



# Environmental Product Declaration

In accordance with ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021, ISO 21930:2017, ISO 14067 for:

## ***Officechair MB***

from

***SUN-FLEX AB***

**SUN-FLEX**  
®



|                          |                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------|
| EPD Programme:           | The International EPD System, <a href="http://www.environdec.com">www.environdec.com</a> |
| Programme operator:      | EPD International AB                                                                     |
| Type of EPD:             | Type C                                                                                   |
| EPD registration number: | EPD-IES-0031157                                                                          |
| Version date:            | 2026-05-18                                                                               |
| Validity date:           | 2031-05-18                                                                               |

*Note: An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see [www.environdec.com](http://www.environdec.com)*

## GENERAL INFORMATION

| Programme Information |                                                                    |
|-----------------------|--------------------------------------------------------------------|
| <b>Programme:</b>     | The International EPD® System                                      |
| <b>Address:</b>       | EPD International AB, Box 210 60<br>SE-100 31 Stockholm<br>Sweden  |
| <b>Website:</b>       | <a href="http://www.environdec.com">www.environdec.com</a>         |
| <b>E-mail:</b>        | <a href="mailto:support@environdec.com">support@environdec.com</a> |

| Product Category Rules (PCR)                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CEN standard EN 15804 serves as the Core Product Category Rules (PCR)</b>                                                                                                                                                                                    |
| <b>Product Category Rules (PCR)</b><br>PCR 2019:14 Construction products v.2.0.1 (EN 15804+A2) (2.0.1) and UN CPC code 38111                                                                                                                                    |
| <b>PCR review</b><br>Rob Rouwette (chair), Noa Meron (co-chair)<br>PCR review was conducted by: The Technical Committee of the International EPD® System.<br><i>See <a href="http://www.environdec.com/TC">www.environdec.com/TC</a> for a list of members.</i> |
| <b>c-PCR</b><br>c-PCR-021 Furniture and components of furniture, version 2.0.1. This c-PCR under PCR 2019:14 is an adoption of the NPCR 026 Part B for Furniture and components of furniture of EPD Norway.                                                     |
| <u>Life Cycle Assessment (LCA)</u>                                                                                                                                                                                                                              |
| LCA accountability: Sara Hidendahl and Anton Lenstrup, Trossa AB                                                                                                                                                                                                |
| Third-party Verification: Independent third-party verification of the declaration and data, according to ISO 14025:2006, via EPD verification by individual verifier.                                                                                           |
| Third-party verifier: Nilay Elginöz Kanat, IVL.                                                                                                                                                                                                                 |
| Approved by: International EPD System                                                                                                                                                                                                                           |
| Procedure for follow-up of data during EPD validity involves third party verifier:<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                       |

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

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## INFORMATION ABOUT EPD OWNER

### Owner of the EPD

SUN-FLEX AB

Airport City, Logistikkvägen 6 438 70 Landvetter, SWEDEN

See more information about Sun Flex AB at [www.sun-flex.com](http://www.sun-flex.com)

### Contact information

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### LCA practitioners

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Trossa AB, Rosenlundsgatan 40, 118 53 Stockholm

Further information about the LCA practitioners commissioned by the EPD owner is available at [www.trossa.se](http://www.trossa.se)

### Description of the organisation

SUN-FLEX AB is a furniture company that develops, manufactures, and distributes products for modern office environments. SUN-FLEX AB has over 40 years of experience, with an international presence across Asia, Europe, and North America through a well-established network of distributors and dealers. The designed products enhance both wellness and productivity in the workplace, offering user-friendly solutions to common challenges found in most office settings. The primary market is Europe, where Sweden, Estonia, and Denmark are the largest markets.

## PRODUCT INFORMATION

### Product name

OFFICECHAIR MB, hereby "MB Chair"

### UN CPC code

38111

### Product description:

The MB Chair is composed of various materials and components designed to provide comfort and functionality, allowing for adjustments to meet individual user preferences. Key features include a height-adjustable backrest, a tilt mechanism that can be either locked or adjusted, seat depth adjustment, and 4D armrests. Minimum service lifetime 15 years. Manufacturing mainly involves assembling the steel frame into the seat and back, bonding foam, fabric, and wood components, and upholstering the parts. The upholstered sections are then integrated into the chair structure, followed by pre-packaging in plastic bags and final packaging for distribution.

Further product information and technical specifications of the product, see [www.sun-flex.com](http://www.sun-flex.com)



### Geographical Scope

The chairs are produced in Foshan, China. Transported from China to Europe (Global). End-of-life for packaging and product, Europe.

## Manufacturing site

The production site is located Foshan, China.

