# Environmental Product Declaration

*Conform ISO 14025 and EN 15804+A2*

*Productverklaring:*
Sunbeam Luna montagesysteem voor zonnepanelen (schuin dak - staal)

*Functionele Eenheid:*
1 stuk montage systeem voor het monteren van 1 zonnepaneel

*Verklaard door:*
Sunbeam B.V.

*Eigenaar declaratie:*
Sunbeam B.V.

*Verificateur:*
*Ecochain Technologies B.V.*

*LCA-studie door:*
EcoReview B.V.

*Declaratienummer:*
2024.039.

*Datum van publicatie:*
17/10/2024

*Vervaldatum van publicatie:*
17/10/2029

## Algemene Informatie

### Eigenaar van Declaratie

| | |
|---|---|
| *Naam* | Sunbeam B.V. |
| *Straat* | Kryptonweg 8 |
| *Postcode* | 3812 RZ |
| *Stad* | Amersfoort |
| *Contact* | Luuk Eeftink |

### Declaratie voor

| | |
|---|---|
| *Declaratienummer* | 2024.039. |
| *Datum van publicatie* | 17/10/2024 |
| *Vervaldatum van publicatie* | 17/10/2029 |
| *Product* | Sunbeam Luna montagesysteem voor zonnepanelen (schuin dak - staal). |
| *Functionele eenheid* | 1 stuk montage systeem voor het monteren van 1 zonnepaneel |
| *Referentielevensduur* | 20 jaar |
| *Schaalbaar product* | Nee |
| *Productomschrijving* | Montagesysteem voor het monteren van zonnepanelen op een schuin dak. |

## Declaratie Informatie

Deze zelfstandig verklaarde EPD is overeenkomstig met ISO 14025:2006 en EN 15804+A2. Dit certificaat is gebaseerd op een LCA-dossier, overeenkomst met ISO14025:2006, ISO14040 en EN15804+A2 en de NMD Bepalingsmethode 1.1. Een EPD van een constructief product is niet vergelijkbaar, wanneer deze niet is opgesteld conform EN15804+A2 en de Bepalingsmethode 1.1. Zeer zorgwekkende stoffen die opgenomen zijn in de 'Candidate List of Substances of Very High Concern for authorization' zijn opgenomen indien toxische inhoud de gestelde limieten voor ECHA-registratie overschrijdt.

Deze LCA-studie is uitgevoerd door: Stijn Mulder, EcoReview B.V.

## Bewijs van Verificatie

| | |
|---|---|
| *Verificateur* | Extern |
| *Naam* | Lex Roes, Ecochain Technologies B.V. |
| *Verklaring* | Verificatie van de declaratie en data is onafhankelijk uitgevoerd volgens EN15804+A2 en NMD Bepalingsmethode 1.1. |
| *Handtekening:* |  |

## LCA Informatie

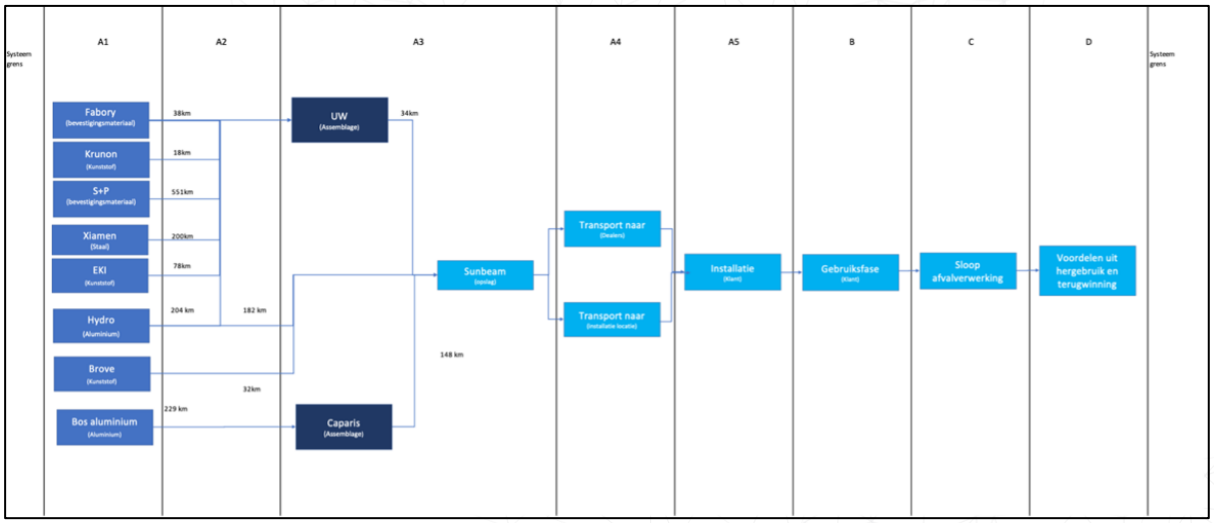
| | |
|---|---|
| *LCA standaard* | ISO 14040:2006 |
| *Product Category Rules (PCR)* | EN 15804+A2/NMD Bepalingsmethode 1.1 |
| *Aanvullende PCR* | Niet van toepassing |
| *Standaard database* | Ecoinvent 3.6 + NMD 3.8 |
| *LCA-software* | SimaPro 9.6.0.1 |
| *Jaar van datacollectie* | 2024 |

## Scope van Declaratie

| | | | |
|---|---|---|---|
| Productie Fase | A1 | X | Winning van grondstoffen |
| | A2 | X | Transport naar producent |
| | A3 | X | Productieprocessen |
| Bouwfase | A4 | X | Transport naar gebruikslocatie |
| | A4 | X | Installatie op gebruikslocatie |
| Gebruiksfase | B1 | X | Gebruik product |
| | B2 | X | Onderhoud |
| | B3 | X | Reparatie |
| | B4 | X | Vervanging van onderdelen |
| | B5 | X | Renovatie |
| | B6 | X | Energiegebruik product |
| | B7 | X | Watergebruik product |
| Einde Levensduurfase | C1 | X | Sloop |
| | C2 | X | Transport naar afvalverwerking |
| | C3 | X | Afvalverwerkingsprocessen |
| | C4 | X | Stort |
| Benefits and loads beyond the system boundaries | D | X | Herwinning van grondstoffen |

