



# Addressing the societal challenge of climate change – the academic challenge

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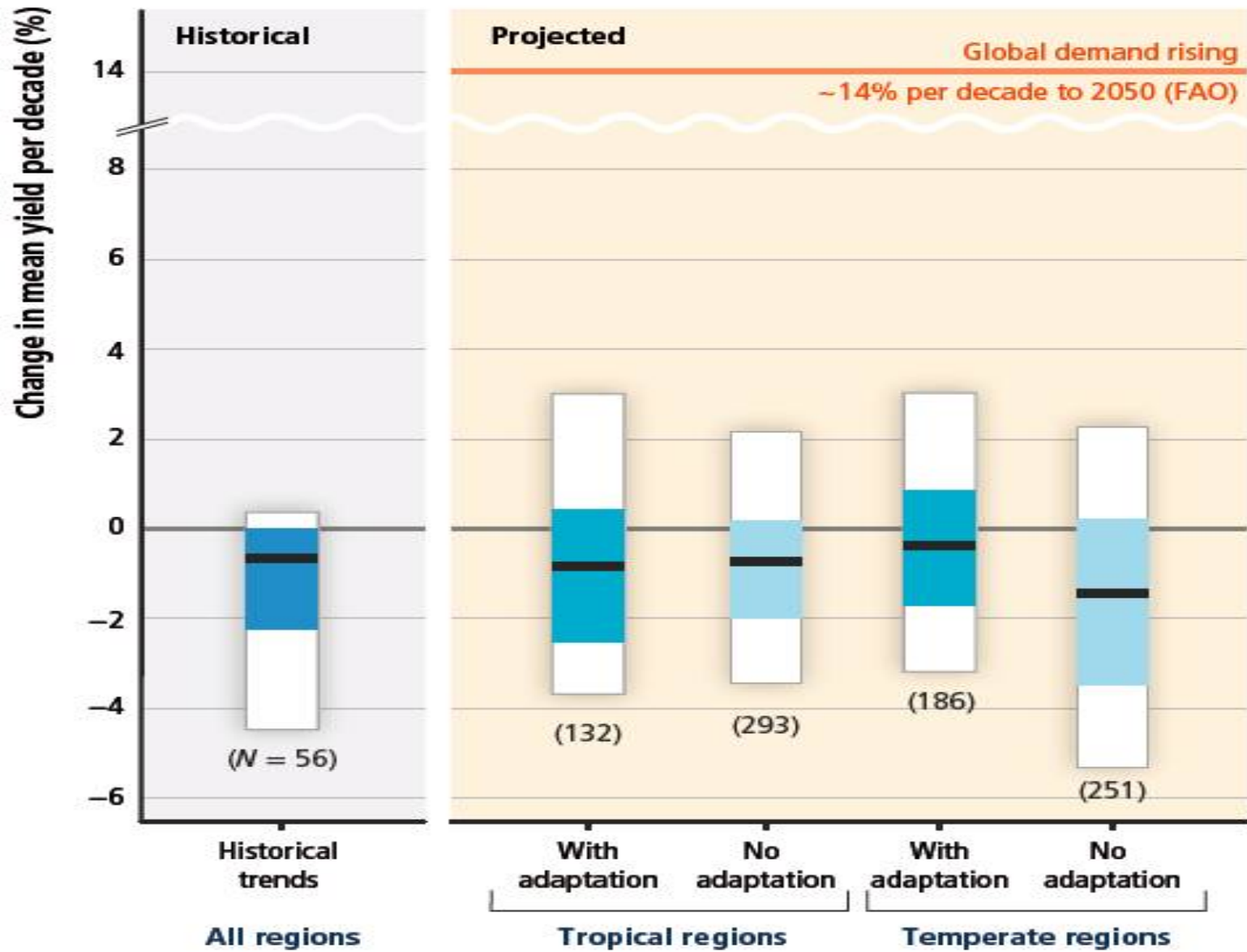
JPI-FACCE

ICA – EXPO2015 Milan, October 2015

Education in climate change science, policy and law.

Research in climate change impacts and mitigation.

Global outreach.



Porter et al. 2014

## Education

### Module 6 – KU Climate Change, Impact, Adaptation and Mitigation

## E-learning

[www.climate-change.dk](http://www.climate-change.dk)



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An initial spark.....for inspiration!

<https://www.youtube.com/watch?v=FRwo01maYqY>

The core.....

Oral powerpoint – pre-recorded – maximum 15 minutes. Can be replayed.

Literature for the students to read – IPCC WG2 Chapter 7 ([www.ipcc.ch](http://www.ipcc.ch)).

