2,49E-09	-9,28E-04
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	2,93E+03	2,47E+01	3,87E+01	3,00E+03	1,22E+01	5,05E+02	2,11E+02	2,33E-01	5,23E-01	1,72E+02	3,50E-01	-1,15E+03
Water deprivation potential (WDP) ¹	m ³ e depr.	1,17E+02	1,72E-02	2,85E+00	1,20E+02	8,49E-03	2,02E+01	3,69E+02	5,60E-04	3,65E-04	1,81E+00	2,83E-03	-5,03E+01

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	3,57E+02	1,42E+00	1,26E+02	4,85E+02	7,01E-01	2,58E+01	6,40E+04	1,22E-03	3,01E-02	7,70E+01	4,72E-02	- 1,65E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	3,57E+02	1,42E+00	1,26E+02	4,85E+02	7,01E-01	2,58E+01	6,40E+04	1,22E-03	3,01E-02	7,70E+01	4,72E-02	- 1,65E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	2,93E+03	2,48E+01	3,87E+01	3,00E+03	1,22E+01	5,05E+02	2,11E+02	2,33E-01	5,25E-01	1,72E+02	3,50E-01	- 1,15E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	2,93E+03	2,48E+01	3,87E+01	3,00E+03	1,22E+01	5,05E+02	2,11E+02	2,33E-01	5,25E-01	1,72E+02	3,50E-01	- 1,15E+03
Use of secondary material (SM)	kg	1,86E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	3,11E+00	1,63E-03	2,18E-01	3,33E+00	8,03E-04	4,71E-01	1,43E+02	1,30E-05	3,45E-05	8,79E-02	8,64E-05	- 1,48E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	3,06E-04	1,31E-09	1,64E-07	3,06E-04	6,44E-10	0,00E+00	1,01E-06	0,00E+00	2,77E-11	5,19E-08	3,72E-11	-4,95E-07
Non-hazardous waste disposed (NHWD)	kg	1,29E+01	3,89E-03	5,02E-02	1,29E+01	1,92E-03	0,00E+00	1,38E+01	0,00E+00	8,24E-05	1,21E+00	1,75E+00	-9,37E+00
Radioactive waste disposed (RWD)	kg	3,10E-02	4,50E-05	4,97E-05	3,11E-02	2,22E-05	0,00E+00	5,23E-03	0,00E+00	9,53E-07	1,01E-02	3,68E-06	-2,14E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	2,07E+00	2,07E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,59E+01	2,03E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	2,03E+00	2,03E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,24E+00	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	8,86E-06	1,61E-07	2,16E-07	9,24E-06	2,02E-07	1,81E-06	1,33E-06	4,72E-09	2,38E-09	4,60E-07	2,34E-09	-3,45E-06
Ionising radiation, human health	kBq U235 eq.	2,18E+01	6,59E-03	3,56E-01	2,22E+01	3,24E-03	2,03E+00	4,73E-01	1,07E-03	1,39E-04	9,81E-01	3,87E-04	-5,53E+00
Ecotoxicity, freshwater ¹	CTUe	4,52E+03	1,84E+01	6,09E+01	4,60E+03	9,05E+00	1,81E+03	9,35E+01	1,33E-01	3,88E-01	5,19E+01	2,00E-01	-2,66E+02
Human toxicity, cancer ¹	CTUh	3,75E-07	3,71E-10	3,41E-09	3,78E-07	1,83E-10	2,19E-07	1,57E-06	6,57E-12	7,90E-12	5,77E-09	2,94E-11	-8,13E-08
Human toxicity, non-cancer ¹	CTUh	5,23E-06	2,26E-08	5,49E-08	5,31E-06	1,19E-08	2,39E-06	9,48E-07	9,54E-11	4,55E-10	4,94E-07	3,25E-09	-1,43E-06
Land Use ¹	Pt	6,02E+02	8,50E+00	2,54E+02	8,65E+02	4,19E+00	6,04E+01	5,41E+01	2,99E-02	1,80E-01	6,38E+01	7,07E-02	-7,45E+01

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	2,03E+02	1,80E+00	2,55E+00	2,08E+02	8,81E-01	2,32E+01	2,13E+02	1,68E-02	3,77E-02	1,92E+01	2,54E-02	-9,87E+01

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	2,83 kg C

EPD Swegon CASA air handling units

Swegon CASA R3

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	2,63E+02	1,29E+00	2,51E+00	2,67E+02	1,33E+00	4,28E+01	1,87E+02	1,90E-02	4,33E-02	2,40E+01	3,41E-02	-1,40E+02
Global warming potential (GWP) – biogenic	kg CO2e	6,91E+00	-1,52E-03	-6,59E-01	6,25E+00	-1,48E-03	5,77E-01	1,75E-02	1,50E-05	-5,21E-05	2,13E+00	-9,91E-04	1,34E+00
Global warming potential (GWP) – luluc	kg CO2e	2,04E-01	1,05E-02	1,41E-02	2,28E-01	1,09E-02	2,74E-02	3,55E-02	1,63E-06	3,57E-04	3,42E-02	1,00E-04	-5,50E-02
Global warming potential (GWP) – total	kg CO2e	2,70E+02	1,30E+00	1,86E+00	2,73E+02	1,34E+00	4,34E+01	1,87E+02	1,90E-02	4,36E-02	2,61E+01	3,32E-02	-1,38E+02
Ozone depletion (ODP)	kg CFC11e	7,90E-06	2,54E-16	2,75E-07	8,18E-06	2,64E-16	4,94E-06	1,29E-13	4,09E-09	8,63E-18	1,03E-11	1,33E-16	-2,26E-07
Acidification (AP)	mol H+e	1,06E+00	4,65E-03	1,59E-02	1,08E+00	8,66E-03	2,50E-01	6,77E-02	1,98E-04	4,87E-04	4,36E-02	2,43E-04	-5,11E-01
Eutrophication (EP) – freshwater	kg PO4e	5,72E-02	3,82E-06	1,23E-03	5,85E-02	3,97E-06	1,31E-02	3,02E-05	5,73E-07	1,30E-07	5,68E-05	5,73E-08	-1,92E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	2,85E-01	7,75E-04	7,88E-03	2,94E-01	1,47E-03	1,29E-01	6,71E-03	3,37E-05	8,44E-05	5,22E-03	2,19E-05	-3,55E-02
Eutrophication (EP) – marine	kg Ne	2,29E-01	2,16E-03	8,08E-03	2,39E-01	4,25E-03	7,25E-02	1,84E-02	9,61E-04	2,71E-03	1,35E-01	6,93E-04	-9,14E-01
Eutrophication (EP) – terrestrial	mol Ne	2,01E+00	2,41E-02	5,15E-02	2,09E+00	4,69E-02	5,12E-01	2,01E-01	8,64E-04	2,44E-03	1,12E-01	5,36E-04	-6,47E-01
Photochemical ozone formation (POCP)	kg NMVOCe	6,01E-01	4,62E-03	1,18E-02	6,17E-01	1,15E-02	1,75E-01	4,97E-02	2,64E-04	4,52E-04	4,18E-02	1,91E-04	-2,82E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	1,03E-02	1,14E-07	1,31E-05	1,03E-02	1,18E-07	4,33E-04	2,34E-04	7,67E-09	3,87E-09	6,32E-06	3,22E-09	-3,20E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	3,62E+03	1,71E+01	3,82E+01	3,68E+03	1,78E+01	8,34E+02	1,85E+02	2,59E-01	5,82E-01	2,52E+02	4,52E-01	-1,59E+03
Water deprivation potential (WDP) ¹	m3e depr.	1,22E+02	1,19E-02	2,27E+00	1,25E+02	1,24E-02	3,30E+01	3,24E+02	6,23E-04	4,06E-04	1,04E+00	3,66E-03	-6,40E+01