X = Module toegepast
MND = Module niet verklaard

## Proces Diagram



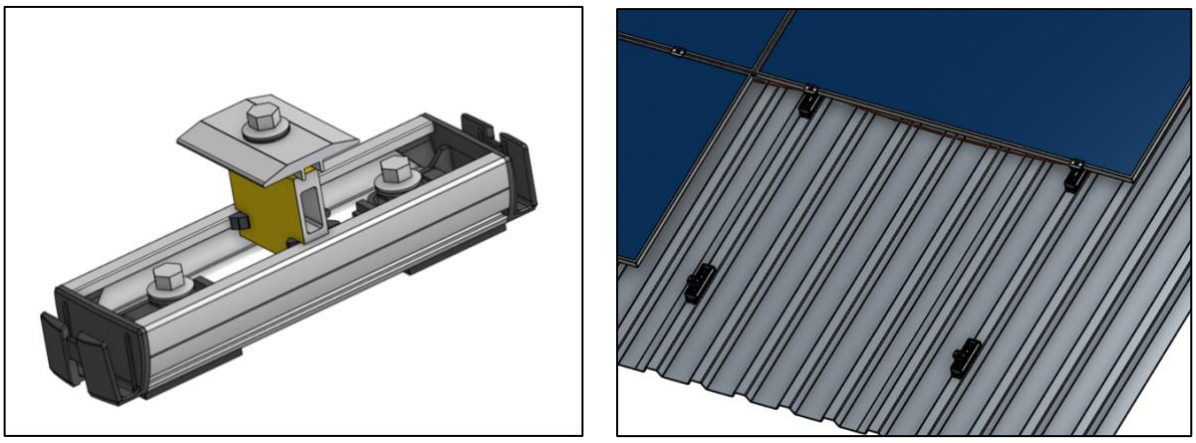
## Gedetailleerde Productbeschrijving

**Algemene Productinformatie**

Sunbeam verkoopt diverse type montage systemen voor zonnepanelen. De diverse varianten verschillen in toepassing voor platte (Nova) of schuine (Luna) daken en ook in de oriëntatie van de panelen. In deze EPD zijn 3 typen opgenomen voor stalen schuine daken. Dit zijn de systemen Luna Landscape Standaard, Luna Landscape Hoog en Luna Portrait. De Landscape varianten zijn voor horizontale ligging van de zonnepanelen en het Portrait systeem voor verticaal.

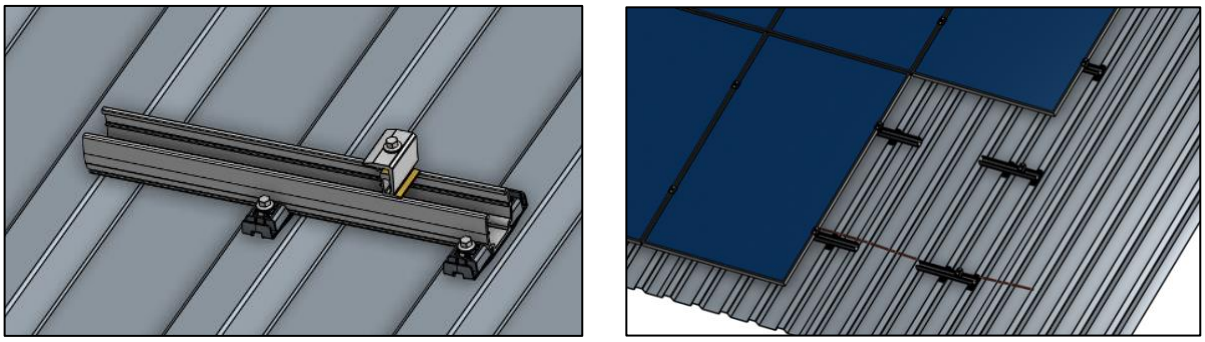
| Luna | Landscape Standaard | Landscape Hoog | Portrait |
|---|---|---|---|
| Componenten | Klein Commercieel | Klein Commercieel | Klein Commercieel |
| Aantal panelen | Onafhankelijk van veldgrote | | |

**Luna Landcape (Standaard)**



*Figuur: Weergave Luna Landscape laag systeem, de hoge variant is identiek afgezien van de hoogte van het profiel.*

**Luna Portrait**



*Figuur: Weergave Luna Portrait Systeem.*

Er zijn 4 stuks nodig voor ieder eerste paneel in een rij, waarna vervolgens twee voor ieder product dat hierna wordt geplaatst.

## Resultaten Luna Landscape (Standaard)

| Set 1 | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | € 0,61 | € 0,00 | € 0,05 | € 0,67 | € 0,00 | € 0,02 | € - | € 0,00 | € 0,02 | € 0,01 | € -0,32 | € 0,40 |
| ECI | euro | 6,13E-01 | 3,73E-03 | 5,44E-02 | 6,71E-01 | 1,48E-03 | 2,09E-02 | 0,00E+00 | 6,09E-04 | 1,75E-02 | 7,60E-03 | -3,23E-01 | 3,96E-01 |
| Core Impact Indicators | | | | | | | | | | | | | |
| ADPE | kg Sb eq | 2,98E-04 | 6,13E-07 | 3,57E-06 | 3,02E-04 | 3,15E-07 | 9,16E-06 | 0,00E+00 | 1,29E-07 | 2,60E-06 | 1,58E-07 | -4,24E-05 | 2,72E-04 |
| ADPF | kg Sb eq | 1,51E-02 | 1,93E-04 | 4,14E-03 | 1,95E-02 | 9,05E-05 | 6,06E-04 | 0,00E+00 | 3,71E-05 | 5,60E-04 | 5,38E-05 | -7,50E-03 | 1,33E-02 |
| GWP | kg CO2 eq | 2,90E+00 | 2,69E-02 | 5,45E-01 | 3,48E+00 | 1,23E-02 | 1,13E-01 | 0,00E+00 | 5,05E-03 | 1,48E-01 | 1,28E-01 | -1,70E+00 | 2,18E+00 |
| ODP | kg CFC-11 eq | 2,38E-07 | 4,70E-09 | 4,72E-08 | 2,90E-07 | 2,18E-09 | 9,18E-09 | 0,00E+00 | 8,94E-10 | 9,28E-09 | 3,97E-09 | -1,51E-07 | 1,64E-07 |
| POCP | kg C2H4 | 1,33E-03 | 1,92E-05 | 1,83E-04 | 1,53E-03 | 7,43E-06 | 4,78E-05 | 0,00E+00 | 3,05E-06 | 4,84E-05 | 4,63E-06 | -7,94E-04 | 8,47E-04 |
| AP | kg SO2 eq | 1,37E-02 | 2,07E-04 | 2,19E-03 | 1,61E-02 | 5,41E-05 | 5,03E-04 | 0,00E+00 | 2,22E-05 | 5,20E-04 | 4,65E-05 | -8,33E-03 | 8,95E-03 |
| EP | kg PO4--- eq | 1,54E-03 | 3,14E-05 | 2,73E-04 | 1,84E-03 | 1,06E-05 | 5,77E-05 | 0,00E+00 | 4,36E-06 | 5,93E-05 | 7,49E-06 | -6,57E-04 | 1,32E-03 |
| Toxicity Indicators for Dutch Market | | | | | | | | | | | | | |
| HTP | kg 1,4-DB eq | 4,08E+00 | 1,19E-02 | 1,51E-01 | 4,24E+00 | 5,18E-03 | 1,30E-01 | 0,00E+00 | 2,13E-03 | 7,34E-02 | 8,57E-03 | -1,94E+00 | 2,52E+00 |
| FAETP | kg 1,4-DB eq | 3,81E-02 | 3,18E-04 | 3,40E-03 | 4,18E-02 | 1,51E-04 | 1,36E-03 | 0,00E+00 | 6,21E-05 | 2,76E-03 | 4,87E-04 | -2,43E-02 | 2,24E-02 |
| MAETP | kg 1,4-DB eq | 2,50E+02 | 1,19E+00 | 1,11E+01 | 2,62E+02 | 5,44E-01 | 8,10E+00 | 0,00E+00 | 2,23E-01 | 5,96E+00 | 1,39E+00 | -2,06E+02 | 7,22E+01 |
| TETP | kg 1,4-DB eq | 9,87E-03 | 4,07E-05 | 1,44E-03 | 1,14E-02 | 1,83E-05 | 3,50E-04 | 0,00E+00 | 7,54E-06 | 2,53E-04 | 2,17E-05 | 1,74E-03 | 1,37E-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** = Freshwater aquatic ecotoxicity potential; **MAETP** = Marine aquatic ecotoxicity potential; **TETP** = Terrestrial ecotoxicity potential ; **ECI** = Environmental Costs Indicator; **ADPF** = Abiotic depletion potential for fossil resources

