

# Environmental Product Declaration

## Purus Line Tile insert and gratings

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



Purus AB

**PURUS**

|                         |  |
|-------------------------|--|
| Programme               | The International EPD System, <a href="http://www.environdec.com">www.environdec.com</a> |
| Programme operator      | EPD International AB   |
| Type of EPD             | EPD of multiple products, based on the average results of the product group.             |
| EPD registration number | EPD-IES-0024956  |
| Version date            | 2026-02-16   |
| Validity date           | 2031-02-15   |

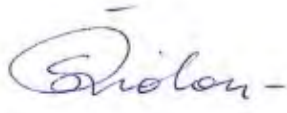
EPD covers products listed in the Product Table.  
An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)

## General Information

### Programme information

|           |   |
|-----------|---|
| Programme | The International EPD System  |
| Address   | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| Website   | www.environdec.com  |
| E-mail    | support@environdec.com  |

### PCR and verification

|                              |  |
|------------------------------|--|
| Product Category Rules (PCR) | <p>CEN standard EN 15804 serves as the Core Product Category Rules (PCR)</p> <p>PCR 2019:14 Construction products (EN 15804:A2) (2.0.1)</p> <p>PCR review was conducted by the Technical Committee of the International EPD System. See <a href="https://environdec.com/about-us/the-international-epd-system-about-the-system">https://environdec.com/about-us/the-international-epd-system-about-the-system</a> for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a>.</p> |
| Third-party verification:    | <p>External and independent "third-party" verification of the declaration and data, according to ISO14025:2006, via EPD verification through:</p> <p><input checked="" type="checkbox"/> Individual EPD verification without a pre-verified LCA/EPD tool</p> <p>Third-party verifier: Sigita Židonienė</p>  <p>Approved by: The International EPD System</p>   |

Procedure for follow-up of data during EPD validity involves third party verifier:  Yes  No

### Ownership and limitations on use of 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.

### Information about EPD owner

|  |  |
|--|--|
| EPD owner  | Purus AB   |
| Contact  | Product manager Drains - Håkan Fridvall  |
| Contact details  | +46 10 41 44 900, info@purus.se  |
| Address  | SE-271 39 Ystad, Sweden  |
| Description of the organisation                              | Family own company with own production, product development, sales etc. Mainly operating in the plumbing business. Based in Ystad Sweden production units also in Smålandsstenar and Lönsboda, Sweden. Main markets are Nordic countries but with an export organization and subsidiary in the UK. |
| Product-related or management system-related certifications: | EN ISO 9001:2015<br>EN ISO 14001:2015  |
| Life Cycle Assessment (LCA)                                  | CarbonZero AB  |

### Product information

|  |  |
|--|--|
| Product name(s)                          | Purus Line   |
| Product description:                     | Linear floor drain is preferably installed close to the wall. Comes in versions between 600 and 1200. An outlet with a water trap and a screwed down clamping ring to join the drain with a waterproofing membrane. The top part of the frame with a grating or box to be filled with a ceramic plate. |
| UN CPC code                              | 412 - Products of iron or steel  |
| Name and location of production site(s): | <b>Name of plant:</b> Purus AB Ystad<br><b>Location:</b> Ystad, Sweden   |
| Technical or actual lifespan             | Assumed equal to the life of the construction works it is built into, i.e. typically 50 years.   |

### Product image



#### Manufacturing process

Injection moulding of plastic. Stainless steel production with pressing, laser cutting, etc. Local production

## Product Table

Mass in kg

| Product Name                         | Weight | Unit |
|--------------------------------------|--------|------|
| Purus Line 700 Twist side 75 mm      | 2,367  | pc   |
| Purus Line Twist 900 Ø75 gable       | 2,771  | pc   |
| Purus Line Twist 800 Ø75 gable       | 2,599  | pc   |
| Purus Line Tile Insert 1000 Ø75 side | 3,274  | pc   |
| Purus Line Twist 1000 Ø75 side       | 2,935  | pc   |
| Purus Line Twist 800 Ø75 bottom      | 2,498  | pc   |
| Purus Line 900 Tile side Ø75         | 3,462  | pc   |
| Purus Line 800 Tile side Ø75         | 3,229  | pc   |
| Purus Line 900 Twist side Ø75        | 2,765  | pc   |
| Purus Line 800 Twist side Ø75        | 2,593  | pc   |

Note: the declared unit was 1 kg of product, the weight above indicates the weight of the product/s.

## Content declaration

| Product Components                     | Mass, kg | Post-consumer material, mass-% of products | Biogenic material, mass-% of product | Biogenic material, kg C / declared unit |
|--|----------|--|--------------------------------------|---|
| Metal                                  | 7,23E-01 | 0,00%                                      | 0,00%                                | 0,00E+00                                |
| Plastic                                | 2,31E-01 | 0,00%                                      | 0,00%                                | 0,00E+00                                |
| Cold rolled austenitic stainless steel | 3,93E-02 | 0,00%                                      | 0,00%                                | 0,00E+00                                |
| Rubber                                 | 1,59E-03 | 0,00%                                      | 0,00%                                | 0,00E+00                                |
| Pigments                               | 5,34E-03 | 0,00%                                      | 0,00%                                | 0,00E+00                                |
| Total*                                 | 1,00E+00 | 0,00%                                      | 0,00%                                | 0,00E+00                                |

| Packaging Materials      | Mass, kg | Mass-% (versus the product) | Biogenic material, mass-% of product | Biogenic material kg C/declared unit |
|--------------------------|----------|-----------------------------|--------------------------------------|--------------------------------------|
| Paper                    | 2,03E-01 | 20,32%                      | 36,57%                               | 8,15E-02                             |
| Plastic                  | 8,21E-04 | 0,08%                       | 0,00%                                | 0,00E+00                             |
| Engineered Wood Products | 1,90E-02 | 1,90%                       | 3,59%                                | 7,99E-03                             |
| Total*                   | 2,23E-01 | 22,29%                      | 40,15%                               | 8,95E-02                             |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO<sub>2</sub>

\* Due to rounding, the total mass of product/packaging materials may not exactly match the sum of individual material inputs.

| Dangerous substances from the candidate list of SVHC for Authorisation | EC No. | CAS No. | Weight-% per functional or declared unit |
|--|--------|---------|--|
| No hazardous materials   |        |         |  |

At the date of issue of this declaration, there is no "Substance of Very High Concern" (SVHC) in concentration above 0.1% by weight, and neither does the packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals)

