Changing meat consumption pattern in the EU until 2030

Baseline

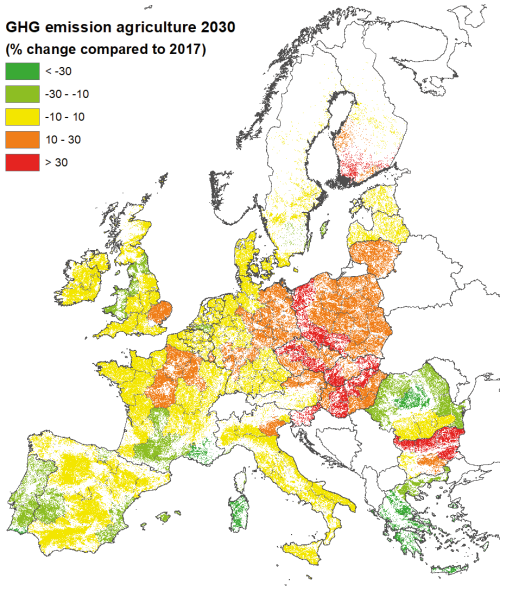

Figure 5 | Relative changes in GHG emissions by agriculture between 2017-2030 (combined Baseline MITERRA-AGMEMOD)

- The baseline indicates a strong shift in production and GHG emissions towards the EU13 Member States (Fig. 5).

Scenario

- Narrative: Change in preferences with a decline in meat consumption whereas Member States with above average meat consumption and below average population shares of vegetarians depict higher reduction rates
- Results indicate relative small price effects for beef (-0.5% compared to the baseline in 2030) and strong ones for pork (-20%) (Fig 6).
- The beef price decline is low because cuts in beef consumption are small in contrast to pork. Therefore, a higher impact on pork consumption and price could be expected.

- Reduced consumption affects EU production only to a smaller extent. The EU has more room to export, especially pig meat.
- Decline in red meat consumption lead to some substitution and also to slight shifts in production towards white meat (poultry).

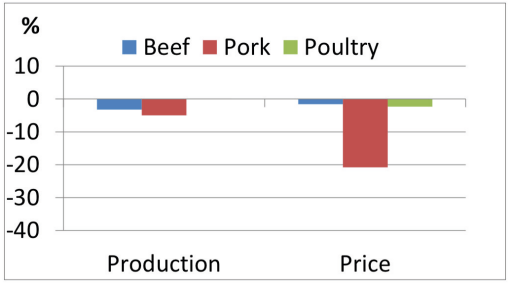

Figure 6 | Price and production changes under the meat consumption scenario rel. to Baseline in 2030 (AGMEMOD based)

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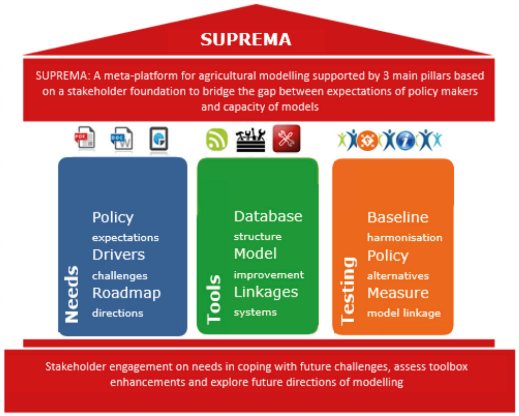
suprema

Support for Policy Relevant Modelling of Agriculture



SUPREMA has four coherent objectives:

- Developing a SUPREMA "Roadmap of Future Directions" for modelling;
- Enhancing the SUPREMA model family;
- Testing future directions of modelling in agriculture;
- Sharing and discussing findings of SUPREMA.

www.suprema-project.eu

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In the following, we present some outcomes of the Stakeholder Workshops so far, including narratives developed as well as selected draft results from testing of the SUPREMA model family.

