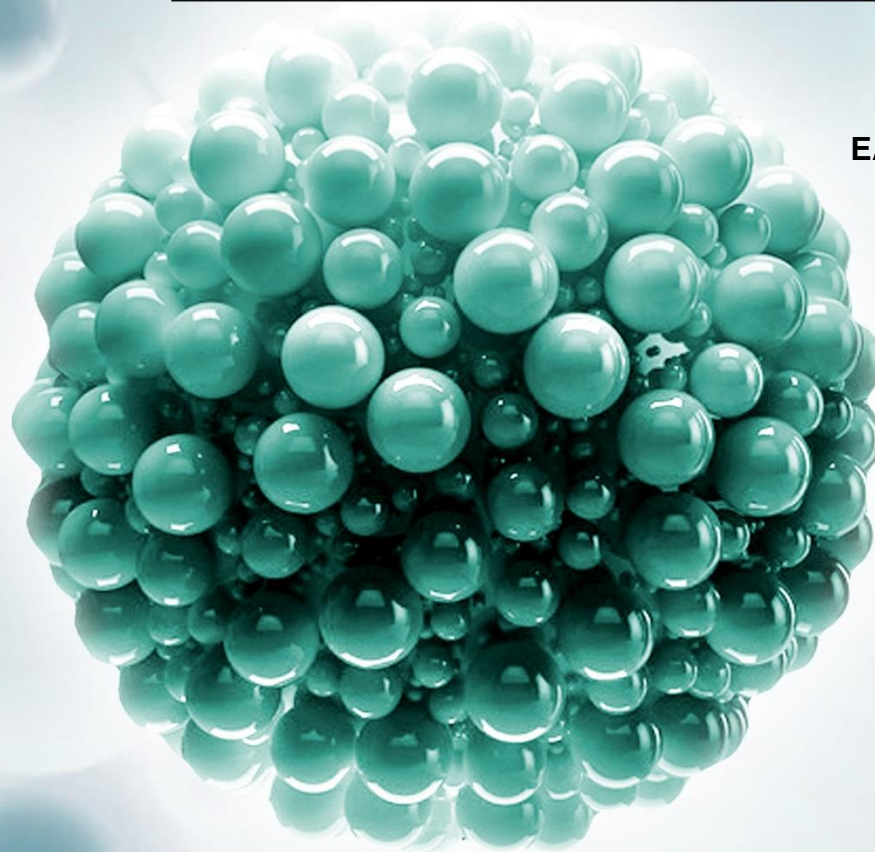
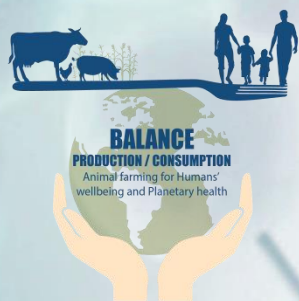


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# VISION FROM THE FOOD INDUSTRY: TO MEAT OR NOT TO MEAT

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EAAP & ATF Special session  
27<sup>th</sup> Aug. 2018  
EAAP Annual Meeting -  
Dubrovnik, Croatia

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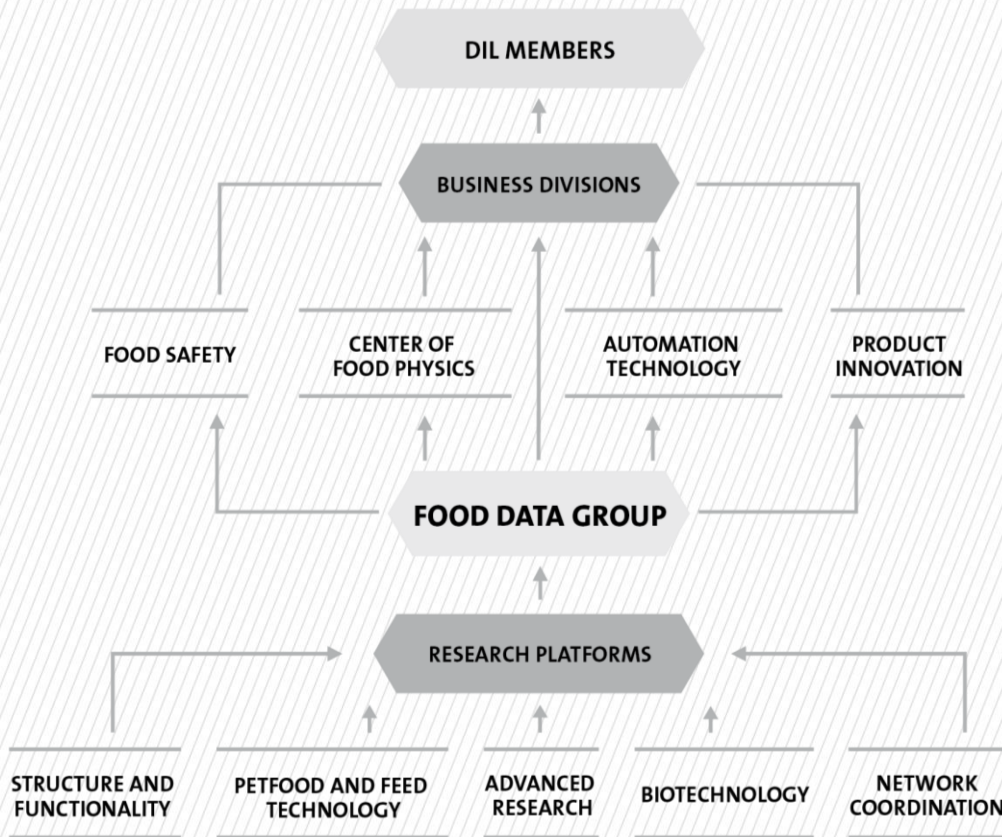
# DIL INDUSTRIAL MEMBERS

