



Shaping the future. Together.

Social LCA combined with Eco-Efficiency

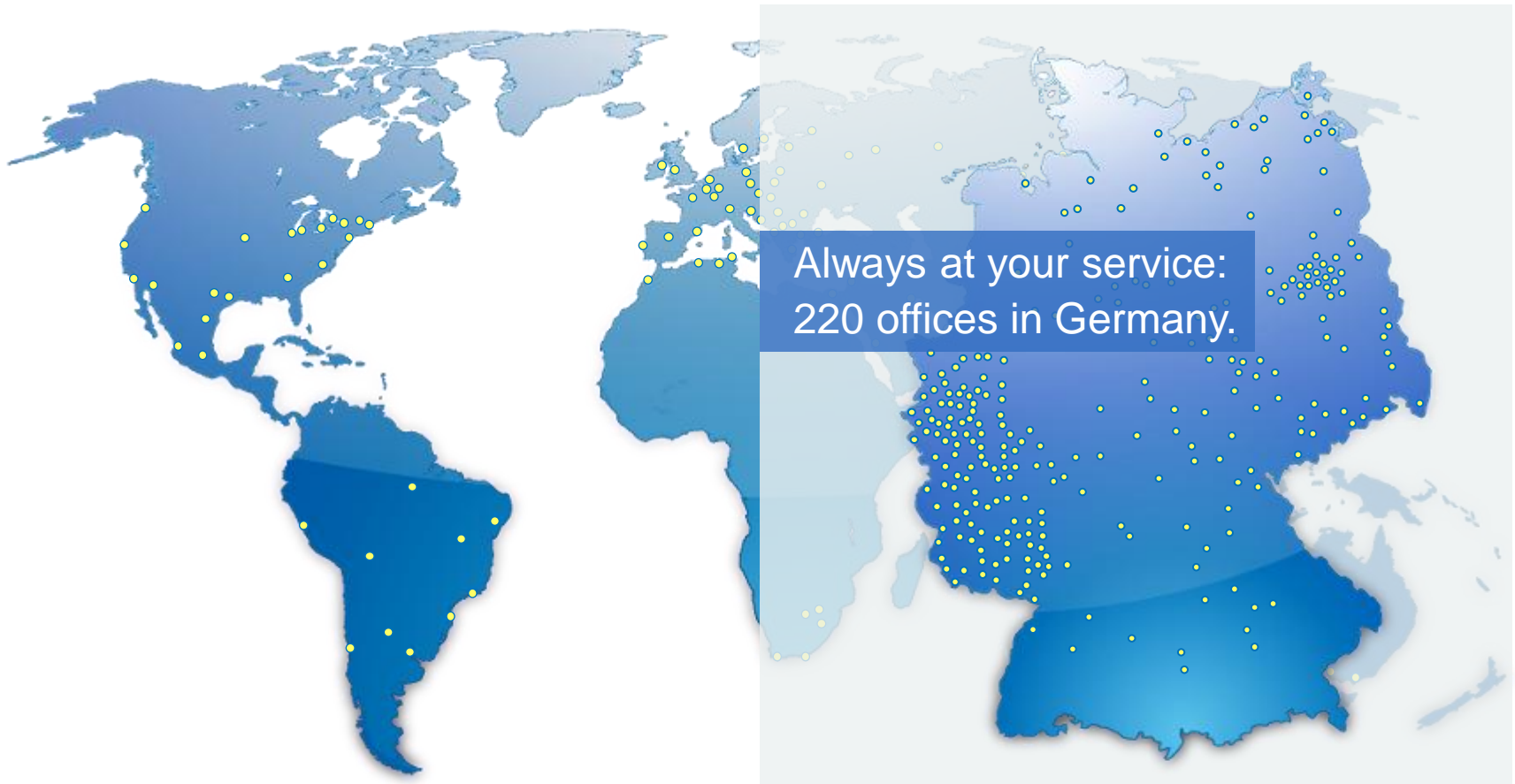
Daniela Kölsch

Agenda

- Who is TÜV Rheinland?
- How do you take a purchase decision?
- How can sLCA be handled?
- Outlook & Future of sLCA?

