

SEPARATE WASTE COLLECTION = CLIMATE PROTECTION!

THE STYRIAN CLIMATE BALANCING TOOL

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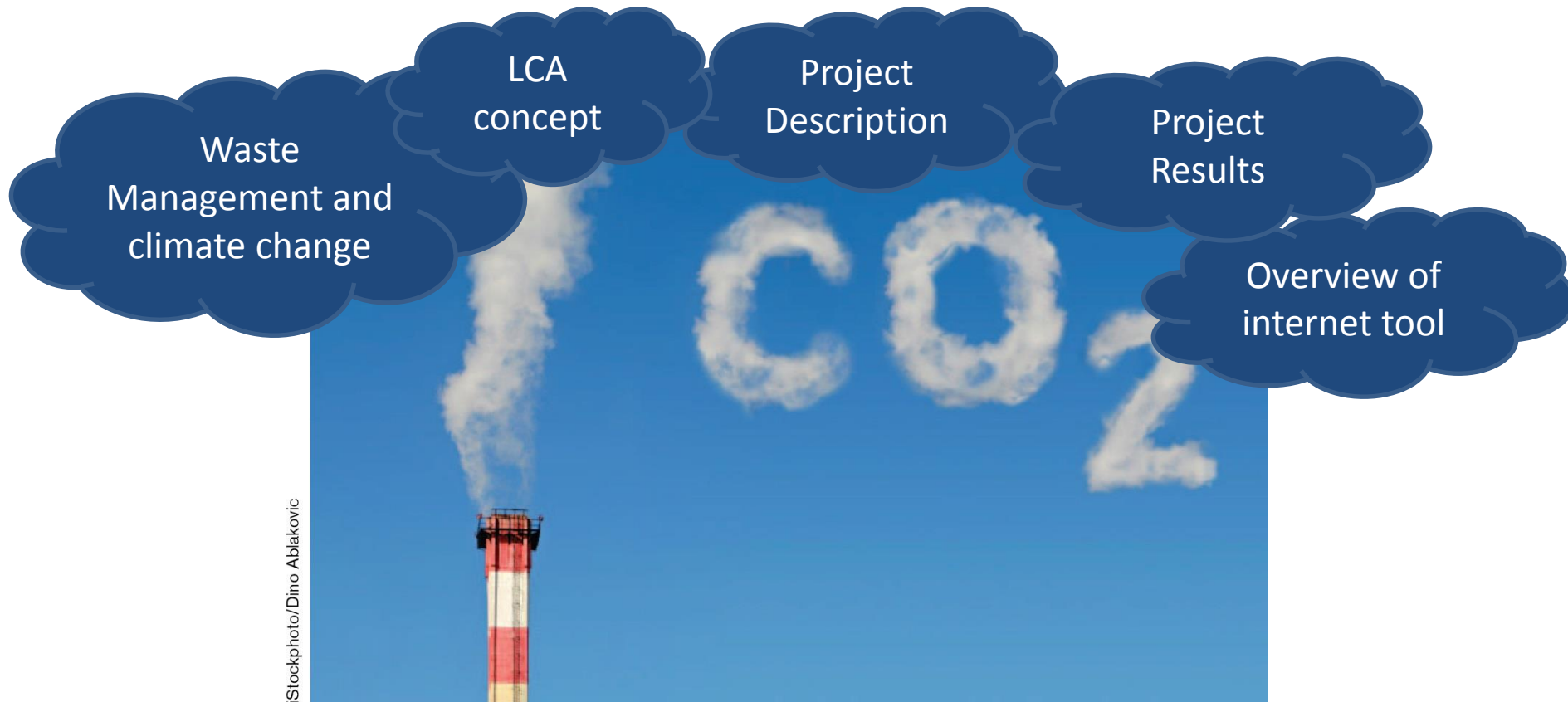
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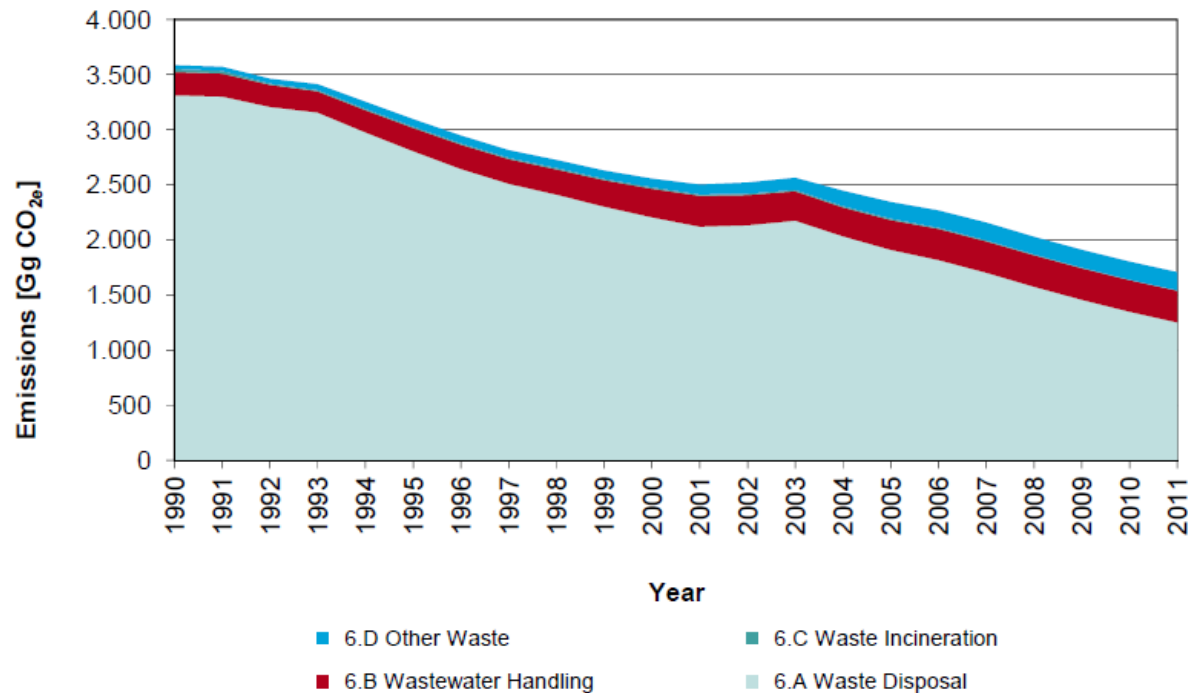


