

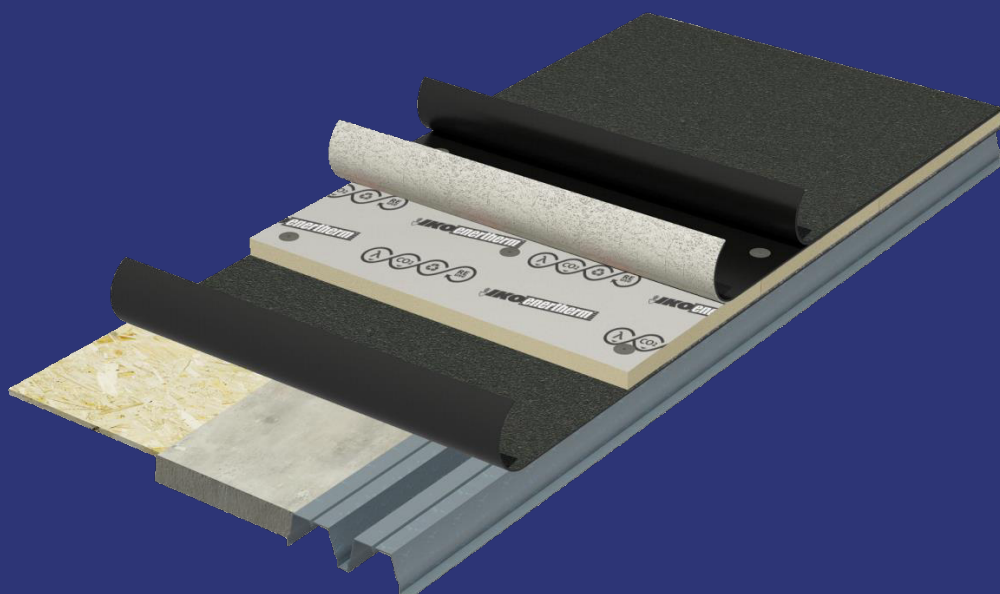


**Environmental  
Product  
Declaration**

According to EN15804+A2 (+indicators A1)

This declaration is for:  
**IKO roofgarden 4 APP Atelia**

Provided by:  
**IKO n.v.**



MRPI® registration:  
**1.1.01050.2026**

Program operator:  
**Stichting MRPI®**  
Publisher:  
**Stichting MRPI®**  
[www.mrpi.nl](http://www.mrpi.nl)

Date of first issue:  
**25-11-2025**  
Date of this issue:  
**25-11-2025**  
Expiry date:  
**25-11-2030**



**Nationale  
MILIEUDATABASE**

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#### COMPANY INFORMATION

IKO n.v.  
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Antwerpen  
Belgium  
0032 3 248 3000

be.iko.com

#### MRPI® REGISTRATION

1.1.01050.2026

#### DATE OF THIS ISSUE

25-11-2025

#### EXPIRY DATE

25-11-2030

#### SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Gert-Jan Vroege, Eco Intelligence. The LCA study has been done by Steven Simons, SGS INTRON B.V.. The certificate is based on an LCA-dossier according to EN15804+A2 (+indicators A1). It is verified according to the 'Verification protocol for MRPI LCA project report & EPD 21th of May 2025, V. 5.2'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

#### PROGRAM OPERATOR

Stichting MRPI®  
Kingsfordweg 151  
1043 GR  
Amsterdam

#### PRODUCT

IKO roofgarden 4 APP Atelia

#### DECLARED UNIT / FUNCTIONAL UNIT

1 Area (m2)

#### DESCRIPTION OF PRODUCT

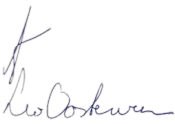
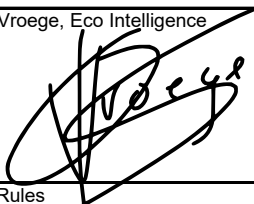
IKO roofgarden 4 APP Atelia is a part of a roofing membrane system and placed on a roof as a protective layer to make the roof waterproof and protect the roof from various elements.