## LCA information

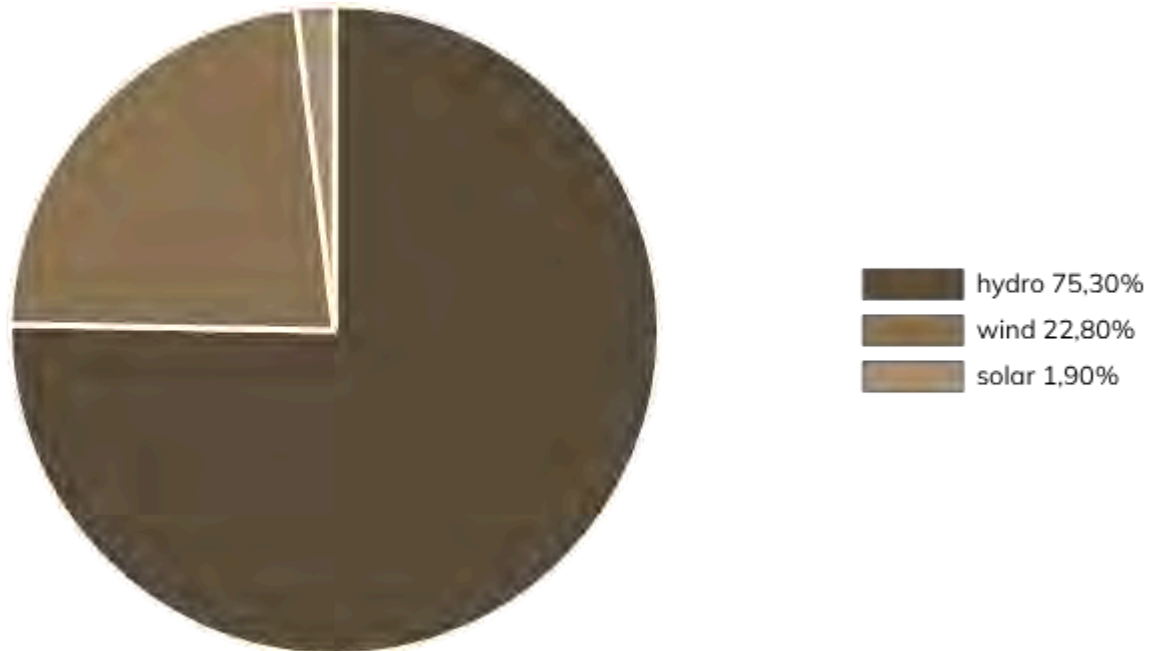
| Field                             | Value  |
|-----------------------------------|--|
| Functional Unit / Declared Unit   | kg   |
| Conversion Factor to Mass         | 1  |
| Time Representativeness           | Data obtained refers to the year 2024  |
| Geographical Scope                | The product is manufactured in Ystad, Sweden, and then distributed and installed throughout Europe. As most products are sold in the Nordics, Swedish end-of-life scenarios were assumed.  |
| System Boundary                   | <b>The system boundaries are set to be "cradle to gate" with options with the modules A1-A3, A4, A5, C1, C2, C3, C4, D</b>   |
| Excluded Modules                  | B1, B2, B3, B4, B5, B6, B7   |
| Database(s) and LCA Software Used | Ecoinvent 3.11 and EandoX version 1.01   |
| Reference Service Life (RSL)      | N/A  |
| Characterisation Factors Used     | The characterization factors used in this study refer to PCR 2019:14 and EN 15804+A2 (based on EF 3.1).  |
| Allocation Procedures Used        | All input and output flows in a unit process were considered, i.e., considering the value of all flows in the unit process and the corresponding LCI where data were available. - Data gaps were filled by conservative assumptions with average or generic data. Any assumptions in such cases were documented. |
| Cut-off criteria                  | The use of cut-off criterion on mass inputs and primary energy at the unit process level (1 %) and at the information module level (5 %). - All hazardous and toxic materials and substances are included in the inventory, and the cut-off rules do not apply.  |








## Energy Breakdown

Electricity used in the manufacturing

| Name  | Data source           | GWP excl. biogenic [kg CO <sub>2</sub> -eq/kWh] |
|---|-----------------------|---|
| Electricity from photovoltaic (solar panels/PV) | Ecoinvent 3.11 (2024) | 4.84E-3   |
| Electricity from Wind Power                     | Ecoinvent 3.11 (2024) | 2.82E-3   |
| Electricity from Hydro Power                    | Ecoinvent 3.11 (2024) | 3.48E-3   |

## Breakdown of electricity usage



| A1  | A2  | A3   | A4  | A5  | B1-7  | C1-4   |
|---|---|--|---|---|---|--|
| Extraction and processing of raw materials  | Transport of raw materials  | Manufacturing  | Transport to end user   | Installation on site  | User  | End of life  |
|  |  | <br>Waste |  | <br>Waste |  | <br>Waste |

### D Benefits and loads beyond the system boundary

|       |                               |  |
|-------|-------------------------------|--|
| A1    | Raw material supply           | This module considers the extraction and processing of all raw materials, energy, and transportation which occur upstream to the studied manufacturing process, including packaging material.                                      |
| A2    | Transport to the manufacturer | The raw materials are transported to the manufacturing site.   |
| A3    | Manufacturing                 | This module includes all resources used to produce and waste produced. This also includes additives and packaging material.  |
| A4    | Transport                     | Transportation from the manufacturing site to distribution centre and then from the distribution centre to the building site is included.<br><br>truck: 300km  |
| A5    | Construction installation     | This module covers all on-site activities required to install the product into the building structure as well as the management, transport, and treatment of any installation waste or packaging residues at the construction site |
| B1-B7 | Use stage                     | This module considers the use stage of the product.  |
| C1    | Deconstruction/Demolition     | This stage includes the de-construction and/or demolition of the building.   |
| C2    | Transport                     | This stage represents the transport distance to the waste processing facility.   |
| C3    | Waste processing              | This stage includes any waste treatment needed.  |
| C4    | Final disposal                | This includes any material that is landfilled.   |
| D     | Benefits                      | Emission credits obtained from energy recovery and/or recycling materials.   |

## System boundaries

|                    | Product stage |           |               | Assembly stage |          | Use stage |             |        |             |               |                        |                       | End of life stage          |           |                  |          | Benefits & loads beyond system boundary |
|--------------------|---------------|-----------|---------------|----------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|---|
|                    | 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                                       |
| Declared           | X             | X         | X             | X              | X        | ND        | ND          | ND     | ND          | ND            | ND                     | ND                    | X                          | X         | X                | X        | X                                       |
| Geography          | EU 27         | EU 27     | SE            | EU 27          | EU 27    | -         | -           | -      | -           | -             | -                      | -                     | EU 27                      | EU 27     | EU 27            | EU 27    | EU 27                                   |
| Specific data used | 36.54 %       |           |               | -              | -        | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                       |
| Variation-Products | +2% /-4%      |           |               | -              | -        | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                       |
| Variation-Sites    | 0%            |           |               | -              | -        | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                       |

ND – Not Declared; X – Declared Reading example: 9,0E-03 = 9,0\*10<sup>-3</sup> = 0,009