1st Stakeholder Workshop 'Needs'

- Insights into the view of stakeholders on future challenges of the agri-food sector and related policies
- Identifying stakeholders' needs for model-based analyses and support evidence based policy making
- Define priorities by stakeholders (Fig. 1)

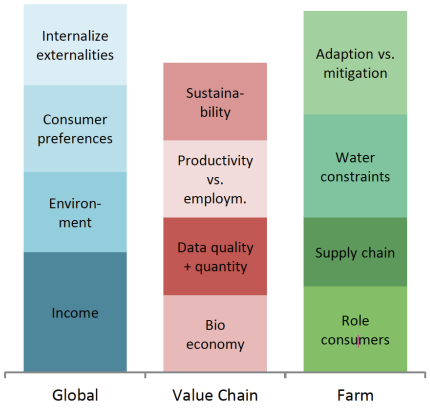

Figure 1 | Four most prioritized items given to challenges by stakeholders

2nd Stakeholder Workshop 'Narratives'

Development of three narratives for impact analyses in SUPREMA together with stakeholders

- Common Baseline (Reference)
- Climate change policy narratives to study potential contributions of the EU agricultural sector to climate change mitigation efforts (by investigating specific sectors, regions or mitigation targets)
- Common agricultural policy (CAP) related narratives with a foci on climate and environment, production, supply chain and consumer preferences

Climate mitigation policies and the EU agricultural sector in the perspective of SDGs until 2050

Scenarios

- Scenario 'EU alone agGHG' depicts an unilateral EU carbon tax to reduce non-CO2 agricultural greenhouse gas emissions (agGHG);
- Scenario 'Buy-in' simulates also a partial involvement of all countries outside the EU approximated by a carbon tax at the level of 25% of the tax applied in the EU.

Results

- An unilateral carbon tax to reduce EU agGHG emissions will lead to 45 % leakage by increased non-CO2 agGHG emissions outside the EU (Fig. 2).
- Already a 25 % Buy-in (tax) in the RoW provides a decline in non-CO2 agGHG emissions by 70 % globally compared to a 100 % Buy-In (Fig. 3).
- An unilateral mitigation effort of the EU will mainly reduce ruminant production compared to the baseline and RoW farmers will increase their ruminant production in this case (not shown).
- A 25 % Buy-in in the RoW will lead to a reduction in ruminant production shared by almost all countries in the RoW, except for USA and Canada (Fig. 4).
- No significant change is projected for EU-28 consumers' commodity prices in case of a unilateral agGHG action of the EU-28 (Figure not shown).
- Indeed mitigation policies can have negative effects on food availability globally (Figure not shown).
- But besides these trade-offs, a carbon tax is also projected to yield in co-benefits for the environment like increased natural vegetation areas inside the EU-28 (Figure not shown).

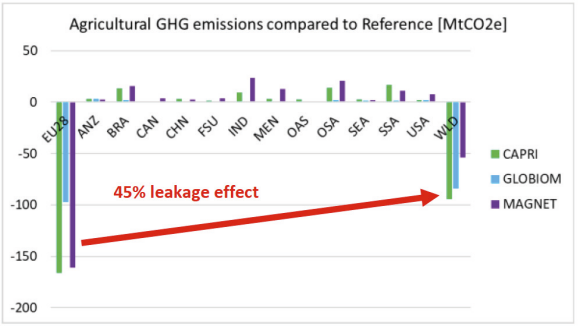

Figure 2 | Changes in agGHG emissions in the unilateral EU mitigation scenario (agGHG) compared to the baseline in the year 2050

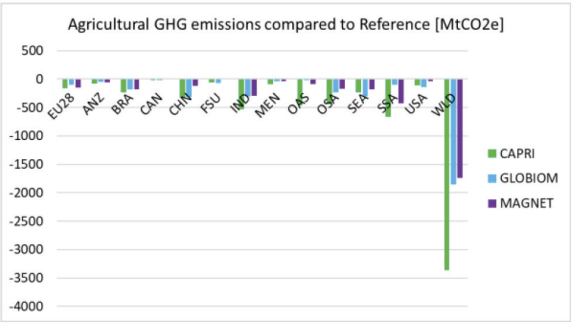

Figure 3 | Change in agGHG emissions in the mitigation scenario Buy-in compared to the baseline by 2050

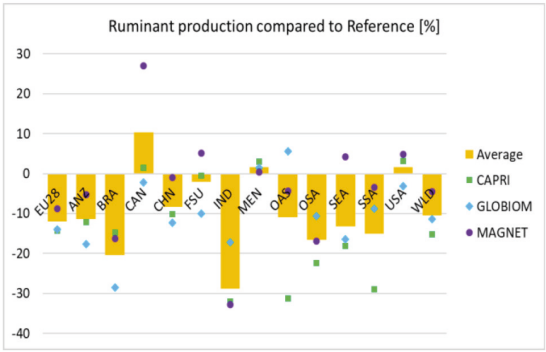

Figure 4 | Change in ruminant production in the Buy-in scenario compared to the baseline by 2050