

# KlimaPro

Swiss based standard  
for climate neutral products

An initiative of **ecos** and **EMPA**  
with support by **BAFU** and **seco**  
**Daniel Lehmann Pollheimer, ecos**  
**Thomas Ruddy, EMPA**



34th Discussion Forum "Life Cycle Assessment"



## KlimaPro Swiss Based Standard for Climate Neutral Products

### Starting position

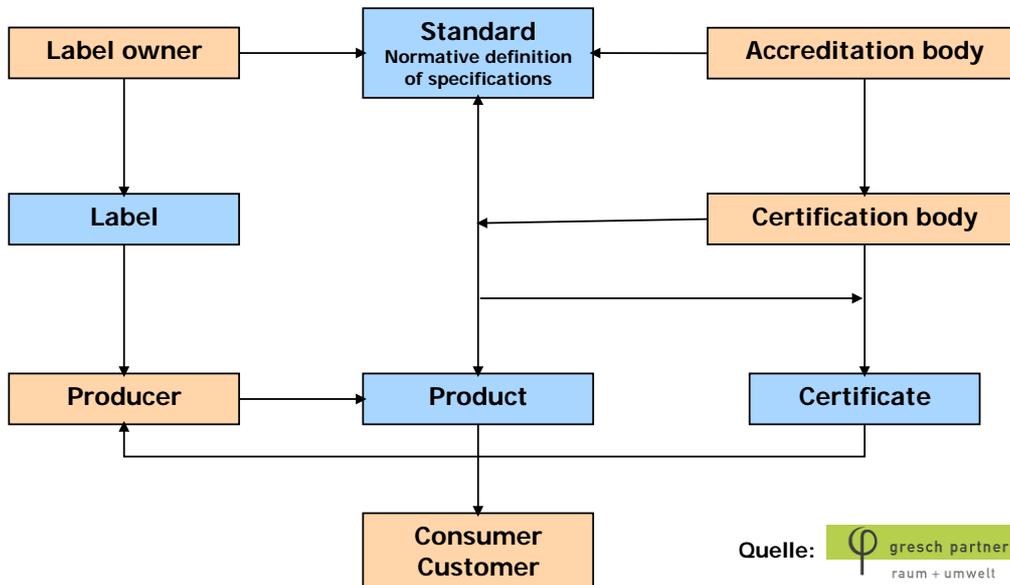


34th Discussion Forum "Life Cycle Assessment"



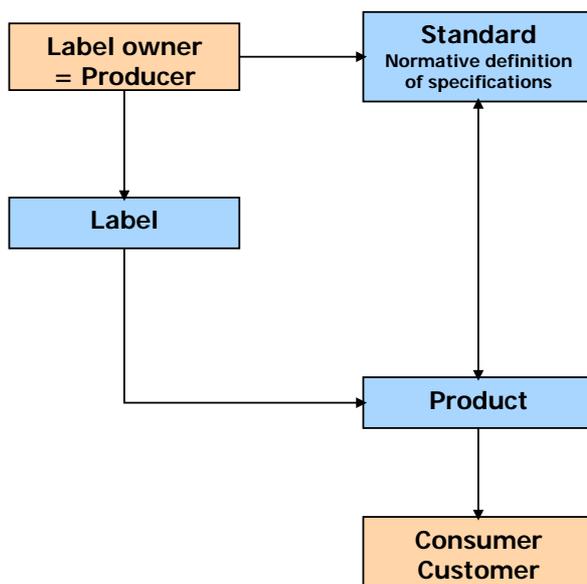
## KlimaPro Swiss Based Standard for Climate Neutral Products