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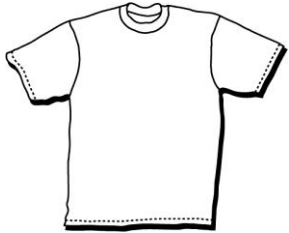
People

Business Streams.



How do you take a purchase decision?

fictitious
example



Shirt in white

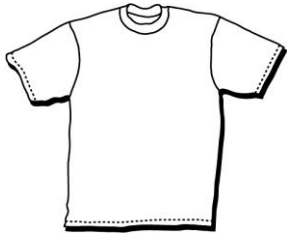
1/3

	Shirt A „Classic“	Shirt B „Classic Plus“
Price in € / Shirt	19 € / Shirt	29 € / Shirt
How do you decide?		

Source of picture:
<http://www.fanshirts.com/t-shirt.jpg>

How do you take a purchase decision?

fictitious
example



Shirt in white

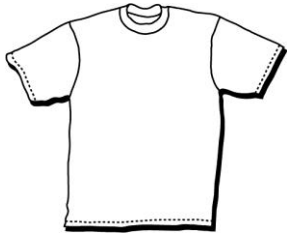
2/3

	Produkt A „Classic“	Produkt B „Classic Plus“
Price in € / Shirt	19 € / Shirt	29 € / Shirt
Environmental Labelling of Product during production	„Organic Cotton“ 4,2 kg CO _{2e} / Shirt	6 kg CO _{2e} / Shirt
How do you decide?		

Source of picture:
<http://www.fanshirts.com/t-shirt.jpg>


How do you take a purchase decision?

fictitious
example



Shirt in white

3/3

	Produkt A „Classic“	Produkt B „Classic Plus“
Price in € / Shirt	19 € / Shirt	29 € / Shirt
Labeling with „add-on“		Fair Trade 
How do you decide?		

Source of pictures:

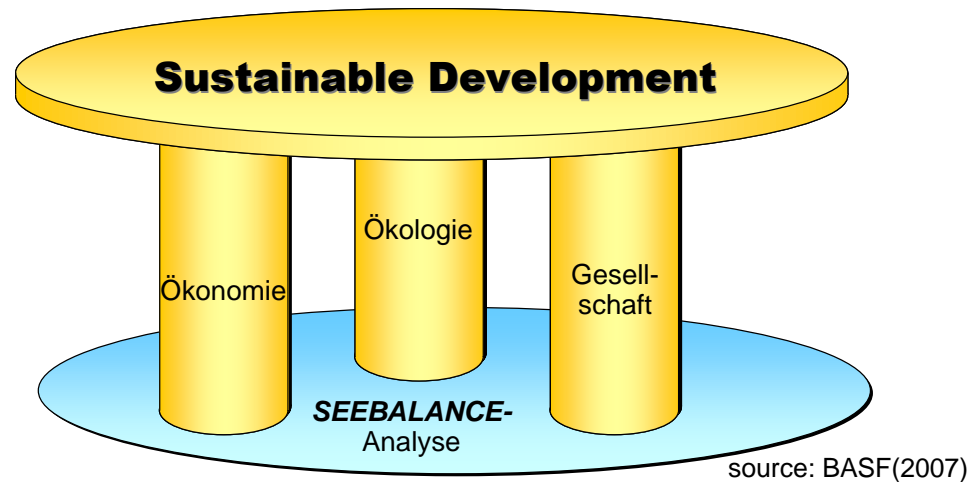
<http://www.fanshirts.com/t-shirt.jpg>

<http://topzeitung.files.wordpress.com/2011/04/fairtrade-logo-amstetten.jpg>

Term of Sustainability

„Meeting the needs of the present without compromising the ability of future generation to meet their own needs“

source: Brundtland commission 1987



LCSA = LCA + LCC + SLCA

Source Klöpffer (2003)