| Set 2 | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | € 0,54 | € 0,01 | € 0,08 | € 0,63 | € 0,00 | € 0,02 | € - | € 0,00 | € 0,03 | € 0,02 | € -0,32 | € 0,38 |
| ECI | euro | 5,42E-01 | 5,69E-03 | 8,47E-02 | 6,33E-01 | 2,54E-03 | 2,03E-02 | 0,00E+00 | 1,04E-03 | 2,50E-02 | 1,69E-02 | -3,15E-01 | 3,83E-01 |
| GWP-Total | kg CO2 eq | 2,99E+00 | 2,71E-02 | 5,31E-01 | 3,55E+00 | 1,24E-02 | 1,15E-01 | 0,00E+00 | 5,10E-03 | 1,48E-01 | 1,28E-01 | -1,74E+00 | 2,23E+00 |
| GWP-f | kg CO2 eq | 2,98E+00 | 2,71E-02 | 5,48E-01 | 3,55E+00 | 1,24E-02 | 1,15E-01 | 0,00E+00 | 5,09E-03 | 1,48E-01 | 1,28E-01 | -1,73E+00 | 2,23E+00 |
| GWP-b | kg CO2 eq | 1,48E-02 | 9,37E-06 | -1,76E-02 | -2,81E-03 | 5,73E-06 | -9,29E-05 | 0,00E+00 | 2,35E-06 | -3,27E-04 | 3,39E-05 | -3,40E-03 | -6,59E-03 |
| GWP-luluc | kg CO2 eq | 4,76E-03 | 1,13E-05 | 1,02E-03 | 5,79E-03 | 4,55E-06 | 1,77E-04 | 0,00E+00 | 1,87E-06 | 7,76E-05 | 1,03E-05 | -3,05E-03 | 3,01E-03 |
| ODP | kg CFC11 eq | 3,13E-07 | 5,90E-09 | 4,21E-08 | 3,61E-07 | 2,74E-09 | 1,14E-08 | 0,00E+00 | 1,12E-09 | 1,05E-08 | 3,97E-09 | -2,21E-07 | 1,70E-07 |
| AP | mol H+ eq | 1,72E-02 | 2,67E-04 | 2,63E-03 | 2,01E-02 | 7,20E-05 | 6,26E-04 | 0,00E+00 | 2,96E-05 | 6,32E-04 | 5,96E-05 | -9,98E-03 | 1,15E-02 |
| EP-fw | kg P eq | 5,96E-05 | 2,49E-07 | 3,56E-05 | 9,54E-05 | 1,25E-07 | 3,00E-06 | 0,00E+00 | 5,14E-08 | 4,10E-06 | 3,90E-07 | -2,43E-05 | 7,88E-05 |
| EP-m | kg N eq | 2,56E-03 | 7,99E-05 | 4,06E-04 | 3,05E-03 | 2,54E-05 | 9,65E-05 | 0,00E+00 | 1,04E-05 | 1,14E-04 | 1,62E-05 | -1,38E-03 | 1,93E-03 |
| EP-t | mol N eq | 3,48E-02 | 8,84E-04 | 4,80E-03 | 4,05E-02 | 2,80E-04 | 1,27E-03 | 0,00E+00 | 1,15E-04 | 1,32E-03 | 1,81E-04 | -1,55E-02 | 2,82E-02 |
| POCP | kg NMVOC eq | 8,60E-03 | 2,43E-04 | 1,28E-03 | 1,01E-02 | 7,99E-05 | 3,20E-04 | 0,00E+00 | 3,28E-05 | 3,79E-04 | 4,85E-05 | -5,01E-03 | 5,98E-03 |
| ADP-mm | kg Sb eq | 3,07E-04 | 6,13E-07 | 3,29E-06 | 3,11E-04 | 3,15E-07 | 9,43E-06 | 0,00E+00 | 1,29E-07 | 2,60E-06 | 1,58E-07 | -5,07E-05 | 2,73E-04 |
| ADP-f | MJ | 3,28E+01 | 4,00E-01 | 8,98E+00 | 4,22E+01 | 1,87E-01 | 1,31E+00 | 0,00E+00 | 7,68E-02 | 1,17E+00 | 1,00E-01 | -1,65E+01 | 2,86E+01 |
| WDP | m3 depriv. | 6,28E-01 | 1,32E-03 | 2,36E-01 | 8,65E-01 | 6,70E-04 | 2,66E-02 | 0,00E+00 | 2,75E-04 | 1,27E-02 | 6,40E-03 | -3,04E-01 | 6,08E-01 |
| PM | disease inc. | 1,87E-07 | 2,19E-09 | 1,47E-08 | 2,04E-07 | 1,11E-09 | 6,42E-09 | 0,00E+00 | 4,58E-10 | 8,04E-09 | 5,05E-10 | -1,17E-07 | 1,04E-07 |
| IR | kBq U-235 eq | 1,05E-01 | 1,68E-03 | 5,07E-02 | 1,58E-01 | 7,85E-04 | 4,92E-03 | 0,00E+00 | 3,22E-04 | 4,77E-03 | 4,18E-04 | -5,75E-02 | 1,11E-01 |
| ETP-fw | CTUe | 7,31E+01 | 3,43E-01 | 1,11E+01 | 8,46E+01 | 1,67E-01 | 2,95E+00 | 0,00E+00 | 6,85E-02 | 3,44E+00 | 1,01E+01 | -5,19E+01 | 4,94E+01 |
| HTP-c | CTUh | 8,28E-09 | 1,24E-11 | 1,45E-10 | 8,43E-09 | 5,42E-12 | 2,57E-10 | 0,00E+00 | 2,22E-12 | 9,63E-11 | 2,41E-11 | -4,17E-09 | 4,65E-09 |
| HTP-nc | CTUh | 1,01E-07 | 3,65E-10 | 4,60E-09 | 1,06E-07 | 1,83E-10 | 3,30E-09 | 0,00E+00 | 7,48E-11 | 3,61E-09 | 5,18E-10 | -5,12E-08 | 6,23E-08 |
| SQP | Pt | 1,19E+01 | 3,08E-01 | 4,57E+00 | 1,68E+01 | 1,62E-01 | 5,46E-01 | 0,00E+00 | 6,66E-02 | 1,14E+00 | 4,43E-02 | -5,66E+00 | 1,31E+01 |

