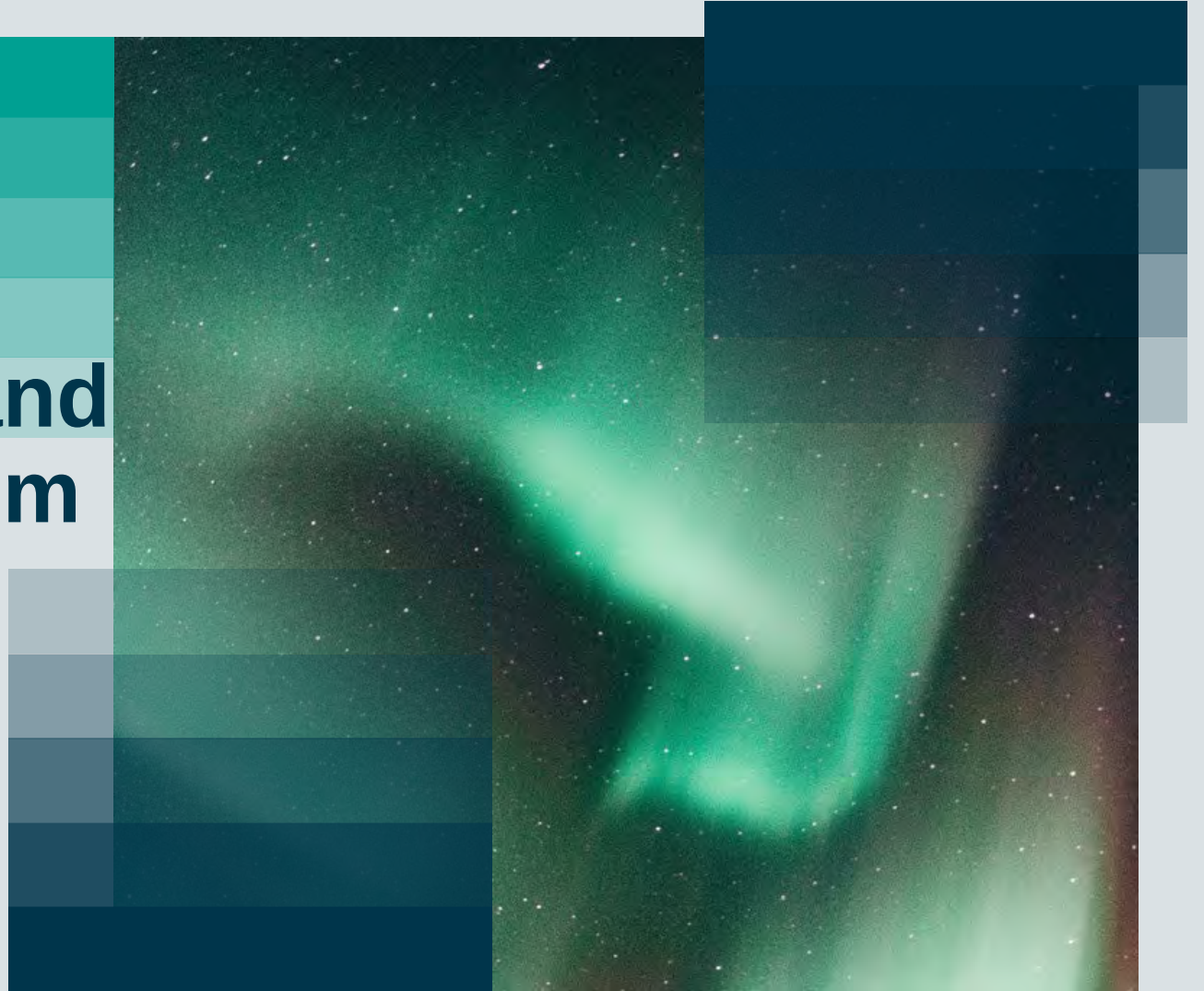


GO BEYOND BOUNDARIES



Sustainable, Healthy and Innovative Food System Transformation

Baukje de Roos





GO BEYOND BOUNDARIES

The Rowett Institute

Major research provider in Scottish Government
RESAS funded strategic research programme
‘Sustainable Food System and Supply’