Online questions and discussions by the teachers, assistants and students.

Summary of the topics discussed.

Assessment.....

Students evaluated on a learning objective scale.

Teachers evaluated by student comments.

Country wide mitigation and adaptation plans written and evaluated.

Course evaluation.

LO level assessment...



# Research

Applied, speculative and relevant

## Combined Food, Fodder and Energy System

- Biomass hedges and crops
- Crop rotation
- Organic management
- Energy neutral



Started in 1995

What economic and environmental services do we get out of the CFE system?

Food and fodder and biomass for energy

Pollination support

Soil erosion control and nutrient retention

C sequestration and mitigation

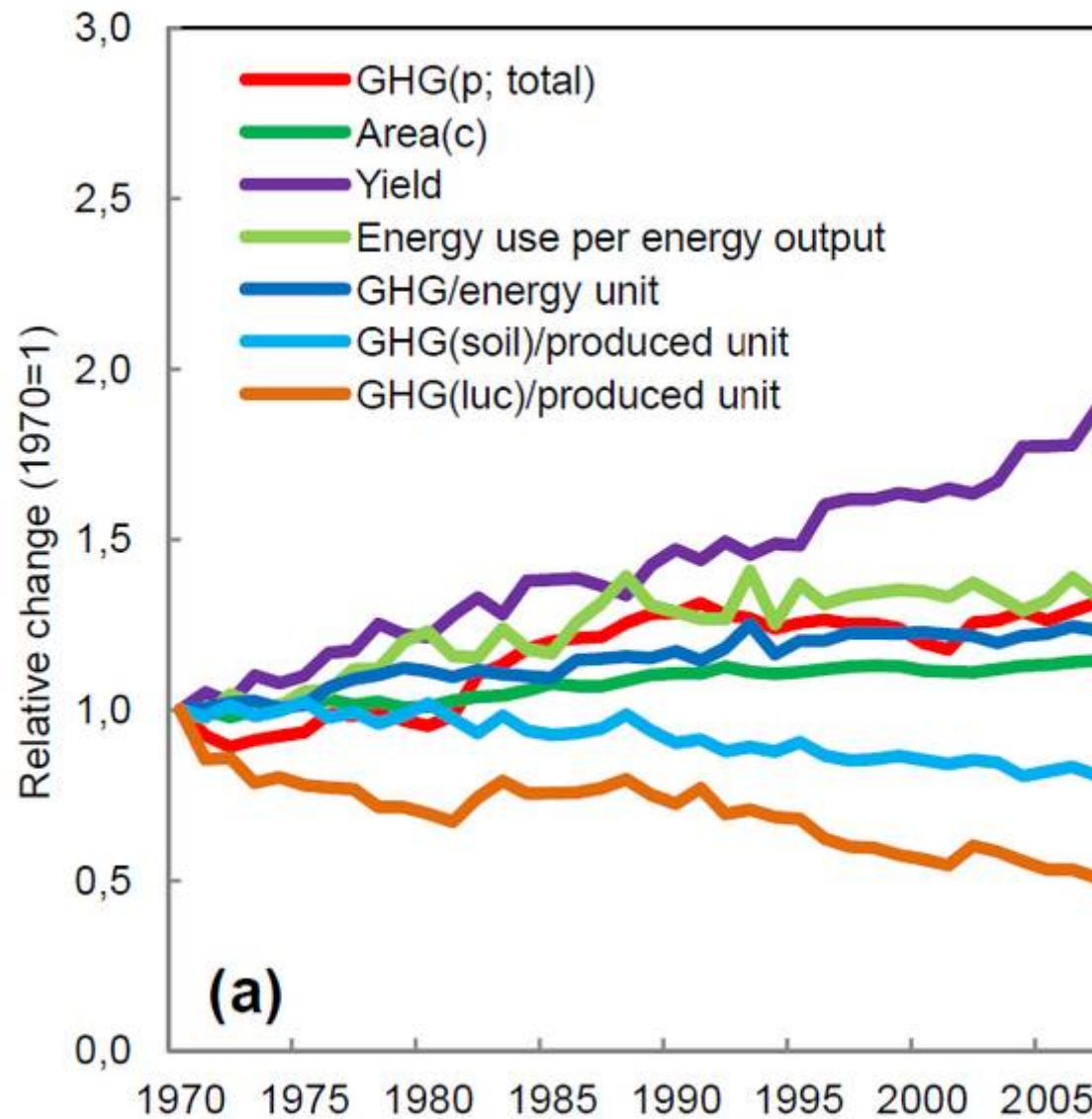
Biological control of pests

Farmland biodiversity

Recreation

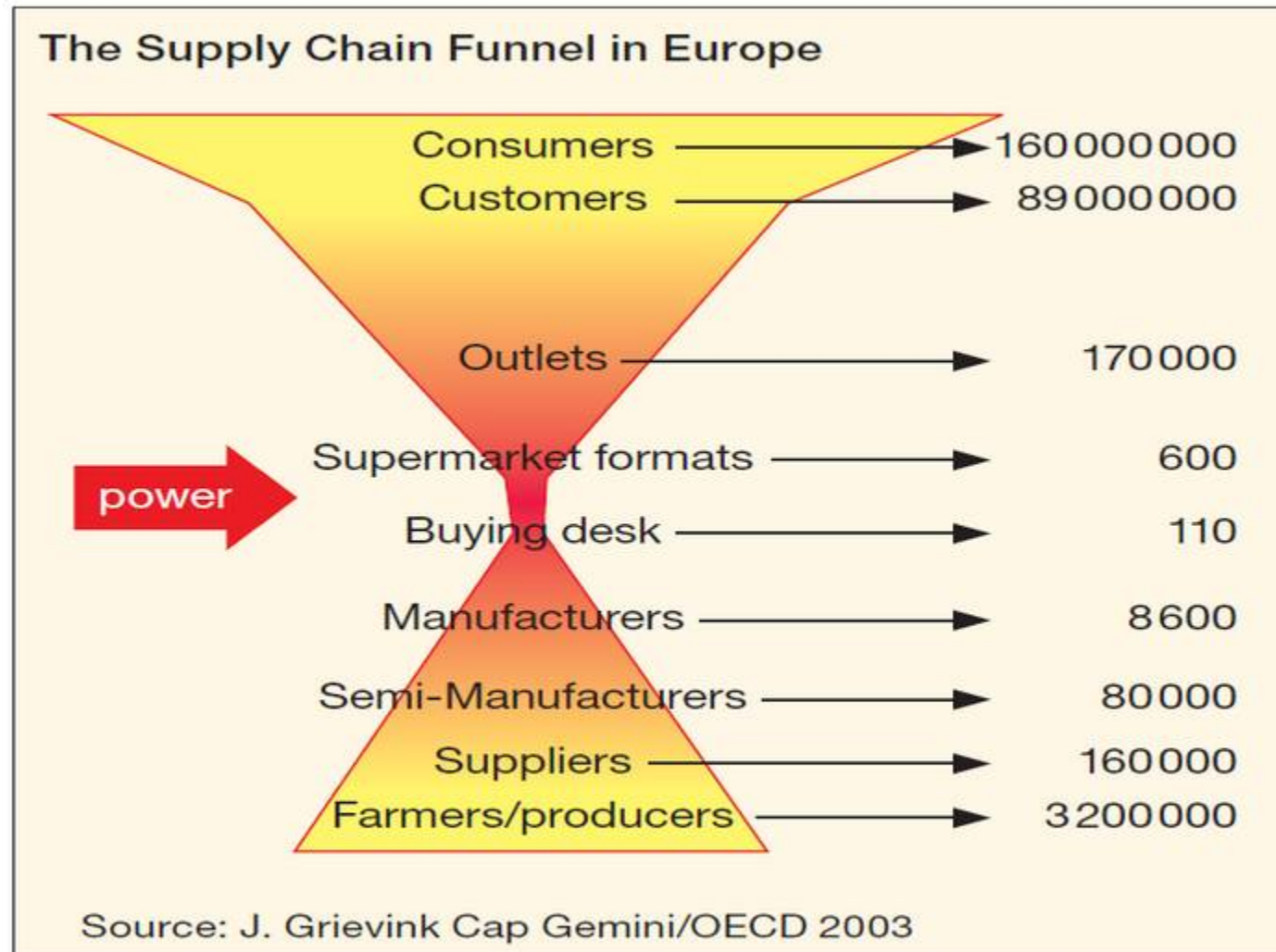
Sustainable agriculture

## Emissions per unit food production...



Bennetzen et al., 2015

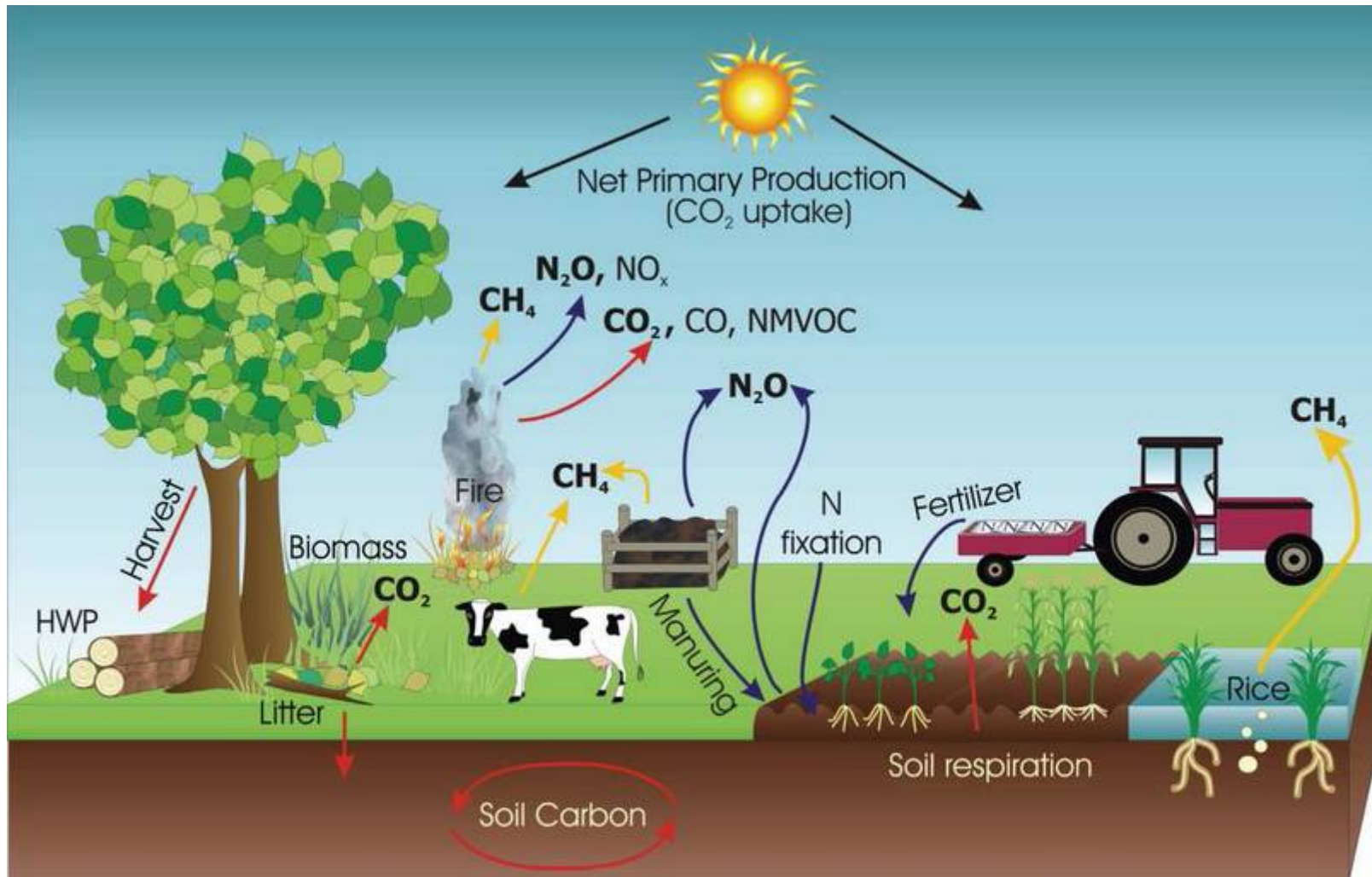
## The European Food System – How Resilient?