## CONTENT DECLARATION

| PRODUCT CONTENT DECLARATION |                         |                                     |              |                               |                                     |                                 |
|-----------------------------|-------------------------|-------------------------------------|--------------|-------------------------------|-------------------------------------|---------------------------------|
| Components                  | Raw material            | Recycled material, mass% of product | Mass (kg)    | Weight-% (versus the product) | Biogenic material, mass% of product | Biogenic material, kg C/product |
| Backrest                    | Polyurethane            |                                     | 0,9000       | 4%                            |                                     |                                 |
|                             | Polyester               |                                     | 0,3160       | 1%                            |                                     |                                 |
|                             | Steel                   |                                     | 2,9157       | 14%                           |                                     |                                 |
|                             | Polypropylene (PP)      |                                     | 2,2000       | 10%                           |                                     |                                 |
| Seat                        | Polyurethane            |                                     | 0,8000       | 4%                            |                                     |                                 |
|                             | Polyester               |                                     | 0,3160       | 1%                            |                                     |                                 |
|                             | Polypropylene (PP)      |                                     | 0,7500       | 4%                            |                                     |                                 |
|                             | Plywood (eucalyptus)    |                                     | 1,4045       | 7%                            | 59,59%                              | 0,837*                          |
| Armrest                     | Steel                   |                                     | 1,7978       | 9%                            |                                     |                                 |
|                             | Polyurethane, Polyamide |                                     | 0,6273       | 3%                            |                                     |                                 |
| Mechanism                   | Steel                   |                                     | 4,1255       | 20%                           |                                     |                                 |
|                             | Polyamide (PA6)         |                                     | 0,2996       | 1%                            |                                     |                                 |
| Gas Lift                    | Steel                   |                                     | 0,8875       | 4%                            |                                     |                                 |
|                             | Polyamide (PA6)         |                                     | 0,0190       | 0%                            |                                     |                                 |
| Base                        | Polyamide (PA6)         | 70% (pre-consumer)                  | 1,700        | 8%                            |                                     |                                 |
| Plastic                     | Polyamide               |                                     | 0,6002       | 3%                            |                                     |                                 |
| Screws                      | Steel                   |                                     | 0,2350       | 1%                            |                                     |                                 |
| Lubricant oil               | Mineral oil             |                                     | 0,0010       | 0%                            |                                     |                                 |
| Glue                        | Phenol-formaldehyde     |                                     | 0,0281       | 0%                            |                                     |                                 |
| <b>TOTAL</b>                |                         |                                     | <b>19,92</b> | <b>100%</b>                   | <b>59,59%</b>                       | <b>0,837</b>                    |
| Product packaging           | Raw material            | Recycled material, mass% of product | Mass (kg)    | Weight-% (versus the product) | Biogenic material, mass% of product | Biogenic material, kg C/product |
| Plastic bags                | HDPE                    |                                     | 0,0899       | 0%                            |                                     |                                 |
| Cardboard                   | Wood pulp               |                                     | 0,3006       | 1%                            |                                     |                                 |
| Cardboard box               | Wood pulp               |                                     | 2,00         | 9%                            | 42,25%                              | 0,972**                         |
| <b>TOTAL</b>                |                         |                                     | <b>2,39</b>  |                               |                                     |                                 |

\* Corresponding to 3,07 biogenic CO<sub>2</sub>

\*\* Corresponding to 3,56 biogenic CO<sub>2</sub>

No substances included in the Candidate List of SVHC (Substances of Very High Concern) for authorization under the REACH regulations exceeding 0,1 wt % in any material. 1 kg of biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of biogenic CO<sub>2</sub>.

## LCA INFORMATION

### Functional unit

The LCA study was based on the functional unit defined as indoor seating for one person in an office environment over a service lifetime of 15 years.

### Reference service life

15 years

### Time representativeness:

The data are representative of production practices within the period spanning 2024 to 2025. The reference period does not correspond to the calendar year, as production of the chair commenced in August 2024.

### Geographical scope

China (A1-A3), Global (A4), Europe (A5-C4)

### Database and LCA software used

The LCA study was modelled in the LCA software SimaPro version 10.3.0.1 with the LCA library Ecoinvent 3.11 allocation, cut-off, EN15804. Furthermore, the EN 15804 reference package (EF 3.1) was employed in the assessment.

### Cut-off criteria

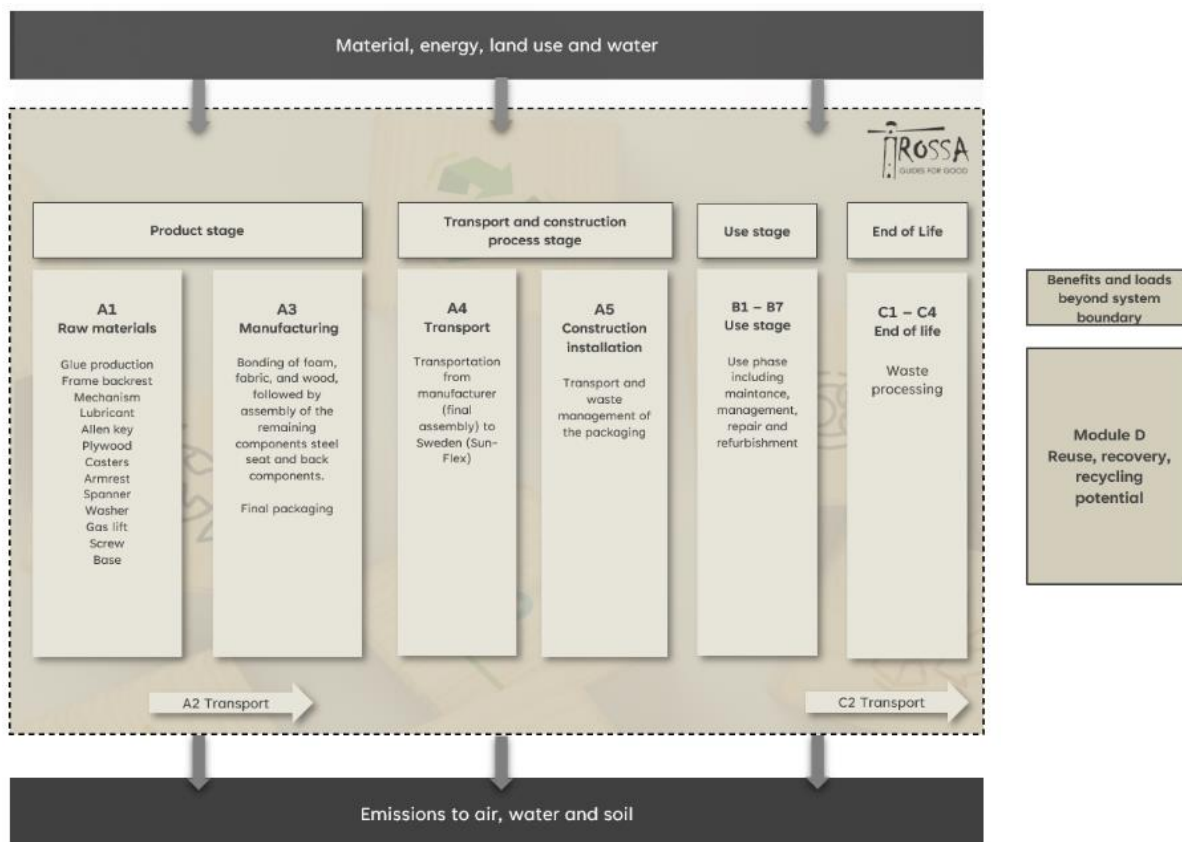
Life Cycle Inventory (LCI) data shall, according to EN 15804 and PCR 2019:14, include a minimum of 95% of the total mass and energy inflows per module (A1-A5, C1-C4) and aggregated modules (B1-B5, B6-B7, D). Furthermore, the PCR 2019:14 requires compliance with ISO 21930, which states that at least 95 % of the environmental impact per aggregated module shall be included. In addition, the LCI shall include a minimum of 99% of the mass and energy inflows per unit process. If less than 100% of the inflows are accounted for, proxy data or extrapolation should be used to achieve 100% completeness. Exclusions and cut-offs made in the study are presented below, where the sum of the neglected material flows does not exceed 5% of mass and energy. No other materials or energy flows were excluded from the remaining modules, which was concluded by the data collection conducted by the EPD owner and the practitioners. No surface treatments were excluded.

