

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Vallox 51 MV RA11

EPD of multiple products, based on worst-case results.

Products from Vallox 51 MV, ValloPlus 180, DV51 Adroit and DV180 ENTRO-V series




Programme	The International EPD® System, www.environdec.com
Programme operator	EPD International AB
EPD registration number	S-P-09030
Publication date	2024-03-25
Valid until	2029-03-24

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



GENERAL INFORMATION

Programme information

ACCOUNTABILITIES FOR PCR, LCA AND INDEPENDENT, THIRD-PARTY VERIFICATION	
Product Category Rules (PCR)	CEN standard EN 15804 serves as the Core Product Category Rules (PCR) Product Category Rules (PCR): <i>PCR 2019:14-c-PCR-018 c-PCR-018 Ventilation components (c-PCR under PCR 2019:14) (Adopted from EPD Norway)</i> PCR review was conducted by: <i>Claudia A. Peña, ADDERE Research & Technology</i>
Life Cycle Assessment (LCA)	LCA accountability: <i>Aleksi Surakka, Comatec Mobility Oy</i> www.comatec.fi e-mail: aleksi.surakka@comatec.fi phone: +358 40 184 2478 
Third-party verification	Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input checked="" type="checkbox"/> EPD verification by individual verifier Third-party verifier: <i>Marcus Wendin, Miljögiraff AB</i> Approved by: The International EPD® System
	Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover

products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact as-

Programme	The International EPD® System
Address	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website	www.environdec.com
E-mail	info@environdec.com

essment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.



Company information

Vallox Oy is a Finnish company focused on designing and manufacturing ventilation products. For more than 50 years, it has been visionary in the development of indoor air technology, and today it serves customers widely across Europe.

Vallox is on a mission to take care of wellbeing of people and maintaining the value of the homes with smart ventilation. High-quality and energy-efficient Vallox ventilation products enable a healthy indoor climate and are designed with today's needs in mind. Vallox products are known for their simple, elegant design, ease of use and silence.

Vallox is the Home of Fresh air.



Owner of the EPD	Vallox Oy
Contact	Sari Ponkala sari.ponkala@vallox.com www.vallox.com
Product-related or management system-related certifications	ISO 9001 ISO 14001
Name and location of the production site	Vallox Oy Myllykyläntie 9-11 32200 Loimaa

Product information

Product name

Air handling unit: Vallox 51 MV



Product identification

Air handling units (AHU) as referred in standards NS-EN 1886, NS-EN 13053 and EN 13141-7. Vallox ventilation unit 51 MV composing mainly of steel, aluminum, electronics and plastics. EPD follows additional requirements for construction products considered as Electronic or Electric Equipment (EEE).

Product description

People spend up to 90% of their time indoors and breathe thousands of litres of air each day. Ventilation aims at creating healthy and cosy indoor air in the building. Healthy indoor air is crucial in terms of well-being, even though it is not as concrete as food, water or motion.

It is important to pay attention to the exchange of air for the following reasons.

1. Cooking, dishwashing, washing, taking a sauna bath, washing clothes and breathing produce humidity, smokes and odours that are eliminated efficiently by ventilation.
2. Low oxygen content causes headaches and fatigue. Efficient ventilation keeps the carbon dioxide level sufficiently low and makes the residents feel better and more active.
3. Ventilation removes the emissions caused by construction and furnishing materials from indoor air.

In the traditional way of building, indoor air quality was taken care of with the help of natural ventilation, based on pressure differences caused by the differences in height and temperature and by the wind. The pressure difference made stuffy air and humidity go out via the flues, whereas fresh replacement air came in as leaks through window chinks or openings built for replacement air.

In homes built or renovated in the modern way to be tight, natural ventilation is no longer a sufficient way of guaranteeing good indoor air. Today's living habits lead to a high humidity load indoors as it is usual to take a shower several times a day and clothes are washed and dried indoors. As the vapour barrier and tight windows do not let fresh air in, humidity cannot escape. It is therefore necessary to deal with ventilation mechanically.

Vallox ventilation units are reliable and energy-efficient. They have been designed and manufactured in Finland. The selection includes suitable

ventilation units for different uses, sizes and needs. By choosing a Vallox ventilation system you can always enjoy clean and fresh indoor air. Vallox ventilation units have an estimated average lifetime of 25 years.