### Consumers: What is really behind? ->System



## KlimaPro Swiss Based Standard for Climate Neutral Products

### Consumers: What is really behind? ->System



## What is a Climate Neutral Product? -> Standard



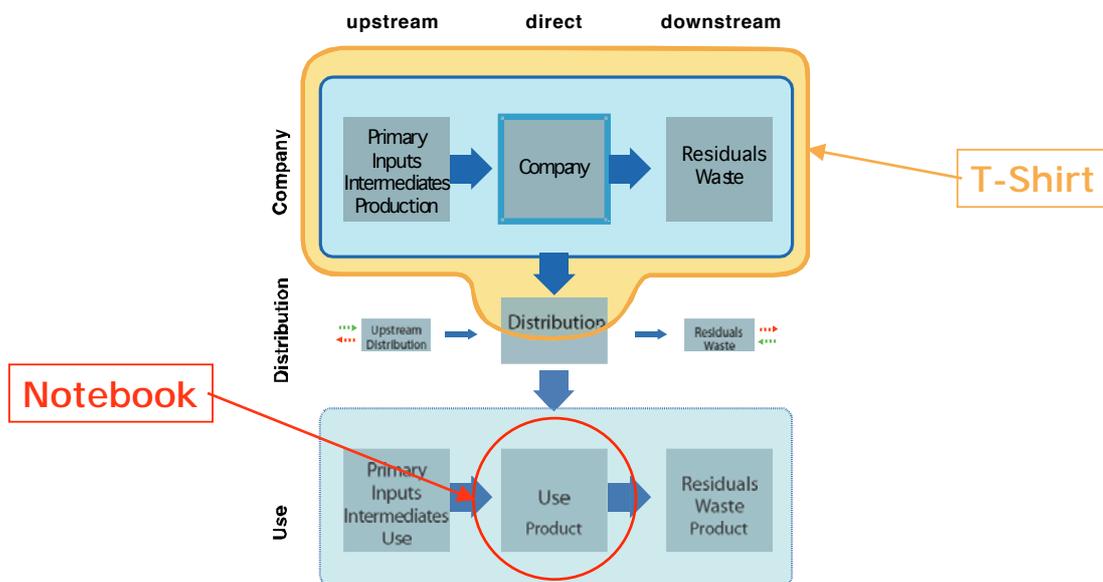
### Climate Neutral Notebook

- CO<sub>2</sub>-emissions of electricity consumption during first 3 years of usage
- Offsetting: Certificates from hydropower plant „Twyn“ in Norway operating since 2004
- Proof of origin of CO<sub>2</sub>-free electricity provided by association Energievision

### Climate Neutral T-Shirt

- CO<sub>2</sub>-emissions of whole value chain (cradle to sale)
- 1. Energy-Efficiency: Dyehouse
- 2. Renewables: Wind Power
- 3. Offsetting: Gold-Standard-Certificates from Windpower Project in China

## Standard for System Boundaries



## KlimaPro Swiss Based Standard for Climate Neutral Products

### Standard to calculate Carbon-Footprint

Calculation with simplified calculation:

straightforward, lower-cost, but less accurate, non-specific

	Step 1	Step 2	Step 3
	A*	B*	C
Activity Data: Electricity, Heat, and/or Steam Purchase		CO <sub>2</sub> emission factor	Indirect CO <sub>2</sub> emissions in metric tons
	kWh	grams CO <sub>2</sub> / kWh	$C = A * B / 1,000,000$ metric tons CO <sub>2</sub>
Facility / source description			
Facility / source 1			0.00
Facility / source 2			0.00
Facility / source 3			0.00
Facility / source 4			0.00
Facility / source 5			0.00
Facility / source 6			0.00
Facility / source 7			0.00
Facility / source 8			0.00
Facility / source 9			0.00
Facility / source 10			0.00
<b>Step 4: Sum CO<sub>2</sub> emissions (in metric tons):</b>			<b>0.00</b>

Calculation Tools from  
<http://www.ghgprotocol.org/>



The Greenhouse Gas Protocol Initiative  
*The foundation for sound and sustainable climate strategies*

