

## **Consumption based GHG Emissions: The Swiss Case**

Carsten Nathani

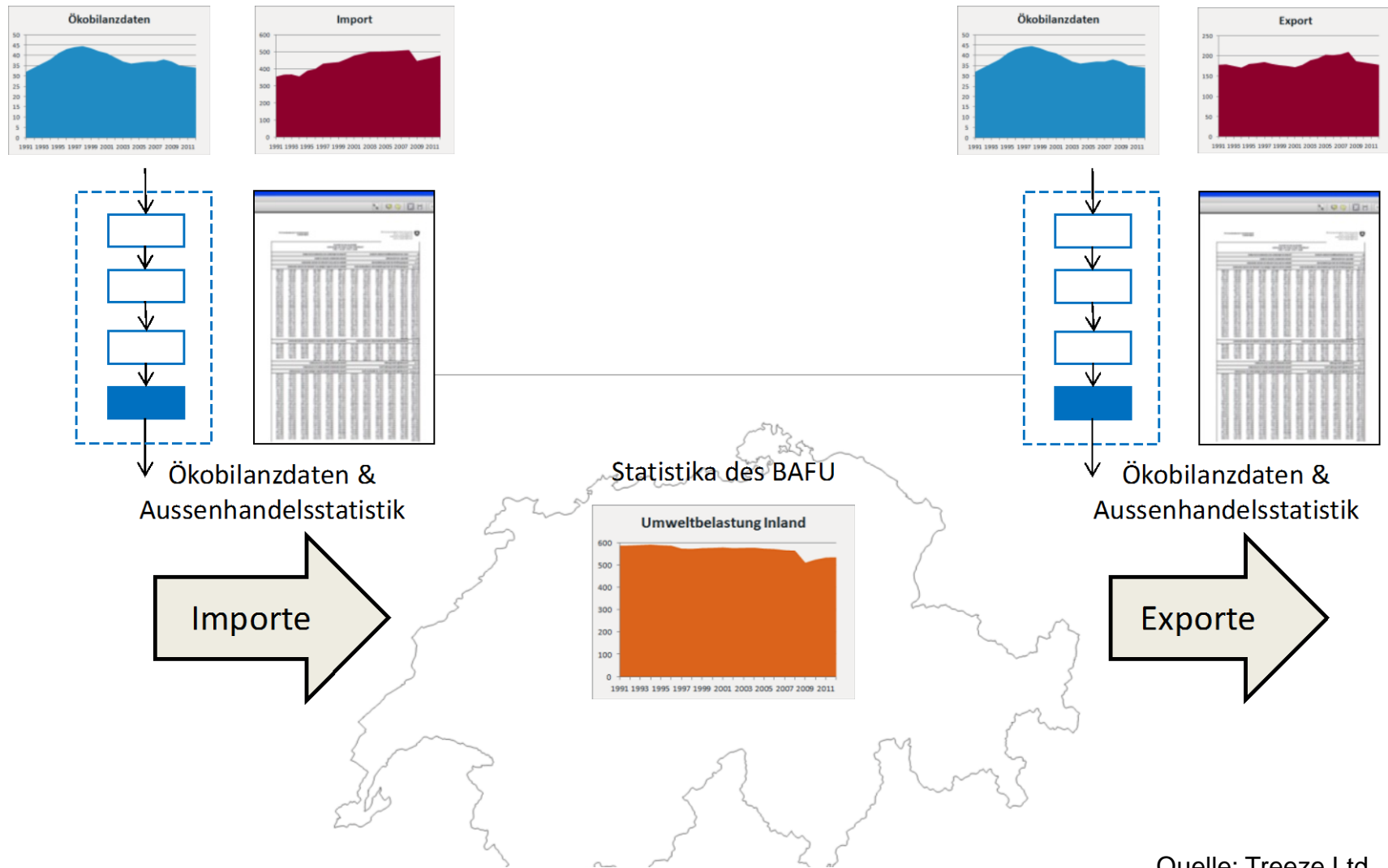
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Breakout Session 10: The Paris Lifestyle –  
Technologies and Opportunities for Climate Protection  
August 25, 2017

1. Domestic vs. consumption based emissions in Switzerland
2. Drivers of consumption based emissions
3. Food-related emissions and their drivers
4. Conclusions