| Excluded materials                        | Motivation or description |
|-------------------------------------------|---------------------------|
| Labels                                    | Considered negligible     |
| Raw material packaging of Polyester Fibre | Considered negligible     |
| Raw material packaging of PP components   | Considered negligible     |
| Raw material packaging of Lubricants      | Considered negligible     |

### System boundaries and Process flow diagram

The EPD is type C, Cradle to grave and module D (A + B + C + D). More specifically, the product stage includes modules A1 - raw material extraction and processing, A2 - transport to the manufacturer, and A3 - manufacturing. In module A3, the end-of-life and waste management scenario of the packaging that surrounds the raw materials during transportation is also included. Module A4 is included in the study and represents transportation from the manufacturing site, via SUN-FLEX storage facility, to the consumer. Module A5 includes the transport and waste management of the product's packaging.

Modules B1-B7 refer to the use phase, where module B2 covers cleaning activities, such as vacuum cleaning, and module B3 covers the repair of components. Furthermore, module C1 (deconstruction and demolition) is considered to have negligible environmental impacts and is therefore assumed to be zero. Given the product's nature, no significant dismantling occurs before waste transportation. If it is dismantled, this is done manually with simple tools and does not consume any energy. The included End-of-Life (EoL) modules C2–C4 encompass transport, waste processing, and the product's EoL. Module D is included in the study and accounts for benefits and loads beyond the system boundary, including reuse, recovery, and recycling potentials. All energy carriers used, such as electricity generation and upstream fuel production, are included in each module.



## More information:

### Recycled Material

The product contains 70% pre-consumer recycled polyamide in the base that weighs 1,7 kg, representing 8% of the total product's weight, excluding packaging. Therefore, the total amount of recycled nylon in the product 1,19 kg, representing 6,0% of the MB chair's weight.

### Personnel, capital goods, and Infrastructure

Personnel-related, capital goods, and infrastructure processes were excluded from the studied product system, as the PCR 2019:14 explicitly requires exclusion of these processes.

## Additional information regarding electricity modelling

According to the PCR 2019:14, a sub-regionalized grid mix shall be applied for production within China. However, no residual mix was found for the specific sub-region, as well as any available market instruments. The electricity consumption in A1-A3 was modelled with an Ecoinvent sub-regionalized dataset for the China Southern Power Grid (CN-CSG), where suppliers and the manufacturer are located. In other words, a consumption-based electricity mix was applied for these modules, corresponding to location-based electricity modelling. The composition of the electricity mix is presented in Table 10 and Figure 5 as follows: Wind (5%), Hydro (31%), Nuclear (10%), and fossil fuels including oil, hard coal, and natural gas (54%). The GWP-GHG emission factor for this electricity is sourced from Ecoinvent 3.11 and is 0,576 kg CO<sub>2</sub>e/kWh.

## Qualitative Data Quality Assessment

Overall, the assessed process groups, including all relevant flows based on collected supplier activity data, demonstrate a high level of data quality in terms of geographical, temporal, and technological representativeness, as well as completeness, precision, and consistency, with a limited number of medium classified process groups. Only one dataset was rated as very poor, regarding technological representativeness. More specifically, the sea freight transport of the product from China to Sweden (A4) was, according to supplier-specific data, carried out by an LNG container ship. While the data collected on transport distance, mode, and load are considered accurate and reliable, there are significant limitations due to the lack of representative datasets for LNG-powered container shipping in Ecoinvent's library. Because of this data gap, the transportation process was modeled as HFO sea freight instead. Since HFO shipping technology differs from LNG shipping, its technological representation is very poor. Using HFO shipping as a proxy was necessary to ensure 100% completeness in module A4. Although the contribution to eutrophication exceeds 30%, no significant contributions were observed for the remaining core impact categories.

