



Measuring sustainability, setting incentives and involving actors

the GLOBAL 2000 adaptive labeling approach for
agricultural products

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Introduction

The Pro-Planet Label

The GLOBAL 2000 Sustainable Agricultural Practice Framework

Results

Conclusions





We wanted a label that:

- Focuses on conventional food
- Can make the environmental impact of a product visible
- Induces a process with the participants to increase the sustainability of their products step by step
- Rests on measurable indicators -> you can only manage what you know
- Creates a Win – Win situation for producers – retailer – customer and environment
- Focuses on whole production chain





The Label

In Germany & Austria

- Identify & resolve social and ecological hot-spots in the production chain

In Austria:

For fruits, vegetables and eggs:

Cooperation between Caritas, REWE & GLOBAL 2000





GLOBAL 2000 Sustainable Agricultural Practice Framework

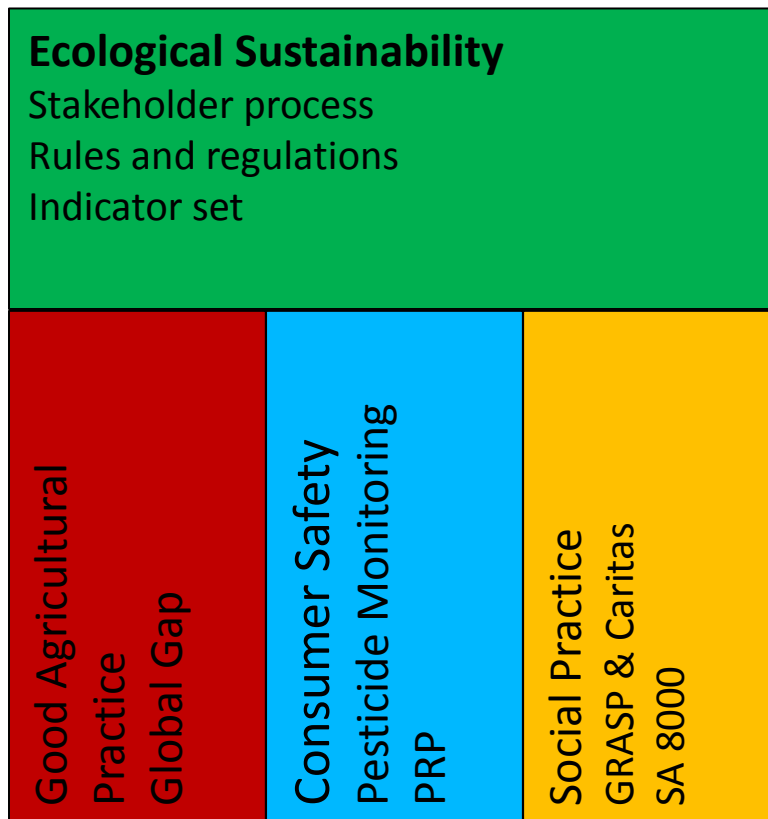
Aim:

- set incentives for farmers, distributors and retailers to adopt a more sustainable production mode
- inform consumers about environmental impacts of their choices.



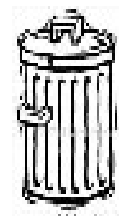


The building blocks of the program





The focus of our indicator system





Farm based indicators

N-balance

P-balance

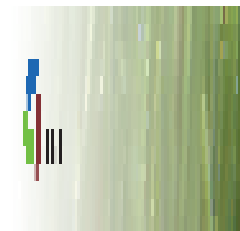
Humus-balance

Pesticide use

Energy intensity



Calculated by **INL** using
the model **REPRO**
(Hülsbergen et al 2003)





Farm based indicators

N-balance

P-balance

Humus-balance

Pesticide use

Energy intensity



Data needed:

- Field records (machine use etc.)
- Pesticide use
- Yields

In case of fruit rotation the data should cover at least three years





Per service unit indicators:

Carbon-footprint

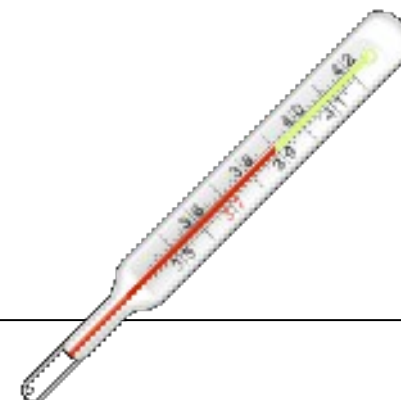
Biotic Material Input

A-biotic Material Input

Water input

Area used

Field to shelf





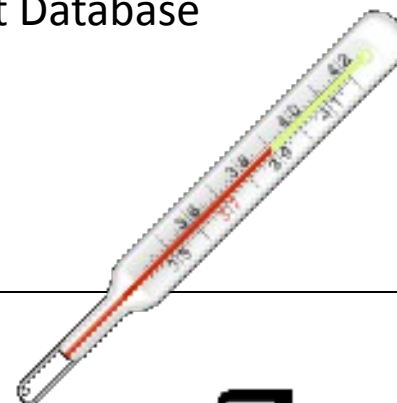
Per service unit indicators:

- Carbon-footprint
- Biotic Material Input
- A-biotic Material Input
- Water input
- Area used

Data collection via standardized formula

Calculated by using factors from the EcoInvent Database

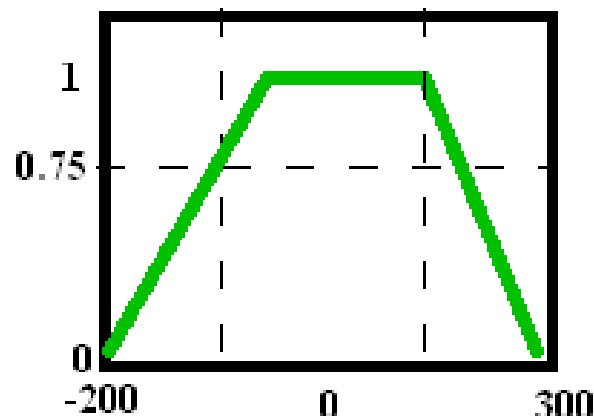
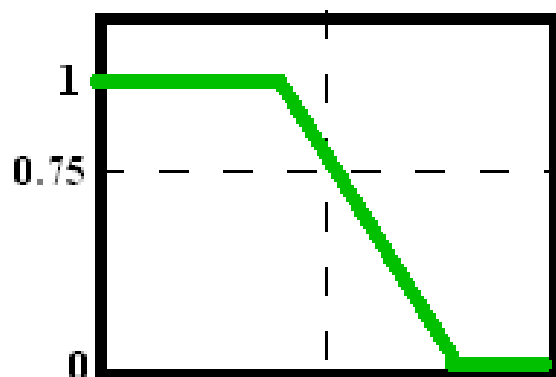
Field to shelf