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	5,27E+02	9,85E-01	8,23E+01	6,10E+02	1,02E+00	4,26E+01	5,62E+04	1,35E-03	3,35E-02	1,10E+02	6,10E-02	- 2,86E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	5,27E+02	9,85E-01	8,23E+01	6,10E+02	1,02E+00	4,26E+01	5,62E+04	1,35E-03	3,35E-02	1,10E+02	6,10E-02	- 2,86E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	3,62E+03	1,72E+01	3,82E+01	3,68E+03	1,79E+01	8,35E+02	1,86E+02	2,59E-01	5,84E-01	2,52E+02	4,53E-01	- 1,59E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	3,62E+03	1,72E+01	3,82E+01	3,68E+03	1,79E+01	8,35E+02	1,86E+02	2,59E-01	5,84E-01	2,52E+02	4,53E-01	- 1,59E+03
Use of secondary material (SM)	kg	2,29E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	3,46E+00	1,13E-03	1,38E-01	3,60E+00	1,17E-03	7,68E-01	1,26E+02	1,45E-05	3,84E-05	8,67E-02	1,12E-04	- 2,02E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	2,35E-04	9,05E-10	9,18E-08	2,35E-04	9,41E-10	0,00E+00	8,84E-07	0,00E+00	3,08E-11	7,77E-08	4,81E-11	-5,95E-07
Non-hazardous waste disposed (NHWD)	kg	1,93E+01	2,69E-03	2,80E-02	1,93E+01	2,80E-03	0,00E+00	1,21E+01	0,00E+00	9,17E-05	6,65E-01	2,26E+00	-1,69E+01
Radioactive waste disposed (RWD)	kg	5,07E-02	3,11E-05	2,77E-05	5,08E-02	3,24E-05	0,00E+00	4,60E-03	0,00E+00	1,06E-06	1,45E-02	4,75E-06	-3,39E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	1,16E+00	1,16E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,62E+01	2,55E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	1,13E+00	1,13E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,70E+00	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,07E-05	4,66E-08	1,96E-07	1,10E-05	2,20E-07	2,98E-06	1,17E-06	5,25E-09	2,65E-09	6,65E-07	3,02E-09	-5,44E-06
Ionising radiation, human health	kBq U235 eq.	2,80E+01	4,56E-03	3,53E-01	2,84E+01	4,74E-03	3,53E+00	4,16E-01	1,19E-03	1,55E-04	1,42E+00	5,00E-04	-8,91E+00
Ecotoxicity, freshwater ¹	CTUe	4,72E+03	1,27E+01	6,06E+01	4,80E+03	1,32E+01	2,91E+03	8,21E+01	1,48E-01	4,32E-01	7,23E+01	2,58E-01	-4,69E+02
Human toxicity, cancer ¹	CTUh	4,16E-07	2,57E-10	2,61E-09	4,19E-07	2,67E-10	3,52E-07	1,38E-06	7,31E-12	8,79E-12	1,06E-08	3,80E-11	-1,46E-07
Human toxicity, non-cancer ¹	CTUh	4,27E-06	1,52E-08	4,35E-08	4,33E-06	1,69E-08	3,92E-06	8,33E-07	1,06E-10	5,06E-10	5,92E-07	4,20E-09	-2,57E-06
Land Use ¹	Pt	7,24E+02	5,88E+00	2,01E+02	9,30E+02	6,11E+00	9,81E+01	4,75E+01	3,33E-02	2,00E-01	9,05E+01	9,14E-02	-1,26E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	2,51E+02	1,25E+00	2,43E+00	2,55E+02	1,29E+00	3,86E+01	1,87E+02	1,86E-02	4,19E-02	2,31E+01	3,29E-02	-1,34E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	2,83 kg C

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EPD Swegon CASA air handling units

Swegon CASA R5

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	4,30E+02	1,68E+00	2,23E+00	4,34E+02	1,97E+00	5,16E+01	3,11E+02	2,87E-02	6,53E-02	3,33E+01	5,26E-02	- 2,35E+02
Global warming potential (GWP) – biogenic	kg CO2e	1,08E+01	-1,97E-03	-7,32E-01	1,01E+01	-2,19E-03	6,87E-01	2,91E-02	2,26E-05	-7,86E-05	3,32E+00	-1,53E-03	1,80E+00
Global warming potential (GWP) – luluc	kg CO2e	3,29E-01	1,37E-02	1,19E-02	3,55E-01	1,61E-02	3,28E-02	5,91E-02	2,46E-06	5,39E-04	4,64E-02	1,55E-04	-8,27E-02
Global warming potential (GWP) – total	kg CO2e	4,42E+02	1,69E+00	1,51E+00	4,45E+02	1,98E+00	5,24E+01	3,11E+02	2,87E-02	6,58E-02	3,67E+01	5,12E-02	- 2,33E+02
Ozone depletion (ODP)	kg CFC11e	1,22E-05	3,30E-16	2,34E-07	1,24E-05	3,90E-16	6,02E-06	2,15E-13	6,19E-09	1,30E-17	2,32E-11	2,04E-16	-2,27E-07
Acidification (AP)	mol H+e	1,77E+00	6,48E-03	1,57E-02	1,79E+00	1,28E-02	2,99E-01	1,13E-01	2,99E-04	7,36E-04	6,46E-02	3,75E-04	-8,84E-01
Eutrophication (EP) – freshwater	kg PO4e	8,17E-02	4,97E-06	1,06E-03	8,27E-02	5,86E-06	1,57E-02	5,01E-05	8,66E-07	1,96E-07	7,74E-05	8,83E-08	-1,96E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	4,22E-01	1,08E-03	6,97E-03	4,30E-01	2,18E-03	1,57E-01	1,11E-02	5,10E-05	1,27E-04	7,58E-03	3,38E-05	-5,60E-02
Eutrophication (EP) – marine	kg Ne	3,57E-01	3,04E-03	7,54E-03	3,67E-01	6,28E-03	8,78E-02	3,05E-02	1,33E-04	3,72E-04	1,82E-02	9,72E-05	-1,43E-01
Eutrophication (EP) – terrestrial	mol Ne	3,27E+00	3,38E-02	5,12E-02	3,36E+00	6,94E-02	6,10E-01	3,34E-01	1,45E-03	4,10E-03	1,99E-01	1,07E-03	- 1,55E+00
Photochemical ozone formation (POCP)	kg NMVOCe	9,75E-01	6,76E-03	1,22E-02	9,94E-01	1,70E-02	2,10E-01	8,27E-02	3,99E-04	6,83E-04	6,19E-02	2,95E-04	-4,68E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	1,09E-02	1,48E-07	1,14E-05	1,09E-02	1,75E-07	5,24E-04	3,88E-04	1,16E-08	5,85E-09	8,72E-06	4,96E-09	-3,35E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	5,95E+03	2,23E+01	3,33E+01	6,00E+03	2,63E+01	1,01E+03	3,08E+02	3,92E-01	8,79E-01	3,62E+02	6,98E-01	- 2,73E+03
Water deprivation potential (WDP) ¹	m3e depr.	1,85E+02	1,55E-02	2,37E+00	1,87E+02	1,83E-02	4,05E+01	5,39E+02	9,42E-04	6,12E-04	1,46E+00	5,64E-03	- 9,79E+01

