



Expert Panel on Nitrogen and Food

Report to TFRN – 25-26 March 2014
Madrid, Spain

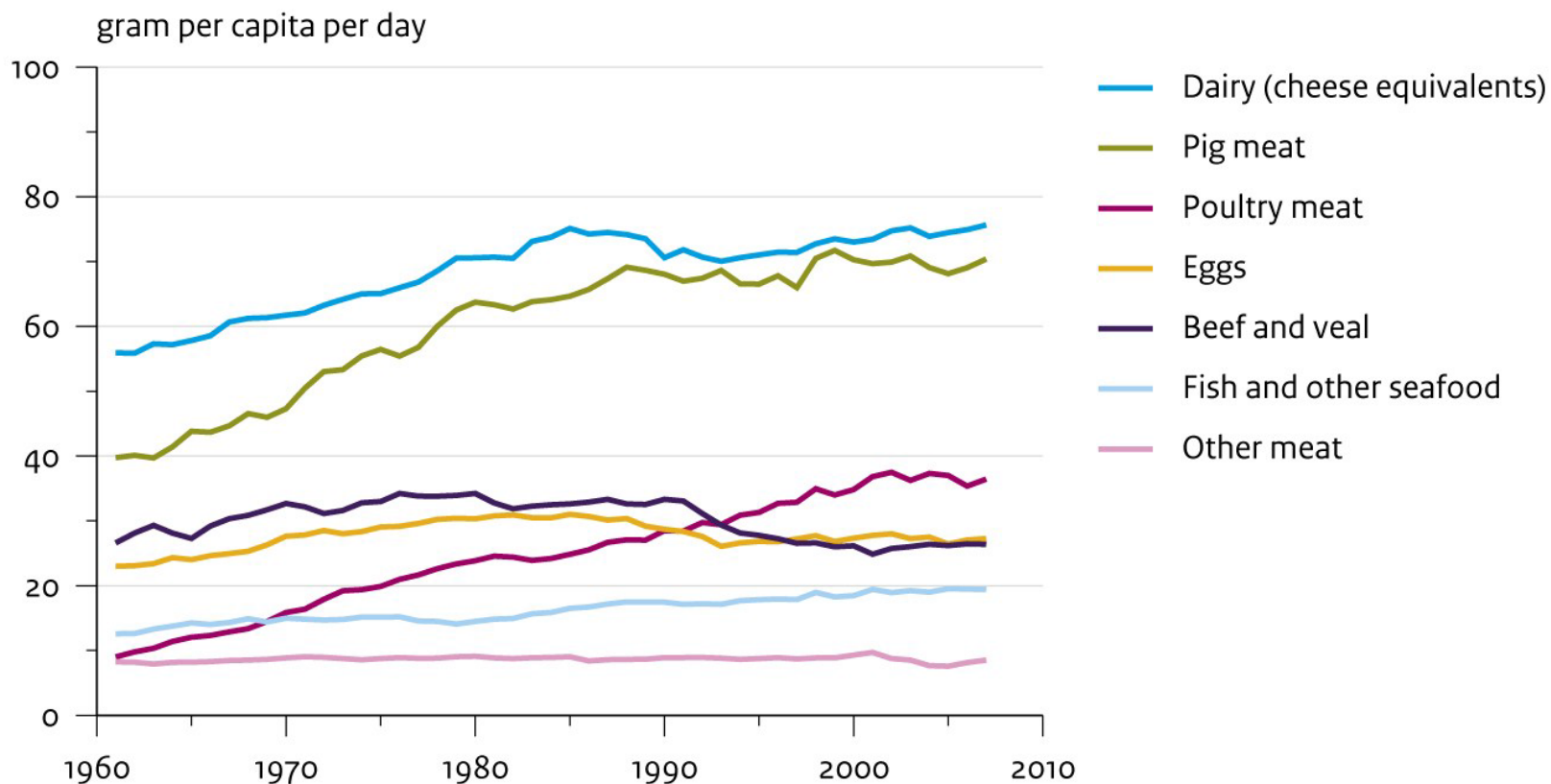
Alessandra De Marco

Main task

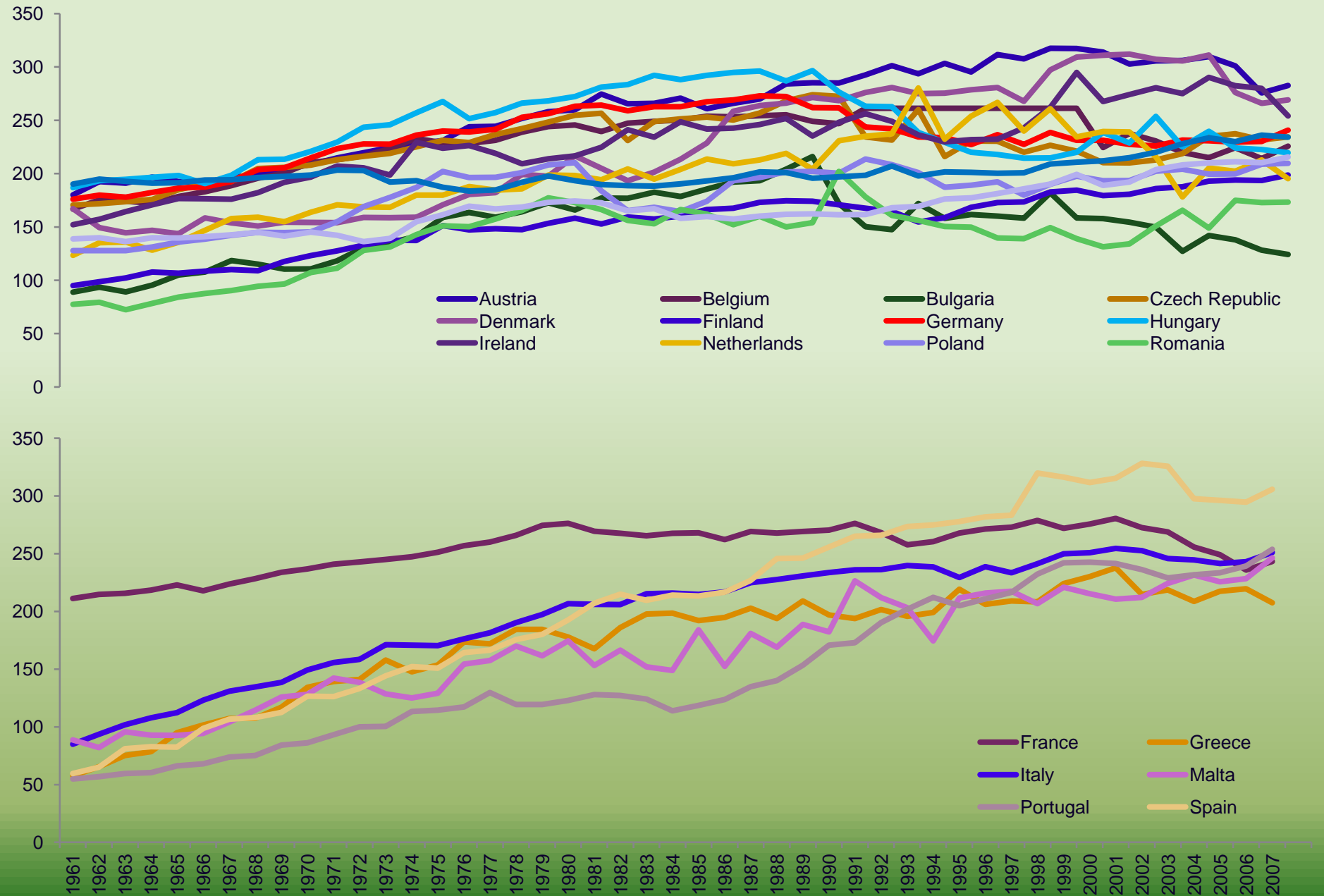
- To create a better understanding of the relationship between human diets and the N-cycle / ammonia emissions
 - Composition of present EU diets (12 commodity categories as cereals, vegetable oil, dairy and sugar);
 - ‘N-footprint’ of these categories
 - Alternative consumption and production scenarios
 - Effect of these scenarios on (EU) N –emissions, notably ammonia emissions