#### VISUAL PRODUCT



#### MORE INFORMATION

<https://eu.iko.com/nl-nl/productbladen/>

|                                                                                                                                                                   |                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ing. L. L. Oosterveen MSc. MBA</b><br><b>Managing Director MRPI</b><br><br> | <b>DEMONSTRATION OF VERIFICATION</b>                                                                                                                                                 |
|                                                                                                                                                                   | CEN standard EN15804 serves as the core PCR [1]                                                                                                                                      |
|                                                                                                                                                                   | Independent verification of the declaration and data according to EN15804+A2 (+indicators A1)<br>Internal: External: X                                                               |
|                                                                                                                                                                   | Third party verifier: Gert-Jan Vroege, Eco Intelligence<br><br>[1] PCR = Product Category Rules |



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## DETAILED PRODUCT DESCRIPTION

Product: IKO roofgarden 4 APP Atelia is a part of a roofing membrane system and placed on a roof as a protective layer to make the roof waterproof and protect the roof from various elements.

Production (A1-A3): Bituminous waterproofing membranes are produced by a continuous process. Raw materials (bitumen and polymers) are mixed separately at a specific range of temperature and successively reinforced with polyester fleece or glass mat (glass mat, glass grid, glass fabric) by impregnation. After calendaring and cooling, the membrane can be finished for practicality and aesthetic reasons by means of different alternative materials, such as polypropylene films, (colored) slates, etc. Membranes are installed on many different type of building roofs as waterproofing, either, as a single or multilayer, depending on the type of selected product.

Reference service life: 50 years

The energy processes used in the calculation are listed in the table below. The process used for the energy in Belgium was: Electricity, low voltage {BE}| market for | Cut-off, U.

| Global warming potential of 1 kWh energy     | Process                                                | kg CO2eq |
|----------------------------------------------|--------------------------------------------------------|----------|
| Production energy: Belgium (EcoInvent 3.6)   | Electricity, low voltage {BE}  market for   Cut-off, U | 0,244    |
| Production energy: Belgium (EcoInvent 3.9.1) | Electricity, low voltage {BE}  market for   Cut-off, U | 0,209    |

## SCOPE AND TYPE

The LCA for the IKO roofgarden 4 APP Atelia includes the entire life cycle. All major steps from the extraction of raw materials to the end-of-life of the product are included in the scope of the study. This EPD is for IKO roofgarden 4 APP Atelia, part of a roofing membrane. The roofing membrane is produced by IKO n.v.. The main production location is Antwerpen Belgium. The end-of-life scenario for the roofing membrane based on IKO's take-back guarantee (5% landfill, 5% incineration and 90% recycling). The LCA is produced with SimaPro v10 software and background database is Ecoinvent 3.6 for set A1 and Ecoinvent 3.9.1 for set A2.

| PRODUCT STAGE       |           |               | CONSTRUCTION PROCESS STAGE |          | USE STAGE |             |        |             |               |                        |                       | END OF LIFE STAGE          |           |                  |          | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES |
|---------------------|-----------|---------------|----------------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|-------------------------------------------------|
| Raw material supply | Transport | Manufacturing | Transport gate to site     | Assembly | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse - Recovery - Recycling potential          |
| A1                  | A2        | A3            | A4                         | A5       | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                               |
| X                   | X         | X             | X                          | X        | X         | X           | X      | X           | X             | ND                     | ND                    | X                          | X         | X                | X        | X                                               |