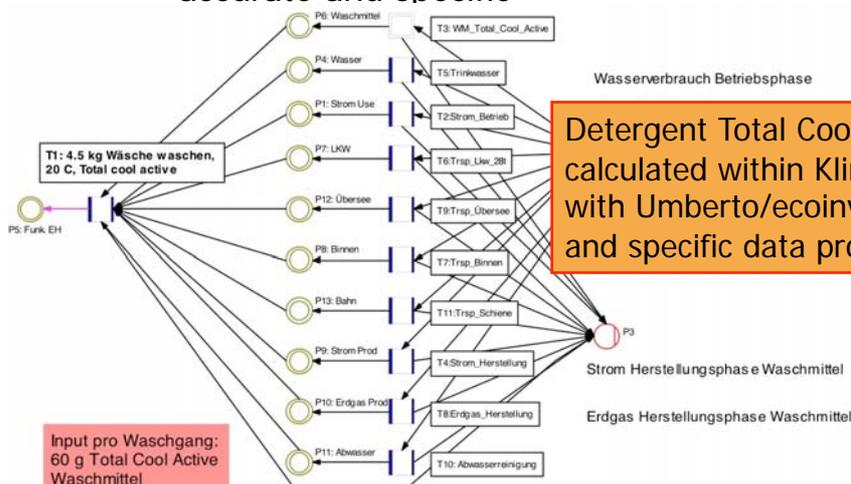
ElectricityHeatSteamPurchase\_tool1.2.xls

## KlimaPro Swiss Based Standard for Climate Neutral Products

### Standard to calculate Carbon-Footprint

Calculation with Life-Cycle Assessment Approach:

more complex (?), more expensive (?) but scientifically sound,  
accurate and specific



## Objectives KlimaPro -> Focus Products

### Principles

- Development of a **widely accepted standard** with acknowledged, transparent criteria and procedures for the **labelling of climate neutral products**
- Easily applicable methodical procedure as a basis for climate neutral products

### Tools

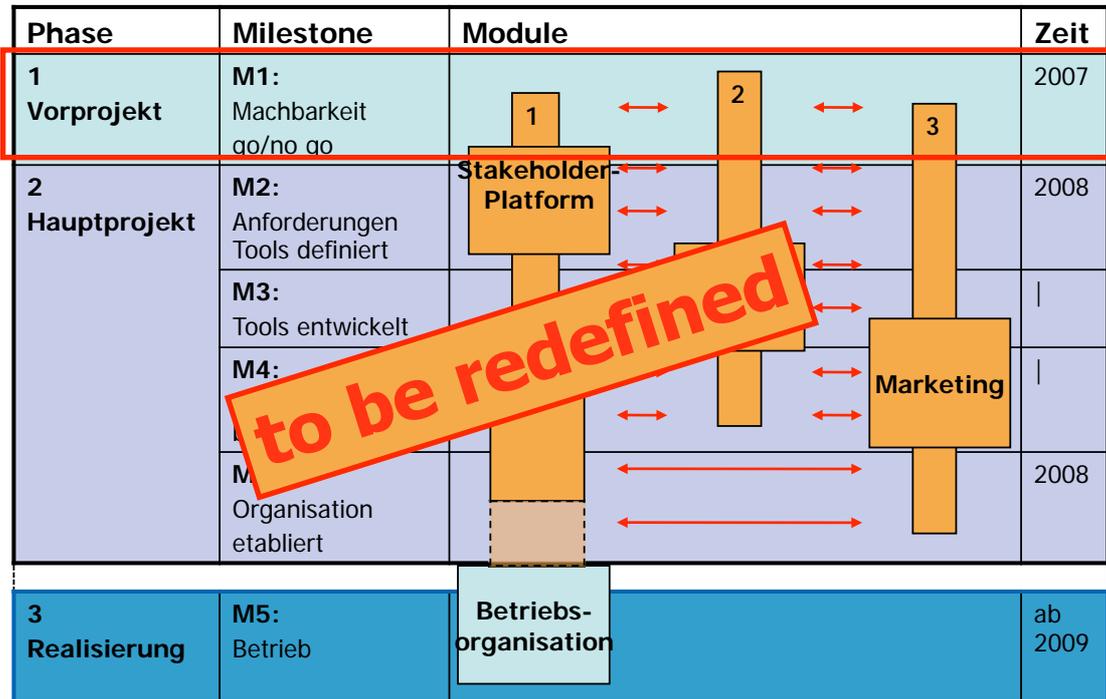
- Provide better tools for companies and service providers in the field of climate protection to render their services
- **Manuals/software/tools** for users