## Declaration of data sources, reference years, and share of primary data

| Process   | Source type    | Source                          | Reference year | Data category                    | GHG share (%) | Share of primary data, of GWP-GHG results for A1-A3 |
|---|----------------|---------------------------------|----------------|----------------------------------|---------------|---|
| Manufacturing of product                              | Collected data | Ecoinvent 3.11, CarbonZero      | 2024           | 98% primary data 2% generic data | 8,65          | 8,45  |
| Transportation of raw materials to manufacturing site | Collected data | Ecoinvent 3.11                  | 2024           | 100% Primary data                | 0,63          | 0,63  |
| Production raw materials and components               | Collected data | Ecoinvent 3.11, EPD-IES-0017264 | 2024           | % primary data % generic data    | 90,69         | ,4  |
| Production of Packaging                               | Collected data | Ecoinvent 3.11                  | 2024           | 8% primary data 92% generic data | 0,02          | 0   |
| Total share of primary data                           |                |                                 | 2024           |                                  | 100           | , 4   |

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

### Summary of data quality:

The EPD is based on data collected by the Purus AB over a one-year period from January 2024. The EPD is based on an average product composition, and it is manufactured at a single site. The end-of-life stage is representative of the European Union. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN 15804:2012+A2;2019, Annex E. Time representativeness is considered to be very good, Technical representativeness is deemed to be fair and Geographical representativeness is considered to be good. The relevant data assessed included no other poor or very poor data.

## Transport to the building site (A4)

| Vehicle type           | Distance (km) | Capacity utilization* (%) | Bulk density of transported products (kg/m <sup>3</sup> ) | Volume capacity utilisation factor** |
|------------------------|---------------|---------------------------|---|--------------------------------------|
| Truck-Trailer 40 tonne | 300           | 61                        | as product density  | 1,00                                 |

\*Including empty returns

\*\*Factor =1 or <1 or >1 for compressed or nested packaged products

## Installation of the product in the building (A5)

| Scenario Information   | Unit (expressed per functional unit or per declared unit) |
|--|---|
| Ancillary materials for installation (specified by material)   | None  |
| Water use  | None  |
| Other resource use   | None  |
| Quantitative description of energy type (regional mix) and consumption during the installation process | Not applicable  |
| Direct emissions at ambient air, soil and water  | None  |

## A5 Waste materials on the building site before waste processing, generated by the product's installation (specified by type)

| Name                     | Type      | Weight   | Unit (expressed per functional unit or per declared unit) |
|--------------------------|-----------|----------|---|
| Paper                    | packaging | 2,03E-01 | kg  |
| Plastic                  | packaging | 8,21E-04 | kg  |
| Engineered Wood Products | packaging | 1,90E-02 | kg  |

## A5 Output materials

| Name                     | Type    | Route              | Weight   | Unit (expressed per functional unit or per declared unit) |
|--------------------------|---------|--------------------|----------|---|
| Paper                    | product | recycling waste    | 1,13E-01 | kg  |
| Paper                    | product | incineration waste | 8,82E-02 | kg  |
| Paper                    | product | landfill waste     | 2,25E-03 | kg  |
| Plastic                  | product | recycling waste    | 4,52E-04 | kg  |
| Plastic                  | product | incineration waste | 3,70E-04 | kg  |
| Engineered Wood Products | product | incineration waste | 1,90E-02 | kg  |

## End-of-life (C1-C4)

| Scenario information                                      | Unit (expressed per functional unit or per declared unit)   |
|---|---|
| C1: Collection process specified by type                  | 1,000 kg demolition/deconstruction of steel, wood and other materials. Energy carrier: Diesel.<br>Quantity: 1.1 kWh/tonne   |
| C2: Waste transport specified by type                     | 0,890 kg materials not to be incinerated transported for 80 km<br>0,110 kg materials to be incinerated transported for 130 km   |
| C3: Recovery system specified by type                     | 0,650 kg Metal for recycling<br>0,127 kg Plastic for recycling<br>0,001 kg Rubber for recycling   |
| C4: Disposal specified by type                            | 0,072 kg Metal for final disposal<br>0,104 kg Plastic for energy recovery<br>0,039 kg Cold rolled austenitic stainless steel for final disposal<br>0,001 kg Rubber for energy recovery<br>0,005 kg Pigments for energy recovery                 |
| Assumptions for scenario development, e.g. transportation | The transportation is modelled with the same specifications as the truck transportation in module A4, except the transportation distance is assumed to be 80 km for materials not to be incinerated and 130 km for materials to be incinerated. |

# Environmental performance

Potential environmental impact – indicators according to EN 15804+A2

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).

| Results per declared unit: 1 kg |   |           |          |          |          |          |          |          |           |
|---------------------------------|---|-----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                       | Unit  | A1-A3     | A4       | A5       | C1       | C2       | C3       | C4       | D         |
| GWP-total                       | kg CO2 eq   | 4,19E+00  | 5,53E-02 | 3,48E-01 | 3,99E-04 | 2,37E-02 | 5,54E-02 | 2,67E-01 | -1,48E+00 |
| GWP-fossil                      | kg CO2 eq   | 4,37E+00  | 5,52E-02 | 1,76E-02 | 3,99E-04 | 2,37E-02 | 4,89E-02 | 2,42E-01 | -1,48E+00 |
| GWP-biogenic                    | kg CO2 eq   | -2,83E-01 | 6,42E-05 | 3,31E-01 | 0,00E+00 | 2,75E-05 | 6,50E-03 | 2,42E-02 | 0,00E+00  |
| GWP-luluc                       | kg CO2 eq   | 1,05E-01  | 1,83E-05 | 3,22E-06 | 4,08E-08 | 7,84E-06 | 3,93E-05 | 7,72E-06 | -9,66E-04 |
| ODP                             | kg CFC11 eq   | 2,14E-05  | 1,20E-09 | 2,29E-10 | 5,92E-12 | 5,16E-10 | 5,39E-10 | 4,00E-10 | -1,29E-05 |
| AP                              | mol H+ eq   | 1,54E-02  | 1,77E-04 | 7,17E-05 | 3,56E-06 | 7,60E-05 | 1,99E-04 | 7,93E-05 | -5,52E-03 |
| EP-freshwater                   | kg P eq   | 1,07E-03  | 3,77E-06 | 1,69E-06 | 1,28E-08 | 1,62E-06 | 1,21E-05 | 5,74E-06 | -4,99E-04 |
| EP-marine                       | kg N eq   | 3,58E-03  | 6,01E-05 | 3,74E-05 | 1,66E-06 | 2,58E-05 | 1,20E-04 | 3,24E-05 | -1,20E-03 |
| EP-terrestrial                  | mol N eq  | 3,51E-02  | 6,49E-04 | 3,19E-04 | 1,82E-05 | 2,78E-04 | 6,52E-04 | 2,76E-04 | -1,23E-02 |
| POCP                            | kg NMVOC eq   | 1,31E-02  | 2,69E-04 | 1,05E-04 | 5,43E-06 | 1,15E-04 | 2,21E-04 | 8,72E-05 | -4,68E-03 |
| ADP-minerals & metals*          | kg Sb-Eq  | 4,88E-05  | 1,86E-07 | 5,31E-08 | 1,47E-10 | 7,99E-08 | 4,29E-07 | 7,44E-08 | -2,70E-05 |
| ADP-fossil*                     | MJ  | 6,30E+01  | 7,85E-01 | 1,51E-01 | 5,19E-03 | 3,37E-01 | 5,22E-01 | 1,98E-01 | -2,18E+01 |
| WDP*                            | m <sup>3</sup>  | 4,92E+00  | 4,20E-03 | 6,26E-03 | 1,34E-05 | 1,80E-03 | 9,02E-03 | 1,63E-01 | -5,04E-01 |
| Acronyms                        | <b>GWP-fossil:</b> Global Warming Potential fossil fuels; <b>GWP-biogenic:</b> Global Warming Potential biogenic; <b>GWP-luluc:</b> Global Warming Potential land use and land use change; <b>ODP:</b> Depletion potential of the stratospheric ozone layer; <b>AP:</b> Acidification potential, Accumulated Exceedance; <b>EP-freshwater:</b> Eutrophication potential, fraction of nutrients reaching freshwater end compartment; <b>EP-marine:</b> Eutrophication potential, fraction of nutrients reaching marine end compartment; <b>EP-terrestrial:</b> Eutrophication potential, Accumulated Exceedance; <b>POCP:</b> Formation potential of tropospheric ozone; <b>ADP-minerals&amp;metals:</b> Abiotic depletion potential for non-fossil resources; <b>ADP-fossil:</b> Abiotic depletion for fossil resources potential; <b>WDP:</b> Water (user) deprivation potential, deprivation-weighted water consumption |           |          |          |          |          |          |          |           |