## OUR GREATEST REFERENCE



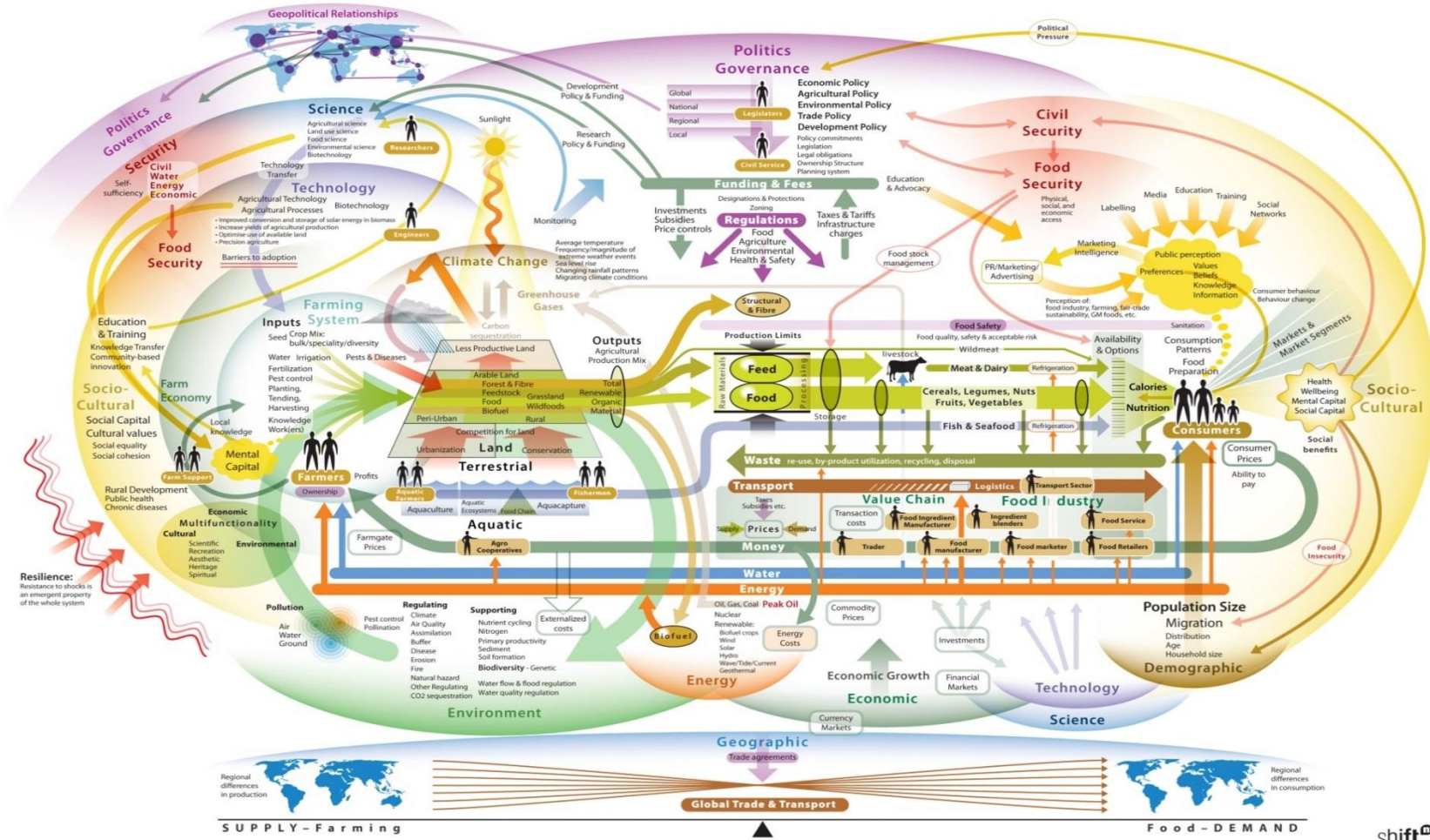
# ORGANIZATION

## RESEARCH & BUSINESS DIVISIONS



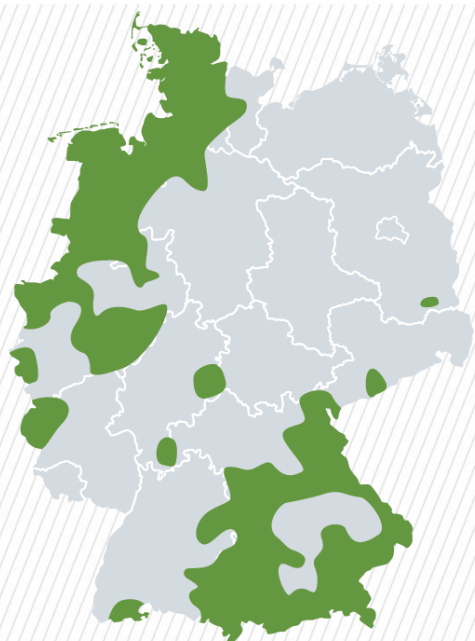
# FOOD DATA GROUPS

## CONNECTING DATA FOR RICHT CHOICES

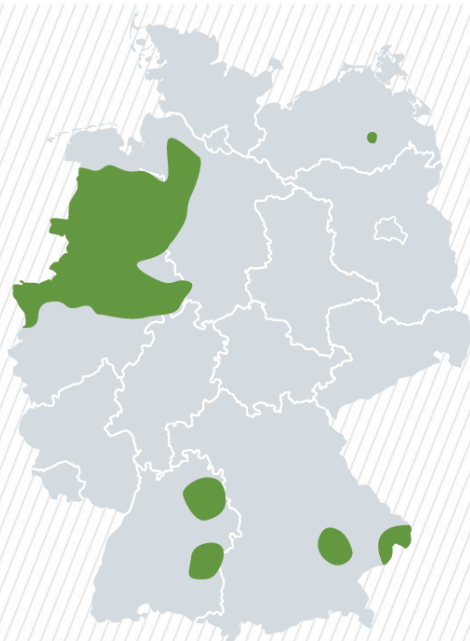


