

# ONE TWO WE

Life cycle management in canteens together  
with suppliers, customers and guests

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# Goal and Scope for the project commissioned by the canteen operator SV group

- Total food purchases
  - in 240 canteens
  - for 19.2 million meals
  - worth more than 150 Mio. CHF
- Functional unit: 1 meal served
- Share of different types of ingredients?
- Improvement potentials developed together with WWF and ewz (energy supply)

## Data collection in a modular LCA

- Inventory of 12'000 articles purchased from different suppliers
- Total purchase of 21'000 tonnes food and non-food
- Linked to 200 different type of products in ESU data-on-demand database
- Further coverage of packaging, type of conservation, origin and mode of transport

# ESU-services global food database

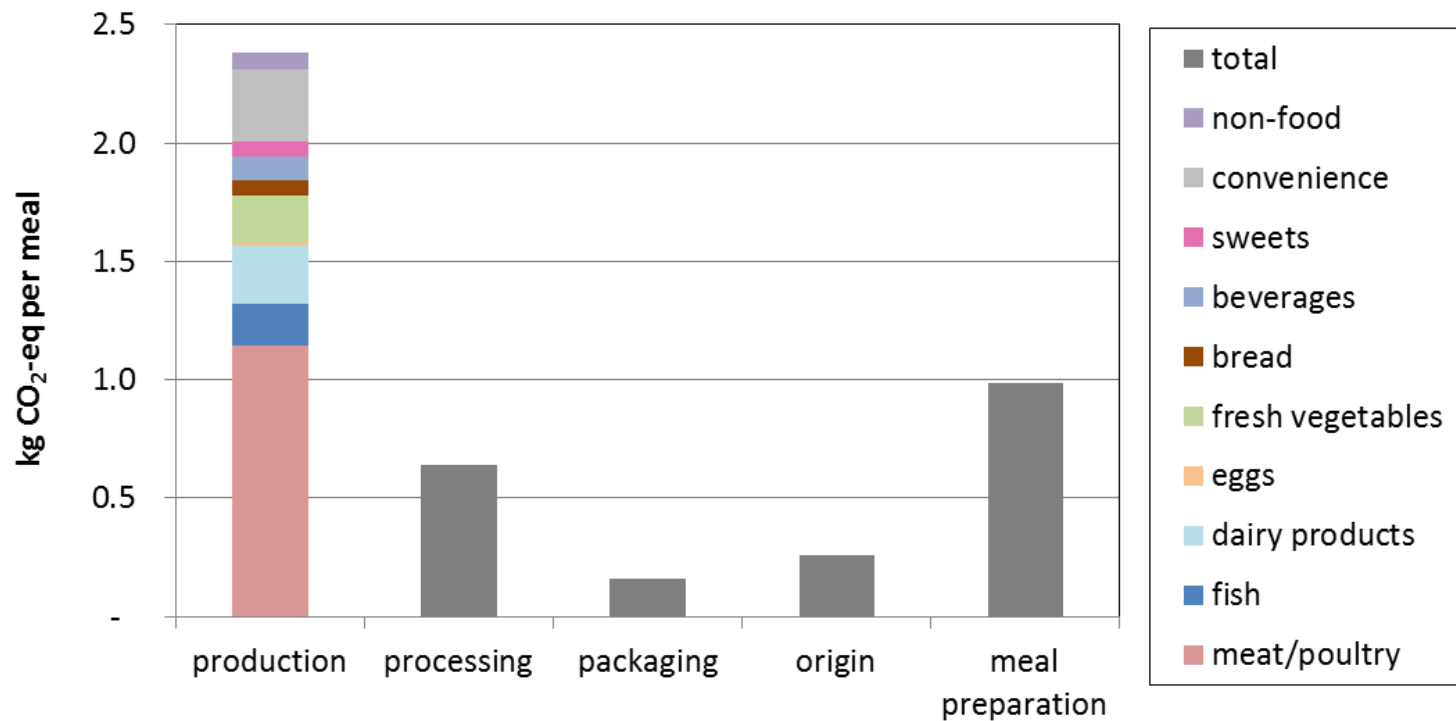
- First work on cooking in India (1994-1995)
- Further development with Ph.D. thesis of Niels Jungbluth on meat and vegetable consumption in CH (1996-2000)
- Several projects of ESU-services for extension
- Today more than 2'500 datasets related to food production and consumption
- Background data and methodology according to ecoinvent v2.2
- Data can be provided for SimaPro
- Costs depend on number and documentation