Setting benchmarks to the indicators

All indicators are transformed into values between 0 – 1 using a weighing function

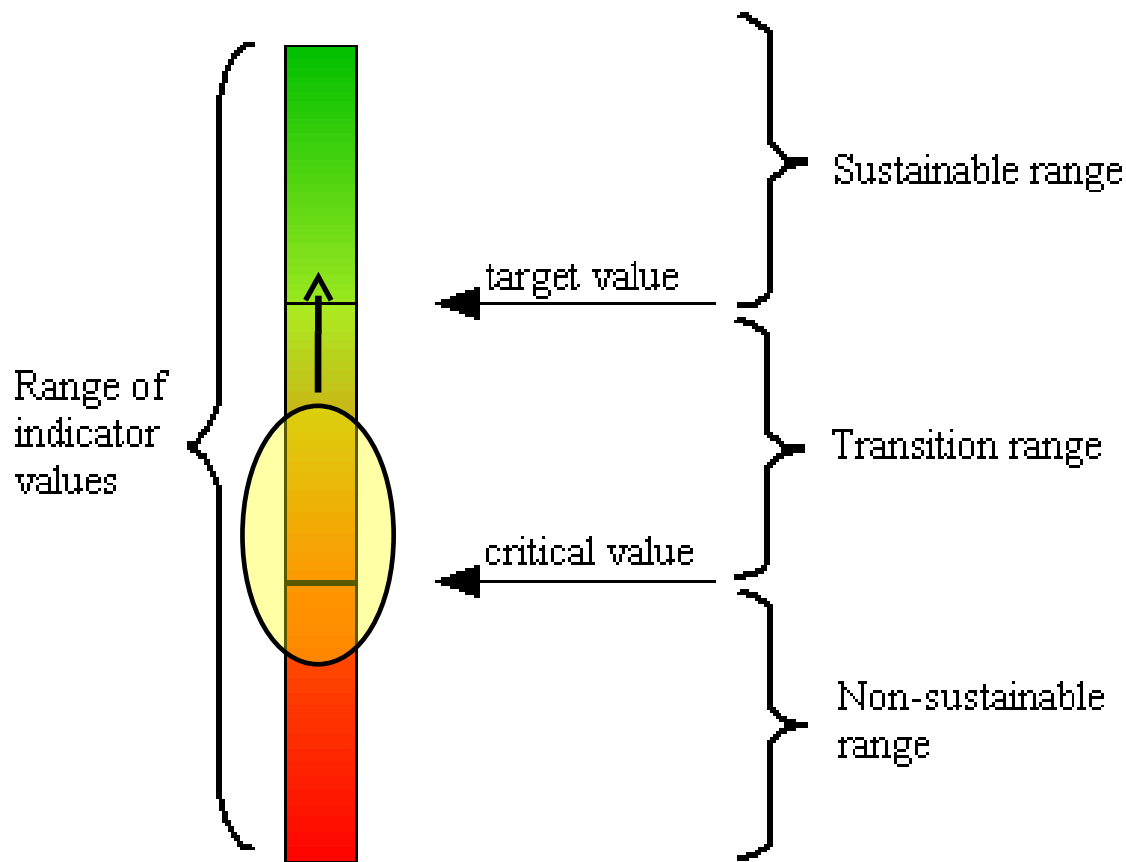


To comply with the Label

- all indicator values have to be above the critical-value
- the average over all indicator values has to equal or exceed 0.75



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For a product-group zero-tolerance thresholds were defined. If crossed the product cannot be labeled.

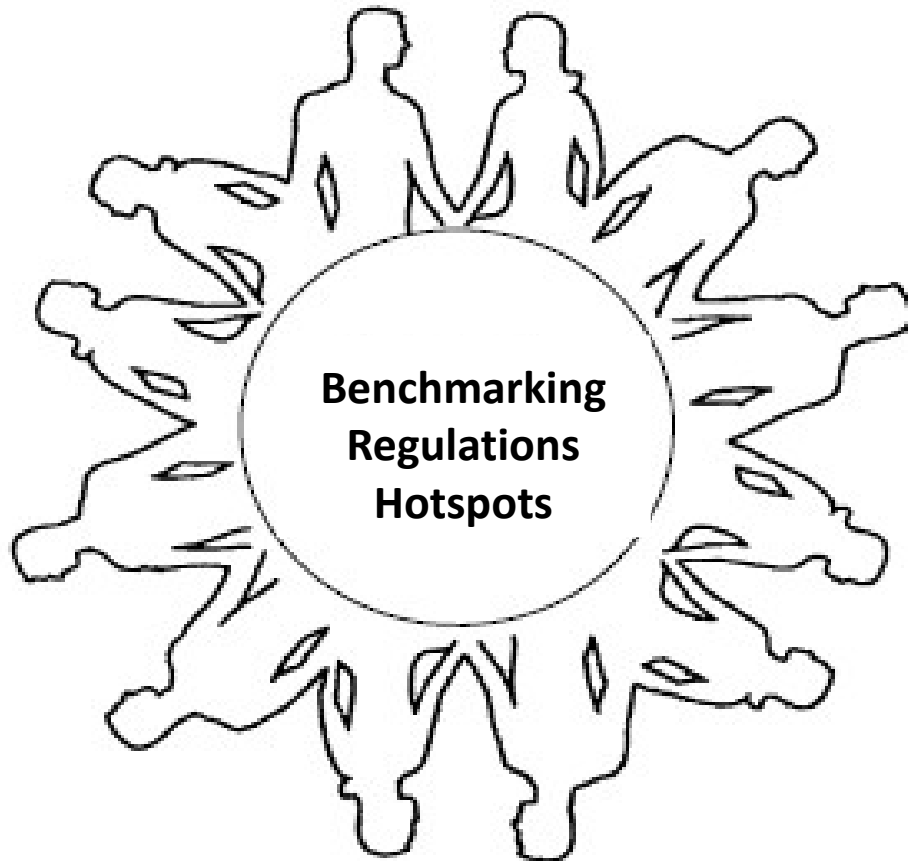


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Source: [Haverkort et al. 2008](#)



Stakeholder Process



Participants:

- Producer
- Distributor
- Producer-organization
- Quality Management
- Experts
- GLOBAL 2000
- Caritas



Results

After starting with the labeling of Austrian open-land strawberries in June 2010 by now

- Over 400 farms have submitted data
- 25 product groups have been screened from which
- 17 products labeled.
- 21 stakeholder workshops were conducted





