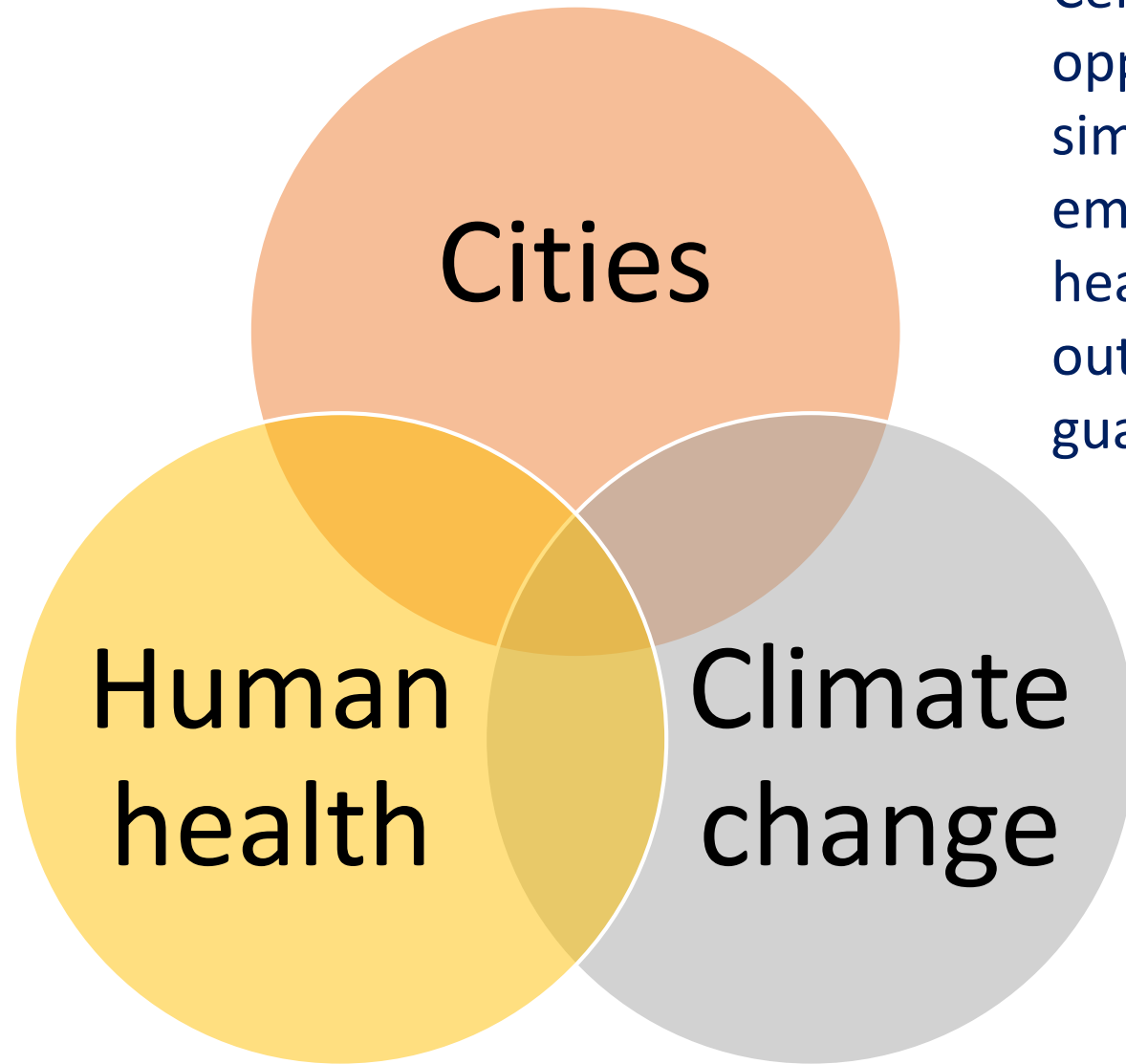


Potential effects on human health of the transition to low-carbon cities

Alistair Woodward
Epidemiology and Biostatistics
University of Auckland



Certainly there are opportunities to simultaneously reduce emissions and improve health, but win-win outcomes are not guaranteed.

