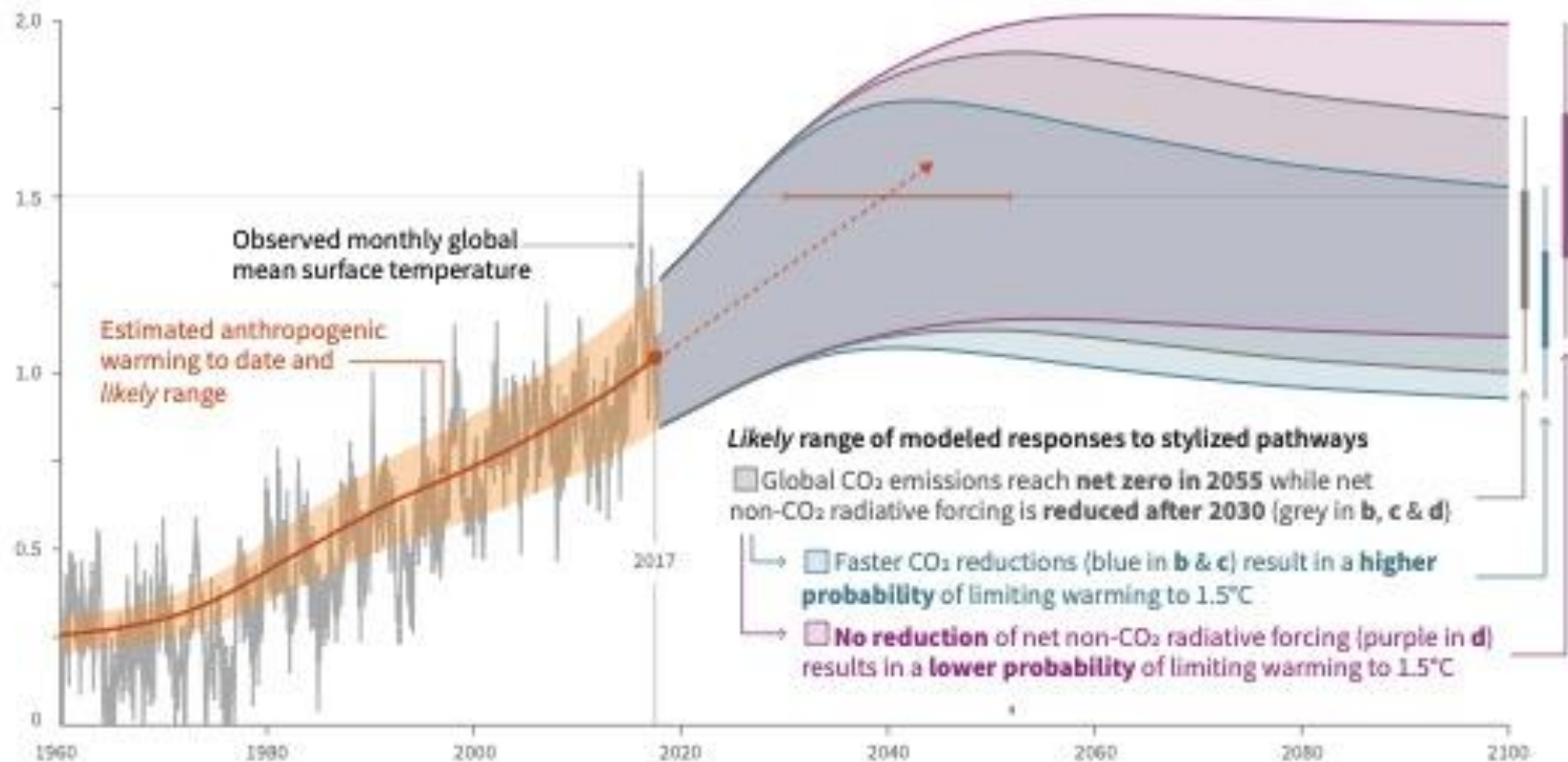


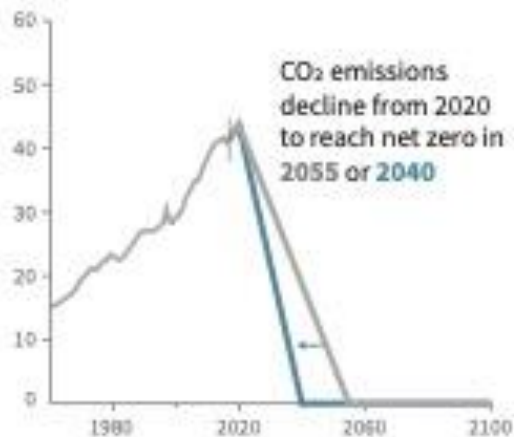
The role of the agricultural and land sector in a carbon neutral Ireland / world