Vallox ventilation units can be configured to different market areas and client needs and thus the naming of the unit may differ. The configuration that represents environmental impacts in this EPD is the one with the biggest impact as it has been configured with all possible additional accessories (heating resistors, MyVallox Touch Panel), and an aluminum heat recovery cell. Other heat recovery cells available for different needs are manufactured from plastic and a combination of aluminum/steel and plastic.

Product variations (for further configuration naming policies see annex 1) covered in the EPD:

Product variation	Annual assessed energy consumption (kWh)	Airflow (m ³ /hr)
Vallox 51 MV	536	118,8
ValloPlus 180 series		
DV51 Adroit series		
DV180 ENTRO-V series		

Worst-case product: Vallox 51 MV RA11

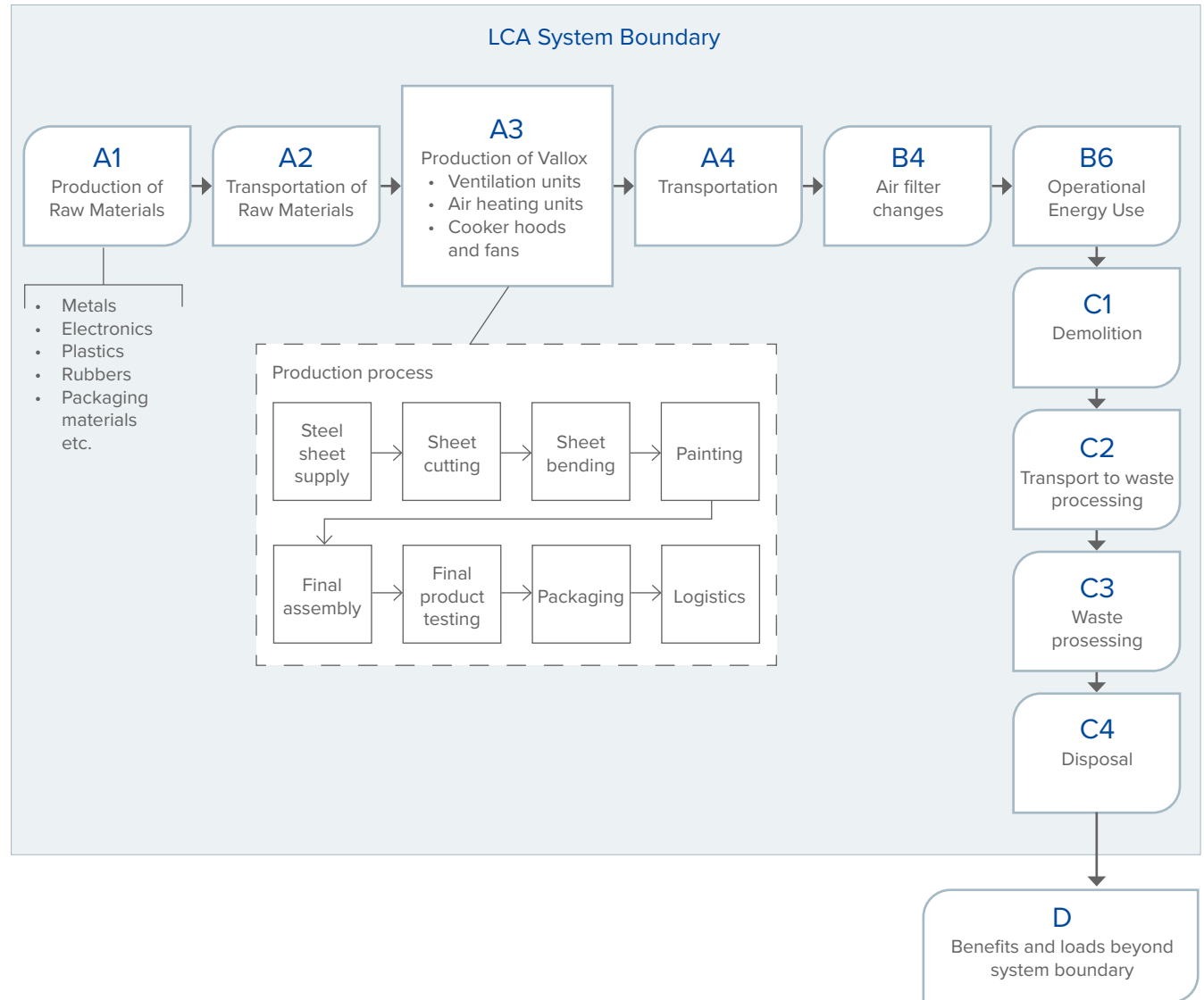
Vallox 51 MV RA11 is a ventilation unit configured with an aluminum heat recovery cell, post-heating resistor and a touch panel.	
UN CPC code	The CPC code applied is CPC 54632 Ventilation and air-conditioning equipment installation services.
Geographical scope	Production facility for the ventilation unit is Loimaa, Finland. The intended market for the products are widely in different parts of Europe.
	A1 Raw material supply: Europe
	A2 Transport of raw materials: Europe
	A3 Manufacturing: Finland
	A4 Transport to supplier: Europe
	B4 Replacement (manufacturing of filters): Europe
	B6 Operational Energy Use: Europe
	C1-C4 End-of-life: Europe
	D Resource recovery: Europe