£56M investment to Rowett, James Hutton,
Moredun, and SRUC, over 5 yrs

- Climate targets
- Biodiversity targets
- Dietary targets



Sustainable Food System and Supply



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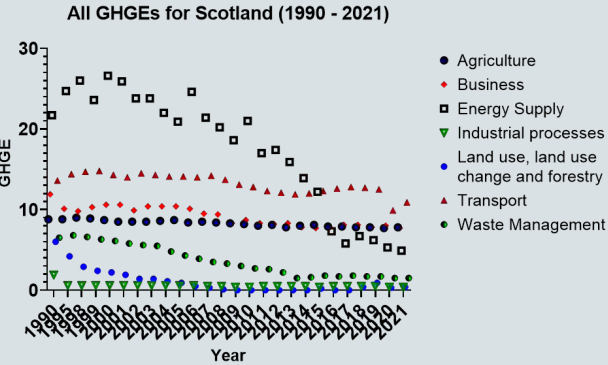


GO BEYOND BOUNDARIES

Developing new sustainable food supply chains – hemp

- First cold-press hemp oil in Scotland
- Improving nutritional quality of staple foods
- Replacing soya in livestock feed
- Creating alternatives to peat-based coir for soft fruit industry
- Developing phytoremediation strategies





Estimating greenhouse gas emissions for the Scottish food and drink industry

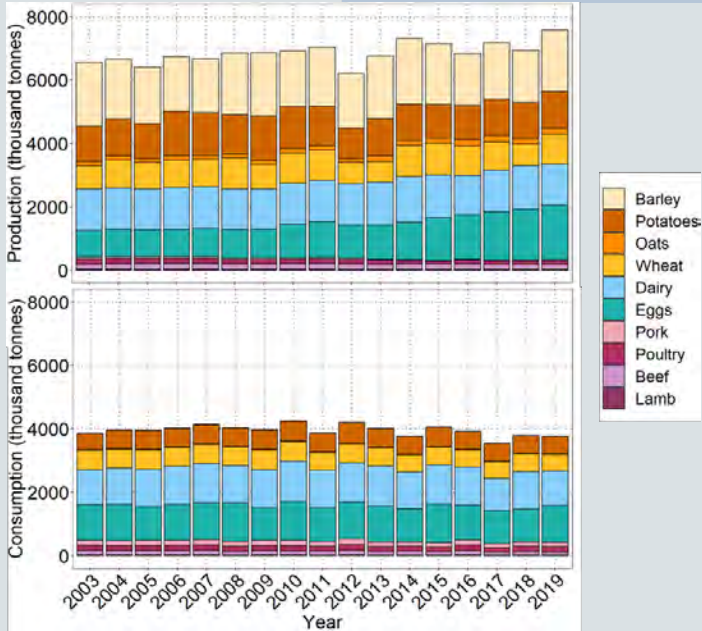
A top-down approach for the whole food & drink industry
Agriculture + a proportion of energy, transport, industry, LULUC (arable + grassland), waste disposal

- 1990: 29.03 MtCO₂e (baseline year)
- 2020: 19.26 MtCO₂e
- 2021: 19.08 MtCO₂e
- 2022: 18.80 MtCO₂e