# Concentration of animal production

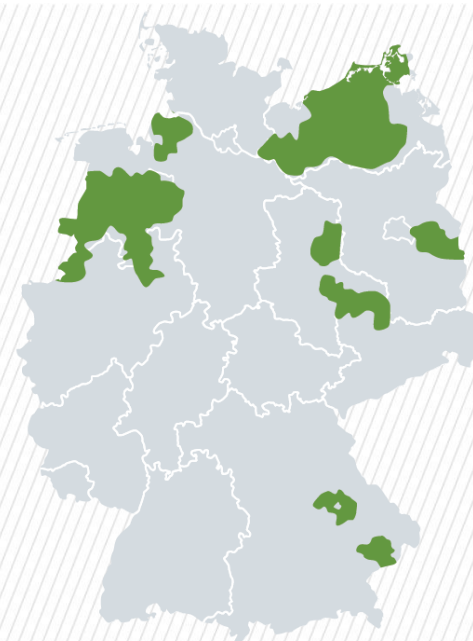
Problem or perspective



**CATTLE (DAIRY COWS AND FATTENING COWS)**  
from 1 cow per hectare of farmland



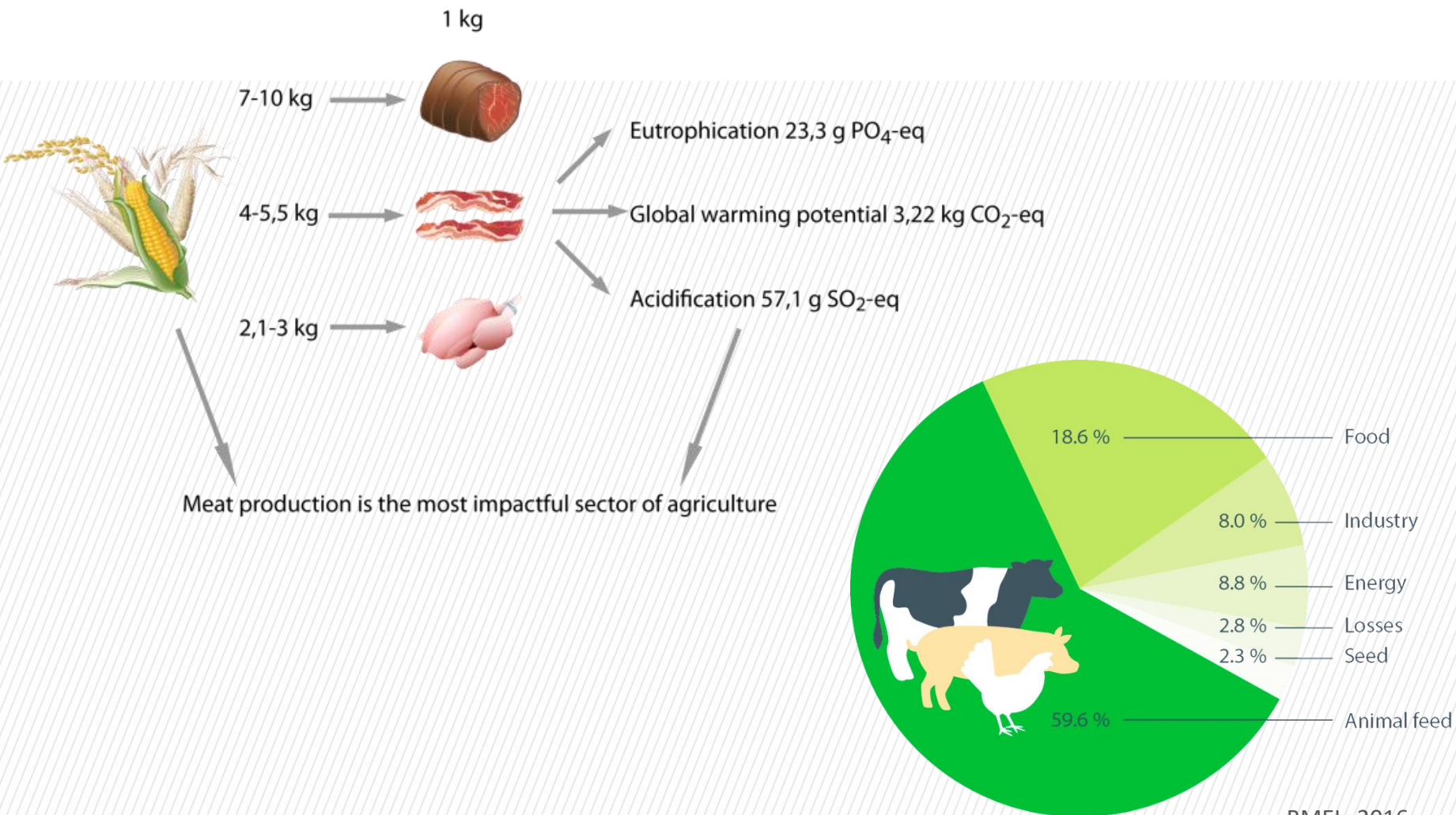
**PIGS**  
from 2 pigs per hectare of farmland