Animal products intake in EU

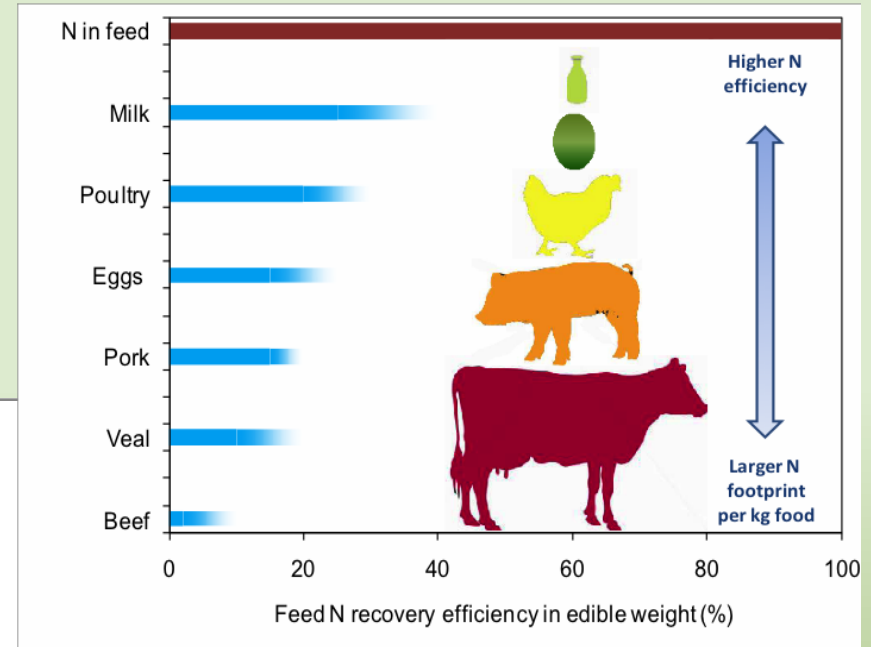
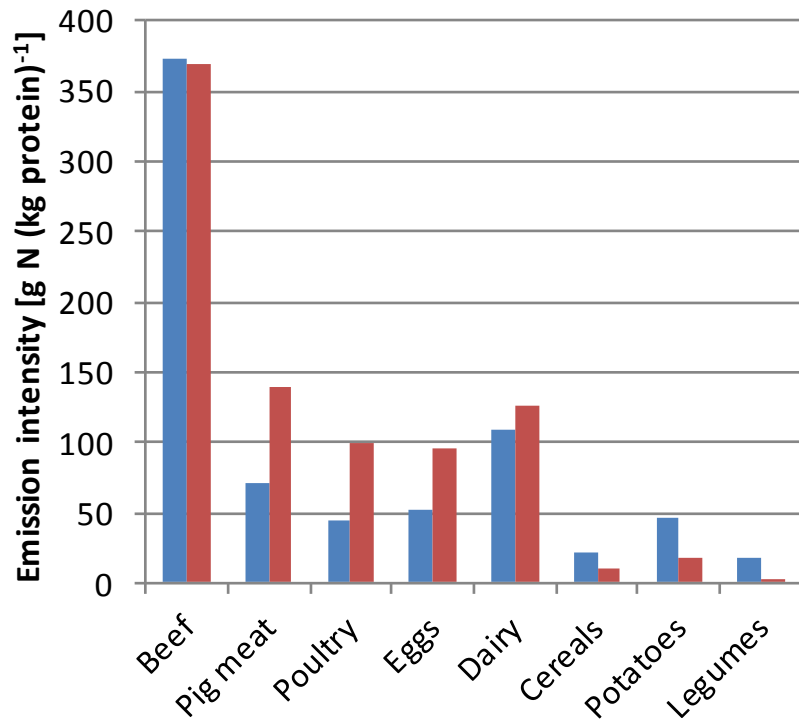
Intake of animal products in EU27