# Composition of the average canteen meal

Product group	grams per meal
meat/poultry	108
fresh vegetables	310
bread	108
dairy products	135
eggs	5
fish	21
sweets	32
convenience	137
beverages	225
non-food	42
<i>Share organic</i>	<1
<i>Share CH/ship/air-transported</i>	<i>61% / 9.5% / 0.5%</i>

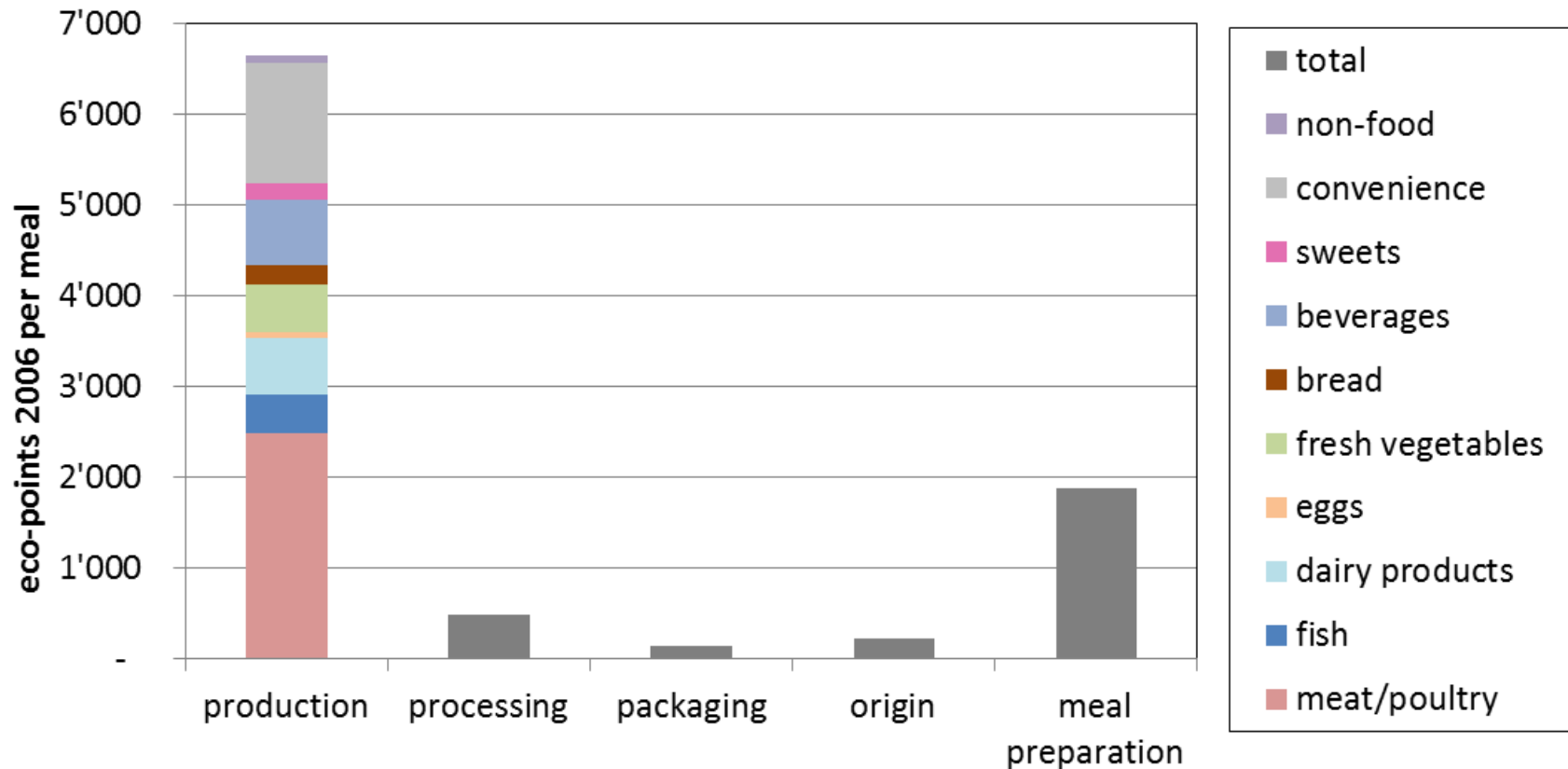
