



Carbon management: so much more than just climate change....

Context: What needs to happen to make producing local food sustainable?

Mike Rivington

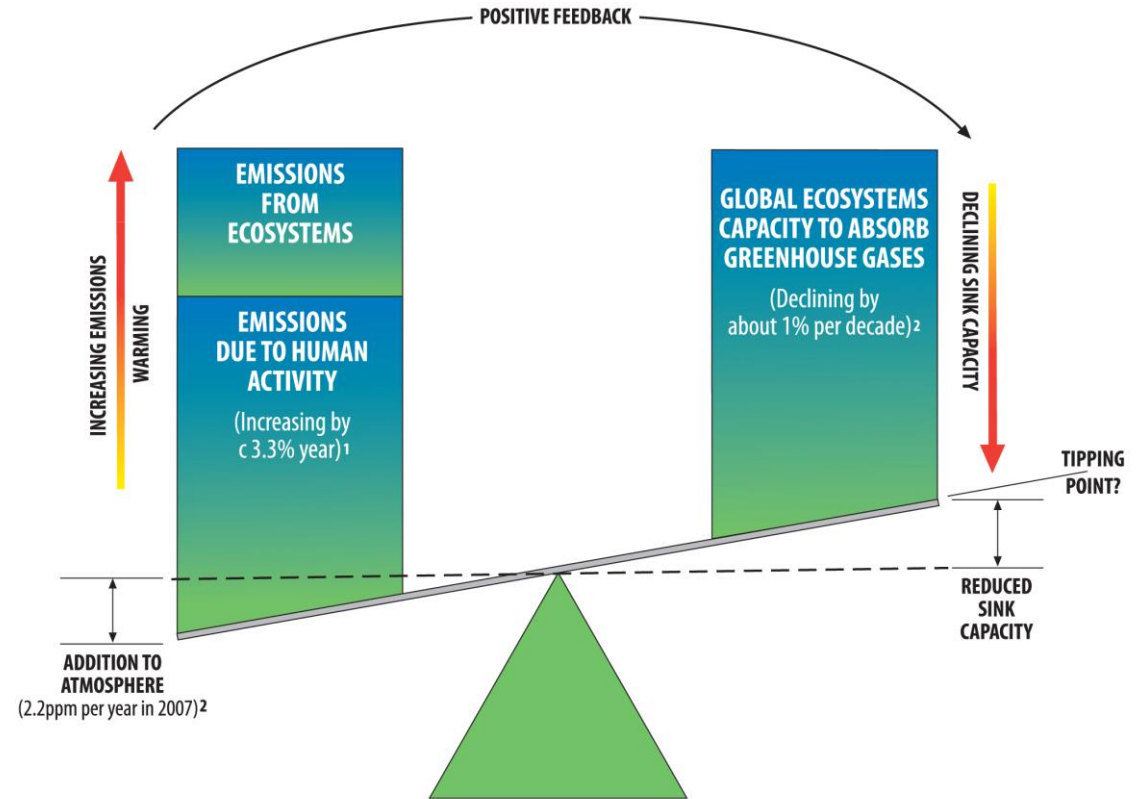
Highland Good Food Conference 25th January 2021



The James
Hutton
Institute

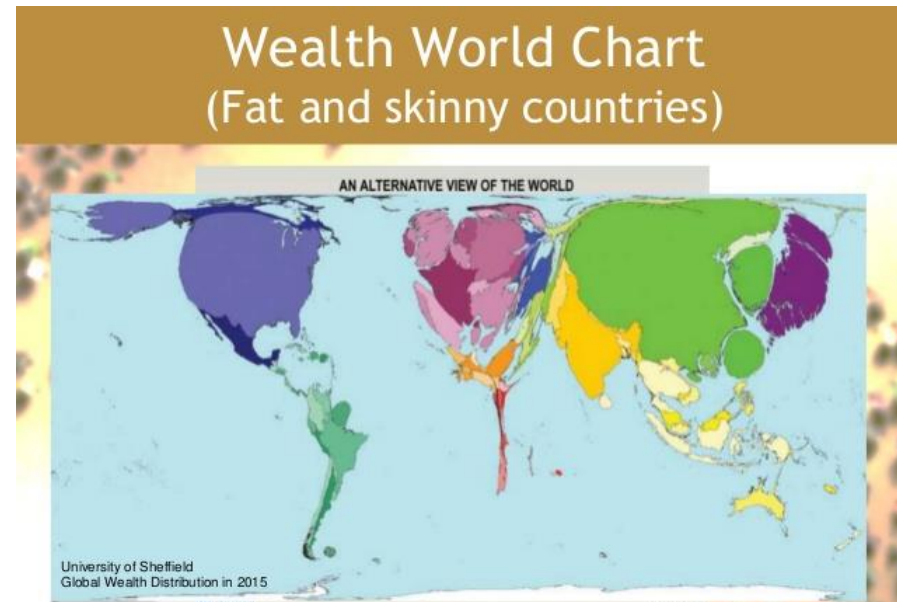
Everything is out of balance

- Carbon: too much in the atmosphere, not enough in soils and biomass
- Economy: growth driven not wellbeing motivated = inequalities
- Food systems and healthy diets
- Cheap food paradigm: does - not include externalities