LCA information

Declared unit	1 manufactured ventilation unit maintained for 25 years.
Reference service life	Reference service life for the air handling units is 25 years.
Time representativeness	2020–2022
Database(s) and LCA software used	LCA software: SimaPro 9.5 Majority of data from Ecoinvent 3.9.1. Steel LCI results from world-steel.
Description of system boundaries	Cradle to gate with options: A1-A3, A4, B4, B6, C1-C4 + D

System diagram:



Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	ND	x	x	x	x	x	x	x	x	x	x	x	x
Geography	EU	EU	FI	EU	-	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU
Specific data used	<90%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	>10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X = Module declared, ND = Not declared

B1-B3, B5 and B7 have no inputs or outputs during the life cycle of the ventilation unit. All environmental indicators for them are calculated as 0 as there is no activity in those modules that consider the ventilation unit. Zero values for these modules are not shown in the results tables.

Product life cycle – used data and assumptions

Product stage (A1-A3)

The product stage considers the manufacturing of raw materials, their transportation to the production facility and the stages of the product manufacturing process.

A1: Raw materials refer to materials and sub-assembled components used to manufacture the ventilation units.

A2: Transportation of the raw materials and sub-assembled components to the production facility of Vallox in Loimaa, Finland. Details on the transportation scenarios can be found later in this EPD.

A3: Manufacturing and packaging of the ventilation units at the production facility. In this case, manufacturing means assembling and testing of the ventilation units from sub-assembly parts. Stage A3 covers the energy (electricity and heating) use during the production process and waste generated during manufacturing of the units.

Electricity was modeled as Finnish residual electricity mix (2021 data) with an GWP100 results of 0,398 kgCO₂eq/kWh.

Heating energy is district heating mainly produced by burning wood chips (79%) and heat recovery (17%). The amount of energy and heat of each product was determined according to the weight of the product.

Manufacturing waste streams include wood waste, cardboard, combustible waste, mixed waste and

metal scrap (iron, aluminum, copper). Cardboard, metal scrap and combustible waste are reusable and recyclable waste, and they are sent for material recovery. The amount of waste was determined by the weight of the product.

Construction process stage (A4)

A4: Transportation to use was calculated as a conservative scenario as indicated in c-PCR-018 Ventilation components. Transport distance used was 155 km from Loimaa factory to capital of Finland, Helsinki and 300 km as the distance to a distributor.

Use (B)

B4: Filters are replaced by assumption twice per year during the life cycle of the ventilation unit. Filters are manufactured for use in Europe and Finland, used and disposed as municipal solid waste after use in Europe. Transports of the filters were also included and the transport scenario was similar to A4.

B6: Vallox Ventilation Units are connected to a 230 V / 50 Hz electrical outlet. Electric current is mostly used to control the blower motor(s) and the heating resistor(s) of the ventilation unit. The energy consumption thus in module B6 comes from the usage of the blower fan and the resistor. The varying need for heating incoming air is dependent on the climate and annual electricity consumption can differ from the one stated in this EPD.

Annual electricity consumption is based on calculations complying with Commission Delegated Regu-

lation (EU) No 1254/2014 of 11 July 2014. For a more detailed calculation report please refer certificates on our product website: <https://www.vallox.com/en/products/ventilation-units/>

Energy Label Certificates for each product can be found by clicking the product and by navigating to the downloadable files.

As the ventilation units are used all over Europe, an average market dataset for European low voltage electricity was used. The GWP100 factor for the used dataset was 0,362kgCO₂-eq/kWh.



