# **ENVIRONMENTAL PRODUCT DECLARATION**

in accordance with ISO 14025, ISO 21930 and EN 15804

Owner of the declaration:	Scan Sørlie
Program operator:	The Norwegian EPD Foundation
Publisher:	The Norwegian EPD Foundation
Declaration number:	
Registration number:	NA
ECO Platform reference number:	NA
Issue date:	30.09.2022
Valid to:	

# Cabinet, MFC, w/hinged doors, 2 levels

Scan Sørlie

www.epd-norge.no

SCAN SØRLIE



# **General information**

#### **Product:**

Cabinet, MFC, w/hinged doors, 2 levels

### Program operator:

The Norwegian EPD Foundation Pb. 5250 Majorstuen, 0303 Oslo Phone: +47 23 08 80 00 e-mail: post@epd-norge.no

### **Declaration number:**

#### ECO Platform reference number:

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A1:2013 serves as core PCR NPCR 026:2018 Part B for furniture

#### Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

#### **Declared unit:**

1 Pcs Cabinet, MFC, w/hinged doors, 2 levels

Declared unit with option:

A1,A2,A3,A4

#### **Functional unit:**

Cabinet, MFC, w/hinged doors, 2 levels

### General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Individual third party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii) the proccess is reviewed annualy. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

#### Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPDNorway's procedures and guidelines for verification and approval of EPD tools.

## Owner of the declaration:

Scan Sørlie

Contact person: Dalius Ginaitis Phone: +47 69 22 75 50 e-mail: dalius@scansorlie.com

### Manufacturer:

Scan Sørlie

#### Place of production:

Scan Sørlie Vistergrenda 80 1719 Greåker Norway

### Management system:

Organisation no:

926 646 990

#### Issue date:

30.09.2022

Valid to:

2022

### Year of study:

Comparability:

EPDs from programmes other than the Norwegian EPD Foundation may not be comparable

#### Development and verification of EPD:

The declaration has been developed and verified using EPD tool lca.tools ver EPD2020.11, developed by LCA.no AS. The EPD tool is integrated into the company's environmental management system, and has been approved by EPD-Norway

Developer of EPD:

Dalius Ginaitis

Reviewer of company-specific input data and EPD:

Jurate Jasiuniene

#### Approved:

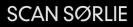
Sign

Erik Svanes, Norsus AS

(no signature required)

Håkon Hauan, CEO EPD-Norge

Key environmental indicators	Unit	Cradle to gate A1 - A3
Global warming	kg CO2 eqv	66,83
Total energy use	MJ	1929,52
Amount of recycled materials	%	1,74



# Product

Market:

### **Product description:**

Cabinet, MFC, w/hinged doors, 2 levels

**Product specification** 

# Technical data:

Melamine faced chipboard, ABS edge-band (thickness: 2 mm & 0.6 mm). Height: 85,3 cm, width: 80 cm, depth: 40 cm. 3 rooms/levels. Hinged doors, handles located near the top.

### Reference service life, product

5 years warranty, 15 years expected lifecycle.

Reference service life, building

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Aluminium	0,11	0,24	0,00	0,00
Metal - Steel	0,12	0,25	0,00	0,00
Plastic - Acrylonitrile butadiene styrene (ABS)	0,81	1,73	0,00	0,00
Wood - Chipboard	45,43	96,49	0,00	0,00
Glue for wood	0,16	0,16 0,33		0,00
Plastic - Melamine	0,45	0,96	0,00	0,00
Total:	47,09		0,00	
Packaging	kg		Recycled share in material (kg)	Recycled share in material (%)
Packaging - Cardboard	1,10		0,84	76,30
Total including packaging	48,19		0,84	

# LCA: Calculation rules

# Declared unit:

1 Pcs Cabinet, MFC, w/hinged doors, 2 levels

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

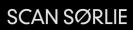
### Allocation:

The allocation is made in accordance with the provisions of EN 15804. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

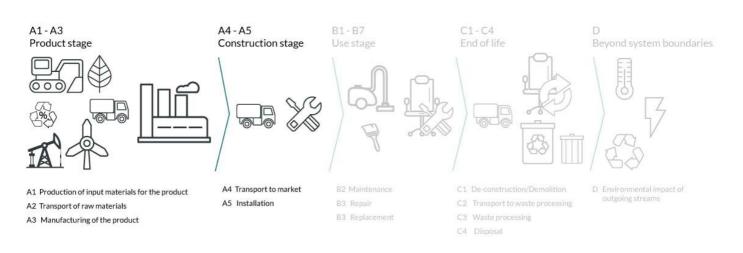
# Data quality:

Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, econvent and other LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Plastic - Acrylonitrile butadiene styrene (ABS)	ecoinvent 3.4	Database	2015
Glue for wood	ecoinvent 3.4	Database	2017
Metal - Aluminium	ecoinvent 3.4	Database	2017
Packaging - Cardboard	ecoinvent 3.4	Database	2017
Plastic - Melamine	ecoinvent 3.4	Database	2017
Wood - Chipboard	ecoinvent 3.4	Database	2017
Metal - Steel	ecoinvent 3.6	Database	2019



# System boundary:



# Additional technical information:

# LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

# Transport from production place to user (A4)

Туре	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Unit	Value (l/t)
Truck	38,8 %	Truck, 16-32 tonnes, EURO 5	1030	0,044606	l/tkm	45,94
Railway					l/tkm	
Boat	71,0 %	Ship, Coastal Barge (250 - 3000t load)	270	0,011179	l/tkm	3,02
Other Transportation					l/tkm	

Assembly	(A5)
	1

Assembly (A5)			Use (B1)		
• 10	Unit	Value		Unit	Value
Auxiliary	kg				
Water consumption	m <sup>3</sup>				
Electricity consumption	kWh				
Other energy carriers	MJ				
Material loss	kg				
Output materials fr ste treatment	kg				
Dust in the air	kg				
VOC emissions	kg				

# Maintenance (B2)/Repair (B3)

Maintenance (B2)/Repair (B3)			Replacement (B4)/Refurbishment (B5)		
	Unit	Value		Unit	Value
Maintenance cycle*	UCC.		Replacement cycle*		
Auxiliary	Char		Electricity consumption	kWh	
Other resources	4/10	0	Replacement of worn parts		
Water consumption	m <sup>3</sup>	AF.	Replacement cycle* Electricity consumption Replacement of worn parts * Described above if relevant A1.A4.are End of Life (C1)		
Electricity consumption	kWh	6	t a		
Other energy carriers	MJ		47.		
Material loss	kg		· AA		
VOC emissions	ka		" ar-		

# Operational energy (B6) and water consumption (B7)

Operational energy (Db) and water consum	ption (B/)		End of Life (C1, C OF .		
•	Unit	Value	inc.	Unit	Value
Water consumption	m <sup>3</sup>		Hazardous waste disposed	kg	
Electricity consumption	kWh		Collected as mixed construction we.	kg	
Other energy carriers	MJ		Reuse	kg	
Power output of equipment	kW		Recycling		
			Energy recovery		
			To landfill	kg	

# Transport to waste processing (C2)

Туре	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Unit	Value (l/t)
Truck					l/tkm	
Railway					l/tkm	
Boat					l/tkm	
Other Transportation					l/tkm	

# LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

# System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			instal	ruction lation age	User stage							End of I	ife stage		Beyond the . system bondaries	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De- construction demolition	Transport	W aste processing	Disposal	Reuse-Recovery- Recycling- potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	. D
Х	Х	Х	Х	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

# Environmental impact

Parameter	Unit	A1	A2	A3	A4
GWP	kg CO <sub>2</sub> -eq	2,99E+01	9,54E-01	3,60E+01	8,70E+00
ODP	kg CFC11 -eq	3,09E-06	1,76E-07	1,78E-06	1,58E-06
РОСР	kg C <sub>2</sub> H <sub>4</sub> -eq	1,28E-02	1,56E-04	6,87E-03	1,42E-03
AP	kg SO <sub>2</sub> -eq	1,53E-01	3,05E-03	1,73E-01	3,03E-02
EP	kg PO <sub>4</sub> <sup>3-</sup> -eq	2,29E-02	5,07E-04	2,28E-02	5,23E-03
ADPM	kg Sb -eq	1,02E-04	2,91E-06	5,59E-05	2,50E-05
ADPE	MJ	4,64E+02	1,44E+01	4,00E+02	1,30E+02