# Domestic vs. consumption-based GHG emissions in Switzerland

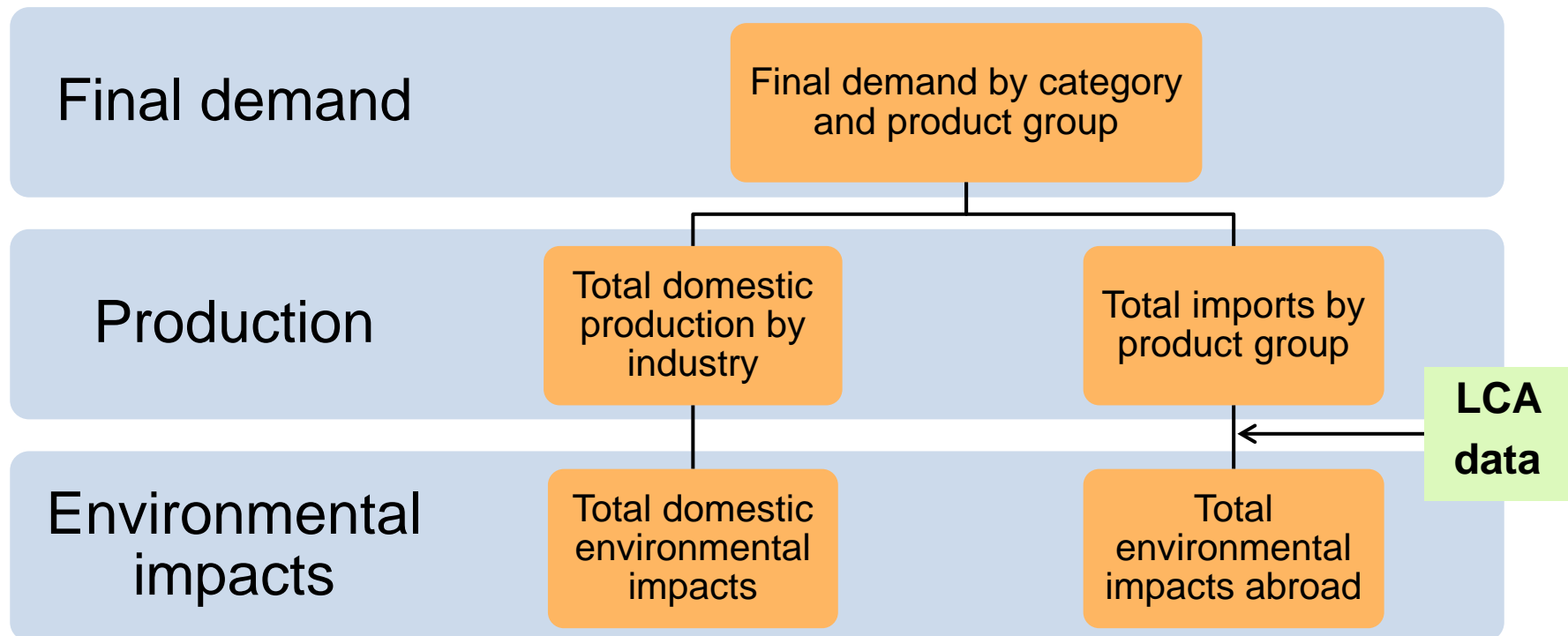
# 1. Approach: National emission inventories, foreign trade statistics + LCA data

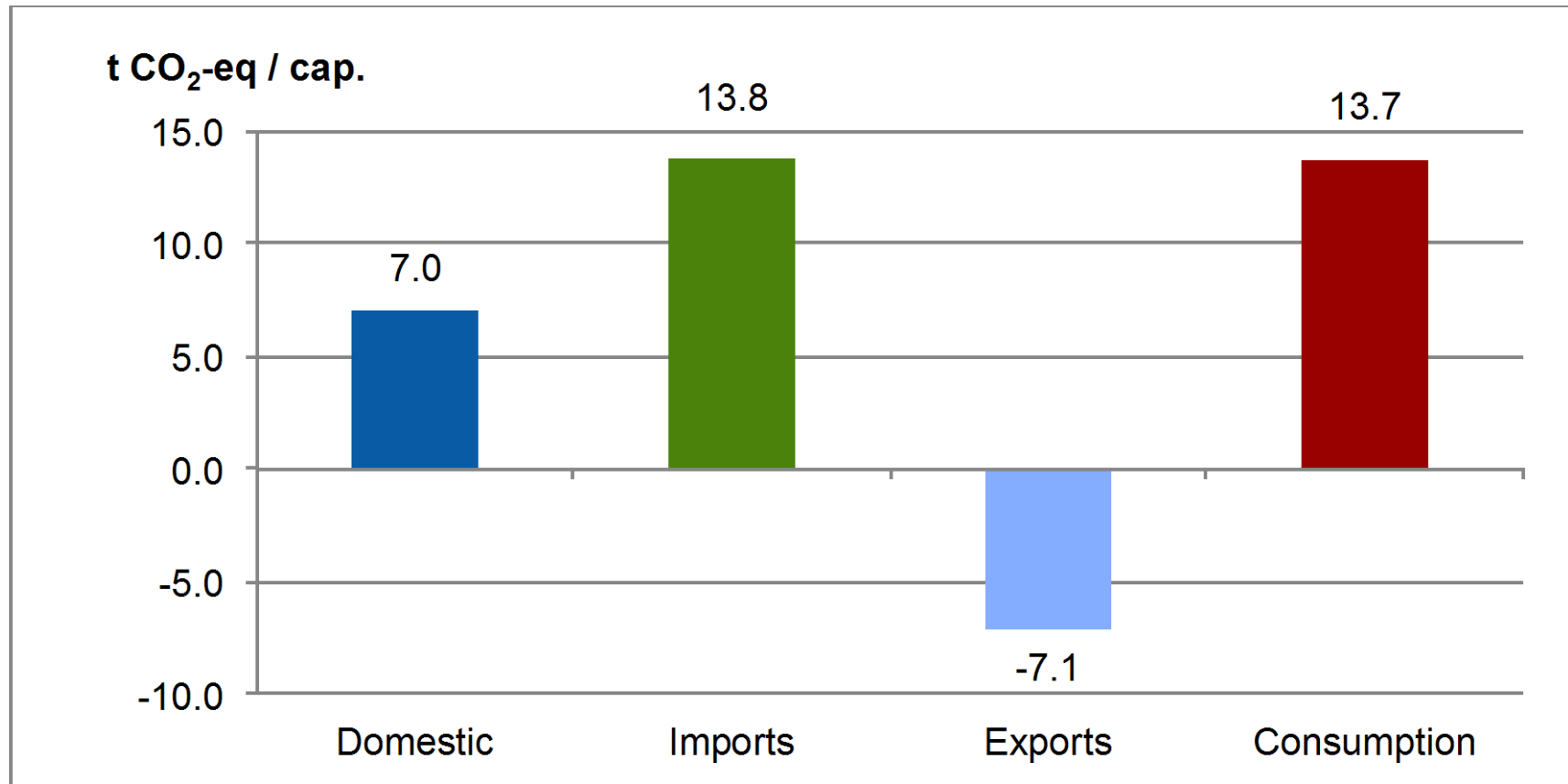
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Quelle: Treeze Ltd.