**practicable, credible, effective, economical**

## Klima Pro - Organisations and People

Nachhaltige Entwicklung für Wirtschaft, Umwelt und Gesellschaft 	
Daniel Lehmann Pollheimer Projektleiter ecos	Daniel Wiener Geschäftsleiter ecos
 Technologie und Gesellschaft Materials Science & Technology	
Rainer Zah Leiter LCA/Modelling	Martin Lehmann LCA/Modelling
Marcel Gauch Sustec	Thomas Ruddy MITA
 Hans-Peter Egler Leiter Handelsförderung	 Daniel Zürcher Leiter Innovation, Abt. Ökonomie, Forschung/Umweltbeobachtung

## Project Plan



26.03.2008 11

## Pre-Study KlimaPro: Objectives

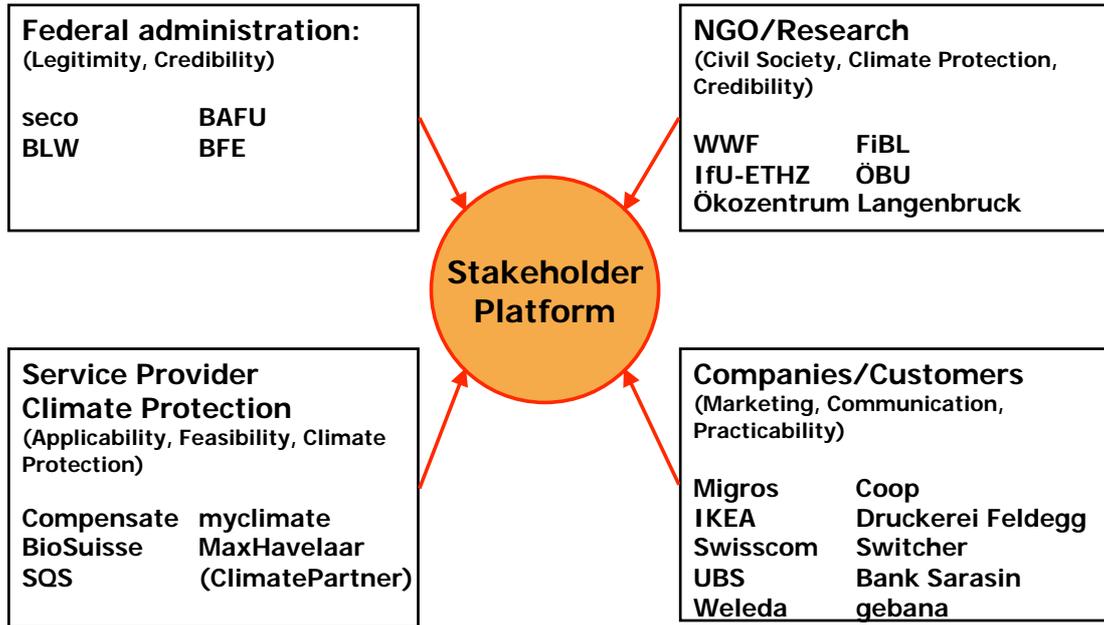
### Feasibility Check

- in the market
  - Is there a demand?
  - For whom and for what? -> Target groups and fields of application
  - What exactly? -> characteristics, structure and approach
- technically
  - Case Studies
  - Clarifying the specifications of the approach