\*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 experience with the indicator.

Disclaimer: The results presented for modules A1-A3 alone shall not be used for comparisons unless all relevant life cycle stages, particularly end-of-life (C1-C4), are included. This ensures a more accurate and representative assessment of the environmental impact over the full product life cycle.

## Use of resources

Option A has been selected in calculating the primary energy indicators. Under this option, the energy is recorded as an input in the module where it enters the product system (A1–A3) and as an equivalent output in the module where it exits the system (A5 for packaging content and C3 and/or C4 for product content), whether it is transferred to another product system or treated as waste.

| Results per declared unit: 1 kg |  |          |          |           |          |          |           |           |           |
|---------------------------------|--|----------|----------|-----------|----------|----------|-----------|-----------|-----------|
| Indicator                       | Unit   | A1-A3    | A4       | A5        | C1       | C2       | C3        | C4        | D         |
| PERE                            | MJ   | 2,52E+01 | 3,03E-01 | 2,97E+00  | 3,27E-05 | 1,30E-01 | 7,08E-02  | 6,01E-02  | -1,04E+00 |
| PERM                            | MJ   | 2,78E+00 | 0,00E+00 | -2,73E+00 | 0,00E+00 | 0,00E+00 | -3,17E-02 | -2,58E-02 | 0,00E+00  |
| PERT                            | MJ   | 2,80E+01 | 3,03E-01 | 2,45E-01  | 3,27E-05 | 1,30E-01 | 3,91E-02  | 3,43E-02  | -1,04E+00 |
| PENRE                           | MJ   | 4,14E+01 | 1,08E+00 | 2,17E-01  | 5,52E-03 | 4,61E-01 | 5,12E+00  | 3,94E+00  | -1,13E+00 |
| PENRM                           | MJ   | 8,36E+00 | 0,00E+00 | -3,63E-02 | 0,00E+00 | 0,00E+00 | -4,58E+00 | -3,75E+00 | 0,00E+00  |
| PENRT                           | MJ   | 4,97E+01 | 1,08E+00 | 1,81E-01  | 5,52E-03 | 4,61E-01 | 5,42E-01  | 1,98E-01  | -1,13E+00 |
| SM                              | kg   | 5,77E-03 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  | 0,00E+00  |
| RSF                             | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  | 0,00E+00  |
| NRSF                            | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  | 0,00E+00  |
| FW                              | m <sup>3</sup>   | 2,65E-01 | 9,78E-05 | 1,49E-05  | 1,28E-08 | 4,19E-05 | 7,61E-05  | 3,78E-03  | -1,12E-01 |
| Acronyms                        | <b>PERE:</b> Use of renewable primary energy excluding renewable primary energy resources used as raw materials; <b>PERM:</b> Use of renewable primary energy resources used as raw materials; <b>PERT:</b> Total use of renewable primary energy resources; <b>PENRE:</b> Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; <b>PENRM:</b> Use of non-renewable primary energy resources used as raw materials; <b>PENRT:</b> Total use of non-renewable primary energy re-sources; <b>SM:</b> Use of secondary material; <b>RSF:</b> Use of renewable secondary fuels; <b>NRSF:</b> Use of non-renewable secondary fuels; <b>FW:</b> Use of net fresh water |          |          |           |          |          |           |           |           |

## Additional mandatory and voluntary impact category indicators

| Results per declared unit: 1 kg |  |          |          |          |          |          |          |          |           |
|---------------------------------|--|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                       | Unit   | A1-A3    | A4       | A5       | C1       | C2       | C3       | C4       | D         |
| GWP-GHG                         | kg CO2 eq  | 4,49E+00 | 5,53E-02 | 2,01E-02 | 3,99E-04 | 2,37E-02 | 5,54E-02 | 2,67E-01 | -1,48E+00 |
| PM                              | Disease incidence  | 1,54E-07 | 3,58E-09 | 1,17E-09 | 1,02E-10 | 1,53E-09 | 7,20E-09 | 5,39E-10 | -2,79E-08 |
| IRP                             | kBq U235 eq.   | 1,75E-01 | 9,35E-04 | 4,15E-04 | 2,21E-06 | 4,01E-04 | 2,51E-03 | 1,44E-03 | -4,87E-02 |
| ETP-fw                          | CTUe   | 2,88E+01 | 1,03E-01 | 8,19E-02 | 2,81E-04 | 4,41E-02 | 3,51E-01 | 7,51E+00 | -7,38E+00 |
| HTP-c                           | CTUh   | 8,25E-08 | 9,96E-12 | 8,82E-12 | 4,07E-14 | 4,27E-12 | 5,48E-11 | 4,49E-11 | -5,30E-08 |
| HTP-nc                          | CTUh   | 5,03E-08 | 4,26E-10 | 3,39E-10 | 6,41E-13 | 1,82E-10 | 8,26E-10 | 5,24E-10 | -1,67E-08 |
| SQP                             | Dimensionless  | 5,89E+01 | 4,63E-01 | 6,74E-02 | 3,44E-04 | 1,99E-01 | 9,16E-01 | 8,87E-02 | -6,79E+00 |
| Acronyms                        | <b>GWP-GHG:</b> global warming potential - greenhouse gases; <b>PM:</b> particulate matter; <b>IRP:</b> ionizing radiation potential; <b>ETP-fw:</b> ecotoxicity potential - freshwater; <b>HTP-c:</b> human toxicity potential - cancer; <b>HTP-nc:</b> human toxicity potential - non-cancer; <b>SQP:</b> smog formation potential |          |          |          |          |          |          |          |           |