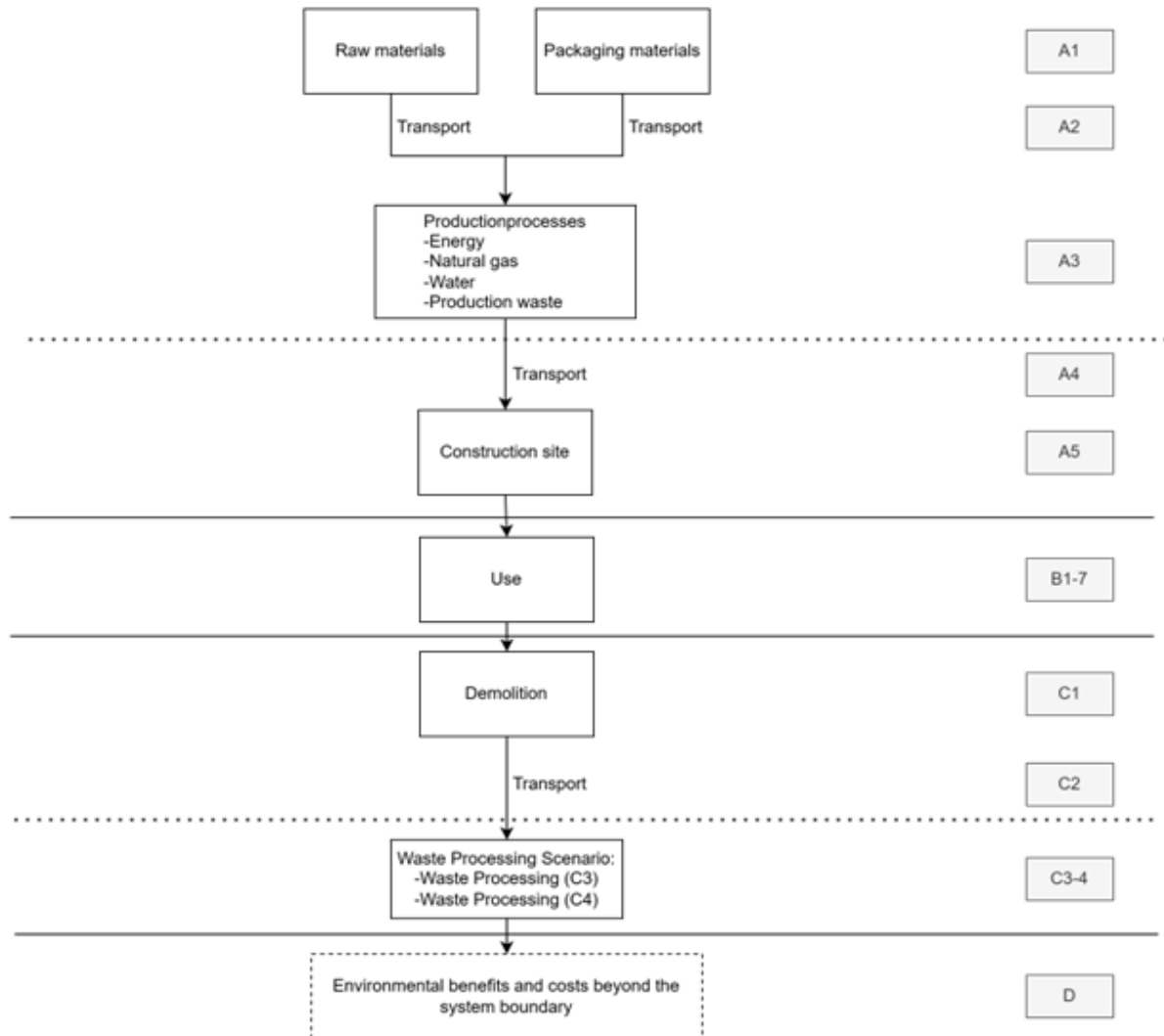
X = Modules Assessed

ND = Not Declared



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## REPRESENTATIVENESS

The EPD is representative for IKO roofgarden 4 APP Atelia a part of a roofing membrane which is manufactured in Antwerp, Belgium.