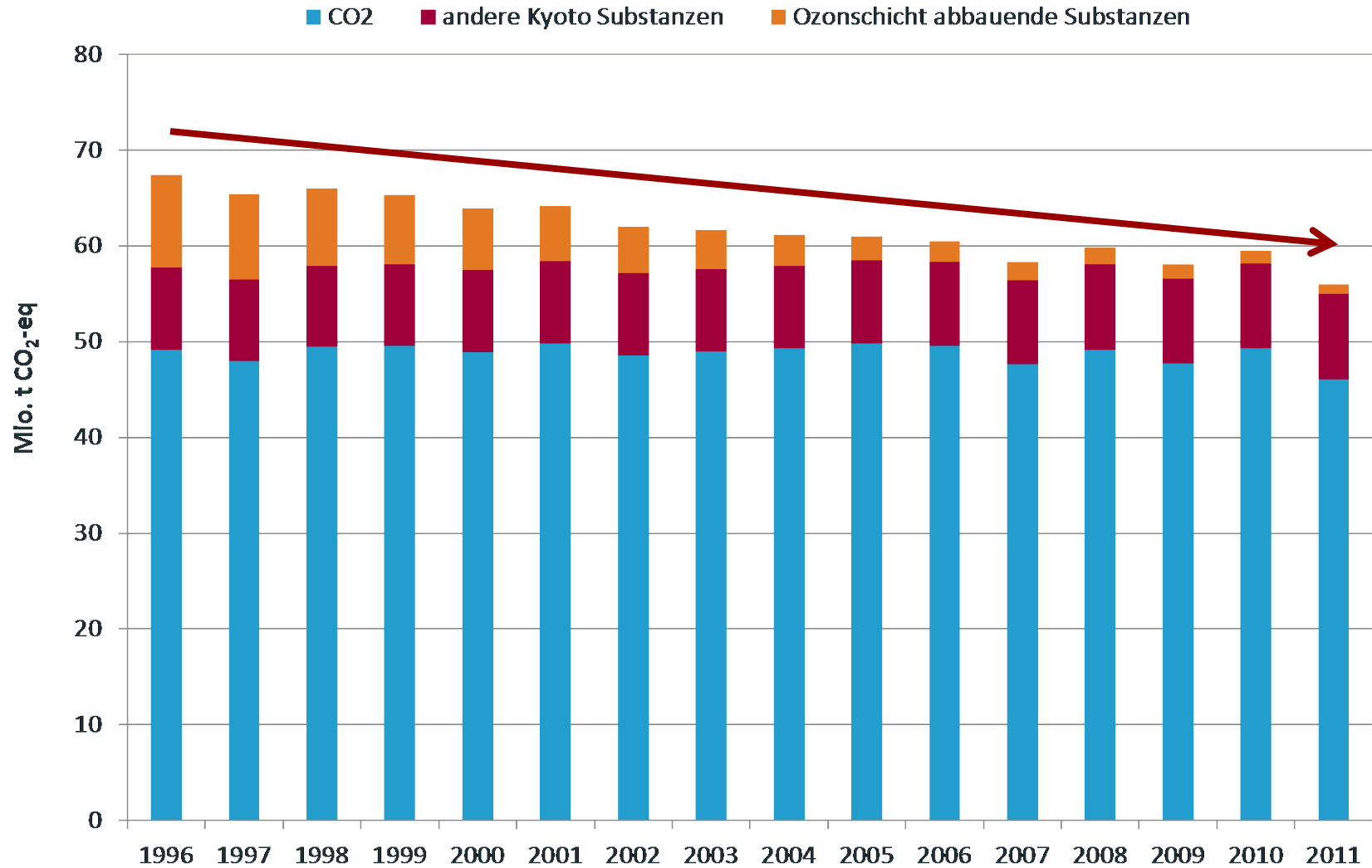
Approach: Combination of an environmentally extended input-output table with foreign trade data and LCA data