### What have we done?

- Stakeholder-process
  - 3 Workshops
  - Some bilateral consultations
- Footprint calculation case studies
  - soja bean oil
  - detergents
  - asparagus

## Stakeholders



## What is Climate Neutralisation?

### 1. Calculation

- Carbon-Footprint within System boundary

### 3. Reduction of GHG-emissions

- within value chain (In-Fence)
- Energy efficiency and Renewables

**KlimaPro Vision**

### 5. Offsetting

- Certificates (CDM/JI, CER/VER)

### 6. Accounting

- Mechanism for accounting of Certificates and "climate surcharge"

### 7. Controlling

- Verification- and Monitoring System

## The International Field

- Compliance with International Product-related Emissions Measurement Standards
- Compiled by Thomas Ruddy, supported by Dr. Rainer Zah, EMPA, KlimaPro-Projectmanagement
- Bibliography: [www.citeulike.org/user/ruddyconsult](http://www.citeulike.org/user/ruddyconsult) (click on carbon-neutral tag)

## International Initiatives

INTERNATIONAL

The Strategic Advisory Body on Environment (**SABE**) of the European Committee for Standardization (**CEN**) is doing a feasibility study on developing a **European standard for product-related carbon footprinting** building on the know-how of National initiatives

**ISO** is also thinking about developing such a standard

NATIONAL

**UK:**  
Product related emission reduction framework developed by Carbon Trust

**Austria:**  
Working group on product-related carbon footprinting in collaboration with ISO

**Switzerland:**  
KlimaPro

**Belgium:**  
Feasibility study on carbon labelling by supermarkets

**Norway:**  
has joined [www.climateneutral.unep.org](http://www.climateneutral.unep.org)

BASIC STANDARDS

1996 - UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, (and their scientific advisors in the IPCC), Bonn, Germany

1998 - Green-House Gas Protocol, [www.ghgprotocol.org](http://www.ghgprotocol.org)

1997-2006 - International Organization for Standardization (ISO), Geneva

- **ISO 14044** - environmental management - Life Cycle Assessment (LCA) - requirements and guidelines
- **ISO 14064** – a new standard for the inventories, reporting and verification of project-level and entity-level GHG

### Key issues: business and sociopolitical view

- Approaches:
  - The climate impact of products can be addressed by **offsetting**, **neutralisation** or **best-practice** schemes
  - **Offsetting** and **Carbon Management** usually are looked at as **different things**: Link seems to be difficult
- Added value of product instead of company focus
  - inclusion not only of direct-direct but also of **direct and indirect emissions**
- GHG-emissions vs. other sustainability criteria
  - It should be **avoided** just to **focus** on **GHG-emissions**
  - based on **existing labels** (Bio, FairTrade, MSC, FSC) ensuring that other environmental and sustainability aspects are not neglected (**avoid CO<sub>2</sub>-neutral Porsche Cayenne**)

### Key issues: business and sociopolitical view

- Value chain:
  - How to deal with **long value chains** with an upstream product supply that can not be influenced by the retailer or manufacturer?
  - How to deal with intermediate products that are purchased on an **open market** and from **changing suppliers**?
- Baseline/Benchmark
  - Average emissions values of certain product segment
  - State-of-the-art/Best available Technology (BAT)
  - specific to product and dynamic
  - How to define this values? There is **no scientific basis!**
  - Availability of data?