Meat consumption in European countries

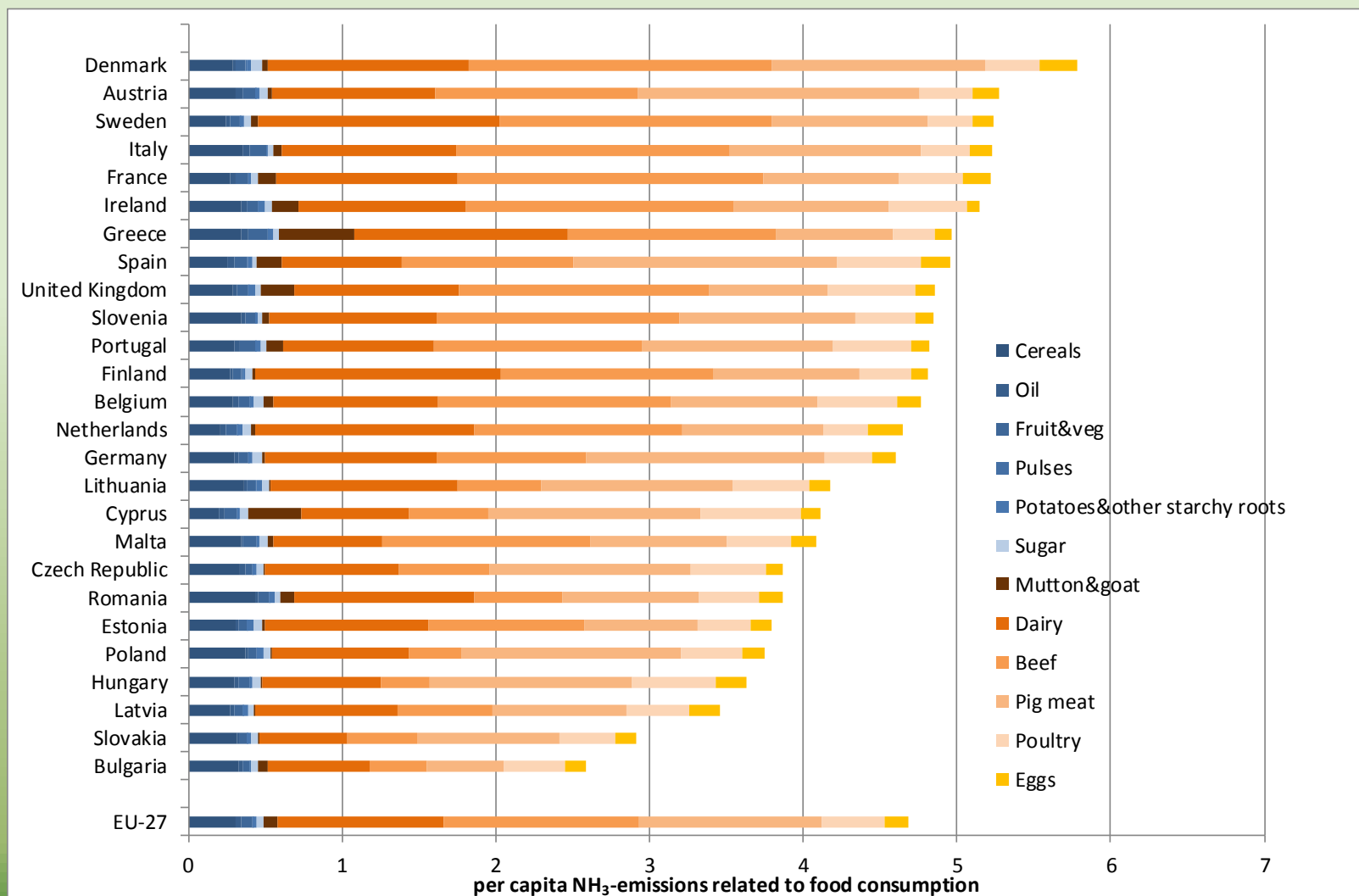


Large differences in N footprint between products

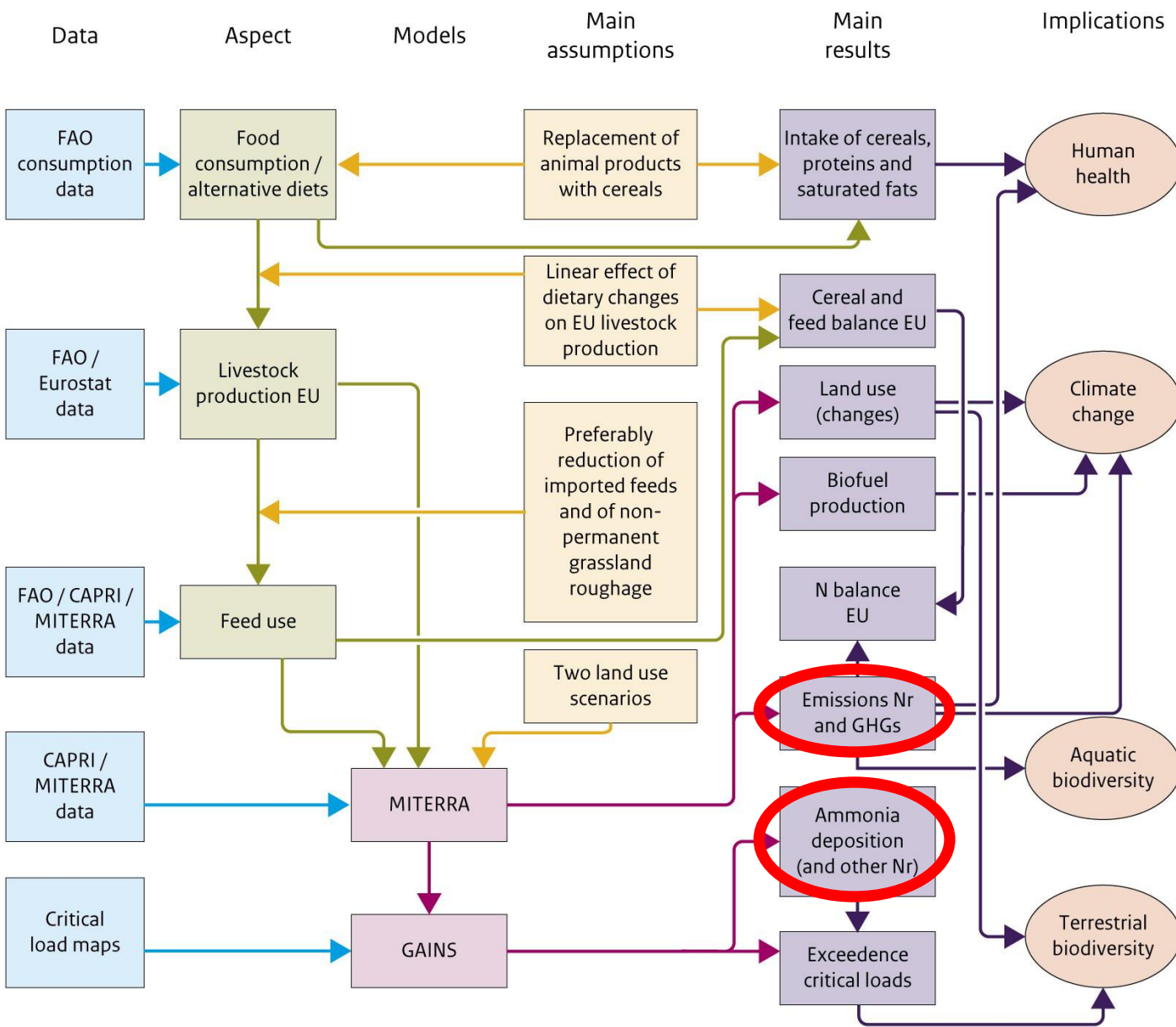


■ Nitrogen leaching and run-off
■ Ammonia

...and between countries



Conceptual scheme used for analysis of effects of alternative diets



Six scenarios identified