GWP-total = Climate change; GWP-f = Climate change - Fossil; GWP-b = Climate change - Biogenic; GWP-luluc = Climate change - Land use and LU change; ODP = Ozone depletion; AP = Acidification; EP-fw = Eutrophication, freshwater; EP-m = Eutrophication, marine; EP-T = Eutrophication, terrestrial; POCP = Photochemical ozone formation; ADP-mm = Resource use, minerals and metals; ADP-f = Resource use, fossils; WDP = Water use; PM = Particulate matter; IR = Ionising radiation; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity, cancer; HTP-nc = Human toxicity, non-cancer; SQP = Land use;

| Parameter | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resource Use | | | | | | | | | | | | | |
| PERE | MJ | 2,75E+01 | 0,00E+00 | -7,98E-01 | 2,67E+01 | 0,00E+00 | 8,06E-01 | 0,00E+00 | 6,30E-04 | 1,03E-01 | 5,17E-04 | -2,40E+01 | 3,68E+00 |
| 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 | 0,00E+00 |
| PERT | MJ | 2,80E+01 | 4,70E-03 | 7,65E-01 | 2,88E+01 | 2,34E-03 | 8,67E-01 | 0,00E+00 | 9,62E-04 | 1,19E-01 | 1,01E-02 | -2,40E+01 | 5,81E+00 |
| PENRE | MJ | 2,23E+01 | 0,00E+00 | -4,42E-01 | 2,19E+01 | 0,00E+00 | 6,89E-01 | 0,00E+00 | 5,35E-02 | 1,00E+00 | 1,19E-02 | -1,43E+01 | 9,38E+00 |
| 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 | 0,00E+00 |
| PENRT | MJ | 3,21E+01 | 4,24E-01 | 9,64E+00 | 4,22E+01 | 1,99E-01 | 1,31E+00 | 0,00E+00 | 8,17E-02 | 1,25E+00 | 1,06E-01 | -1,49E+01 | 3,02E+01 |
| PET | MJ | 6,01E+01 | 4,29E-01 | 1,04E+01 | 7,09E+01 | 2,01E-01 | 2,18E+00 | 0,00E+00 | 8,26E-02 | 1,37E+00 | 1,17E-01 | -3,88E+01 | 3,60E+01 |
| SM | kg | 3,31E-02 | 0,00E+00 | 0,00E+00 | 3,31E-02 | 0,00E+00 | 9,93E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,41E-02 |
| 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 | 2,35E-01 | 4,50E-05 | 2,40E-03 | 2,37E-01 | 2,28E-05 | 7,13E-03 | 0,00E+00 | 9,35E-06 | 6,16E-04 | 1,91E-04 | -2,04E-01 | 4,11E-02 |
| Waste Categories | | | | | | | | | | | | | |
| HWD | kg | 6,67E-05 | 9,27E-07 | 8,59E-04 | 9,26E-04 | 4,75E-07 | 1,12E-04 | 0,00E+00 | 1,95E-07 | 2,82E-03 | 1,88E-07 | -2,16E-05 | 3,83E-03 |
| NHWD | kg | 1,22E+00 | 2,21E-02 | 3,94E-02 | 1,28E+00 | 1,19E-02 | 4,09E-02 | 0,00E+00 | 4,87E-03 | 4,43E-02 | 2,05E-02 | -9,19E-01 | 4,86E-01 |
| RWD | kg | 1,12E-04 | 2,64E-06 | 4,24E-05 | 1,57E-04 | 1,23E-06 | 4,94E-06 | 0,00E+00 | 5,04E-07 | 5,38E-06 | 3,71E-07 | -6,80E-05 | 1,02E-04 |
| Output Flows | | | | | | | | | | | | | |
| 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 | 2,01E-01 | 0,00E+00 | 1,42E-02 | 2,16E-01 | 0,00E+00 | 2,25E-02 | 0,00E+00 | 0,00E+00 | 5,34E-01 | 0,00E+00 | 0,00E+00 | 7,72E-01 |
| MER | 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 |
| EE-E | 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 |
| EE-T | 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 |

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]; PET = Total Energy [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 [m3]; HWD = Hazardous waste disposed [kg]; NHWD = Non-hazardous waste disposed [kg]; RWD = Radioactive waste disposed [kg]; CRU = Components for re-use [kg]; MFR = Materials for recycling [kg]; MER = Materials for energy recovery [kg]; EE = Exported energy [MJ]

