Nutrient values of agricultural produce

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THANK YOU

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Land is a finite resource

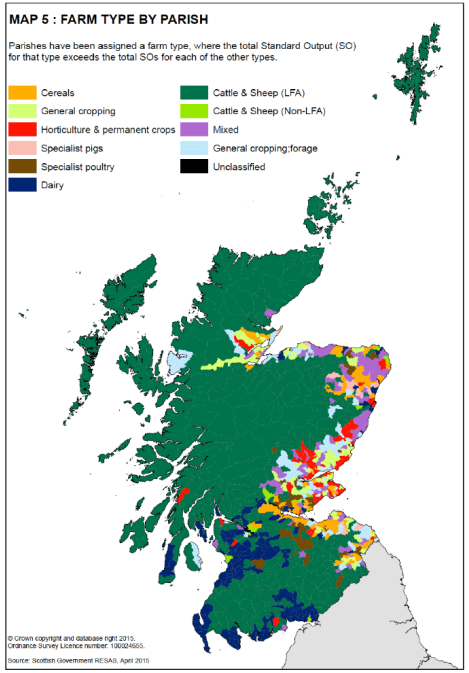
Net Zero commitments increase demand for land in Scotland

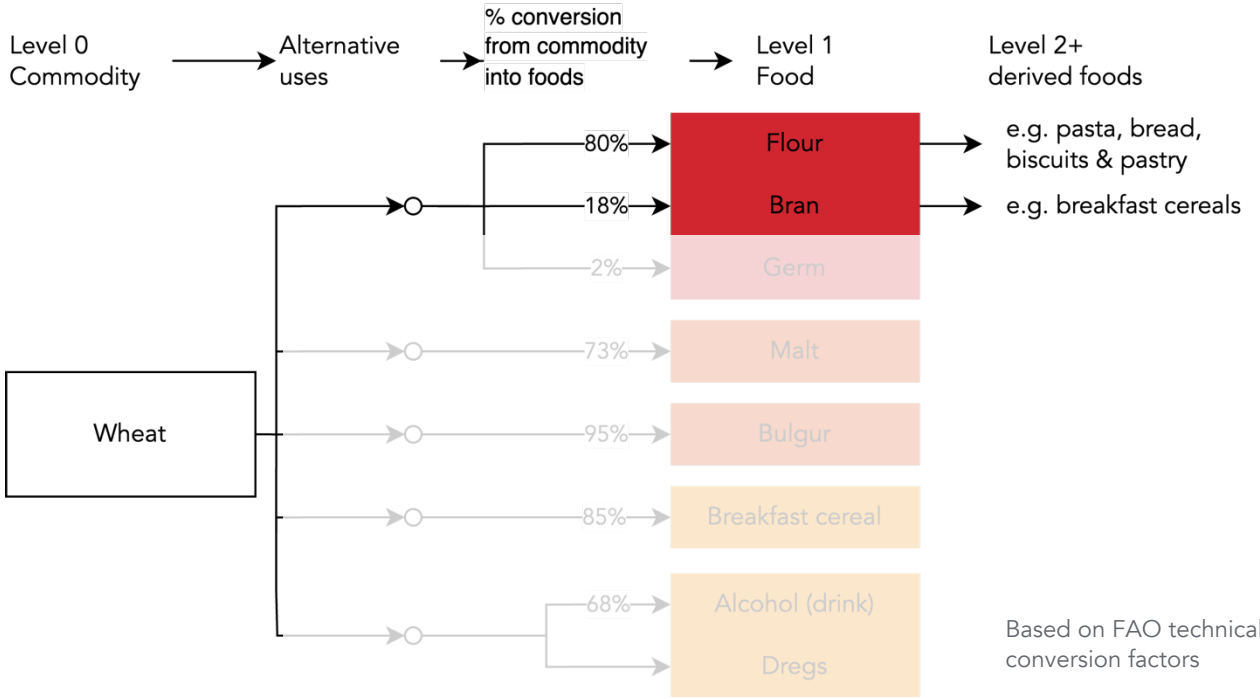
Land may be taken out of food production for example, for tree planting and green energy production