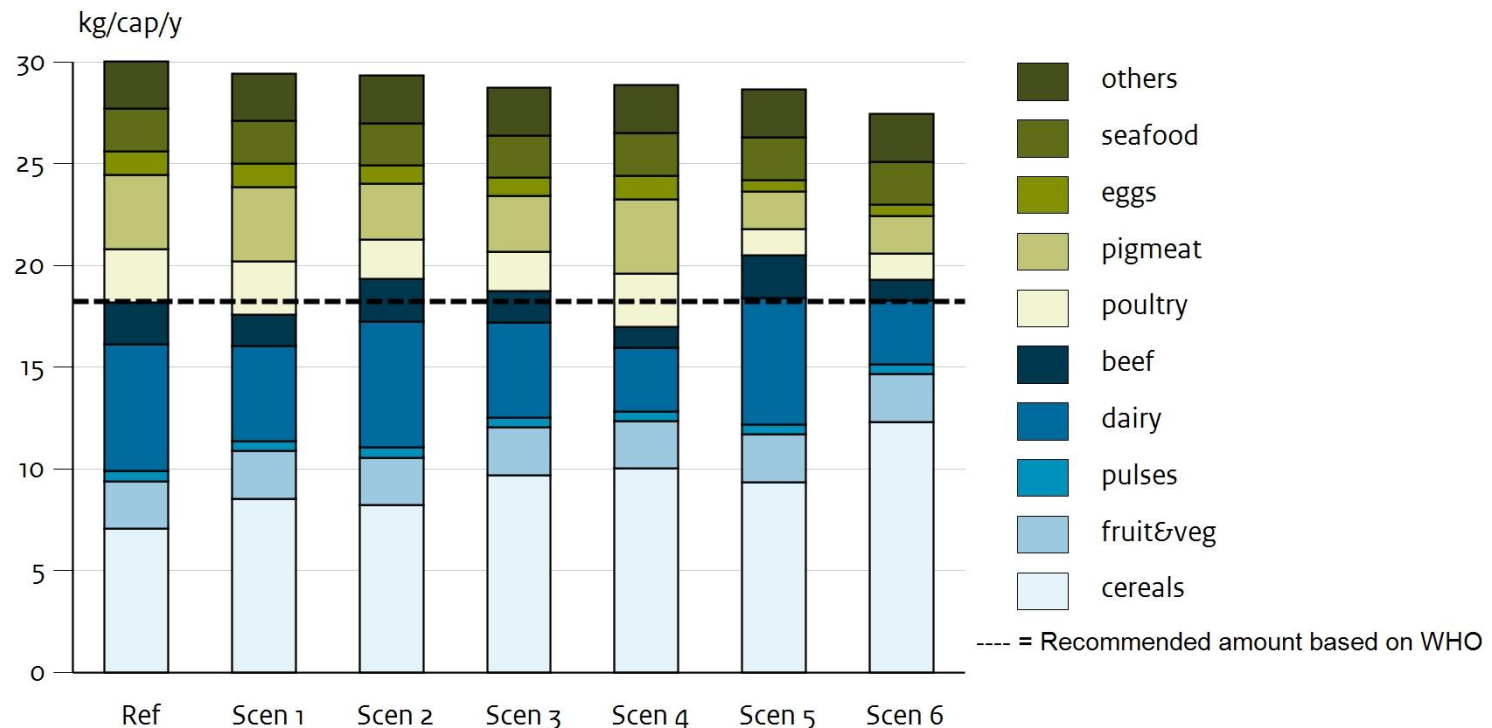
Scenario
Reference
Reference – BF ¹
-25% beef and dairy
-25% pig and poultry
-25% all meat and dairy
-50% beef and dairy
-50% pig and poultry
-50% all meat and dairy



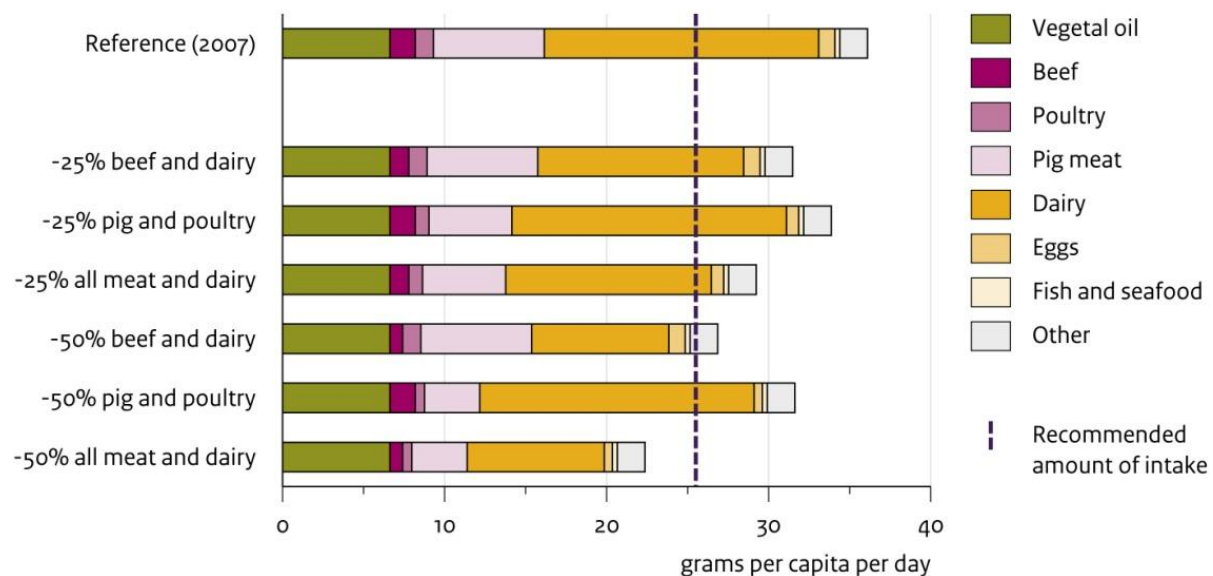
And two scenarios for land use: 'High price' (more cereal production) and greening (extensification and bioenergy)

