

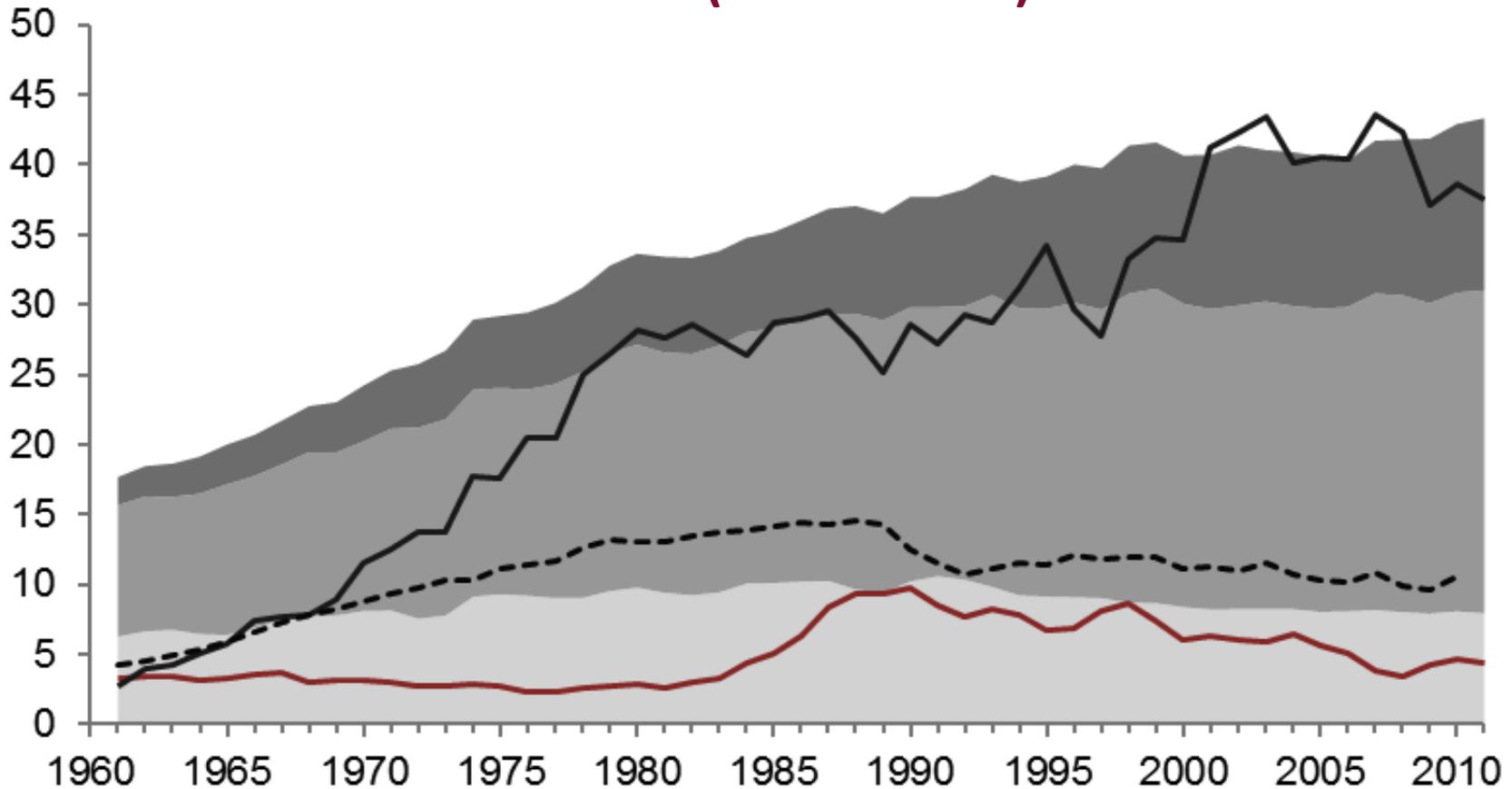
**How can EU livestock avoid soybean feed and what could be the consequences on climate and biodiversity?
Vision from international NGOs**



Alain PEETERS
President of the WWF B-French Community
Secretary general of Agroecology Europe

Changes in the production of meat and corresponding changes in fertiliser N use, protein crop production and net soya import for the EU27 (1961 – 2011)

Million t



- Poultry meat
- Pig meat
- Beef
- Grain legume production
- Net soya import (bean equivalent)
- - - Fertiliser-N consumption

Origin and consequences of the soy saga

Beginning of the story: the 1960s

Since then:

- Increase of **pig and poultry meat**
- Decrease of **ruminant meat**
- Conversion of permanent grasslands into annual crops including **silage maize** in Europe
- Increase of **pesticide use** for cropping annual crops that replaced grasslands
- Destruction in South America of species-rich biomes such as the Amazonian rainforest, the Cerrado, the Pampa by **low species diversity arable land**
- **Emissions of huge amounts of CO₂** in the atmosphere by destruction of the vegetation of these habitats and the mineralization of soil organic matters in south America and Europe

Feed / food paradigm

➔ **Animal feed replaced by human food in livestock diet**
Historically, farmers would never have used food for feeding livestock even for monogastrics ➔ food waste
Common-sense principle

In an ideal world

- **Ruminants should be fed on grass only**
- **Monogastrics should use grass and food waste as a complement**



Main challenge = monogastric

Food waste in supermarkets, large canteens and restaurants

Microbiological quality

In the 1960s, harbour of Rotterdam

New grass-based systems could be relocated around food waste sources



Soy + maize = grass?

Soy: Ruminant production < monogastrics, beef < dairy

Grass replaced by silage maize → Soy became necessary

Maize = unbalanced feed

Grass is an 'all-inclusive feed'

Grass-based systems are more profitable and efficient than maize/soy-based systems





L'OBSERVATOIRE
TECHNICO-ÉCONOMIQUE
DES SYSTÈMES BOVINS LAITIERS

ÉVOLUTION SUR 10 ANS

EXERCICES COMPTABLES DE 2008 A 2017



Grassland-based systems compared to high-input systems based on maize, soybean, fertilisers, pesticides,...

"With less land, fewer animals and less investment, grassland-based systems:

- **generate more income,**
- **create more jobs,**
- **protect the environment better,**
- **are more resilient to economic stresses".**

Economic performance of low-input systems

Case	Criteria	AE compared to average
Netherlands, 'Farming economically'	Labour income/100 kg of milk	+ 110%
Netherlands Centre for Research in Dairy Farming (PR)	Employment generated at volume of production of 800,000 kg of milk	+ 100%
France, grassland-based farming	Family income/family worker	+ 73%
Germany, low concentrate feeding	Income per dairy cow	+ 60%
Italy, Rossa reggiana	Income per hour	+ 15%
Poland, dairy farming	Income according to level of self-provisioning for feed and fodder (0 compared to 51-99)	+ 53%
Ireland, beef and milk	Gross margin per hectare	> in the order of 75-80% in a 3-4 year period
UK, sheep farming	Gross Value Added/ewe	+ 10%

Grass-based ruminant production systems

Product quality is better: lower total fat and saturated fat contents, better omega 6/omega 3 ratio, higher CLA content



Complementary feed?

Ruminant

Complement to grass feeding: produced on the farm or the region

- cereal/pulse mixtures
- local by-products of agro-industries

Protein production

Lucerne: 3,000 kg/ha

Soybean: 1,800 kg/ha



All these measures could very much reduce GHG emissions and sequester carbon in grassland soils.

A question of balance and sustainability

Better balance between beef and pork meat

Pig and poultry number should be reduced in Europe

Total meat consumption should be reduced but beef meat consumption could grow

Ruminants are needed for developing sustainable agricultural systems

Nitrogen synthesis, fossil energy and GHG emissions

The most efficient nitrogen fixing legumes are perennial forage legumes. Forage production → ruminants manure = fertilizer for crops

