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Assessing livestock systems – how indicators, system boundaries and methods may influence results

EAAP 2021, Davos, September 2

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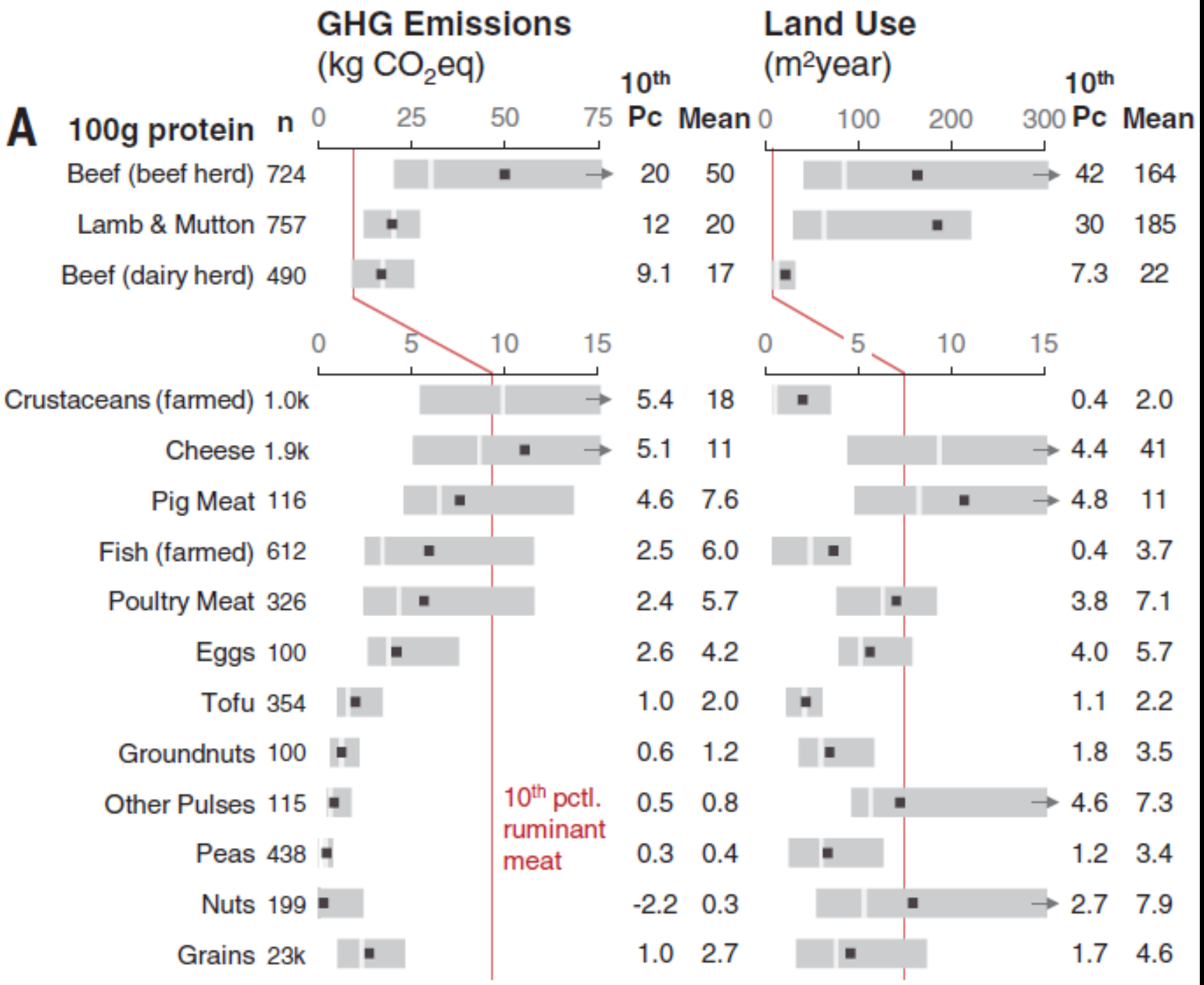