## Resultaten Luna Landscape (Hoog)

| Set 1 | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | € 0,69 | € 0,00 | € 0,06 | € 0,76 | € 0,00 | € 0,02 | € - | € 0,00 | € 0,02 | € 0,01 | € -0,37 | € 0,44 |
| ECI | euro | 6,92E-01 | 3,72E-03 | 6,32E-02 | 7,59E-01 | 1,72E-03 | 2,38E-02 | 0,00E+00 | 7,23E-04 | 2,10E-02 | 1,07E-02 | -3,74E-01 | 4,43E-01 |
| Core Impact Indicators | | | | | | | | | | | | | |
| ADPE | kg Sb eq | 3,00E-04 | 6,12E-07 | 4,23E-06 | 3,05E-04 | 3,64E-07 | 9,26E-06 | 0,00E+00 | 1,53E-07 | 3,06E-06 | 2,21E-07 | -4,24E-05 | 2,75E-04 |
| ADPF | kg Sb eq | 1,81E-02 | 1,92E-04 | 4,84E-03 | 2,32E-02 | 1,05E-04 | 7,21E-04 | 0,00E+00 | 4,41E-05 | 6,72E-04 | 7,45E-05 | -8,64E-03 | 1,61E-02 |
| GWP | kg CO2 eq | 3,47E+00 | 2,68E-02 | 6,35E-01 | 4,13E+00 | 1,42E-02 | 1,35E-01 | 0,00E+00 | 6,00E-03 | 1,76E-01 | 1,81E-01 | -1,96E+00 | 2,68E+00 |
| ODP | kg CFC-11 eq | 2,75E-07 | 4,69E-09 | 5,43E-08 | 3,34E-07 | 2,52E-09 | 1,06E-08 | 0,00E+00 | 1,06E-09 | 1,10E-08 | 5,59E-09 | -1,75E-07 | 1,90E-07 |
| POCP | kg C2H4 | 1,57E-03 | 1,92E-05 | 2,10E-04 | 1,80E-03 | 8,59E-06 | 5,64E-05 | 0,00E+00 | 3,62E-06 | 5,81E-05 | 6,40E-06 | -8,95E-04 | 1,04E-03 |
| AP | kg SO2 eq | 1,61E-02 | 2,07E-04 | 2,55E-03 | 1,88E-02 | 6,26E-05 | 5,88E-04 | 0,00E+00 | 2,64E-05 | 6,11E-04 | 6,48E-05 | -9,64E-03 | 1,06E-02 |
| EP | kg PO4--- eq | 1,81E-03 | 3,14E-05 | 3,19E-04 | 2,16E-03 | 1,23E-05 | 6,77E-05 | 0,00E+00 | 5,18E-06 | 7,02E-05 | 1,05E-05 | -7,58E-04 | 1,57E-03 |
| Toxicity Indicators for Dutch Market | | | | | | | | | | | | | |
| HTP | kg 1,4-DB eq | 4,46E+00 | 1,19E-02 | 1,75E-01 | 4,64E+00 | 5,99E-03 | 1,43E-01 | 0,00E+00 | 2,53E-03 | 8,94E-02 | 1,20E-02 | -2,25E+00 | 2,65E+00 |
| FAETP | kg 1,4-DB eq | 4,38E-02 | 3,17E-04 | 3,97E-03 | 4,81E-02 | 1,75E-04 | 1,57E-03 | 0,00E+00 | 7,37E-05 | 3,25E-03 | 6,84E-04 | -2,83E-02 | 2,56E-02 |
| MAETP | kg 1,4-DB eq | 2,90E+02 | 1,18E+00 | 1,26E+01 | 3,04E+02 | 6,29E-01 | 9,41E+00 | 0,00E+00 | 2,65E-01 | 7,02E+00 | 1,97E+00 | -2,39E+02 | 8,40E+01 |
| TETP | kg 1,4-DB eq | 1,06E-02 | 4,06E-05 | 1,63E-03 | 1,22E-02 | 2,12E-05 | 3,78E-04 | 0,00E+00 | 8,96E-06 | 3,07E-04 | 3,04E-05 | 1,37E-03 | 1,44E-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** = Freshwater aquatic ecotoxicity potential; **MAETP** = Marine aquatic ecotoxicity potential; **TETP** = Terrestrial ecotoxicity potential ; **ECI** = Environmental Costs Indicator; **ADPF** = Abiotic depletion potential for fossil resources

| Set 2 | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | € 0,64 | € 0,01 | € 0,10 | € 0,75 | € 0,00 | € 0,02 | € - | € 0,00 | € 0,03 | € 0,02 | € -0,36 | € 0,46 |
| ECI | euro | 6,42E-01 | 5,68E-03 | 9,86E-02 | 7,46E-01 | 2,93E-03 | 2,41E-02 | 0,00E+00 | 1,24E-03 | 2,98E-02 | 2,36E-02 | -3,64E-01 | 4,64E-01 |
| GWP-Total | kg CO2 eq | 3,58E+00 | 2,71E-02 | 6,17E-01 | 4,23E+00 | 1,44E-02 | 1,38E-01 | 0,00E+00 | 6,06E-03 | 1,77E-01 | 1,82E-01 | -2,00E+00 | 2,74E+00 |
| GWP-f | kg CO2 eq | 3,56E+00 | 2,71E-02 | 6,38E-01 | 4,23E+00 | 1,44E-02 | 1,38E-01 | 0,00E+00 | 6,05E-03 | 1,77E-01 | 1,81E-01 | -2,00E+00 | 2,75E+00 |
| GWP-b | kg CO2 eq | 1,73E-02 | 9,34E-06 | -2,17E-02 | -4,36E-03 | 6,62E-06 | -1,40E-04 | 0,00E+00 | 2,80E-06 | -3,76E-04 | 4,52E-05 | -4,08E-03 | -8,91E-03 |
| GWP-luluc | kg CO2 eq | 5,41E-03 | 1,13E-05 | 1,19E-03 | 6,61E-03 | 5,26E-06 | 2,02E-04 | 0,00E+00 | 2,22E-06 | 9,25E-05 | 1,45E-05 | -3,56E-03 | 3,37E-03 |
| ODP | kg CFC11 eq | 3,64E-07 | 5,89E-09 | 4,82E-08 | 4,18E-07 | 3,17E-09 | 1,32E-08 | 0,00E+00 | 1,33E-09 | 1,25E-08 | 5,59E-09 | -2,56E-07 | 1,97E-07 |
| AP | mol H+ eq | 2,00E-02 | 2,67E-04 | 3,06E-03 | 2,33E-02 | 8,32E-05 | 7,28E-04 | 0,00E+00 | 3,51E-05 | 7,44E-04 | 8,31E-05 | -1,15E-02 | 1,35E-02 |
| EP-fw | kg P eq | 6,80E-05 | 2,48E-07 | 4,14E-05 | 1,10E-04 | 1,45E-07 | 3,46E-06 | 0,00E+00 | 6,11E-08 | 4,82E-06 | 5,47E-07 | -2,77E-05 | 9,09E-05 |
| EP-m | kg N eq | 3,05E-03 | 7,98E-05 | 4,75E-04 | 3,60E-03 | 2,93E-05 | 1,14E-04 | 0,00E+00 | 1,24E-05 | 1,36E-04 | 2,26E-05 | -1,60E-03 | 2,32E-03 |
| EP-t | mol N eq | 3,99E-02 | 8,83E-04 | 5,62E-03 | 4,64E-02 | 3,23E-04 | 1,46E-03 | 0,00E+00 | 1,37E-04 | 1,57E-03 | 2,52E-04 | -1,79E-02 | 3,23E-02 |
| POCP | kg NMVOC eq | 1,02E-02 | 2,42E-04 | 1,50E-03 | 1,20E-02 | 9,23E-05 | 3,79E-04 | 0,00E+00 | 3,89E-05 | 4,50E-04 | 6,75E-05 | -5,74E-03 | 7,26E-03 |
| ADP-mm | kg Sb eq | 3,11E-04 | 6,12E-07 | 3,88E-06 | 3,15E-04 | 3,64E-07 | 9,57E-06 | 0,00E+00 | 1,53E-07 | 3,06E-06 | 2,21E-07 | -5,22E-05 | 2,76E-04 |
| ADP-f | MJ | 3,93E+01 | 3,99E-01 | 1,04E+01 | 5,02E+01 | 2,16E-01 | 1,56E+00 | 0,00E+00 | 9,13E-02 | 1,40E+00 | 1,39E-01 | -1,91E+01 | 3,45E+01 |
| WDP | m3 depriv. | 7,55E-01 | 1,31E-03 | 2,78E-01 | 1,03E+00 | 7,74E-04 | 3,18E-02 | 0,00E+00 | 3,27E-04 | 1,57E-02 | 9,05E-03 | -3,50E-01 | 7,42E-01 |
| PM | disease inc. | 2,17E-07 | 2,19E-09 | 1,73E-08 | 2,37E-07 | 1,29E-09 | 7,46E-09 | 0,00E+00 | 5,44E-10 | 9,52E-09 | 6,89E-10 | -1,35E-07 | 1,21E-07 |
| IR | kBq U-235 eq | 1,22E-01 | 1,68E-03 | 5,83E-02 | 1,82E-01 | 9,07E-04 | 5,68E-03 | 0,00E+00 | 3,83E-04 | 5,66E-03 | 5,80E-04 | -6,70E-02 | 1,28E-01 |
| ETP-fw | CTUe | 8,34E+01 | 3,42E-01 | 1,30E+01 | 9,68E+01 | 1,93E-01 | 3,40E+00 | 0,00E+00 | 8,14E-02 | 4,03E+00 | 1,21E+01 | -5,98E+01 | 5,68E+01 |
| HTP-c | CTUh | 9,20E-09 | 1,23E-11 | 1,59E-10 | 9,38E-09 | 6,26E-12 | 2,86E-10 | 0,00E+00 | 2,64E-12 | 1,17E-10 | 3,40E-11 | -4,84E-09 | 4,98E-09 |
| HTP-nc | CTUh | 1,14E-07 | 3,64E-10 | 5,23E-09 | 1,20E-07 | 2,11E-10 | 3,75E-09 | 0,00E+00 | 8,89E-11 | 4,24E-09 | 7,27E-10 | -6,20E-08 | 6,67E-08 |
| SQP | Pt | 1,37E+01 | 3,07E-01 | 5,39E+00 | 1,94E+01 | 1,88E-01 | 6,33E-01 | 0,00E+00 | 7,92E-02 | 1,36E+00 | 5,79E-02 | -6,56E+00 | 1,52E+01 |