The GWP-GHG indicator is identical to GWP-total except that the characterisation factor (CF) for biogenic CO2 is set to zero. This means that the uptake and emissions of biogenic CO2 are "balanced out" already in modules A1 and A3, instead of in modules A5 (for packaging) or modules C3 and/or C4 (for the product). The results over the entire product life cycle, from module A to C, are thus identical for GWP-GHG and GWP-total unless some of the uptake of biogenic CO2 is released as another greenhouse gas (e.g., CH4). In the context of Norwegian public procurement legislation, GWP-GHG is also referred to as GWP-IOBC.

## Waste indicators

| Results per declared unit: 1 kg |  |          |          |          |          |          |          |          |           |
|---------------------------------|--|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                       | Unit   | A1-A3    | A4       | A5       | C1       | C2       | C3       | C4       | D         |
| HWD                             | kg   | 3,54E-01 | 7,91E-04 | 5,27E-02 | 9,46E-04 | 3,39E-04 | 3,06E-02 | 1,27E-03 | -3,14E-01 |
| NHWD                            | kg   | 7,53E-01 | 8,51E-03 | 2,95E-03 | 3,06E-03 | 3,65E-03 | 0,00E+00 | 1,12E-01 | -5,47E-01 |
| RWD                             | kg   | 5,12E-05 | 0,00E+00 | 7,72E-08 | 5,43E-10 | 0,00E+00 | 1,82E-07 | 1,66E-09 | -3,82E-05 |
| Acronyms                        | <b>HW:</b> Hazardous waste disposed; <b>NHW:</b> Non-hazardous waste disposed; <b>RW:</b> Radioactive waste disposed |          |          |          |          |          |          |          |           |

## Output flow indicators

| Results per declared unit: 1 kg |  |          |          |          |          |          |          |          |           |
|---------------------------------|--|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                       | Unit   | A1-A3    | A4       | A5       | 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 | 0,00E+00 | 0,00E+00  |
| MFR                             | kg   | 2,75E-01 | 0,00E+00 | 1,13E-01 | 0,00E+00 | 0,00E+00 | 7,78E-01 | 0,00E+00 | -1,20E-01 |
| MER                             | kg   | 5,09E-08 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -3,91E-08 |
| EEE                             | MJ   | 2,52E-01 | 0,00E+00 | 1,88E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,30E-01 | 0,00E+00  |
| EET                             | MJ   | 5,07E-01 | 0,00E+00 | 3,77E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 6,96E-01 | 0,00E+00  |
| Acronyms                        | <b>CRU:</b> Components for reuse; <b>MFR:</b> Materials for recycling; <b>MER:</b> Materials for energy recovery; <b>EEE:</b> Exported electric energy;<br><b>EET:</b> Exported thermal energy |          |          |          |          |          |          |          |           |

## Information on biogenic carbon content

| Parameter   | Unit | Value    |
|---|------|----------|
| Biogenic carbon content in product                    | kg C | 0        |
| Biogenic carbon content in the accompanying packaging | kg C | 8,95E-02 |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO<sub>2</sub>

## Environmental impact performance from 100% scenarios

Potential environmental impact – indicators according to EN 15804+A2

| Results per declared unit: 1 kg |  |            |             |            |            |             |            |            |             |            |           |            |           |
|---------------------------------|--|------------|-------------|------------|------------|-------------|------------|------------|-------------|------------|-----------|------------|-----------|
| Indicator                       | Unit   | C2 100% RC | C2 100% INC | C2 100% LF | C3 100% RC | C3 100% INC | C3 100% LF | C4 100% RC | C4 100% INC | C4 100% LF | D 100% RC | D 100% INC | D 100% LF |
| GWP-total                       | kg CO2 eq  | 2,48E-02   | 1,52E-02    | 2,48E-02   | 1,04E-01   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 5,58E-01    | 5,84E-02   | -2,15E+00 | 4,33E-01   | 0,00E+00  |
| GWP-fossil                      | kg CO2 eq  | 2,47E-02   | 1,52E-02    | 2,47E-02   | 7,29E-02   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 5,33E-01    | 2,57E-02   | -2,12E+00 | 4,33E-01   | 0,00E+00  |
| GWP-biogenic                    | kg CO2 eq  | 2,87E-05   | 1,77E-05    | 2,87E-05   | 3,14E-02   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 2,43E-02    | 3,27E-02   | -2,41E-02 | 0,00E+00   | 0,00E+00  |
| GWP-luluc                       | kg CO2 eq  | 8,19E-06   | 5,04E-06    | 8,19E-06   | 6,11E-05   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 1,65E-05    | 3,12E-06   | -1,36E-03 | -3,14E-04  | 0,00E+00  |
| ODP                             | kg CFC-11 eq   | 5,39E-10   | 3,32E-10    | 5,39E-10   | 8,03E-10   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 8,55E-10    | 1,98E-10   | -1,51E-05 | -3,56E-09  | 0,00E+00  |
| AP                              | mole H+ eq   | 7,94E-05   | 4,89E-05    | 7,94E-05   | 2,91E-04   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 1,65E-04    | 4,87E-05   | -6,86E-03 | -3,42E-06  | 0,00E+00  |
| EP-freshwater                   | kg P eq  | 1,69E-06   | 1,04E-06    | 1,69E-06   | 1,73E-05   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 1,22E-05    | 7,39E-07   | -4,90E-04 | 7,44E-06   | 0,00E+00  |
| EP-marine                       | kg N eq  | 2,69E-05   | 1,66E-05    | 2,69E-05   | 1,67E-04   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 6,53E-05    | 5,06E-04   | -1,43E-03 | 1,01E-05   | 0,00E+00  |
| EP-terrestrial                  | mole N eq  | 2,91E-04   | 1,79E-04    | 2,91E-04   | 9,57E-04   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 5,65E-04    | 2,07E-04   | -1,46E-02 | -6,30E-05  | 0,00E+00  |
| POCP                            | kg NMVOC eq  | 1,20E-04   | 7,41E-05    | 1,20E-04   | 3,31E-04   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 1,79E-04    | 8,22E-05   | -6,02E-03 | -4,59E-05  | 0,00E+00  |
| ADP-minerals & metals           | kg Sb eq   | 8,34E-08   | 5,13E-08    | 8,34E-08   | 5,79E-07   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 1,63E-07    | 1,21E-08   | -2,94E-05 | 1,11E-08   | 0,00E+00  |
| ADP-fossil*                     | MJ   | 3,52E-01   | 2,16E-01    | 3,52E-01   | 7,93E-01   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 4,12E-01    | 1,67E-01   | -3,01E+01 | -2,29E+00  | 0,00E+00  |
| WDP*                            | m3   | 1,88E-03   | 1,16E-03    | 1,88E-03   | 1,41E-02   | 0,00E+00    | 0,00E+00   | 0,00E+00   | 3,60E-01    | 7,67E-03   | -8,61E-01 | 3,33E-01   | 0,00E+00  |
| Acronyms                        | <b>GWP-fossil:</b> Global Warming Potential fossil fuels; <b>GWP-biogenic:</b> Global Warming Potential biogenic; <b>GWP-luluc:</b> Global Warming Potential land use and land use change; <b>ODP:</b> Depletion potential of the stratospheric ozone layer; <b>AP:</b> Acidification potential, Accumulated Exceedance; <b>EP-freshwater:</b> Eutrophication potential, fraction of nutrients reaching freshwater end compartment; <b>EP-marine:</b> Eutrophication potential, fraction of nutrients reaching marine end compartment; <b>EP-terrestrial:</b> Eutrophication potential, Accumulated Exceedance; <b>POCP:</b> Formation potential of tropospheric ozone; <b>ADP-minerals&amp;metals:</b> Abiotic depletion potential for non-fossil resources; <b>ADP-fossil:</b> Abiotic depletion for fossil resources potential; <b>WDP:</b> Water (user) deprivation potential, deprivation-weighted water consumption; <b>RC:</b> Recycling; <b>INC:</b> Incineration; <b>LF:</b> Landfill |            |             |            |            |             |            |            |             |            |           |            |           |