Insights from the SR1.5 and implications for land use,
biodiversity and food security

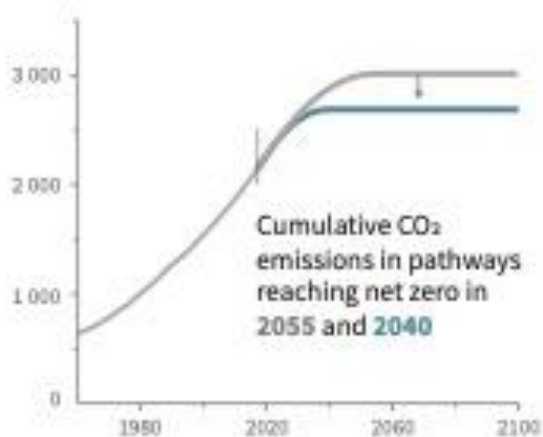
Global warming relative to 1850-1900 (°C)



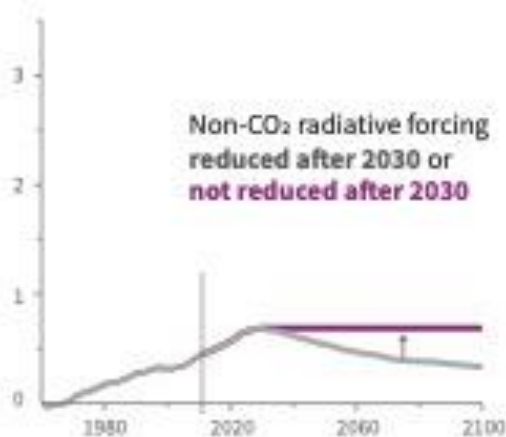
b) Stylized net global CO₂ emission pathways
Billion tonnes CO₂ per year (GtCO₂/yr)



c) Cumulative net CO₂ emissions
Billion tonnes CO₂ (GtCO₂)

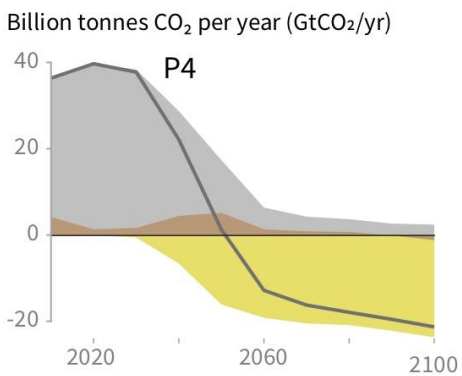
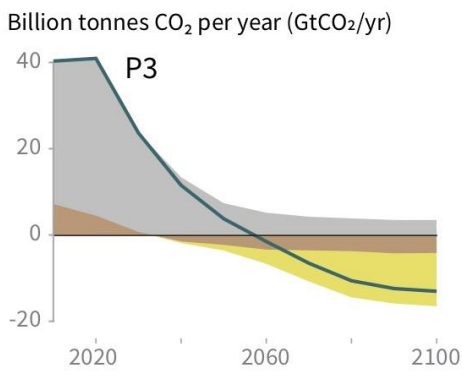
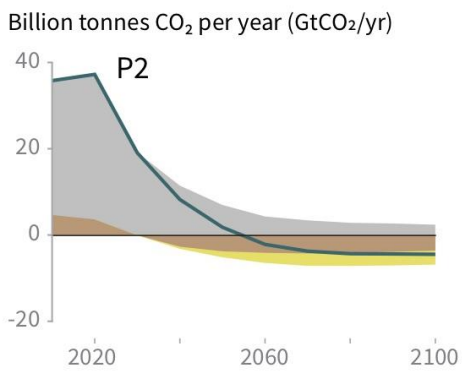
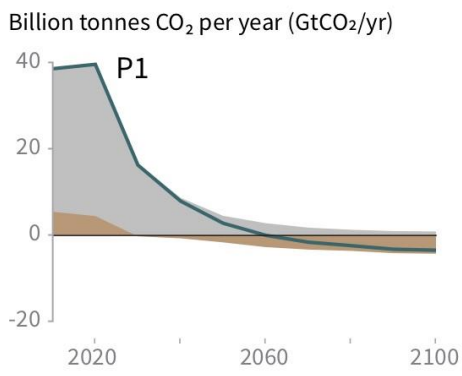


d) Non-CO₂ radiative forcing pathways
Watts per square metre (W/m²)