GWP-total = Climate change; GWP-f = Climate change - Fossil; GWP-b = Climate change - Biogenic; GWP-luluc = Climate change - Land use and LU change; ODP = Ozone depletion; AP = Acidification; EP-fw = Eutrophication, freshwater; EP-m = Eutrophication, marine; EP-T = Eutrophication, terrestrial; POCP = Photochemical ozone formation; ADP-mm = Resource use, minerals and metals; ADP-f = Resource use, fossils; WDP = Water use; PM = Particulate matter; IR = Ionising radiation; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity, cancer; HTP-nc = Human toxicity, non-cancer; SQP = Land use;

| Parameter | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resource Use | | | | | | | | | | | | | |
| PERE | MJ | 3,22E+01 | 0,00E+00 | -9,91E-01 | 3,12E+01 | 0,00E+00 | 9,39E-01 | 0,00E+00 | 7,32E-04 | 1,20E-01 | 6,00E-04 | -2,79E+01 | 4,39E+00 |
| 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 | 0,00E+00 |
| PERT | MJ | 3,27E+01 | 4,69E-03 | 8,33E-01 | 3,35E+01 | 2,71E-03 | 1,01E+00 | 0,00E+00 | 1,14E-03 | 1,39E-01 | 1,42E-02 | -2,78E+01 | 6,82E+00 |
| PENRE | MJ | 2,61E+01 | 0,00E+00 | -5,49E-01 | 2,56E+01 | 0,00E+00 | 8,04E-01 | 0,00E+00 | 6,21E-02 | 1,16E+00 | 1,39E-02 | -1,66E+01 | 1,10E+01 |
| 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 | 0,00E+00 |
| PENRT | MJ | 3,86E+01 | 4,23E-01 | 1,12E+01 | 5,02E+01 | 2,30E-01 | 1,57E+00 | 0,00E+00 | 9,70E-02 | 1,49E+00 | 1,47E-01 | -1,72E+01 | 3,66E+01 |
| PET | MJ | 7,12E+01 | 4,28E-01 | 1,21E+01 | 8,37E+01 | 2,32E-01 | 2,58E+00 | 0,00E+00 | 9,82E-02 | 1,63E+00 | 1,62E-01 | -4,50E+01 | 4,34E+01 |
| SM | kg | 3,31E-02 | 0,00E+00 | 0,00E+00 | 3,31E-02 | 0,00E+00 | 9,93E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,41E-02 |
| 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 | 2,74E-01 | 4,49E-05 | 2,33E-03 | 2,77E-01 | 2,64E-05 | 8,33E-03 | 0,00E+00 | 1,11E-05 | 7,40E-04 | 2,69E-04 | -2,37E-01 | 4,94E-02 |
| Waste Categories | | | | | | | | | | | | | |
| HWD | kg | 7,01E-05 | 9,25E-07 | 1,01E-03 | 1,08E-03 | 5,48E-07 | 1,31E-04 | 0,00E+00 | 2,31E-07 | 3,27E-03 | 2,62E-07 | -2,35E-05 | 4,46E-03 |
| NHWD | kg | 1,40E+00 | 2,21E-02 | 4,44E-02 | 1,47E+00 | 1,37E-02 | 4,69E-02 | 0,00E+00 | 5,79E-03 | 5,37E-02 | 2,35E-02 | -1,07E+00 | 5,44E-01 |
| RWD | kg | 1,30E-04 | 2,64E-06 | 4,86E-05 | 1,81E-04 | 1,42E-06 | 5,70E-06 | 0,00E+00 | 5,99E-07 | 6,40E-06 | 5,10E-07 | -7,90E-05 | 1,17E-04 |
| Output Flows | | | | | | | | | | | | | |
| 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 | 2,35E-01 | 0,00E+00 | 1,77E-02 | 2,53E-01 | 0,00E+00 | 2,57E-02 | 0,00E+00 | 0,00E+00 | 6,05E-01 | 0,00E+00 | 0,00E+00 | 8,83E-01 |
| MER | 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 |
| EE-E | 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 |
| EE-T | 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 |

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]; PET = Total Energy [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 [m3]; HWD = Hazardous waste disposed [kg]; NHWD = Non-hazardous waste disposed [kg]; RWD = Radioactive waste disposed [kg]; CRU = Components for re-use [kg]; MFR = Materials for recycling [kg]; MER = Materials for energy recovery [kg]; EE = Exported energy [MJ]