The scenarios in terms of protein intake

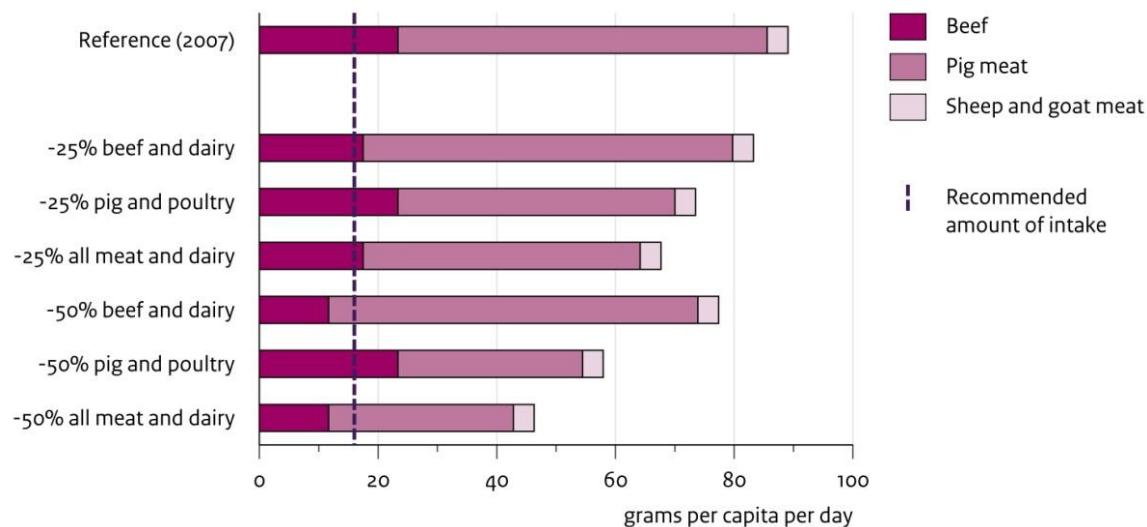
Per capita protein intake EU-27



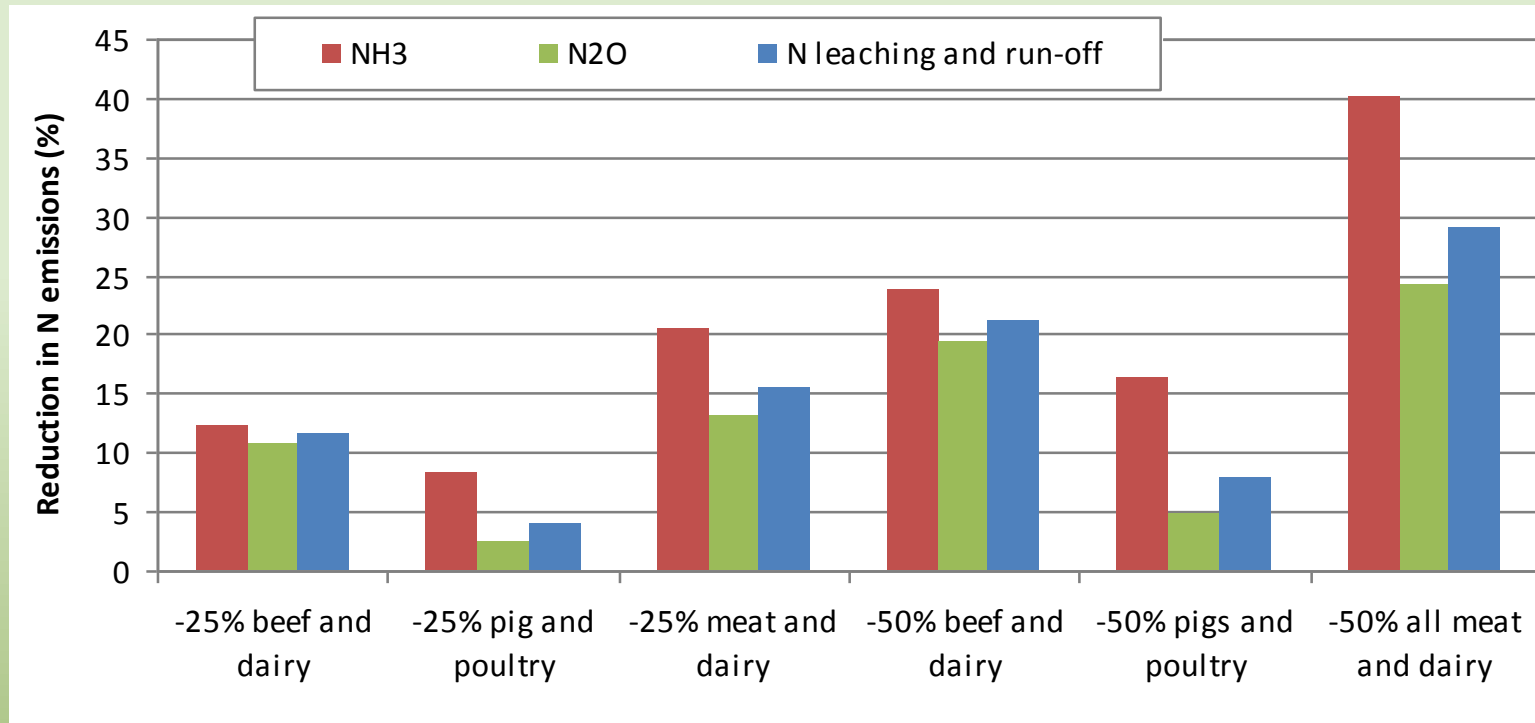
Intake of saturated fats in alternative diets in EU27