End of life cycle (C1-C4)

C1: De-construction/demolition is assumed to be close to zero as the ventilation units are manually removed from the buildings.

C2: Transport to waste processing was calculated with an distance assumption of 100km.

C3-C4: Waste processing and disposal was modeled as a conservative scenario as indicated in c-PCR-018 and the share of materials entering different waste treatment was retrieved from Eurostat waste databases. An average of 27 EU countries was used. Additionally paper and board used for the product were assumed to be recycled. For aluminum and steel recycling processes an assumption of 100km of transportation was used.

Resource recovery stage (D)

The benefits of recycled steel and aluminum in module C3 were considered to have a possible environmental benefit as substituted material.

Material	C3 Waste Processing	C4 Waste Disposal
Plastic, rubber	Municipal incineration with energy recovery (100% of material)	Landfilling of ashes from incineration
Metal	Central sorting of mixed construction waste. Recycling of metals. (99% of material)	Landfilling of wasted product in sanitary landfill
Electronics	Waste of Electrical and Electronic Equipment (WEE) recycling. Incineration of non-recycled parts. (83% of material)	Landfilling of ashes from incineration and residuals from recycling/sorting.
Paper, board	Recycling (98% of material)	Incineration and landfilling
Other	-	Incineration and landfilling

Life Cycle Transport Scenarios

Life Cycle Phase/Module	Scenario assumptions	Road transport	Water transport
A2	Based on distances between supplier locations and Vallox factory	transport, freight, lorry 16–32 metric tons, EURO6	transport, freight, sea, container ship
A4	As in c-PCR-018: From Vallox Factory to Helsinki, Finland (~155km). 300km conservative distance to non-specified distributor	transport, freight, lorry 16–32 metric tons, EURO6	-
C2	100km to nearest waste processing center	transport, freight, lorry 16–32 metric tons, EURO6	-

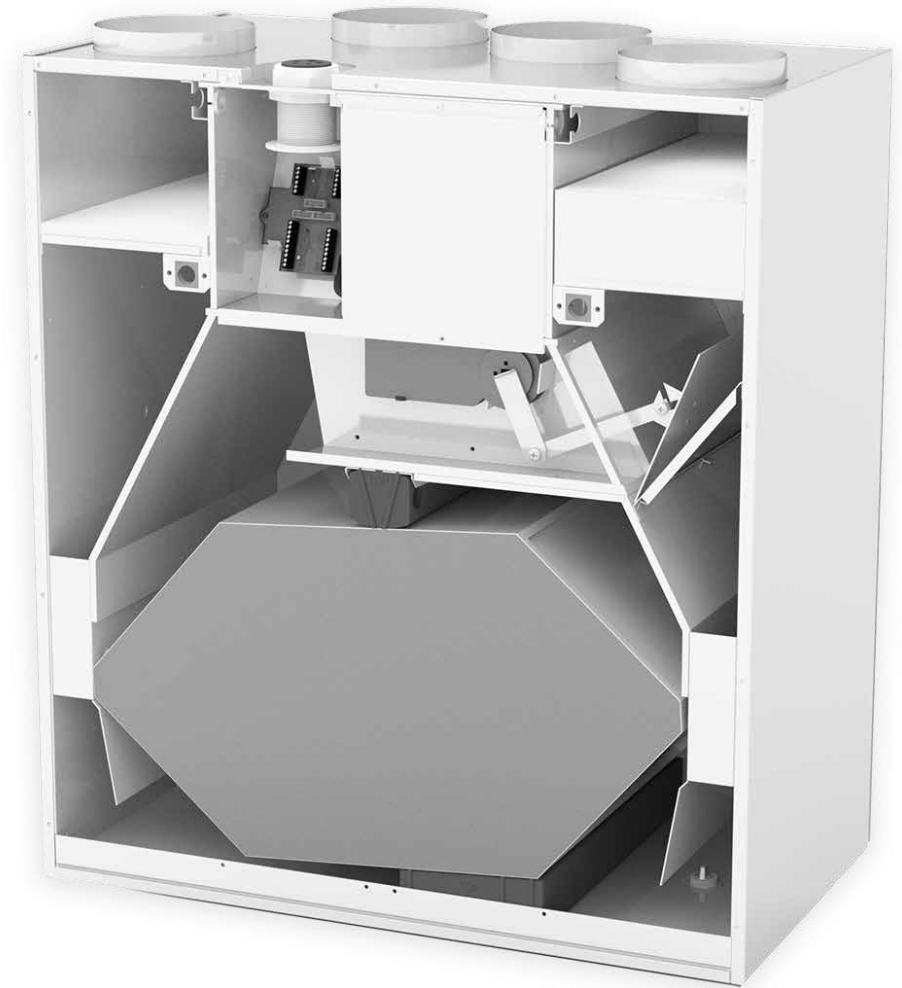
CONTENT INFORMATION

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.