What will you hear in the next 10 mins?



Climate change and Waste Management - where are the challenges?

Total GHG Emissions – Waste



[2] Source: <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0416.pdf>

What is the aim of the project?

For stakeholders &
interested parties
in Styria



Awareness about climate
relevant emissions of regions or
plants

Easy, general
applicable and
intuitive tool

Link between waste
management and climate
protection

Which method was used to assess this aim?

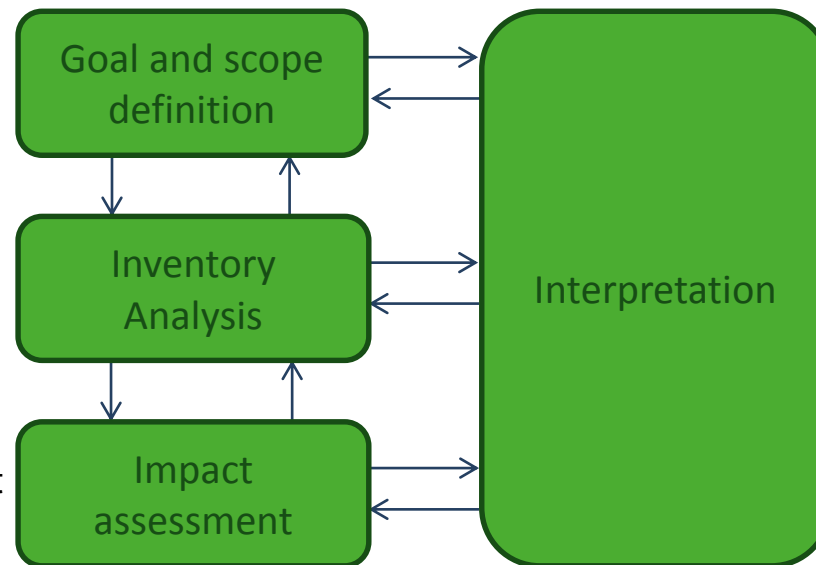
- Life Cycle Assessment - presents the environmental burdens of products/processes
- Carbon footprint – focus on green house gases



Assumptions,
system boundaries
& reference values

Generation and
collection of relevant
data

Link with
environmental impact
category



Interpretation,
scenarios,
recommendations



What is the main function of the tool?