LCSA = Life Cycle Sustainability Assessment

LCA = Life Cycle Assessment

LCC = Life Cycle Costing

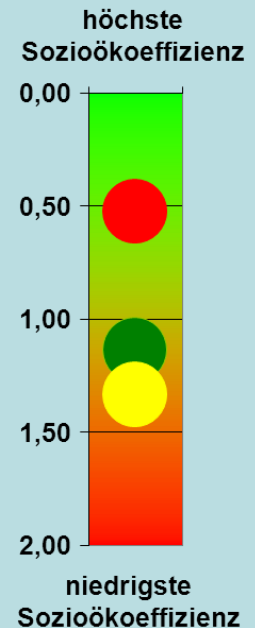
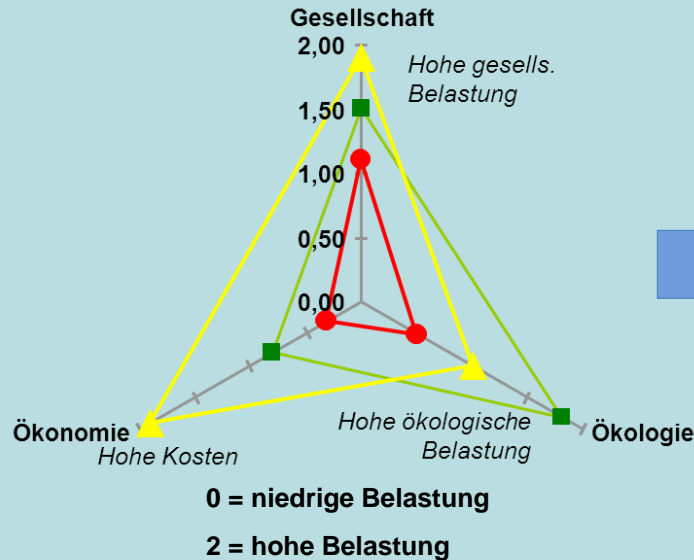
SLCA = social LCA

SEEBALANCE of BASF SE

- Comparative holistic assessment of alternative products and processes according to:
 - Environmental impacts (ecology, such as emissions, resource use or land conversion),
 - Impact on society (society, e.g. employment, working accidents,...) and
 - Cost (economics, for example, raw material costs, wages and salaries)
- throughout the entire product life cycle

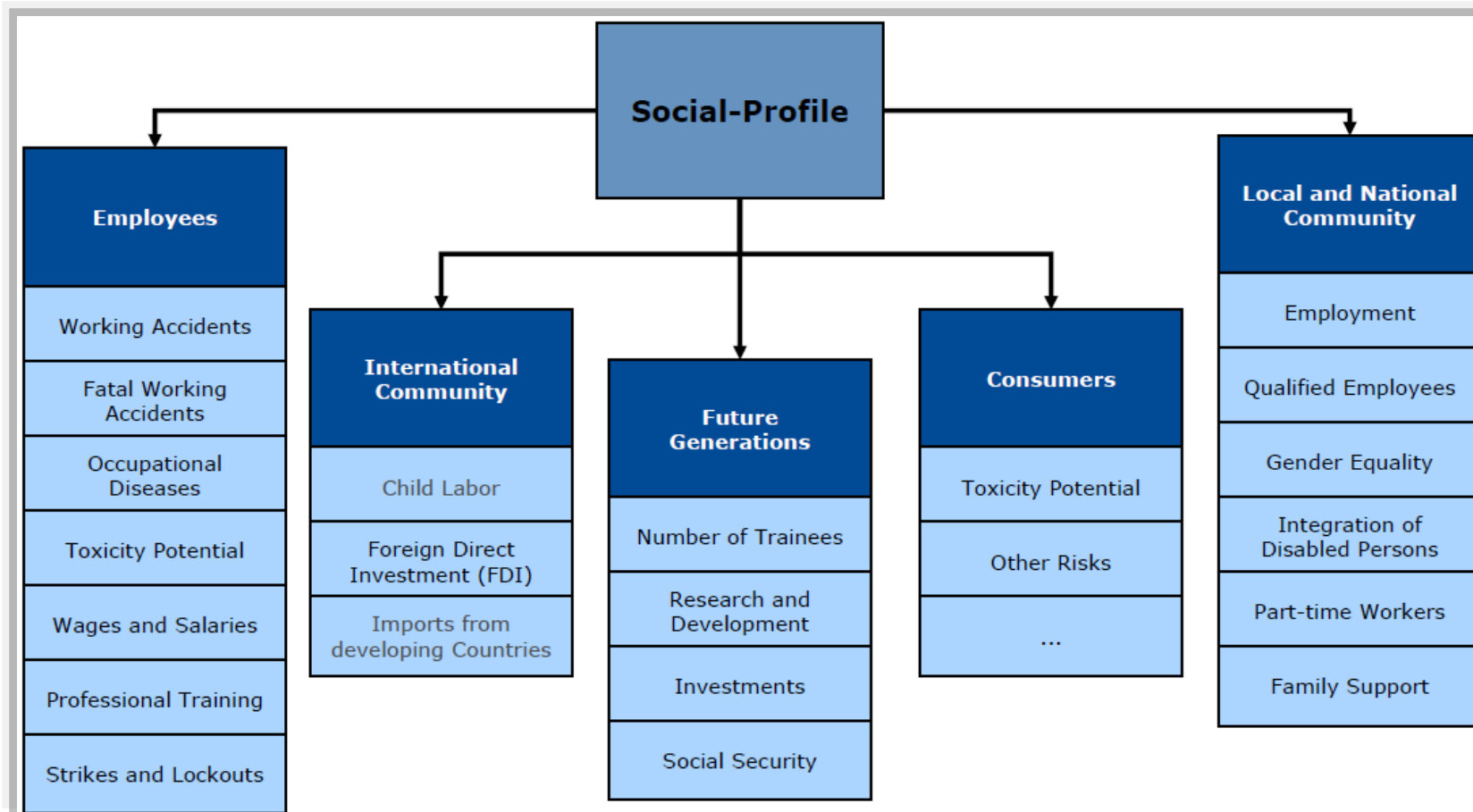
Nutzen-
einheit:
Fahrt mit
einem
Pkw für
200.000