**HENS**  
from 1 million hens per district

# Agriculture for animal production

Problem or perspective



# System change ?

## SUSTAINABLE TRANSITION

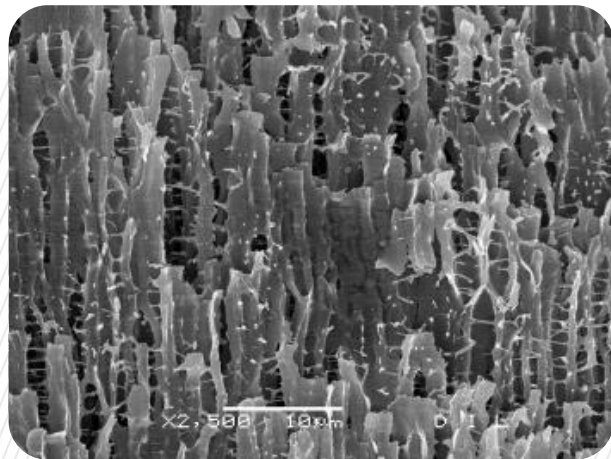


Image after Banksy

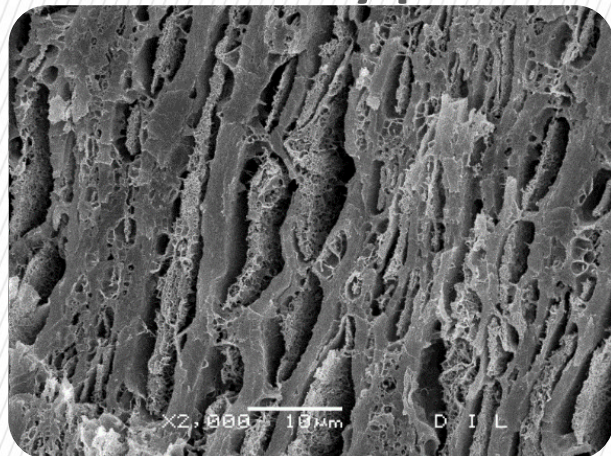
Images courtesy of producing/ selling companies:  
Essento, Damhert, Perfect Day Foods, Follow You Heart,  
FrieslandCampina, Quorn, Beyond Meat, Amazon