- 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 experience with the indicator.

## Use of resources 100% scenarios

| Results per declared unit: 1 kg |   |               |                |               |               |                |               |               |                |               |              |               |              |
|---------------------------------|---|---------------|----------------|---------------|---------------|----------------|---------------|---------------|----------------|---------------|--------------|---------------|--------------|
| Indicator                       | Unit  | C2 100%<br>RC | C2 100%<br>INC | C2 100%<br>LF | C3 100%<br>RC | C3 100%<br>INC | C3 100%<br>LF | C4 100%<br>RC | C4 100%<br>INC | C4 100%<br>LF | D 100%<br>RC | D 100%<br>INC | D 100%<br>LF |
| PERE                            | MJ  | 1,36E-01      | 8,35E-02       | 1,36E-01      | 1,13E-01      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,20E-01       | 5,09E-01      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| PERM                            | MJ  | 0,00E+00      | 0,00E+00       | 0,00E+00      | -5,75E-02     | 0,00E+00       | 0,00E+00      | 0,00E+00      | -5,75E-02      | -5,75E-02     | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| PERT                            | MJ  | 1,36E-01      | 8,35E-02       | 1,36E-01      | 5,54E-02      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 6,27E-02       | 4,51E-01      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| PENRE                           | MJ  | 4,82E-01      | 2,96E-01       | 4,82E-01      | 9,15E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 8,74E+00       | 8,49E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| PENRM                           | MJ  | 0,00E+00      | 0,00E+00       | 0,00E+00      | -8,32E+00     | 0,00E+00       | 0,00E+00      | 0,00E+00      | -8,32E+00      | -8,32E+00     | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| PENRT                           | MJ  | 4,82E-01      | 2,96E-01       | 4,82E-01      | 8,30E-01      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 4,12E-01       | 1,70E-01      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| SM                              | kg  | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| RSF                             | MJ  | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| NRSF                            | MJ  | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| FW                              | m3  | 4,38E-05      | 2,69E-05       | 4,38E-05      | 8,57E-05      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 8,36E-03       | 1,20E-04      | -1,37E-01    | 8,29E-03      | 0,00E+00     |
| Acronyms                        | <b>PERE:</b> Use of renewable primary energy excluding renewable primary energy resources used as raw materials; <b>PERM:</b> Use of renewable primary energy resources used as raw materials; <b>PERT:</b> Total use of renewable primary energy resources; <b>PENRE:</b> Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; <b>PENRM:</b> Use of non-renewable primary energy resources used as raw materials; <b>PENRT:</b> Total use of non-renewable primary energy re-sources; <b>SM:</b> Use of secondary material; <b>RSF:</b> Use of renewable secondary fuels; <b>NRSF:</b> Use of non-renewable secondary fuels; <b>FW:</b> Use of net fresh water; <b>LF:</b> Landfill; <b>RC:</b> Recycling; <b>INC:</b> Incineration |               |                |               |               |                |               |               |                |               |              |               |              |

## Additional voluntary indicators 100% scenarios

| Results per declared unit: 1 kg |   |               |                |               |               |                |               |               |                |               |              |               |              |
|---------------------------------|---|---------------|----------------|---------------|---------------|----------------|---------------|---------------|----------------|---------------|--------------|---------------|--------------|
| Indicator                       | Unit  | C2 100%<br>RC | C2 100%<br>INC | C2 100%<br>LF | C3 100%<br>RC | C3 100%<br>INC | C3 100%<br>LF | C4 100%<br>RC | C4 100%<br>INC | C4 100%<br>LF | D 100%<br>RC | D 100%<br>INC | D 100%<br>LF |
| GWP-GHG                         | kg CO2 eq   | 2,48E-02      | 1,52E-02       | 2,48E-02      | 1,04E-01      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 5,58E-01       | 5,84E-02      | -2,12E+00    | 4,57E-01      | 0,00E+00     |
| PM                              | Disease incidence   | 1,60E-09      | 9,86E-10       | 1,60E-09      | 1,21E-08      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,02E-09       | 1,10E-09      | -3,60E-08    | -6,11E-10     | 0,00E+00     |
| IRP                             | kBq U235 eq.  | 4,19E-04      | 2,58E-04       | 4,19E-04      | 3,32E-03      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 3,18E-03       | 1,95E-04      | -1,53E-02    | -9,08E-02     | 0,00E+00     |
| ETP-fw                          | CTUe  | 4,61E-02      | 2,84E-02       | 4,61E-02      | 5,18E-01      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,67E+01       | 1,04E-01      | -1,77E+01    | 1,66E+01      | 0,00E+00     |
| HTP-c                           | CTUh  | 4,46E-12      | 2,74E-12       | 4,46E-12      | 8,85E-11      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 9,91E-11       | 2,11E-12      | -6,21E-08    | 7,98E-11      | 0,00E+00     |
| HTP-nc                          | CTUh  | 1,91E-10      | 1,17E-10       | 1,91E-10      | 1,20E-09      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,14E-09       | 1,60E-10      | -2,28E-08    | 7,63E-10      | 0,00E+00     |
| SQP                             | Dimensionless   | 2,07E-01      | 1,28E-01       | 2,07E-01      | 1,21E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,47E-01       | 3,53E-01      | -1,25E+00    | -7,67E-01     | 0,00E+00     |
| Acronyms                        | <b>GWP-GHG:</b> global warming potential - greenhouse gases; <b>PM:</b> particulate matter; <b>IRP:</b> ionizing radiation potential; <b>ETP-fw:</b> ecotoxicity potential - freshwater; <b>HTP-c:</b> human toxicity potential - cancer; <b>HTP-nc:</b> human toxicity potential - non-cancer; <b>SQP:</b> smog formation potential; <b>LF:</b> Landfill; <b>RC:</b> Recycling; <b>INC:</b> Incineration |               |                |               |               |                |               |               |                |               |              |               |              |