# ENVIRONMENTAL IMPACT per functional unit or declared unit (indicators A1)

| Unit |               | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| ADPE | kg Sb eq.     | 1,68E-04 | 5,33E-06 | 1,27E-06 | 1,75E-04 | 3,00E-06 | 6,41E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 2,89E-06 | 3,06E-05 | 3,61E-08 | -6,36E-06 |
| ADPF | MJ            | 1,91E+02 | 3,21E+00 | 7,78E+00 | 2,02E+02 | 1,79E+00 | 8,12E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,72E+00 | 3,72E+01 | 7,98E-02 | -9,92E+01 |
| GWP  | kg CO2 eq.    | 3,52E+00 | 2,11E-01 | 3,62E-01 | 4,09E+00 | 1,18E-01 | 3,24E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,13E-01 | 3,20E+00 | 4,01E-02 | -1,37E+00 |
| ODP  | kg CFC11 eq.  | 1,78E-06 | 3,74E-08 | 5,98E-08 | 1,88E-06 | 2,09E-08 | 7,61E-08 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 2,01E-08 | 2,57E-07 | 8,31E-10 | -1,23E-06 |
| POCP | kg ethene eq. | 6,21E-03 | 1,31E-04 | 6,41E-05 | 6,40E-03 | 7,09E-05 | 2,59E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 6,83E-05 | 1,03E-03 | 9,84E-06 | -2,76E-03 |
| AP   | kg SO2 eq.    | 2,03E-02 | 1,02E-03 | 3,81E-04 | 2,17E-02 | 5,17E-04 | 1,01E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 4,98E-04 | 5,65E-03 | 4,18E-05 | -9,40E-03 |
| EP   | kg (PO4)3 eq. | 2,94E-03 | 1,91E-04 | 5,66E-05 | 3,19E-03 | 1,02E-04 | 1,55E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 9,78E-05 | 9,51E-04 | 1,87E-05 | -1,40E-03 |

## Toxicity indicators and ECI (Dutch market)

|       |            |          |          |          |          |          |          |          |          |          |          |          |    |    |          |          |          |          |           |
|-------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| HTP   | kg DCB eq. | 2,10E+00 | 8,96E-02 | 4,72E-02 | 2,24E+00 | 4,95E-02 | 1,48E-01 | 6,26E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 4,77E-02 | 2,02E+00 | 1,96E-03 | -8,29E-01 |
| FAETP | kg DCB eq. | 6,80E-02 | 2,59E-03 | 8,80E-04 | 7,15E-02 | 1,44E-03 | 3,56E-03 | 3,13E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,39E-03 | 2,63E-02 | 4,45E-04 | -3,22E-02 |
| MAETP | kg DCB eq. | 1,98E+02 | 9,35E+00 | 2,86E+00 | 2,10E+02 | 5,20E+00 | 1,06E+01 | 1,34E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 5,00E+00 | 6,75E+01 | 5,02E-01 | -1,12E+02 |
| TETP  | kg DCB eq. | 6,13E-03 | 3,15E-04 | 1,14E-03 | 7,59E-03 | 1,75E-04 | 6,38E-04 | 4,30E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,68E-04 | 1,14E-02 | 5,82E-06 | -1,78E-03 |
| ECI   | euro       | 5,22E-01 | 2,60E-02 | 2,53E-02 | 5,73E-01 | 1,42E-02 | 3,73E-02 | 7,10E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,36E-02 | 3,85E-01 | 2,61E-03 | -2,19E-01 |
| ADPF  | kg Sb eq.  | 8,92E-02 | 1,55E-03 | 2,92E-03 | 9,37E-02 | 8,64E-04 | 3,64E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 8,32E-04 | 1,26E-02 | 3,84E-05 | -4,72E-02 |

- ADPE = Abiotic Depletion Potential for non-fossil resources
- ADPF = Abiotic Depletion Potential for fossil resources
- GWP = Global Warming Potential
- ODP = Depletion potential of the stratospheric ozone layer
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- AP = Acidification Potential of land and water
- EP = Eutrophication Potential
- HTP = Human Toxicity Potential
- FAETP = Fresh water aquatic ecotoxicity potential
- MAETP = Marine aquatic ecotoxicity potential
- TETP = Terrestrial ecotoxicity potential
- ECI = Environmental Cost Indicator
- ADPF = Abiotic Depletion Potential for fossil resources