Poore and Nemecek, 2018

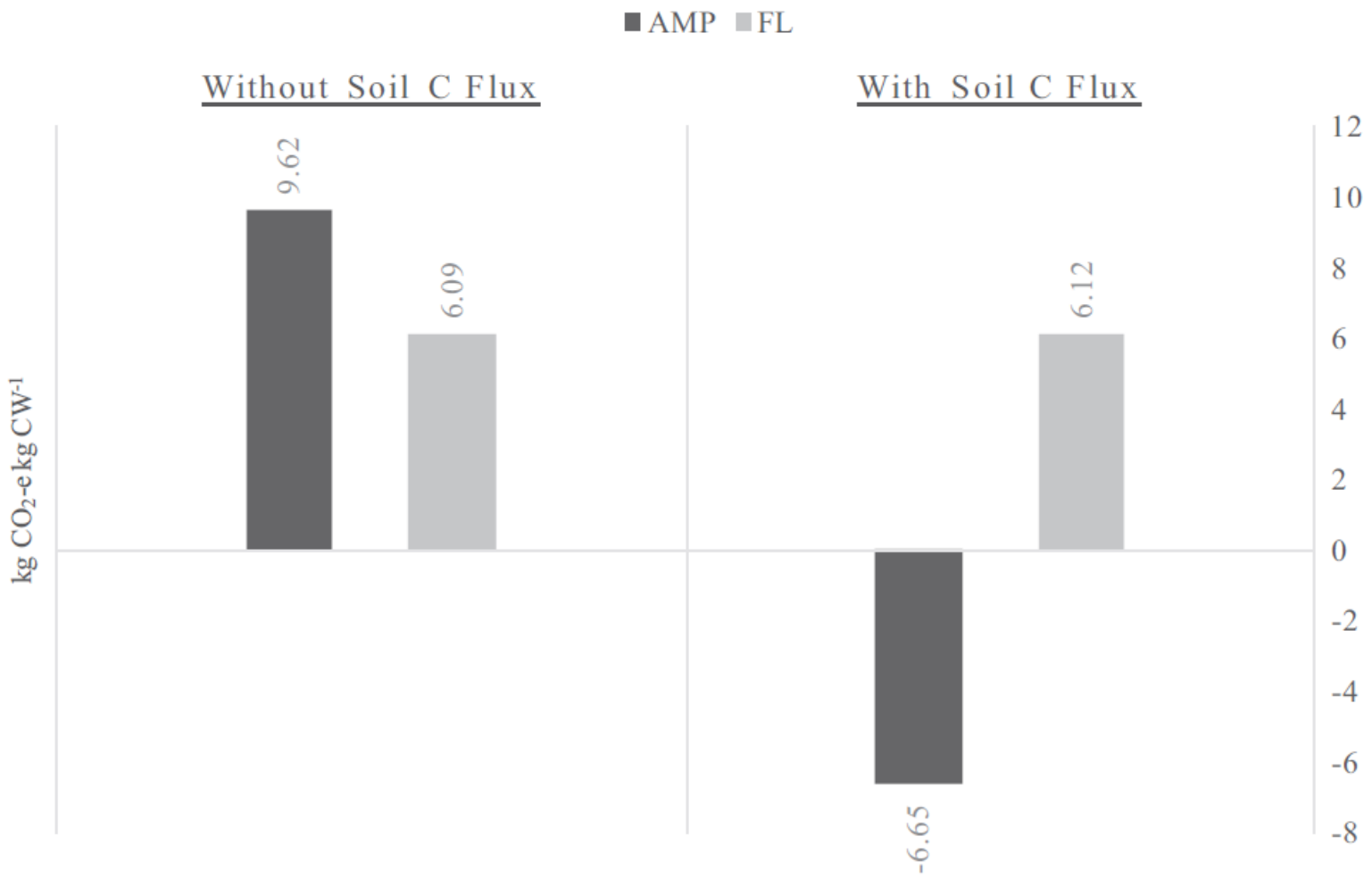


Fig. 2. Estimated emissions (kg CO_2-e kg CW^{-1}) for each finishing strategy – feedlot (FL) and adaptive multi-paddock (AMP) grazing – before (left) and after (right) net C flux from soils (sequestration and erosion) is incorporated.

Stanley et all. 2018

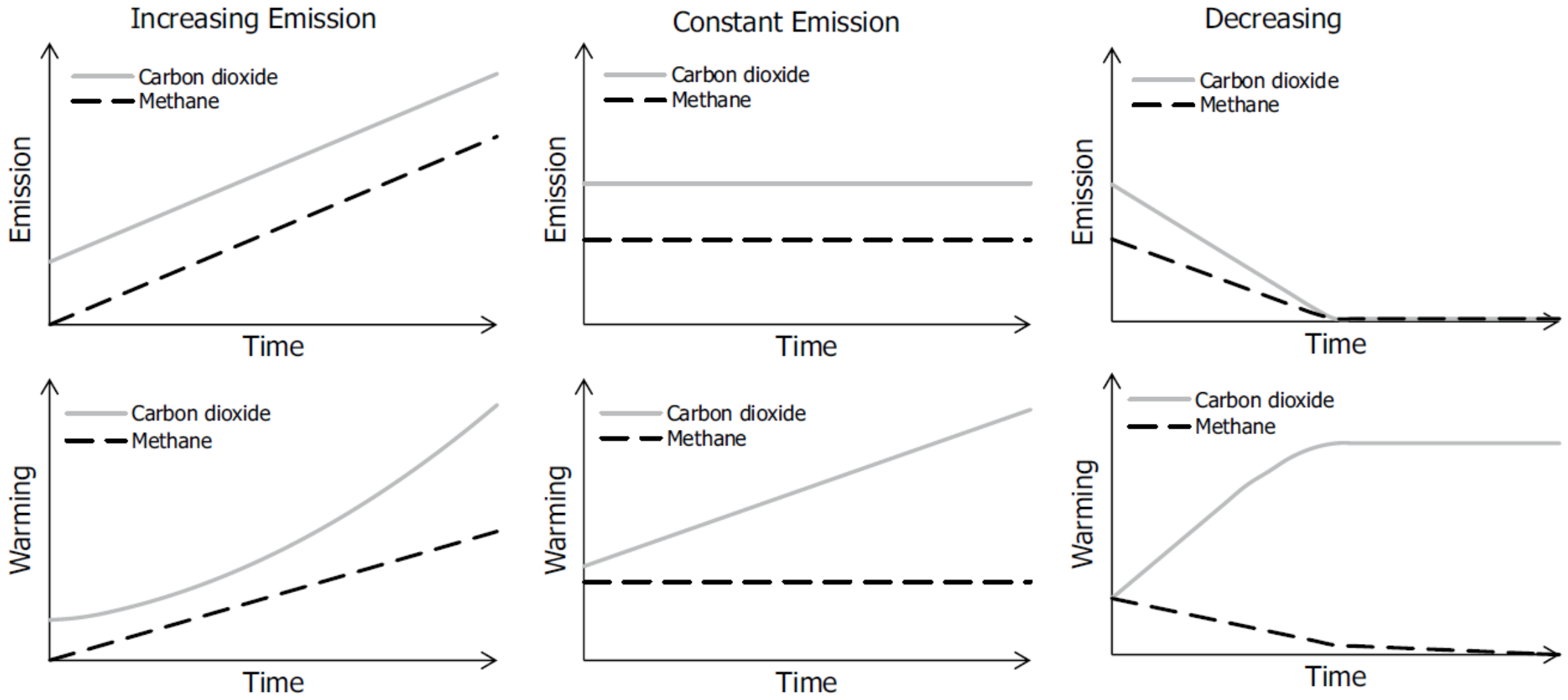
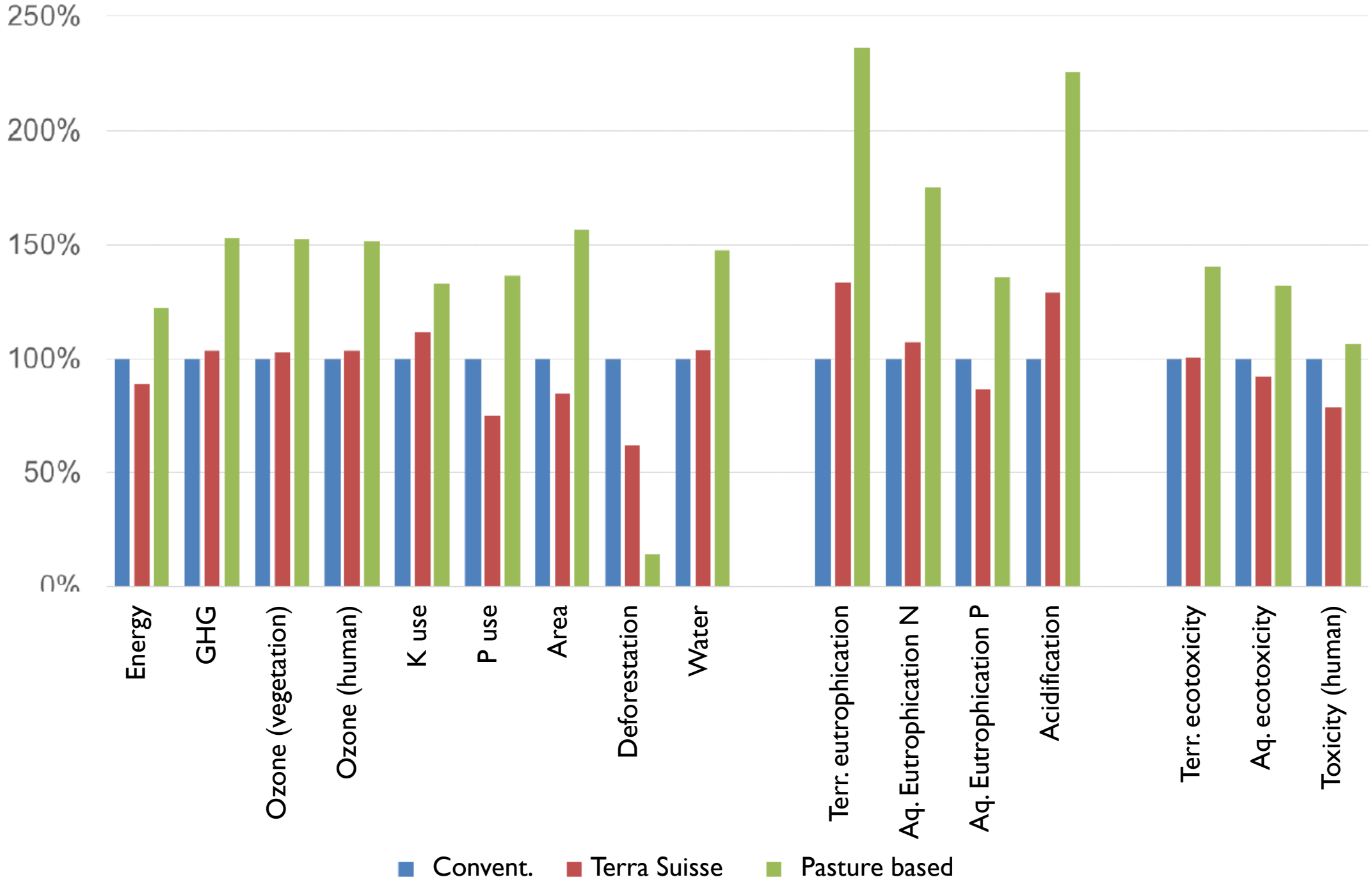