# MEAT SUBSTITUTES

## Meat



## Extruded soy protein



### Established



### Emerging



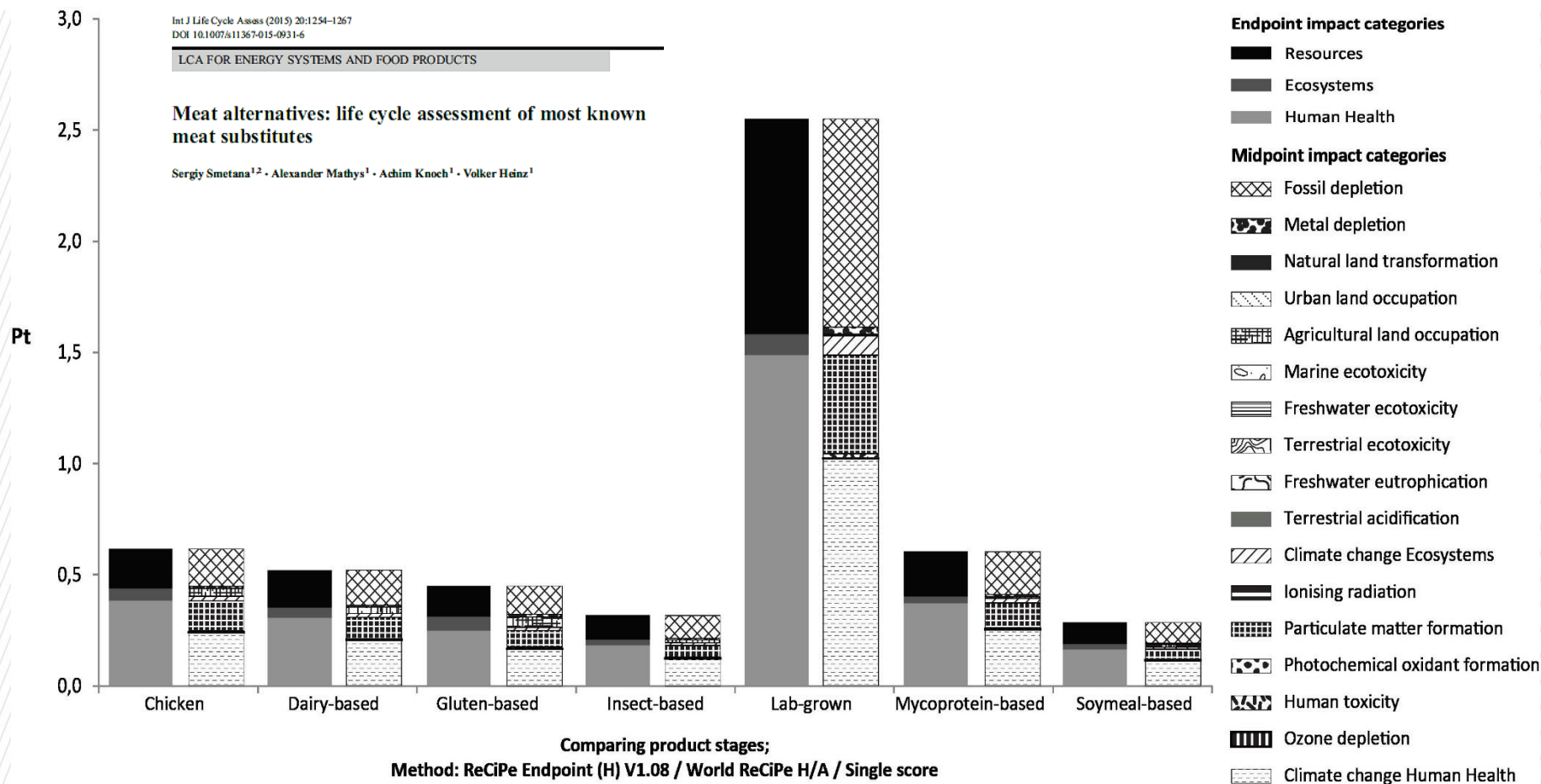
### Upcoming





# ALTERNATIVE FOOD SOURCES