Land use changes could be measured in the nutrients foregone

Project aims

Commodities to foods





Based on FAO technical conversion factors

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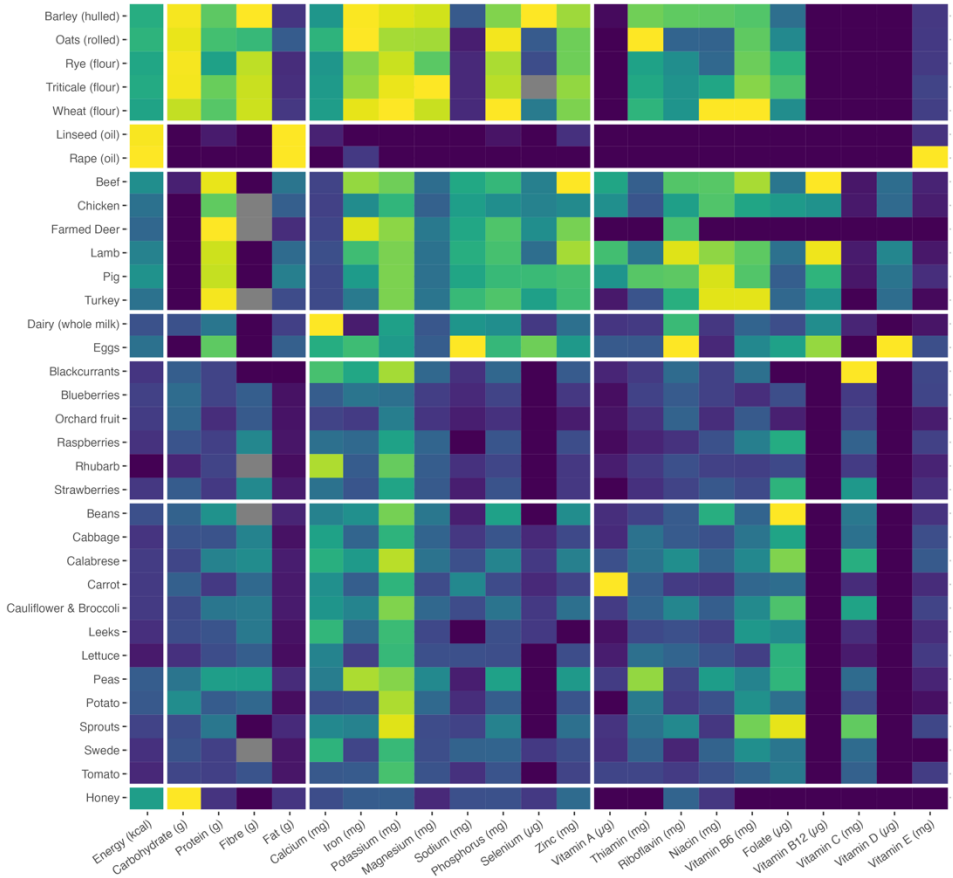
Nutrients in foods