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	9,98E+02	1,28E+00	1,04E+02	1,10E+03	1,51E+00	5,14E+01	9,35E+04	2,04E-03	5,06E-02	1,50E+02	9,40E-02	- 6,13E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	9,98E+02	1,28E+00	1,04E+02	1,10E+03	1,51E+00	5,14E+01	9,35E+04	2,04E-03	5,06E-02	1,50E+02	9,40E-02	- 6,13E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	5,95E+03	2,24E+01	3,33E+01	6,00E+03	2,64E+01	1,01E+03	3,08E+02	3,92E-01	8,82E-01	3,62E+02	6,98E-01	- 2,73E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	5,95E+03	2,24E+01	3,33E+01	6,00E+03	2,64E+01	1,01E+03	3,08E+02	3,92E-01	8,82E-01	3,62E+02	6,98E-01	- 2,73E+03
Use of secondary material (SM)	kg	3,27E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	5,63E+00	1,47E-03	1,75E-01	5,80E+00	1,73E-03	9,42E-01	2,09E+02	2,19E-05	5,79E-05	1,21E-01	1,72E-04	- 3,44E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	2,84E-04	1,18E-09	1,30E-07	2,84E-04	1,39E-09	0,00E+00	1,47E-06	0,00E+00	4,65E-11	1,09E-07	7,41E-11	-9,06E-07
Non-hazardous waste disposed (NHWD)	kg	3,86E+01	3,51E-03	3,97E-02	3,87E+01	4,14E-03	0,00E+00	2,01E+01	0,00E+00	1,38E-04	1,09E+00	3,48E+00	-3,43E+01
Radioactive waste disposed (RWD)	kg	1,06E-01	4,06E-05	3,93E-05	1,06E-01	4,78E-05	0,00E+00	7,64E-03	0,00E+00	1,60E-06	2,05E-02	7,33E-06	-7,59E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	1,64E+00	1,64E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,95E+01	3,78E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	1,61E+00	1,61E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,91E+00	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,79E-05	7,97E-08	1,80E-07	1,82E-05	3,24E-07	3,63E-06	1,95E-06	7,93E-09	4,00E-09	9,03E-07	4,65E-09	-9,37E-06
Ionising radiation, human health	kBq U235 eq.	4,87E+01	5,93E-03	3,15E-01	4,90E+01	7,00E-03	4,08E+00	6,91E-01	1,80E-03	2,34E-04	2,07E+00	7,71E-04	-1,84E+01
Ecotoxicity, freshwater ¹	CTUe	6,71E+03	1,65E+01	5,36E+01	6,78E+03	1,95E+01	3,62E+03	1,36E+02	2,24E-01	6,52E-01	1,01E+02	3,98E-01	-7,82E+02
Human toxicity, cancer ¹	CTUh	6,35E-07	3,34E-10	2,98E-09	6,38E-07	3,94E-10	4,38E-07	2,29E-06	1,10E-11	1,33E-11	1,29E-08	5,86E-11	-2,05E-07
Human toxicity, non-cancer ¹	CTUh	6,65E-06	1,99E-08	4,60E-08	6,71E-06	2,50E-08	4,80E-06	1,38E-06	1,60E-10	7,64E-10	8,53E-07	6,47E-09	-3,69E-06
Land Use ¹	Pt	1,10E+03	7,66E+00	2,21E+02	1,33E+03	9,03E+00	1,19E+02	7,90E+01	5,03E-02	3,02E-01	1,24E+02	1,41E-01	-1,70E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	4,13E+02	1,62E+00	2,16E+00	4,17E+02	1,90E+00	4,65E+01	3,10E+02	2,82E-02	6,33E-02	3,20E+01	5,07E-02	-2,26E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	2,49 kg C

EPD Swegon CASA air handling units

Swegon CASA R5H

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	2,67E+02	2,24E+00	3,74E+00	2,73E+02	9,48E-01	4,98E+01	2,24E+02	1,97E-02	4,50E-02	2,26E+01	3,20E-02	-1,38E+02
Global warming potential (GWP) – biogenic	kg CO2e	6,85E+00	-2,58E-03	-1,38E+00	5,47E+00	-1,02E-03	6,56E-01	2,09E-02	1,56E-05	-5,41E-05	4,81E+00	-9,31E-04	4,24E+00
Global warming potential (GWP) – luluc	kg CO2e	1,96E-01	1,83E-02	2,04E-02	2,35E-01	7,78E-03	3,17E-02	4,25E-02	1,69E-06	3,71E-04	2,73E-02	9,41E-05	-4,10E-02
Global warming potential (GWP) – total	kg CO2e	2,74E+02	2,25E+00	2,39E+00	2,78E+02	9,55E-01	5,05E+01	2,24E+02	1,98E-02	4,53E-02	2,75E+01	3,12E-02	-1,34E+02
Ozone depletion (ODP)	kg CFC11e	7,89E-06	4,42E-16	3,88E-07	8,27E-06	1,88E-16	5,82E-06	1,55E-13	4,26E-09	8,97E-18	1,15E-11	1,24E-16	-8,75E-08
Acidification (AP)	mol H+e	1,08E+00	1,06E-02	2,74E-02	1,12E+00	7,90E-03	2,88E-01	8,09E-02	2,06E-04	5,07E-04	4,13E-02	2,28E-04	-4,76E-01
Eutrophication (EP) – freshwater	kg PO4e	5,88E-02	6,65E-06	1,69E-03	6,05E-02	2,83E-06	1,51E-02	3,60E-05	5,96E-07	1,35E-07	4,58E-05	5,38E-08	-7,17E-04
Eutrophication (EP) – freshwater	kg Phosphate eq.	2,97E-01	1,79E-03	1,14E-02	3,10E-01	1,35E-03	1,51E-01	8,02E-03	3,51E-05	8,78E-05	4,87E-03	2,06E-05	-3,05E-02
Eutrophication (EP) – marine	kg Ne	2,38E-01	5,08E-03	1,29E-02	2,56E-01	3,94E-03	8,48E-02	2,19E-02	9,13E-05	2,56E-04	1,18E-02	5,92E-05	-8,16E-02
Eutrophication (EP) – terrestrial	mol Ne	2,18E+00	5,63E-02	9,11E-02	2,33E+00	4,34E-02	5,88E-01	2,41E-01	1,00E-03	2,82E-03	1,31E-01	6,51E-04	-8,82E-01
Photochemical ozone formation (POCP)	kg NMVOCe	6,14E-01	1,24E-02	2,23E-02	6,49E-01	1,12E-02	2,03E-01	5,95E-02	2,75E-04	4,70E-04	3,99E-02	1,79E-04	-2,67E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	8,10E-03	1,98E-07	1,86E-05	8,11E-03	8,44E-08	5,06E-04	2,79E-04	7,98E-09	4,03E-09	5,15E-06	3,02E-09	-1,10E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	3,68E+03	2,98E+01	5,39E+01	3,76E+03	1,27E+01	9,77E+02	2,21E+02	2,70E-01	6,05E-01	2,09E+02	4,25E-01	-1,58E+03
Water deprivation potential (WDP) ¹	m3e depr.	1,37E+02	2,08E-02	4,28E+00	1,41E+02	8,84E-03	3,91E+01	3,88E+02	6,48E-04	4,22E-04	1,82E+00	3,44E-03	-5,99E+01