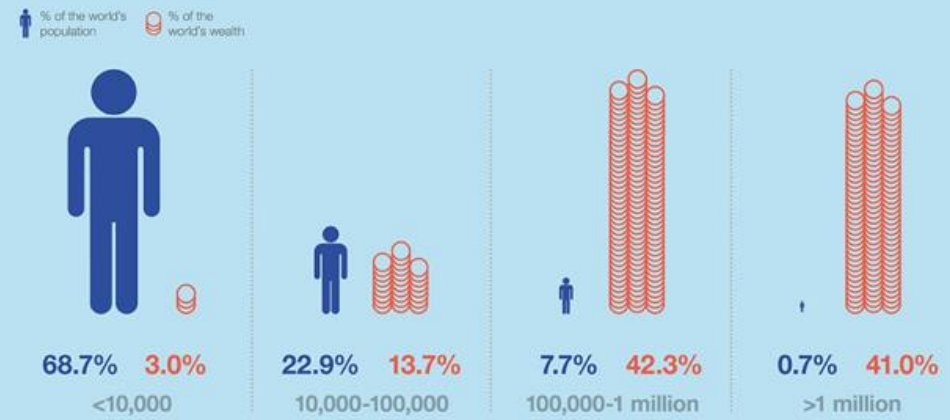


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How is the **world's wealth** shared amongst its population?



"Wealth" is defined as the marketable value of financial assets plus non-financial assets (principally housing and land) owned by an adult, less debts
Source: Global Wealth Report 2013, Zurich: Credit Suisse

Wealth (USD)

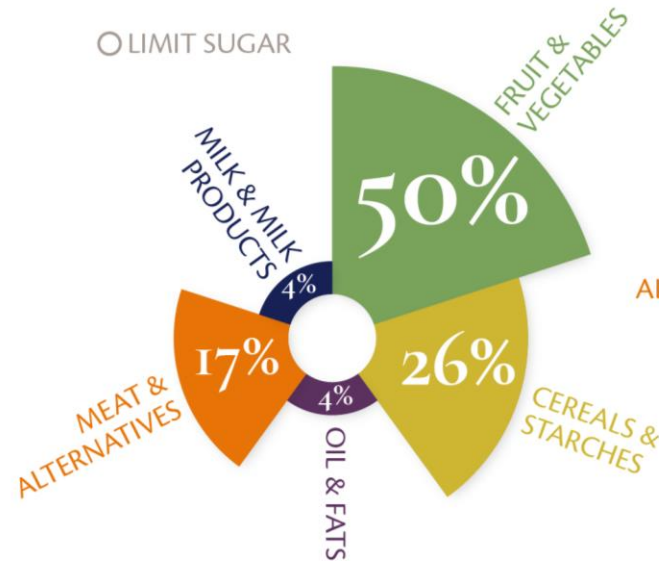
Read the report [#Outlook2015](#)



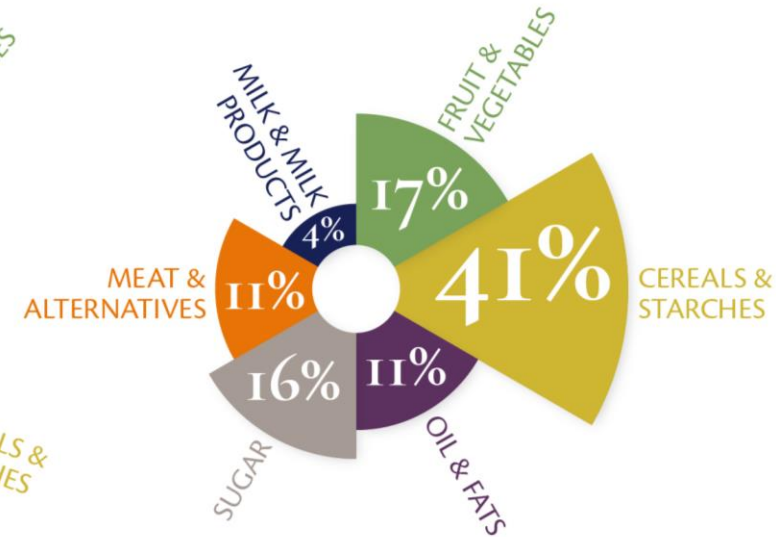
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How we should be eating
(Harvard's healthy eating plate model)



What we are actually producing
(According to 2011 FAO)



Source: Prof Tim Benton, Chatham House



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£120.2bn

The agri-food sector contribution to national Gross Value Added in 2018.

4.1m

People employed in the agri-food sector in Q4 2019, 13% of GB employment.

4.7%

Food and non-alcoholic beverage price fall in real terms between 2009 and March 2020.

£234bn

Total consumer expenditure on food, drink and catering in 2019.

£23.6bn

The value of food and drink exports in 2019.

External Cost	Indicative costs
Pollution from fertilisers	£5bn
Pollution from GHGs	£3bn
Silting of water courses	£61m
Contamination	~£20m
Anti-microbial resistance	£180m
Food safety	£9bn
Food and packaging waste	£19bn and £600m
Mental health and well-being (e.g. loss of biodiversity, eco-anxiety)	????
Dietary ill health	£30-50bn



How to make producing local food sustainable?

(Acknowledging that food security is about economic and physical access, less so about mass production and availability)

- Change the global food system: aim for resilience not efficiency.
- Change land management practices to increase carbon capture.
- Increase soil carbon: reduces atmospheric CO₂ and improves water retention (essential under climate change projections) and biodiversity.
- Prove that local produce has a lower carbon and ecological footprint.
 - GHG accounting and Labelling! e.g. improved livestock feed regimes to reduce methane and then show consumers they have the choice.
- Price accordingly: minimise cost whilst including externalities.
 - Requires producers to re-invest in ecosystems and reduction on externalities dependencies.
- Allocate land use appropriately:
 - Trees on the right soils – seek multiple objectives not competition for land use.
 - Cultivate soils, then cultivate what grows on it.