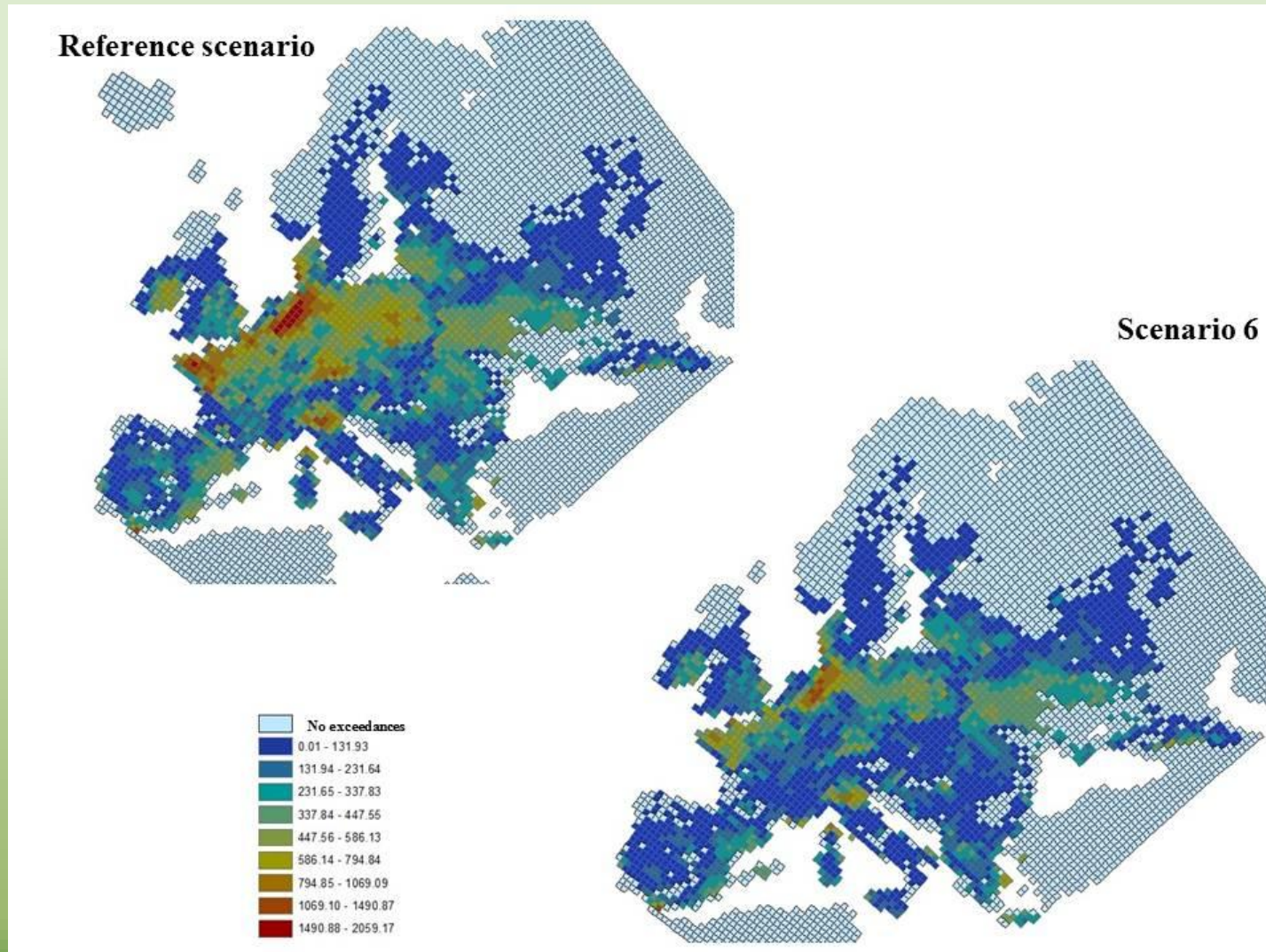
Intake of red meat in alternative diets in EU27



