



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Federal Department of Economic Affairs,  
Education and Research EAER

**Agroscope**

**Federal Office for Agriculture**

*Koronivia workshop on “Socioeconomic and food security dimensions of climate change in the agricultural sector”*

# Swiss Country Experience

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# Networking and communication



One planet  
eat with care

Sustainable  
Food Systems

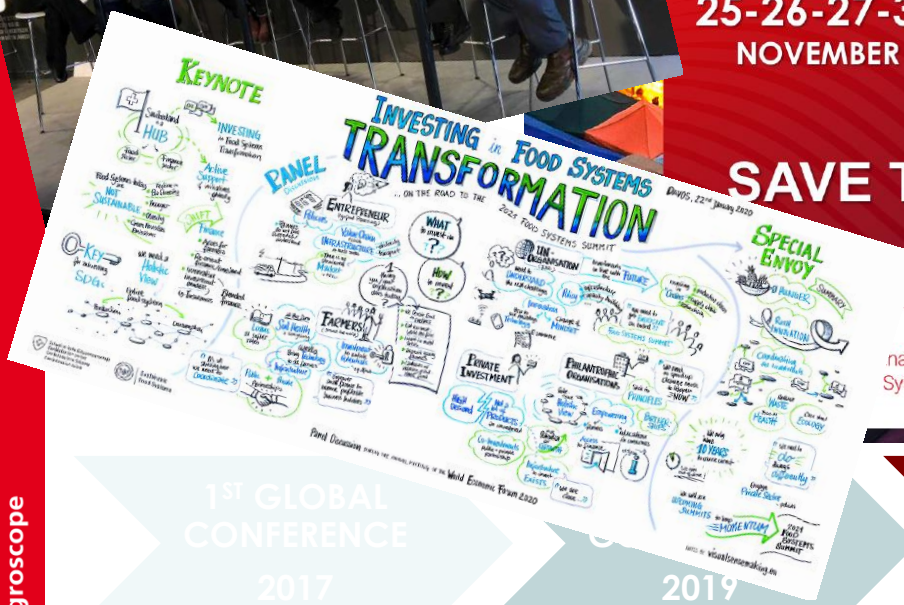


3rd Global Conference  
Sustainable Food Systems Programme

25-26-27-30  
NOVEMBER & 1-3  
DECEMBER

SAVE THE DATES!

Collaborative  
Framework  
for Food Systems  
Transformation  
A multi-stakeholder pathway  
for sustainable food systems



Swiss country experience  
Thomas Nemecek, Agroscope



# Legal basis and research activities

## Art. 104a<sup>47</sup> Food security

In order to guarantee the supply of food to the population, the Confederation shall create the conditions required for:

- safeguarding the basis for agricultural production, and agriculture in particular;
- food production that is adapted to local conditions and which uses resources efficiently;
- an agriculture and food sector that responds to market requirements;
- cross-border trade relations that contribute to the sustainability of the agriculture and food sector;
- using food in a way that conserves natural resources.