Wooden pallets are allocated between units that on average are placed on it during transport and average number of use cycles. Weight of the wooden pallet is 24kg.

Vallox 51 MV RA11

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Steel	33,71	0	0
Aluminum	5,8	0	0
Plastics	2,53	0	0
Electronics	3,4	0	0
Other	1,56	0	0
Packaging materials		Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Cardboard	1,7	3,56	0,45
Paper (manuals etc.)	0,1	0,22	0,43
Wooden pallet (24 kg, mass allocation between 6 units and 20 use cycles)	0,2	0,4	0,47
TOTAL (excl. wooden pallet)	49		



RESULTS OF THE ENVIRONMENTAL PERFORMANCE INDICATORS

Vallox 51 MV RA11 Mandatory impact category indicators according to EN 15804, results per declared unit

Indicator	Unit	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2.61E+02	4.12E+00	4.09E+01	1.64E+02	0.00E+00	9.05E-01	4.32E+00	3.64E-02	-9.38E+01
GWP-biogenic	kg CO ₂ eq.	2.63E+02	3.77E-03	1.43E+00	4.82E+03	0.00E+00	8.29E-04	6.80E-04	9.16E-01	-1.81E-01
GWP-luluc	kg CO ₂ eq.	9.04E+02	2.03E-03	7.83E-02	1.20E+01	0.00E+00	4.47E-04	8.74E-04	1.01E-05	-9.48E-01
GWP-total	kg CO ₂ eq.	2.67E+02	4.13E+00	4.24E+01	4.99E+03	0.00E+00	9.07E-01	4.32E+00	9.52E-01	-9.49E+01
ODP	kg CFC 11 eq.	7.67E-01	8.97E-08	2.04E-05	9.17E-05	0.00E+00	1.97E-08	1.83E-08	3.17E-10	-1.18E-06
AP	mol H ⁺ eq.	2.65E+02	9.00E-03	1.38E-01	2.76E+01	0.00E+00	1.98E-03	7.04E-03	1.43E-04	-3.75E-01
EP-freshwater	kg P eq.	2.35E+00	2.93E-04	7.34E-03	4.56E+00	0.00E+00	6.43E-05	1.73E-04	6.82E-06	-2.29E-02
EP-marine	kg N eq.	3.83E-01	2.27E-03	4.19E-02	4.46E+00	0.00E+00	4.99E-04	2.56E-03	1.31E-03	-5.45E-02
EP-terrestrial	mol N eq.	2.26E+00	2.31E-02	3.30E-01	4.04E+01	0.00E+00	5.07E-03	2.75E-02	4.00E-04	-5.06E-01
POCP	kg NMVOC eq.	3.53E+03	1.40E-02	1.33E-01	1.30E+01	0.00E+00	3.07E-03	1.21E-02	3.83E-04	-2.26E-01
ADP-minerals&metals*	kg Sb eq.	3.42E+02	1.35E-05	1.90E-04	5.75E-02	0.00E+00	2.96E-06	4.71E-06	4.96E-08	-2.09E-04
ADP-fossil*	MJ	3.53E+03	5.85E+01	8.98E+02	1.09E+05	0.00E+00	1.29E+01	1.36E+01	2.62E-01	-1.12E+03
WDP*	m ³	3.41E+02	2.41E-01	1.90E+01	1.23E+03	0.00E+00	5.30E-02	8.97E-02	5.68E-03	-6.89E+02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Vallox 51 MV RA11 Resource use indicators, results per declared unit

