

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

NOBØ NTL4N 10



The Norwegian EPD Foundation

Owner of the declaration:

Glen dimplex Nordic AS

Product:

NOBØ NTL4N 10

Declared unit:

1 pcs

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019

PCR EPD Italy 007 - Electronic and electrical products and systems - Other electronics

Program operator:

The Norwegian EPD Foundation

Declaration number:

NEPD-9143-8710

Registration number:

NEPD-9143-8710

Issue date: 13.02.2025

Valid to: 13.02.2030

EPD software:

LCAno EPD generator ID: 772503

General information

Product

NOBØ NTL4N 10

Program operator:

The Norwegian EPD Foundation
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-norge.no

Declaration number:

NEPD-9143-8710

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019
PCR EPD Italy 007 - Electronic and electrical products and systems -
Other electronics

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 NOBØ NTL4N 10

Declared unit with option:

A1,A2,A3,A4,A5,B6,C1,C2,C3,C4,D

Functional unit:

1 pc of NOBØ NTL4N 10, installed and used to warm an indoor environment, during a service life of 17 years, including waste treatment at end-of-life.

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. Verification of each EPD is made according to EPD-Norway's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Norway, and iii) the process is reviewed annually by an independent third party verifier. 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. Approval number: NEPDT78.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

Owner of the declaration:

Glen dimplex Nordic AS
Contact person: Per Olav Bjørgum
Phone: + 47 90764511
e-mail: per.bjorgum@glendimlpex.no

Manufacturer:

Glen dimplex Nordic AS
Sørumsgata 11A
2000 Lillestrøm, Norway

Place of production:

Glen Dimplex Nordic AS - Production site (Newry)
Rampart Rd, Newry BT34 2QT
, United Kingdom

Management system:

ISO - 9001 and 14001

Organisation no:

964169969

Issue date:

13.02.2025

Valid to:

13.02.2030

Year of study:

2023

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD Norway.

Developer of EPD: Zohaib Ali

Reviewer of company-specific input data and EPD: Børge Heggen Johansen, Energiråd AS

Approved:

Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

Nobø top discharge convector heater. Double insulated, IP 24. 40cm high. 1000W, 230V. Color RAL 9016. Must be equipped with NCU or SPC control unit. Connected with included junction box.

Product specification

Choose from several different thermostats: NCU-1R, NCU-2R, NCU-2T, NCU-2Te, SPC-IZW, SPZ-IZB.

NTL4N is splashproof IP24, double insulated Cl. II and has overheating protection.

5 years warranty

Available as high (H:400mm) and low (L:200mm)

Available in 230V and 400V

Available in three colors: White RAL 9016 and matt black RAL 9004.

Can be mounted on floor stand (optional).

Materials	kg	%
Electronic - Cable	0,13	2,12
Electronic - Unspecified	1,05	17,25
Electronic - Wire	0,01	0,21
Metal - Alloy	0,02	0,34
Plastic	0,42	6,95
Metal - Aluminium	0,44	7,22
Metal - Steel	3,75	61,50
Chemical	0,18	2,87
Printed paper	0,00	0,01
Plastic - Polycarbonate (PC)	0,09	1,52
Total	6,10	100,00

Packaging	kg	%
Packaging - Cardboard	0,52	88,59
Packaging - Polystyrene (PS)	0,07	11,41
Total incl. packaging	6,69	100,00

Technical data:

Market:

Europe.

Reference service life, product

17 years. Standard lifetime for electrical heaters applications, provided in PEP Ecopassport PSR for direct, visible, fixed electric heating appliances.

Reference service life, building or construction works

60 years. Standard service life for buildings according to the PCR Part A of EPD Norway.