## Quantitative Data Quality Assessment

### Data quality assessment and declaration A1-A3

| Process                                         | Source Type                         | Source                                                                   | Reference Year | Data category                | Share of primary data, of GWP-GHG results for A1-A3 |
|-------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------|----------------|------------------------------|-----------------------------------------------------|
| Steel production                                | Data base                           | Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit                      | 2024           | Secondary                    | 0,00%                                               |
| Nylon Production                                | Data base                           | Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit                      | 2024           | Secondary                    | 0,00%                                               |
| Polyurethane Production                         | Data base                           | Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit                      | 2024           | Secondary                    | 0,00%                                               |
| Transportation of inputs to component suppliers | Collected activity data + Data base | Component suppliers, Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit | 2024           | Primary                      | 0,74%                                               |
| Component suppliers' electricity consumption    | Collected activity data + Data base | Component suppliers, Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit | 2024           | Primary                      | 0,54%                                               |
| Component suppliers' manufacturing              | Collected activity data + Data base | Component suppliers, Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit | 2024           | Primary data, Secondary data | 0,00%                                               |
| Transportation to manufacturer                  | Collected activity data + Data base | Manufacturer, Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit        | 2024           | Primary                      | 0,91%                                               |
| Manufacturer's electricity consumption          | Collected activity data + Data base | Manufacturer, Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit        | 2024           | Primary                      | 0,04%                                               |
| Manufacturer's other processes                  | Collected activity data + Data base | Manufacturer, Ecoinvent 3.11 allocation, cut-off, EN 15804 - unit        | 2024           | Primary data, Secondary data | 0,00%                                               |

## Impact Assessment Method

The method used to calculate the product's environmental impacts was by using the adopted version of EN 15804 + A2 Method V1.04 EF 3.1 (adapted for SimaPro substances). The 2019 EN 15804 + A2 revision of this standard has aligned the methodology with the Environmental Footprint method, except for the approach on biogenic CO<sub>2</sub> emissions. According to the EN 15804, biogenic CO<sub>2</sub> emissions cause the same amount of Climate change as fossil CO<sub>2</sub>, but can be neutralized by the uptake. The biogenic CO<sub>2</sub> characterization factor was neutralized, and the biogenic CO<sub>2</sub> uptake and emissions were manually added to the modules where the uptake and release occur. Over the product's complete life cycle, the biogenic CO<sub>2</sub> is neutralized and does not contribute to or mitigate climate change. Regarding the resource use indicators, they were partly derived from the extended method EN 15804 + A2 Method LCIA & LCI, an add-on included in the Ecoinvent 3.11 allocation, cut-off, EN15804. PERM and PENRM were calculated manually using the Ecoinvent 3.11 EN15804 library.

## Module A4 Scenarios

The transportation to the customer was divided into two categories in the modelling, from the manufacturer in China to SUN-FLEX in Sweden, and from SUN-FLEX to the markets where the chair was sold. The route from China to Sweden was the same for the deliveries during the reference period. However, the delivery routes from SUN-FLEX to the final customer differ. In this study, transportation distances and types were based on a weighted average from SUN-FLEX facility to the final consumer, reflecting the company's sales and market distribution during the reference period.

## Module A5 Scenarios

The end-of-life and waste management scenario of the product packaging is included in module A5. The transport of packaging waste, which occurs after the customer receives the product, includes the blister of the screw package and Allen Key, packaging materials for components that are repacked, such as the mechanism, gas lift, and castors, as well as the final packaging. The recycling scenarios in module A5 were based on recycling statistics from (Eurostat, 2025) and necessary assumptions to reach 100% scenarios, which are the following:

Cardboard packaging waste: Recycling rate from Eurostat: 82%. The remaining 18% is assumed to be incinerated with energy recovery.

Plastic packaging waste: Recycling rate from Eurostat: 41%. The remaining 54% and 5% are assumed to be incinerated with energy recovery and sent to landfill, respectively.

Allen key waste: Recycling rate from Eurostat: 79%. The remaining 20% and 1% are assumed to be incinerated with energy recovery and sent to landfill, respectively.

## Module C2

Given variations in the product's market representation, an assumption was made based on a European context. The transportation modes and distances applied in the waste scenario for Module C2 were derived from a dataset for cardboard packaging waste and were considered representative of both the geographical scope and the product under study.

## Module C3 and C4 Scenarios

Due to limited data on the end-of-life treatment of office furniture, a simplified scenario was applied. According to the European Environment Bureau (European Environment Bureau, 2017), approximately 80–90% of furniture waste in the EU municipal waste stream is incinerated or landfilled, while around 10% is recycled. In this study, due to the complexity of the product and uncertainty regarding dismantling and material recovery after a 15-year service life, a conservative assumption of no recycling was applied. The remaining waste treatment was therefore distributed between incineration with energy recovery and landfill.

Considering the reference market (Nordics, Iceland, France, and the Baltic region) and the prevalence of waste-to-energy systems in these regions, 75% of the product mass was modelled as incinerated (C3) and 25% as landfilled (C4). The weighted energy efficiency of the incineration is 60,12%, and therefore the incineration is included in module C3. The efficiency is derived from each Ecoinvent dataset by calculating the energy recovered (electricity and heat) divided by the net heating value and then weighted by market shares.

## Module D

More specifically, each waste flow that had fulfilled its EoW criteria had a corresponding scenario in module D, see Appendix 1 for the more detailed calculations. The use of secondary materials also had module D scenarios, as from a holistic view, the secondary material was deducted from the larger technosphere. In this study, secondary materials were used for one of the chair's components, the nylon base, of which 70% was made of recycled nylon. Moreover, modules A1, A3, A5, C3, and C4 included module D calculations, which were mainly related to the recycling of waste streams, the exported electricity and heat from incineration, and the collection of gas from landfills. The module D calculations were structured according to the EN 15804 equations (D.5-D.9) found in Annex D. The final computation of equation D.5, which corresponds to the overall benefit (or burden) beyond the studied product system, was done in Simapro.