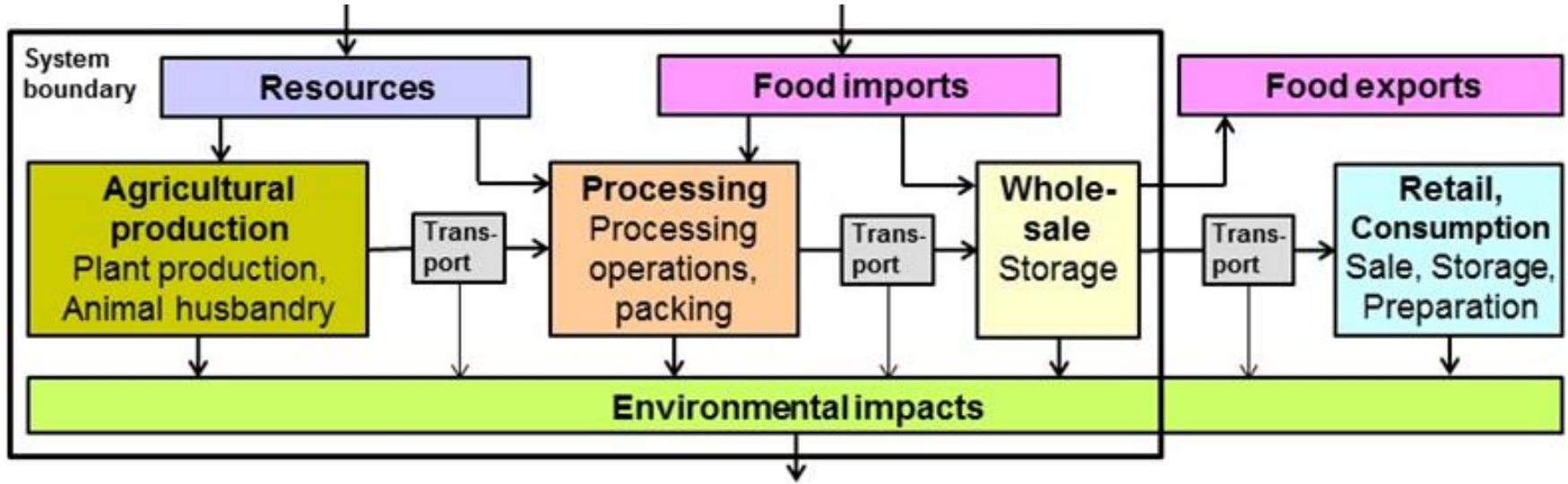


**Healthy Nutrition and Sustainable Food**  
National Research Programme NRP 69



# Optimisation model for the Swiss food system

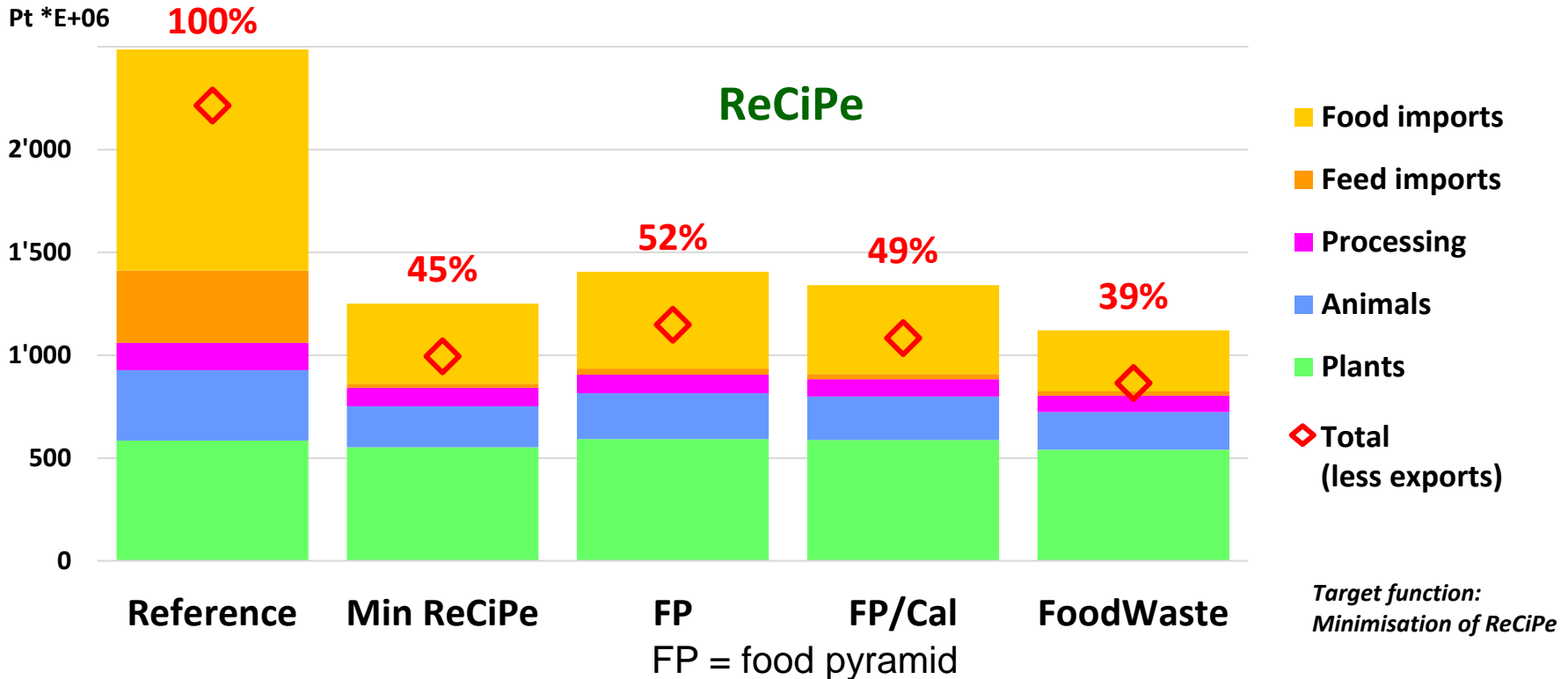
- **Goal:** Minimize environmental impacts of Swiss food supply
- **Method:** Linear optimisation model combined with LCA for environmental impacts
  - + Including upstream processes
  - + Including environmental impacts abroad through feed and food imports to Switzerland
  - Excluding environmental impacts from exports
  - Excluding retail, food preparation and consumption
  - Nutritional requirements of the population covered (29 nutrients)