Results in terms of nitrogen emissions

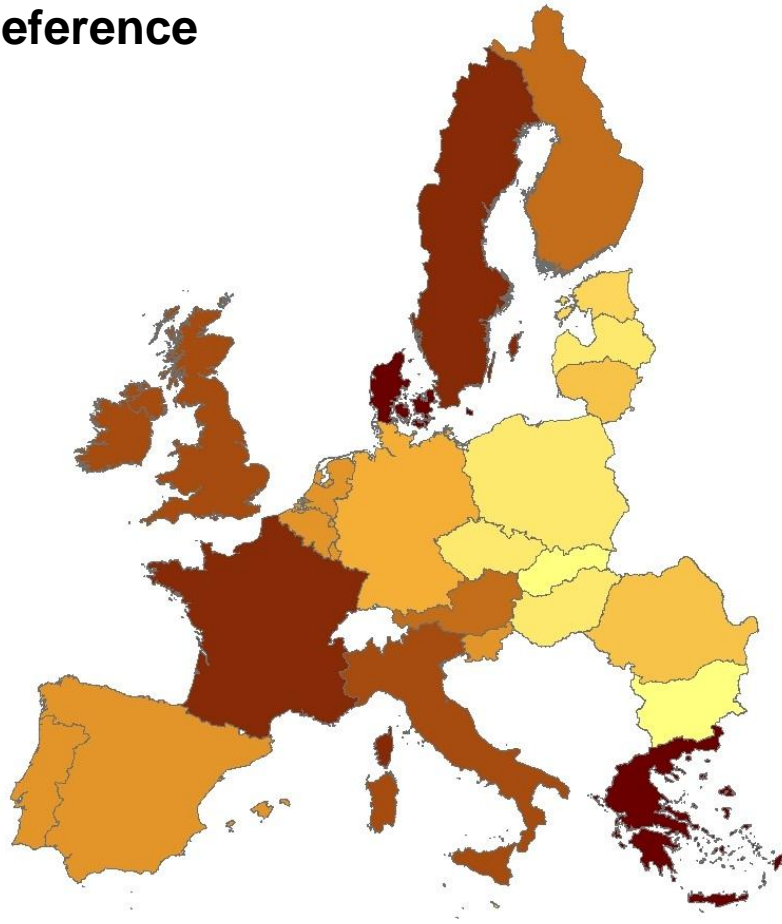


Results in terms of N deposition



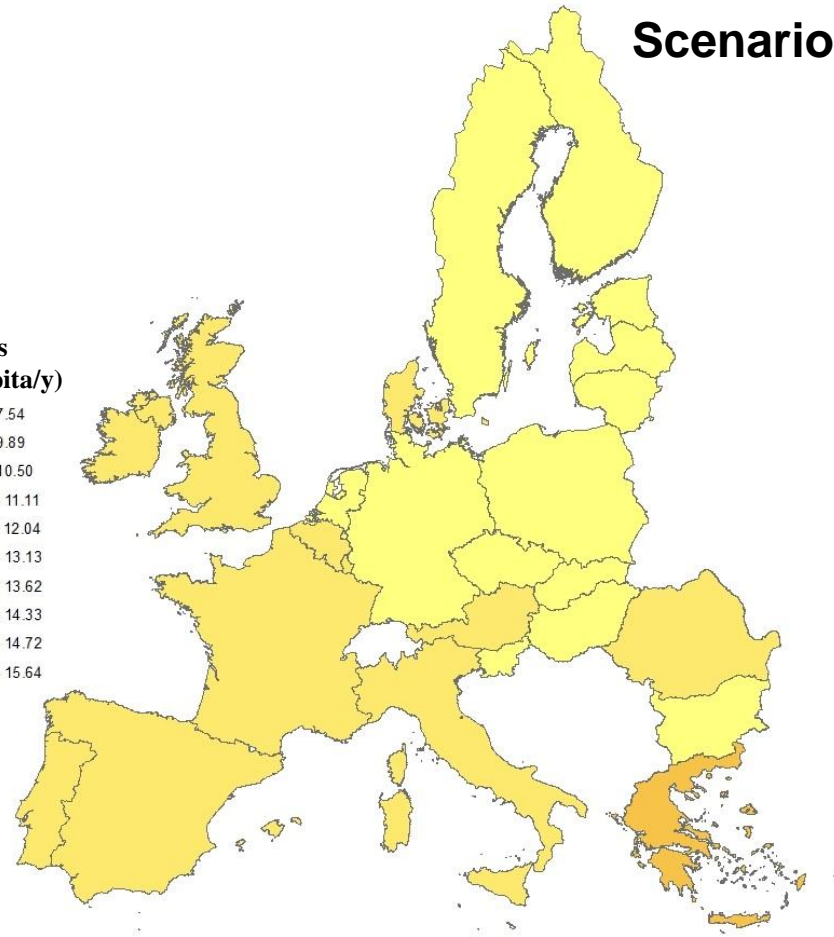
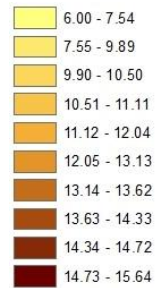
Results in terms of N footprint

Reference



Scenario 6

N-losses
(ktonN/capita/y)



Three scientific papers have been published:

Leip et al., 2013. The nitrogen footprint of food products in the European Union, Journal of Agricultural Science, Nitrogen Workshop special issue paper, pp. 1-14

Westhoek et al., 2014. Food choices, health and environment: effects of cutting Europe's meat and dairy intake, Global Environmental Change, in press.

De Marco et al., 2014. The adherence of the diet to Mediterranean principle and its impacts on human and environmental health, International Journal of Environmental Protection and Policy, in press.

In preparation:

ENA Special Report on Nitrogen and Food

Nitrogen on the table

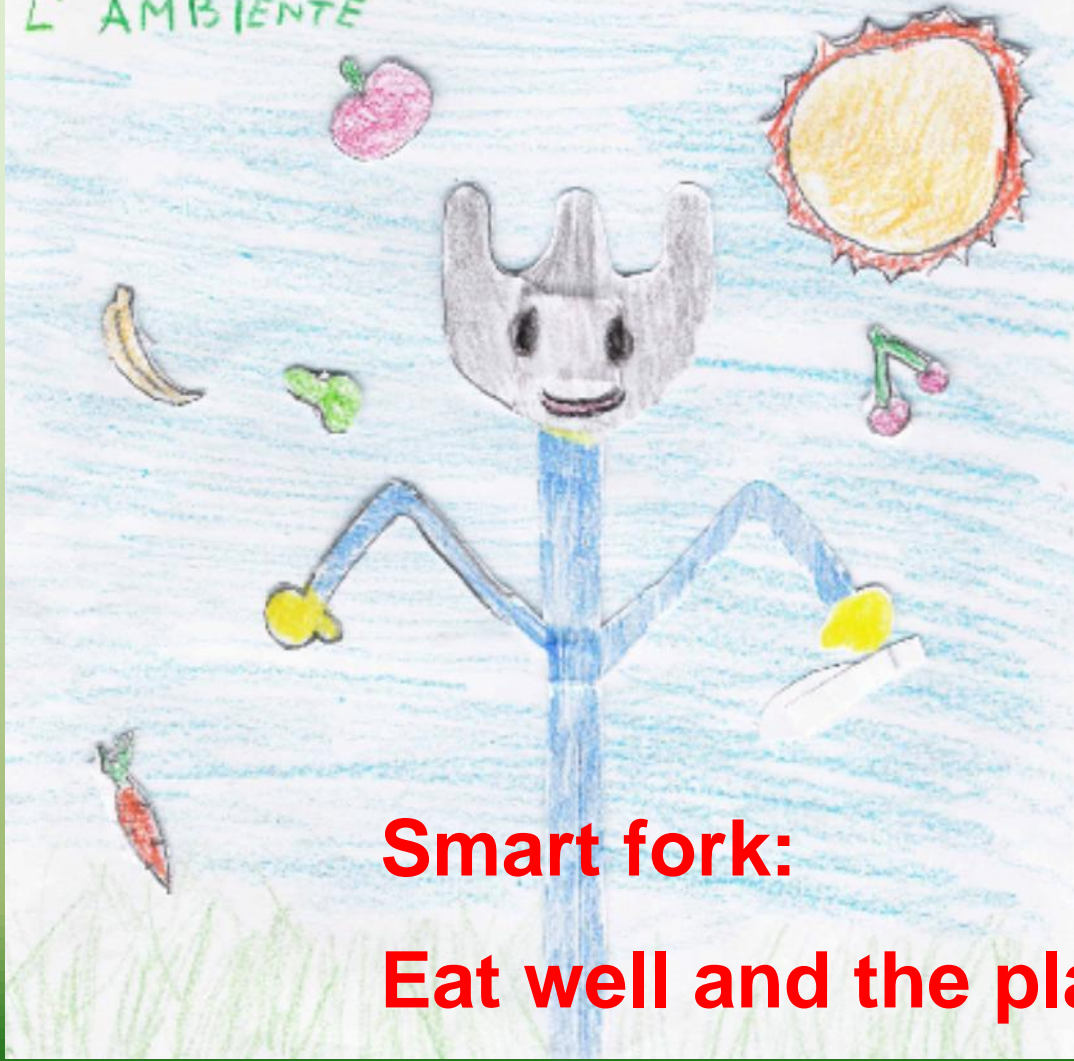
The influence of food choices on nitrogen emissions, greenhouse gas emissions and land use in Europe