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

|                       | Product stage       |           |               | Distribution/<br>installation<br>stage |                           | Use stage |             |        |             |               |                        |                       | End-of-life stage          |           |                  |          | Beyond<br>the<br>product's<br>life cycle |
|-----------------------|---------------------|-----------|---------------|----------------------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------------|
|                       | 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-<br>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                                      | X                         | X         | X           | X      | X           | X             | X                      | X                     | X                          | X         | X                | X        | X                                        |
| Geography             | CN                  | CN        | CN            | GLO                                    | EU27                      | EU27      | EU27        | EU27   | EU27        | EU27          | EU27                   | EU27                  | EU27                       | EU27      | EU27             | EU27     | GLO                                      |
| Share of primary data | 2,22 %              |           |               |                                        |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                        |
| Variation – products  | 0 %                 |           |               |                                        |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                        |
| Variation – sites     | 0 %                 |           |               |                                        |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                        |

## ENVIRONMENTAL PERFORMANCE

### Mandatory impact category indicators according to EN 15804

| Results per functional unit |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |           |          |    |          |          |    |    |    |    |    |          |          |           |           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|----|----------|----------|----|----|----|----|----|----------|----------|-----------|-----------|
| Indicator                   | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A1-A3     | A4        | A5       | B1 | B2       | B3       | B4 | B5 | B6 | B7 | C1 | C2       | C3       | C4        | D         |
| GWP-total                   | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 8,72E+01  | 1,00E+01  | 3,91E+00 | 0  | 4,12E+00 | 1,28E+01 | 0  | 0  | 0  | 0  | 0  | 8,27E-01 | 8,49E+00 | 3,30E+00  | -1,21E+00 |
| GWP-fossil                  | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 9,26E+01  | 1,00E+01  | 3,23E-01 | 0  | 4,09E+00 | 1,25E+01 | 0  | 0  | 0  | 0  | 0  | 8,27E-01 | 6,19E+00 | 6,69E-01  | -1,49E+00 |
| GWP-biogenic                | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -5,71E+00 | -3,23E-04 | 3,58E+00 | 0  | 9,40E-03 | 3,16E-01 | 0  | 0  | 0  | 0  | 0  | 3,72E-05 | 2,30E+00 | 2,63E+00  | 2,06E-01  |
| GWP-luluc                   | kg CO <sub>2</sub> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2,51E-01  | 3,15E-04  | 4,16E-05 | 0  | 1,85E-02 | 1,56E-02 | 0  | 0  | 0  | 0  | 0  | 3,07E-05 | 5,42E-05 | 1,41E-04  | 7,58E-02  |
| ODP                         | kg CFC 11 eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1,69E-05  | 1,63E-07  | 3,67E-09 | 0  | 6,14E-08 | 1,31E-07 | 0  | 0  | 0  | 0  | 0  | 1,35E-08 | 1,02E-08 | 1,98E-09  | -4,29E-07 |
| AP                          | mol H <sup>+</sup> eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3,68E-01  | 1,99E-01  | 7,07E-04 | 0  | 2,00E-02 | 5,89E-02 | 0  | 0  | 0  | 0  | 0  | 4,20E-03 | 5,68E-03 | 1,14E-03  | 1,34E-02  |
| EP-freshwater               | kg P eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2,86E-02  | 1,26E-04  | 1,25E-05 | 0  | 3,78E-03 | 2,56E-03 | 0  | 0  | 0  | 0  | 0  | 6,14E-06 | 7,00E-04 | 3,68E-04  | -3,74E-03 |
| EP-marine                   | kg N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 9,21E-02  | 5,08E-02  | 3,43E-04 | 0  | 3,60E-03 | 1,60E-02 | 0  | 0  | 0  | 0  | 0  | 2,04E-02 | 2,83E-02 | 3,48E-03  | 5,26E-03  |
| EP-terrestrial              | mol N eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 8,79E-01  | 5,64E-01  | 3,20E-03 | 0  | 2,98E-02 | 1,44E-01 | 0  | 0  | 0  | 0  | 0  | 2,04E-02 | 2,83E-02 | 3,48E-03  | 3,02E-02  |
| POCP                        | kg NMVOC eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3,27E-01  | 1,56E-01  | 1,15E-03 | 0  | 9,56E-03 | 4,68E-02 | 0  | 0  | 0  | 0  | 0  | 7,89E-03 | 7,05E-03 | 1,52E-03  | 3,73E-03  |
| ADP-minerals&metals*        | kg Sb eq.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3,48E-04  | 2,23E-07  | 1,28E-08 | 0  | 5,08E-07 | 6,07E-05 | 0  | 0  | 0  | 0  | 0  | 2,17E-08 | 5,92E-08 | 1,09E-08  | 5,64E-05  |
| ADP-fossil*                 | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1,33E+03  | 1,27E+02  | 1,62E+00 | 0  | 9,68E+01 | 1,46E+02 | 0  | 0  | 0  | 0  | 0  | 1,07E+01 | 4,74E+00 | 1,52E+00  | -7,74E+01 |
| WDP*                        | m <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2,42E+01  | 7,12E-02  | 2,66E-02 | 0  | 2,22E+00 | 2,99E+00 | 0  | 0  | 0  | 0  | 0  | 1,21E-02 | 4,14E-01 | -3,33E-01 | 2,65E+00  |
| 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 on these results are high or as there is limited experienced with the indicator.*

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

## Additional mandatory impact category indicators

The total climate impact of the product's life cycle is 130,7 kg CO<sub>2</sub>-eq. Most emissions originate from A1–A3, which accounts for 72% of the total climate impact, representing 93,8 kg CO<sub>2</sub>-eq

| Results per functional unit |                        |          |          |          |    |          |          |    |    |    |    |    |          |          |          |           |
|-----------------------------|------------------------|----------|----------|----------|----|----------|----------|----|----|----|----|----|----------|----------|----------|-----------|
| Indicator                   | Unit                   | A1-A3    | A4       | A5       | B1 | B2       | B3       | B4 | B5 | B6 | B7 | C1 | C2       | C3       | C4       | D         |
| GWP-GHG <sup>1</sup>        | kg CO <sub>2</sub> eq. | 9,38E+01 | 1,00E+01 | 3,41E-01 | 0  | 4,12E+00 | 1,28E+01 | 0  | 0  | 0  | 0  | 0  | 8,27E-01 | 6,19E+00 | 2,53E+00 | -1,21E+00 |