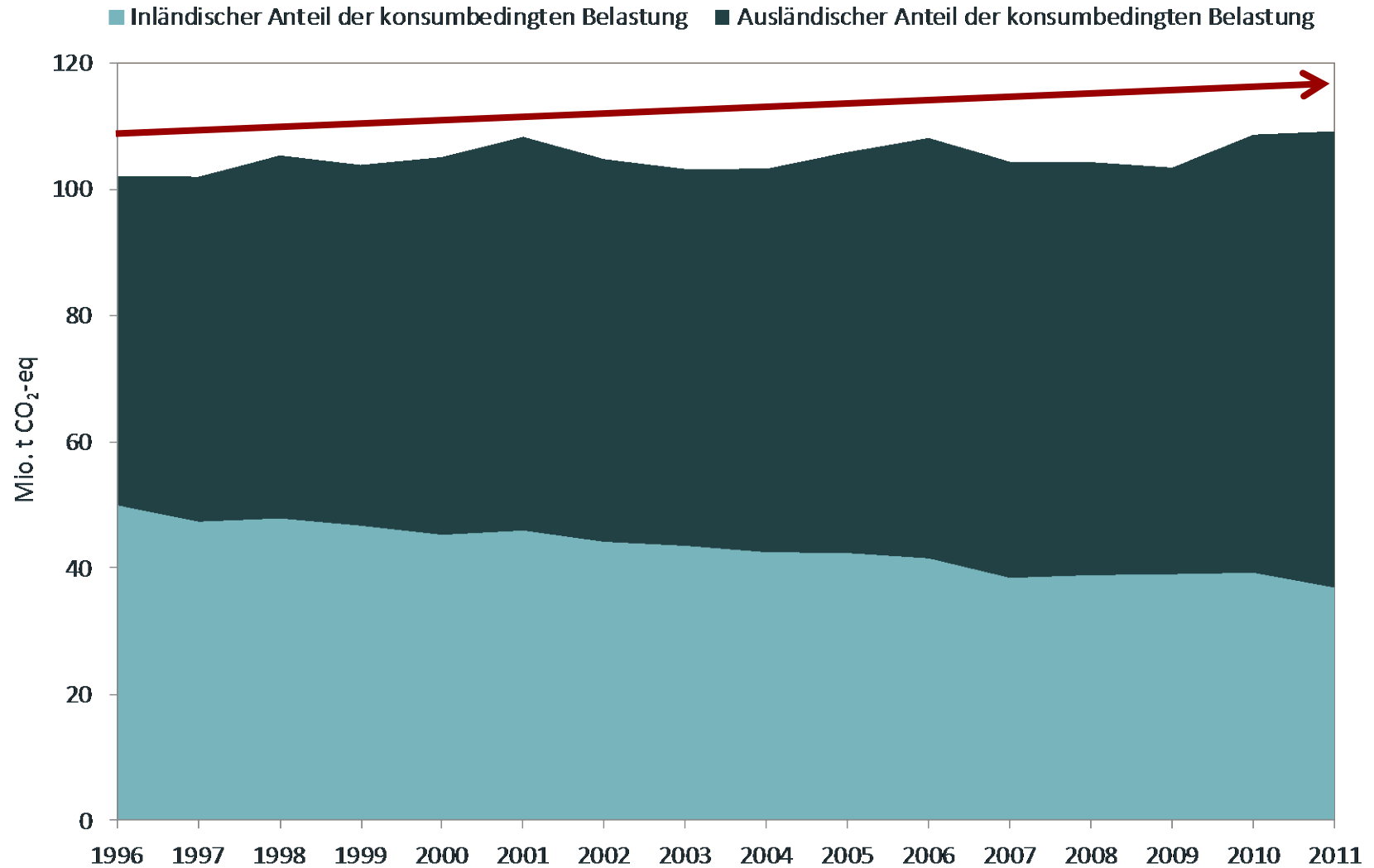


Source: Frischknecht, Nathani et al. 2014

- Long-term goal in discussion: 1 t CO<sub>2</sub>-eq. per capita

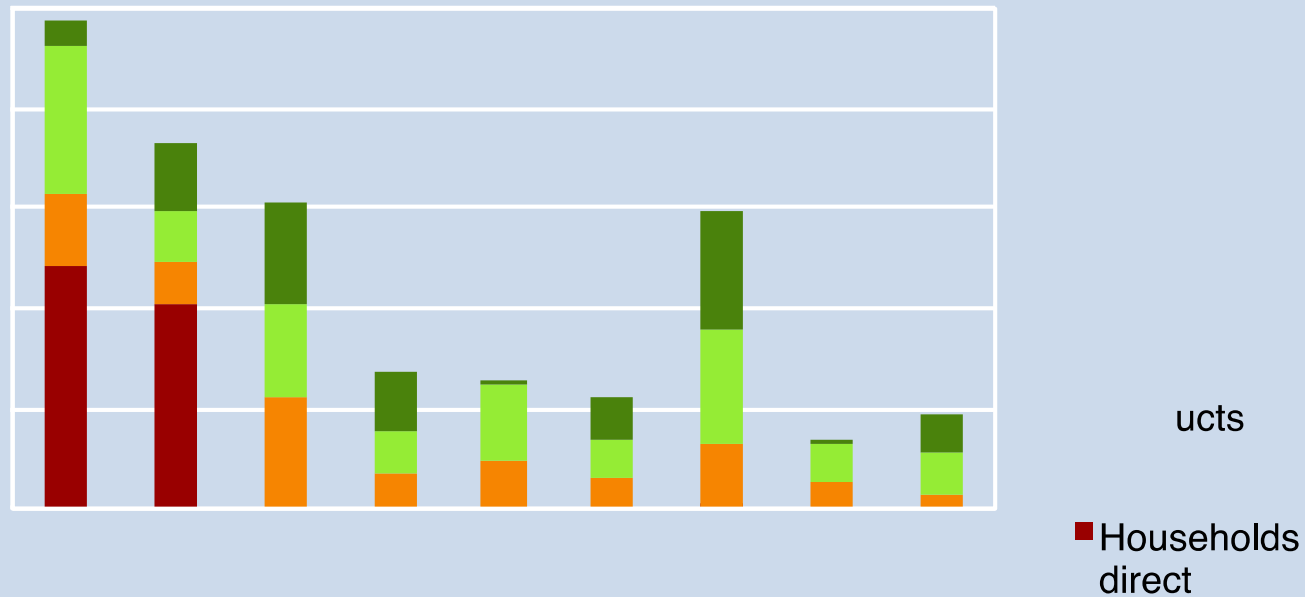


Source: Frischknecht, Nathani et al. 2014

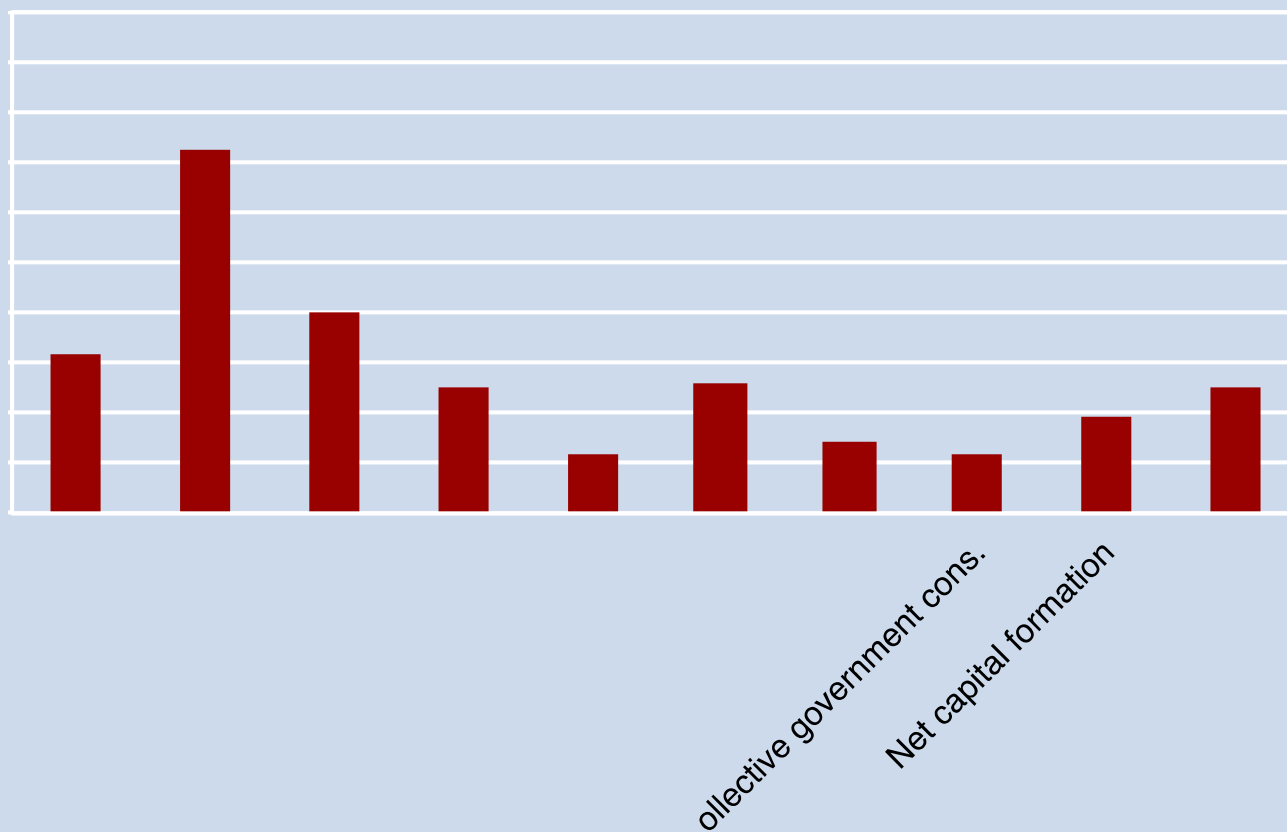


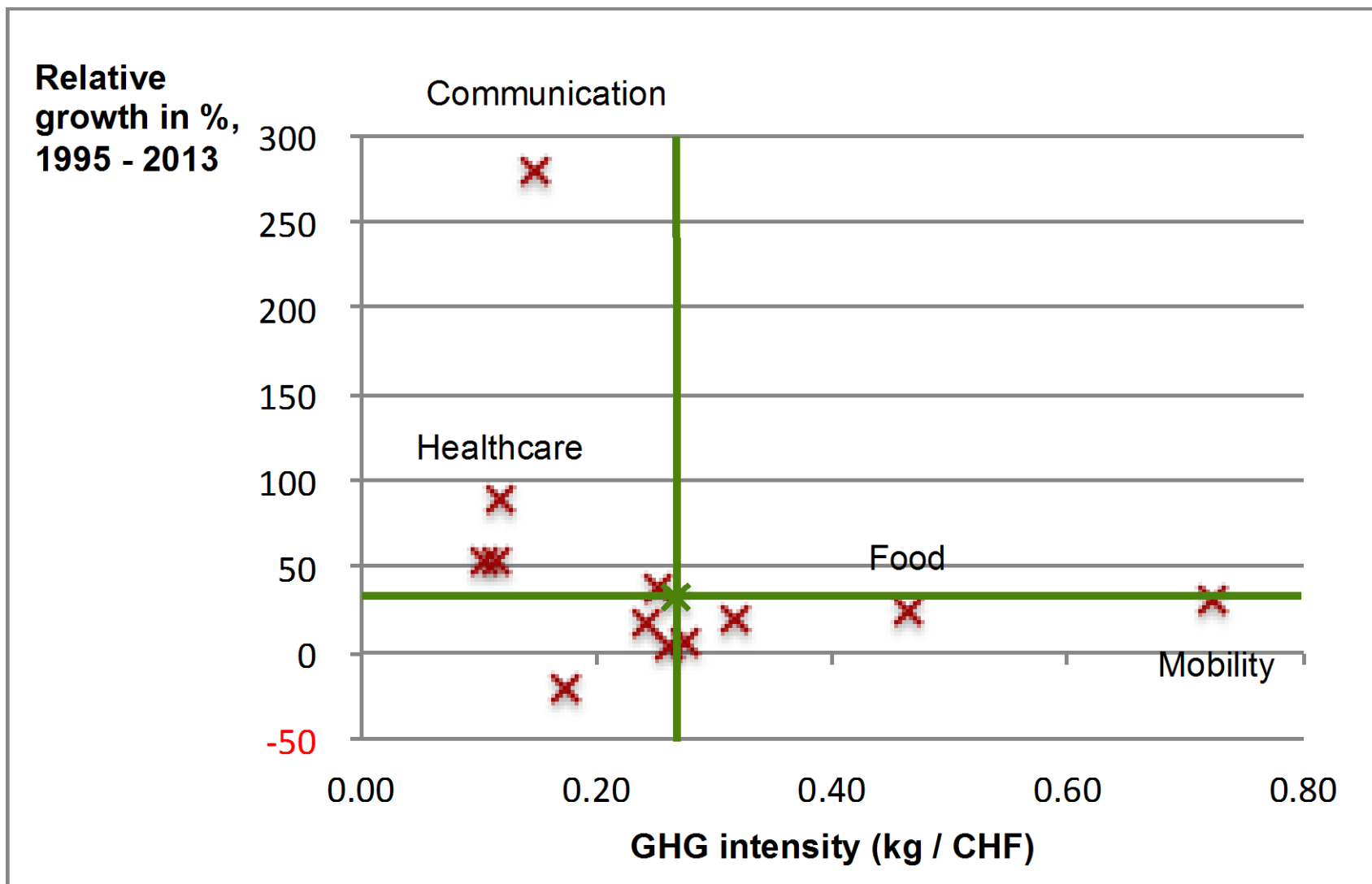