# ENVIRONMENTAL IMPACT per functional unit or declared unit (core indicators A2)

| Unit                  |                         | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|-----------------------|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| GWP-total             | kg CO2 eq.              | 4,41E+00 | 2,36E-01 | 3,74E-01 | 5,02E+00 | 1,31E-01 | 3,62E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,26E-01 | 3,23E+00 | 4,04E-02 | -2,02E+00 |
| GWP-fossil            | kg CO2 eq.              | 4,35E+00 | 2,34E-01 | 3,72E-01 | 4,96E+00 | 1,30E-01 | 3,57E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,26E-01 | 3,23E+00 | 4,03E-02 | -2,02E+00 |
| GWP-biogenic          | kg CO2 eq.              | 5,58E-02 | 3,58E-04 | 1,23E-03 | 5,74E-02 | 2,03E-04 | 4,82E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,96E-04 | 8,64E-04 | 2,63E-05 | -1,09E-03 |
| GWP-luluc             | kg CO2 eq.              | 2,06E-03 | 8,23E-04 | 1,95E-04 | 3,08E-03 | 4,65E-04 | 1,92E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 4,48E-04 | 2,17E-03 | 2,89E-06 | -5,23E-04 |
| ODP                   | kg CFC11 eq.            | 9,24E-07 | 4,16E-09 | 1,60E-08 | 9,44E-07 | 2,32E-09 | 3,19E-08 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 2,23E-09 | 3,70E-08 | 8,80E-11 | -1,49E-07 |
| AP                    | mol H+ eq.              | 1,95E-02 | 1,24E-03 | 4,82E-04 | 2,12E-02 | 6,24E-04 | 1,03E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 6,01E-04 | 6,95E-03 | 4,85E-05 | -7,85E-03 |
| EP-fresh water        | kg P eq.                | 9,31E-05 | 2,30E-06 | 2,33E-06 | 9,78E-05 | 1,30E-06 | 4,95E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,25E-06 | 4,36E-05 | 6,16E-08 | -1,33E-05 |
| EP-marine             | kg N eq.                | 3,76E-03 | 4,53E-04 | 1,27E-04 | 4,34E-03 | 2,37E-04 | 2,48E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 2,28E-04 | 1,93E-03 | 4,03E-05 | -1,60E-03 |
| EP-terrestrial        | mol N eq.               | 4,02E-02 | 4,84E-03 | 1,42E-03 | 4,64E-02 | 2,53E-03 | 2,67E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 2,44E-03 | 2,10E-02 | 1,07E-04 | -1,48E-02 |
| POCP                  | kg NMVOC eq.            | 3,21E-02 | 1,63E-03 | 7,08E-04 | 3,44E-02 | 8,64E-04 | 1,54E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 8,32E-04 | 7,71E-03 | 4,74E-05 | -1,71E-02 |
| ADP-minerals & metals | kg Sb eq.               | 1,59E-05 | 7,24E-07 | 1,68E-06 | 1,83E-05 | 4,08E-07 | 1,19E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 3,93E-07 | 1,52E-05 | 8,44E-09 | -2,53E-06 |
| ADP-fossil            | MJ, net calorific value | 1,95E+02 | 3,35E+00 | 7,40E+00 | 2,05E+02 | 1,87E+00 | 8,30E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,80E+00 | 3,66E+01 | 8,15E-02 | -1,02E+02 |
| WDP                   | m3 world eq. Deprived   | 1,44E+00 | 1,81E-02 | 6,63E-02 | 1,53E+00 | 1,02E-02 | 6,30E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 9,82E-03 | 4,21E-01 | 3,39E-03 | -1,86E-01 |

|                       |   |                                                                                     |
|-----------------------|---|-------------------------------------------------------------------------------------|
| GWP-total             | = | Global Warming Potential total                                                      |
| GWP-fossil            | = | Global Warming Potential fossil fuels                                               |
| GWP-biogenic          | = | Global Warming Potential biogenictotal                                              |
| GWP-luluc             | = | Global Warming Potential land use and land use change                               |
| ODP                   | = | Depletion potential of the stratospheric ozone layer                                |
| AP                    | = | Acidification Potential, Accumulated Exceedence                                     |
| 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 Exceedence                                    |
| POCP                  | = | Formation potential of tropospheric ozone photochemical oxidants                    |
| ADP-minerals & metals | = | Abiotic Depletion Potential for non-fossil resources [1]                            |
| ADP-fossil            | = | Abiotic Depletion for fossil resources potential [1]                                |
| WDP                   | = | Water (user) deprivation potential, deprivation-weighted water consumption [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.

# ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

| Unit   |                    | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|--------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| PM     | Disease inci-dence | 1,81E-07 | 2,28E-08 | 3,55E-09 | 2,07E-07 | 1,29E-08 | 1,28E-08 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,24E-08 | 1,28E-07 | 5,80E-10 | -5,70E-08 |
| IRP    | kBq U235 eq.       | 1,12E-01 | 1,30E-03 | 3,66E-02 | 1,50E-01 | 7,29E-04 | 1,11E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 7,02E-04 | 2,04E-01 | 5,82E-05 | -1,27E-02 |
| ETP-fw | CTUe               | 7,32E+01 | 2,46E+00 | 5,34E-01 | 7,61E+01 | 1,38E+00 | 3,13E+00 | 5,89E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,33E+00 | 1,00E+01 | 8,33E-02 | -4,48E+01 |
| HTP-c  | CTUh               | 1,90E-09 | 1,24E-10 | 9,95E-11 | 2,12E-09 | 6,90E-11 | 1,74E-10 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 6,65E-11 | 2,44E-09 | 2,30E-12 | -6,63E-10 |
| HTP-nc | CTUh               | 3,28E-08 | 2,66E-09 | 2,19E-09 | 3,77E-08 | 1,50E-09 | 2,35E-09 | 7,47E-10 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,44E-09 | 2,76E-08 | 7,36E-11 | -1,25E-08 |
| SQP    | -                  | 1,91E+01 | 2,60E+00 | 7,44E-01 | 2,25E+01 | 1,47E+00 | 1,34E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,42E+00 | 1,82E+01 | 1,82E-01 | -5,40E+00 |

- PM = Potential incidence of disease due to PM emissions
- IRP = Potential Human exposure efficiency relative to U235 [1]
- ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]
- HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]
- HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]
- SQP = Potential soil quality index [2]

## Disclaimer [1]:

- This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste.

## Disclaimer [2]:

- 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.

# OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)

|      | Unit | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|-----------|
| HWD  | kg   | 1,82E-03 | 2,13E-05 | 2,42E-05 | 1,86E-03 | 1,19E-05 | 6,37E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,15E-05 | 1,02E-04 | 3,99E-07 | -4,57E-04 |
| NHWD | kg   | 4,84E-01 | 2,18E-01 | 1,11E-01 | 8,12E-01 | 1,23E-01 | 7,44E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 1,19E-01 | 1,11E+00 | 3,14E-01 | -7,66E-02 |
| RWD  | kg   | 8,49E-05 | 7,60E-07 | 3,12E-05 | 1,17E-04 | 4,27E-07 | 8,93E-06 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 4,12E-07 | 1,71E-04 | 3,90E-08 | -5,75E-06 |
| 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 | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| MFR  | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,69E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 0,00E+00 | 5,64E+00 | 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 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| EEE  | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,10E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 0,00E+00 | 1,70E+00 | 0,00E+00 | 0,00E+00  |
| ETE  | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 8,78E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 0,00E+00 | 2,93E+00 | 0,00E+00 | 0,00E+00  |

HWD = Hazardous Waste Disposed  
 NHWD = Non Hazardous Waste Disposed  
 RWD = Radioactive Waste Disposed  
 CRU = Components for reuse  
 MFR = Materials for recycling  
 MER = Materials for energy recovery  
 EEE = Exported Electrical Energy  
 ETE = Exported Thermal Energy