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	5,31E+02	1,71E+00	2,06E+02	7,38E+02	7,30E-01	5,01E+01	6,72E+04	1,41E-03	3,48E-02	8,85E+01	5,73E-02	- 3,12E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	5,31E+02	1,71E+00	2,06E+02	7,38E+02	7,30E-01	5,01E+01	6,72E+04	1,41E-03	3,48E-02	8,85E+01	5,73E-02	- 3,12E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	3,68E+03	2,99E+01	5,39E+01	3,77E+03	1,27E+01	9,77E+02	2,22E+02	2,70E-01	6,07E-01	2,09E+02	4,25E-01	- 1,58E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	3,68E+03	2,99E+01	5,39E+01	3,77E+03	1,27E+01	9,77E+02	2,22E+02	2,70E-01	6,07E-01	2,09E+02	4,25E-01	- 1,58E+03
Use of secondary material (SM)	kg	2,12E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	3,84E+00	1,96E-03	3,49E-01	4,19E+00	8,36E-04	9,11E-01	1,51E+02	1,51E-05	3,99E-05	9,50E-02	1,05E-04	- 2,00E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1,55E-04	1,58E-09	2,70E-07	1,55E-04	6,71E-10	0,00E+00	1,06E-06	0,00E+00	3,20E-11	6,25E-08	4,52E-11	-5,79E-07
Non-hazardous waste disposed (NHWD)	kg	1,97E+01	4,69E-03	8,25E-02	1,98E+01	2,00E-03	0,00E+00	1,44E+01	0,00E+00	9,53E-05	1,27E+00	2,12E+00	-1,71E+01
Radioactive waste disposed (RWD)	kg	5,19E-02	5,42E-05	8,17E-05	5,21E-02	2,31E-05	0,00E+00	5,49E-03	0,00E+00	1,10E-06	1,20E-02	4,46E-06	-4,03E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	3,41E+00	3,41E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,31E+01	2,41E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	3,34E+00	3,34E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,05E+00	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,11E-05	1,93E-07	3,16E-07	1,17E-05	2,34E-07	3,50E-06	1,40E-06	5,46E-09	2,75E-09	5,32E-07	2,83E-09	-5,05E-06
Ionising radiation, human health	kBq U235 eq.	2,86E+01	7,93E-03	4,69E-01	2,90E+01	3,38E-03	3,94E+00	4,97E-01	1,24E-03	1,61E-04	1,20E+00	4,70E-04	-9,68E+00
Ecotoxicity, freshwater ¹	CTUe	5,15E+03	2,21E+01	8,10E+01	5,26E+03	9,42E+00	3,50E+03	9,82E+01	1,54E-01	4,49E-01	6,06E+01	2,42E-01	-4,02E+02
Human toxicity, cancer ¹	CTUh	4,18E-07	4,47E-10	5,64E-09	4,24E-07	1,90E-10	4,24E-07	1,64E-06	7,60E-12	9,14E-12	6,66E-09	3,57E-11	-1,06E-07
Human toxicity, non-cancer ¹	CTUh	5,76E-06	2,72E-08	8,23E-08	5,87E-06	1,26E-08	4,63E-06	9,96E-07	1,10E-10	5,26E-10	5,56E-07	3,94E-09	-1,89E-06
Land Use ¹	Pt	7,11E+02	1,02E+01	4,14E+02	1,14E+03	4,36E+00	1,18E+02	5,68E+01	3,46E-02	2,08E-01	7,35E+01	8,58E-02	-9,16E+01

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	2,54E+02	2,17E+00	3,62E+00	2,60E+02	9,16E-01	4,48E+01	2,23E+02	1,94E-02	4,36E-02	2,18E+01	3,09E-02	-1,32E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	4,08 kg C

EPD Swegon CASA air handling units

Swegon CASA R7H

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	4,05E+02	3,40E+00	1,53E+00	4,10E+02	1,81E+00	6,37E+01	5,00E+02	2,93E-02	6,67E-02	3,25E+01	5,15E-02	-2,12E+02
Global warming potential (GWP) – biogenic	kg CO2e	1,10E+01	-3,92E-03	-1,80E+00	9,21E+00	-2,01E-03	8,36E-01	4,67E-02	2,31E-05	-8,02E-05	5,07E+00	-1,49E-03	5,30E+00
Global warming potential (GWP) – luluc	kg CO2e	2,95E-01	2,78E-02	5,15E-03	3,28E-01	1,48E-02	4,07E-02	9,48E-02	2,51E-06	5,51E-04	4,39E-02	1,51E-04	-6,22E-02
Global warming potential (GWP) – total	kg CO2e	4,16E+02	3,43E+00	-2,69E-01	4,19E+02	1,82E+00	6,46E+01	5,00E+02	2,93E-02	6,72E-02	3,76E+01	5,01E-02	-2,07E+02
Ozone depletion (ODP)	kg CFC11e	1,20E-05	6,72E-16	1,08E-07	1,21E-05	3,58E-16	7,44E-06	3,45E-13	6,31E-09	1,33E-17	1,67E-11	2,00E-16	-1,22E-07
Acidification (AP)	mol H+e	1,64E+00	1,64E-02	1,85E-02	1,67E+00	1,23E-02	3,69E-01	1,81E-01	3,05E-04	7,51E-04	6,33E-02	3,66E-04	-7,23E-01
Eutrophication (EP) – freshwater	kg PO4e	8,10E-02	1,01E-05	4,85E-04	8,15E-02	5,39E-06	1,94E-02	8,04E-05	8,84E-07	2,00E-07	7,32E-05	8,64E-08	-1,04E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	4,17E-01	2,77E-03	4,45E-03	4,25E-01	2,10E-03	1,94E-01	1,79E-02	5,20E-05	1,30E-04	7,36E-03	3,31E-05	-4,68E-02
Eutrophication (EP) – marine	kg Ne	3,44E-01	7,88E-03	6,85E-03	3,58E-01	6,06E-03	1,09E-01	4,90E-02	1,35E-04	3,80E-04	1,77E-02	9,51E-05	-1,26E-01
Eutrophication (EP) – terrestrial	mol Ne	3,26E+00	8,73E-02	6,32E-02	3,41E+00	6,69E-02	7,54E-01	5,37E-01	1,48E-03	4,18E-03	1,94E-01	1,05E-03	-1,36E+00
Photochemical ozone formation (POCP)	kg NMVOCe	9,27E-01	1,94E-02	1,74E-02	9,63E-01	1,65E-02	2,60E-01	1,33E-01	4,07E-04	6,97E-04	6,13E-02	2,88E-04	-4,13E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	9,33E-03	3,02E-07	6,43E-06	9,33E-03	1,61E-07	6,47E-04	6,23E-04	1,18E-08	5,97E-09	8,27E-06	4,86E-09	-1,65E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	5,42E+03	4,53E+01	1,91E+01	5,49E+03	2,42E+01	1,25E+03	4,94E+02	4,00E-01	8,97E-01	3,28E+02	6,83E-01	-2,42E+03
Water deprivation potential (WDP) ¹	m3e depr.	1,97E+02	3,16E-02	3,44E+00	2,01E+02	1,68E-02	5,00E+01	8,65E+02	9,61E-04	6,25E-04	1,96E+00	5,52E-03	-9,68E+01