# GWP of meal preparation in canteens

87.000 t CO<sub>2</sub>-eq per year (66.000 t CO<sub>2</sub>-eq goods and 21.000 by preparation)



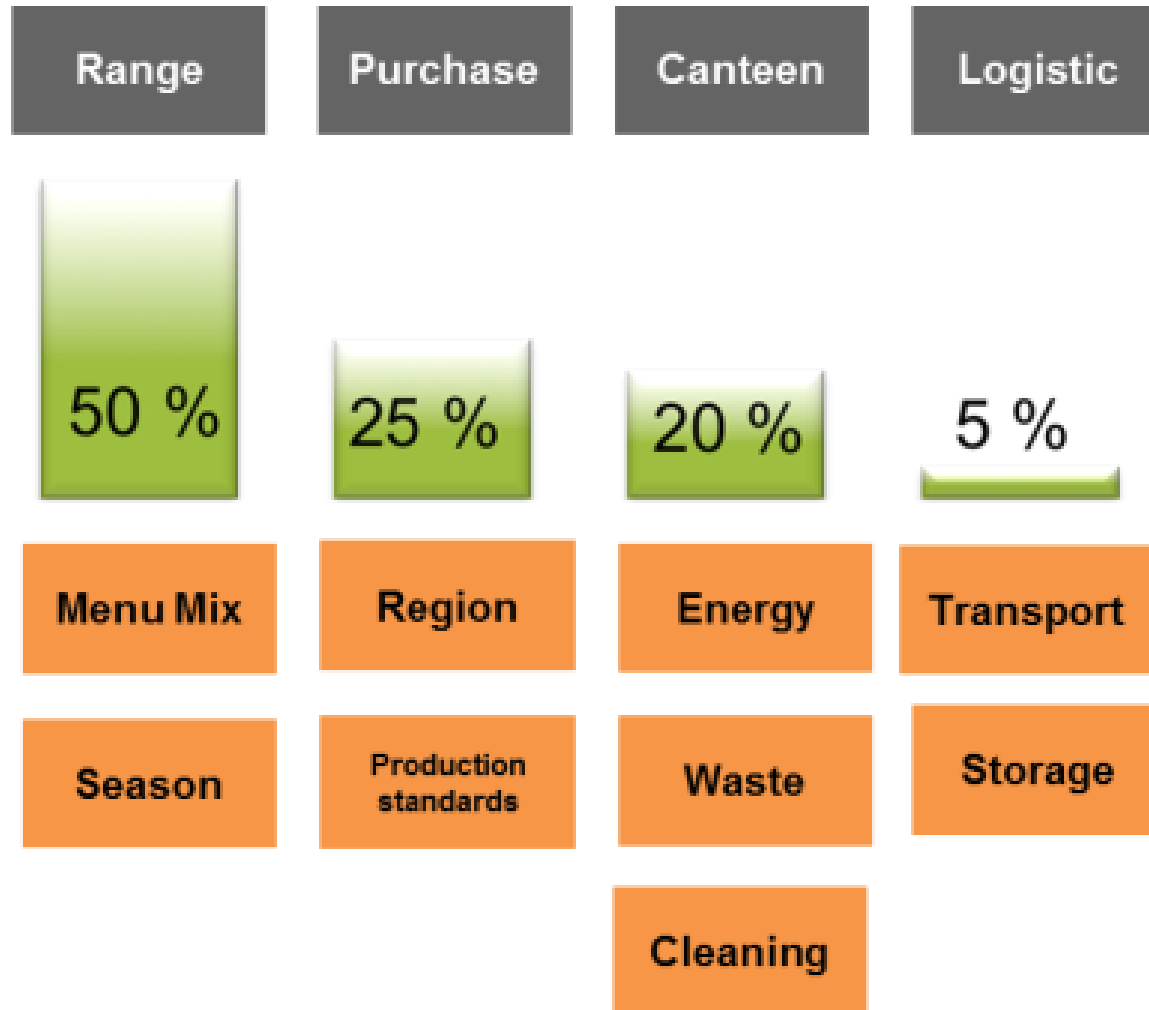
- Production of food much more important than preparation
- Meat and fish dominate the results with more than 50%