Breakdown of contributions to global net CO₂ emissions in four illustrative model pathways

● Fossil fuel and industry ● AFOLU ● BECCS



P1: A scenario in which social, business, and technological innovations result in lower energy demand up to 2050 while living standards rise, especially in the global South. A down-sized energy system enables rapid decarbonisation of energy supply. Afforestation is the only CDR option considered; neither fossil fuels with CCS nor BECCS are used.

P2: A scenario with a broad focus on sustainability including energy intensity, human development, economic convergence and international cooperation, as well as shifts towards sustainable and healthy consumption patterns, low-carbon technology innovation, and well-managed land systems with limited societal acceptability for BECCS.

P3: A middle-of-the-road scenario in which societal as well as technological development follows historical patterns. Emissions reductions are mainly achieved by changing the way in which energy and products are produced, and to a lesser degree by reductions in demand.

P4: A resource and energy-intensive scenario in which economic growth and globalization lead to widespread adoption of greenhouse-gas intensive lifestyles, including high demand for transportation fuels and livestock products. Emissions reductions are mainly achieved through technological means, making strong use of CDR through the deployment of BECCS.

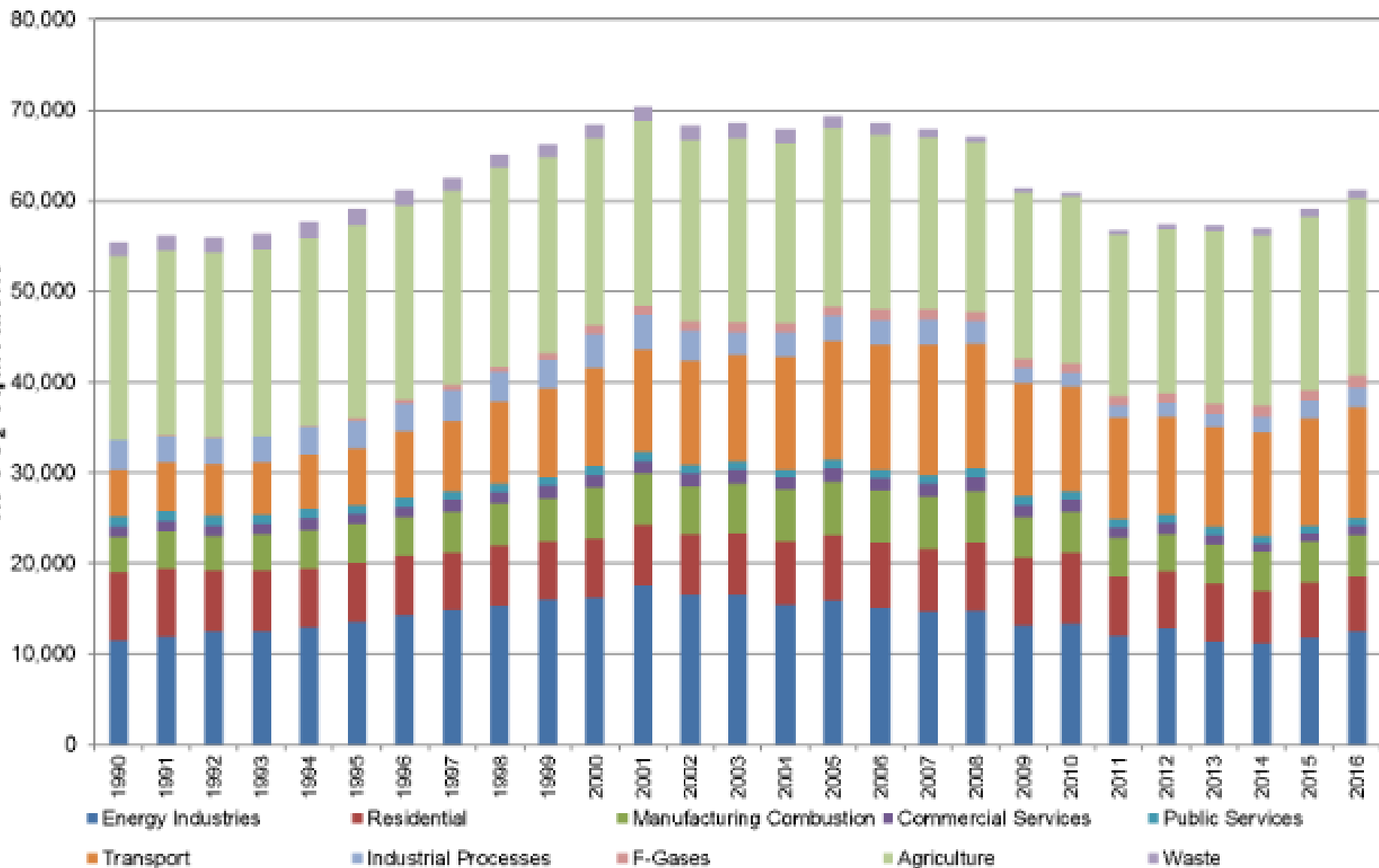
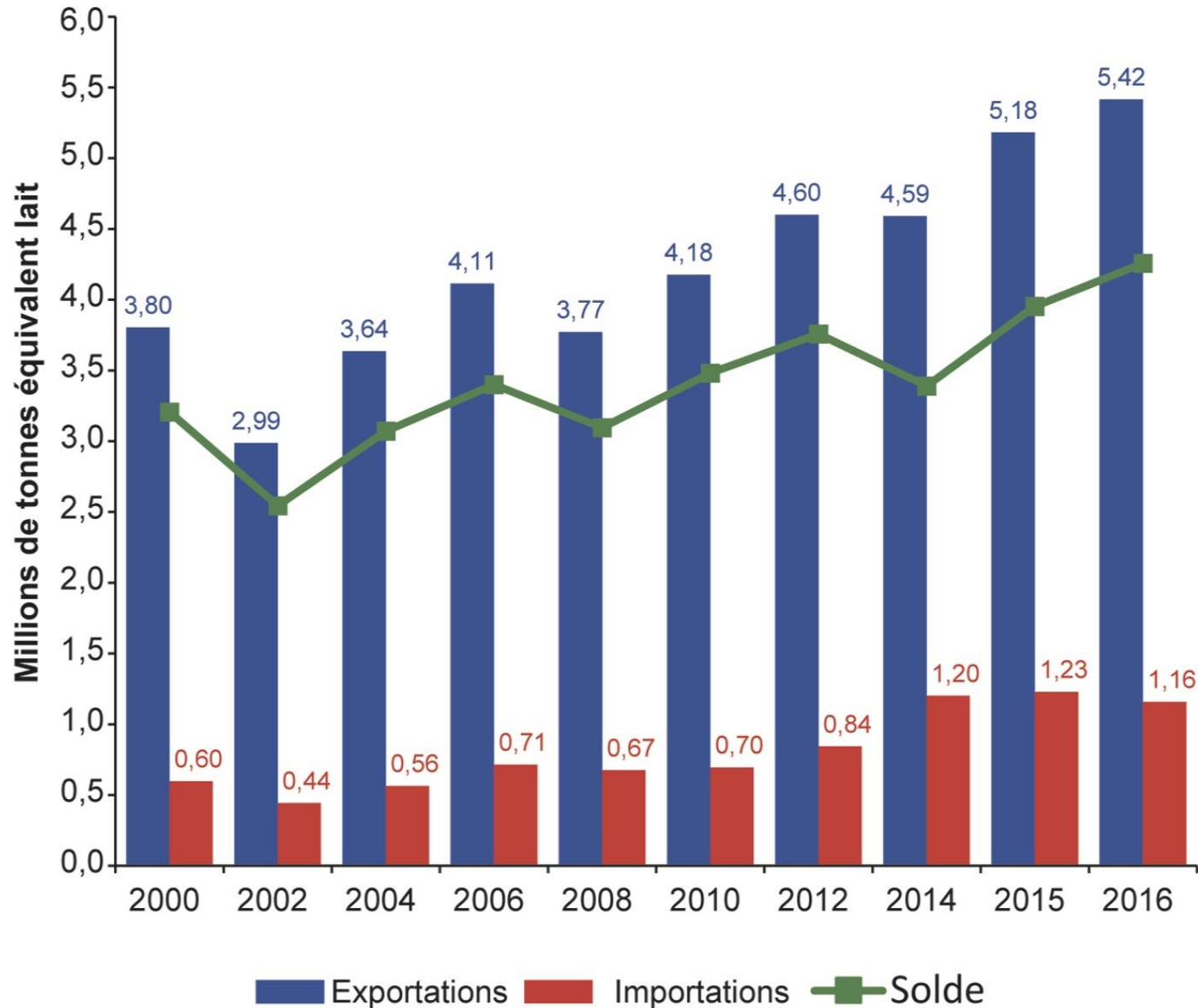