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	8,17E+02	2,61E+00	2,35E+02	1,05E+03	1,39E+00	6,47E+01	1,50E+05	2,08E-03	5,16E-02	1,42E+02	9,20E-02	-4,54E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	8,17E+02	2,61E+00	2,35E+02	1,05E+03	1,39E+00	6,47E+01	1,50E+05	2,08E-03	5,16E-02	1,42E+02	9,20E-02	-4,54E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	5,42E+03	4,55E+01	1,91E+01	5,49E+03	2,43E+01	1,25E+03	4,95E+02	4,00E-01	9,00E-01	3,28E+02	6,83E-01	-2,42E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	5,42E+03	4,55E+01	1,91E+01	5,49E+03	2,43E+01	1,25E+03	4,95E+02	4,00E-01	9,00E-01	3,28E+02	6,83E-01	-2,42E+03
Use of secondary material (SM)	kg	3,27E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	5,63E+00	2,99E-03	3,94E-01	6,03E+00	1,59E-03	1,16E+00	3,36E+02	2,24E-05	5,91E-05	1,30E-01	1,68E-04	-3,13E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	3,22E-04	2,40E-09	3,41E-07	3,23E-04	1,28E-09	0,00E+00	2,36E-06	0,00E+00	4,74E-11	9,87E-08	7,25E-11	-9,30E-07
Non-hazardous waste disposed (NHWD)	kg	3,16E+01	7,14E-03	1,04E-01	3,17E+01	3,81E-03	0,00E+00	3,22E+01	0,00E+00	1,41E-04	1,39E+00	3,41E+00	-2,54E+01
Radioactive waste disposed (RWD)	kg	7,85E-02	8,25E-05	1,03E-04	7,87E-02	4,40E-05	0,00E+00	1,23E-02	0,00E+00	1,63E-06	1,90E-02	7,17E-06	-5,65E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	4,89E+00	4,89E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,64E+01	4,69E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	4,79E+00	4,79E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+01	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,66E-05	3,07E-07	1,55E-07	1,70E-05	3,22E-07	4,48E-06	3,12E-06	8,09E-09	4,08E-09	8,36E-07	4,55E-09	-7,70E-06
Ionising radiation, human health	kBq U235 eq.	4,40E+01	1,21E-02	2,01E-01	4,42E+01	6,44E-03	5,07E+00	1,11E+00	1,83E-03	2,39E-04	1,89E+00	7,54E-04	-1,41E+01
Ecotoxicity, freshwater ¹	CTUe	6,45E+03	3,36E+01	3,28E+01	6,51E+03	1,80E+01	4,47E+03	2,19E+02	2,28E-01	6,66E-01	9,57E+01	3,89E-01	-6,02E+02
Human toxicity, cancer ¹	CTUh	6,65E-07	6,80E-10	5,95E-09	6,72E-07	3,63E-10	5,41E-07	3,67E-06	1,13E-11	1,35E-11	1,03E-08	5,74E-11	-1,63E-07
Human toxicity, non-cancer ¹	CTUh	8,16E-06	4,15E-08	6,88E-08	8,27E-06	2,32E-08	5,92E-06	2,22E-06	1,64E-10	7,79E-10	8,87E-07	6,33E-09	-2,91E-06
Land Use ¹	Pt	1,06E+03	1,56E+01	4,08E+02	1,48E+03	8,31E+00	1,53E+02	1,27E+02	5,13E-02	3,08E-01	1,18E+02	1,38E-01	-1,33E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	3,87E+02	3,30E+00	1,46E+00	3,92E+02	1,75E+00	5,74E+01	4,98E+02	2,87E-02	6,46E-02	3,13E+01	4,96E-02	-2,03E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	1,73 kg C

EPD Swegon CASA air handling units

Swegon CASA R7V

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	4,86E+02	4,24E+00	1,46E+00	4,92E+02	2,26E+00	6,37E+01	4,06E+02	3,66E-02	8,35E-02	3,97E+01	6,64E-02	-2,58E+02
Global warming potential (GWP) – biogenic	kg CO2e	1,42E+01	-4,88E-03	-1,84E+00	1,24E+01	-2,50E-03	8,36E-01	3,80E-02	2,88E-05	-1,00E-04	5,47E+00	-1,93E-03	6,03E+00
Global warming potential (GWP) – luluc	kg CO2e	3,37E-01	3,47E-02	4,73E-03	3,76E-01	1,85E-02	4,07E-02	7,70E-02	3,13E-06	6,89E-04	5,69E-02	1,95E-04	-7,19E-02
Global warming potential (GWP) – total	kg CO2e	5,01E+02	4,27E+00	-3,77E-01	5,05E+02	2,28E+00	6,46E+01	4,06E+02	3,66E-02	8,41E-02	4,52E+01	6,46E-02	-2,52E+02
Ozone depletion (ODP)	kg CFC11e	1,49E-05	8,37E-16	1,08E-07	1,50E-05	4,48E-16	7,44E-06	2,80E-13	7,89E-09	1,66E-17	1,69E-11	2,58E-16	-1,22E-07
Acidification (AP)	mol H+e	1,91E+00	2,07E-02	9,72E-03	1,94E+00	1,54E-02	3,69E-01	1,47E-01	3,81E-04	9,40E-04	8,01E-02	4,73E-04	-8,37E-01
Eutrophication (EP) – freshwater	kg PO4e	9,67E-02	1,26E-05	4,85E-04	9,72E-02	6,74E-06	1,94E-02	6,53E-05	1,10E-06	2,50E-07	9,48E-05	1,11E-07	-1,06E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	4,99E-01	3,50E-03	3,48E-03	5,06E-01	2,62E-03	1,94E-01	1,45E-02	6,50E-05	1,63E-04	9,22E-03	4,26E-05	-5,56E-02
Eutrophication (EP) – marine	kg Ne	4,06E-01	9,95E-03	3,97E-03	4,20E-01	7,57E-03	1,09E-01	3,98E-02	1,69E-04	4,75E-04	2,21E-02	1,23E-04	-1,52E-01
Eutrophication (EP) – terrestrial	mol Ne	3,84E+00	1,10E-01	3,16E-02	3,98E+00	8,35E-02	7,54E-01	4,36E-01	1,85E-03	5,24E-03	2,42E-01	1,35E-03	-1,64E+00
Photochemical ozone formation (POCP)	kg NMVOCe	1,11E+00	2,46E-02	8,37E-03	1,14E+00	2,07E-02	2,60E-01	1,08E-01	5,09E-04	8,72E-04	7,77E-02	3,72E-04	-4,99E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	9,71E-03	3,76E-07	6,49E-06	9,72E-03	2,01E-07	6,47E-04	5,06E-04	1,48E-08	7,47E-09	1,07E-05	6,26E-09	-1,83E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	6,49E+03	5,65E+01	1,76E+01	6,57E+03	3,02E+01	1,25E+03	4,01E+02	5,00E-01	1,12E+00	4,12E+02	8,81E-01	-2,91E+03
Water deprivation potential (WDP) ¹	m3e depr.	2,45E+02	3,94E-02	3,78E+00	2,49E+02	2,10E-02	5,00E+01	7,03E+02	1,20E-03	7,82E-04	2,09E+00	7,12E-03	-1,26E+02

