



PROCEEDR

OPTIMISING RESOURCE USE
FOR ROADSIDE INFRASTRUCTURES

Final programme conference

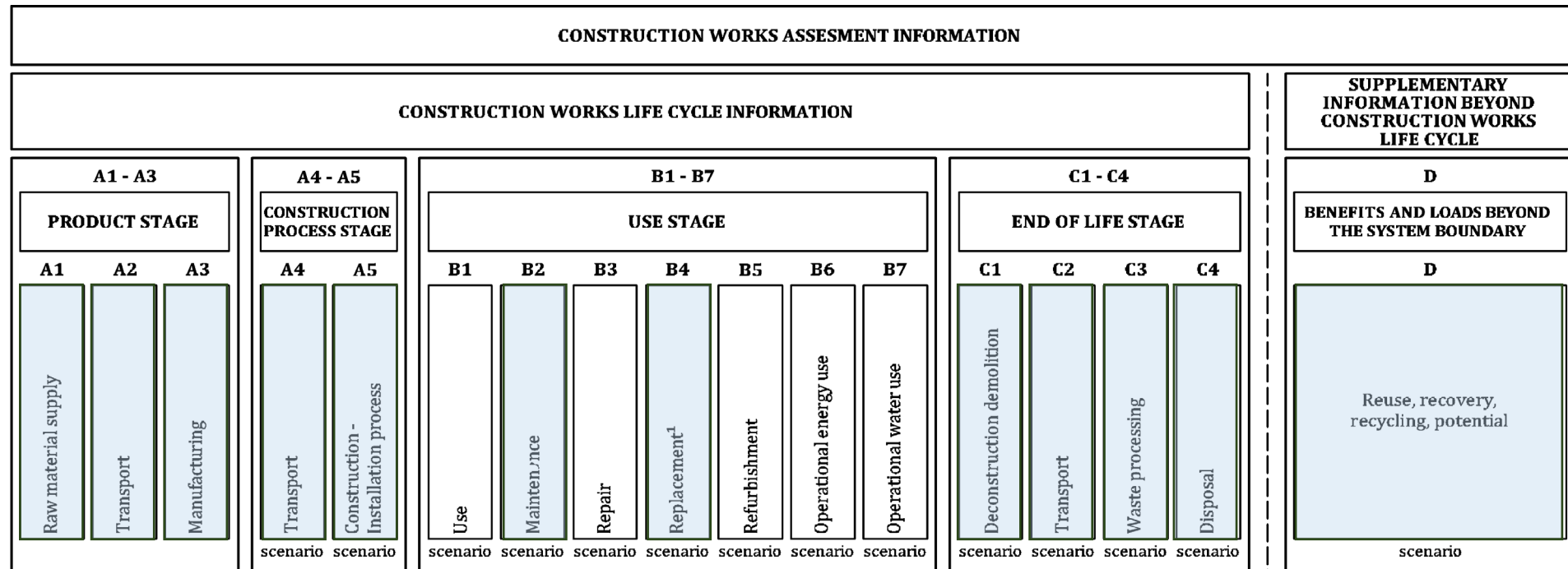
Prof. Holger Wallbaum (Project coordinator)
Simin Tavajoh, Marco Conter

Utrecht, March 12-13, 2024

Core project team members:

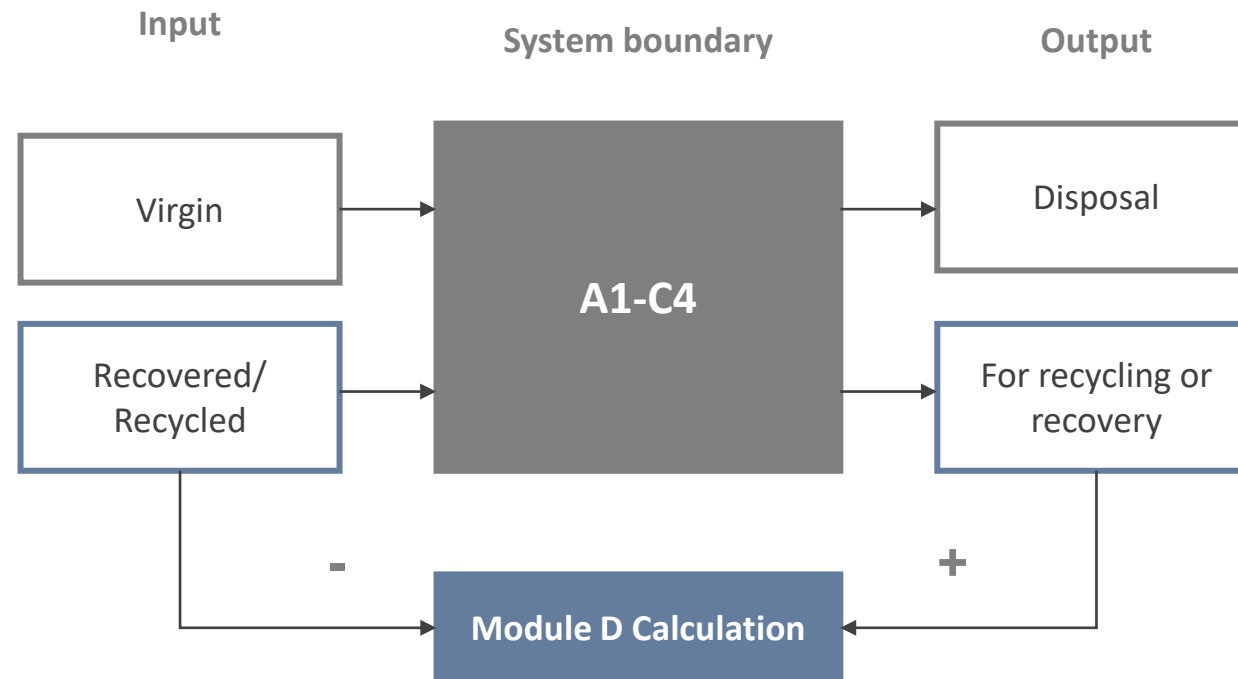
Marco Conter, AIT
Bijan Adl-Zarrabi, Chalmers
Nilufar Lebasi, ERF
Giovanni Brero, ERF
Christophe Nicodeme, ERF
Alison Hewitt, TRL

Life Cycle Stages



End of Life Scenarios

Module D (SS-EN 15804:2012+A2:2019)