The GWP-GHG indicator is identical to GWP-total except that the characterisation factor (CF) for biogenic CO2 is set to zero. This means that the uptake and emissions of biogenic CO2 are "balanced out" already in modules A1 and A3, instead of in modules A5 (for packaging) or modules C3 and/or C4 (for the product). The results over the entire product life cycle, from module A to C, are thus identical for GWP-GHG and GWP-total unless some of the uptake of biogenic CO2 is released as another greenhouse gas (e.g., CH4). In the context of Norwegian public procurement legislation, GWP-GHG is also referred to as GWP-IOBC.

## Waste indicators 100% scenarios

| Results per declared unit: 1 kg |   |               |                |               |               |                |               |               |                |               |              |               |              |
|---------------------------------|---|---------------|----------------|---------------|---------------|----------------|---------------|---------------|----------------|---------------|--------------|---------------|--------------|
| Indicator                       | Unit  | C2 100%<br>RC | C2 100%<br>INC | C2 100%<br>LF | C3 100%<br>RC | C3 100%<br>INC | C3 100%<br>LF | C4 100%<br>RC | C4 100%<br>INC | C4 100%<br>LF | D 100%<br>RC | D 100%<br>INC | D 100%<br>LF |
| HWD                             | kg  | 3,54E-04      | 2,18E-04       | 3,54E-04      | 5,56E-02      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,27E-03       | 5,35E-02      | -2,33E-01    | -4,68E-02     | 0,00E+00     |
| NHWD                            | kg  | 3,81E-03      | 2,34E-03       | 3,81E-03      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 9,46E-01      | -2,47E-01    | -1,56E-01     | 0,00E+00     |
| RWD                             | kg  | 0,00E+00      | 0,00E+00       | 0,00E+00      | 3,30E-07      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,66E-09       | 2,23E-08      | -3,41E-05    | -1,99E-05     | 0,00E+00     |
| Acronyms                        | <b>HW:</b> Hazardous waste disposed; <b>NHW:</b> Non-hazardous waste disposed; <b>RW:</b> Radioactive waste disposed; <b>LF:</b> Landfill; <b>RC:</b> Recycling; <b>INC:</b> Incineration |               |                |               |               |                |               |               |                |               |              |               |              |

## Output flow indicators 100% scenarios

| Results per declared unit: 1 kg |  |               |                |               |               |                |               |               |                |               |              |               |              |
|---------------------------------|--|---------------|----------------|---------------|---------------|----------------|---------------|---------------|----------------|---------------|--------------|---------------|--------------|
| Indicator                       | Unit   | C2 100%<br>RC | C2 100%<br>INC | C2 100%<br>LF | C3 100%<br>RC | C3 100%<br>INC | C3 100%<br>LF | C4 100%<br>RC | C4 100%<br>INC | C4 100%<br>LF | D 100%<br>RC | D 100%<br>INC | D 100%<br>LF |
| CRU                             | kg   | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| MFR                             | kg   | 0,00E+00      | 0,00E+00       | 0,00E+00      | 1,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | -2,63E-04    | 0,00E+00      | 0,00E+00     |
| MER                             | kg   | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | -4,58E-08    | 0,00E+00      | 0,00E+00     |
| EEE                             | MJ   | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 7,25E-01       | 0,00E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| EET                             | MJ   | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 0,00E+00       | 0,00E+00      | 0,00E+00      | 1,53E+00       | 0,00E+00      | 0,00E+00     | 0,00E+00      | 0,00E+00     |
| Acronyms                        | <b>CRU:</b> Components for reuse; <b>MFR:</b> Materials for recycling; <b>MER:</b> Materials for energy recovery; <b>EEE:</b> Exported electric energy; <b>EET:</b> Exported thermal energy; <b>LF:</b> Landfill; <b>RC:</b> Recycling; <b>INC:</b> Incineration |               |                |               |               |                |               |               |                |               |              |               |              |

## Impact Indicators Variation

| LCA result of one declared unit product (A-C) | Unit                        | Min   | Representative Average | Max  |
|---|-----------------------------|-------|------------------------|------|
| GWP-total                                     | kg CO2 eq.                  | -10%  | 4,19E+00               | 10%  |
| GWP-fossil                                    | kg CO2 eq.                  | -4%   | 4,37E+00               | 2%   |
| GWP-GHG                                       | kg CO2 eq.                  | -4%   | 4,49E+00               | 2%   |
| GWP-biogenic                                  | kg CO2 eq.                  | -132% | -2,83E-01              | 115% |
| GWP-luluc                                     | kg CO2 eq.                  | 0%    | 1,05E-01               | 0%   |
| ODP   | kg CFC-11 eq.               | -8%   | 2,14E-05               | 7%   |
| AP  | Mole of H+ eq.              | -4%   | 1,54E-02               | 2%   |
| EP-freshwater                                 | kg P eq.                    | -2%   | 1,07E-03               | 2%   |
| EP-marine                                     | kg N eq.                    | -6%   | 3,58E-03               | 3%   |
| EP-terrestrial                                | Mole of N eq.               | -6%   | 3,51E-02               | 4%   |
| POCP  | kg NMVOC eq.                | -5%   | 1,31E-02               | 2%   |
| ADP-M&M                                       | kg Sb eq.                   | -7%   | 4,87E-05               | 6%   |
| ADP-fossil                                    | MJ                          | -5%   | 6,30E+01               | 4%   |
| WDP   | m <sup>3</sup> world equiv. | -1%   | 4,92E+00               | 1%   |

# Disclaimers

| ILCD classification | Indicator   | Disclaimer |
|---------------------|---|------------|
| ILCD Type 1         | Global warming potential (GWP)  | None       |
| ILCD Type 1         | Depletion potential of the stratospheric ozone layer (ODP)  | None       |
| ILCD Type 2         | Acidification potential, Accumulated Exceedance (AP)  | None       |
| ILCD Type 2         | Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater) | None       |
| ILCD Type 2         | Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)         | None       |
| ILCD Type 2         | Eutrophication potential, Accumulated Exceedance (EP-terrestrial)                                   | None       |
| ILCD Type 2         | Formation potential of tropospheric ozone (POCP)  | None       |
| ILCD Type 3         | Abiotic depletion potential for non-fossil resources (ADP-minerals & metals)                        | 1          |
| ILCD Type 3         | Abiotic depletion potential for fossil resources (ADP-fossil)                                       | 1          |
| ILCD Type 3         | Water (user) deprivation potential, deprivation-weighted water consumption (WDP)                    | 1          |

Disclaimer 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 experience with the indicator.