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources

Reading example: 9,0 E-03 = 9,0\*10-3 = 0,009 \*INA Indicator Not Assessed

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Resource use					
Parameter	Unit	A1	A2	A3	A4
RPEE	MJ	5,99E+02	2,10E-01	1,08E+02	1,95E+00
RPEM	MJ	3,70E+02	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	9,70E+02	2,10E-01	1,08E+02	1,95E+00
NRPE	MJ	5,22E+02	1,47E+01	6,85E+02	1,33E+02
NRPM	MJ	3,48E+01	0,00E+00	0,00E+00	0,00E+00
TRPE	MJ	5,57E+02	1,47E+01	6,85E+02	1,33E+02
SM	kg	8,39E-01	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
W	m <sup>3</sup>	1,47E-01	2,76E-03	3,28E-01	2,53E-02

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier, NRPM Non renewable primary energy resources used as materials; TRPE Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; W Use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; W Use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; W Use of net fresh water

Reading example: 9,0 E-03 = 9,0\*10-3 = 0,009 \*INA Indicator Not Assessed

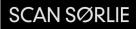
# End of life - Waste

Parameter	Unit	A1	A2	A3	A4	
HW	kg	5,16E-04	8,60E-06	8,25E-04	7,92E-05	
NHW	kg	1,23E+01	7,74E-01	8,54E+00	6,67E+00	
RW	kg	INA*	INA*	INA*	INA*	
HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed						

Reading example: 9,0 E-03 = 9,0\*10-3 = 0,009 \*INA Indicator Not Assessed

# End of life - Output flow

Parameter	Unit	A1	A2	A3	A4
CR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MR	kg	0,00E+00	0,00E+00	2,54E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	5,04E-03	0,00E+00
EEE	MJ	INA*	INA*	INA*	INA*
ETE	MJ	INA*	INA*	INA*	INA*
CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy					
Reading example: 9,0 E-03 = 9,0*10-3 = 0,009 *INA Indicator Not Assessed					



# Additional Norwegian requirements

### Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Data source	Amount	Unit
coinvent 3.4	594,20	g CO2-ekv/kWh
С		

# **Dangerous substances**

The product contains no substances on the REACH Candidate list or the Norwegian priority list at or above 100 ppm, 0,01 % by weight.

#### Indoor environment

# Additional environmental information

Key environmental indicators for variants for this EPD: Cradle to Gate analyse from A1 to A3

Variant number	Global warming (kg CO2)	Total energy use (MJ)	Share of recycled material in product(%)
Cabinet, MFC, w/hinged doors, 3 levels	77,93	2 403,98	2,02
Cabinet, MFC, w/hinged doors, 4 levels	88,43	2 867,29	1,75
Cabinet, MFC, w/hinged doors, 5 levels	100,03	3 357,29	2,34

# Bibliography

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

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

EN 15804:2012+A1:2013 Environmental product declaration - Core rules for the product category of construction products.

ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.

ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.

Iversen et al., (2018) eEPD v3.0 - Background information for EPD generator system. LCA.no report number 04.18

Vold et al., (2019) EPD generator for Norsk Industri, Background information for industry application and LCA data, LCA.no report number 06.19.

NPCR Part A: Construction products and services. Ver. 1.0. April 2017, EPD-Norge.

NPCR 026 Part B for Furniture. Ver. 2.0 October 2018, EPD-Norge.

	<b>Program operator and publisher</b>	Phone:	+47 23 08 80 00
	The Norwegian EPD Foundation	e-mail:	post@epd-norge.no
	Post Box 5250 Majorstuen, 0303 Oslo,Norway	web:	www.epd-norge.no
SCAN SØRLIE	<b>Owner of the declaration</b> Scan Sørlie Vistergrenda 80 1719 Greåker	Phone: e-mail: web:	+47 69 22 75 50 dalius@scansorlie.com
	<b>Author of the Life Cycle Assessment</b>	Phone:	+47 916 50 916
	LCA.no AS	e-mail:	post@lca.no
	Dokka 6B 1671 Kråkerøy	web:	www.lca.no
LCA	<b>Developer of EPD generator</b>	Phone:	+47 916 50 916
	LCA.no AS	e-mail:	post@lca.no
	Dokka 1C 1671 Kråkerøy	web:	www.lca.no