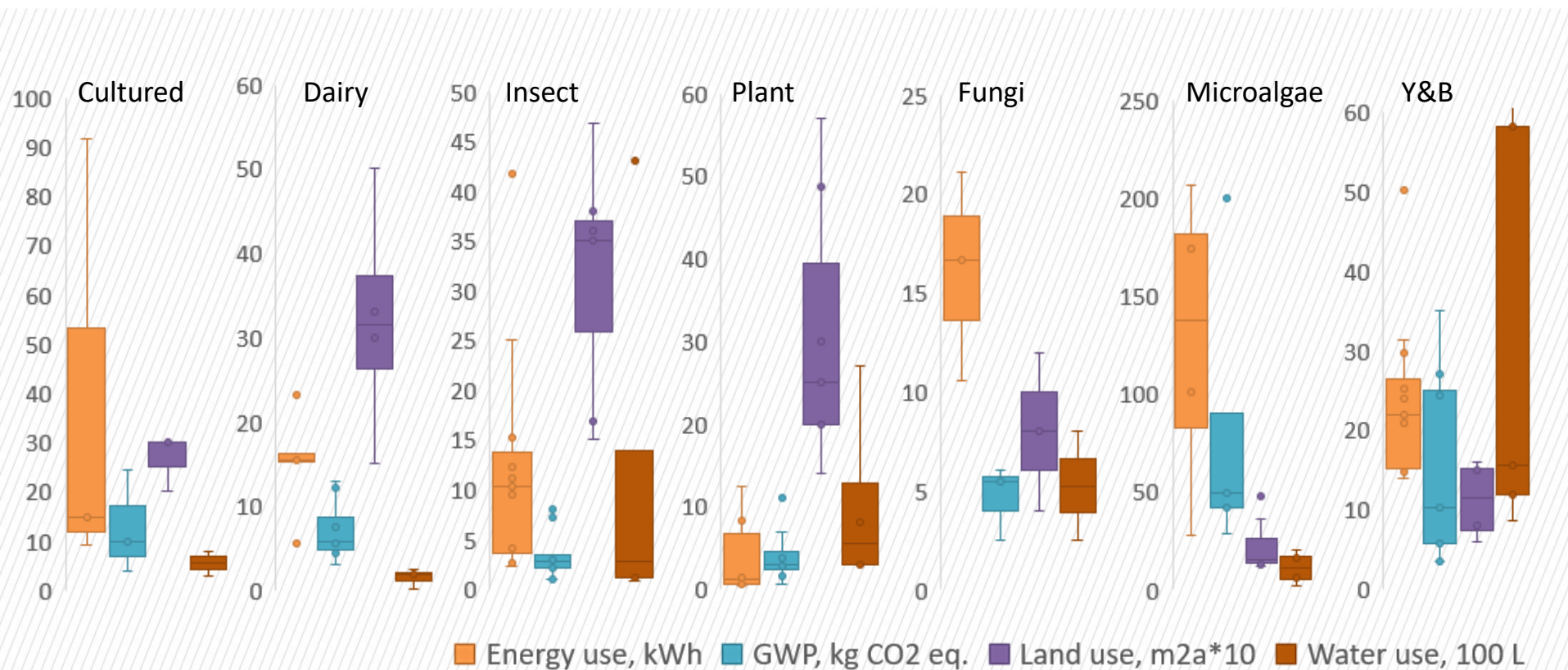
Single score product comparison FU 1 kg of ready to use product (from cradle to plate)



Pt – ecopoint (1 kPt = annual impact of one European person)