Key issues: GHG-footprint calculation

- Case study detergent Total Cool Active



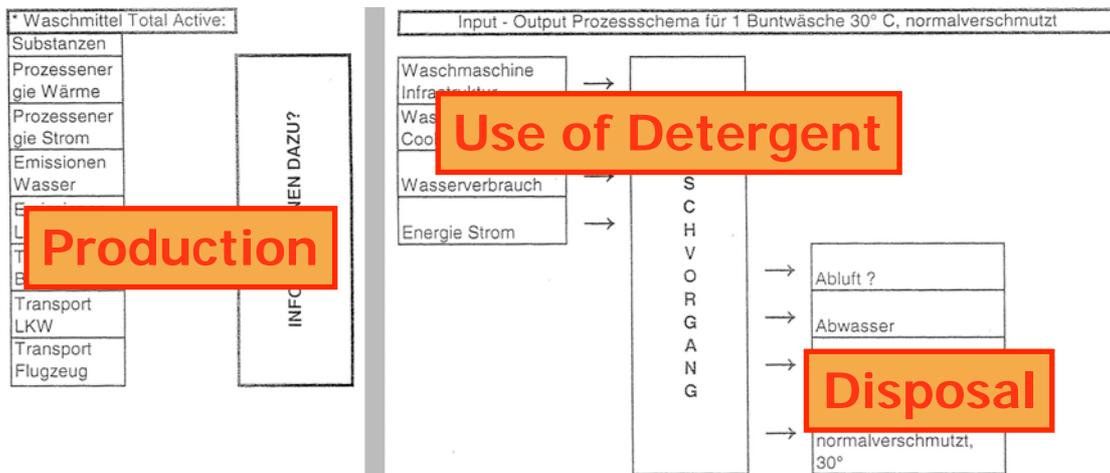
76 | Extra

Migros-Magazin 8, 18. Februar 2008

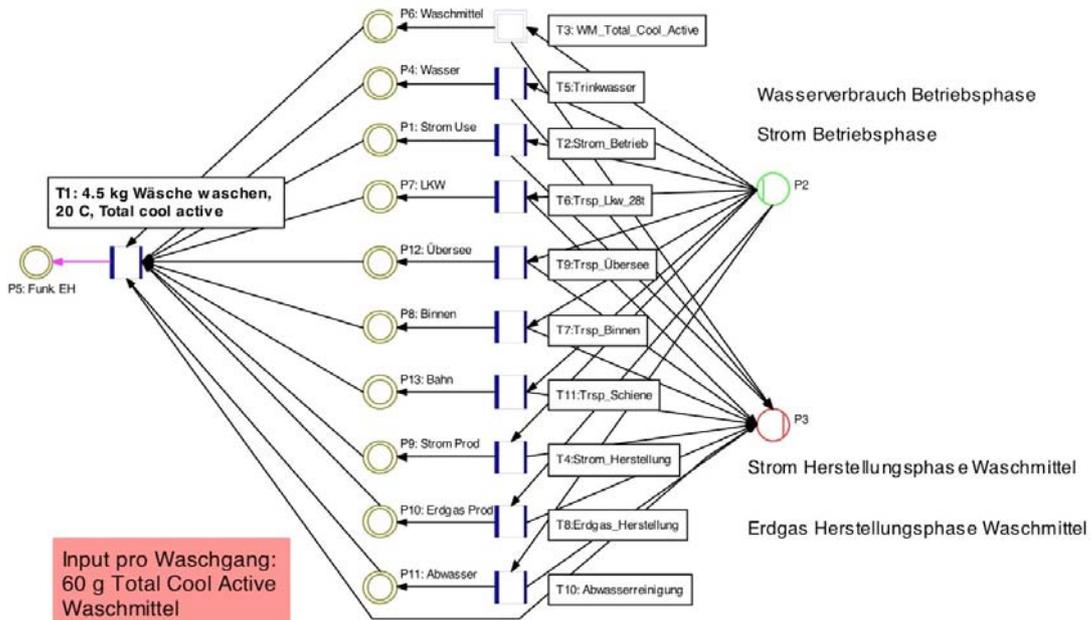
Unter dem Strich: grün

Für die Klimabilanz von Total Cool Active haben die Spezialisten von Empa und Ecos die Stadien der Produktion und des Gebrauchs dieses Waschmittels analysiert und mit einem herkömmlichen Produkt verglichen. Eine solche Bilanz ist die Grundlage für eine CO<sub>2</sub>-Deklaration, wie sie die Migros in Zukunft auf ausgewählten Produkten anbringen wird.