- Urban form
- Transport
- Housing
- Food systems



“Dense urban development leads to less urban energy use overall.”
Güneralp et al PNAS 2017;114:8945–8950

Inner-city living makes for healthier, happier people, study finds

Residents of higher-density areas are more active, more socially engaged - and less obese - than people who live in the sprawl of suburbia



6141 1,194

Reuters

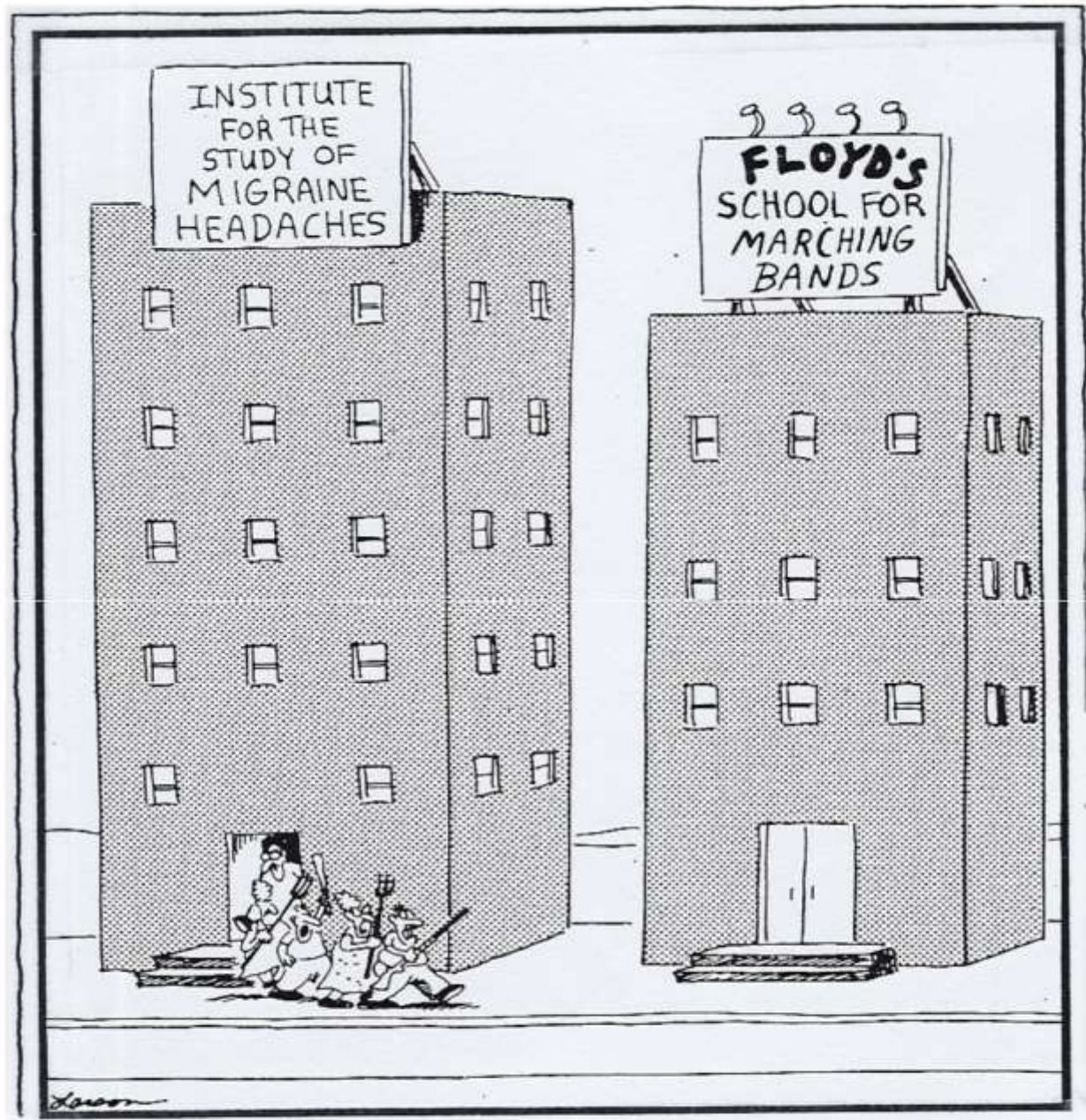
Friday 6 October 2017
01.13 BST



 Busy city centres beat suburban living when it comes to human wellbeing according to a new report.
Photograph: Dominic Lipinski/PA

Contrary to popular belief, busy city centres beat suburban living when it comes to human wellbeing, as socialising and walking make for happier, healthier people, according to a new report.





The dam bursts....



Location and design of buildings
Taking account of social needs
Quality and accessibility in local environment

Evidence review

Increasing density in Australia: maximising the health benefits and minimising harm