## Resultaten Luna Portrait

| Set 1 | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | € 1,16 | € 0,00 | € 0,10 | € 1,27 | € 0,00 | € 0,04 | € - | € 0,00 | € 0,04 | € 0,01 | € -0,76 | € 0,59 |
| ECI | euro | 1,16E+00 | 3,48E-03 | 1,04E-01 | 1,27E+00 | 3,07E-03 | 3,96E-02 | 0,00E+00 | 1,17E-03 | 3,66E-02 | 6,08E-03 | -7,65E-01 | 5,94E-01 |
| Core Impact Indicators | | | | | | | | | | | | | |
| ADPE | kg Sb eq | 4,18E-04 | 5,73E-07 | 7,41E-06 | 4,26E-04 | 6,52E-07 | 1,30E-05 | 0,00E+00 | 2,48E-07 | 5,69E-06 | 1,36E-07 | -5,99E-05 | 3,86E-04 |
| ADPF | kg Sb eq | 2,97E-02 | 1,80E-04 | 8,18E-03 | 3,81E-02 | 1,88E-04 | 1,19E-03 | 0,00E+00 | 7,13E-05 | 1,17E-03 | 5,18E-05 | -1,75E-02 | 2,32E-02 |
| GWP | kg CO2 eq | 5,91E+00 | 2,51E-02 | 1,07E+00 | 7,01E+00 | 2,55E-02 | 2,24E-01 | 0,00E+00 | 9,70E-03 | 3,20E-01 | 1,01E-01 | -3,99E+00 | 3,69E+00 |
| ODP | kg CFC-11 eq | 5,56E-07 | 4,39E-09 | 8,76E-08 | 6,48E-07 | 4,53E-09 | 2,03E-08 | 0,00E+00 | 1,72E-09 | 2,00E-08 | 3,24E-09 | -3,60E-07 | 3,38E-07 |
| POCP | kg C2H4 | 2,50E-03 | 1,80E-05 | 3,28E-04 | 2,84E-03 | 1,54E-05 | 8,90E-05 | 0,00E+00 | 5,85E-06 | 9,96E-05 | 4,54E-06 | -1,72E-03 | 1,34E-03 |
| AP | kg SO2 eq | 2,82E-02 | 1,94E-04 | 4,29E-03 | 3,27E-02 | 1,12E-04 | 1,02E-03 | 0,00E+00 | 4,27E-05 | 1,15E-03 | 4,27E-05 | -1,97E-02 | 1,53E-02 |
| EP | kg PO4--- eq | 2,81E-03 | 2,94E-05 | 5,46E-04 | 3,39E-03 | 2,20E-05 | 1,06E-04 | 0,00E+00 | 8,38E-06 | 1,27E-04 | 6,77E-06 | -1,54E-03 | 2,11E-03 |
| Toxicity Indicators for Dutch Market | | | | | | | | | | | | | |
| HTP | kg 1,4-DB eq | 7,32E+00 | 1,11E-02 | 2,70E-01 | 7,60E+00 | 1,07E-02 | 2,33E-01 | 0,00E+00 | 4,08E-03 | 1,43E-01 | 7,24E-03 | -4,61E+00 | 3,39E+00 |
| FAETP | kg 1,4-DB eq | 8,20E-02 | 2,97E-04 | 6,16E-03 | 8,84E-02 | 3,14E-04 | 2,86E-03 | 0,00E+00 | 1,19E-04 | 6,21E-03 | 4,01E-04 | -5,88E-02 | 3,95E-02 |
| MAETP | kg 1,4-DB eq | 5,86E+02 | 1,11E+00 | 1,61E+01 | 6,03E+02 | 1,13E+00 | 1,86E+01 | 0,00E+00 | 4,28E-01 | 1,32E+01 | 1,13E+00 | -4,94E+02 | 1,43E+02 |
| TETP | kg 1,4-DB eq | 1,71E-02 | 3,80E-05 | 2,72E-03 | 1,99E-02 | 3,80E-05 | 6,14E-04 | 0,00E+00 | 1,45E-05 | 5,01E-04 | 1,93E-05 | -2,46E-04 | 2,08E-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** = Freshwater aquatic ecotoxicity potential; **MAETP** = Marine aquatic ecotoxicity potential; **TETP** = Terrestrial ecotoxicity potential ; **ECI** = Environmental Costs Indicator; **ADPF** = Abiotic depletion potential for fossil resources

| Set 2 | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | € 1,10 | € 0,01 | € 0,17 | € 1,27 | € 0,01 | € 0,04 | € - | € 0,00 | € 0,05 | € 0,02 | € -0,74 | € 0,65 |
| ECI | euro | 1,10E+00 | 5,32E-03 | 1,66E-01 | 1,27E+00 | 5,26E-03 | 4,05E-02 | 0,00E+00 | 2,00E-03 | 5,41E-02 | 1,52E-02 | -7,44E-01 | 6,47E-01 |
| GWP-Total | kg CO2 eq | 6,06E+00 | 2,53E-02 | 1,04E+00 | 7,13E+00 | 2,57E-02 | 2,28E-01 | 0,00E+00 | 9,79E-03 | 3,21E-01 | 1,01E-01 | -4,08E+00 | 3,74E+00 |
| GWP-f | kg CO2 eq | 6,03E+00 | 2,53E-02 | 1,07E+00 | 7,13E+00 | 2,57E-02 | 2,28E-01 | 0,00E+00 | 9,78E-03 | 3,21E-01 | 1,01E-01 | -4,07E+00 | 3,75E+00 |
| GWP-b | kg CO2 eq | 3,24E-02 | 8,75E-06 | -3,92E-02 | -6,78E-03 | 1,19E-05 | -2,16E-04 | 0,00E+00 | 4,52E-06 | -4,89E-04 | 4,08E-05 | -9,09E-03 | -1,65E-02 |
| GWP-luluc | kg CO2 eq | 1,06E-02 | 1,05E-05 | 2,10E-03 | 1,27E-02 | 9,43E-06 | 3,86E-04 | 0,00E+00 | 3,59E-06 | 1,65E-04 | 8,99E-06 | -7,39E-03 | 5,85E-03 |
| ODP | kg CFC11 eq | 7,38E-07 | 5,51E-09 | 7,33E-08 | 8,17E-07 | 5,68E-09 | 2,55E-08 | 0,00E+00 | 2,16E-09 | 2,25E-08 | 3,28E-09 | -5,28E-07 | 3,48E-07 |
| AP | mol H+ eq | 3,48E-02 | 2,50E-04 | 5,16E-03 | 4,02E-02 | 1,49E-04 | 1,25E-03 | 0,00E+00 | 5,68E-05 | 1,39E-03 | 5,46E-05 | -2,36E-02 | 1,95E-02 |
| EP-fw | kg P eq | 1,15E-04 | 2,32E-07 | 7,36E-05 | 1,88E-04 | 2,60E-07 | 5,95E-06 | 0,00E+00 | 9,87E-08 | 9,14E-06 | 3,40E-07 | -5,50E-05 | 1,49E-04 |
| EP-m | kg N eq | 5,06E-03 | 7,47E-05 | 8,04E-04 | 5,94E-03 | 5,26E-05 | 1,88E-04 | 0,00E+00 | 2,00E-05 | 2,41E-04 | 1,47E-05 | -3,25E-03 | 3,20E-03 |
| EP-t | mol N eq | 6,52E-02 | 8,26E-04 | 9,56E-03 | 7,56E-02 | 5,80E-04 | 2,38E-03 | 0,00E+00 | 2,21E-04 | 2,81E-03 | 1,64E-04 | -3,64E-02 | 4,53E-02 |
| POCP | kg NMVOC eq | 1,69E-02 | 2,27E-04 | 2,50E-03 | 1,97E-02 | 1,65E-04 | 6,22E-04 | 0,00E+00 | 6,29E-05 | 7,95E-04 | 4,49E-05 | -1,15E-02 | 9,85E-03 |
| ADP-mm | kg Sb eq | 4,40E-04 | 5,73E-07 | 6,53E-06 | 4,47E-04 | 6,52E-07 | 1,36E-05 | 0,00E+00 | 2,48E-07 | 5,69E-06 | 1,36E-07 | -8,00E-05 | 3,88E-04 |
| ADP-f | MJ | 6,61E+01 | 3,73E-01 | 1,77E+01 | 8,42E+01 | 3,88E-01 | 2,62E+00 | 0,00E+00 | 1,48E-01 | 2,45E+00 | 9,70E-02 | -3,89E+01 | 5,10E+01 |
| WDP | m3 depriv. | 1,15E+00 | 1,23E-03 | 5,15E-01 | 1,66E+00 | 1,39E-03 | 5,08E-02 | 0,00E+00 | 5,28E-04 | 2,40E-02 | 5,11E-03 | -7,12E-01 | 1,03E+00 |
| PM | disease inc. | 3,83E-07 | 2,05E-09 | 2,79E-08 | 4,13E-07 | 2,31E-09 | 1,30E-08 | 0,00E+00 | 8,79E-10 | 1,73E-08 | 5,44E-10 | -2,75E-07 | 1,72E-07 |
| IR | kBq U-235 eq | 2,45E-01 | 1,57E-03 | 1,02E-01 | 3,49E-01 | 1,63E-03 | 1,09E-02 | 0,00E+00 | 6,19E-04 | 1,03E-02 | 3,93E-04 | -1,40E-01 | 2,33E-01 |
| ETP-fw | CTUe | 1,62E+02 | 3,21E-01 | 2,30E+01 | 1,85E+02 | 3,46E-01 | 6,44E+00 | 0,00E+00 | 1,32E-01 | 7,75E+00 | 2,16E+01 | -1,21E+02 | 9,98E+01 |
| HTP-c | CTUh | 1,65E-08 | 1,16E-11 | 1,79E-10 | 1,66E-08 | 1,12E-11 | 5,06E-10 | 0,00E+00 | 4,27E-12 | 1,93E-10 | 2,01E-11 | -9,99E-09 | 7,39E-09 |
| HTP-nc | CTUh | 2,17E-07 | 3,41E-10 | 7,70E-09 | 2,25E-07 | 3,78E-10 | 7,03E-09 | 0,00E+00 | 1,44E-10 | 8,01E-09 | 4,40E-10 | -1,40E-07 | 1,01E-07 |
| SQP | Pt | 2,73E+01 | 2,88E-01 | 9,78E+00 | 3,74E+01 | 3,36E-01 | 1,21E+00 | 0,00E+00 | 1,28E-01 | 2,42E+00 | 5,99E-02 | -1,34E+01 | 2,81E+01 |