| Results per functional unit         |              |          |          |          |    |          |          |    |    |    |    |    |          |          |          |           |
|-------------------------------------|--------------|----------|----------|----------|----|----------|----------|----|----|----|----|----|----------|----------|----------|-----------|
| Indicator                           | Unit         | A1-A3    | A4       | A5       | B1 | B2       | B3       | B4 | B5 | B6 | B7 | C1 | C2       | C3       | C4       | D         |
| Human toxicity, cancer <sup>2</sup> | CTUh         | 6,83E-08 | 1,41E-09 | 6,62E-11 | 0  | 5,92E-10 | 4,64E-09 | 0  | 0  | 0  | 0  | 0  | 5,57E-11 | 2,33E-09 | 1,64E-10 | -1,38E-09 |
| Human toxicity, non-cancer          | CTUh         | 4,91E-07 | 4,18E-08 | 2,52E-09 | 0  | 2,41E-08 | 5,38E-08 | 0  | 0  | 0  | 0  | 0  | 2,13E-09 | 7,93E-08 | 2,02E-08 | 5,90E-08  |
| Ecotoxicity, freshwater             | CTUh         | 9,65E+02 | 5,30E+00 | 1,10E+00 | 0  | 8,48E+00 | 3,63E+01 | 0  | 0  | 0  | 0  | 0  | 3,36E-01 | 2,38E+01 | 2,81E+01 | 1,62E+00  |
| Land use                            | Pt           | 4,43E+02 | 3,13E-01 | 5,90E-02 | 0  | 1,20E+01 | 3,71E+01 | 0  | 0  | 0  | 0  | 0  | 1,70E-02 | 1,03E+00 | 2,87E+00 | -2,18E+02 |
| Ionizing radiation <sup>3</sup>     | kBq U-235 eq | 2,91E+00 | 2,50E-02 | 5,39E-03 | 0  | 2,75E+00 | 2,53E-01 | 0  | 0  | 0  | 0  | 0  | 1,70E-02 | 1,03E+00 | 2,87E+00 | -1,93E+00 |
| Particulate matter                  | disease inc. | 6,00E-06 | 4,25E-07 | 1,34E-08 | 0  | 6,06E-08 | 7,56E-07 | 0  | 0  | 0  | 0  | 0  | 1,00E-07 | 3,62E-08 | 1,14E-08 | 2,78E-07  |

<sup>1</sup> 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 CO<sub>2</sub> is set to zero.

<sup>2</sup> The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.

<sup>3</sup> 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 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 indicators

| Results per functional unit |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |           |    |          |          |    |    |    |    |    |          |           |           |           |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------|----|----------|----------|----|----|----|----|----|----------|-----------|-----------|-----------|
| Indicator                   | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A1-A3    | A4       | A5        | B1 | B2       | B3       | B4 | B5 | B6 | B7 | C1 | C2       | C3        | C4        | D         |
| PERE                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2,28E+02 | 2,64E-01 | 4,75E-02  | 0  | 2,61E+01 | 1,15E+01 | 0  | 0  | 0  | 0  | 0  | 2,83E-02 | 1,02E-01  | 1,72E-01  | -6,48E+01 |
| PERM                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5,02E+01 | 0,00E+00 | -2,93E+01 | 0  | 0,00E+00 | 0,00E+00 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | -1,57E+01 | -5,22E+00 | 0,00E+00  |
| PERT                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2,78E+02 | 2,64E-01 | -2,92E+01 | 0  | 2,61E+01 | 1,15E+01 | 0  | 0  | 0  | 0  | 0  | 2,83E-02 | -1,56E+01 | -5,05E+00 | -6,48E+01 |
| PENRE                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,33E+03 | 2,33E+01 | 1,62E+00  | 0  | 9,68E+01 | 1,46E+02 | 0  | 0  | 0  | 0  | 0  | 1,07E+01 | 4,74E+00  | 1,52E+00  | -7,68E+01 |
| PENRM                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2,84E+02 | 0,00E+00 | -4,19E+00 | 0  | 0,00E+00 | 0,00E+00 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | -2,10E+02 | -7,00E+01 | 0,00E+00  |
| PENRT                       | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,61E+03 | 2,33E+01 | -2,57E+00 | 0  | 9,68E+01 | 1,46E+02 | 0  | 0  | 0  | 0  | 0  | 1,07E+01 | -2,05E+02 | -6,85E+01 | -7,68E+01 |
| SM                          | kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5,39E+00 | 2,76E-05 | 5,66E-04  | 0  | 3,93E-04 | 5,11E-01 | 0  | 0  | 0  | 0  | 0  | 6,25E-06 | 2,92E-04  | 5,55E-05  | 1,70E+00  |
| RSF                         | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4,88E-01 | 1,91E-06 | 2,56E-06  | 0  | 1,30E-05 | 4,75E-02 | 0  | 0  | 0  | 0  | 0  | 3,60E-07 | 3,61E-05  | 5,16E-06  | 2,62E-01  |
| NRSF                        | MJ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0  | 0,00E+00 | 0,00E+00 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | 0,00E+00  | 0,00E+00  | 0,00E+00  |
| FW                          | m³                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6,07E-01 | 2,35E-03 | 6,38E-04  | 0  | 5,98E-02 | 7,42E-02 | 0  | 0  | 0  | 0  | 0  | 2,93E-04 | 9,68E-03  | -7,70E-03 | 5,44E-02  |
| 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 |          |          |           |    |          |          |    |    |    |    |    |          |           |           |           |

## Waste indicators

| Results per functional unit  |      |       |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|------------------------------|------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| Indicator                    | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed     | kg   | 0     | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| Non-hazardous waste disposed | kg   | 0     | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| Radioactive waste disposed   | kg   | 0     | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |

## Output flow indicators

| Results per functional unit   |      |          |          |          |    |          |          |    |    |    |    |    |          |          |          |          |
|-------------------------------|------|----------|----------|----------|----|----------|----------|----|----|----|----|----|----------|----------|----------|----------|
| Indicator                     | Unit | A1-A3    | A4       | A5       | B1 | B2       | B3       | B4 | B5 | B6 | B7 | C1 | C2       | C3       | C4       | D        |
| Components for re-use         | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0  | 0,00E+00 | 0,00E+00 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Material for recycling        | kg   | 2,71E+00 | 0,00E+00 | 1,95E+00 | 0  | 1,42E-05 | 5,18E-01 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg   | 3,75E-03 | 0,00E+00 | 0,00E+00 | 0  | 7,66E-07 | 3,22E-05 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy, electricity  | MJ   | 6,86E-01 | 0,00E+00 | 1,09E+00 | 0  | 4,61E-01 | 1,44E-02 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | 2,65E+01 | 6,21E-01 | 0,00E+00 |
| Exported energy, thermal      | MJ   | 1,27E+00 | 0,00E+00 | 2,16E+00 | 0  | 5,12E-03 | 2,11E-02 | 0  | 0  | 0  | 0  | 0  | 0,00E+00 | 1,28E+02 | 3,11E-01 | 0,00E+00 |

## Alternative End-of-Life Scenarios

The tables below present the corresponding end-of-life scenarios for 100% incineration and 100% landfill treatment. Only modules C3,C4 and D are affected by these scenarios and, as the EPD builds on the modularity principle the changes in environmental impacts are presented per functional unit below.

### Mandatory impact category indicators

|                              |                        | 100% Incineration |          |           | 100% Landfill |           |           |
|------------------------------|------------------------|-------------------|----------|-----------|---------------|-----------|-----------|
| Indicator                    | Unit                   | C3                | C4       | D         | C3            | C4        | D         |
| GWP-Fossil                   | kg CO <sub>2</sub> eq. | 8,25E+00          | 0,00E+00 | -1,09E+01 | 0,00E+00      | 2,68E+00  | 7,53E+00  |
| GWP-Biogenic                 | kg CO <sub>2</sub> eq. | 3,07E+00          | 0,00E+00 | 2,04E-01  | 0,00E+00      | 1,05E+01  | 2,12E-01  |
| GWP-LULUC                    | kg CO <sub>2</sub> eq. | 7,23E-05          | 0,00E+00 | 7,34E-02  | 0,00E+00      | 5,65E-04  | 8,27E-02  |
| GWP-Total                    | kg CO <sub>2</sub> eq. | 1,13E+01          | 0,00E+00 | -1,06E+01 | 0,00E+00      | 1,32E+01  | 7,83E+00  |
| Ozone layer depletion (ODP)  | kg CFC 11 eq.          | 1,37E-08          | 0,00E+00 | -8,30E-07 | 0,00E+00      | 7,93E-09  | -8,86E-08 |
| Acidification potential (AP) | mol H <sup>+</sup> eq. | 7,57E-03          | 0,00E+00 | 2,81E-03  | 0,00E+00      | 4,54E-03  | 2,96E-02  |
| EP-freshwater                | kg P eq.               | 9,34E-04          | 0,00E+00 | -4,52E-03 | 0,00E+00      | 1,47E-03  | -1,61E-03 |
| EP-marine                    | kg N eq.               | 1,29E-02          | 0,00E+00 | 2,00E-03  | 0,00E+00      | 6,21E-02  | 9,22E-03  |
| EP-terrestrial               | mol N eq.              | 3,78E-02          | 0,00E+00 | -2,91E-03 | 0,00E+00      | 1,39E-02  | 6,78E-02  |
| POCP                         | kg NMVOC eq.           | 9,40E-03          | 0,00E+00 | -1,30E-02 | 0,00E+00      | 6,09E-03  | 2,06E-02  |
| ADP - Minerals and Metals    | kg Sb eq.              | 7,89E-08          | 0,00E+00 | 5,63E-05  | 0,00E+00      | 4,37E-08  | 5,66E-05  |
| ADP - Fossil resources       | MJ                     | 6,32E+00          | 0,00E+00 | -2,37E+02 | 0,00E+00      | 6,09E+00  | 8,68E+01  |
| WDP*                         | m <sup>3</sup>         | 5,52E-01          | 0,00E+00 | 2,05E+00  | 0,00E+00      | -1,33E+00 | 3,98E+00  |

## Additional mandatory impact category indicators

| Indicator                  | Unit         | 100% Incineration |          |           | 100% Landfill |          |           |
|----------------------------|--------------|-------------------|----------|-----------|---------------|----------|-----------|
|                            |              | C3                | C4       | D         | C3            | C4       | D         |
| Human toxicity, cancer     | CTUh         | 3,11E-09          | 0,00E+00 | -2,34E-09 | 0,00E+00      | 6,57E-10 | -4,09E-10 |
| Human toxicity, non-cancer | CTUh         | 1,06E-07          | 0,00E+00 | 4,87E-08  | 0,00E+00      | 8,09E-08 | 7,66E-08  |
| Ecotoxicity, freshwater    | CTUh         | 3,18E+01          | 0,00E+00 | -2,24E+00 | 0,00E+00      | 1,12E+02 | 7,76E+00  |
| Land use                   | Pt           | 1,37E+00          | 0,00E+00 | -2,20E+02 | 0,00E+00      | 1,15E+01 | -2,12E+02 |
| Ionizing radiation         | kBq U-235 eq | 1,23E-02          | 0,00E+00 | -2,48E+00 | 0,00E+00      | 4,39E-02 | -4,03E-01 |
| Particulate matter         | disease inc. | 4,82E-08          | 0,00E+00 | 2,51E-07  | 0,00E+00      | 4,56E-08 | 3,21E-07  |

## Additional mandatory impact category indicators

| Indicator  | Unit                   | 100% Incineration |          |           | 100% Landfill |          |          |
|------------|------------------------|-------------------|----------|-----------|---------------|----------|----------|
|            |                        | C3                | C4       | D         | C3            | C4       | D        |
| GWP-GHG[1] | kg CO <sub>2</sub> eq. | 8,25E+00          | 0,00E+00 | -1,06E+01 | 0,00E+00      | 1,01E+01 | 7,83E+00 |