Sources: Zimmermann A., Nemecek T., Waldvogel T., 2017. Umwelt- und ressourcenschonende Ernährung: Detaillierte Analyse für die Schweiz. Agroscope Science 55, 170p.

von Ow A., Waldvogel T. & Nemecek T., 2020. Environmental optimization of the Swiss population's diet using domestic production resources, J. Clean. Prod., 248, 119241.

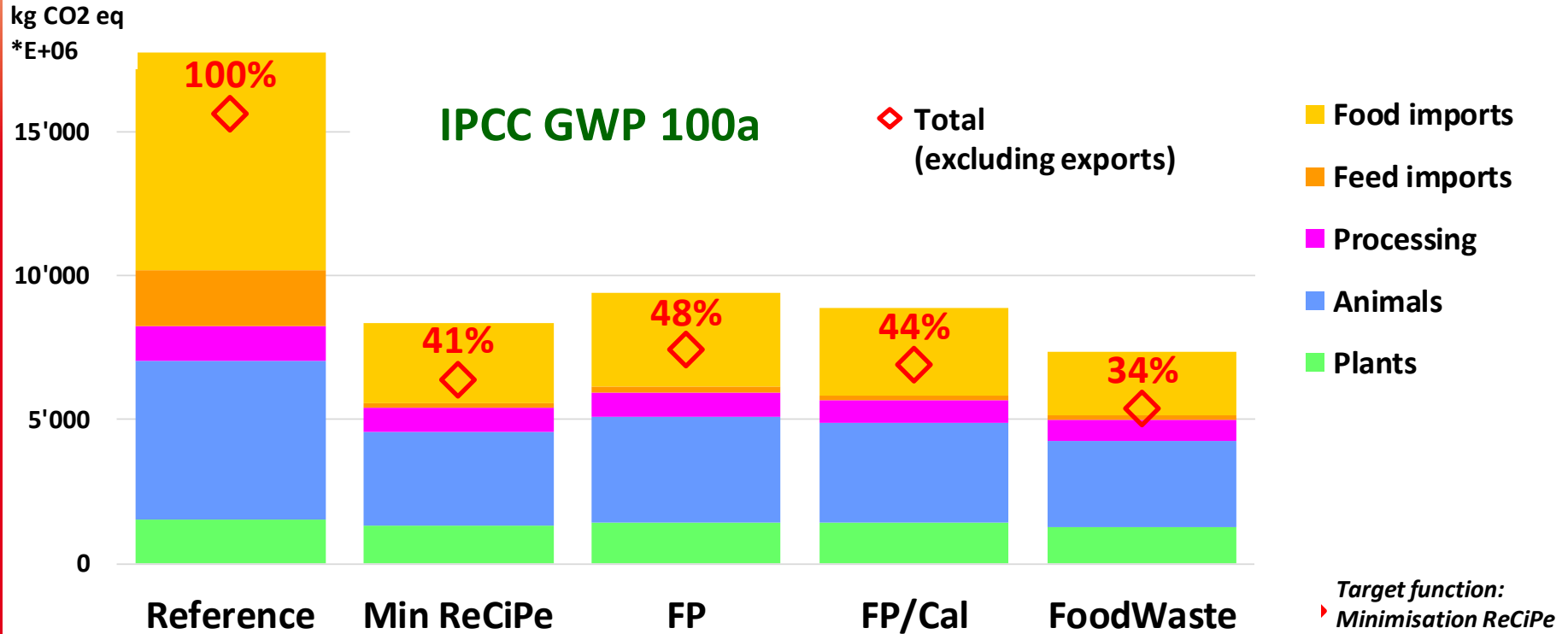
# Environmental impacts can be reduced over 50%



- Mainly achieved by reducing **food imports**, **feed imports**.
- **Reduced animal herds**, shift animal → plant production on Swiss arable area.
- Further reductions through **reduced calorie intake** and avoided **food waste**.