Assessment, Solutions and Applied Research

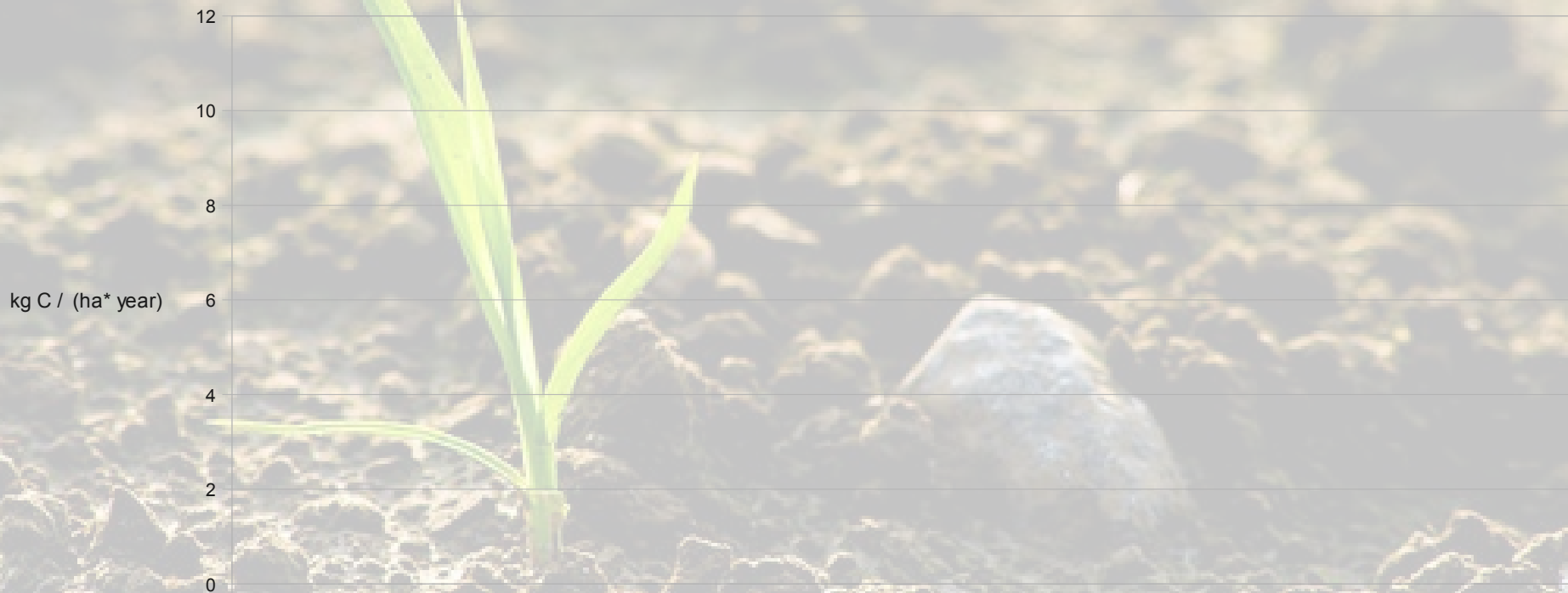


Nitrogen balance





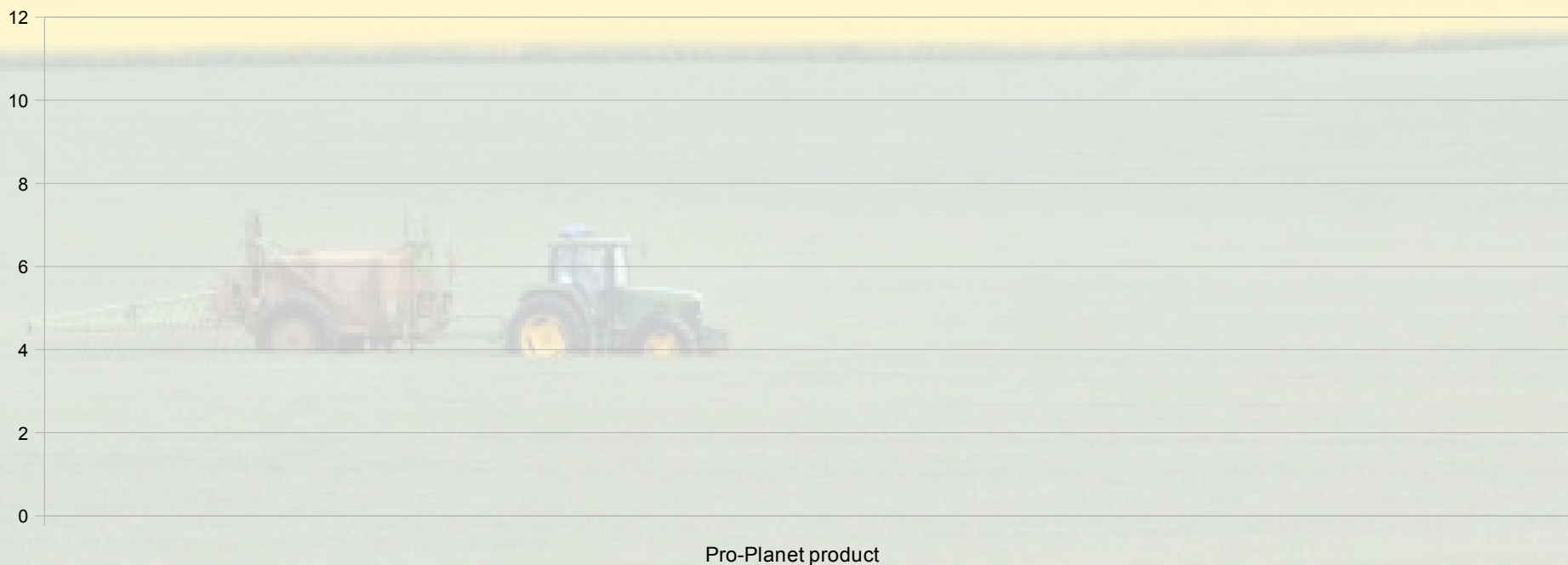
Humus balance



Pro-Planet-Products



Pesticide use index





Comparing production systems



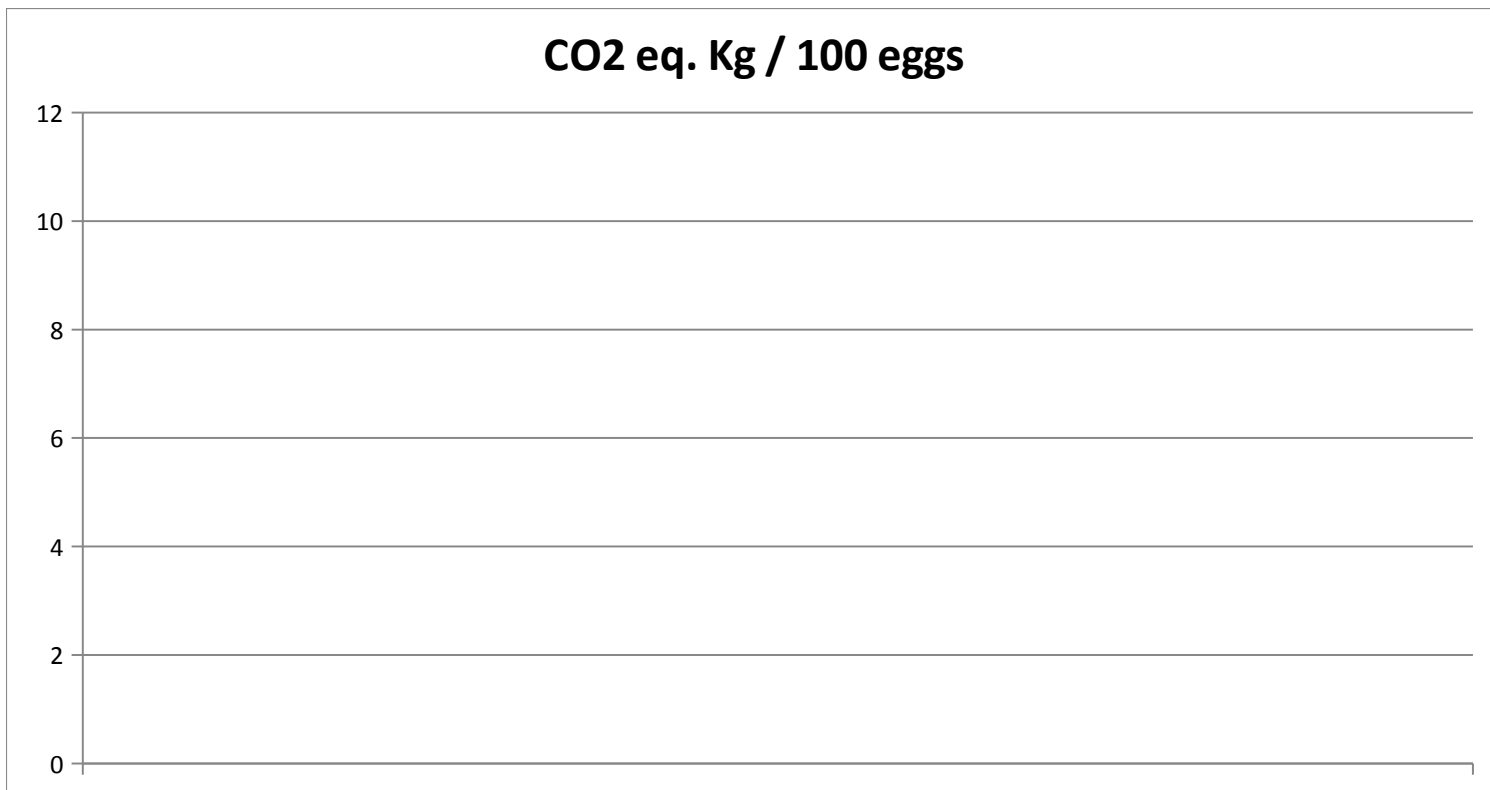






to CO2 in egg production emissions with 100% soy