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	8,88E+02	3,25E+00	1,98E+02	1,09E+03	1,74E+00	6,47E+01	1,22E+05	2,61E-03	6,46E-02	1,84E+02	1,19E-01	-
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	8,88E+02	3,25E+00	1,98E+02	1,09E+03	1,74E+00	6,47E+01	1,22E+05	2,61E-03	6,46E-02	1,84E+02	1,19E-01	4,69E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	6,50E+03	5,67E+01	1,76E+01	6,57E+03	3,03E+01	1,25E+03	4,02E+02	5,00E-01	1,13E+00	4,12E+02	8,81E-01	-
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	6,50E+03	5,67E+01	1,76E+01	6,57E+03	3,03E+01	1,25E+03	4,02E+02	5,00E-01	1,13E+00	4,12E+02	8,81E-01	2,92E+03
Use of secondary material (SM)	kg	4,45E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	6,80E+00	3,72E-03	4,45E-01	7,24E+00	1,99E-03	1,16E+00	2,73E+02	2,80E-05	7,40E-05	1,59E-01	2,17E-04	-

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	3,22E-04	2,99E-09	1,09E-07	3,23E-04	1,60E-09	0,00E+00	1,91E-06	0,00E+00	5,94E-11	1,24E-07	9,35E-11	-1,22E-06
Non-hazardous waste disposed (NHWD)	kg	3,34E+01	8,90E-03	6,62E-02	3,35E+01	4,76E-03	0,00E+00	2,62E+01	0,00E+00	1,77E-04	1,46E+00	4,39E+00	-2,69E+01
Radioactive waste disposed (RWD)	kg	7,90E-02	1,03E-04	4,25E-05	7,91E-02	5,50E-05	0,00E+00	9,96E-03	0,00E+00	2,04E-06	2,42E-02	9,25E-06	-5,68E-02

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	4,29E+00	4,29E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,77E+01	3,71E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	4,29E+00	4,29E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,77E+01	3,71E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	1,92E-05	3,94E-07	9,40E-08	1,97E-05	4,02E-07	4,48E-06	2,54E-06	1,01E-08	5,11E-09	1,06E-06	5,87E-09	-8,96E-06
Ionising radiation, human health	kBq U235 eq.	5,20E+01	1,50E-02	1,91E-01	5,22E+01	8,04E-03	5,07E+00	9,01E-01	2,29E-03	2,99E-04	2,36E+00	9,73E-04	-1,51E+01
Ecotoxicity, freshwater ¹	CTUe	7,33E+03	4,19E+01	3,18E+01	7,41E+03	2,24E+01	4,47E+03	1,78E+02	2,85E-01	8,33E-01	1,22E+02	5,02E-01	-6,76E+02
Human toxicity, cancer ¹	CTUh	8,29E-07	8,48E-10	5,93E-09	8,36E-07	4,53E-10	5,41E-07	2,98E-06	1,41E-11	1,70E-11	1,27E-08	7,40E-11	-1,94E-07
Human toxicity, non-cancer ¹	CTUh	9,38E-06	5,17E-08	3,42E-08	9,47E-06	2,89E-08	5,92E-06	1,80E-06	2,05E-10	9,76E-10	1,17E-06	8,17E-09	-3,45E-06
Land Use ¹	Pt	1,29E+03	1,94E+01	2,37E+02	1,55E+03	1,04E+01	1,53E+02	1,03E+02	6,41E-02	3,86E-01	1,52E+02	1,78E-01	-1,54E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	4,65E+02	4,11E+00	1,41E+00	4,71E+02	2,19E+00	5,74E+01	4,05E+02	3,59E-02	8,09E-02	3,81E+01	6,39E-02	-2,46E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	1,73 kg C

EPD Swegon CASA air handling units

Swegon CASA R9V

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	7,84E+02	6,50E+00	1,63E+00	7,92E+02	3,76E+00	1,25E+02	6,05E+02	6,12E-02	1,39E-01	6,40E+01	1,06E-01	-4,21E+02
Global warming potential (GWP) – biogenic	kg CO2e	2,29E+01	-7,47E-03	-1,79E+00	2,11E+01	-4,16E-03	1,66E+00	5,65E-02	4,83E-05	-1,67E-04	1,39E+01	-3,07E-03	5,96E+00
Global warming potential (GWP) – luluc	kg CO2e	5,29E-01	5,31E-02	5,27E-03	5,87E-01	3,08E-02	7,87E-02	1,15E-01	5,24E-06	1,15E-03	8,76E-02	3,11E-04	-1,14E-01
Global warming potential (GWP) – total	kg CO2e	8,08E+02	6,55E+00	-1,59E-01	8,14E+02	3,79E+00	1,26E+02	6,05E+02	6,13E-02	1,40E-01	7,80E+01	1,03E-01	-4,15E+02
Ozone depletion (ODP)	kg CFC11e	2,34E-05	1,28E-15	1,08E-07	2,35E-05	7,44E-16	1,46E-05	4,17E-13	1,32E-08	2,77E-17	2,95E-11	4,11E-16	-1,20E-07
Acidification (AP)	mol H+e	3,13E+00	3,22E-02	2,06E-02	3,18E+00	2,55E-02	7,18E-01	2,19E-01	6,38E-04	1,57E-03	1,30E-01	7,53E-04	-1,37E+00
Eutrophication (EP) – freshwater	kg PO4e	1,43E-01	1,93E-05	4,85E-04	1,44E-01	1,12E-05	3,76E-02	9,73E-05	1,85E-06	4,17E-07	1,47E-04	1,77E-07	-1,12E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	7,66E-01	5,43E-03	4,68E-03	7,76E-01	4,35E-03	3,79E-01	2,16E-02	1,09E-04	2,71E-04	1,51E-02	6,79E-05	-8,88E-02
Eutrophication (EP) – marine	kg Ne	6,39E-01	1,55E-02	7,55E-03	6,62E-01	1,26E-02	2,12E-01	5,93E-02	2,83E-04	7,92E-04	3,65E-02	1,95E-04	-2,47E-01
Eutrophication (EP) – terrestrial	mol Ne	6,40E+00	1,71E-01	7,09E-02	6,65E+00	1,39E-01	1,47E+00	6,49E-01	3,10E-03	8,73E-03	4,01E-01	2,15E-03	-2,68E+00
Photochemical ozone formation (POCP)	kg NMVOCe	1,78E+00	3,85E-02	1,96E-02	1,84E+00	3,43E-02	5,07E-01	1,61E-01	8,52E-04	1,45E-03	1,27E-01	5,92E-04	-8,10E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	1,10E-02	5,76E-07	6,51E-06	1,10E-02	3,34E-07	1,27E-03	7,54E-04	2,47E-08	1,25E-08	1,66E-05	9,97E-09	-2,23E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	1,04E+04	8,66E+01	1,96E+01	1,05E+04	5,02E+01	2,44E+03	5,98E+02	8,37E-01	1,87E+00	6,45E+02	1,40E+00	-4,77E+03
Water deprivation potential (WDP) ¹	m3e depr.	3,89E+02	6,03E-02	3,89E+00	3,93E+02	3,50E-02	9,79E+01	1,05E+03	2,01E-03	1,30E-03	4,66E+00	1,13E-02	-2,01E+02

