

ENVIRONMENTAL PRODUCT DECLARATION

in accordance with ISO 14025, ISO 21930 and EN 15804

Owner of the declaration:	Fjordfiesta
Program operator:	The Norwegian EPD Foundation
Publisher:	The Norwegian EPD Foundation
Declaration number:	NEPD-3194-1835-EN
Registration number:	NEPD-3194-1835-EN
ECO Platform reference number:	-
Issue date:	28.10.2021
Valid to:	28.10.2026

Scandia Senior

Fjordfiesta



www.epd-norge.no



General information

Product:

Scandia Senior

Owner of the declaration:

Fjordfiesta
 Contact person: Jonny Fossum
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Program operator:

The Norwegian EPD Foundation
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Manufacturer:

Fjordfiesta

Declaration number:

NEPD-3194-1835-EN

Place of production:

Fjordfiesta
 Myrabakken 3 6413 Molde
 Norway

ECO Platform reference number:
Management system:

Miljøfyrtårn

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

Organisation no:

No. 983 826 342

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.

Issue date: 28.10.2021

Valid to: 28.10.2026

Declared unit:

1 Pcs Scandia Senior

Year of study:

2020

Declared unit with option:

A1,A2,A3,A4

Comparability:

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

Functional unit:

1 Pcs. Fjordfiesta Scandia Senior chair incl. packaging. Delivered at customer in Oslo, Norway

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

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 process is reviewed annually. See Appendix G of EPD-Norway's General Programme Instructions for further information on EPD tools.

Developer of EPD:

Jonny Fossum

Reviewer of company-specific input data and EPD:

Pål Lunder

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.

Approved:

Sign



Håkon Hauan, CEO EPD-Norge

Erik Svanes, Norsus AS

(no signature required)

Key environmental indicators	Unit	Cradle to gate A1 - A3
Global warming	kg CO2 eqv	27,23
Total energy use	MJ	812,28
Amount of recycled materials	%	23,91

Product

Market:

Scandinavia

Product description:

Design Hans Brattrud - 1959. Lounge chair in laminated lacquered oak or walnut, fully coloured veneer or with light edges. Satin chrome or black bolt base.

Product specification
Technical data:

Dimensions H 1050 x W 660 x D 820 mm
 Seat height 280 mm
 Weight 11 kg

Reference service life, product

15 years

Reference service life, building

Materials	kg	%	Recycled share in material (kg)	Recycled share in material (%)
Metal - Steel	3,30	23,28	0,64	19,39
Plastic - Polyethylene	0,01	0,09	0,00	0,00
Plastic - Polystyrene expandable (EPS)	0,01	0,09	0,00	0,00
Glue for wood	1,21	8,51	0,00	0,00
Lacquer, water based	0,48	3,36	0,00	0,00
Plastic - Polyethylene (HDPE)	0,20	1,41	0,00	0,00
Cardboard	3,60	25,40	2,75	76,30
Wood - Veneer	5,37	37,86	0,00	0,05
Total:	14,17		3,39	

LCA: Calculation rules

Declared unit:

1 Pcs Scandia Senior

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.

Data quality:

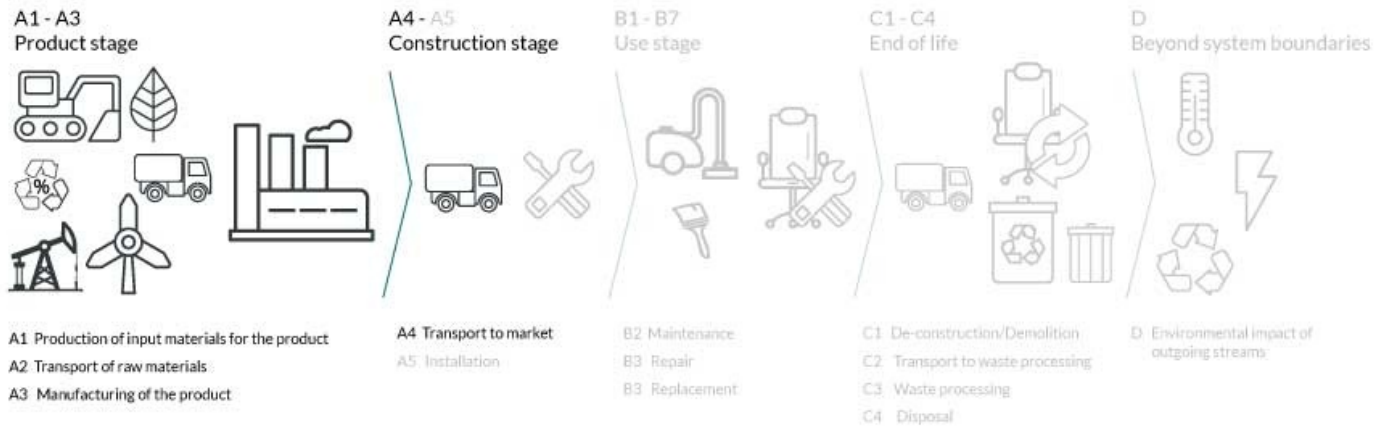
Specific data for the product composition are provided by the manufacturer. They represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on registered EPDs according to EN 15804, Ostfold Research databases, ecoinvent and other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

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.