Fig. 1 Corresponding climate impacts of **a** increasing, **b** constant, and **c** decreasing carbon dioxide and methane emissions (adopted of Allen et al. (2017))

Liu et al. 2021



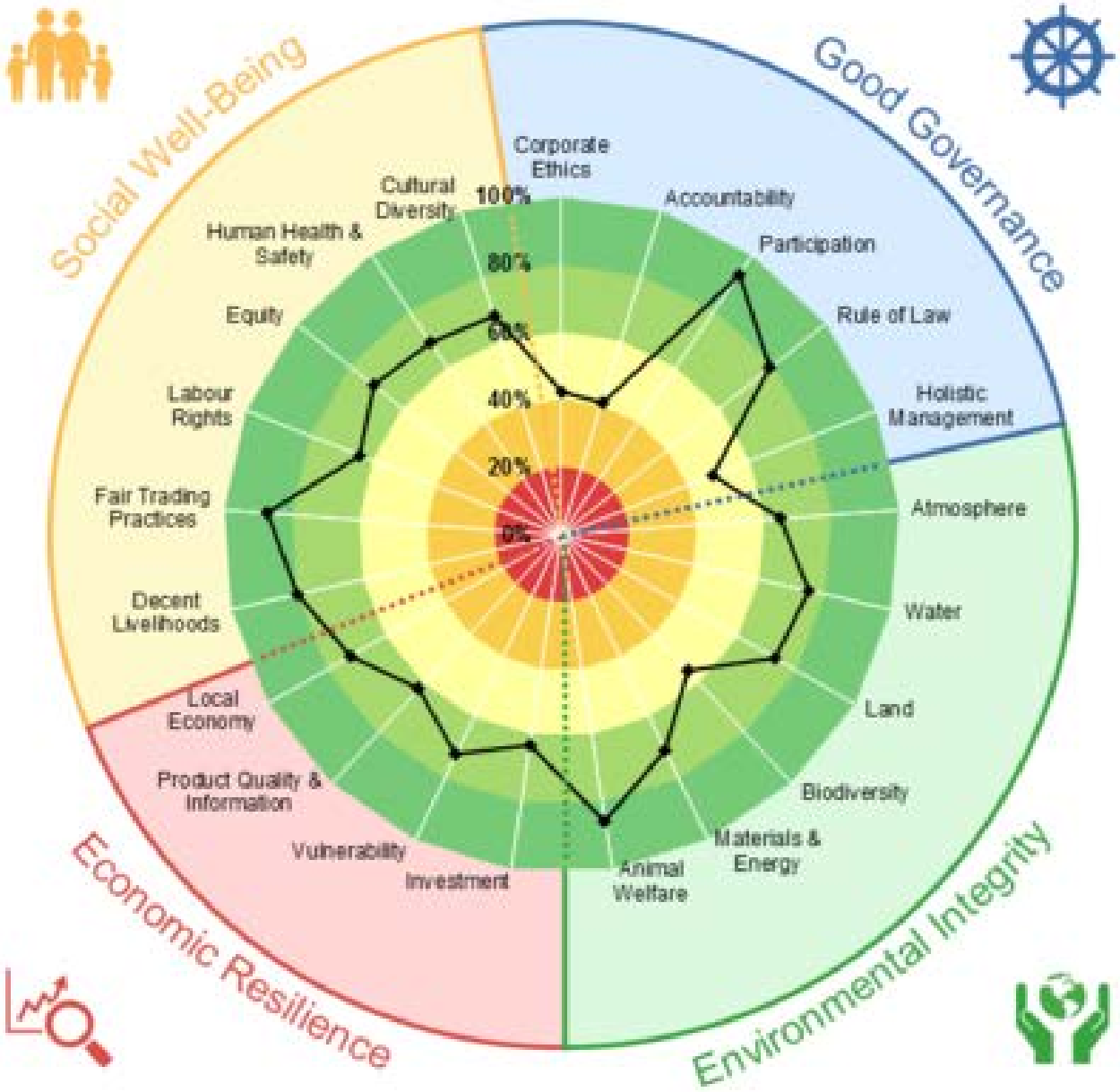
Wolff et al. 2016

Can we agree on something?