# Drivers of consumption-based emissions

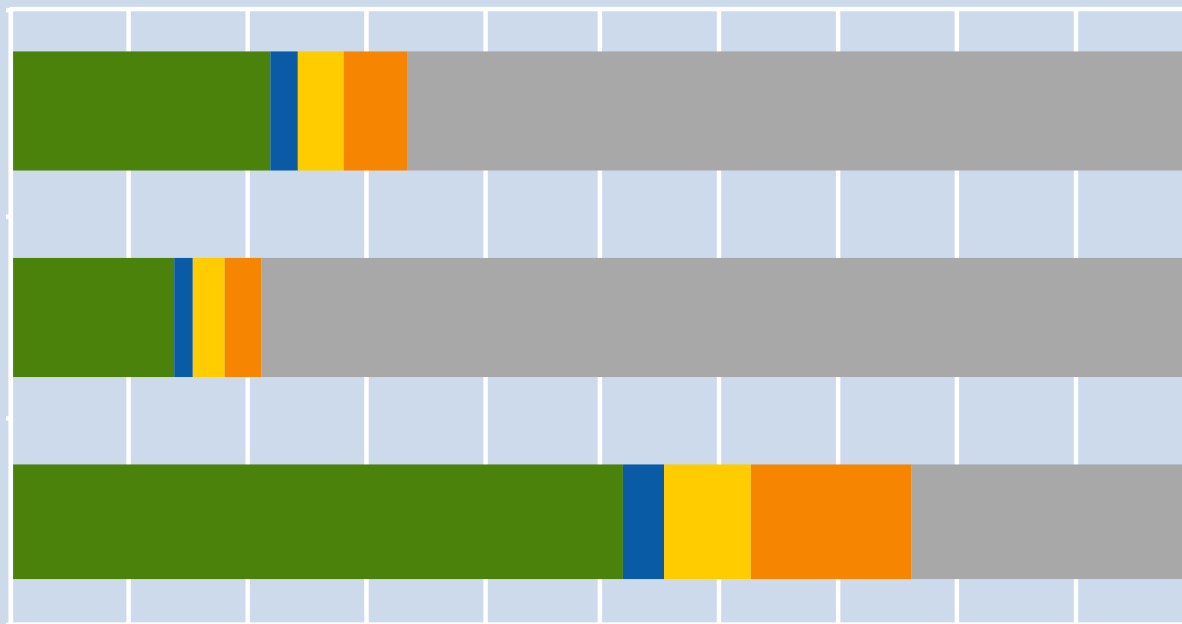


Source: Calculation Rütter Soceco



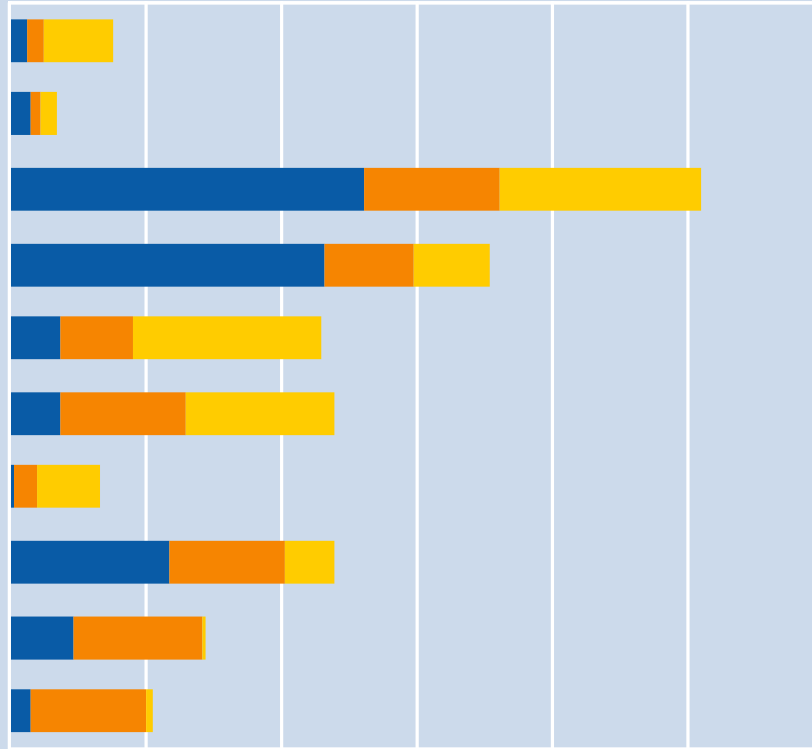


# Food-related environmental impacts and their drivers



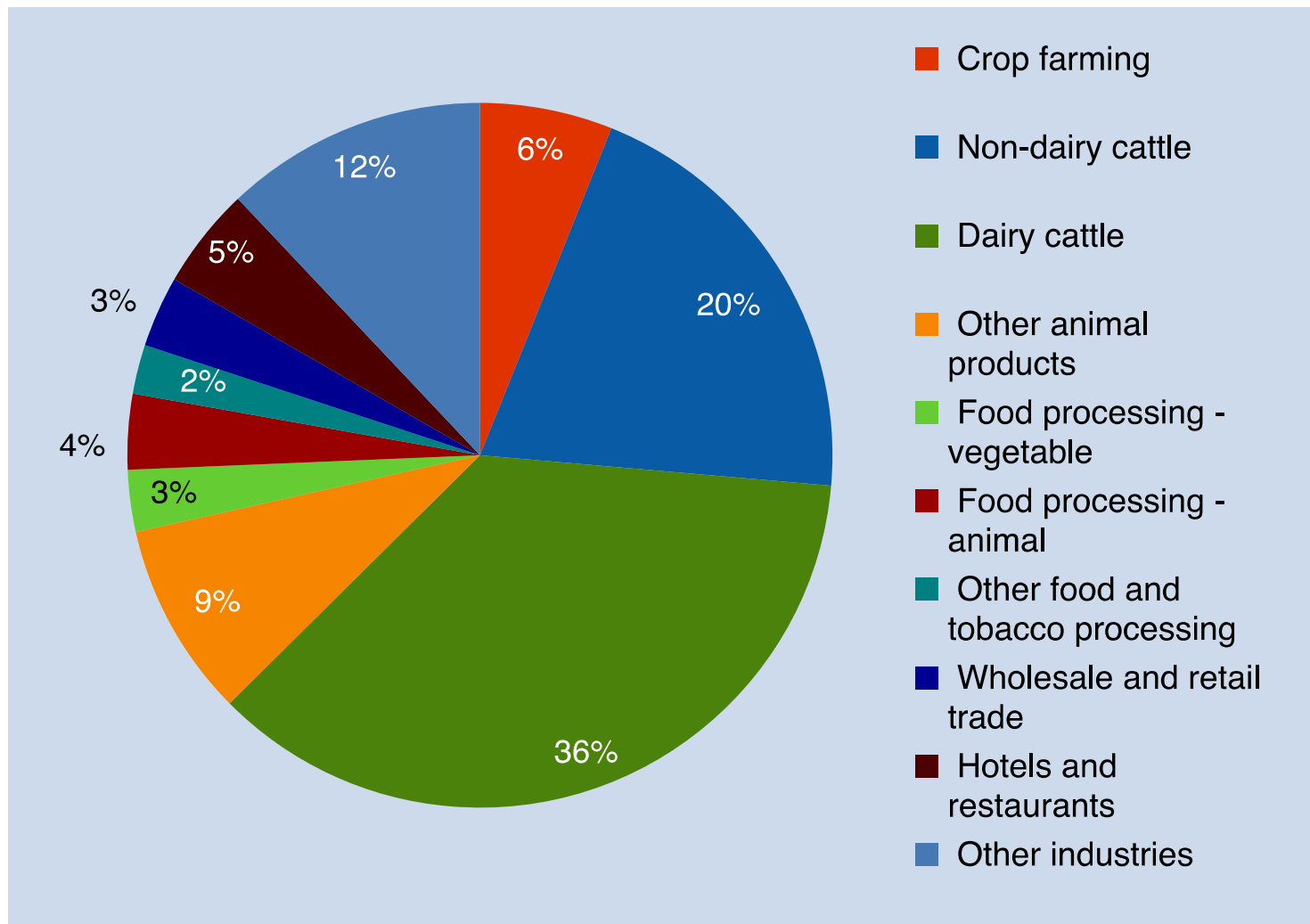
Source: Rütter Soceco

Total environmental impacts according to the ecological scarcity method



al demand