LCA: Calculation rules

Declared unit:

1 pcs NOBØ NTL4N 10

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. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. 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:

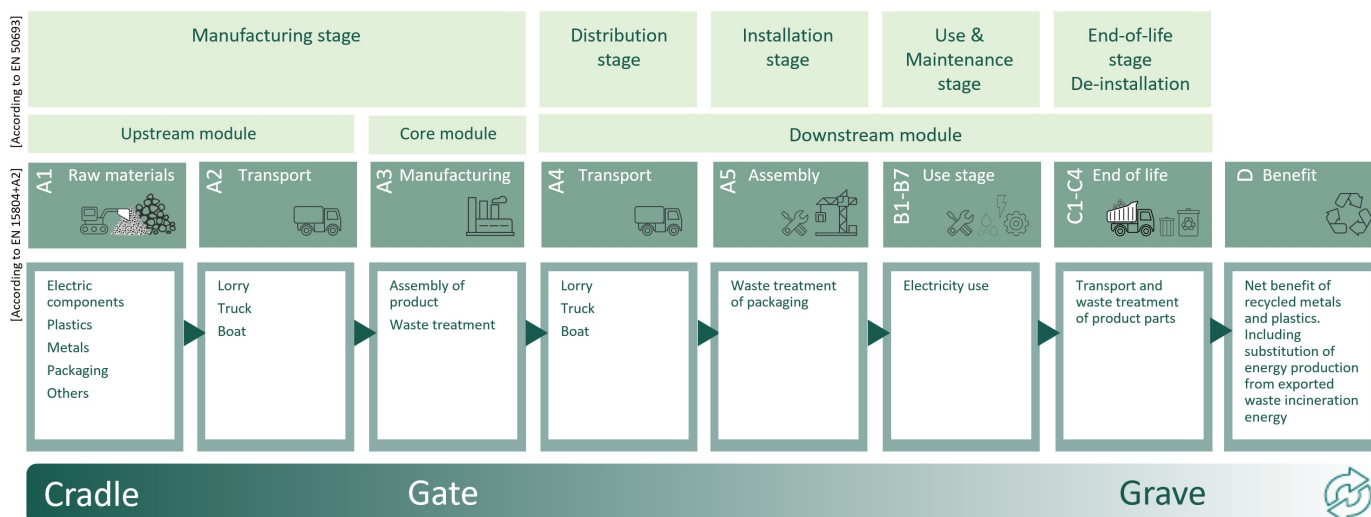
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the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

Materials	Source	Data quality	Year
Chemical	ecoinvent 3.6	Database	2019
Electronic - Cable	Ecoinvent 3.6	Database	2019
Electronic - Unspecified	ecoinvent 3.6	Database	2019
Electronic - Wire	Product composition + ecoinvent 3.6	Supplier data + database	2019
Metal - Alloy	Ecoinvent 3.6	Database	2019
Metal - Aluminium	ecoinvent 3.6	database	2019
Metal - Steel	ecoinvent 3.6	Database	2019
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Packaging - Polystyrene (PS)	ecoinvent 3.6	Database	2019
Plastic	ecoinvent 3.6	Database	2019
Printed paper	Ecoinvent 3.6	Database	2019
Metal - Aluminium	ecoinvent 3.6	Database	2019
Plastic - Polycarbonate (PC)	ecoinvent 3.6	Database	2019

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

Product stage			Construction installation stage		Use 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	De-construction 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	X	MND	MND	MND	MND	MND	X	MND	X	X	X	X	X

System boundary:



Additional technical information:

The reference product have different configurations but have the same main functionality, product standards and manufacturing technology, so extrapolation rules are established according to PEP Ecopassport PSR-0002-ed3.0 -EN-2023 06 06. The main differences in the product family include :

- Power (W)
- Weight (kg)

The different life cycle modules can be extrapolated to other mentioned configurations of the same product by applying a rule of proportionality to the parameters, presented in the table "Additional Technical Data". To calculate the environmental impacts for each different variant, the results of the reference product "NOBØ NTL4N 10" must be multiplied by the factor from the table "Additional Technical Data".