#### RESOURCE USE per functional unit or declared unit (A1 and A2)

| Unit     | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6  | B7  | C1       | C2       | C3       | C4       | D         |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----|-----|----------|----------|----------|----------|-----------|
| PERE MJ  | 2,80E+00 | 4,69E-02 | 4,20E-01 | 3,26E+00 | 2,64E-02 | 2,06E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | INA | INA | 0,00E+00 | 2,54E-02 | 3,01E+00 | 1,79E-03 | -2,72E-01 |
| PERM 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 | INA | INA | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PERT MJ  | 2,80E+00 | 4,69E-02 | 4,20E-01 | 3,26E+00 | 2,64E-02 | 2,06E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | INA | INA | 0,00E+00 | 2,54E-02 | 3,01E+00 | 1,79E-03 | -2,72E-01 |
| PENRE MJ | 1,95E+02 | 3,35E+00 | 7,40E+00 | 2,05E+02 | 1,87E+00 | 8,30E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | INA | INA | 0,00E+00 | 1,80E+00 | 3,66E+01 | 8,15E-02 | -1,02E+02 |
| PENRM 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 | INA | INA | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| PENRT MJ | 1,95E+02 | 3,35E+00 | 7,40E+00 | 2,05E+02 | 1,87E+00 | 8,30E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | INA | INA | 0,00E+00 | 1,80E+00 | 3,66E+01 | 8,15E-02 | -1,02E+02 |
| SM kg    | 2,86E-01 | 0,00E+00 | 0,00E+00 | 2,86E-01 | 0,00E+00 | 8,57E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | INA | INA | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -1,95E+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 | INA | INA | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| NSRF 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 | INA | INA | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| FW m3    | 2,99E-02 | 8,00E-04 | 1,81E-03 | 3,25E-02 | 4,51E-04 | 1,50E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | INA | INA | 0,00E+00 | 4,35E-04 | 1,27E-02 | 8,37E-05 | -6,34E-03 |

|       |   |                                                                                                              |
|-------|---|--------------------------------------------------------------------------------------------------------------|
| PERE  | = | Use of renewable primary energy excluding renewable primary energy 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 resources excluding non-renewable energy resources used as raw materials |
| PENRM | = | Use of non-renewable primary energy resources used as raw materials                                          |
| PENRT | = | Total use of non-renewable primary energy resources                                                          |
| SM    | = | Use of secondary materials                                                                                   |
| RSF   | = | Use of renewable secondary fuels                                                                             |
| NSRF  | = | Use of non-renewable secondary fuels                                                                         |
| FW    | = | Use of net fresh water                                                                                       |

#### BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 and A2)

| Unit       | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1       | B2       | B3       | B4       | B5       | B6 | B7 | C1       | C2       | C3       | C4       | D        |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|----------|----------|----------|----------|----------|
| BBCpr kg C | 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 | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| BCCpa kg C | 7,14E-04 | 0,00E+00 | 0,00E+00 | 7,14E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

|       |   |                                      |
|-------|---|--------------------------------------|
| BCCpr | = | Biogenic carbon content in product   |
| BCCpa | = | Biogenic carbon content in packaging |



## CALCULATION RULES

Data quality requirements follow EN15804+A2:2019. Data is of reference period 2023, representing data for the production of one m2 IKO roofgarden 4 APP Atelia. Processes used in the background modelling are referring to Ecoinvent 3.6 and 3.9.1. The technological and geographical coverage reflects the physical reality as far as possible. Data quality is assessed as good on average and adequate to the goal and scope of the study. Cut-off criteria and allocation procedures: The only materials excluded from the calculation were wood packaging that is reused several times. No other cut-offs or allocation procedures were intentionally applied to inputs and outputs within the system boundaries in the models.

## SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

The product stage, A1-A3, includes the extraction and processing of raw materials for the product and the packaging, their transportation to the production site by truck and ship. Electricity consumption is modelled using primary data on the amount and a dataset for normal belgium grid mix.

The installation stage (A4-A5) includes transport of the roofing membrane to the installation site, and the materials and energy required to install the roofing membrane, also including treatment of waste from installation materials and packaging excluding wood that was reused several times.

The use phase (B) includes the leaching.

For the end-of-life stage (C), a scenario is used which is based on IKO's take-back guarantee (5% landfill, 5% incineration and 90% recycling). Default waste transport distance is 100 km for landfill waste and 150 km for incineration. The materials that are recycled have the same distance as in A4: 136 km.

## DECLARATION OF SVHC

No substances that are listed in the latest "Candidate List of Substances of Very High Concern for authorisation" are included in the product that exceed the limit for registration.

## REFERENCES

Stichting nationale Milieudatabase, Bepalingsmethode Milieuprestatie Bouwwerken versie 1.2.

EN 15804:2012+A2:2019, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products, 2019.

ISO, ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures, 2006.

SGS INTRON report: A166150b/R20251306, December 2025



Nationale  
MILIEUDATABASE