## Resource use indicators

| Indicator                          | Unit           | 100% Incineration |          |           | 100% Landfill |           |           |
|------------------------------------|----------------|-------------------|----------|-----------|---------------|-----------|-----------|
|                                    |                | C3                | C4       | D         | C3            | C4        | D         |
| PERE                               | MJ, NCV        | 1,36E-01          | 0,00E+00 | -6,93E+01 | 0,00E+00      | 6,90E-01  | -5,28E+01 |
| PERM                               | MJ, NCV        | -2,09E+01         | 0,00E+00 | 0,00E+00  | 0,00E+00      | -2,09E+01 | 0,00E+00  |
| PERT                               | MJ, NCV        | -2,07E+01         | 0,00E+00 | -6,93E+01 | 0,00E+00      | -2,02E+01 | -5,28E+01 |
| PENRE                              | MJ, NCV        | 6,32E+00          | 0,00E+00 | -2,36E+02 | 0,00E+00      | 6,09E+00  | 8,74E+01  |
| PENRM                              | MJ, NCV        | -2,80E+02         | 0,00E+00 | 0,00E+00  | 0,00E+00      | -2,80E+02 | 0,00E+00  |
| PENRT                              | MJ, NCV        | -2,74E+02         | 0,00E+00 | -2,36E+02 | 0,00E+00      | -2,74E+02 | 8,74E+01  |
| SM Use of secondary material       | kg             | 3,89E-04          | 0,00E+00 | 1,70E+00  | 0,00E+00      | 2,22E-04  | 1,70E+00  |
| RSF Renewable secondary fuels      | MJ, NCV        | 4,82E-05          | 0,00E+00 | 2,62E-01  | 0,00E+00      | 2,06E-05  | 2,62E-01  |
| NRSF Non-renewable secondary fuels | MJ, NCV        | 0,00E+00          | 0,00E+00 | 0,00E+00  | 0,00E+00      | 0,00E+00  | 0,00E+00  |
| FW Net use of fresh water          | m <sup>3</sup> | 1,29E-02          | 0,00E+00 | 3,86E-02  | 0,00E+00      | -3,08E-02 | 8,96E-02  |

## Waste indicators

| Indicator                    | Unit | 100% Incineration |    |   | 100% Landfill |    |   |
|------------------------------|------|-------------------|----|---|---------------|----|---|
|                              |      | C3                | C4 | D | C3            | C4 | D |
| Hazardous waste disposed     | kg   | 0                 | 0  | 0 | 0             | 0  | 0 |
| Non-hazardous waste disposed | kg   | 0                 | 0  | 0 | 0             | 0  | 0 |
| Radioactive waste disposed   | kg   | 0                 | 0  | 0 | 0             | 0  | 0 |

## Output flows

| Indicator                     | Unit | 100% Incineration |          |           | 100% Landfill |          |           |
|-------------------------------|------|-------------------|----------|-----------|---------------|----------|-----------|
|                               |      | C3                | C4       | D         | C3            | C4       | D         |
| Components for re-use         | kg   | 0,00E+00          | 0,00E+00 | 0,00E+00  | 0,00E+00      | 0,00E+00 | 0,00E+00  |
| Materials for recycling       | kg   | 3,00E-01          | 0,00E+00 | 2,09E+00  | 0,00E+00      | 1,82E-05 | 2,09E+00  |
| Materials for energy recovery | kg   | 6,22E-08          | 0,00E+00 | -7,55E-05 | 0,00E+00      | 4,11E-08 | -7,52E-05 |
| Exported energy - electricity | MJ   | 3,11E-03          | 0,00E+00 | -4,23E-01 | 0,00E+00      | 1,80E-02 | -6,39E-02 |
| Exported energy - heat        | MJ   | 5,25E-03          | 0,00E+00 | -1,60E-02 | 0,00E+00      | 4,90E-03 | -1,29E-02 |

## ABBREVIATIONS

| Abbreviations     | Definition                           |
|-------------------|--------------------------------------|
| CO <sub>2</sub> e | Carbon dioxide equivalents           |
| C-PCR             | Complementary Product Category Rules |
| EoW               | End of Waste                         |
| EoL               | End of Life                          |
| EPD               | Environmental Product Declaration    |
| ESL               | Estimated Service Life               |
| GLO               | Global                               |
| GPI               | General Programme Instructions       |
| GWP               | Global Warming Potential             |
| LCA               | Life Cycle Assessment                |
| LCI               | Life Cycle Inventory                 |
| LCIA              | Life Cycle Impact Assessment         |
| PCR               | Product Category Rules               |
| RER               | The European region                  |
| RoW               | Rest of the world                    |
| RSL               | Reference Service Life               |

## REFERENCES

- 1) *(c-PCR-021 Furniture and components of furniture, version 2.0.1, 2025)*
- 2) *(PCR 2019:14 Construction products, version 2.0.1, 2025)*
- 3) *(ISO15804:2012+A2:2019/AC:2021 Sustainability of construction works, 2021)*
- 4) *(ISO 14025:2006 – Type III environmental declarations, 2006)*
- 5) *(General Programme Instructions for the International EPD® System. Version 5.0.1, 2025)*
- 6) *(ISO 14040:2006, Environmental management — Principles and framework, 2006)*
- 7) *(ISO 14044:2006, Environmental management — Requirements and guidelines, 2006)*
- 8) *(European Environment Bureau, 2017)*
- 9) *(Eurostat, 2025)*
- 10) *(EPLCA, 2018)*
- 11) *(EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT, 2021)*
- 12) *(INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION, 2020)*
- 13) *Hidendahl S, Lenstrup A, 2026. Trossa LCA Report MB Office Chair. Non-published report.*

## VERSION HISTORY

**Original Version of the EPD, 2026-05-18**