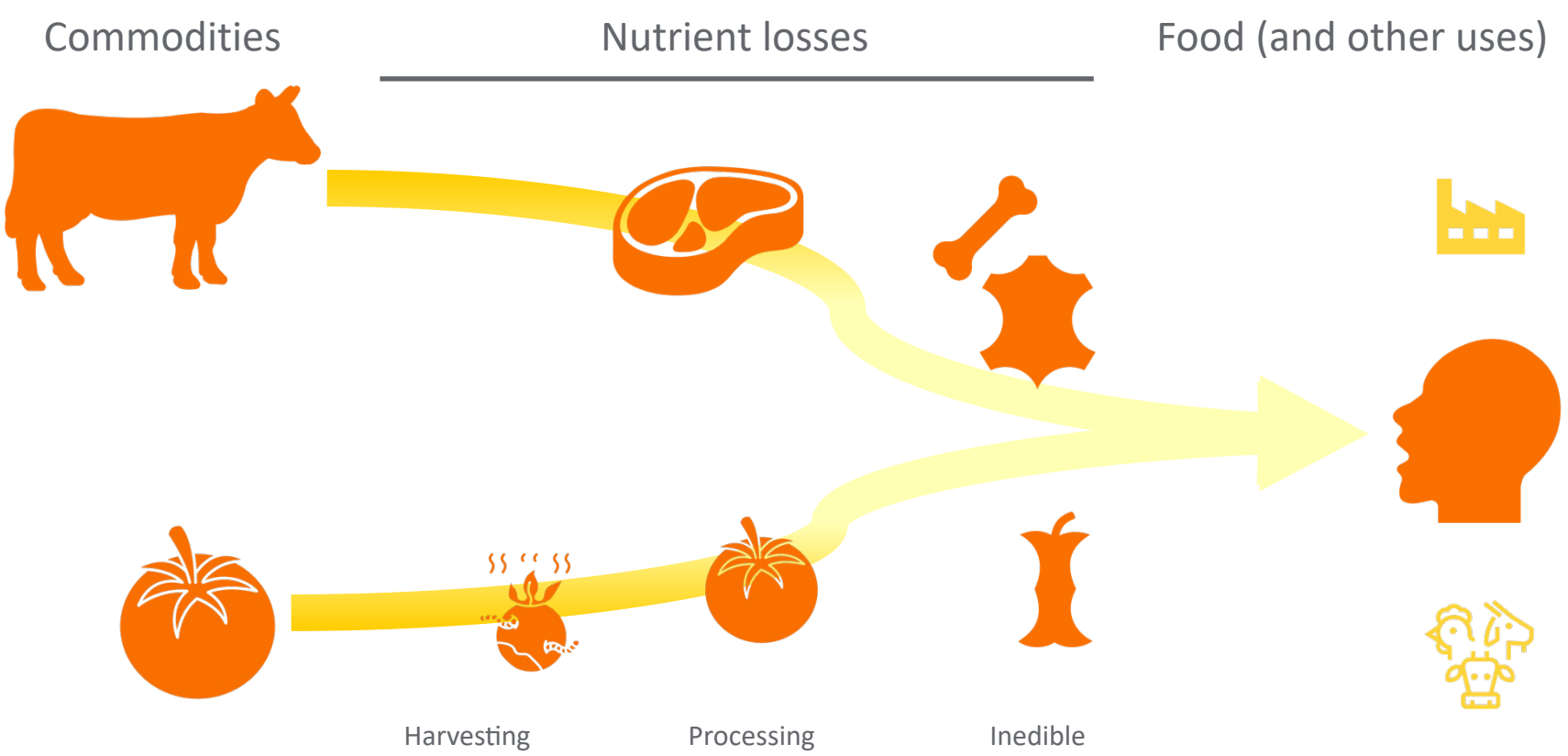
The nutrients per 100g of food are show.

Yellow and green colours indicate more nutrients per 100g.

Nutrient quantity (scaled)