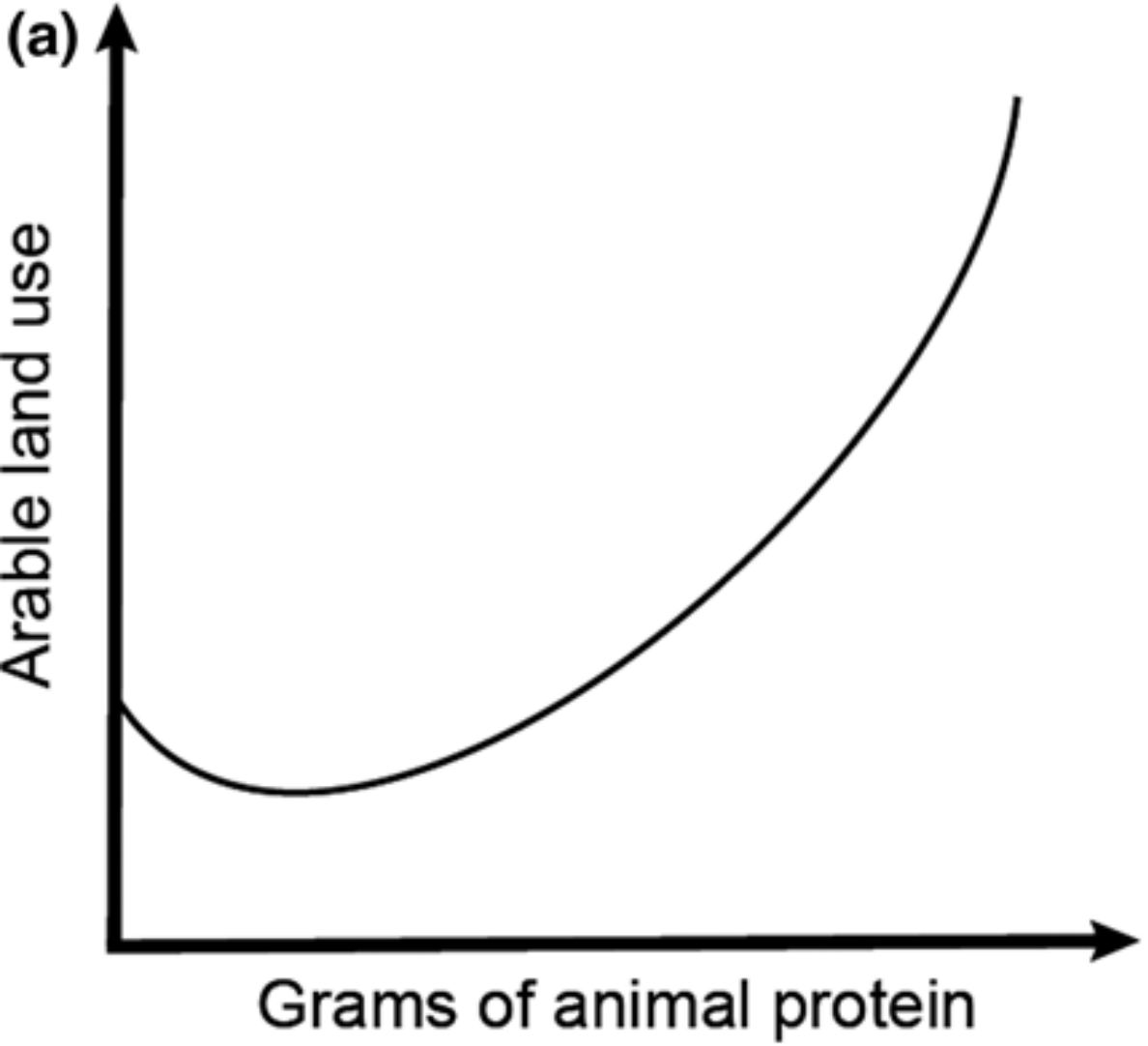
- The LCA calculations are correct
- Good grassland management
- Increase the number of lactations

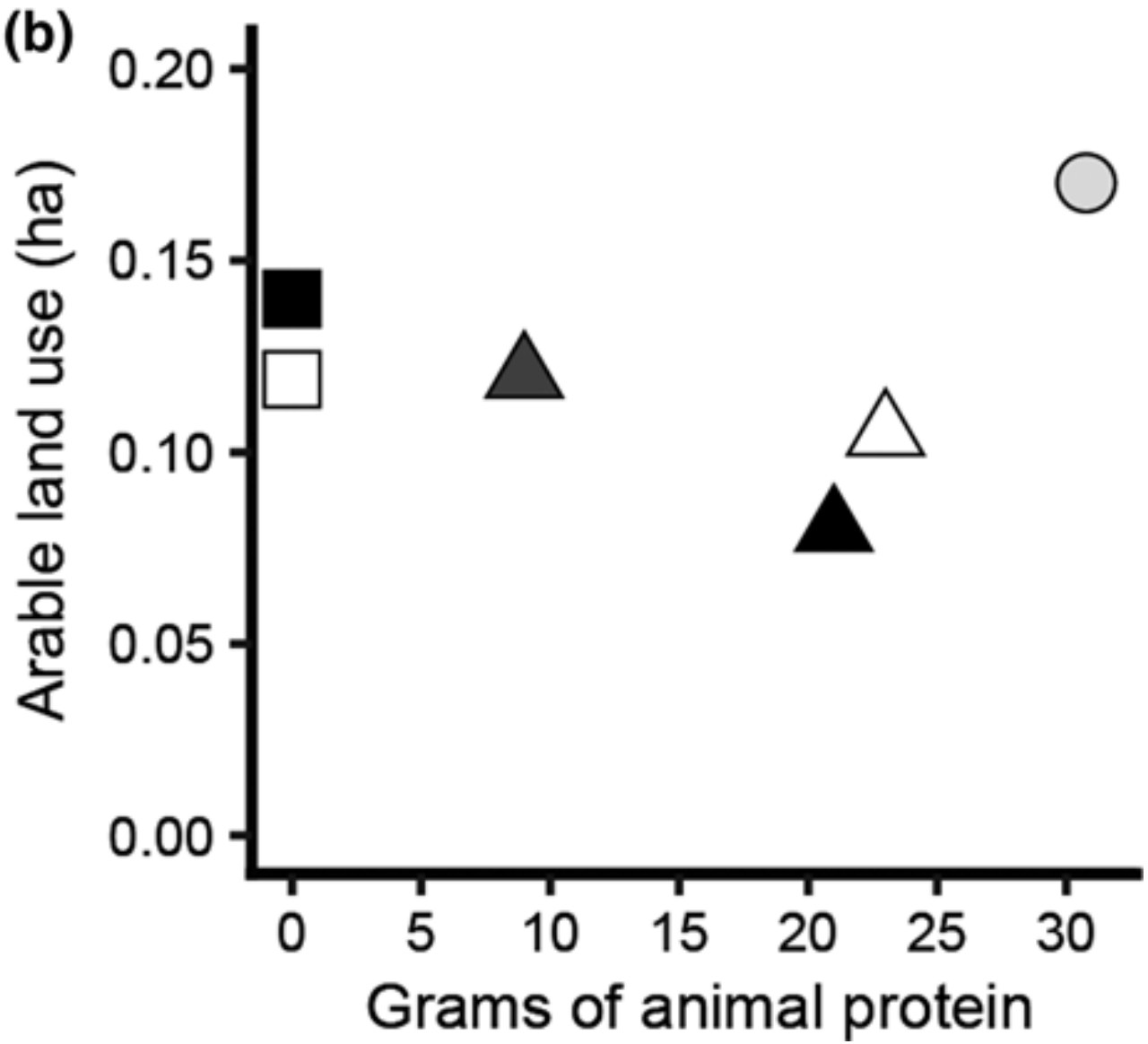
- Choice of species?
- Production from grass: milk or meat?