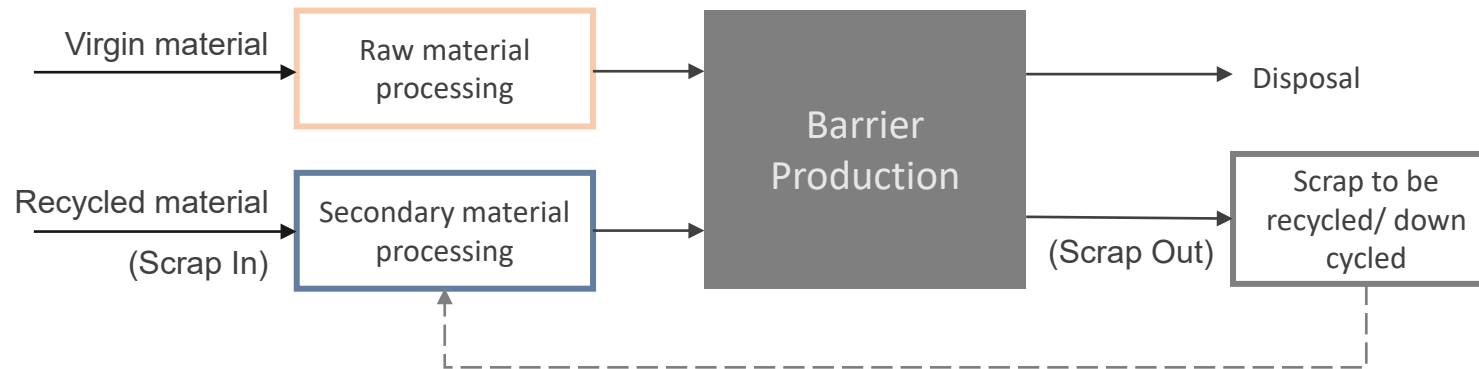


Module D Calculation

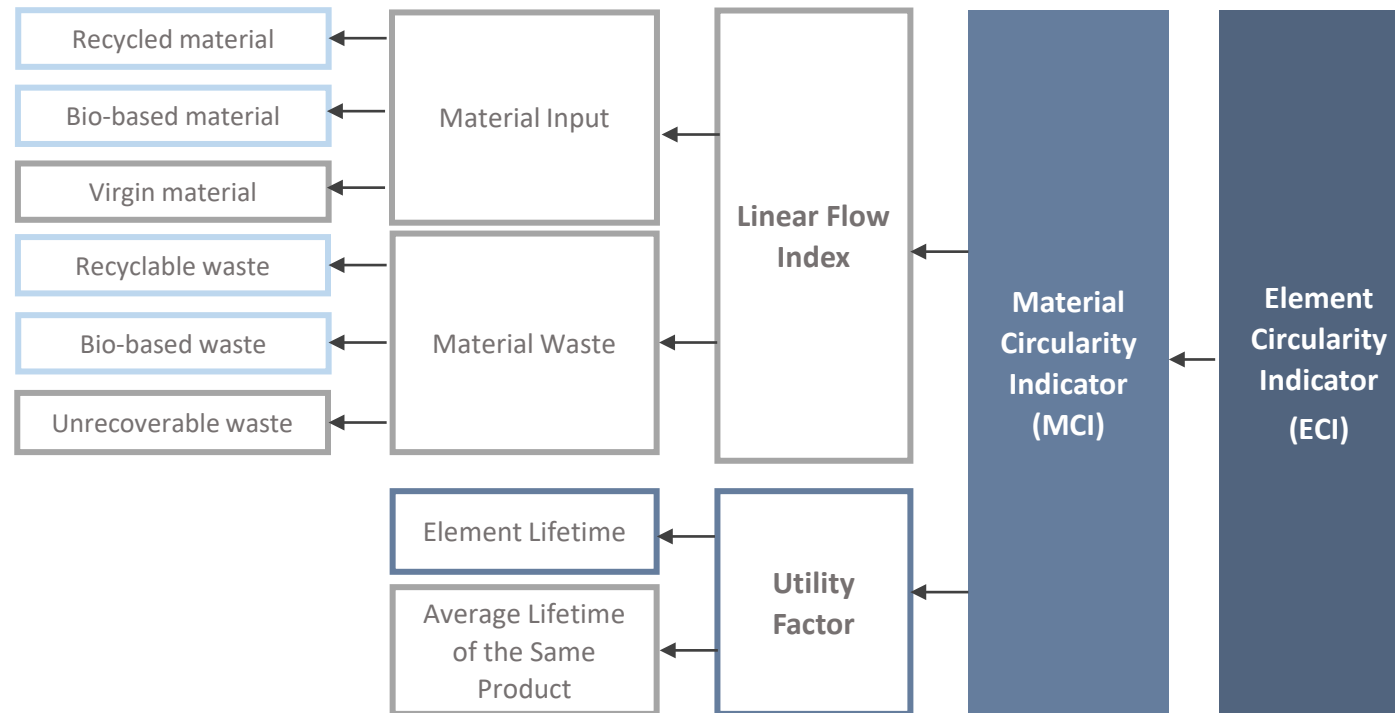
Amount of scrap produced by system

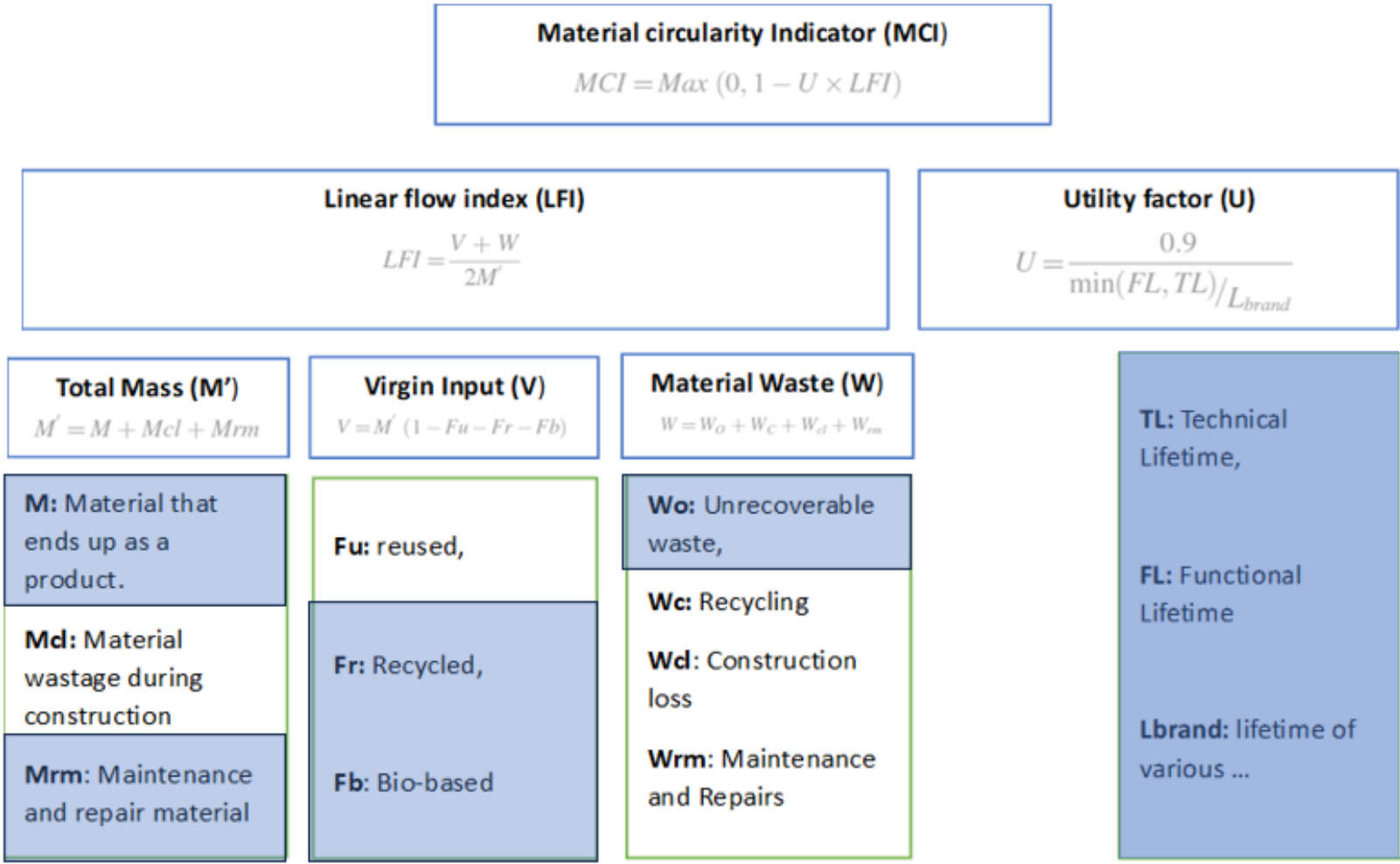
Coefficient of quality difference. Here, it is assumed to be 1

$$(\text{Scrap Out} - \text{Scrap In}) * (\text{Secondary material processing} - \text{Virgin material processing} * X)$$