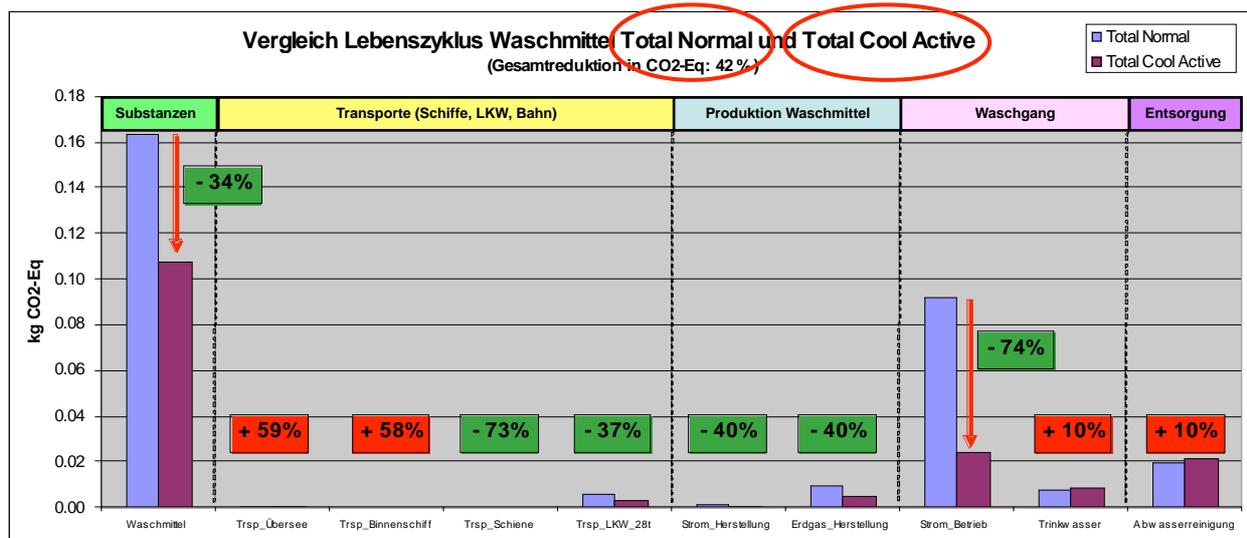
Cradle to grave



## LCA-Approach



## Complex calculations -> simple results



prepared for consumers

**Unter dem Strich: grün**

Für die Klimabilanz von Total Cool Active haben die Spezialisten von Empa und Ecos die Stadien der Produktion und des Gebrauchs dieses Waschmittels analysiert und mit einem herkömmlichen Produkt verglichen. Eine solche Bilanz ist die Grundlage für eine CO<sub>2</sub>-Deklaration, wie sie die Migros in Zukunft auf ausgewählten Produkten anbringen wird.



Key issues: Technical aspects of Accounting

- **LCA approach is applicable!**
  - Case studies Klima Pro
  - Example of Migros launching climatop products relying on LCA-based best-practice approach
  - Required time and effort seem to be acceptable
- Accounting procedures
  - **Standardised procedure** of emission calculation is **desirable** to provide a comparable background for retailers/consumers
  - Procedures in line with **ISO-** and other **international standards**