Overall Score



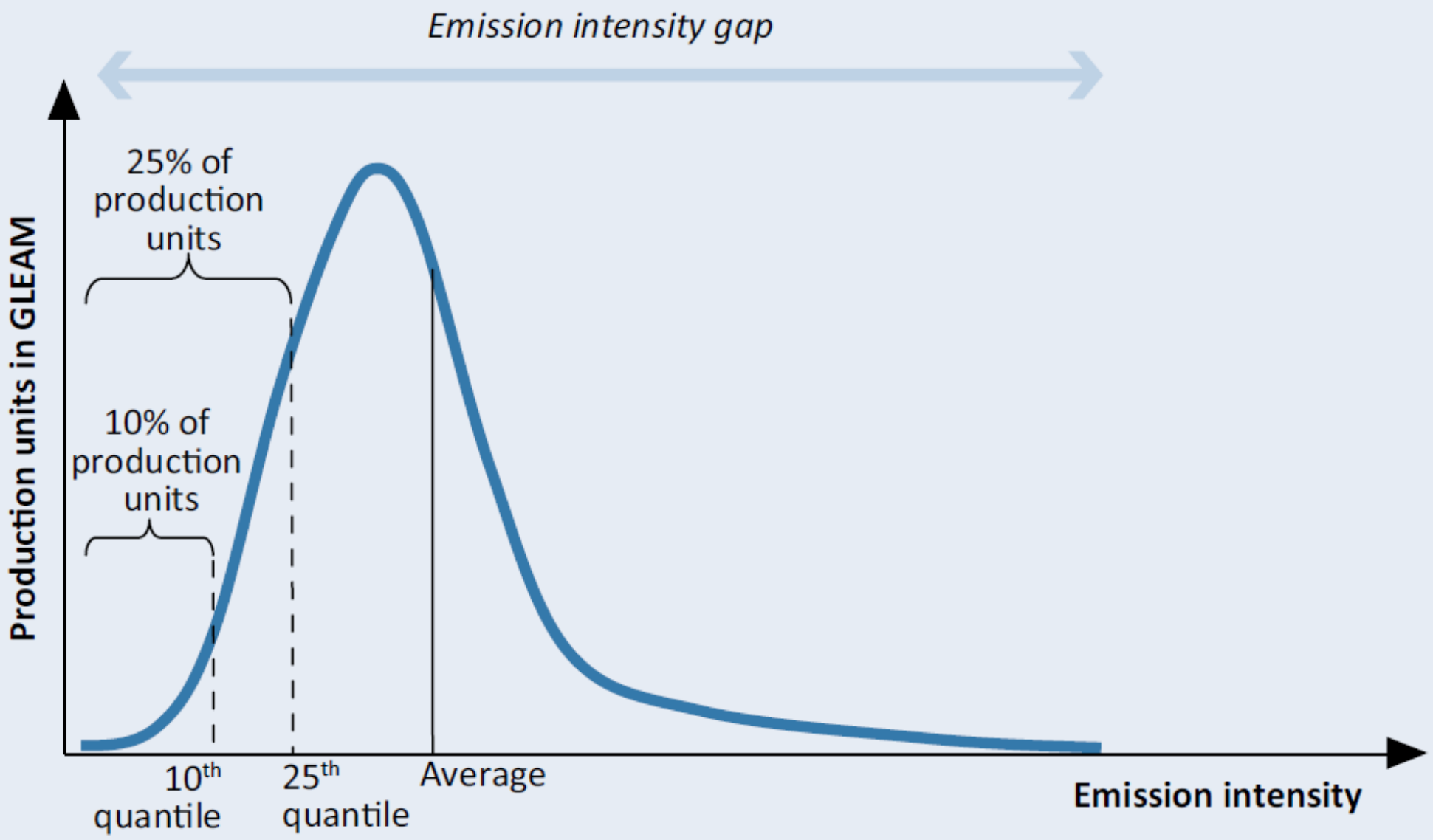
SMART, FiBL

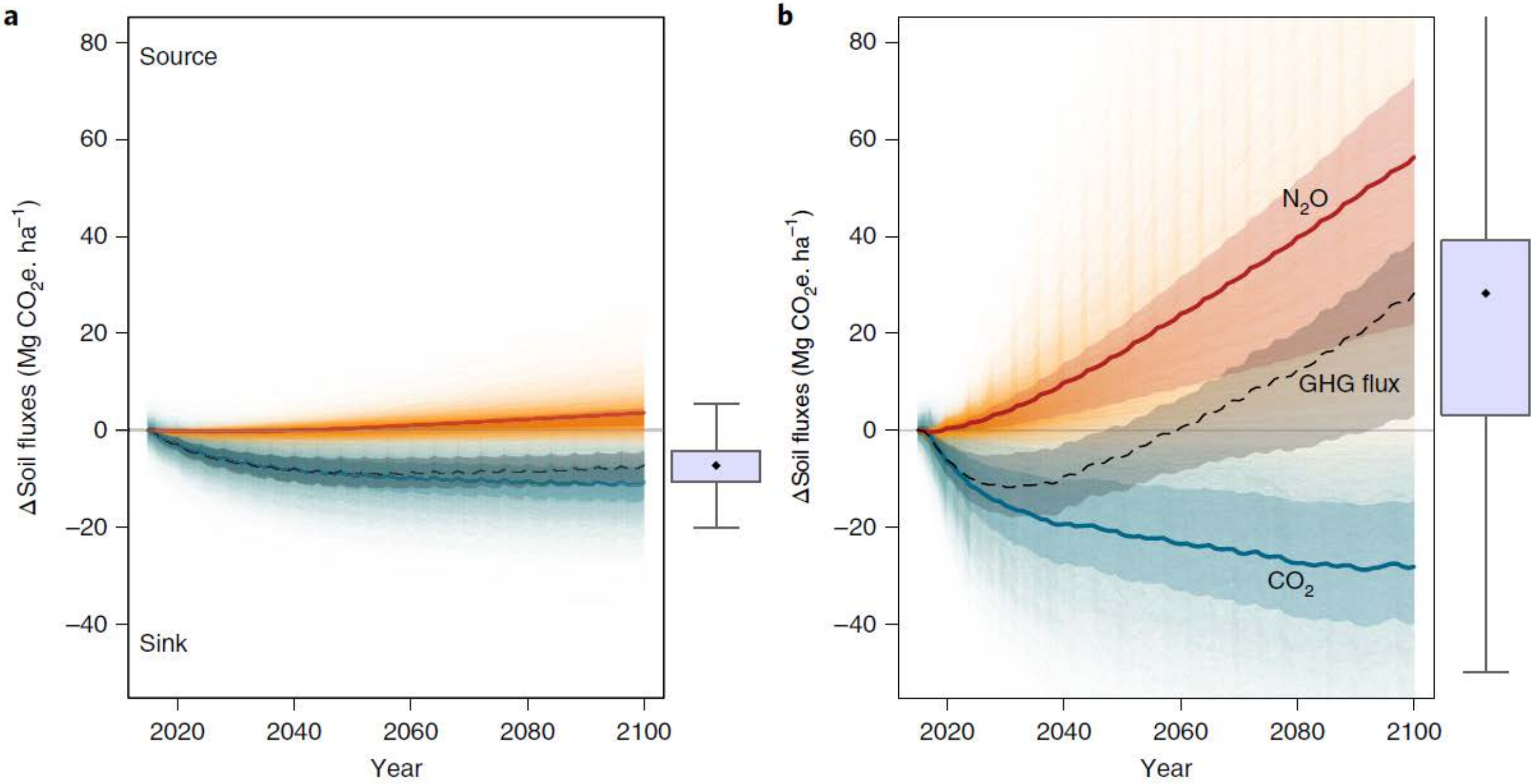




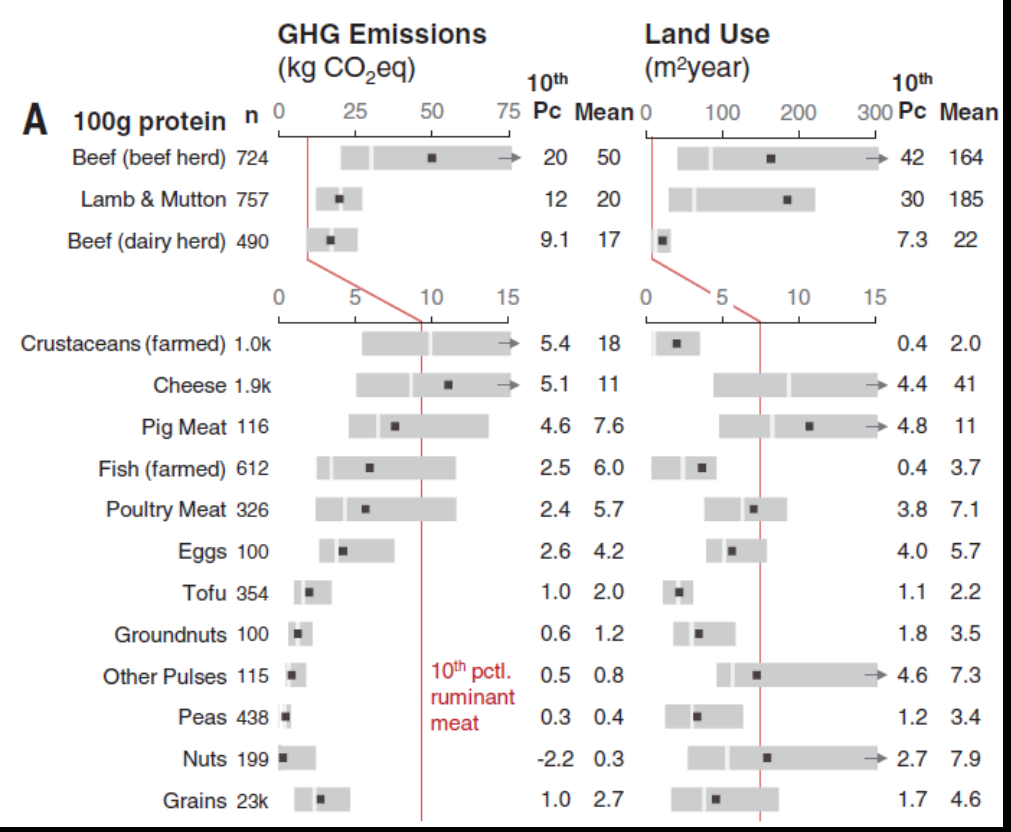
van Zanten et al. 2018

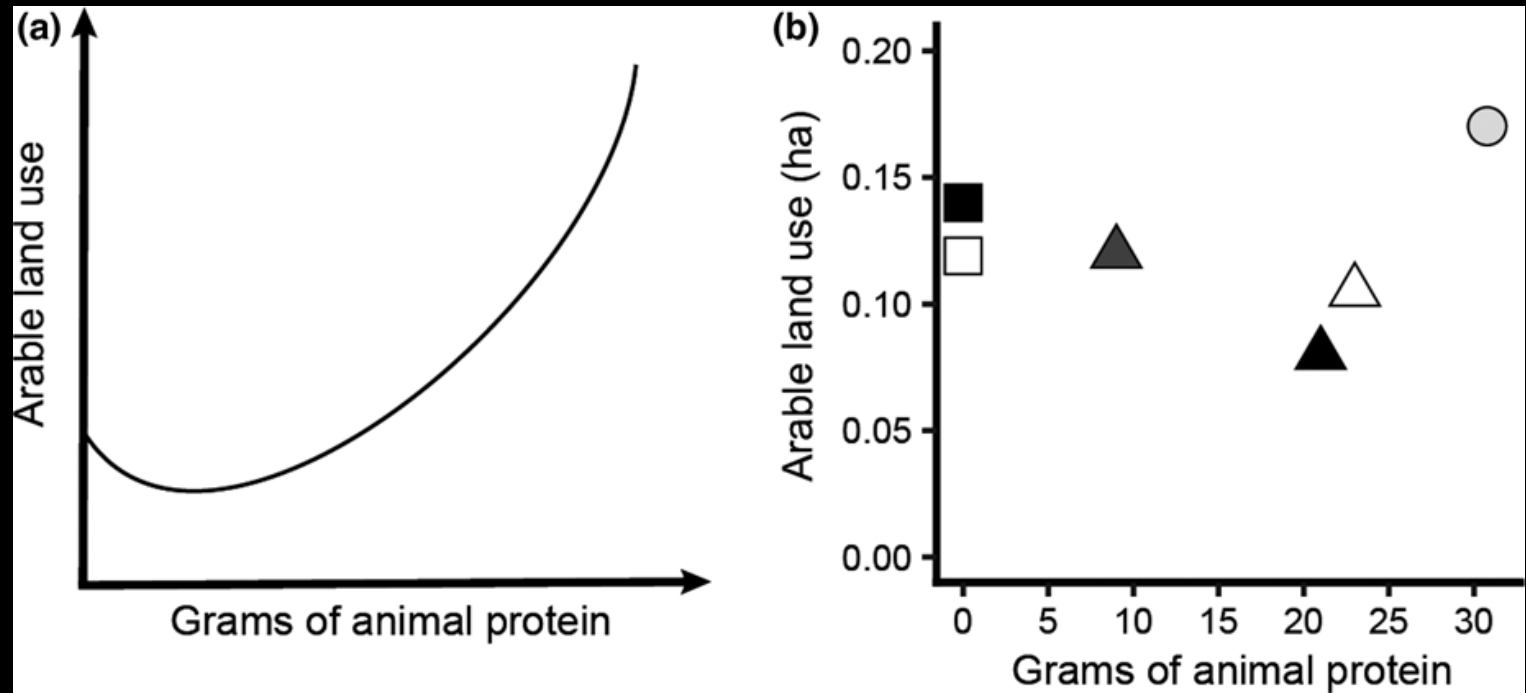
Schematic representation of emission intensity distribution and emission intensity gap, for a