# Full LCIA of total purchases per meal



- Supply chain and agricultural production even more important in a full LCIA

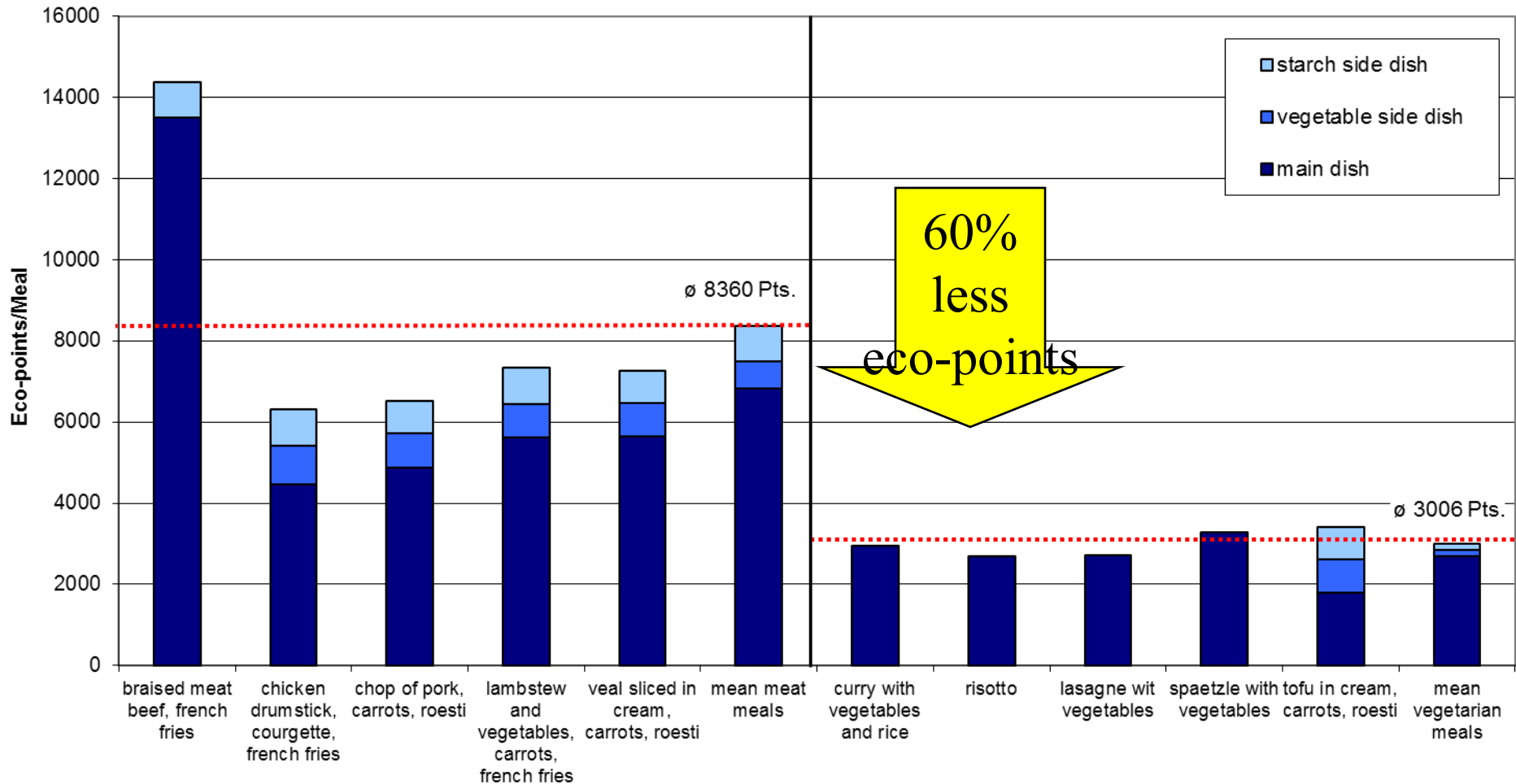
# The programme ONE, TWO, WE



➤ Customer can choose between improvement options for their canteen



# Improvement: Vegetarian canteen meals



➤ Vegetarian meals reduce the environmental impacts considerable

# Improvement: Season calendar for fruit and vegetables

kg CO2-eq per kg vegetable		Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Green asparagus	CH-Lorry	n.a.	n.a.	n.a.	1.9	1.9	1.9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	ES-Lorry	n.a.	n.a.	n.a.	2.1	2.1	2.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	MX-Air	22.7	22.7	22.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	PE-Air	24.9	24.9	n.a.	n.a.	n.a.	n.a.	24.9	24.9	24.9	24.9	24.9	24.9
	US-Air	n.a.	18.7	18.7	18.7	18.7	18.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Zucchini	CH-Lorry	n.a.	n.a.	3.9	3.9	0.6	0.6	0.6	0.6	0.6	3.9	3.9	n.a.
	ES-Lorry	0.9	0.9	0.9	0.9	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	0.9	0.9
	IT-Lorry	0.7	0.7	0.7	0.7	n.a.	n.a.	n.a.	n.a.	n.a.	0.7	0.7	0.7
	MA-Lorry	1.0	1.0	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.0	1.0
Zucchini TK	FR-Lorry	1.8	2.0	2.2	2.3	1.1	1.1	1.1	1.1	1.1	1.3	1.5	1.6
Zucchini TK	CH-Lorry	0.7	0.7	0.7	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7