Future activities:

- Increase the involvement of WHO communities to intensify the relationship between food intake and human health
- Start to consider the food consumption at global level: countries where food is not well distributed or is not enough....
- Continuing to disseminate the results and rationale of the Expert Panel on Nitrogen and Food (EXPO 2015)
- How can we really contribute to change the dietary habits? This is probably beyond the scope of the Expert Panel on Nitrogen and Food, but something can be achieved (educational level in primary schools)

LA FORCHETTA INTELLIGENTE

CHI MANGIA BENE DIFENDE
L'AMBIENTE



Smart fork:

Eat well and the planet stays well, too!



- Short educational movie (17 min)
- Videogame
- Game session
- Fruit party

The project addresses primary school children and consists of an initial training for teachers, followed by training for the children, to be held within a week.

At the beginning of the week, the educational movie and the videogame are shown. In the following days the children are encouraged to realize compositions or drawings on the topics of the project.

At the end of the week, a game session is organized among classes or groups, including the provision of an ecological fruit snack and the participation of the *Smart Fork* avatar

Educational movie

Guest star of the movie is the smart fork avatar, walking along a park, and explaining the following concepts:

Healthy nutrition (macro and micro nutrients, calories intake, food pyramid);

Food production and consumption impacts on the environment (**Ecological, Carbon** and **Water Footprint**);

Seasonality; Naturalness; Biodiversity; Conviviality and **Food security**.

Videogame

The videogame consists of the following four sections:

Supermarket - the avatar has to buy the food for one day. At the end, the shopping will be evaluated in terms of calories, footprint and naturalness.

Kitchen - the player has to prepare a meal.

Seasonality - the player has to guess seasonality of selected fruits and vegetables.

Biodiversity - the player has to detect correct species and remove the other ones.

Game and Fruit Party



FEDERICO .RAVAIOLI 36



Link for the promo:

<http://www.youtube.com/watch?v=8Sy2VsKuEuo&feature=youtu.be>

EXPO 2015 Milan (1° May- 31° Oct)

FEEDING THE PLANET. ENERGY FOR LIFE



Sustainability is a central pillar of this commitment, an overarching, universal value that permeates all aspects of the Expo starting with the theme "Feeding the Planet, Energy for Life", projected into a sustainable future for the planet and all of society.

In particular, the environmental commitment of Expo 2015 S.p.A. takes form in the implementation of criteria of sustainability applied to all aspects and the entire lifecycle of the event, in order to prevent, mitigate or compensate any possible negative impact on the environment or on local communities.

Workshop and debate themes include

- Improving food quality and security: the security of having enough food to live on, and an assurance that the food is healthy and the water drinkable;
- Ensuring healthy and high-quality nutrition for all human beings, doing away with the hunger, drought, infantile mortality, and malnutrition that still afflict 850 million people on this planet;
- Preventing the new epidemics and diseases of our time, including obesity, cardiovascular disease, and cancer;
- Promoting innovation in research, technology, and business practices along the entire food supply chain to improve the nutritional value, conservation, and distribution of foods;
- Providing education in proper nutrition and encouraging more healthy lifestyles, especially among children, adolescents, the disabled, and the elderly;
- Enhancing the value of cultural and ethnic heritage as expressed in culinary traditions.

A selection of the main characters created for EXPO2015

GUAGLIÒ, the garlic



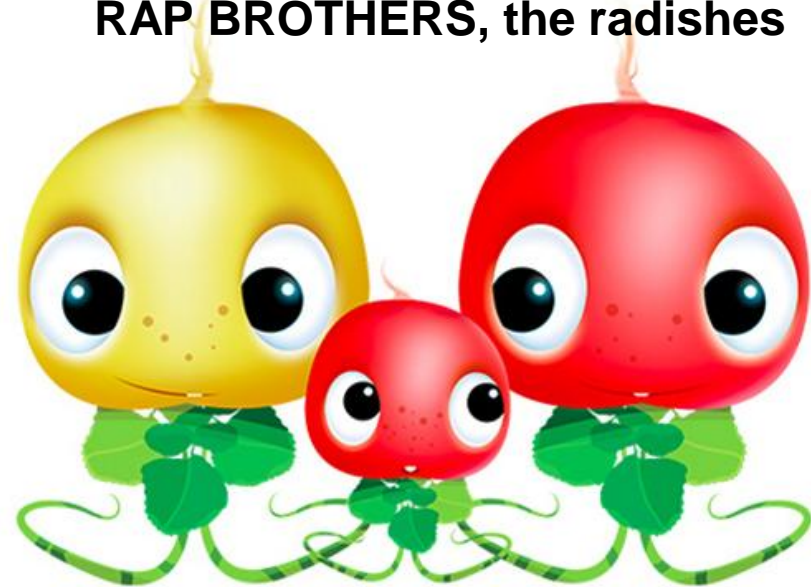
Single by choice, he hates being mistaken for an onion.

MAX MAIS, the blue corn



He's sociable, alternative and has a bit of an artistic flair.

RAP BROTHERS, the radishes



They appear to be guileless darlings, but actually they are highly competitive and sporty with an unbridled passion for rap music

RODOLFO, the fig



He loves to work out and court the girls.



JOSEPHINE, the banana

An exotic beauty, sunny and a bit extravagant. Her dream is to make a name for herself in show business.

MANGHY, the mango



Sweet, generous and charming. He works as an actor in Bollywood. He loves to sing, dance and give autographs.

Thank you for your attention!