given commodity, within a region, climate zone and farming system





Lugato et al. 2018





Poore and Nemecek 2018; van Zanten et al. 2018

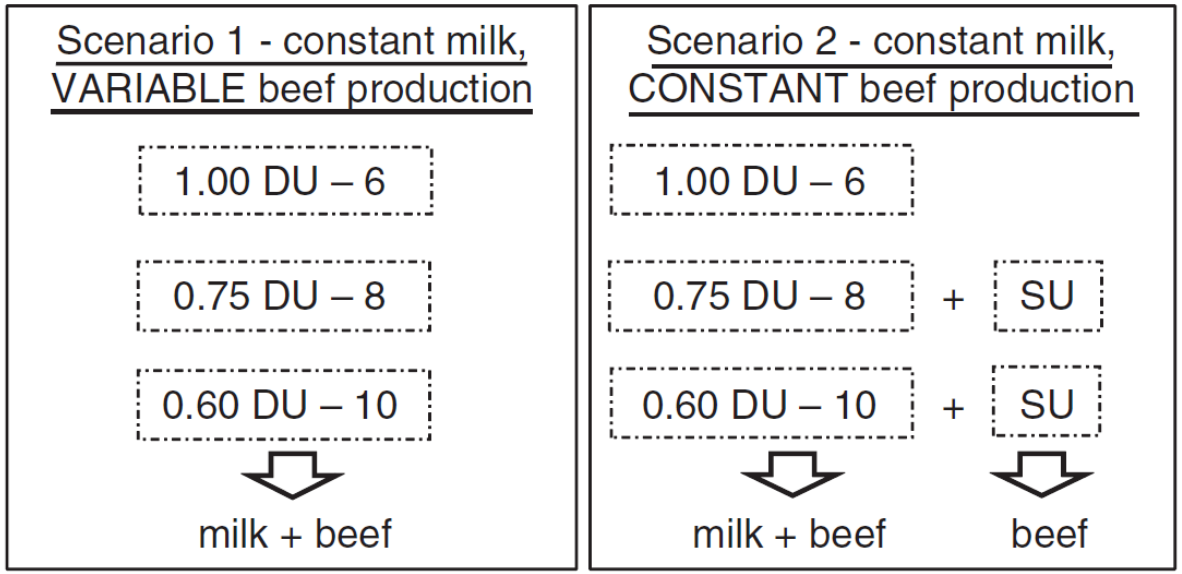


Figure 3 Considered scenarios in the modelling (DU = dairy cow production unit; SU = suckler cow production unit – see Figure 1).