Prepared by

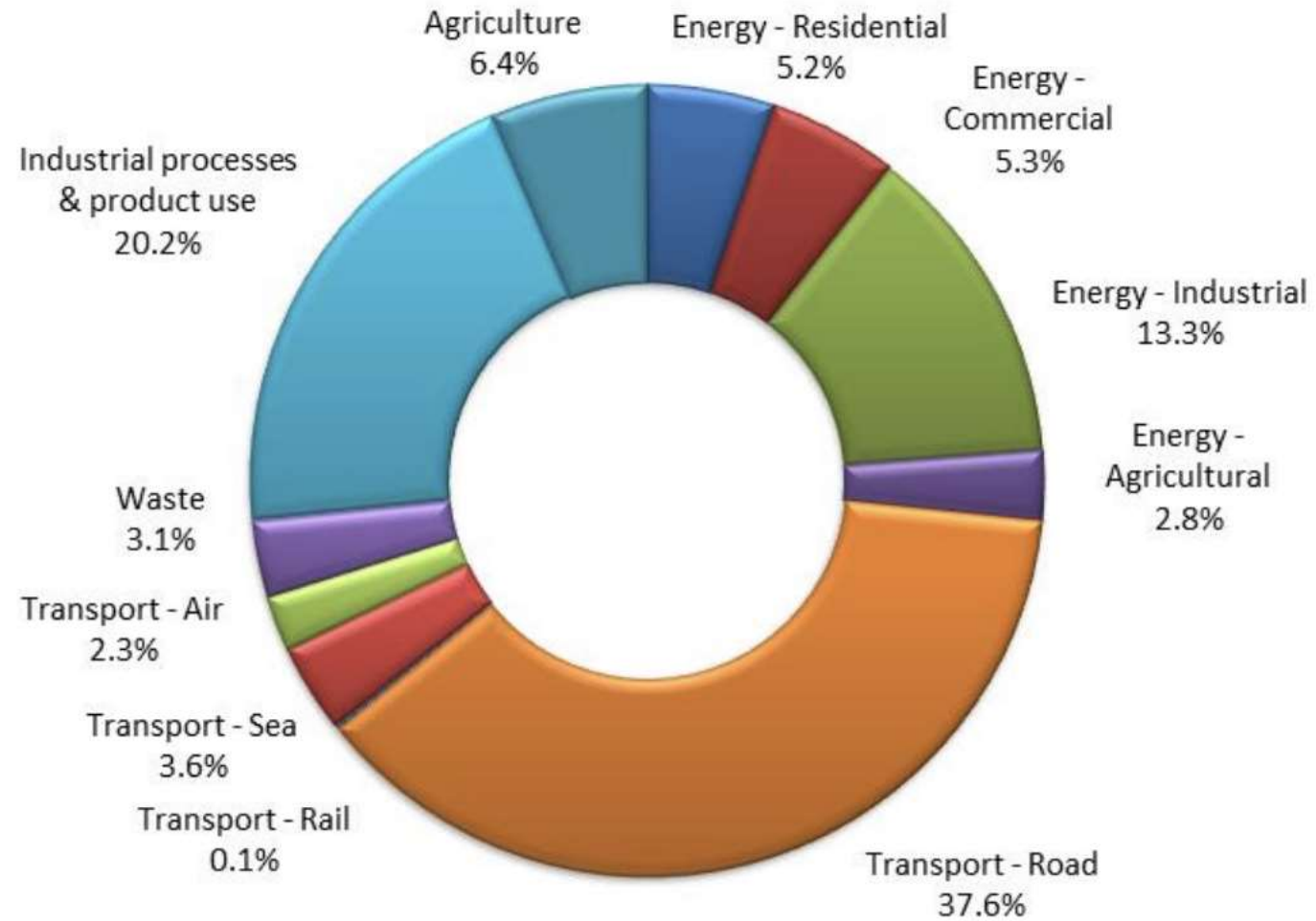
Professor Billie Giles-Corti, B App Sc, M App Sc, PhD^{a,b}

Kate Ryan, B Hlth Sc^a

Dr Sarah Foster, BSc (Hons), PhD^a

Commissioned by the National Heart Foundation of Australia

Auckland's greenhouse gas emissions profile (2016)