min mid max




Commodities
Nutrient losses
Food (and other uses)
Harvesting
Processing
Inedible

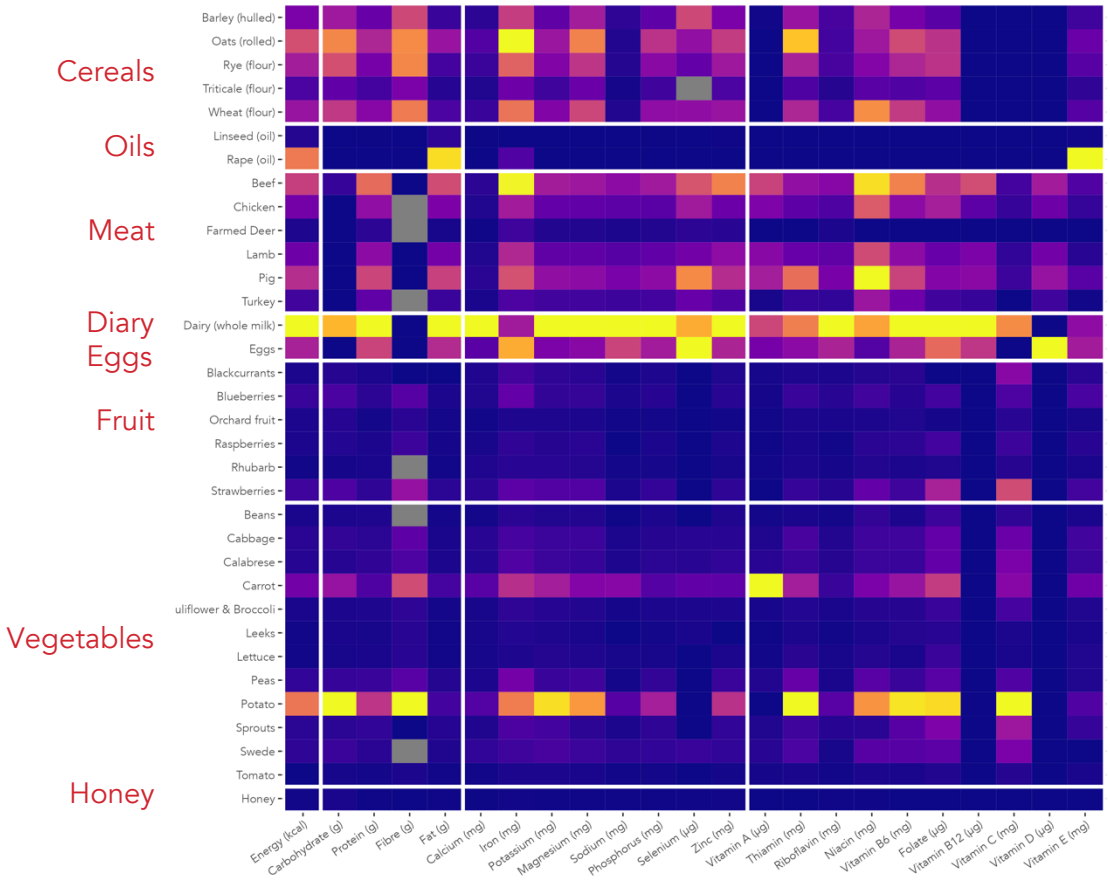
Theoretical nutrient supply

The nutrients produced from Scottish land.

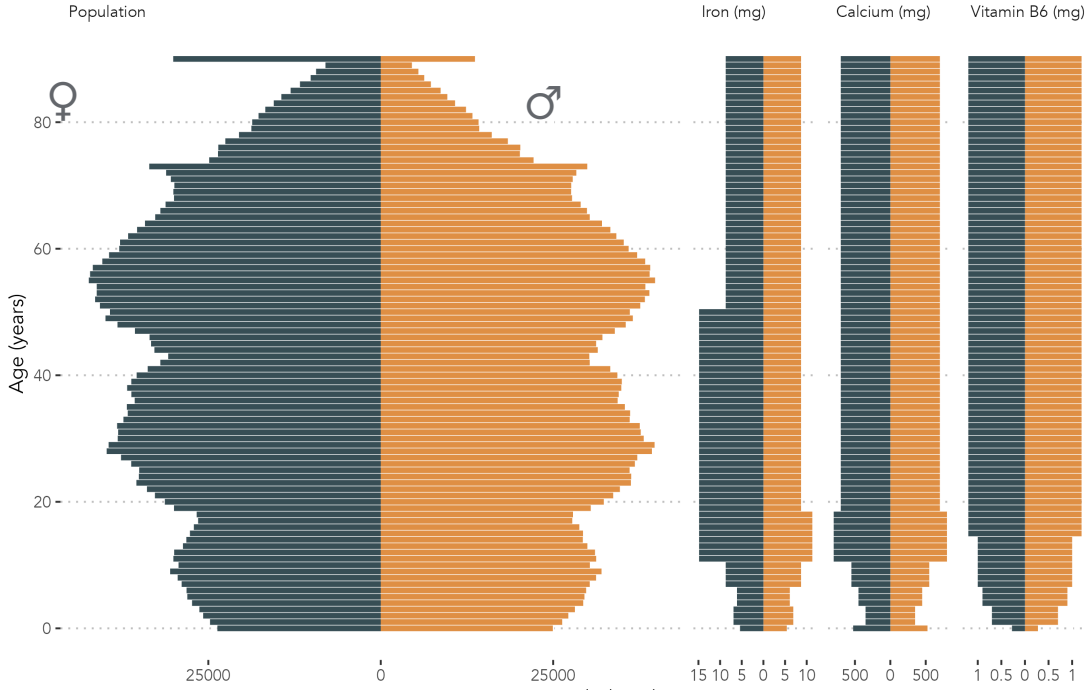
Yellow and orange colours indicate greater nutrients supply.