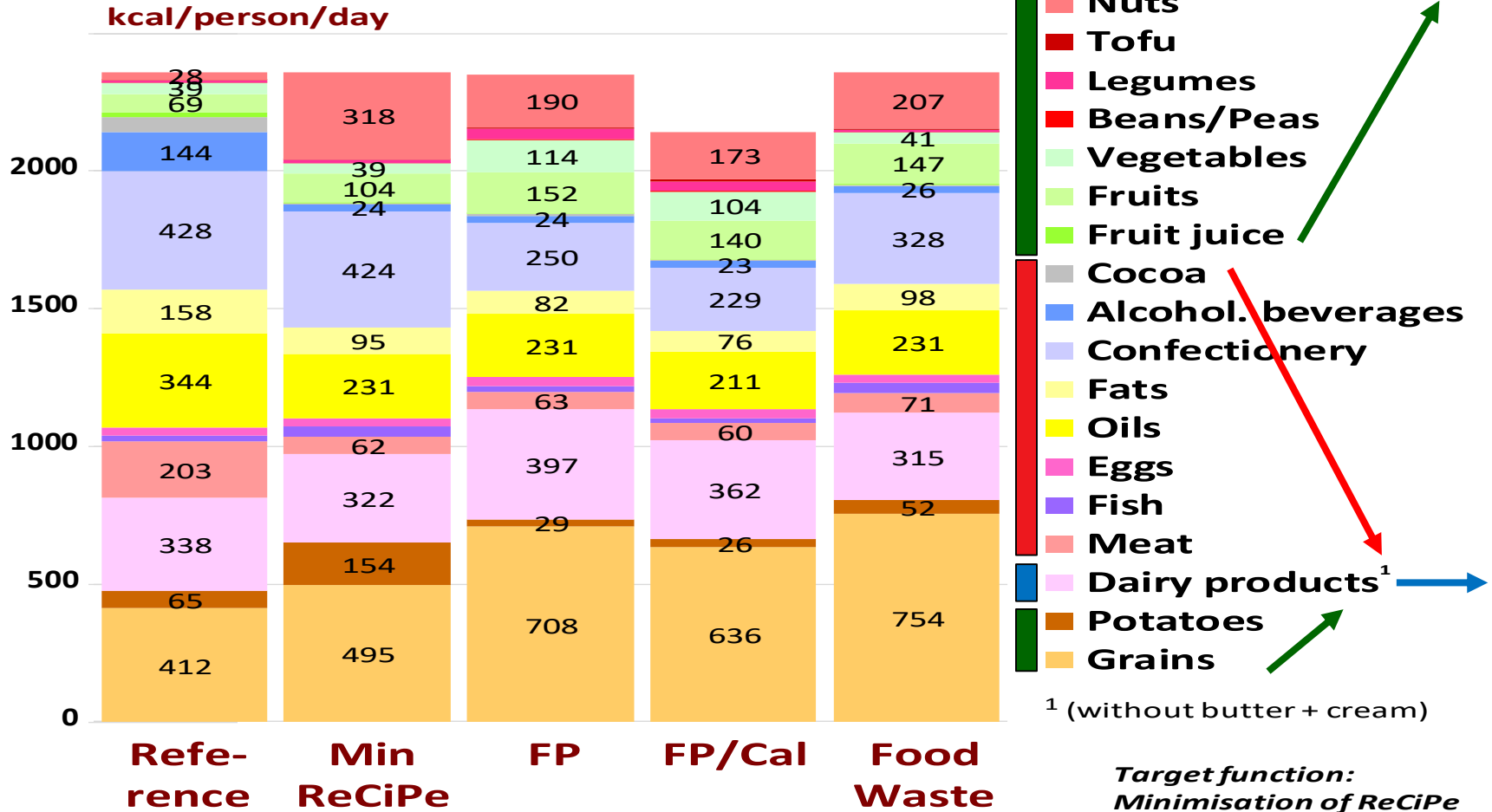
# Climate change impacts can be reduced even more





# Optimised diets differ significantly

Estimated energy intake  
(total of 2360 kcal/person/day)