Conclusion: switch to European soya





CO2 eq. Emissions for sweet corn

kg CO2 / kg Produkt

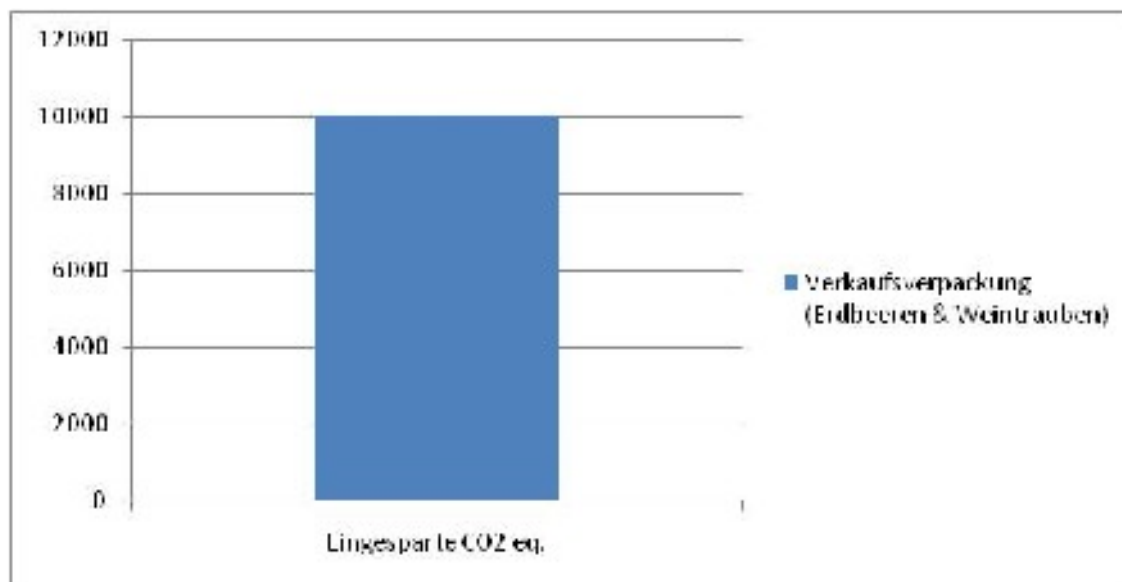
12
10
8
6
4
2
0





Reduced CO2 emissions through Pro Planet

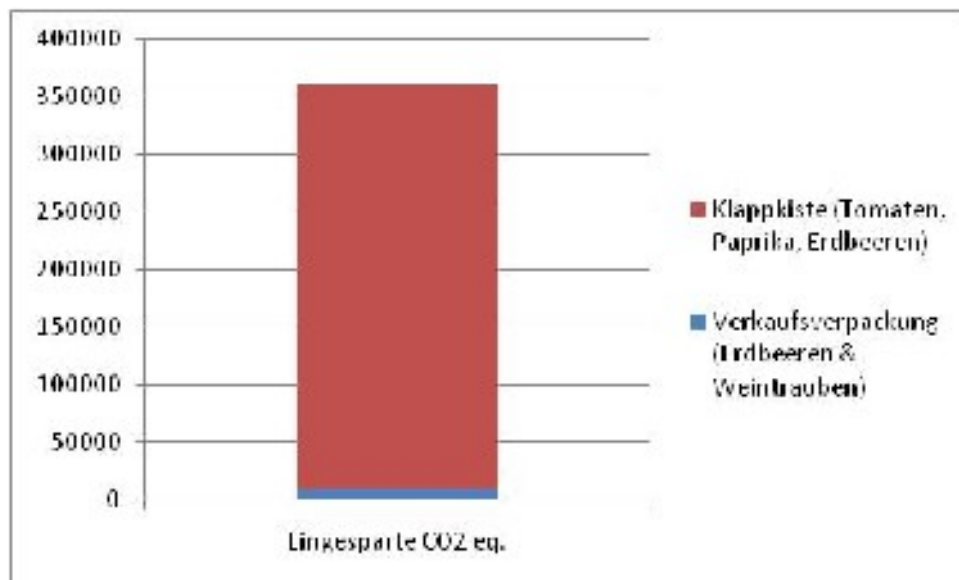
Through change in packaging (strawberries & grapes):
Saves 10000 kg CO2 / year