Product Name	Weight (kg)	Power (W)	Extrapolation factor "All other " phases	Extrapolation factor "Use" phase
NFK2N 05 500W 230-240V D	3.54	500	0.53	0.5
NFK2N 07 750W 230-240V D	4.66	750	0.7	0.75
NFK2N 10 1000W 230-240V D	5.75	1000	0.86	1
NFK2N 12 1250W 230-240V D	6.5	1250	0.97	1.25
NFK4N 02 250W 230-240V D	3.75	250	0.56	0.25
NFK4N 05 500W 230-240V D	4.31	500	0.64	0.5
NFK4N 07 750W 230-240V D	4.77	750	0.71	0.75
NFK4N 10 1000W 230-240V D	5.62	1000	0.84	1
NFK4N 12 1250W 230-240V D	6.88	1250	1.03	1.25
NFK4N 15 1500W 230-240V D	7.53	1500	1.13	1.5
NFK4N 20 2000W 230-240V D	9.6	2000	1.43	2
NTL2N 05 500W 230-240V D	3.54	500	0.53	0.5
NTL2N 07 750W 230-240V D	4.66	750	0.7	0.75
NTL2N 10 1000W 230-240V D	5.75	1000	0.86	1
NTL2N 12 1250W 230-240V D	6.5	1250	0.97	1.25
NTL4N 02 250W 230-240V D	3.75	250	0.56	0.25
NTL4N 05 500W 230-240V D	4.31	500	0.64	0.5
NTL4N 07 750W 230-240V D	4.77	750	0.71	0.75
NTL4N 10 1000W 230-240V D	5.62	1000	0.84	1
NTL4N 12 1250W 230-240V D	6.88	1250	1.03	1.25
NTL4N 15 1500W 230-240V D	7.53	1500	1.13	1.5
NTL4N 20 2000W 230-240V D	9.6	2000	1.43	2
NFK2X 05 500W 230-240V D	3.54	500	0.53	0.5
NFK2X 07 750W 230-240V D	4.66	750	0.7	0.75
NFK2X 10 1000W 230-240V D	5.75	1000	0.86	1