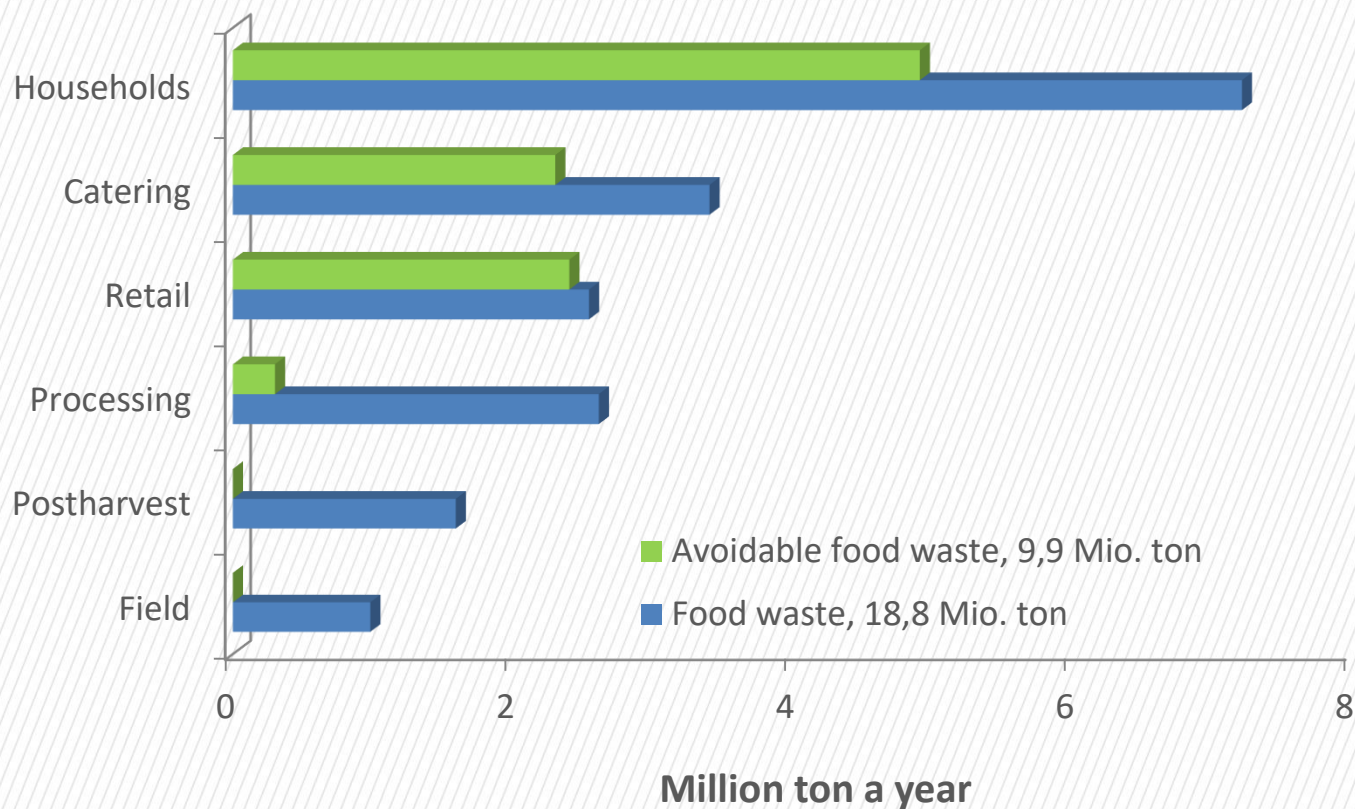
# ENVIRONMENTAL IMPACT OF SUBSTITUTES

Single score product comparison FU 1 kg of ready to use product (from cradle to plate)