Reduced CO2 emissions through Pro Planet

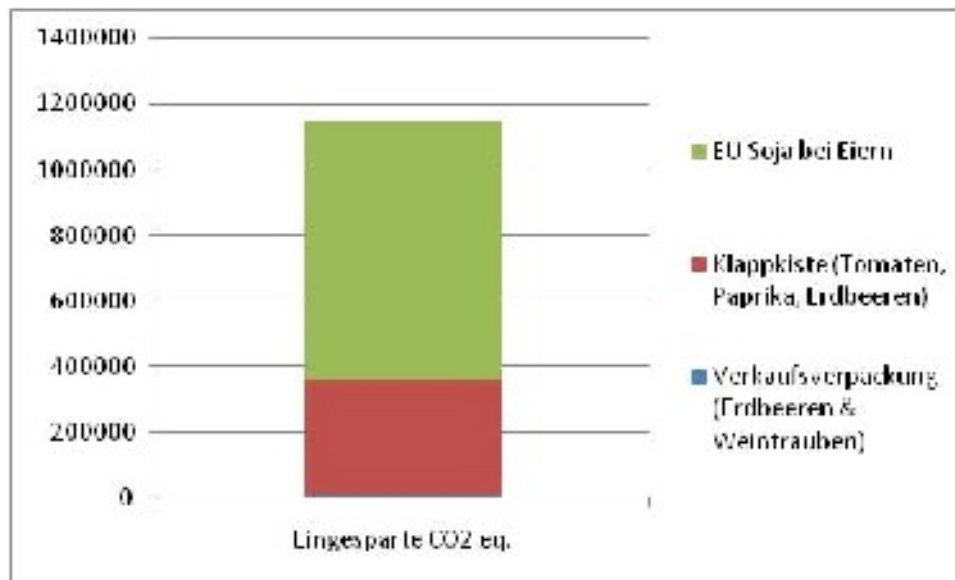
Change to reusable transport packaging
Saves: 340 000 kg / year





Reduced CO2 emissions through Pro Planet

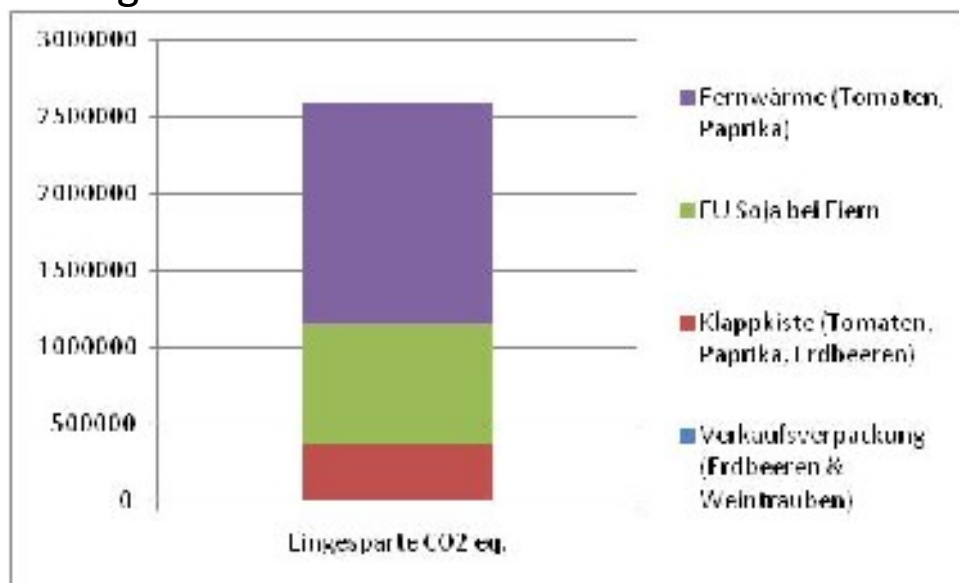
Change to European soya (100%)
Saves: 750 000 kg CO2





Reduced CO2 emissions through Pro Planet

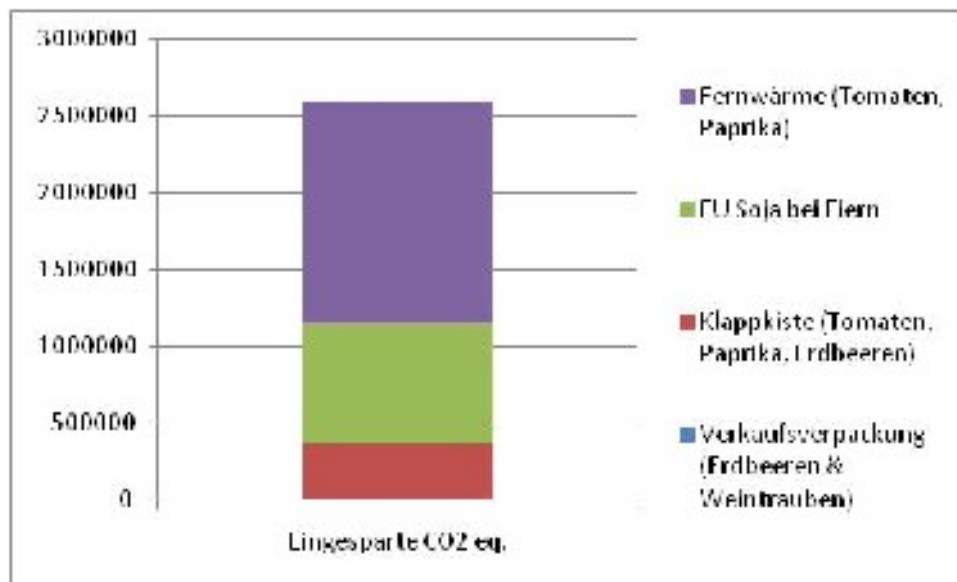
Community heating compared to gas combustion: 1500
000 kg CO2





Reduced CO2 emissions through Pro Planet

That is **2600 tons less CO2eq.!**





Possibility to achieve improvements over whole production chain e.g.:

- Changed packaging e.g. Strawberries
- Increased share of reusable transport-packaging
- Commitments to change fruit rotation
- Commitment to change water use (Spain)
- Replacing synthetic with organic-fungicide
- Replacing South American soya with European
- Biodiversity projects





Success factors

- Largely relying on data that is available and recorded anyway
- Indicators point at hotspots
- Indicators cover resource use, emissions & health
- Improvements can be quantified & communicated
- Indicators are relevant for producers
- Life cycle approach
- Third party assessments
- Stakeholder involvement

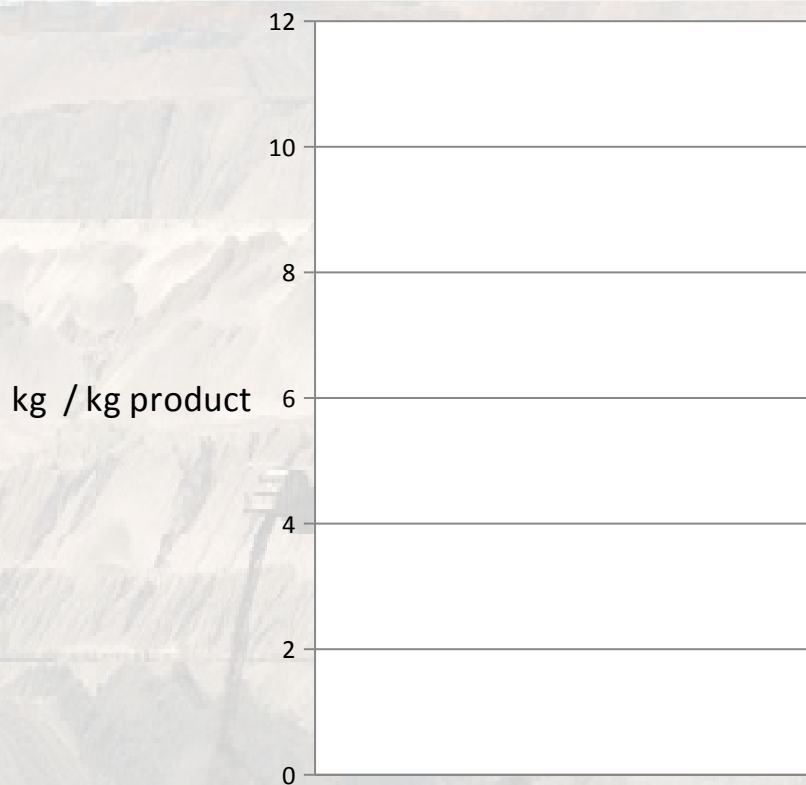


Thank You!

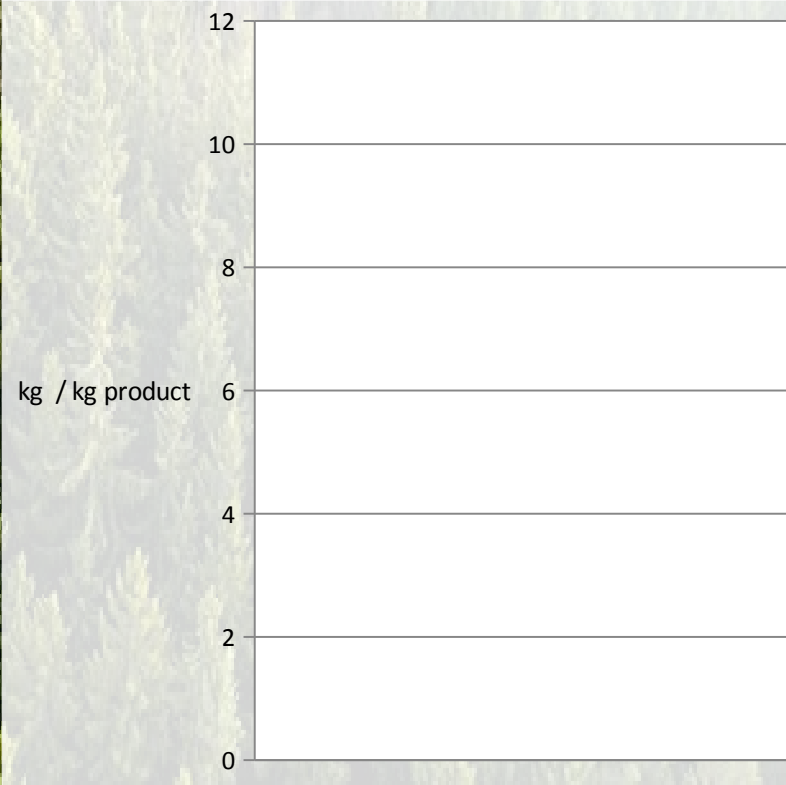


Assessment, Solutions and Applied Research

A-Biotic resource input



Biotic resource input

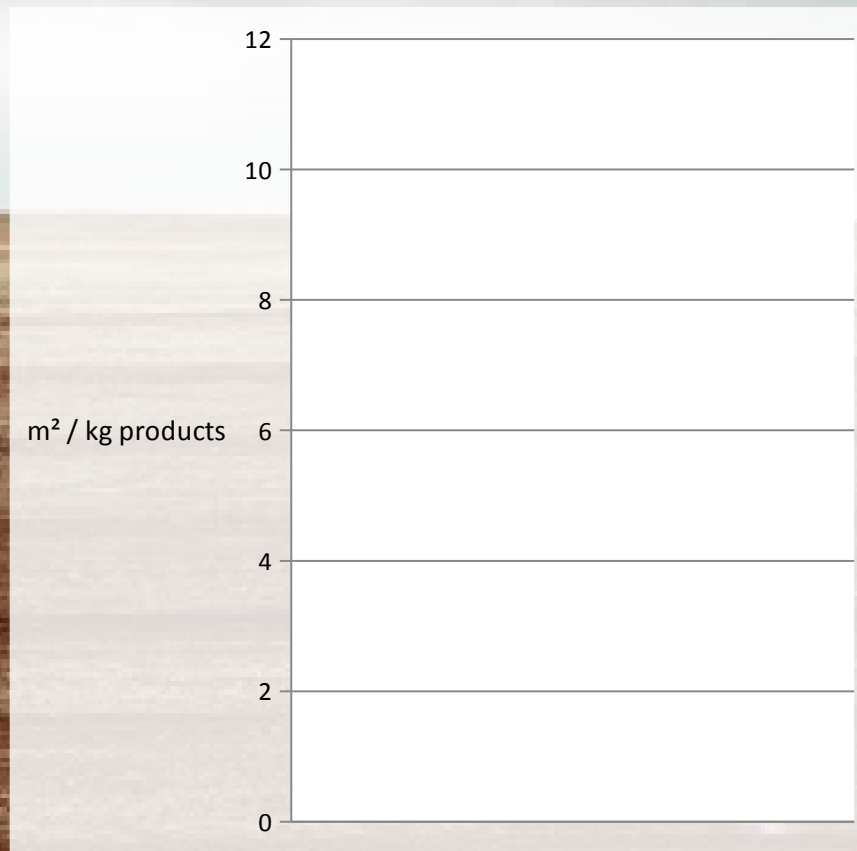




Water input (l/kg)