- Intuitive presentation of emissions due to waste management activities
- Reduction potential of waste management compared to raw material extraction
- Instrument to motivate and communicate
- Designed for Styrian stakeholders
- General approach - not designed to evaluate special conditions of a certain plant or region

Where to start?

www.klimabilanz.steiermark.at

or

<http://klima.unileoben.ac.at>



[6,9] Source: <http://office.microsoft.com/de-AT/images/> www.klimabilanz.steiermark.at

What is a functional unit and why needed?



Type of waste	Quantities 2010 [t/a]	Type of waste	Quantities 2010 [t/a]
Residual waste	163,269	Packaging	
Organic waste	101,230	- glass	37,422
Bulky waste	76,015	- lightweight	26,793
Paper/cardboard	94,833	Scrap metal	5,445

Total 2010: 505,007 t/a

[8] A. Ledersteger

Input of waste quantities and transport data



Das Land Steiermark Klimabilanz-Tool

Ersteller: Abmelden

PLZ, Ort:

Angefallene Gesamtabfallmengen in Tonnen pro Jahr :

Tonnen pro Jahr Biomüll

Tonnen pro Jahr Papier & Karton

Tonnen pro Jahr Glas

Tonnen pro Jahr Metall

Tonnen pro Jahr Restmüll

Tonnen pro Jahr Kunststoff

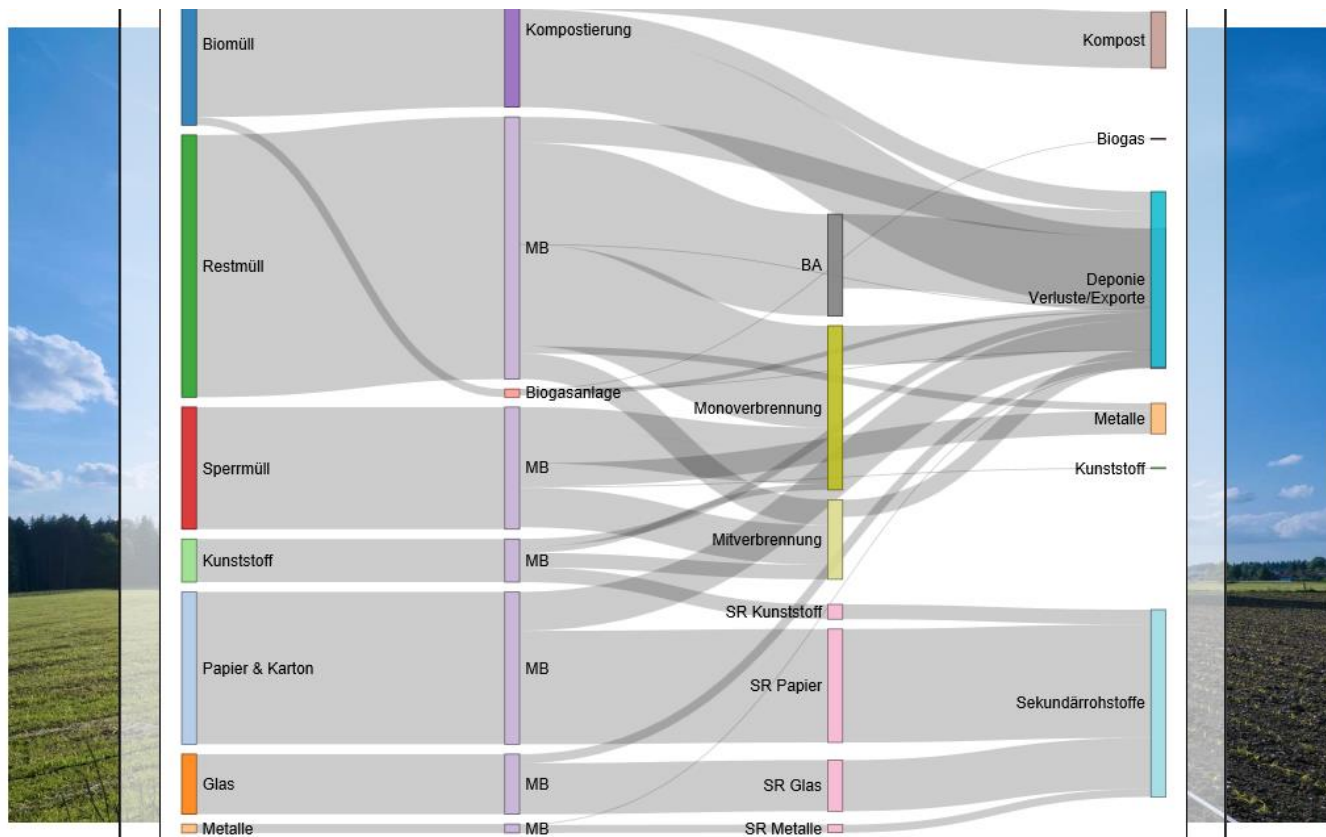
Tonnen pro Jahr Sperrmüll

Transport:

Tonnenkilometer LKW

Daten auswerten

Waste quantities within a flow diagram



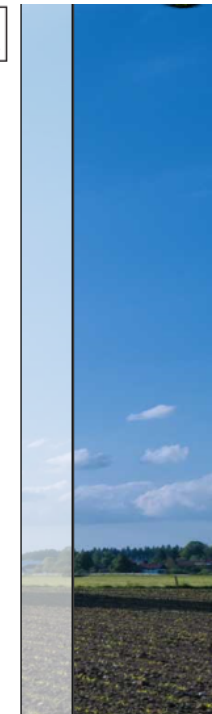
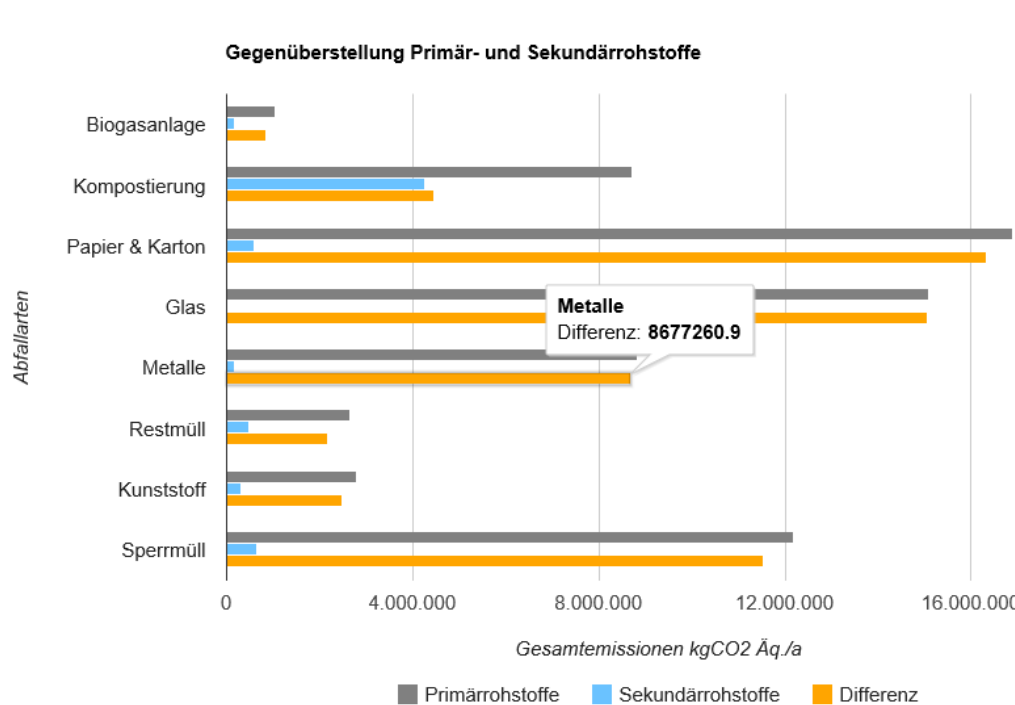
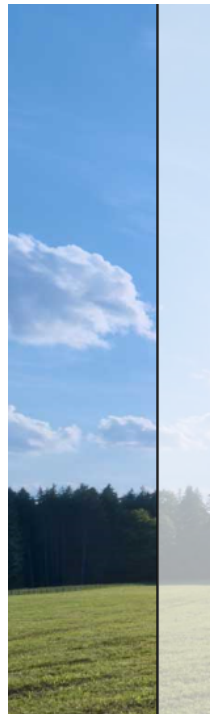
Greenhouse gas emissions

Used greenhouse gas emission factors [IPCC]

Carbon dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous oxide (N ₂ O)	298

- Plants and flows are calculated for a Styrian average
- Carbon footprint concept
- Crediting method used – emissions from primary and secondary material production

Comparing emissions from raw materials' extraction and waste treatment activities



Results



- Design of an intuitive tool to calculate CO₂ equivalents for waste management activities
- Communication and motivation tool
- Export of results possible
- Environmental protection on regional level focused

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Thank you for your attention!



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