Note 1: 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.

Note 2: The results presented for modules A1-A3 alone shall not be used for comparisons unless all relevant life cycle stages, particularly end-of-life (C1-C4), are included. This ensures a more accurate and representative environmental impact assessment over the full product life cycle.

## Abbreviations

### General Abbreviations

|     |  |       |   |
|-----|--|-------|---|
| EN  | European Norm (Standard)                       | EPD   | Environmental Product Declaration                                       |
| EF  | Environmental Footprint                        | GPI   | General Programme Instructions  |
| ISO | International Organization for Standardization | LCA   | Life Cycle Assessment   |
| PCR | Product Category Rules                         | c-PCR | Complementary Product Category Rules                                    |
| CEN | European Committee for Standardization         | CLC   | Co-location centre  |
| CPC | Central Product Classification                 | GHS   | Globally harmonized system of classification and labelling of chemicals |
| GRI | Global Reporting Initiative                    |       |   |

### Environmental Impact Indicators (EN 15804)

|                |   |                     |   |
|----------------|---|---------------------|---|
| GHG            | Greenhouse gas  | GWP                 | Global Warming Potential (kg CO <sub>2</sub> eq.)                       |
| GWP-fossil     | Global Warming Potential from fossil sources (kg CO <sub>2</sub> eq.)               | GWP-biogenic        | Global Warming Potential from biogenic sources (kg CO <sub>2</sub> eq.) |
| GWP-luluc      | Global Warming Potential from land use and land use change (kg CO <sub>2</sub> eq.) | GWP-total           | Total Global Warming Potential (kg CO <sub>2</sub> eq.)                 |
| GWP-GHG        | Global Warming Potential for greenhouse gases (kg CO <sub>2</sub> eq.)              | ODP                 | Ozone Depletion Potential (kg CFC-11 eq.)                               |
| AP             | Acidification Potential (mol H <sup>+</sup> eq.)                                    | EP                  | Eutrophication Potential  |
| EP-freshwater  | Freshwater eutrophication potential (kg P eq.)                                      | EP-marine           | Marine eutrophication potential (kg N eq.)                              |
| EP-terrestrial | Terrestrial eutrophication potential (mol N eq.)                                    | POCP                | Photochemical Ozone Creation Potential (kg NMVOC eq.)                   |
| ADP            | Abiotic Depletion Potential   | ADP-minerals&metals | Abiotic depletion potential for non-fossil resources (kg Sb eq.)        |
| ADP-fossil     | Abiotic depletion potential for fossil resources (MJ)                               | WDP                 | Water Deprivation Potential (m <sup>3</sup> )                           |

### Resource Use Indicators

|       |   |       |   |
|-------|---|-------|---|
| PERE  | Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ) | PERM  | Use of renewable primary energy resources used as raw materials (MJ)  |
| PERT  | Total use of renewable primary energy resources (MJ)  | PENRE | Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ) |
| PENRM | Use of non-renewable primary energy resources used as raw materials (MJ)                                | PENRT | Total use of non-renewable primary energy resources (MJ)  |
| SM    | Use of secondary material (kg)  | RSF   | Use of renewable secondary fuels (MJ)   |
| NRSF  | Use of non-renewable secondary fuels (MJ)   | FW    | Use of net fresh water (m <sup>3</sup> )  |

# Abbreviations continued

## Waste Indicators

HW Hazardous Waste (disposed) (kg)

RW Radioactive Waste (disposed) (kg)

NHW Non-Hazardous Waste (disposed) (kg)

## Output Flow Indicators

CFR Components for Reuse (kg)

MER Materials for Energy Recovery (kg)

EET Exported Energy, Thermal (MJ)

MR Material for Recycling (kg)

EEE Exported Energy, Electricity (MJ)

## Lifecycle Stages / Modules

A1 Raw material supply

A3 Manufacturing

A5 Construction/Installation

B2 Maintenance

B4 Replacement

B6 Operational energy use

C1 Deconstruction/Demolition

C3 Waste processing

D Reuse-Recovery-Recycling potential

A2 Transport

A4 Transport to site

B1 Use

B3 Repair

B5 Refurbishment

B7 Operational water use

C2 Transport to waste processing

C4 Disposal

## Other Relevant Terms

SVHC Substances of Very High Concern

CAS No. Chemical Abstracts Service Number

kg Kilogram

NM VOC Non-Methane Volatile Organic Compounds

RC Recycling

P eq. Phosphorus Equivalents

CFC-11 eq. Chlorofluorocarbon-11 Equivalents

kg C Kilograms of Carbon

ND Not Declared

MND Module not declared

EC No. European Community Number

MJ Megajoule

m<sup>3</sup> Cubic Meter

Sb eq. Antimony Equivalents

LF Landfill

N eq. Nitrogen Equivalents

CO<sub>2</sub> eq. Carbon Dioxide Equivalents

kg CO<sub>2</sub> eq. Kilograms of Carbon Dioxide Equivalent

INC Incineration

# References

- EN 15804:2012+A2  
Sustainability of construction works – Environmental product declaration – Core rules for the product category of constructions products
- EPD International (2024)  
General Programme Instructions of the International EPD System, version 5.0
- ISO 14020:2022  
International Standard ISO 14020 – Environmental statements and programmes for products – Principles and general requirements
- ISO 14025:2006  
International Standard ISO 14025 – Environmental labels and declarations — Type III environmental declarations — Principles and procedures
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## Version history

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## Contact Info

### EPD owner

Name Purus AB  
Email [info@purus.se](mailto:info@purus.se)  
Telephone +46 10 41 44 900  
Address SE-271 39 Ystad, Sweden



### LCA author

Name CarbonZero AB  
Email [info@eando.se](mailto:info@eando.se)  
Telephone +46 4 317 07 07  
Address SE-262 32 Ängelholm, Sweden



### Third party verifier

Name Sigita Židonienė  
Email [sigita@vestaconsulting.lt](mailto:sigita@vestaconsulting.lt)  
Telephone +370 686 44423  
Address Bebrų str. 1, LT-08124 Vilnius, Lithuania



### Program operator

Name EPD International AB  
Email [support@environdec.com](mailto:support@environdec.com)  
Telephone +46 (0)73 311 30 20  
Address SE-11427 Stockholm, Sweden



INTERNATIONAL EPD SYSTEM