Indicator	Unit	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
PERE	MJ	0.00E+00	0.00E+00	0.00E+00	1.13E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERM	MJ	4.19E+02	7.01E-01	7.63E+01	1.25E+04	9.20E-01	5.49E+01	0.00E+00	2.02E-01	5.95E-01
PERT	MJ	4.19E+02	7.01E-01	7.63E+01	2.38E+04	9.20E-01	5.49E+01	0.00E+00	2.02E-01	5.95E-01
PENRE	MJ	3.59E+03	4.75E+01	5.39E+02	1.14E+05	6.22E+01	9.64E+02	0.00E+00	1.37E+01	1.45E+01
PENRM	MJ	1.47E+02	0.00E+00	0.00E+00	7.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.74E+03	4.75E+01	5.39E+02	1.14E+05	6.22E+01	9.64E+02	0.00E+00	1.37E+01	1.45E+01
SM	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
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
NRSF	MJ	0.00E+00	0.00E+00	4.61E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	3.26E+00	6.42E-03	3.52E-01	8.62E+01	8.42E-03	4.98E-01	0.00E+00	1.85E-03	3.89E-03
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water									

Vallox 51 MV RA11 Additional mandatory and voluntary impact category indicators, results per declared unit

Indicator	Unit	A1-A3 total	A4	B4	B6	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	2.62E+02	4.12E+00	4.23E+01	4.85E+03	0.00E+00	9.06E-01	4.32E+00	6.97E-01	-9.49E+01
Ecotoxicity. freshwater	CTUe	1.88E+03	2.89E+01	1.68E+02	1.83E+04	0.00E+00	6.36E+00	3.35E+01	2.99E+00	-1.82E+02
Human toxicity. cancer	CTUh	3.26E-07	1.88E-09	1.29E-08	2.25E-06	0.00E+00	4.13E-10	2.27E-08	6.54E-10	-1.43E-07
Human toxicity. non-cancer	CTUh	6.88E-06	4.15E-08	2.90E-07	8.93E-05	0.00E+00	9.13E-09	8.12E-08	4.49E-08	-1.09E-06
Land use	Pt	9.65E+02	3.54E+01	2.26E+02	2.13E+04	0.00E+00	7.77E+00	7.29E+00	5.22E-01	-2.34E+01
Particulate matter	disease inc.	1.33E-05	3.07E-07	1.58E-06	1.01E-04	0.00E+00	6.75E-08	1.22E-06	1.75E-09	-5.03E-06

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Indicator	Unit	A1-A3 total	A4	B6	B4	C1	C2	C3	C4	D
Hazardous waste disposed	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
Non-hazardous waste disposed	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
Radioactive waste disposed	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
Components for re-use	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
Material for recycling	kg	1.24E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.88E+01	0.00E+00	0.00E+00
Materials for energy recovery	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
Exported energy, electricity	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
Exported energy, thermal	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

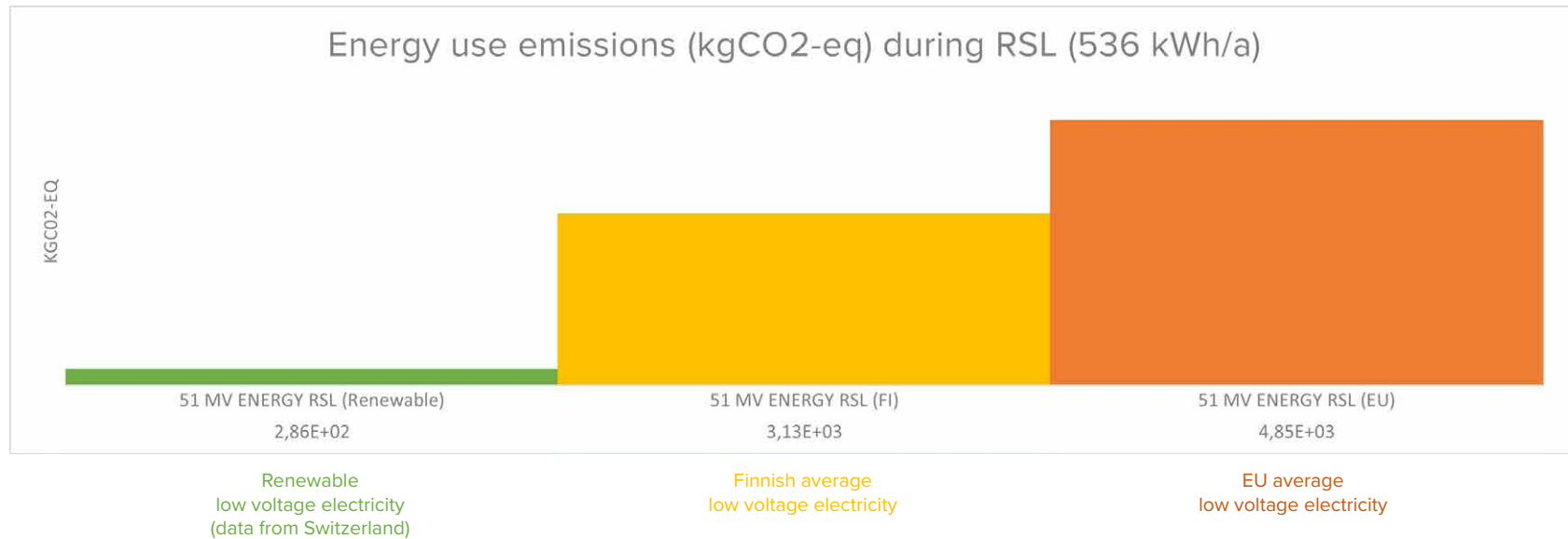
Additional LCA Results (B6)

