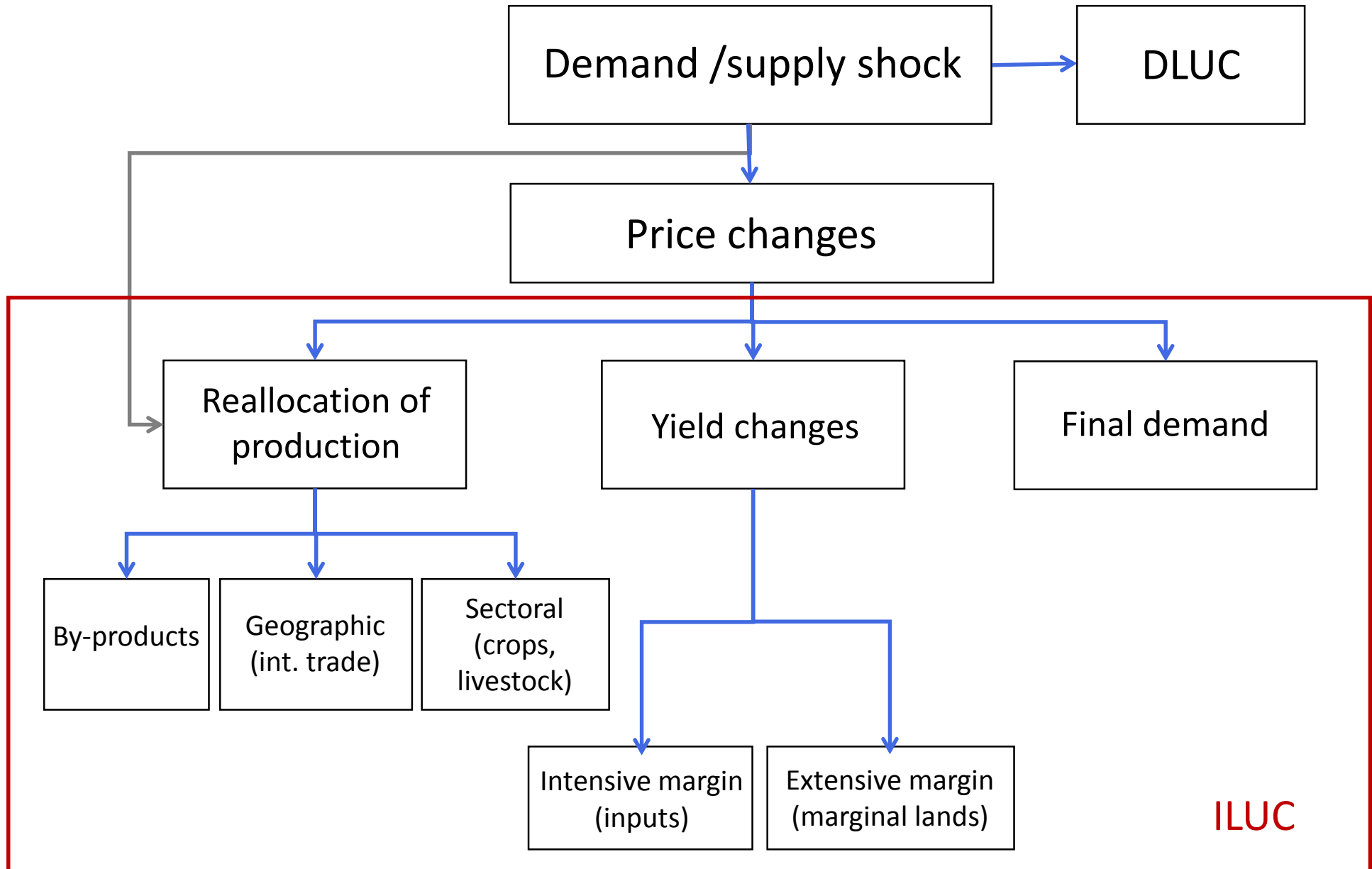


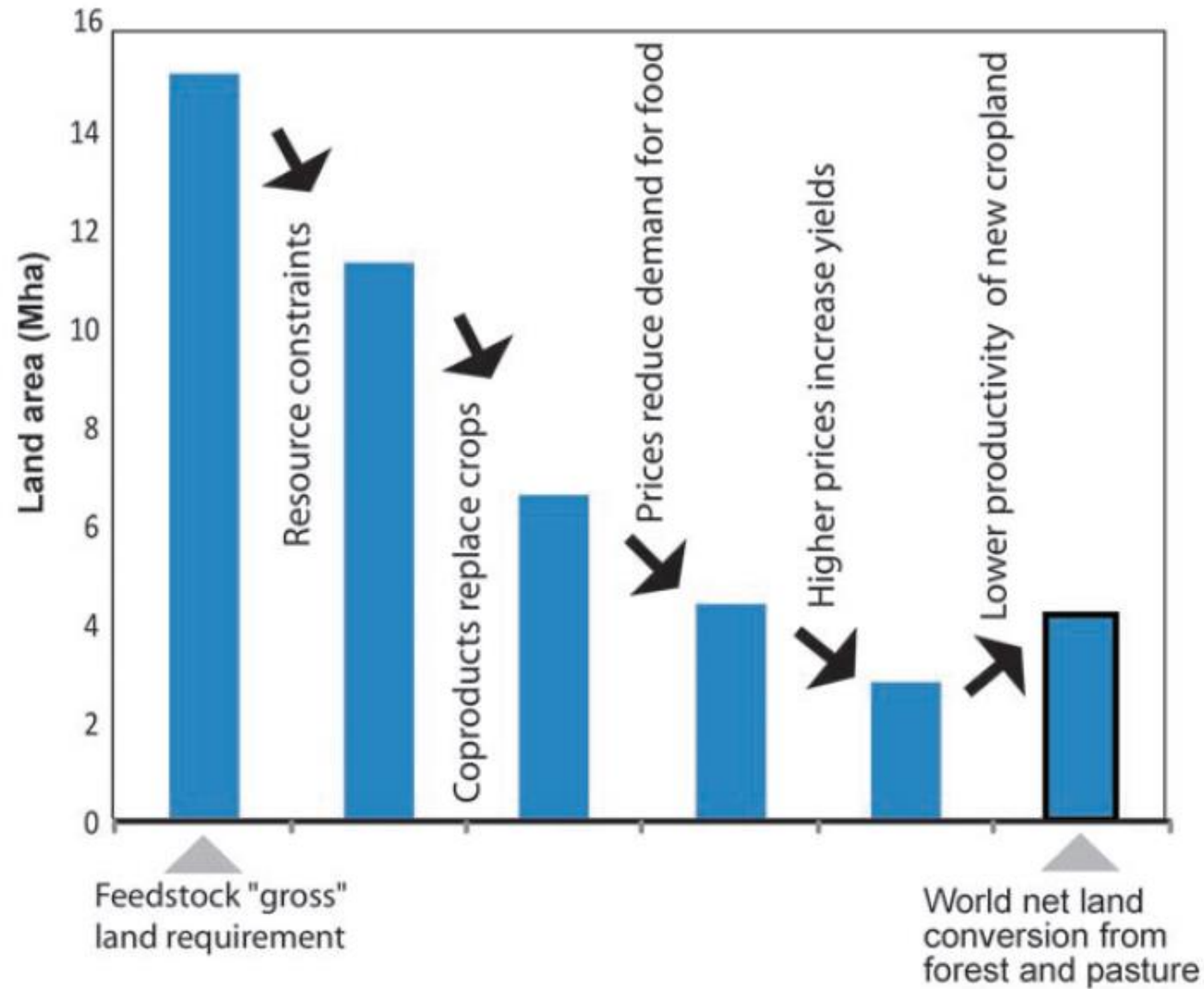
# STIMUL – TASK 4

Global price vector, feedbacks, net displacement factor and indirect land use changes