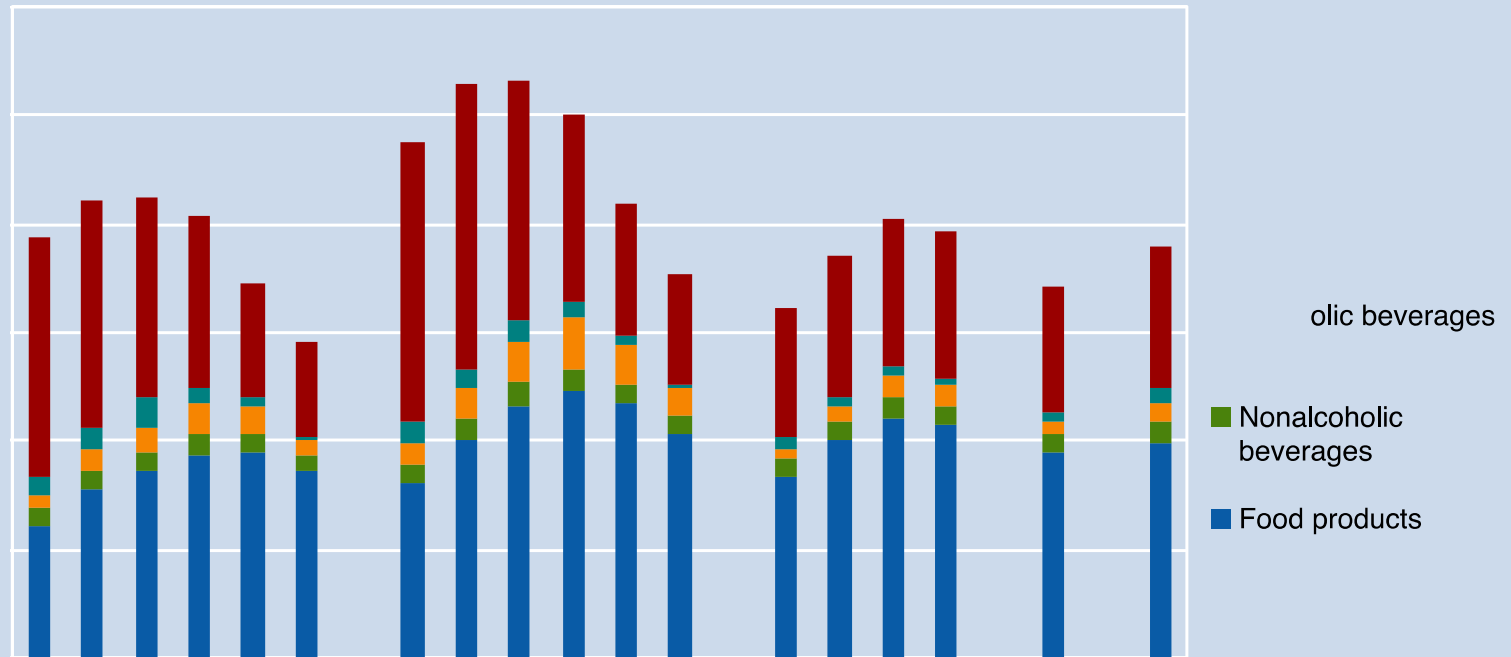
Source: Rütter Soceco



Quelle: Rütter Soceco

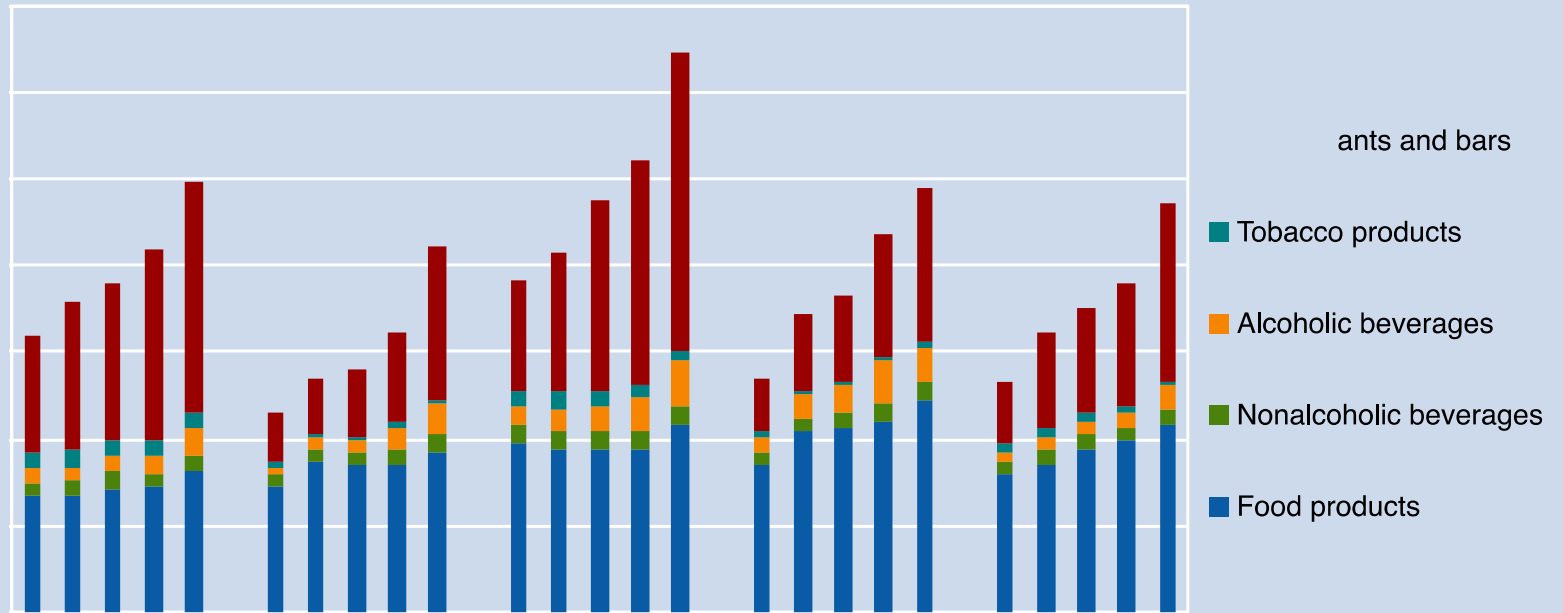


CHF/  
Person



Quelle: Rütter Soceco

CHF/  
Person



Quelle: Rütter Soceco

- Consumption-based GHG emissions
  - Consumption-based GHG emissions are much higher than domestic emissions (almost double!)  
=> potential for consumption-based policy measures!
  - Domestic emissions are decreasing, while consumption based emissions are increasing => environmental impacts shifted abroad
- Drivers
  - Main drivers are housing, mobility and nutrition (60% of total), but others also important
  - Change of consumption structure may slow down emission growth, but mobility remains a problem
- Nutrition
  - Animal-based food cause more than half of food-related GHG emissions
  - Household type, age and income level affect food consumption expenditures and GHG emissions
  - Important to address food services, not only households

**Thank you for your attention!**

Mail: [carsten.nathani@ruetter-soceco.ch](mailto:carsten.nathani@ruetter-soceco.ch)