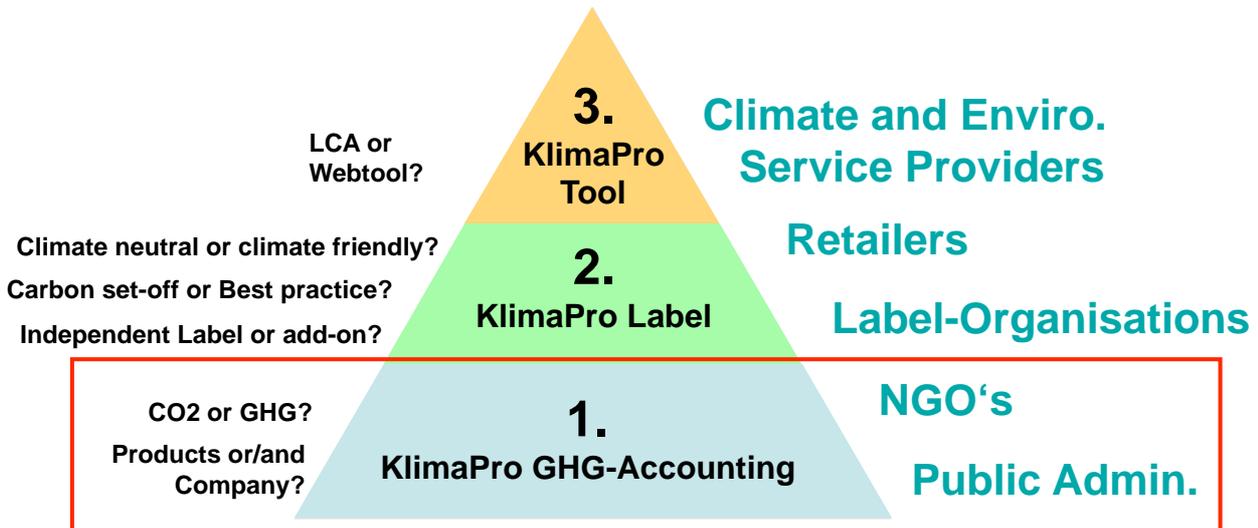
## Key issues: Technical aspects of Accounting

- Data handling
  - How to interlink **national inventory** data with **international value chains**?
  - How to balance product **specific** and **generic** data?
  - How to deal with a **lack of** specific process **data**?
- Data Sourcing
  - Are producers along the value chain willing to provide data that are part of their **confidential** production knowhow?
  - How to ensure that provided data is **reliable**?
- Review/Quality control
  - Scientific review of emissions calculations
  - Independent verification of provided data

## Questions:

- Is the LCA-Approach **really applicable** to product specific labelling of GHG-emissions?
  - **Too many products** (Coop, Migros > 15'000 products)
  - **Lacking data** due to long and changing value chain
- How to solve the **Baseline/Benchmarking** problem?
- How to deal with **confidential** data?
- Options for a LCA-based product focused **Carbon Footprint-Tool**?

## Next steps KlimaPro



## KlimaPro GHG-Accounting – Objectives

- Starting position
  - Different GHG-Calculation
  - → Carbon Footprint ≠ Carbon Footprint
- Objective
  - GHG-Accounting Methodology for products
  - According to ISO-Norms and based on LCA
  - Comprehensive concept applicable for various producers and product segments and sectors
  - Public and transparent
  - Based on/coordinated with similar international initiatives
  - but locally (Swiss) rooted, focused and adapted



## KlimaPro GHG-Accounting – Key aspects

- Aspects
  - Relevant basics already available (ecoinvent v2.0, IPCC (2001), ISO-norms about Greenhousegas Reporting)
  - Main features already discussed within KlimaPro Stakeholder-Consultation
- Next steps
  - Proposal and funding
  - First draft including coordination/cooperation with international initiatives (PAS, ...)
  - Stakeholder consultation (Delphi-process)
  - Second draft
  - Expert workshop with international experts
  - Finalisation of Methodology -> **by end of 2008**

## KlimaPro Label and Tool



- KlimaPro Label
  - 3 more Workshops
  - Clarifying of approach
  - Clarifying of organisational structure for Label development
  - glance beyond one's own nose (eg. PERS – product-related emission reduction standard, CarbonTrust UK)



- KlimaPro Tool
  - based on KlimaPro GHG-Accounting
  - demand and necessity to be clarified
  - privately financed (probably with public funds from organisations like the Swiss "Innovation Promotion Agency" CTI)