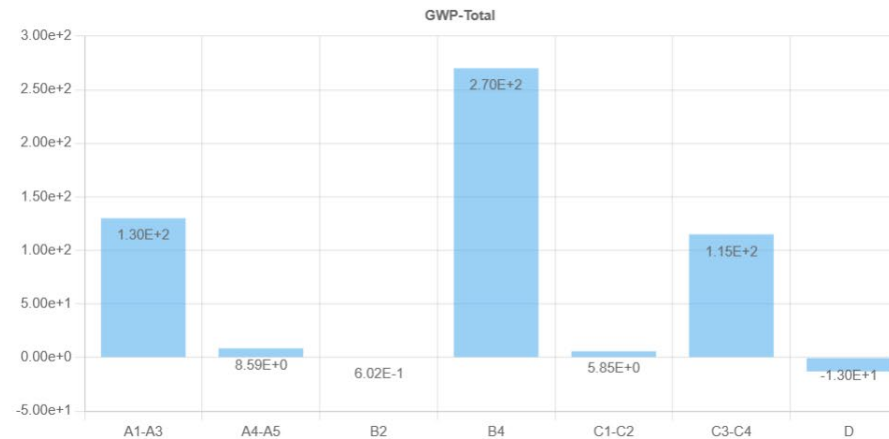
Circularity Indicator





Examples

- ST: Steel supporting with transparent modules noise barrier



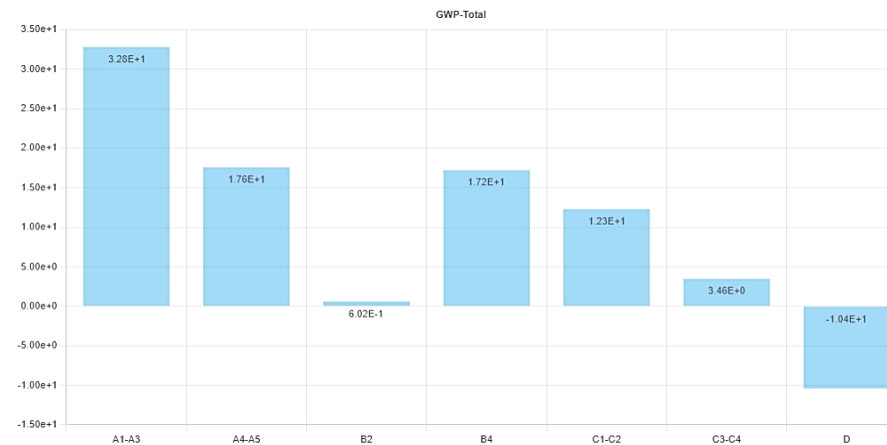
Element circularity indicators

[About element circularity indicators](#)



Examples

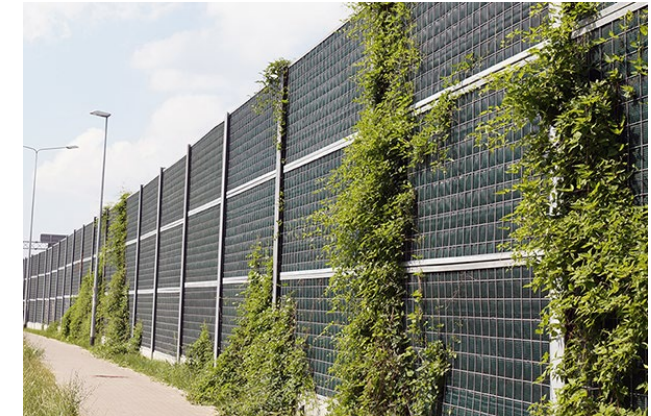
- GB: Green noise barrier



Element circularity indicators

[About element circularity indicators](#)