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	1,50E+03	4,98E+00	2,69E+02	1,78E+03	2,89E+00	1,22E+02	1,81E+05	4,36E-03	1,08E-01	2,84E+02	1,89E-01	- 8,19E+02
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	1,50E+03	4,98E+00	2,69E+02	1,78E+03	2,89E+00	1,22E+02	1,81E+05	4,36E-03	1,08E-01	2,84E+02	1,89E-01	- 8,19E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	1,04E+04	8,69E+01	1,96E+01	1,05E+04	5,04E+01	2,44E+03	5,99E+02	8,37E-01	1,88E+00	6,45E+02	1,40E+00	- 4,77E+03
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	1,04E+04	8,69E+01	1,96E+01	1,05E+04	5,04E+01	2,44E+03	5,99E+02	8,37E-01	1,88E+00	6,45E+02	1,40E+00	- 4,77E+03
Use of secondary material (SM)	kg	6,87E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	1,09E+01	5,71E-03	4,56E-01	1,14E+01	3,31E-03	2,28E+00	4,07E+02	4,68E-05	1,23E-04	2,81E-01	3,46E-04	- 6,28E+00

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1,12E-05	4,58E-09	3,96E-07	1,16E-05	2,65E-09	0,00E+00	2,85E-06	0,00E+00	9,90E-11	1,93E-07	1,49E-10	-1,96E-06
Non-hazardous waste disposed (NHWD)	kg	6,03E+01	1,36E-02	1,21E-01	6,04E+01	7,90E-03	0,00E+00	3,90E+01	0,00E+00	2,95E-04	3,47E+00	7,00E+00	-4,60E+01
Radioactive waste disposed (RWD)	kg	1,44E-01	1,58E-04	1,20E-04	1,44E-01	9,13E-05	0,00E+00	1,48E-02	0,00E+00	3,41E-06	3,77E-02	1,47E-05	-1,03E-01

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	5,00E+00	5,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,35E+02	7,24E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	4,89E+00	4,89E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,60E+01	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	3,10E-05	6,23E-07	1,70E-07	3,18E-05	6,69E-07	8,77E-06	3,78E-06	1,69E-08	8,51E-09	1,66E-06	9,35E-09	-1,46E-05
Ionising radiation, human health	kBq U235 eq.	8,51E+01	2,31E-02	2,03E-01	8,53E+01	1,34E-02	9,70E+00	1,34E+00	3,84E-03	4,98E-04	3,73E+00	1,55E-03	-2,61E+01
Ecotoxicity, freshwater ¹	CTUe	1,08E+04	6,43E+01	3,31E+01	1,09E+04	3,73E+01	8,79E+03	2,65E+02	4,77E-01	1,39E+00	1,92E+02	7,99E-01	-1,10E+03
Human toxicity, cancer ¹	CTUh	1,31E-06	1,30E-09	6,55E-09	1,31E-06	7,53E-10	1,07E-06	4,44E-06	2,36E-11	2,83E-11	1,85E-08	1,18E-10	-2,96E-07
Human toxicity, non-cancer ¹	CTUh	1,83E-05	7,94E-08	7,74E-08	1,84E-05	4,81E-08	1,16E-05	2,69E-06	3,42E-10	1,63E-09	1,87E-06	1,30E-08	-5,32E-06
Land Use ¹	Pt	2,07E+03	2,98E+01	4,49E+02	2,55E+03	1,72E+01	2,80E+02	1,53E+02	1,07E-01	6,43E-01	2,36E+02	2,83E-01	-2,47E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	7,51E+02	6,30E+00	1,56E+00	7,59E+02	3,64E+00	1,12E+02	6,03E+02	6,01E-02	1,35E-01	6,15E+01	1,02E-01	-4,03E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	1,73 kg C

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EPD Swegon CASA air handling units

Swegon CASA R15V

Potential environmental impacts

Environmental impact category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Global warming potential (GWP) – fossil	kg CO2e	8,13E+02	7,51E+00	1,63E+00	8,22E+02	3,85E+00	1,25E+02	1,91E+03	6,34E-02	1,45E-01	7,00E+01	1,08E-01	-4,33E+02
Global warming potential (GWP) – biogenic	kg CO2e	2,30E+01	-8,66E-03	-1,79E+00	2,12E+01	-4,31E-03	1,66E+00	1,79E-01	5,00E-05	-1,74E-04	1,56E+01	-3,14E-03	5,95E+00
Global warming potential (GWP) – luluc	kg CO2e	5,56E-01	6,13E-02	5,27E-03	6,22E-01	3,15E-02	7,87E-02	3,62E-01	5,43E-06	1,19E-03	9,60E-02	3,17E-04	-1,30E-01
Global warming potential (GWP) – total	kg CO2e	8,37E+02	7,56E+00	-1,59E-01	8,44E+02	3,88E+00	1,26E+02	1,91E+03	6,34E-02	1,46E-01	8,57E+01	1,05E-01	-4,27E+02
Ozone depletion (ODP)	kg CFC11e	2,35E-05	1,48E-15	1,08E-07	2,36E-05	7,61E-16	1,46E-05	1,32E-12	1,37E-08	2,89E-17	3,06E-11	4,20E-16	-3,10E-07
Acidification (AP)	mol H+e	3,25E+00	3,55E-02	2,06E-02	3,30E+00	2,41E-02	7,18E-01	6,91E-01	6,61E-04	1,63E-03	1,38E-01	7,69E-04	-1,45E+00
Eutrophication (EP) – freshwater	kg PO4e	1,44E-01	2,23E-05	4,85E-04	1,45E-01	1,15E-05	3,76E-02	3,08E-04	1,91E-06	4,34E-07	1,61E-04	1,81E-07	-2,77E-03
Eutrophication (EP) – freshwater	kg Phosphate eq.	7,77E-01	5,99E-03	4,68E-03	7,88E-01	4,11E-03	3,79E-01	6,84E-02	1,13E-04	2,82E-04	1,62E-02	6,94E-05	-9,74E-02
Eutrophication (EP) – marine	kg Ne	6,59E-01	1,70E-02	7,55E-03	6,84E-01	1,18E-02	2,12E-01	1,87E-01	2,93E-04	8,24E-04	3,91E-02	2,00E-04	-2,56E-01
Eutrophication (EP) – terrestrial	mol Ne	6,60E+00	1,89E-01	7,09E-02	6,86E+00	1,31E-01	1,47E+00	2,05E+00	3,21E-03	9,08E-03	4,30E-01	2,19E-03	-2,77E+00
Photochemical ozone formation (POCP)	kg NMVOCe	1,84E+00	4,16E-02	1,96E-02	1,90E+00	3,17E-02	5,07E-01	5,07E-01	8,82E-04	1,51E-03	1,34E-01	6,05E-04	-8,45E-01
Depletion of abiotic resources (ADP) – minerals & metals ¹	kg Sb eq.	1,30E-02	6,65E-07	6,51E-06	1,30E-02	3,42E-07	1,27E-03	2,38E-03	2,56E-08	1,30E-08	1,80E-05	1,02E-08	-4,12E-03
Depletion of abiotic resources (ADP) – fossil fuels ¹	MJ	1,09E+04	9,99E+01	1,96E+01	1,10E+04	5,13E+01	2,44E+03	1,89E+03	8,66E-01	1,95E+00	7,09E+02	1,43E+00	-4,92E+03
Water deprivation potential (WDP) ¹	m3e depr.	4,05E+02	6,96E-02	3,89E+00	4,09E+02	3,58E-02	9,79E+01	3,31E+03	2,08E-03	1,36E-03	5,24E+00	1,16E-02	-2,04E+02