Area input of vegetables, eggs and heated greenhouse vegetables (community heating)





And an increasing collection of data on the food production chain:





Lessons learned (so far):

- Win win situation



Die 5 Stärken des NHP:

1. Anerkannte Indikatoren & anerkannte Partner
2. Erfolge sind Mess- Beleg- und Kommunizierbar
3. Kann über etabliertes System (GLOBAL G.A.P.) abgewickelt werden
4. Ganzheitlicher Ansatz: From Field to Schelf.
5. Prozess- und Stakeholder orientiert



Sustainability

Which world do
we





Das NHP

- Misst Nachhaltigkeitsperformance von Produkten anhand zehn Indikatoren
- Initiiert einen Stakeholder Dialog
- Gibt Richtlinien vor
- Stellt Ergebnisse zur Verfügung





Das System

Rohstoffe

Energie

Wasser

P & N (Nährstoffe)

Boden





Rückblick:

- REWE Datenbank & Eingabemaske
- GLOBAL GAP Datenbank
- Schnittstelle zur LK-Agrarsoftware Bodenwächter & OPST-Software
- 14 Produkte Ausgelobt
- Ca. 300 Produzenten Teilgenommen
- TRIGOS Nachhaltigkeitspreis gewonnen



Für die Umwelt erreicht:

- Umdenken bei Fruchtfolgen (Maiswurzelbohrer, Humus)
- Umstellen von Transportverpackungen auf Mehrwegsystem
- Förderung von Pilzresistente (Piwi) Tafelweinsorten
- Insektenhotels & Blühpflanzen (Äpfel)
- Versuche mit Biologischen Fungiziden (Erdbeeren)
- Messung von Humusverlusten bei Äpfeln
- Umstellen von Verkaufsverpackungen
- Förderung von alternativen Energiequellen bei Gewächshäusern (Fernwärme, Geothermie)
- Umstellung auf entsalztes Wasser in Almeria
- Verzicht auf Bienengefährliche Saatgutbeize





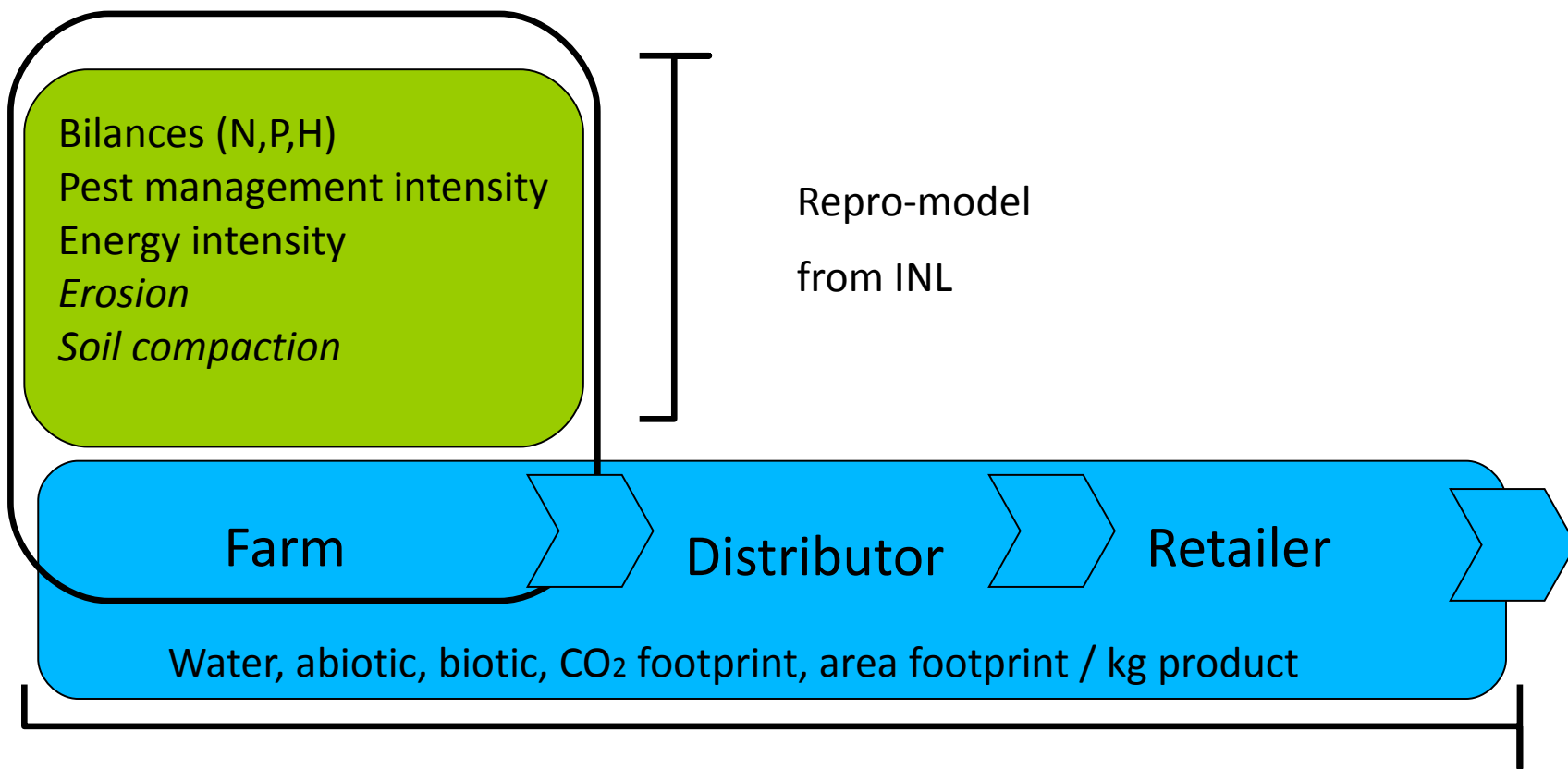
Objectives:

- Progress towards sustainability
 - Less resource use
 - Less emissions
 - Less environmental impact
- Develop measurable indicators
- Information for costumers
- Information and recomandation





The indicators



Footprint calculation by SERI



Data on:

- Material and energy inputs (per unit)
- Material input factors for calculating the rucksack
- Information on field management (pesticide use, machines, yields) - sometimes for a period over three years



Discussion and involvement of stakeholders (I): Learning from praxis

What are the day to day problems faced by farmers?