Nutrient supply (human food) (scaled)

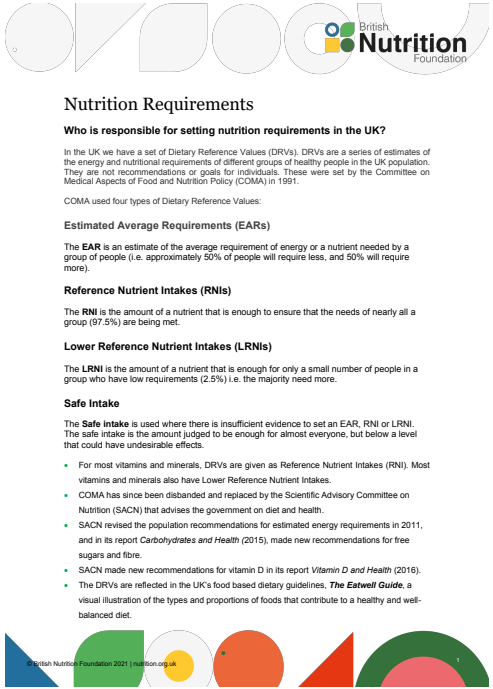
min mid max



Relative nutrient demand



https://www.nrscotland.gov.uk/



Nutrition Requirements

Who is responsible for setting nutrition requirements in the UK?

In the UK we have a set of Dietary Reference Values (DRVs). DRVs are a series of estimates of the energy and nutritional requirements of different groups of healthy people in the UK population. They are not recommendations or goals for individuals. These were set by the Committee on Medical Aspects of Food and Nutrition Policy (COMA) in 1991.

COMA used four types of Dietary Reference Values:

Estimated Average Requirements (EARs)

The **EAR** is an estimate of the average requirement of energy or a nutrient needed by a group of people (i.e. approximately 50% of people will require less, and 50% will require more).

Reference Nutrient Intakes (RNIs)

The **RNI** is the amount of a nutrient that is enough to ensure that the needs of nearly all a group (97.5%) are being met.

Lower Reference Nutrient Intakes (LRNIs)

The **LRNI** is the amount of a nutrient that is enough for only a small number of people in a group who have low requirements (2.5%) i.e. the majority need more.

Safe Intake

The **Safe intake** is used where there is insufficient evidence to set an EAR, RNI or LRNI. The safe intake is the amount judged to be enough for almost everyone, but below a level that could have undesirable effects.

- For most vitamins and minerals, DRVs are given as Reference Nutrient Intakes (RNI). Most vitamins and minerals also have Lower Reference Nutrient Intakes.
- COMA has since been disbanded and replaced by the Scientific Advisory Committee on Nutrition (SACN) that advises the government on diet and health.
- SACN revised the population recommendations for estimated energy requirements in 2011, and in its report *Carbohydrates and Health* (2015), made new recommendations for free sugars and fibre.
- SACN made new recommendations for vitamin D in its report *Vitamin D and Health* (2016).
- The DRVs are reflected in the UK's food based dietary guidelines, ***The Eatwell Guide***, a visual illustration of the types and proportions of foods that contribute to a healthy and well-balanced diet.