NFK2X 12 1250W 230-240V D	6.5	1250	0.97	1.25
NFK4X 02 250W 230-240V D	3.75	250	0.56	0.25
NFK4X 05 500W 230-240V D	4.31	500	0.64	0.5
NFK4X 07 750W 230-240V D	4.77	750	0.71	0.75
NFK4X 10 1000W 230-240V D	5.62	1000	0.84	1
NFK4X 12 1250W 230-240V D	6.88	1250	1.03	1.25
NFK4X 15 1500W 230-240V D	7.53	1500	1.13	1.5
NFK2N 05 500W 400V D	3.54	500	0.53	0.5
NFK2N 07 750W 400V D	4.66	750	0.7	0.75
NFK2N 10 1000W 400V D	5.75	1000	0.86	1
NFK2N 12 1250W 400V D	6.5	1250	0.97	1.25
NFK4N 05 500W 400V D	4.31	500	0.64	0.5
NFK4N 07 750W 400V D	4.77	750	0.71	0.75
NFK4N 10 1000W 400V D	5.62	1000	0.84	1
NFK4N 12 1250W 400V D	6.88	1250	1.03	1.25
NFK4N 15 1500W 400V D	7.53	1500	1.13	1.5
NTL2N 05 500W 400 V D	3.54	500	0.53	0.5
NTL2N 07 750W 400V S D	4.66	750	0.7	0.75
NTL2N 10 1000W 400V D	5.75	1000	0.86	1
NTL4N 250W 400V D	3.75	250	0.56	0.25
NTL4N 05 500W 400V D	4.31	500	0.64	0.5
NTL4N 07 750W 400V D	4.77	750	0.71	0.75
NTL4N 10 1000W 400V D	5.62	1000	0.84	1
NTL4L 400W 230V	5.31	400	0.79	0.4
NTL4L 600W 230V	6.64	600	0.99	0.6
NTL4L 800W 230V	8.18	800	1.22	0.8
NTL4L 1000W 230V	10.25	1000	1.53	1
NTL4L 400W 400V	5.31	400	0.79	0.4
NTL4L 600W 400V	6.64	600	0.99	0.6
NTL4L 800W 400V	8.18	800	1.22	0.8
NTL4L 1000W 400V	10.25	1000	1.53	1
NTL4Y 08 800W 230V D	8.18	800	1.22	0.8
NTL4Y 10 1000W 230V D	10.25	1000	1.53	1
NTL2N 05 500w 230-240V DX Black	3.54	500	0.53	0.5
NTL2N 07 750W 230-240V DX Black	4.66	750	0.7	0.75
NTL2N 10 1000w 230-240V DX Black	5.75	1000	0.86	1
NTL4N 02 250W 230-240V DX Black	3.75	1250	0.56	1.25
NTL4N 05 500W 230-240V DX Black	4.31	500	0.64	0.5
NTL4N 07 750W 230-240V DX Black	4.77	750	0.71	0.75
NTL4N 10 1000W 230-240V DX Black	5.62	1000	0.84	1
DTD2R 05 500W 230-240V Alta WiFi	3.54	500	0.53	0.5
DTD2R 07 750W 230-240V Alta WiFi	4.66	750	0.7	0.75
DTD2R 10 1000W 230-240V Alta WiFi	5.75	1000	0.86	1
DTD2R 12 1250W 230-240V Alta WiFi	6.5	1250	0.97	1.25
DTD4R 05 500W 230-240V Alta WiFi	4.31	500	0.64	0.5
DTD4R 07 750W 230-240V Alta WiFi	4.77	750	0.71	0.75
DTD4R 10 1000W 230-240V Alta WiFi	5.62	1000	0.84	1
DTD4R 12 1250W 230-240V Alta WiFi	6.88	1250	1.03	1.25
DTD4R 15 1500W 230-240V Alta WiFi	7.53	1500	1.13	1.5
DFB2T 05 500w 230-240V Pria DX	3.54	500	0.53	0.5
DFB2T 07 750w 230-240V Pria DX	4.66	750	0.7	0.75
DFB2T 10 1000w 230-240V Pria DX	5.75	1000	0.86	1
DFB4T 02 250w 230-240V DX Pria	3.75	1250	0.56	1.25
DFB4T 05 500w 230-240V DX Pria	4.31	500	0.64	0.5
DFB4T 07 750w 230-240V DX Pria	4.77	750	0.71	0.75
DFB4T 10 1000w 230-240V DX Pria	5.62	1000	0.84	1
DFB4T 12 1250w 230-240V DX Pria	6.88	1250	1.03	1.25
DFB4T 15 1500w 230-240V DX Pria	7.53	1500	1.13	1.5
DFB4T 20 2000w 230-240V DX Pria	9.6	2000	1.43	2

LCA: Scenarios and additional technical information

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

Module A4 = Average distribution into the Europe market (1000 km).

Modules A5 = Installation is performed by manual labor, with the use of electrical machines, that fall under the cut-off criteria of 1% and is therefore neglected. Packaging of the final product consist of a corrugated board box.

Module B6 :The operational energy use of the electrical heater is calculated based on the methodology provided in PEP Ecopassport PSR-0002-ed3.0 -EN-2023 06 06. To calculate the electricity use of the electrical heater , the following scenario parameters have been applied:

$$C = RLT * n * (1 - (A + 0.5 * B))$$

Where:

C: final energy consumption to heat for 17 years, expressed in kWh (17 years is the standard reference lifetime suggested in the PSR).

RLT: number of annual periods defined by the reference lifetime of the reference product, expressed in years.

$n = 8760 * P * R * 0.14$: 1-year consumption by a direct, visible, fixed electric heating appliance as described in table 6 of the PSR.

8760: hours per year.

P: Thermal power of the reference product in kW.

R: 100 % yield rate of the reference product in %.

14 %: average annual working rate in %.