Agroecology can feed Europe by 2050

IDDRI



Fondation Charles Léopold Mayer
pour le Progrès de l'Homme

STUDY

N°09/18 SEPTEMBER 2018

An agroecological Europe in 2050: multifunctional agriculture for healthy eating

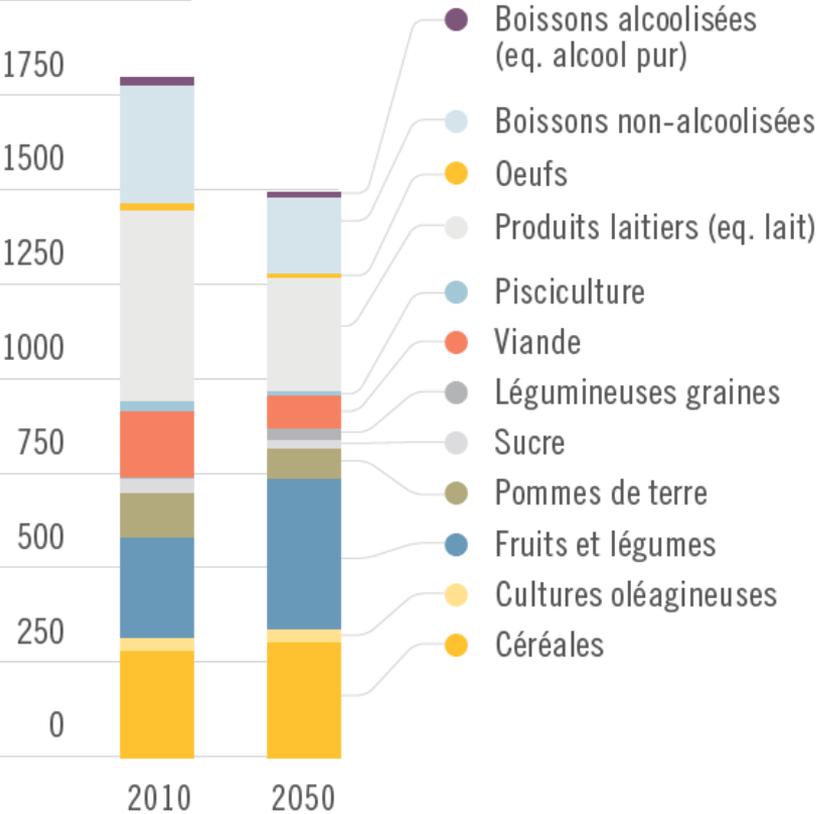
**Findings from the Ten Years For Agroecology
(TYFA) modelling exercise**

Xavier Poux (AScA, IDDRI), Pierre-Marie Aubert (IDDRI)

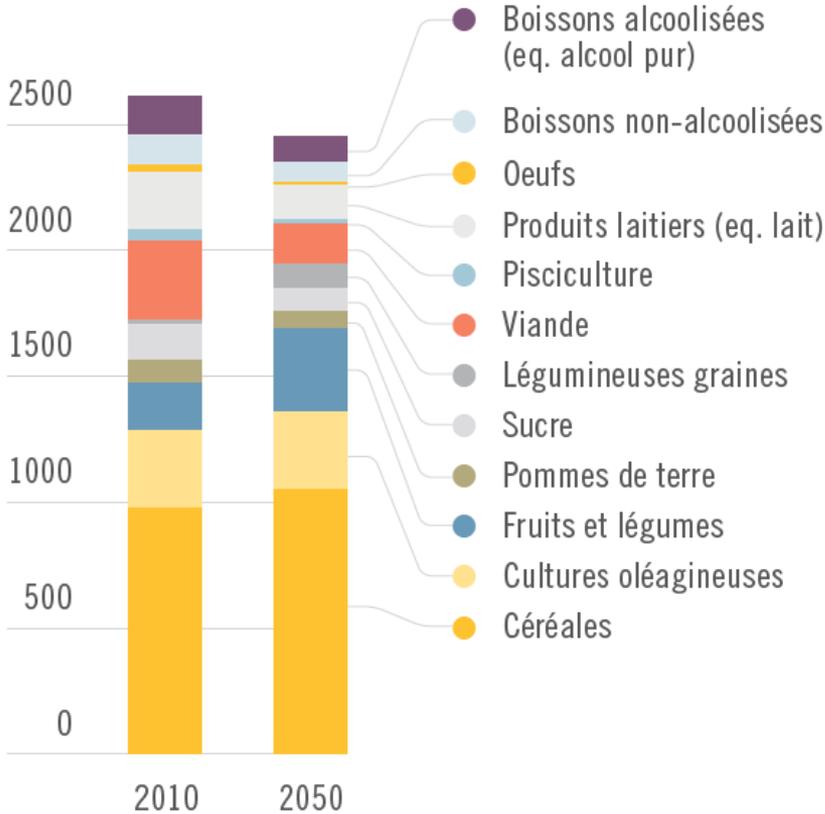
2018

Figure 14. Les hypothèses de régime alimentaire dans TYFA et comparaison avec le régime alimentaire 2010

2000 g/jour/pers.



3000 kcal/jour/pers.



Source : TYFAM pour 2050 et (EFSA, 2017a) pour 2010.