Figure 2. Les échanges de l'Irlande dans le secteur laitier (en millions de tonnes équivalent lait).

(Source : Comext/traitement INRA SMART-LERECO).



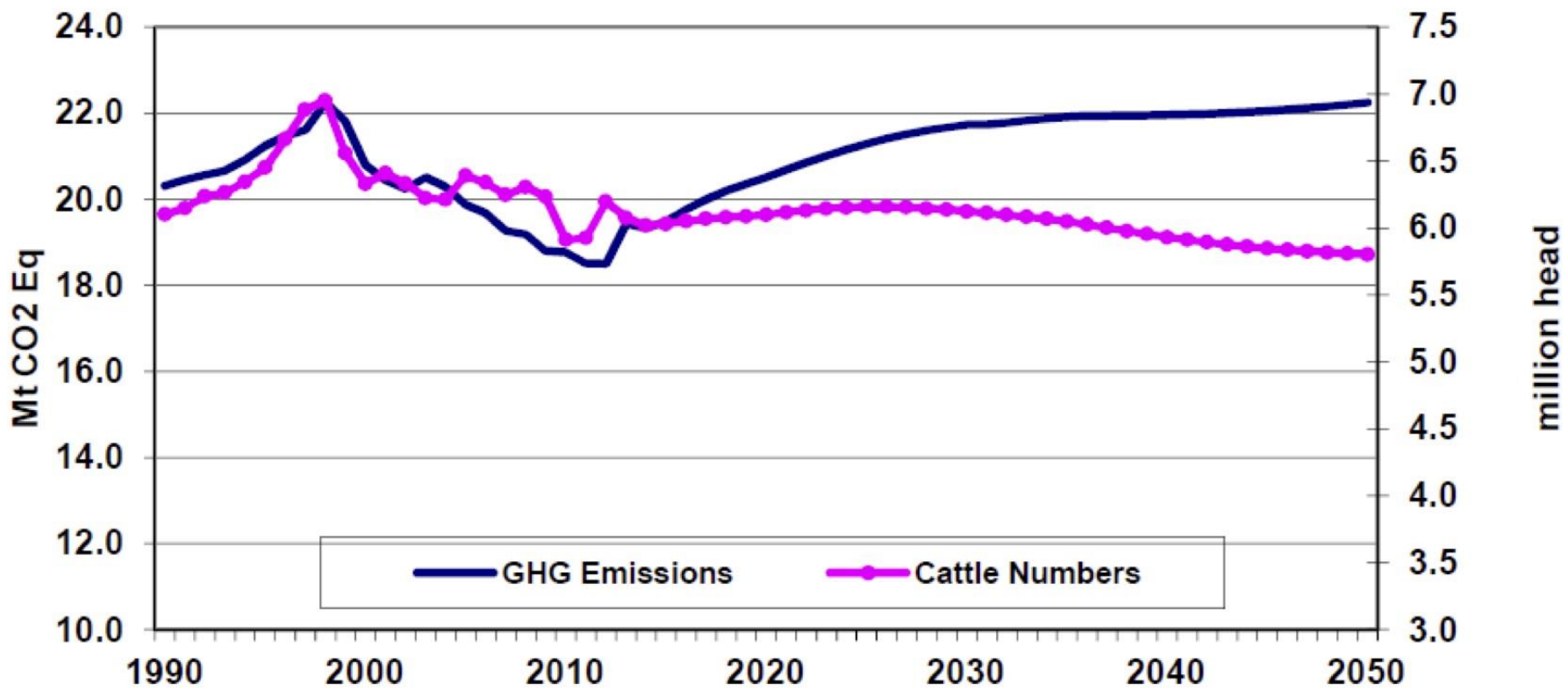


Figure 3.2: Projected agricultural GHG emissions and total cattle numbers under the reference scenario. Source: Donnellan et al. (2013).