https://nutrition.org.uk/

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Relative nutrient supply

We wouldn't expect self-sufficiency

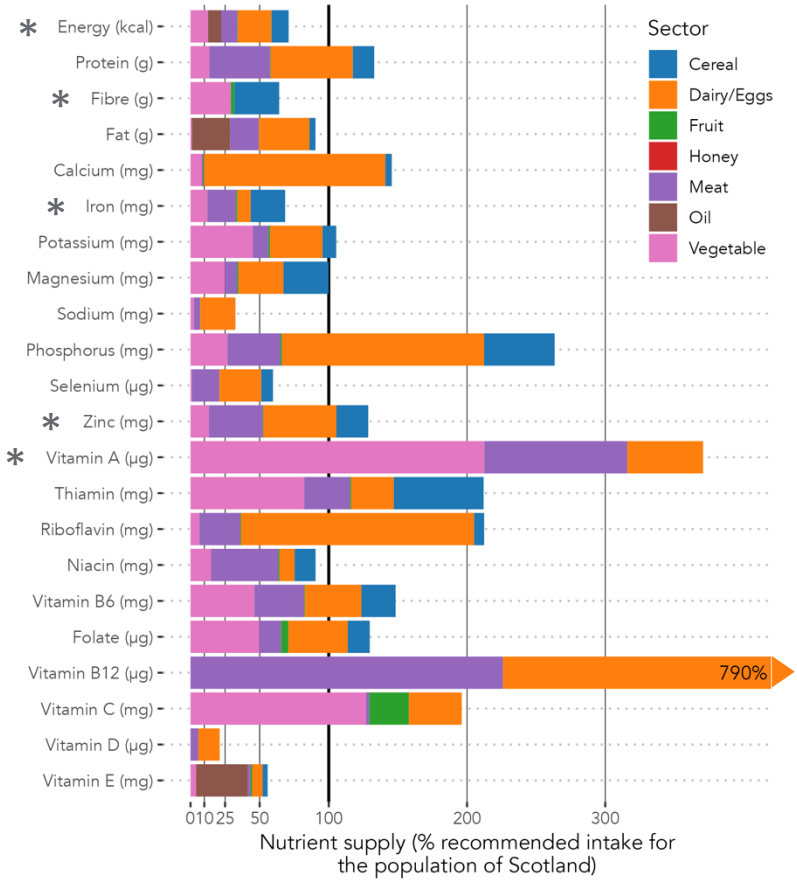
Vegetables, diary and eggs contribute the most to nutrient supply

"…in 2010, the UK was reliant on imported foods to meet energy, fibre, total carbohydrate, iron, zinc and vitamin A requirements."

Assessing national nutrition security: The UK reliance on imports to meet population energy and nutrient recommendations

Jennie I. Macdiarmid[1]*, Heather Clark[2], Stephen Whybrow[1], Henri de Ruiter[3,4], Geraldine McNeill[2]