# FOOD WASTE: FROM FARM TO PLATE

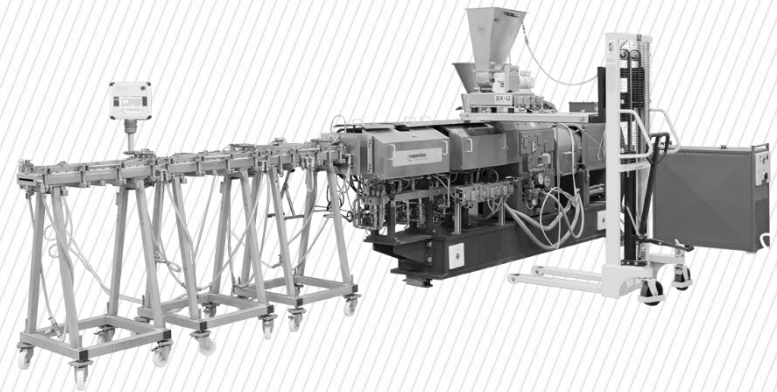
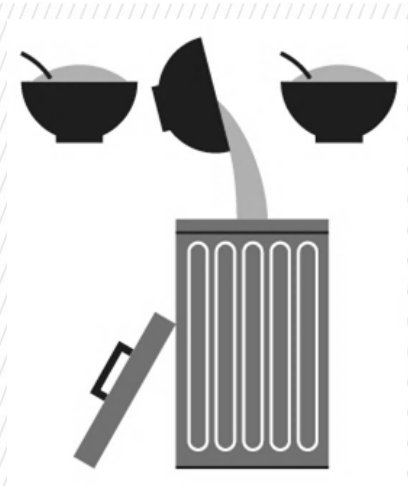
Germany as an example, annual food waste



Data: WWF Deutschland, 2015

# ONE OF THE SOLUTIONS

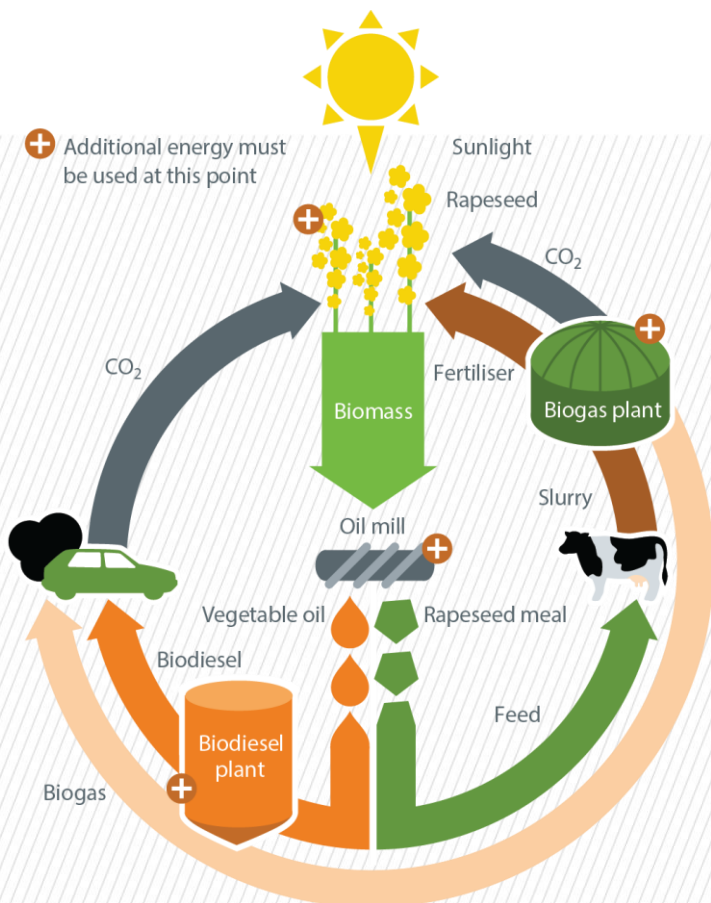
## COMBINATION AND CIRCULATION



Costs  
Environmental  
impact



# CYCLING OR... NEGLECTING



BMEL, 2016

## Germany

60 kg of meat per capita (Statista, 2018)  
 Total in 2016 ~ 26.6 mln tonnes CO<sub>2</sub>eq.  
 50% reduction (13.3 mln. tonnes CO<sub>2</sub>eq.)  
 (Lasar, 2018 in Fleischwirtschaft #3)

Total German carbon footprint  
 906 mln. tonnes CO<sub>2</sub>eq.  
 (Federal Environmental Agency, 2016)

1% improvement?

Other factors of importance:  
 Land use, water footprint, economic and  
 social factors

# TAKE AWAY MESSAGES

**Quality of meat substitutes available on the market is excellent and improving (including nutritional profile).**

**Meat companies are getting involved in the production of hybrid and plant based meat substitutes.**

**By default meat substitutes are not more sustainable than meat (economic, social, environmental parameters; type of meat and type of substitute biomass; processing scale).**

**Further development is needed for meat substitutes to be more present on the market and make a considerable effect.**



# LCA Food 2020:

## Towards Sustainable Food Systems

### International Conference on novel trends/developments in food production systems and Sustainability



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Berlin, 22 – 25, September 2020