- Less meat, alcohol, vegetable oils

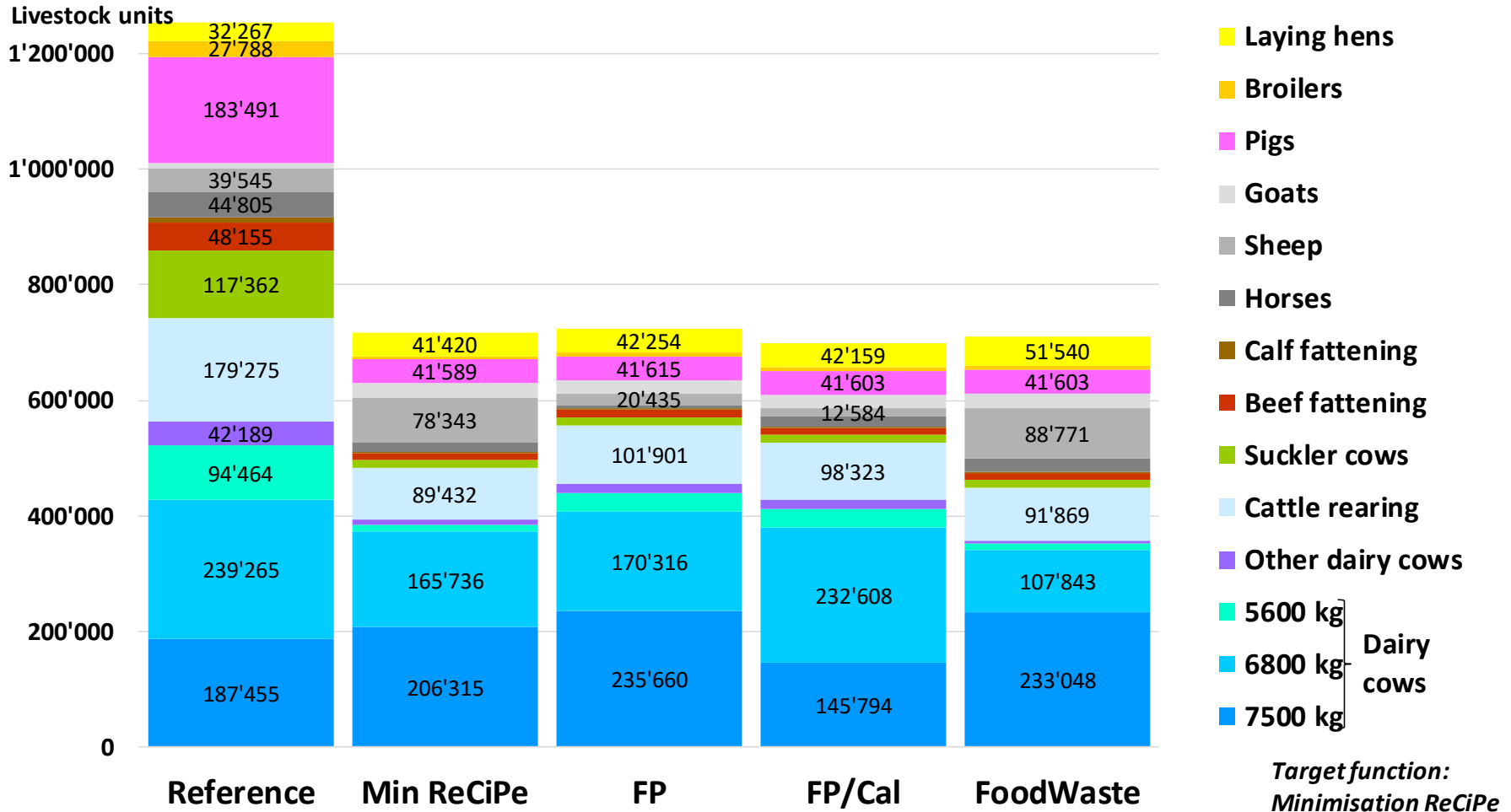
o Constant consumption of dairy products

+ More cereals, potatoes, fruits, vegetables, legumes incl. peanuts

Source: Zimmermann et al. (2017),  
Agroscope Science 55.



# Implications for Swiss animal herds







# Outlook

## Basis

- Decision of the Swiss Government to reduce greenhouse gas emissions to net zero by 2050
- Communication of the Swiss long-term low greenhouse gas emission development strategy to the UNFCCC Secretariat before end of 2020 (in accordance with Paris Agreement)

## Proposed Approach (not yet decided)

- Swiss climate strategy 2050 with partial strategies for each key emission sector
- Proposal for a partial strategy «**Agriculture and Food**»
  - **Targets:** 0.5-1 t CO<sub>2</sub>eq per capita; reduction of agricultural greenhouse gases by 40-50% compared to 1990; self-sufficiency of at least 50%
  - **Options for action:** Increase policy coherence, strengthen resilience, accelerate change, utilise new opportunities, invest in research and development, assign responsibilities