—●— Alt1
—■— Alt2
—▲— Alt3

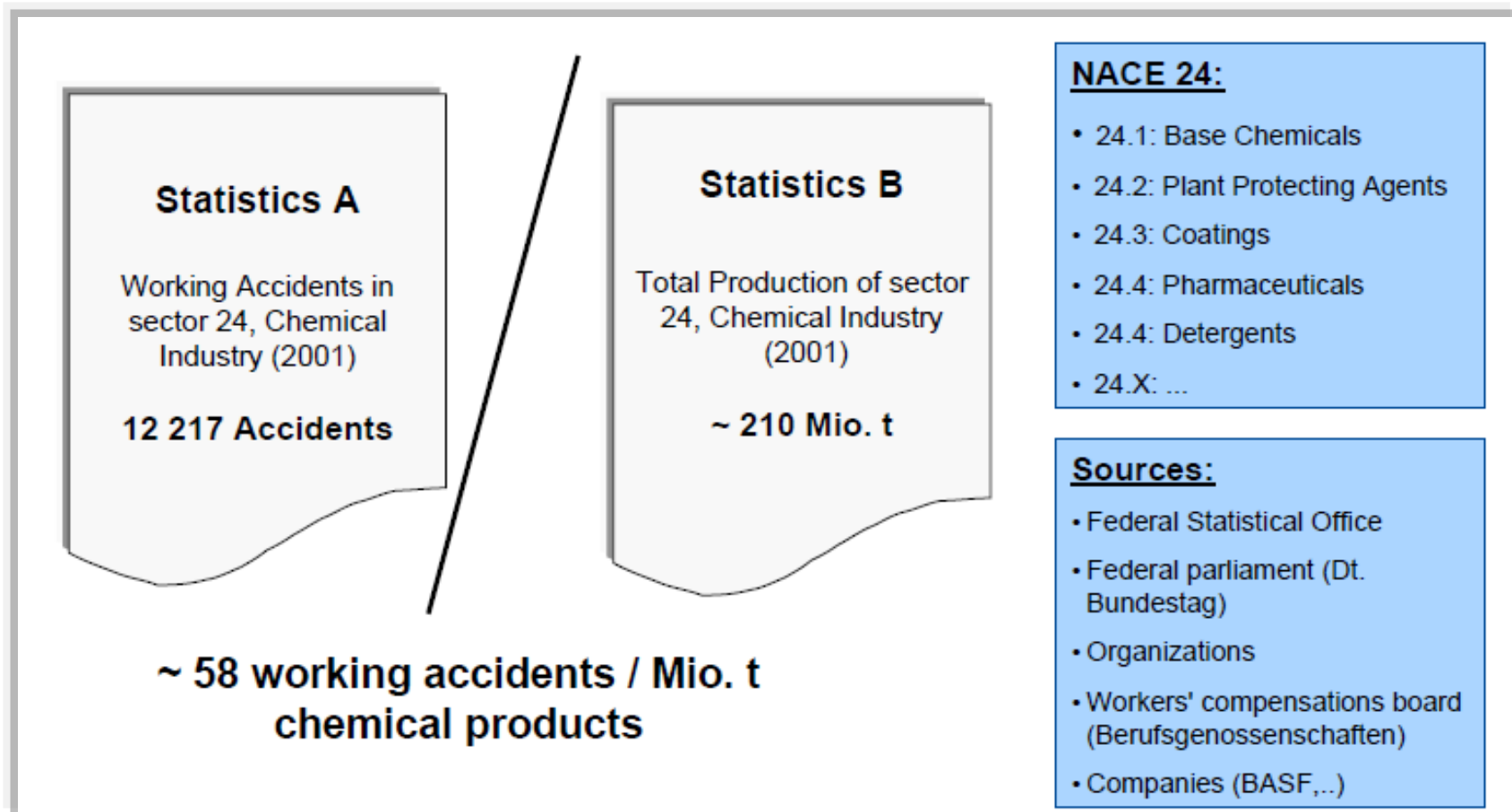


source:
BASF (2008)