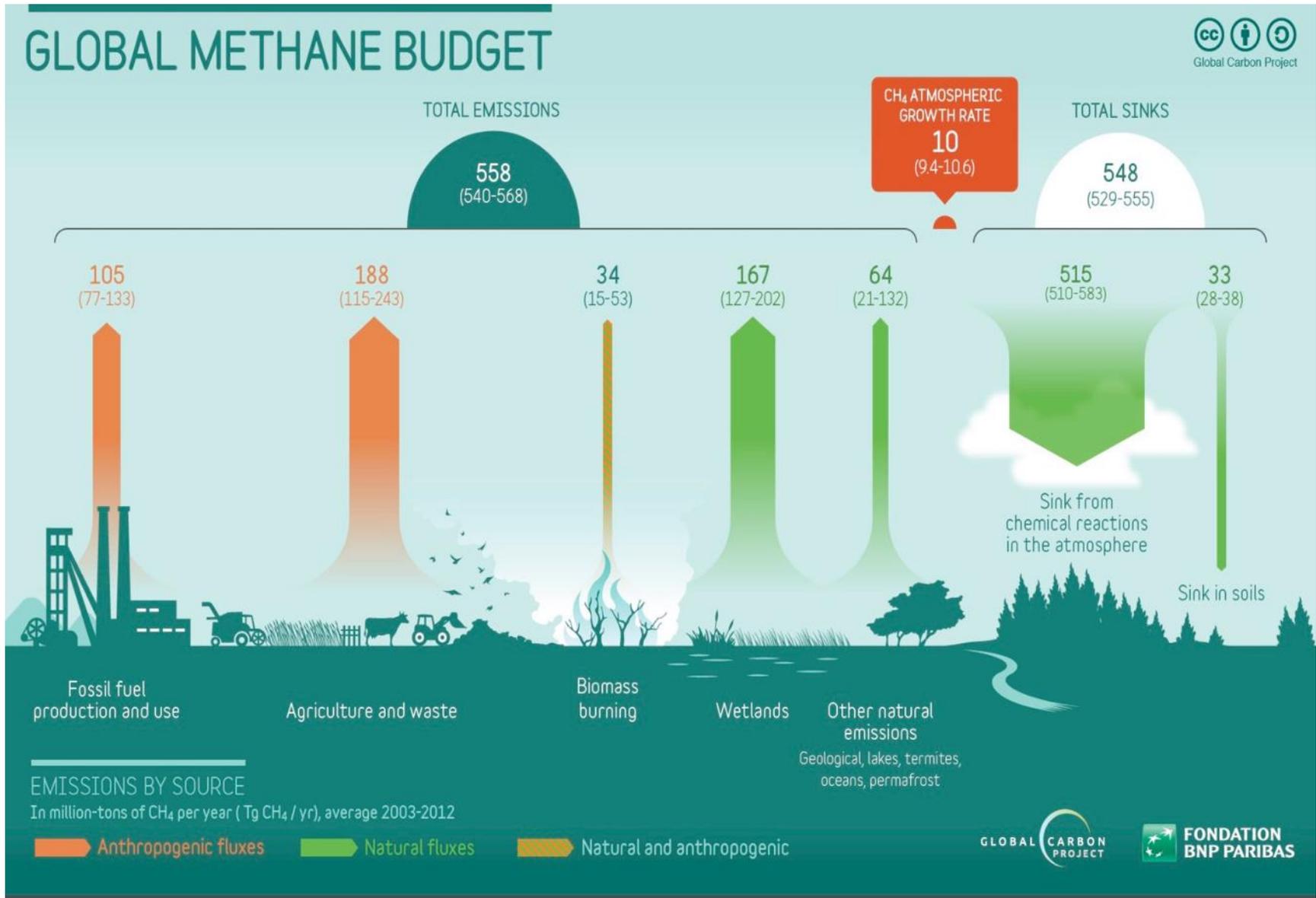
More grassland means:

- More biodiversity
- More stored (vegetation) and sequestered (soil) carbon

But what about methane?

The global methane budget 2000–2012

(in Tg CH₄/year) (Saunois et al. 2016)



Methane, a short-lived greenhouse gas

Methane recycled into CO₂ captured by plants which are again consumed by animals

With a constant number of ruminants, methane gas no longer increases in the atmosphere after a dozen years

In Europe, the total number of adult cows has continuously decreased since the 1960s (Eurostat)

⇒ methane content of the atmosphere from European ruminant farms has continuously decreased

On a global scale, the situation is different

Conclusion

Producing animal products on grass not on food

Feeding livestock with human food should be stopped.

Ruminants should be fed mainly grass

Monogastric animals, partly grass and partly human food waste

More ruminants, fewer pigs and poultry

In order to develop sustainable agroecological systems, the proportion of ruminants to monogastric animals should be increased

Less but better quality meat

Less meat should be eaten in total, but better quality meat, *i.e.* meat produced mainly on grass



THANK YOU