Materials	Source	Data quality	Year
Plastic - Polyethylene (HDPE)	ecoinvent 3.4	Database	2015
Metal - Steel	ecoinvent 3.3	Database	2016
Cardboard	ecoinvent 3.4	Database	2017
Lacquer, water based	ecoinvent 3.4	Database	2017
Metal coating - Powder coating on steel	ecoinvent 3.4	Database	2017
Plastic - Polyethylene	ecoinvent 3.4	Database	2017
Plastic - Polystyrene expandable (EPS)	ecoinvent 3.4	Database	2017
Process	ecoinvent 3.4	Database	2017
Wood - Veneer	S-P-00172	EPD	2017
Metal - Steel	ecoinvent 3.6	Database	2019
Glue for wood	NORSUS	Database	2020

System boundary:



Additional technical information:

We believe that timeless design is a solid environmental effort; enhanced further by the light environmental footprint we leave behind with each carefully assembled piece of furniture. To ensure the quality of our products and the working conditions of our employees we manufacture our furniture ourselves or by close friends. Scandia Senior is made in Norway.

The materials used are chosen with great consideration to the environmental impact of each component. All wood is FSC certified. Water based coating is available upon specific request. Scandia Senior is tested in accordance with "Møbelfakta" quality requirements.

Our long-term goal is to lead the way towards becoming fully circular and sustainable. As of today- the Scandia Senior chair is also possible to rent. Returned chairs are refurbished and made available for new customers.

Fjordfiesta is an Eco-lighthouse certified enterprise.

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)

Type	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	150	0,044606	l/tkm	6,69
Railway					l/tkm	
Boat					l/tkm	
Other Transportation					l/tkm	

Assembly (A5)

.	Unit	Value
Auxiliary	kg	
Water consumption	m ³	
Electricity consumption	kWh	
Other energy carriers	MJ	
Material loss	kg	
Output materials from waste treatment	kg	
Dust in the air	kg	
VOC emissions	kg	

Use (B1)

.	Unit	Value

Maintenance (B2)/Repair (B3)

.	Unit	Value
Maintenance cycle*		
Auxiliary		
Other resources		
Water consumption	m ³	
Electricity consumption	kWh	
Other energy carriers	MJ	
Material loss	kg	
VOC emissions	kg	

Replacement (B4)/Refurbishment (B5)

.	Unit	Value
Replacement cycle*		
Electricity consumption	kWh	
Replacement of worn parts		
* Described above if relevant		

Operational energy (B6) and water consumption (B7)

.	Unit	Value
Water consumption	m ³	
Electricity consumption	kWh	
Other energy carriers	MJ	
Power output of equipment	kW	

End of Life (C1, C2)

.	Unit	Value
Hazardous waste disposed	kg	
Collected as mixed construction waste	kg	
Reuse	kg	
Recycling		
Energy recovery		
To landfill	kg	

Transport to waste processing (C2)

Type	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				Construction installation stage	User stage								End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential	
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	

Environmental impact

Parameter	Unit	A1	A2	A3	A4
GWP	kg CO ₂ -eq	2,12E+01	1,77E+00	4,30E+00	2,68E-01
ODP	kg CFC11 -eq	1,64E-06	3,29E-07	3,26E-07	4,95E-08
POCP	kg C ₂ H ₄ -eq	8,49E-03	2,86E-04	1,12E-03	4,37E-05
AP	kg SO ₂ -eq	9,99E-02	6,20E-03	1,47E-02	8,56E-04
EP	kg PO ₄ ³⁻ -eq	1,79E-02	1,07E-03	3,33E-03	1,42E-04
ADPM	kg Sb -eq	2,00E-04	5,43E-06	3,96E-05	8,18E-07
ADPE	MJ	2,60E+02	2,68E+01	3,11E+01	4,04E+00

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

Resource use

Parameter	Unit	A1	A2	A3	A4
RPEE	MJ	5,68E+01	3,91E-01	3,79E+02	5,89E-02
RPEM	MJ	2,09E+01	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	7,77E+01	3,91E-01	3,79E+02	5,89E-02
NRPE	MJ	2,87E+02	2,74E+01	6,19E+01	4,14E+00
NRPM	MJ	9,23E+00	0,00E+00	0,00E+00	0,00E+00
TRPE	MJ	2,96E+02	2,74E+01	6,19E+01	4,14E+00
SM	kg	3,39E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	5,37E-02	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
W	m ³	3,73E-01	5,14E-03	2,39E-02	7,75E-04

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; NRSF Use of non renewable secondary fuels; W Use of net fresh water

Reading example: 9,0 E-03 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

End of life - Waste

Parameter	Unit	A1	A2	A3	A4
HW	kg	1,28E-03	1,60E-05	7,00E-05	2,42E-06
NHW	kg	1,77E+01	1,45E+00	4,04E+00	2,18E-01
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 = $9,0 \cdot 10^{-3} = 0,009$

*INA Indicator Not Assessed

End of life - Output flow

Parameter	Unit	A1	A2	A3	A4
CR	kg	7,90E-01	0,00E+00	0,00E+00	0,00E+00
MR	kg	0,00E+00	0,00E+00	9,26E-01	0,00E+00
MER	kg	0,00E+00	0,00E+00	6,28E-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 = $9,0 \cdot 10^{-3} = 0,009$

*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).

Electricity mix	Data source	Amount	Unit
El-mix, Norway (kWh)	ecoinvent 3.4	31,04	g CO ₂ -ekv/kWh

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

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.





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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.

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