A: Bonus related to type "A" energy saving functions not requiring a predetermined action by the consumer, as described in table 7 of the PSR and expressed in %.

B: Bonus related to type "B" energy saving functions requiring a predetermined action by the consumer, as described in table 7 of the PSR and expressed in %.

Module C1 = The de-installation of the electrical heater is carried out manually, with the assistance of electrical tools. The energy consumption of portable electrical devices (e.g., drills) is typically low, falling below the 1% cut-off criterion, and is therefore disregarded.

Module C2 = Transportation from building site to the waste treatment facility with an average distance of 300km.

Modules C3 and C4 = Waste treatment of the product follows the default values provided in EN 50693, Product Category Rules for life cycle assessments of electronic and electrical products and systems, table G.4. This table specified how different types of raw materials used in A1 will likely be treated during the end-of-life of the product. Waste treatments in C3 include material recycling and incineration with and without energy recovery and fly ash extraction. Disposal in C4 consist of landfilling of different waste fractions and of ashes.

Module D = The recyclability of metals, plastics, and electronic components allows the producers a credit for the net scrap that is produced at the end of a product's life. The benefits from recycling of net scrap are described in formula from EN 15804:2012+A2:2019. Substitution of heat and electricity generated by the incineration with energy recovery of plastic insulation and other parts is also calculated in module D.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Ship, Ferry, Sea (km)	50,0 %	100	0,034	l/tkm	3,40
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	1000	0,043	l/tkm	43,00
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	1700	0,043	l/tkm	73,10
Assembly (A5)	Unit	Value			
Waste, packaging, polystyrene, to average treatment (kg) - A5, inkl. 85 km transp.	kg	0,067			
Waste, packaging, corrugated board box, to average treatment - A5 including transport (kg)	kg	0,52			
Operational energy (B6)	Unit	Value			
Electricity, European average (kWh)	kWh	17200,26			
Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36,7 %	300	0,043	l/tkm	12,90

Waste processing (C3)	Unit	Value			
Copper to recycling (kg)	kg	0,019			
Waste treatment per kg electronics scrap from PWB, with components, recycling of metals C3 (kg)	kg	0,073			
Waste treatment per kg used PWB, shredding and separation - C3 (kg)	kg	0,14			
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0,62			
Waste treatment per kg used electronic components, manual separation (kg)	kg	1,14			
Steel to recycling (kg)	kg	3,33			
Aluminium to recycling (kg)	kg	0,30			

Disposal (C4)	Unit	Value			
Landfilling of steel (kg)	kg	0,89			
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0,011			
Landfilling of aluminium (kg)	kg	0,13			
Landfilling of municipal solid waste (kg)	kg	0,00040			
Landfilling of plastic mixture (kg)	kg	0,29			
Landfilling of mixed metals (kg)	kg	0,021			
Landfilling of copper (kg)	kg	0,013			
Landfilling of hazardous waste (kg)	kg	0,24			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary aluminium with net scrap (kg)	kg	0,30			
Substitution of electricity, in Norway (MJ)	MJ	0,50			
Substitution of primary steel with net scrap (kg)	kg	2,25			
Substitution of primary copper with net scrap (kg)	kg	0,0059			
Substitution of primary metals with net scrap from PWB, with components (kg)	kg	0,021			
Substitution of thermal energy, district heating, in Norway (MJ)	MJ	7,70			