Supporting structure		0.93
Acoustic element		1.00



Checking the Results

<https://www.environdec.com/library/epd5712>

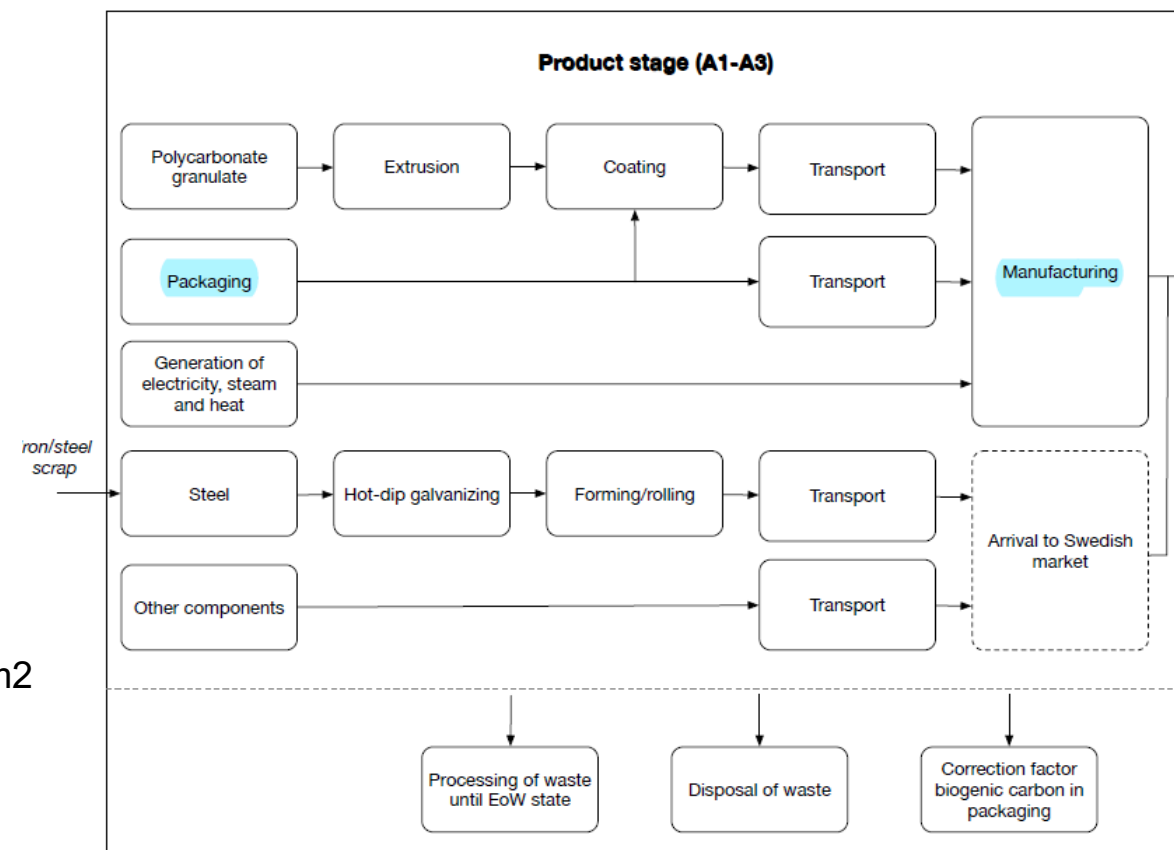
LCA INFORMATION

Declared unit:

1 m of Hammerglass Noise barrier system with a height of 2,3 meters.

Indicator	Unit	A1-A3
GWP-fossil	kg CO2 eq.	3,19E+02
GWP-biogenic	kg CO2 eq.	3,69E+00
GWP-luluc	kg CO2 eq.	3,03E-01
GWP-total	kg CO2 eq.	3,23E+02
ODP	kg CFC 11 eq.	1,01E-05

→ 1.40E+02 per 1 m2



Tool Presentation

<https://proceedr.sb.chalmers.se/>



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Thank you very much for your attention on behalf of the PROCEEDR consortium.