What do the stakeholders perceive as sustainability problems?

What are workable solutions?

=> Work out guidelines to progress towards sustainable production



Discussion and involvement of stakeholders (II):

Ensure good data quality

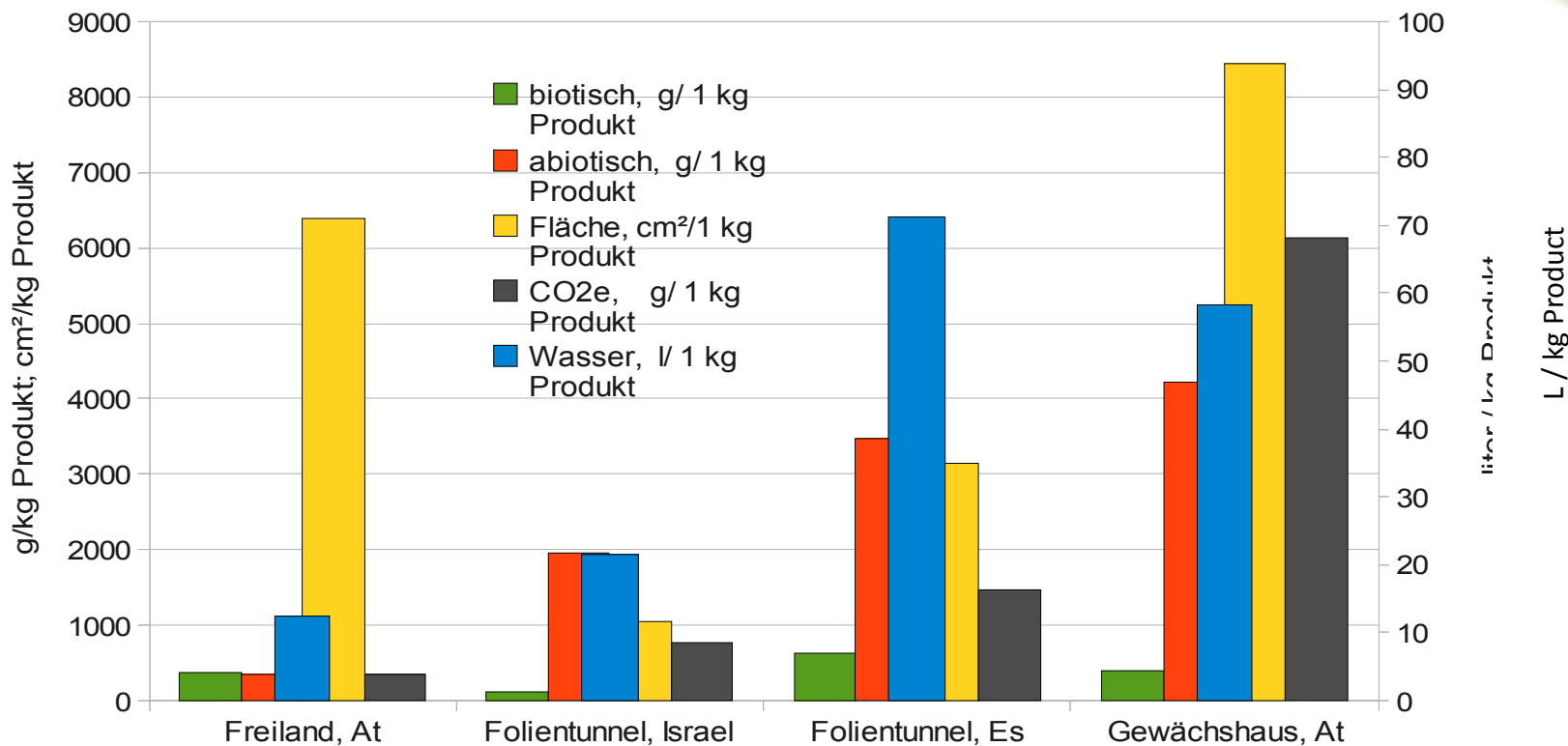
Make data collection as easy as possible! This reduces workload and avoids misunderstandings!

Ask the stakeholders what data has to be estimated and what data they already have numbers for



First results for strawberries:

Ressourcenverbrauch Erdbeeren





Voraussetzungen für den Erfolg des Gesamtprojektes

- Das Nachhaltigkeitsprogramm schafft für alle Beteiligten eine **WIN-WIN-Situation**
- Das Nachhaltigkeitsprogramm ist **leistbar** und für den **Massenmarkt** anwendbar.
- Das Nachhaltigkeitsprogramm ist **glaubwürdig**, **transparent** und **wissenschaftlich fundiert**.



The GAP process under GLOBALG.A.P has been developed by industry and retail experts and is based on latest science. A centrally conducted and continuously reviewed generic HACCP plan serves as foundation of the Control Points and Compliance Criteria.



Advancing

**Sustainable
Agricultural
Practice**





Why ten indicators?

- Sustainability is multidimensional
- Interaction between components in a complex system. Sometimes an improvement in one indicator comes at a decline in another.



Steps	Action:	Aim:
1 Screening	Assessment of production methods, regional distinctions, known hot-spots, data for local water use	Adapt questioners to production, first contacts to local stakeholders, calculation of regional benchmarks (water)
2 Stakeholder Workshop I	stakeholder workshop with: Producers, representatives, experts, retailer representatives	Discuss possible ways to resolve hot spots, costs of action by producers, answer questions about data requirements, indicators etc.
3 Data collection	Producers have access to data collection interface. Advice and help producers to fill in their data	Maximize data quality, minimize frustration of participants.
4 Indicator calculation	Check plausibility of results; obtain missing data	Arrive at valid indicator results
5 Benchmarking:	Set benchmarks that define a zero-tolerance and a target-area for sustainable production	To arrive at a realistic weighting function that acknowledges good performance and keeps room for improvements.
5.1 Stakeholder Workshop II	Stakeholder workshop with: farmer representatives, experts, retailer representatives	Check if benchmarks are realistic i.e. can be reached in real world practice. Suggest rules (e.g. crop rotation schema) to resolve hot spots. Evaluate costs of action by producers and communicate it to the retailer.
5.2 Expert Workshops	Discuss and clarify open questions on benchmarking	Arrive at valid benchmarking system. Especially for defining zero-tolerance areas.
6 Labeling	Clearance from GLOBAL 2000 and Caritas for retailer to label products.	Labeled products are available in supermarket. Results are communicated to customers
7 Report back results to producers	Provide commented results to participants	to inform the producer about his performance