EPD Swegon CASA air handling units

Resource use

Resource use indicators	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials (PERE)	MJ	1,58E+03	5,75E+00	2,69E+02	1,85E+03	2,95E+00	1,22E+02	5,74E+05	4,51E-03	1,12E-01	3,11E+02	1,93E-01	-
Use of renewable primary energy resources used as raw materials (PERM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PERT)	MJ	1,58E+03	5,75E+00	2,69E+02	1,85E+03	2,95E+00	1,22E+02	5,74E+05	4,51E-03	1,12E-01	3,11E+02	1,93E-01	8,54E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (PENRE)	MJ	1,09E+04	1,00E+02	1,96E+01	1,10E+04	5,15E+01	2,44E+03	1,89E+03	8,66E-01	1,95E+00	7,09E+02	1,43E+00	-
Use of non-renewable primary energy resources used as raw materials (PENRM)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) (PENRT)	MJ	1,09E+04	1,00E+02	1,96E+01	1,10E+04	5,15E+01	2,44E+03	1,89E+03	8,66E-01	1,95E+00	7,09E+02	1,43E+00	4,92E+03
Use of secondary material (SM)	kg	7,01E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m ³	1,14E+01	6,58E-03	4,56E-01	1,18E+01	3,38E-03	2,28E+00	1,28E+03	4,84E-05	1,28E-04	3,06E-01	3,54E-04	-

Waste categories

Waste category	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1,12E-05	5,28E-09	3,96E-07	1,16E-05	2,72E-09	0,00E+00	9,01E-06	0,00E+00	1,03E-10	2,14E-07	1,52E-10	-1,97E-06
Non-hazardous waste disposed (NHWD)	kg	6,27E+01	1,57E-02	1,21E-01	6,29E+01	8,08E-03	0,00E+00	1,23E+02	0,00E+00	3,06E-04	3,89E+00	7,15E+00	-4,82E+01
Radioactive waste disposed (RWD)	kg	1,53E-01	1,82E-04	1,20E-04	1,53E-01	9,35E-05	0,00E+00	4,69E-02	0,00E+00	3,54E-06	4,12E-02	1,51E-05	-1,08E-01

EPD Swegon CASA air handling units

Environmental information describing output flows

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Components for reuse (CRU)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling (MFR)	kg	0,00E+00	0,00E+00	5,00E+00	5,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,39E+02	7,39E+00	0,00E+00
Material for energy recovery (MER)	kg	0,00E+00	0,00E+00	4,89E+00	4,89E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,92E+01	0,00E+00	0,00E+00
Exported energy (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental indicators

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
Particulate matter	Disease incidences	3,24E-05	6,47E-07	1,70E-07	3,33E-05	5,96E-07	8,77E-06	1,19E-05	1,75E-08	8,85E-09	1,85E-06	9,55E-09	-1,55E-05
Ionising radiation, human health	kBq U235 eq.	8,68E+01	2,66E-02	2,03E-01	8,70E+01	1,37E-02	9,70E+00	4,24E+00	3,97E-03	5,18E-04	4,06E+00	1,58E-03	-2,72E+01
Ecotoxicity, freshwater ¹	CTUe	1,12E+04	7,42E+01	3,31E+01	1,13E+04	3,81E+01	8,79E+03	8,38E+02	4,94E-01	1,44E+00	2,09E+02	8,17E-01	-1,23E+03
Human toxicity, cancer ¹	CTUh	1,32E-06	1,50E-09	6,55E-09	1,33E-06	7,70E-10	1,07E-06	1,40E-05	2,44E-11	2,94E-11	2,39E-08	1,20E-10	-3,55E-07
Human toxicity, non-cancer ¹	CTUh	1,88E-05	9,12E-08	7,74E-08	1,90E-05	4,86E-08	1,16E-05	8,50E-06	3,55E-10	1,69E-09	1,93E-06	1,33E-08	-6,26E-06
Land Use ¹	Pt	2,13E+03	3,43E+01	4,49E+02	2,62E+03	1,76E+01	2,80E+02	4,85E+02	1,11E-01	6,69E-01	2,57E+02	2,89E-01	-2,98E+02

Supplementary indicator for climate impact

Indicator	Unit	A1	A2	A3	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG (based on IPCC 2013)	kg CO2 eq.	7,77E+02	7,27E+00	1,56E+00	7,86E+02	3,72E+00	1,12E+02	1,90E+03	6,22E-02	1,40E-01	6,74E+01	1,04E-01	-4,14E+02

Biogenic carbon content (The amount of biogenic carbon in the product at the factory gate)

Biogenic carbon content	Amount per declared unit
The amount of biogenic carbon in the product	0 kg C
Amount of biogenic carbon in packaging	1,73 kg C

¹ For this environmental impact indicator Disclaimer 2 according to EN 15804+A2 needs to be taken into consideration. Disclaimer 2 is stated as follows: *The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.*

Scenarios and additional technical information

Additional technical information, energy use in manufacturing (A3)

Variable	Amount
Quality of electricity information	Supplier specific information: 100 % hydro power
CO2 emission factor for electricity	0.0011 kg CO2 eq. /kWh
Quality of heating data	Supplier specific information: 64 % biomass 36 % waste heat
CO2 emission factor for heating	0.00086 kg CO2 eq. /kWh

Additional technical information, transport to the site (A4)

Variable	Amount	Data quality
Fuel type and consumption of the vehicle used or type of vehicle, e.g. truck, ship, etc. dm3/km or vehicle type	diesel 0.02 kg/tkm	Truck, Euro 5, 28 - 32t gross weight / 22t payload capacity
	diesel 0.01 kg/tkm	Average ship, 3,500t payload capacity / upstream
Transportation distance (declared average or exact data)	Finnish market area: 160 km Swedish market area: 322 km Norwegian market area: 843 km	average transport distance
Capacity utilization rate	Truck: 61 % Ferry: 65 %	
Bulk density of transported products	varies according to the product	
Volume capacity utilization factor (factor = 1 or <1 or ≥1 for compressed or nested packaged products)	not applicable	

Scenarios in use phase (B)

Variable	Amount										Data quality
	W3xs	W5	R2	R3	R5	R5H	R7	R7H	R9V	R15V	
Estimated energy use (kWh/a)	574	660	600	527	876	630	1142	1406	1701	5376	Provided by Swegon
Reference service life (years)	25	25	25	25	25	25	25	25	25	25	Assumption
Estimated daily use (h)	24	24	24	24	24	24	24	24	24	24	Assumption
Average air handling capacity (l/s)	30	60	25	30	60	60	100	120	170	320	Provided by Swegon

EPD Swegon CASA air handling units

Process description of the building demolition phase (C1)

Scenario at end of life	Material	Recycling	Incineration	Landfilled
Products are deconstructed from the building and transported by truck to a recycling facility (truck a 28–32-ton EURO2 truck, truck capacity utilization 61%). Dismantling of product components at recycling facility. Based on the material, components are either recycled, incinerated or landfilled depending on the material.	Steel	95 %	0 %	5 %
	Aluminium	95 %	0 %	5 %
	Iron	95 %	0 %	5 %
	Copper	99 %	0 %	1 %
	WEEE, metal content	90 %	0 %	10 %
	WEEE, plastic content	0 %	100 %	0 %
	Combustible waste	0 %	100 %	0 %

Certifications and labels

All production plants in Sweden are certified under ISO 14001 and ISO 9001.

Technical documentation

<https://www.swegon.com/products/air-handling/casa/>

<https://www.swegon.com/>

Version history

2022-03-29. The original version of the EPD.

2025-05-08. Editorial update: the GWP row order change for CASA R9V.

References

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ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

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