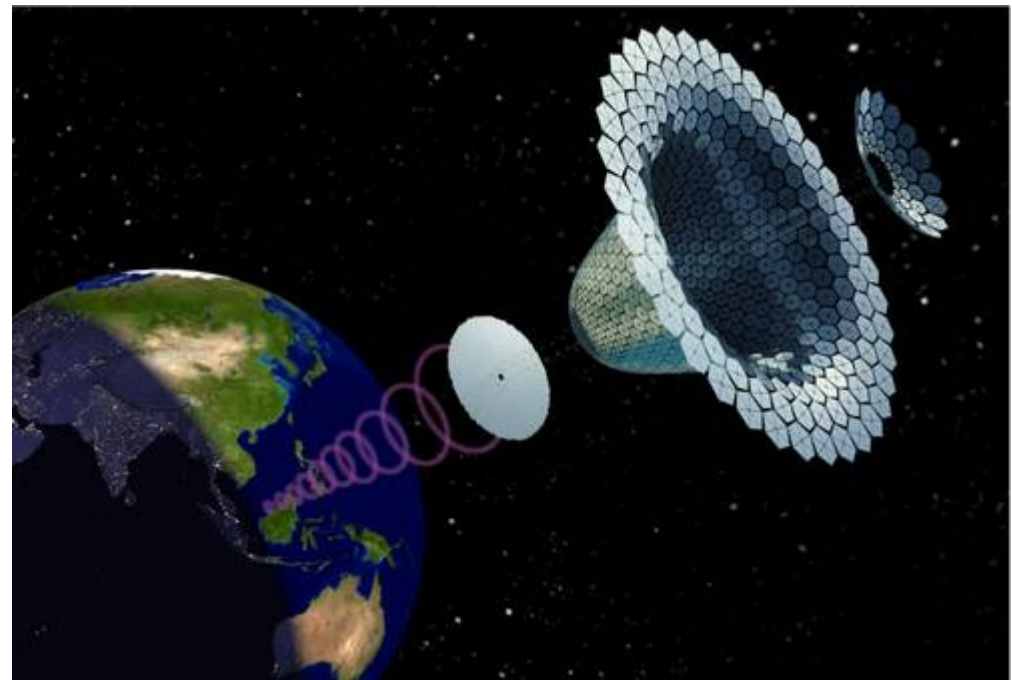
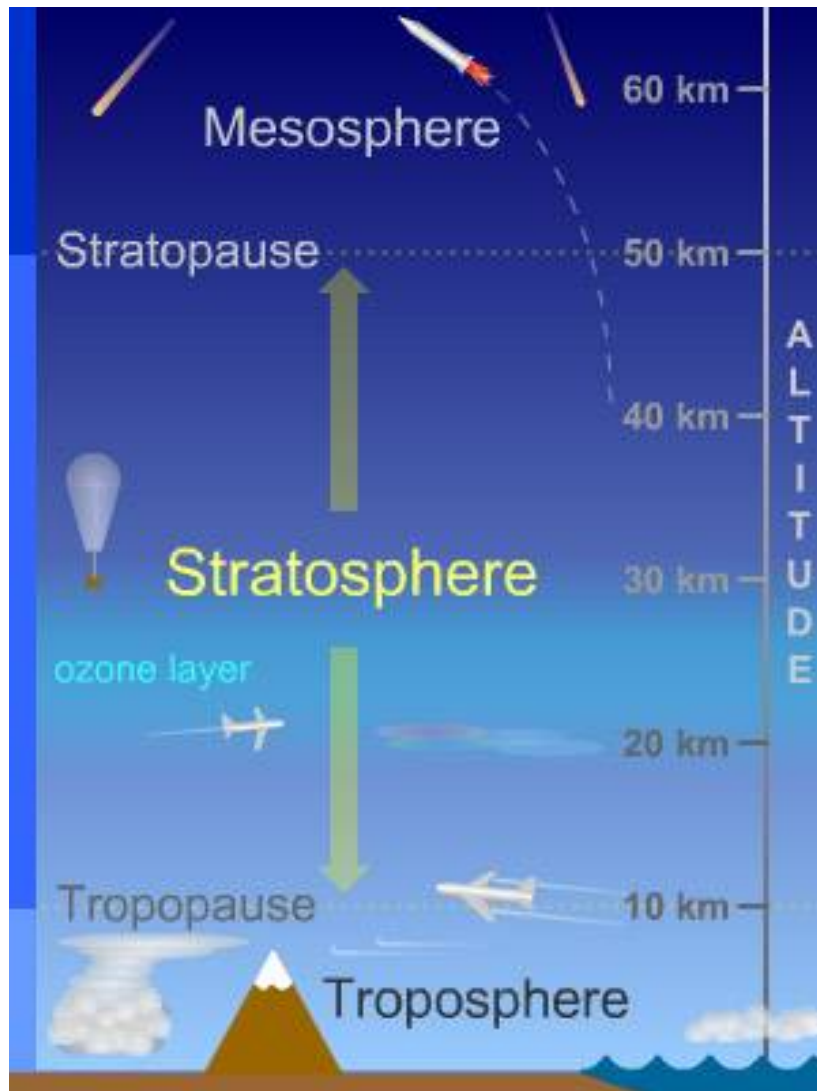
**Figure 4.25.** Supermarket buyer concentration in the European food supply



# CO2 going down...



We have to speculate...CO<sub>2</sub> going up



NASA, 2012

## Going global....

Need a common vision – rectors extremely important here.

Need to value teaching from engaged researchers.

Need to have staff involved with international organisations.

Need to embrace the newest means to communicate with young people – but please no dumbing down

Need to make international networks that have support and resources and DO something.