LCA: Results

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

Environmental impact							
Indicator		Unit	A1	A2	A3	A4	A5
	GWP-total	kg CO ₂ -eq	6,51E+01	1,03E+00	5,00E+00	3,03E+00	8,96E-01
	GWP-fossil	kg CO ₂ -eq	6,56E+01	1,03E+00	4,99E+00	3,02E+00	1,37E-02
	GWP-biogenic	kg CO ₂ -eq	-6,27E-01	4,22E-04	6,52E-03	1,24E-03	8,83E-01
	GWP-luluc	kg CO ₂ -eq	1,62E-01	3,75E-04	2,44E-03	1,10E-03	3,19E-06
	ODP	kg CFC11 -eq	4,98E-06	2,33E-07	4,68E-07	6,83E-07	2,10E-09
	AP	mol H ⁺ -eq	5,31E-01	3,72E-03	1,26E-02	1,09E-02	4,64E-05
	EP-FreshWater	kg P -eq	9,91E-03	8,14E-06	6,58E-05	2,39E-05	8,00E-08
	EP-Marine	kg N -eq	7,63E-02	7,75E-04	2,11E-03	2,28E-03	1,92E-05
	EP-Terrestrial	mol N -eq	9,12E-01	8,65E-03	2,44E-02	2,54E-02	1,66E-04
	POCP	kg NMVOC -eq	2,71E-01	3,03E-03	6,84E-03	8,92E-03	4,87E-05
	ADP-minerals&metals ¹	kg Sb-eq	2,37E-02	2,79E-05	5,43E-06	8,20E-05	2,33E-07
	ADP-fossil ¹	MJ	8,41E+02	1,55E+01	7,16E+01	4,55E+01	1,40E-01
	WDP ¹	m ³	3,66E+03	1,46E+01	2,82E+02	4,33E+01	2,26E-01

Indicator		Unit	B6	C1	C2	C3	C4	D
	GWP-total	kg CO ₂ -eq	7,36E+03	0,00E+00	3,28E-01	1,70E+00	1,08E-01	-6,95E+00
	GWP-fossil	kg CO ₂ -eq	7,29E+03	0,00E+00	3,28E-01	1,70E+00	1,07E-01	-6,87E+00
	GWP-biogenic	kg CO ₂ -eq	5,13E+01	0,00E+00	1,36E-04	5,14E-04	3,57E-04	-1,86E-02
	GWP-luluc	kg CO ₂ -eq	1,70E+01	0,00E+00	1,17E-04	4,01E-04	5,18E-04	-5,70E-02
	ODP	kg CFC11 -eq	6,18E-04	0,00E+00	7,43E-08	1,38E-08	8,12E-09	-3,30E-03
	AP	mol H ⁺ -eq	4,26E+01	0,00E+00	9,42E-04	1,24E-03	4,12E-04	-1,36E-01
	EP-FreshWater	kg P -eq	7,79E-01	0,00E+00	2,62E-06	9,13E-06	2,89E-06	-8,38E-04
	EP-Marine	kg N -eq	5,41E+00	0,00E+00	1,86E-04	3,16E-04	1,41E-04	-1,03E-02
	EP-Terrestrial	mol N -eq	6,66E+01	0,00E+00	2,09E-03	3,41E-03	1,15E-03	-1,26E-01
	POCP	kg NMVOC -eq	1,69E+01	0,00E+00	7,99E-04	8,81E-04	4,55E-04	-4,22E-02
	ADP-minerals&metals ¹	kg Sb-eq	5,35E-02	0,00E+00	9,06E-06	1,24E-06	4,72E-07	-2,47E-03
	ADP-fossil ¹	MJ	1,51E+05	0,00E+00	4,96E+00	2,53E+00	1,06E+00	-7,74E+01
	WDP ¹	m ³	2,26E+06	0,00E+00	4,79E+00	1,58E+01	1,02E+01	-1,50E+03

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = 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

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

1. 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

Remarks to environmental impacts

Additional environmental impact indicators

Indicator	Unit	A1	A2	A3	A4	A5
 PM	Disease incidence	3,98E-06	6,15E-08	3,18E-08	1,83E-07	7,06E-10
 IRP ²	kgBq U235 -eq	2,99E+00	6,77E-02	1,35E-01	1,99E-01	6,02E-04
 ETP-fw ¹	CTUe	5,40E+03	1,14E+01	2,48E+01	3,36E+01	1,78E-01
 HTP-c ¹	CTUh	1,56E-07	0,00E+00	7,23E-10	0,00E+00	6,00E-12
 HTP-nc ¹	CTUh	3,93E-06	1,23E-08	2,33E-08	3,68E-08	2,17E-10
 SQP ¹	dimensionless	3,03E+02	1,07E+01	8,63E+00	3,13E+01	1,17E-01