GWP-total = Climate change; GWP-f = Climate change - Fossil; GWP-b = Climate change - Biogenic; GWP-luluc = Climate change - Land use and LU change; ODP = Ozone depletion; AP = Acidification; EP-fw = Eutrophication, freshwater; EP-m = Eutrophication, marine; EP-T = Eutrophication, terrestrial; POCP = Photochemical ozone formation; ADP-mm = Resource use, minerals and metals; ADP-f = Resource use, fossils; WDP = Water use; PM = Particulate matter; IR = Ionising radiation; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity, cancer; HTP-nc = Human toxicity, non-cancer; SQP = Land use;

| Parameter | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | C1 | C2 | C3 | C4 | D | A1-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resource Use | | | | | | | | | | | | | |
| PERE | MJ | 6,67E+01 | 0,00E+00 | -2,50E+00 | 6,43E+01 | 0,00E+00 | 1,94E+00 | 0,00E+00 | 1,51E-03 | 2,48E-01 | 1,24E-03 | -5,75E+01 | 8,89E+00 |
| 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 | 0,00E+00 |
| PERT | MJ | 6,73E+01 | 4,39E-03 | 8,17E-01 | 6,81E+01 | 4,86E-03 | 2,05E+00 | 0,00E+00 | 1,85E-03 | 2,63E-01 | 8,77E-03 | -5,75E+01 | 1,29E+01 |
| PENRE | MJ | 5,41E+01 | 0,00E+00 | -1,38E+00 | 5,28E+01 | 0,00E+00 | 1,66E+00 | 0,00E+00 | 1,28E-01 | 2,40E+00 | 2,86E-02 | -3,43E+01 | 2,27E+01 |
| 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 | 0,00E+00 |
| PENRT | MJ | 6,33E+01 | 3,96E-01 | 1,91E+01 | 8,29E+01 | 4,12E-01 | 2,58E+00 | 0,00E+00 | 1,57E-01 | 2,62E+00 | 1,03E-01 | -3,50E+01 | 5,37E+01 |
| PET | MJ | 1,31E+02 | 4,01E-01 | 2,00E+01 | 1,51E+02 | 4,17E-01 | 4,64E+00 | 0,00E+00 | 1,59E-01 | 2,88E+00 | 1,12E-01 | -9,26E+01 | 6,66E+01 |
| SM | kg | 4,41E-02 | 0,00E+00 | 0,00E+00 | 4,41E-02 | 0,00E+00 | 1,32E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,55E-02 |
| 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 | 5,59E-01 | 4,20E-05 | -1,26E-03 | 5,58E-01 | 4,73E-05 | 1,68E-02 | 0,00E+00 | 1,80E-05 | 1,29E-03 | 1,54E-04 | -4,89E-01 | 8,71E-02 |
| Waste Categories | | | | | | | | | | | | | |
| HWD | kg | 1,13E-04 | 8,66E-07 | 2,14E-03 | 2,25E-03 | 9,83E-07 | 2,70E-04 | 0,00E+00 | 3,74E-07 | 6,76E-03 | 1,72E-07 | -4,09E-05 | 9,24E-03 |
| NHWD | kg | 2,73E+00 | 2,07E-02 | 6,26E-02 | 2,81E+00 | 2,46E-02 | 8,94E-02 | 0,00E+00 | 9,36E-03 | 9,01E-02 | 4,14E-02 | -2,20E+00 | 8,71E-01 |
| RWD | kg | 2,63E-04 | 2,47E-06 | 8,33E-05 | 3,49E-04 | 2,55E-06 | 1,09E-05 | 0,00E+00 | 9,69E-07 | 1,15E-05 | 3,76E-07 | -1,64E-04 | 2,11E-04 |
| Output Flows | | | | | | | | | | | | | |
| 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 | 4,88E-01 | 0,00E+00 | 4,46E-02 | 5,33E-01 | 0,00E+00 | 5,08E-02 | 0,00E+00 | 0,00E+00 | 1,16E+00 | 0,00E+00 | 0,00E+00 | 1,75E+00 |
| MER | 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 |
| EE-E | 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 |
| EE-T | 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 |

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]; PET = Total Energy [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 [m3]; HWD = Hazardous waste disposed [kg]; NHWD = Non-hazardous waste disposed [kg]; RWD = Radioactive waste disposed [kg]; CRU = Components for re-use [kg]; MFR = Materials for recycling [kg]; MER = Materials for energy recovery [kg]; EE = Exported energy [MJ]

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