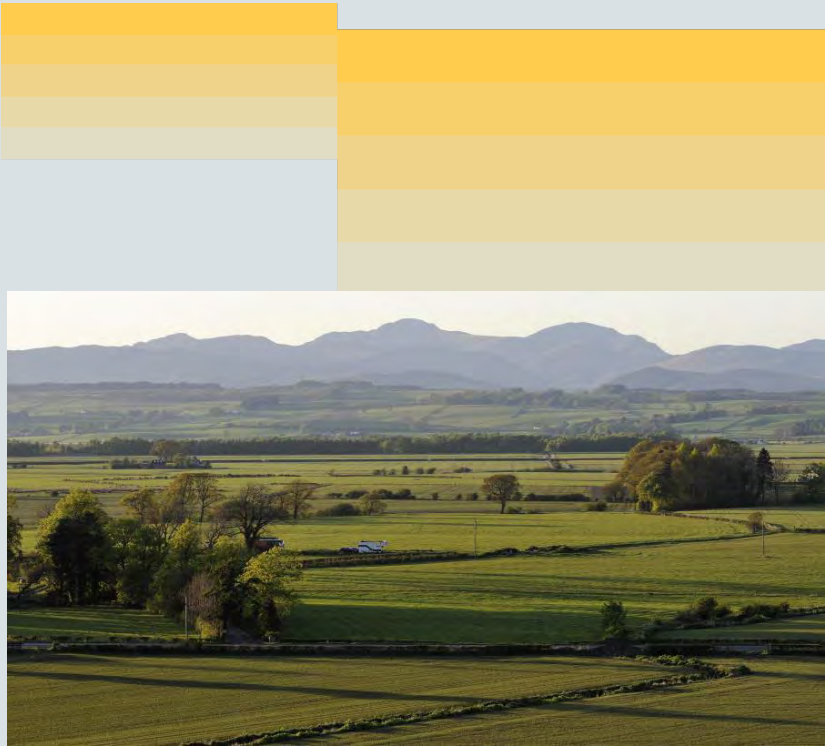
Food self-sufficiency index

- Benchmark estimate of the availability of key foods for consumption
- Evidence-based understanding of changes in Scotland's reliance on imports
- Self-sufficiency index: indicator for monitoring progress with Scotland's Agricultural Reform Programme and Good Food Nation Plan

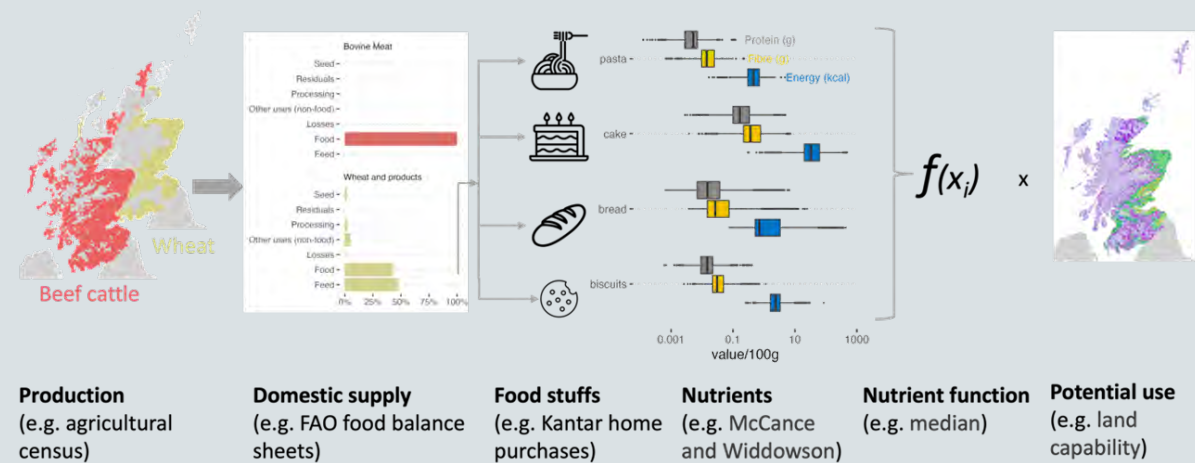




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Nutrient production mapping across Scotland



Natural Asset Index:

Consider nutrient production and density in addition to crop yield



GO BEYOND BOUNDARIES



- First of its kind in the UK (2024-2032)
- 60 PhD students, 30 in Scotland
- £10.9M from UKRI, £13M in total
- 40+ agri-food stakeholders



Welcome to the UKRI AI Centre for Doctoral Training in Sustainable **Understandable** agri-food Systems Transformed by Artificial INtelligence (SUSTAIN).

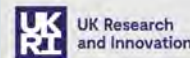
SUSTAIN is a collaboration between the Universities of Lincoln, Aberdeen, Queen's Belfast and Strathclyde, and focuses on the application of Artificial Intelligence (AI) to sustainable agri-food.



Where the next generation of AI science takes root.

The SUSTAIN Centre for Doctoral Training (CDT) empowers the next generation of AI scientists to invent, develop and deploy technologies, co-created with growers and agri-food practitioners.

SUSTAIN facilitates meaningful partnerships between academics and industry, investing in stakeholder-driven innovation.



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GO BEYOND BOUNDARIES

SUSTAIN

Predicting soft fruit yields | Monitoring livestock feeding behaviours with AI | Biodiversity monitoring | Carbon accounting | Food fraud detection



Service robot interventions promoting more sustainable buyers' choices in supermarkets and cafeteria's



Use of AI to understand and nudge behaviours towards optimised red meat consumption that benefits human and planetary health