Zehetmeier et al. 2012

- Search for the big leverage points

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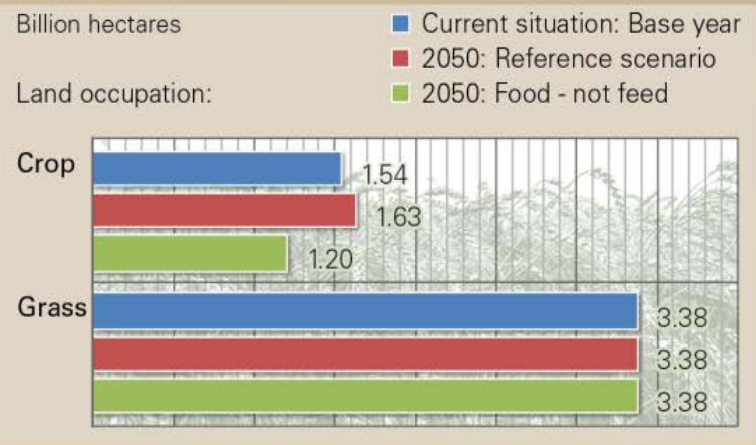
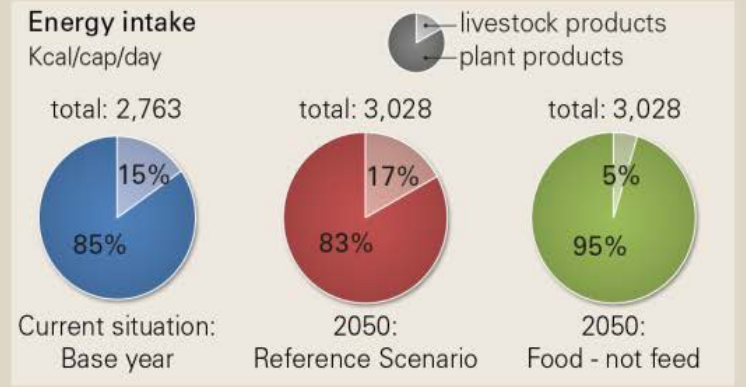
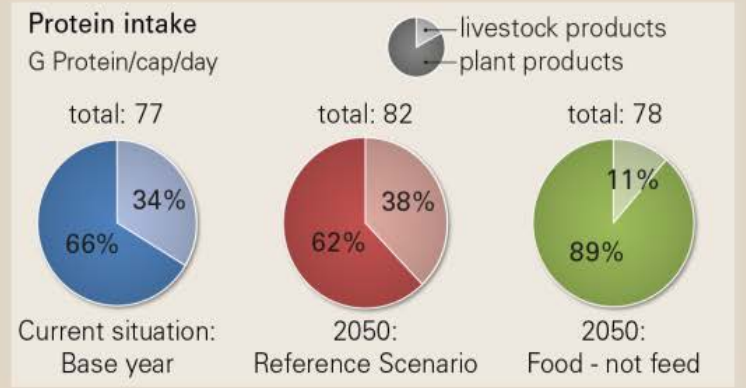
- Make the food system smaller

Land use

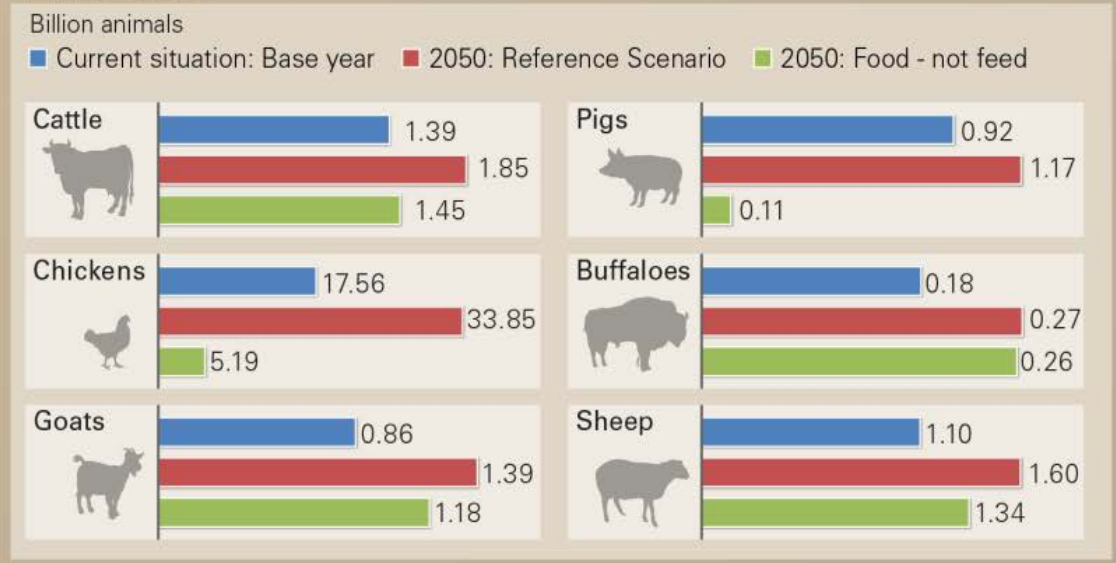


Diets

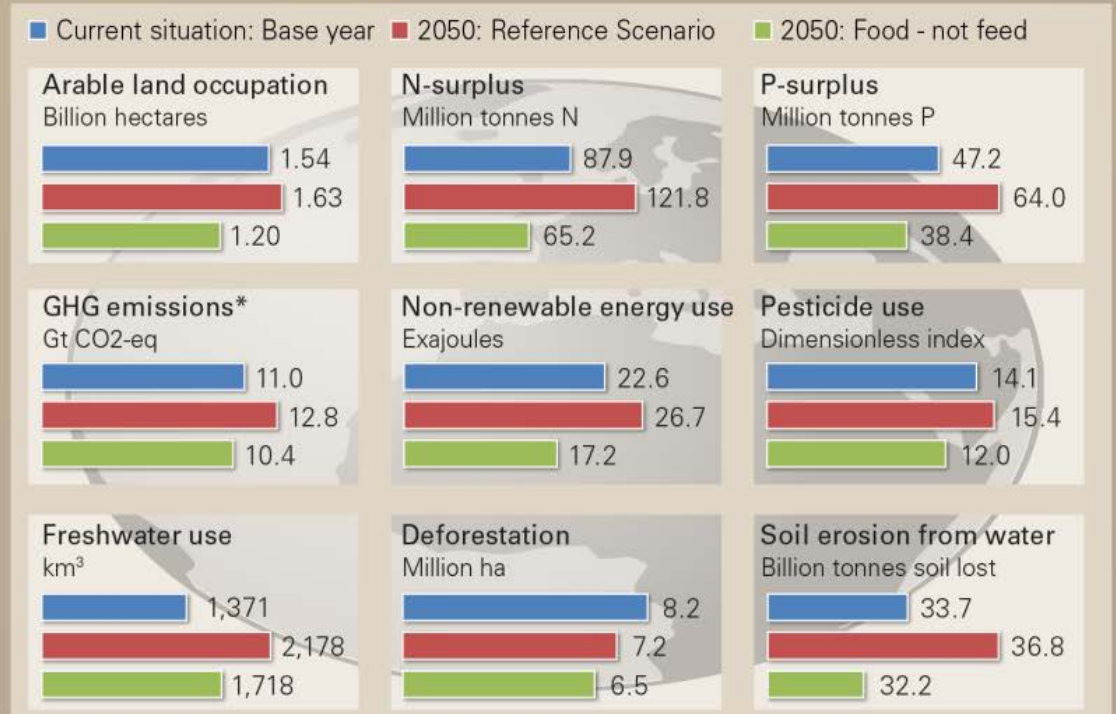




Livestock



Environment



* GHG emissions include emissions from input provision, deforestation and organic soils.

Schader et al. 2015

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- Focus on N flows

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- Develop policies at landscape level

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- Make the food system smaller
- Focus on N flows
- Develop policies at landscape level
- Reduce transaction costs/complexity by building on robust statistical findings

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