https://doi.org/10.1371/journal.pone.0192649



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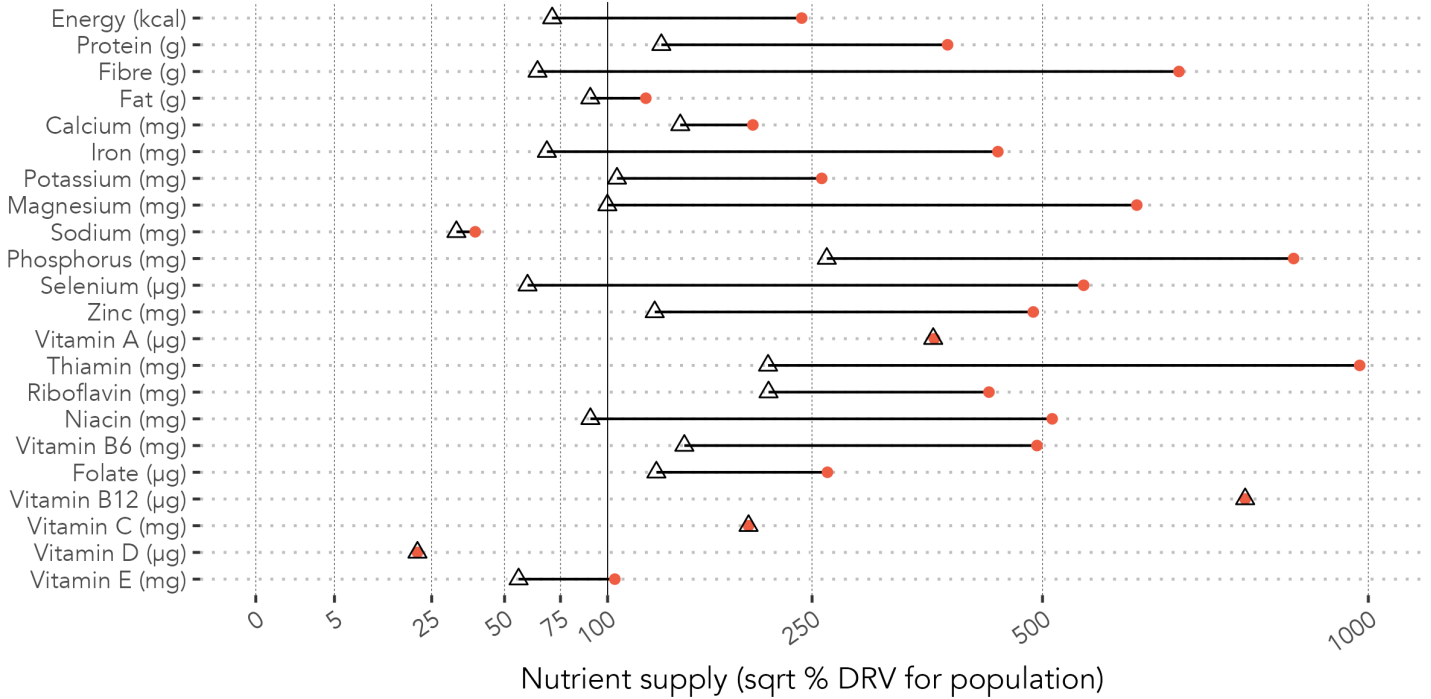
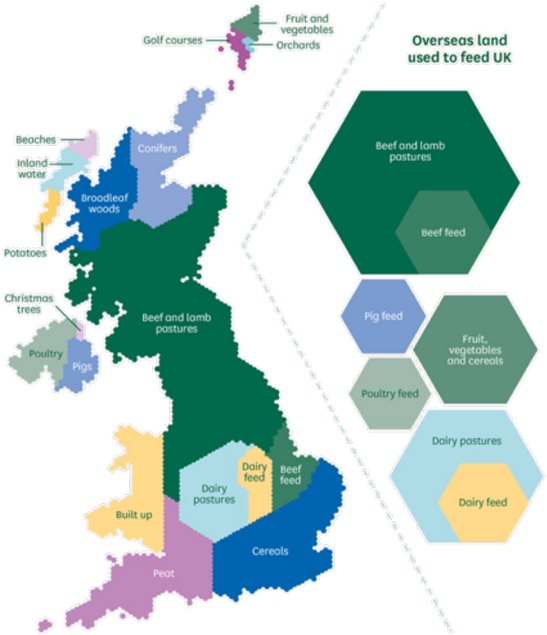
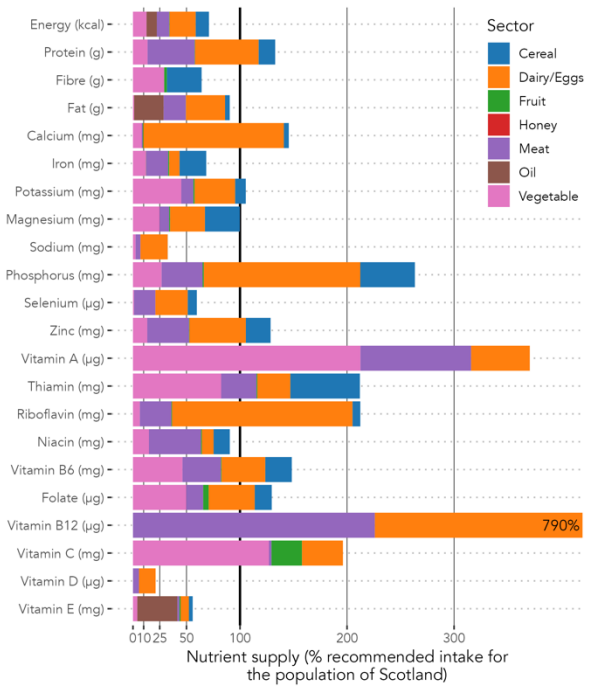
Potential nutrient supply

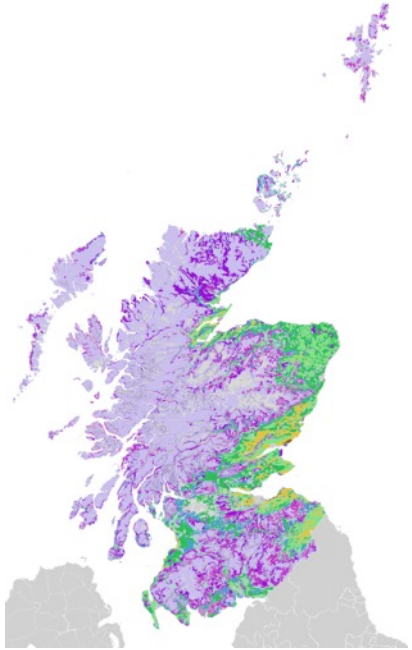


What comes next?



The National Food Strategy: The Plan
July 2021





Land Capability for Agriculture (2022)

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