Assessment of global warming potential

Season calendar to assess monthly routes

Main difference: heating greenhouse and air freight

## Main Improvement options followed up

- Less meat per meal and more vegetarian meals
- Supply chain management for vegetables from heated greenhouses
- Reduction of air-transportation
- Less food waste

- Each customer can choose the extra services and offers for their canteen
- Goal: 10% less CO<sub>2</sub>-eq or -6000 tonnes in 2015

## Status after the first year

- 42 canteens participating
- 418 Tonnes of CO<sub>2</sub>-eq saved, 5.5% reduction
- SV purchased 54 tons less meat and fish and at the same time 35 tons more vegetables
- Reduction of 35% air-transportation saved 5 tonnes of CO<sub>2</sub>-eq

# Conclusions

- Life cycle management is necessary and feasible to reduce environmental impacts of canteens
- In-depth LCA analysis helps for internal and external argumentation
- Collaboration with suppliers in order to reduce impacts in the supply chain is necessary
- The holistic approach on environmental improvements was welcomed by many customers and guests

# Congratulations to our customer SV Group winning the Zurich climate prize 2013

Further information at:

[www.esu-services.ch/projects/lcafood/onetwowe/](http://www.esu-services.ch/projects/lcafood/onetwowe/)

[www.one-two-we.ch](http://www.one-two-we.ch)

Thank you very much for  
your attention