
The transition towards more sustainable diets in the EU

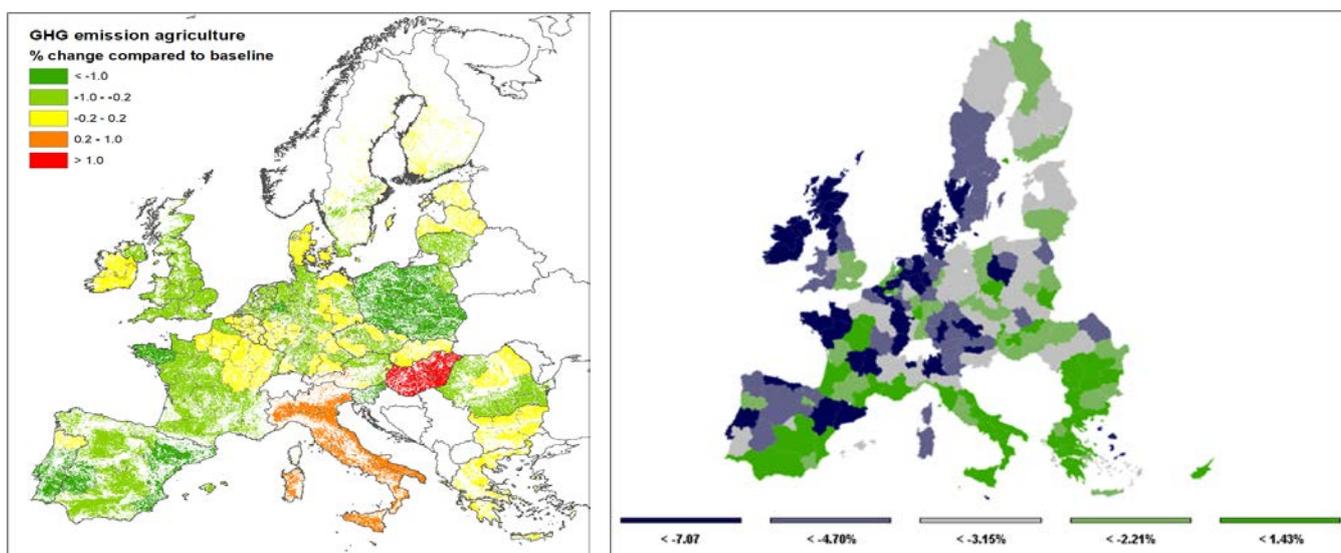
Looking at 2030 from a Member State perspective

A higher intake of plant-based proteins could be beneficial for public health, but could also have positive effects on the environment and the sustainability of the food system as a whole. This is concluded from an EU-funded project on agricultural modelling in the EU, SUPREMA. Having a better understanding of all these effects is key since the current EU livestock consumption and production are outside the boundaries that could be considered as sustainable. These insights are important in the context of the current agricultural policy framework that aims at transitioning towards a food system with neutral or positive environmental impacts while ensuring food security, nutrition and public health.

The SUPREMA project has delivered a quantitative assessment of the impacts of a preference shift with regard to red meat which results in a declining demand for animal-based proteins within the EU. This comparative assessment has involved the model (combinations) AGMEMOD-MITERRA and CAPRI as the used modelling frameworks. The AGMEMOD-MITERRA system combines an economic model (AGMEMOD) with a biophysical model (MITERRA), whereas CAPRI is mainly an economic model with an extensive biophysical representation of EU agriculture.

Focusing on the scenario, red meat consumption is already declining in a significant number of Member States. The observed decline over the past decade has been partly 'compensated' by increases in poultry meat and dairy products. Within the EU, countries such as Austria and Spain appear to have the highest meat consumption levels, tending to be consumption levels in the West of the EU higher than those in the Eastern part. Regarding the share of vegetarians, in 2018 around 11% of the population in Germany was following this dietary choice. This strongly contrasts with countries like Bulgaria and Romania with rates around 1% or even lower. In terms of the future evolution of the share of population that embrace the vegetarian diet, two different assumptions were included. On the one hand, some countries like Germany, Sweden, Austria, Italy and Poland which already have high shares of vegetarian population are assumed to present a slow increase of 0.25% per annum. On the other hand, for the remaining countries which currently have a lower level, stronger increases in the number of vegetarians of 0.50% per annum were considered. These assumptions imply that in 2030, the MS-average share of vegetarians would increase in the EU-15 from about 6% to 10.5% (+4.5%), while it increases from

2.5% till about 8% (+5.5%) in the EU-13. In addition, it has been assumed that more 'meat-consuming' persons will become flexitarians. As a result, those Member States with below average consumption will follow their current trend, while in Member States with above average consumption red meat consumption per capita will decline by 1.0% per annum. For those Member States with average meat consumption, a decline in red meat consumption by half the amount of 'above' or by 0.5% per annum is expected. Both used models, i.e. CAPRI and AGMEMOD-MITERRA, project a decline in human consumption of beef and pork over the next decade of about 8.5%. The outcomes of the simulation make it evident that the presumed change in consumer diets will lead to a reduction in greenhouse gas emissions, while it will have a negative impact on farm incomes, especially in specific beef and pork producing regions at the same time (see figure below for a summary of regional differences).



Left panel: GHG emission of agriculture (% change compared to baseline 2030) as calculated by the AGMEMOD-MITERRA modelling system. Right panel: Income per hectare (% deviation from baseline 2030) as calculated by the CAPRI model

Changes in consumer behaviour will not lead to fully parallel changes in producer behaviour. As the negative impact on prices is modest and there is an inelastic price responsiveness of supply, the changes in consumption will translate into strong percentage change impacts on trade, especially for beef. For policy makers pursuing climate policies this could be a reason to have a careful look at spill-over-effects to third-country production.

The complete study is available for download here: https://www.suprema-project.eu/images/Deliverable_D32.pdf.

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