Social Impacts in SEEBALANCE

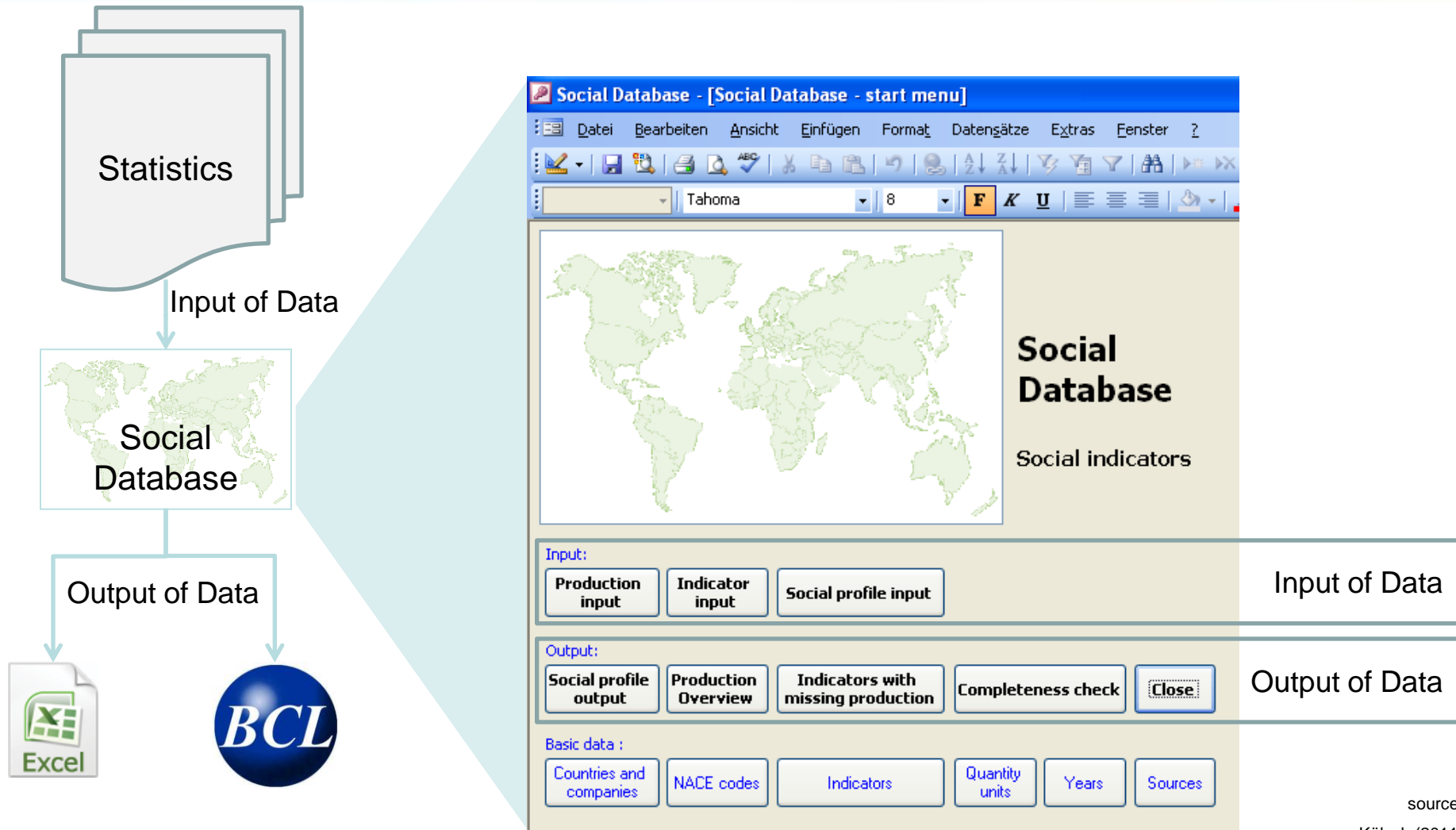


Calculation of Social Indicators



sources:
BASF (2011)
Schmidt (2007)

Possibility of Organising Work: Social Database



source:
Kölsch (2011)

Interface of Social Database: Social Profile Input

Social profile input

Production data

Year: 2006 Country: Deutschland Source: ID: 2

Quantity: 2,24E+05 Unit: 1000t

NACE: 01 Agriculture, hunting and related service activities

Comment:

Indicator Measurement

Indicator	Indicator Quantity	Unit	Source	Comment	Ratio
companies	3,75E+05	number	Ref ID 3493 Landwirtsc	Datenerhebung nur alle zwei Jahre; Wert aus 2007	1,67322013639378E-06
gross value added	1,56E+10	EUR	Ref ID 3495 - Bruttower		0,0696069298477894
Gross value added gr	-4,39E+09	EUR	Ref ID 3495 - Bruttower		-0,0196132491676377
turnover	2,86E+04	Mio EUR	Ref ID 3494 - Finanzen		1,2795344210968E-07
share of exports work	3,09E+00	%	Ref ID 3554_Comtrade:		1,379629008E-11
subsidies	7,49E+09	EUR	Ref ID 3497 - VGR-Sub		0,0334631517689309
strikes and lockouts	0,00E+00	hours	Ref ID 3525_Bundesag		0
R&D [company exper	1,19E+08	EUR	Ref ID 3522_BMBF For		0,000531657551468995
foreign direct investm	3,60E+07	EUR	Ref ID 3526_Bundesba		0,000160837578595662
exports	5,72E+09	EUR	Ref ID 3574 Stat. Bund		0,0255696455054023
employees	2,52E+05	working y	Ref ID 3538 Beschäftig		1,12391959609494E-06

Datensatz: 1 von 20

Datensatz: 1 von 1464

source:

BASF (2011)

Kölsch (2011)

Case Study: Blue Men Shirt

Functional Unit:

Wearing of a blue men Shirt (40 times)