Energy use during use-phase

Vallox has no effect on the energy source of their ventilation units. B6 was declared with the average EU electricity but in addition, other electricity mixes (Finnish and renewable electricity from Switzerland) were inspected to see the impact of different energy sources.

Only GWP100 results are included in this EPD to show the effect of energy source on environmental impacts. Based on these assessment results Vallox recommends its' clients to use energy sources with lower environmental impacts when possible.

The calculation assumptions for all electricity scenarios are same as for the declared B6 Operational Energy use.



ADDITIONAL ENVIRONMENTAL INFORMATION

In order for the ventilation unit to maintain its efficiency during its life cycle Vallox recommends that the filters of the ventilation units are replaced twice a year. It is also recommended that the heat recovery cell of the units is cleaned annually as instructed in the manual. Always refer to the manual when doing maintenance for the ventilation units!

Vallox is a ISO 14001 certified company aiming to improve its overall sustainability. Making LCA's and EPD's for Vallox products is one of the many efforts Vallox is developing in order to reduce the environmental burden of Vallox products and the organization.

More information on Vallox, product manuals and recycling instructions for the ventilation units can be found from Vallox website: www.vallox.com.



REFERENCES

Ecoinvent database version 3.9.1

General Programme Instructions of the International EPD® System. Version 4.0.

EPD International (2023): PCR 2019:14. Construction products 2019:14. Version 1.3.3

PCR 2019:14-c-PCR-018 c-PCR-018 Ventilation components (c-PCR under PCR 2019:14) (Adopted from EPD Norway)

EN15804-A2:2019. Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

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

Eurostat. (n.d.). Waste Database. Retrieved May 2, 2023, from European Commission website: <https://ec.europa.eu/eurostat/web/waste/data/database>

ANNEX 1. Configurations and their different market names.

Handedness	R / L	Right / Left
Heat recovery cell	A / P / E	Aluminum / Plastic / Enthalpy
Control panel	0 / 1	does not include the control panel / includes the control panel
Heating resistor	0 / 1 / 2 / 3	no resistors / post-heating resistor / post- and additional heating resistor / pre-heating resistor

Product line	ID	Configuration name	HR cell A / P / E	Control panel 0 / 1	Resistor 0 / 1 / 2 / 3
Vallox 51	4105063 / 4105064	Vallox 51 MV LA11 / Vallox 51 MV RA11	A	1	1
	4106649 / 4106650	Vallox 51 MV RA01 / Vallox 51 MV LA01	A	0	1
	4106657 / 4106658	DV51 (R) Adroit EPH / DV51 (L) Adroit EPH			
	4107557 / 4111696	Vallox 51 SC RA03 / Vallox 51 SC LA03	A	0	3
	90001300 / 90001301	DV180(R) ENTRO-V / DV180(L) ENTRO-V			
	4106653 / 4106654	DV51 (R) Adroit / DV51 (L) Adroit	A	0	0
	3232 / 3233	VALLOX Valloplus 180 MV rechts / VALLOX Valloplus 180 MV links	p	0	0
	3230 / 3231	VALLOX Valloplus 180 SC rechts / VALLOX Valloplus 180 SC links			
	4113706 / 4113707	Vallox 51 MV RE01 / Vallox 51 MV LE01	E	0	1
	3236 / 3237	VALLOX Valloplus 180 MV-E / Rechts / VALLOX Valloplus 180 MV-E / Links	E	0	0

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