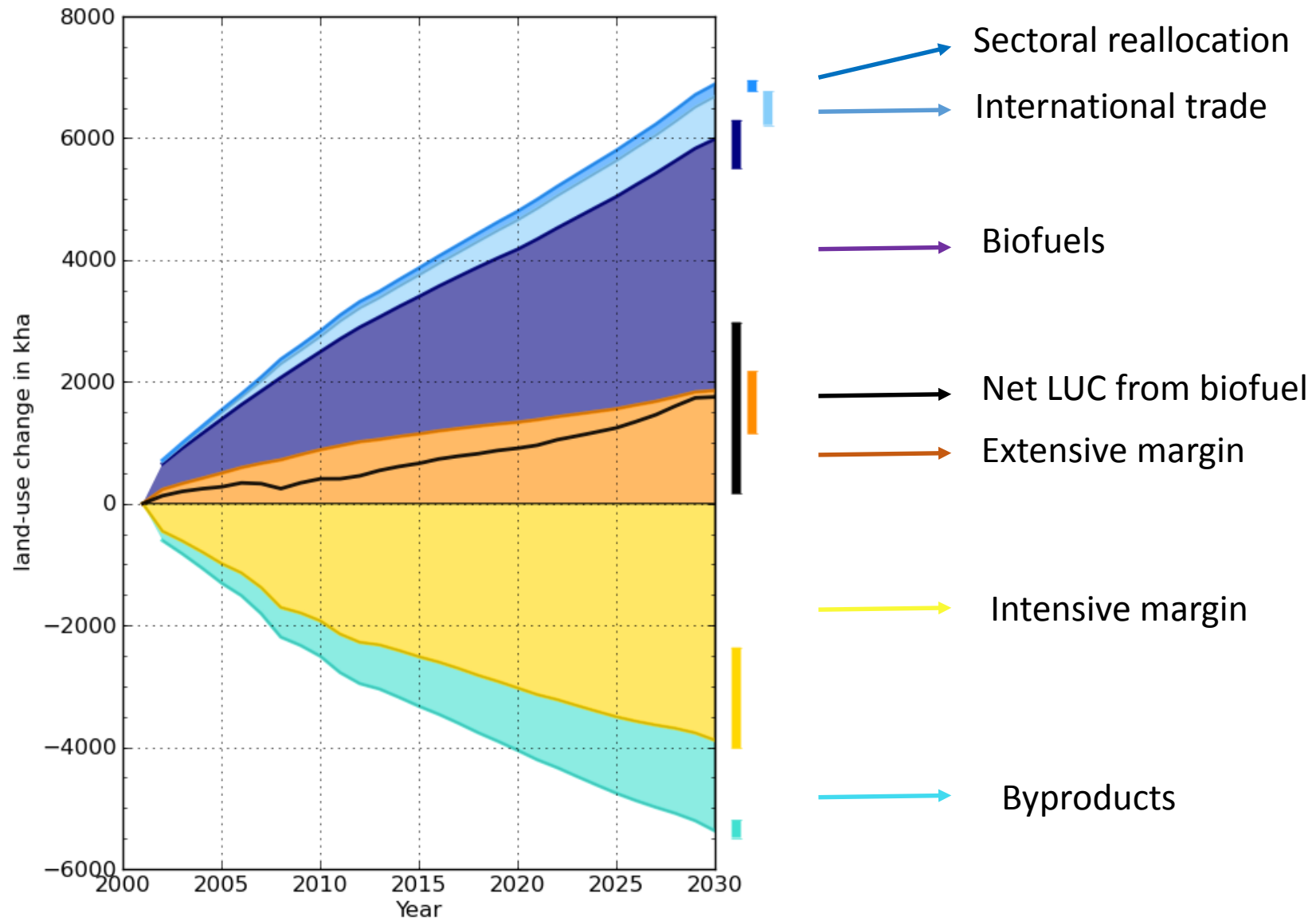
Kick-off meeting

18 janvier 2017





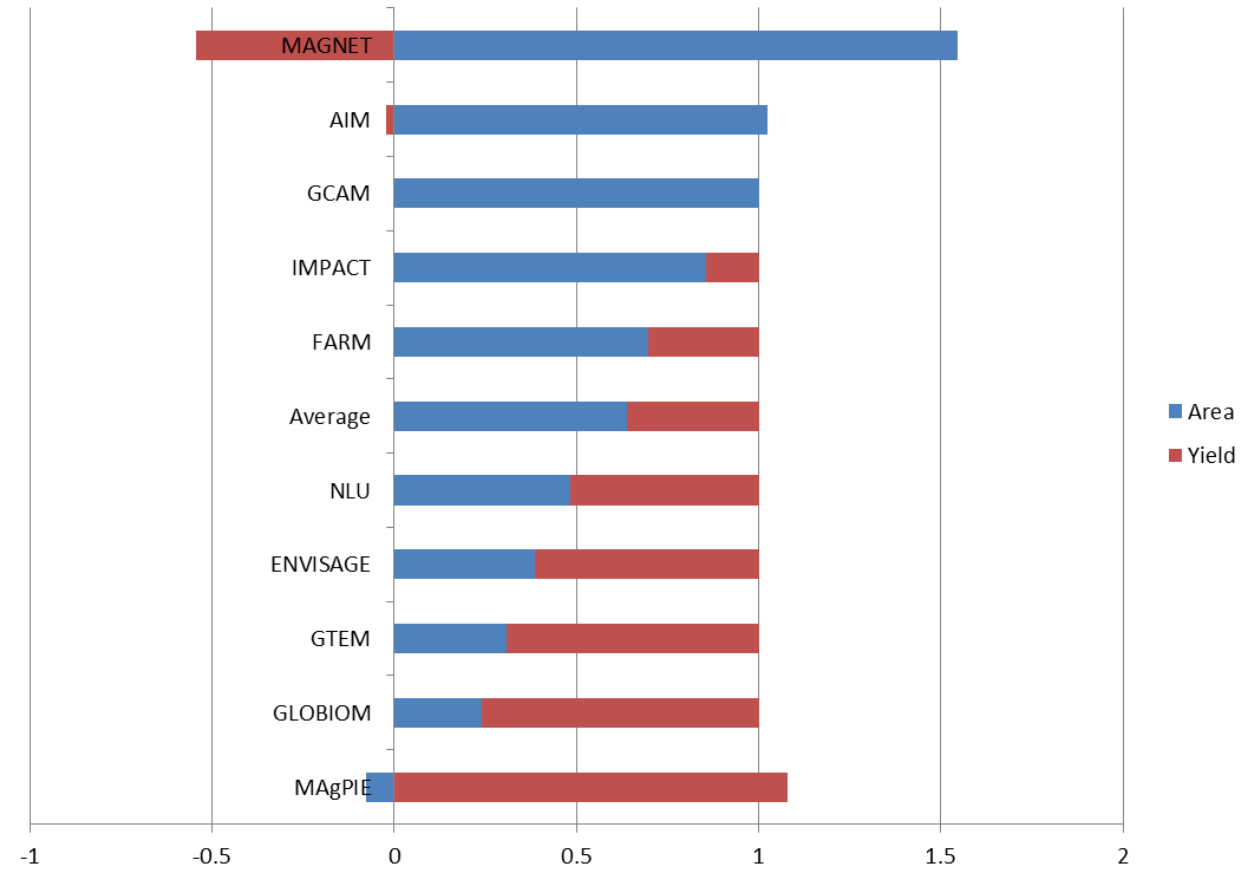
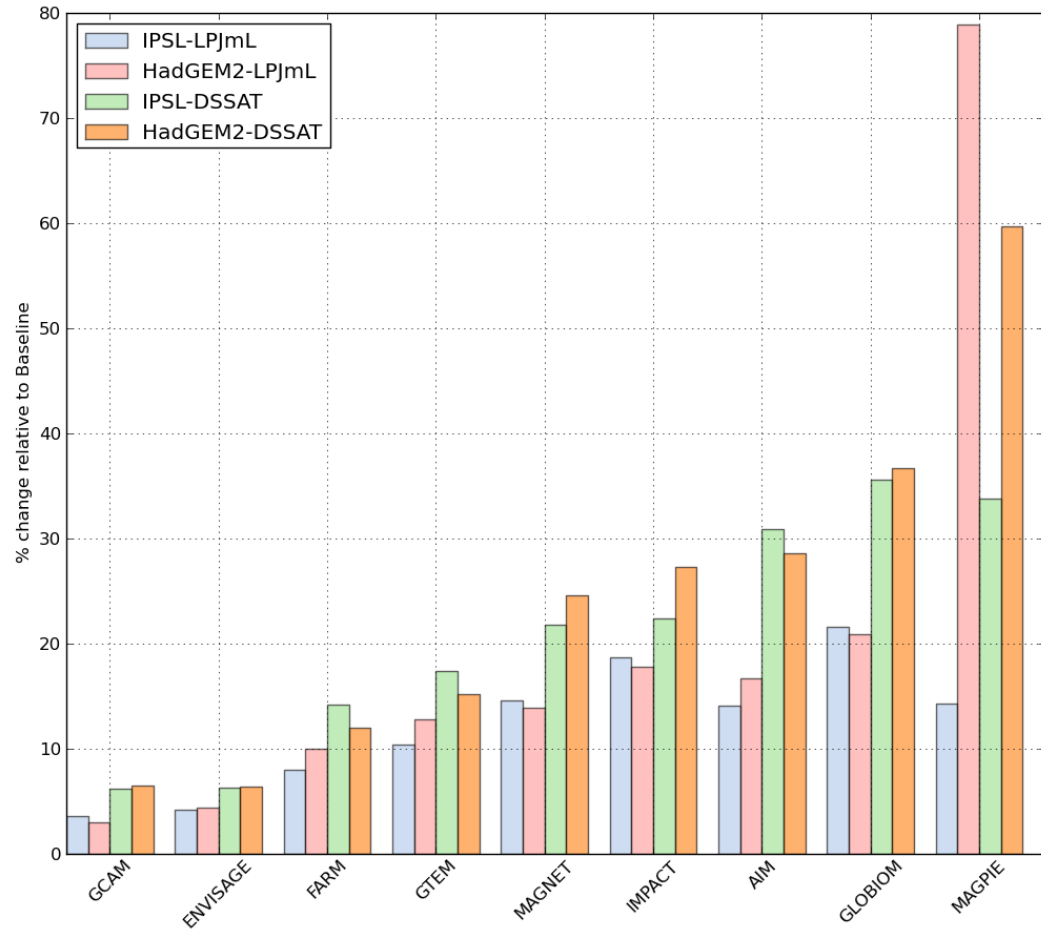
*Figure 2. Market-mediated reduction in global cropland conversion from additional 50.15 gigaliters (GL) per year of maize ethanol production (millions of hectares [Mha], based on 2001 yields).*



# Net displacement factor (Plevin et al., 2010)

- $$\text{NDF} = \frac{\text{Global increase in crop area to replace land used by biofuel}}{\text{Ha dedicated directly to additional biofuel}}$$
- (i) price-induced yield increases,
- (ii) relative productivity of land converted to cropping,
- (iii) price-induced reductions in food consumption, and
- (iv) substitution of crop products by biofuel coproducts, such as distillers' grains replacing corn as animal feed.

# Global price vectors



# Questions restantes

- Périmètre d'application : biocarburants 2G, effets indirects d'une politique sur les engrais
  - Intensification de la production animale
  - Accessibilité ?
  - Nitrogen Use Efficiency
- Commerce international
- Réponse relative aires / rendements
- ...