Indicator	Unit	B6	C1	C2	C3	C4	D
 PM	Disease incidence	1,12E-04	0,00E+00	2,01E-08	7,89E-09	7,44E-09	-6,25E-07
 IRP ²	kgBq U235 -eq	1,32E+03	0,00E+00	2,17E-02	1,15E-02	3,63E-03	-2,24E-01
 ETP-fw ¹	CTUe	1,05E+05	0,00E+00	3,67E+00	6,81E+00	6,60E+02	-9,29E+02
 HTP-c ¹	CTUh	2,94E-06	0,00E+00	0,00E+00	1,74E-09	2,90E-10	-2,26E-08
 HTP-nc ¹	CTUh	1,02E-04	0,00E+00	4,01E-09	1,01E-07	2,39E-09	-8,89E-08
 SQP ¹	dimensionless	3,63E+04	0,00E+00	3,47E+00	4,88E-01	2,48E+00	-2,18E+01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

1. 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

2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use							
Indicator		Unit	A1	A2	A3	A4	A5
	PERE	MJ	1,02E+02	2,19E-01	6,41E+00	6,45E-01	2,49E-03
	PERM	MJ	4,27E+00	0,00E+00	0,00E+00	0,00E+00	-4,26E+00
	PERT	MJ	1,06E+02	2,19E-01	6,41E+00	6,45E-01	-4,26E+00
	PENRE	MJ	8,34E+02	1,55E+01	7,50E+01	4,56E+01	1,40E-01
	PENRM	MJ	1,83E+01	0,00E+00	0,00E+00	0,00E+00	-2,59E+00
	PENRT	MJ	8,53E+02	1,55E+01	7,50E+01	4,56E+01	-2,45E+00
	SM	kg	1,47E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	RSF	MJ	1,82E+00	7,77E-03	2,50E-01	2,30E-02	7,88E-05
	NRSF	MJ	1,06E+00	2,85E-02	2,28E-02	8,17E-02	3,03E-04
	FW	m ³	7,68E-01	1,64E-03	2,04E-02	4,82E-03	6,71E-05

Indicator		Unit	B6	C1	C2	C3	C4	D
	PERE	MJ	2,92E+04	0,00E+00	7,10E-02	2,93E-01	2,76E-01	-2,03E+01
	PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	2,92E+04	0,00E+00	7,10E-02	2,93E-01	2,76E-01	-2,03E+01
	PENRE	MJ	1,51E+05	0,00E+00	4,96E+00	2,53E+00	1,06E+00	-7,74E+01
	PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	-1,69E+01	0,00E+00	0,00E+00
	PENRT	MJ	1,51E+05	0,00E+00	4,96E+00	-1,44E+01	1,06E+00	-7,74E+01
	SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,86E-03	5,59E-03
	RSF	MJ	2,13E+03	0,00E+00	2,54E-03	6,31E-03	1,56E-03	8,41E-02
	NRSF	MJ	5,05E+02	0,00E+00	9,08E-03	-9,73E-05	5,08E-02	2,39E+00
	FW	m ³	1,28E+02	0,00E+00	5,30E-04	3,14E-03	8,88E-04	-9,43E-02

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9,0 E-03 = 9,0*10⁻³ = 0,009"

*INA Indicator Not Assessed

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5
	HWD	kg	3,33E-01	8,04E-04	1,91E-03	2,34E-03	0,00E+00
	NHWD	kg	1,19E+01	7,39E-01	1,51E-01	2,17E+00	5,87E-01
	RWD	kg	2,44E-03	1,06E-04	1,89E-04	3,10E-04	0,00E+00