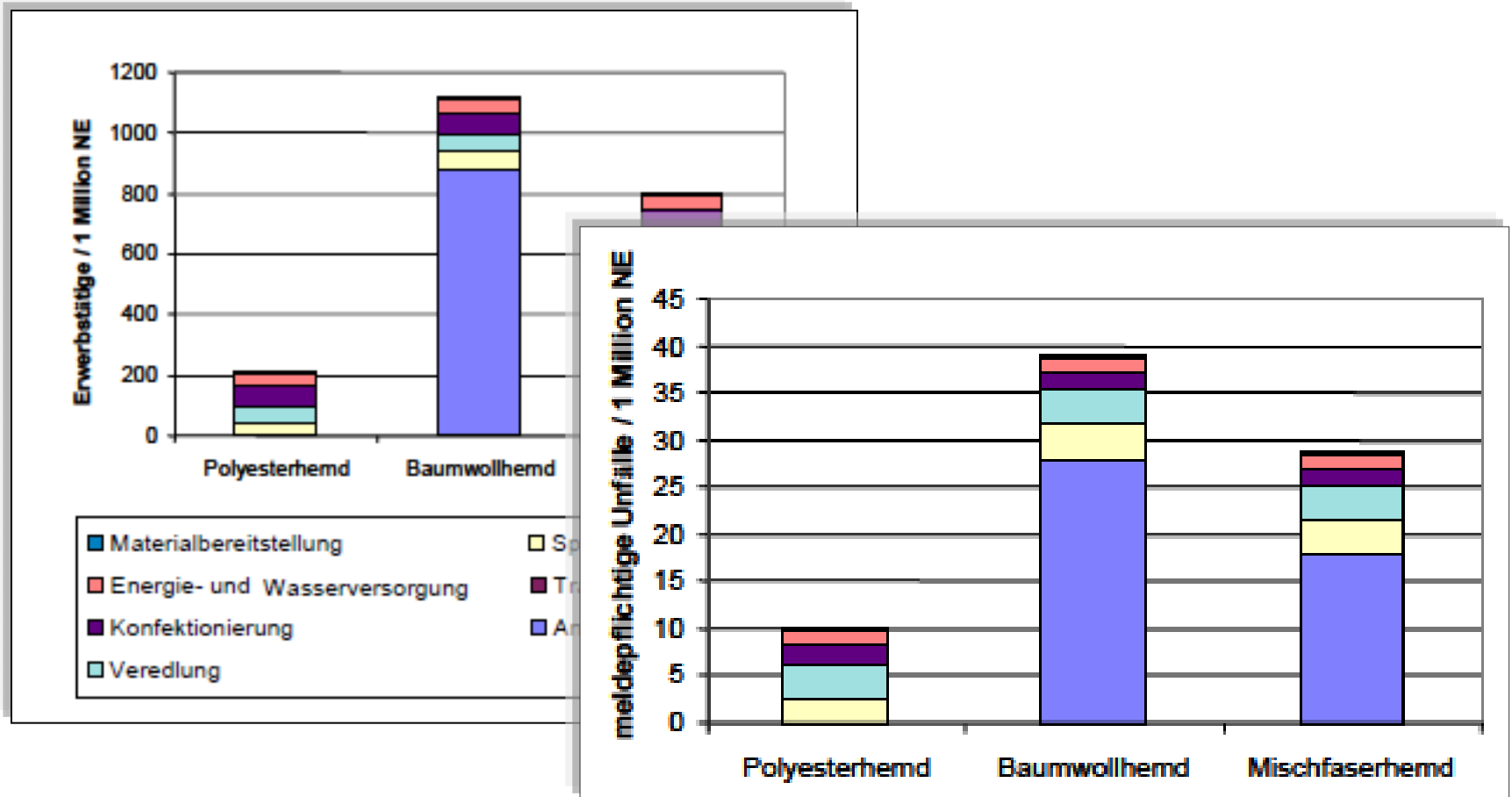
1.) blue men shirt 100% cotton

2.) blue men shirt 100% PET

2.) blue men shirt 65% cotton, 35% PET

source:
BMBF (2008)

Example: Working Years & Working Accidents per FU



source:
BMBF (2008)

Lessons learned from LCA - Outlook & Future of sLCA?

How many indicators are necessary to give the right picture?

Is just one indicator enough? (e.g. Carbon Footprint)

Who should carry out an sLCA?

How can an approach be handled? (quantitative or qualitative?)

Is a combination of common labels with sLCA possible?

How can different preferences in LCA, LCC and sLCA be handled?

Literature

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Contact:

Daniela Kölsch, koelschd@de.tuv.com, +49 (0)221 806 4501



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