Indicator		Unit	B6	C1	C2	C3	C4	D
	HWD	kg	2,27E+01	0,00E+00	2,56E-04	4,80E-05	3,11E-01	-7,26E-03
	NHWD	kg	5,10E+02	0,00E+00	2,41E-01	6,48E-02	1,38E+00	-2,10E+00
	RWD	kg	1,08E+00	0,00E+00	3,38E-05	2,39E-06	2,91E-06	-2,06E-04

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

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

*INA Indicator Not Assessed

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,18E-01
	MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,64E-02
	EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,97E-02
	EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,50E-01

Indicator		Unit	B6	C1	C2	C3	C4	D
	CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	MFR	kg	0,00E+00	0,00E+00	0,00E+00	3,67E+00	2,65E-05	-2,19E-04
	MER	kg	0,00E+00	0,00E+00	0,00E+00	6,32E-01	6,48E-07	-2,88E-05
	EEE	MJ	0,00E+00	0,00E+00	0,00E+00	9,72E-01	4,21E-05	-7,05E-05
	EET	MJ	0,00E+00	0,00E+00	0,00E+00	1,47E+01	6,36E-04	-1,07E-03

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

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

*INA Indicator Not Assessed

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	1,51E-04
Biogenic carbon content in accompanying packaging	kg C	2,41E-01

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional 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	Source	Amount	Unit
Electricity, medium voltage (kWh) - Ireland	ecoinvent 3.6	510,45	g CO ₂ -eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products							
Indicator	Unit	A1	A2	A3	A4	A5	
GWPIOBC	kg CO ₂ -eq	6,59E+01	1,03E+00	4,94E+00	3,03E+00	1,37E-02	
Indicator	Unit	B6	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	7,90E+03	0,00E+00	3,28E-01	1,70E+00	1,12E-01	-8,04E+00

GWPIOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

ISO 14025:2010. Environmental labels and declarations - Type III environmental declarations - Principles and procedures. International Organization for Standardization.

ISO 14044:2006. Environmental management - Life cycle assessment - Requirements and guidelines. International Organization for Standardization.

EN 15804:2012+A2:2019. Environmental product declaration - Core rules for the product category of construction products. European Committee for Standardization.

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

EN 50693:2019. Product category rules for life cycle assessments of electronic and electrical products and systems. European Committee for Standardization.

Ecoinvent v3, 2019. Allocation, cut-off by classification. Swiss Centre of Life Cycle Inventories.

Iversen et al., (2021). eEPD v2021.09, background information for EPD generator tool system verification, LCA.no. Report number: 07.21. System verification report.

Babwah & Philis (2023). EPD generator based on PCR EPD Italy 007, background information for EPD generator application and LCA data, LCA.no. Report number 09.2023. PCR verification report (based on core PCR).

EPD Italy (2020). PCR EPD Italy 007 Part A for electronic and electrical products and systems. EPD Italy. Version 3, issue 13-01-2023 and valid until 19-01-2025.

PEP Ecopassport (2023). PSR specific rules for direct, visible, fixed electric heating appliances. PSR-0002-ed3.0-EN-2023 06 06. Version 3, 06-06-2023.

 Global program operator	Program operator and publisher The Norwegian EPD Foundation Post Box 5250 Majorstuen, 0303 Oslo, Norway	Phone: +47 977 22 020 e-mail: post@epd-norge.no web: www.epd-norge.no
	Owner of the declaration: Glen dimplex Nordic AS Sørumsgata 11A, 2000 Lillestrøm, Norway	Phone: + 47 90764511 e-mail: per.bjorgum@glendimplex.no web: https://www.glendimplex.com/en-ie
	Author of the Life Cycle Assessment LCA.no AS Dokka 6A, 1671 Kråkerøy, Norway	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
	Developer of EPD generator LCA.no AS Dokka 6A, 1671 Kråkerøy, Norway	Phone: +47 916 50 916 e-mail: post@lca.no web: www.lca.no
	ECO Platform ECO Portal	web: www.eco-platform.org web: ECO Portal