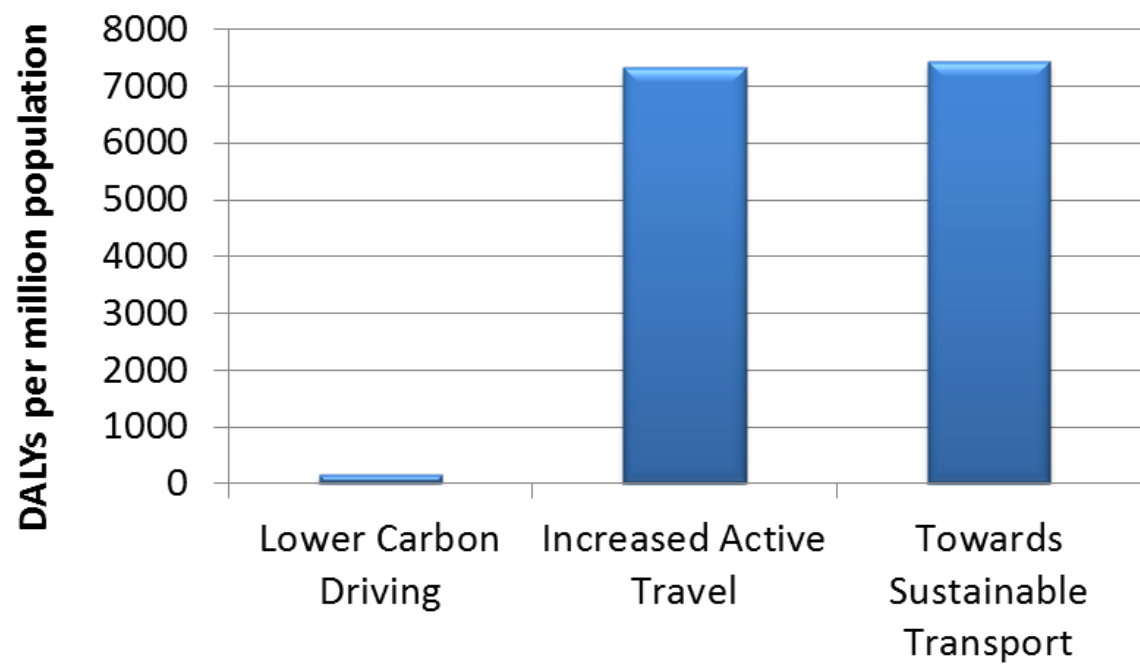


Xie, S (2019).
Auckland's
greenhouse gas
inventory to 2016.
Auckland Council
technical report,
TR2019/002

Electric cars may be an energy solution; they are not a transport solution; and the direct health gains are slight



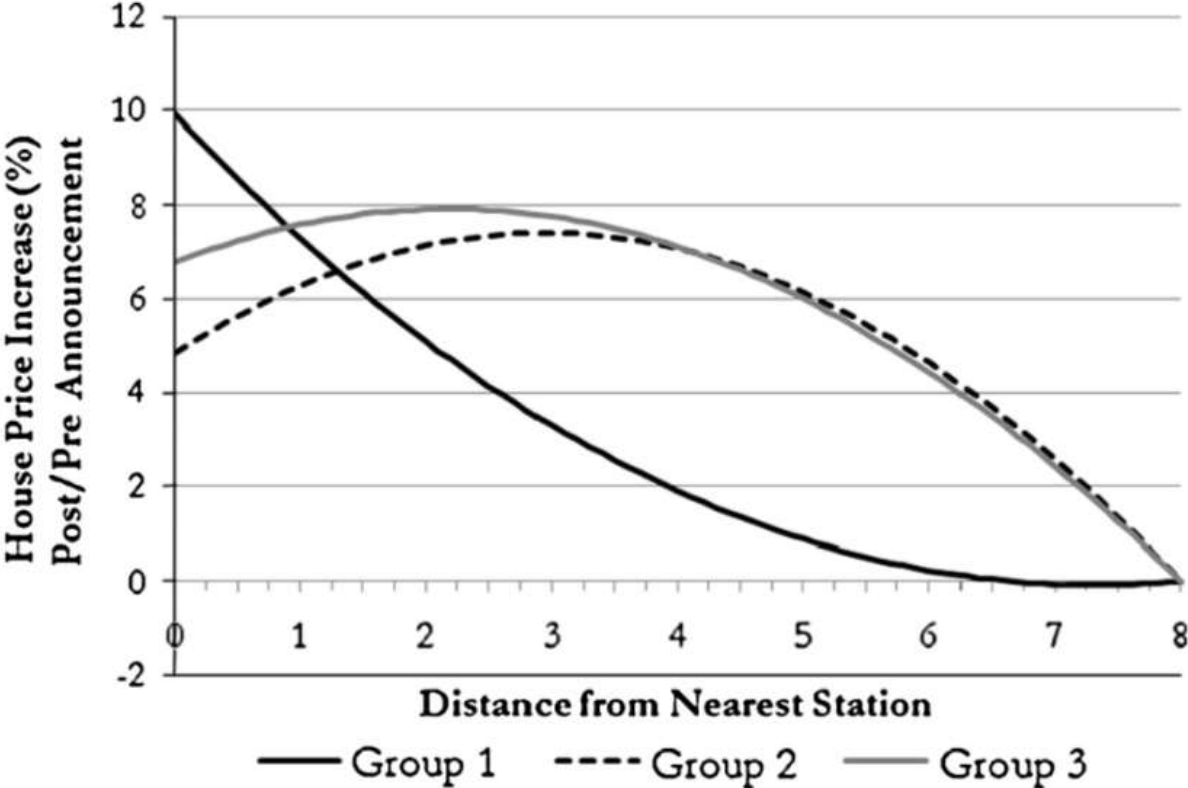
Transport scenarios for London: the same carbon savings, different health impacts



	Change in disease burden		Change in premature deaths
Ischaemic heart disease	10-19%	↓	1950-4240
Cerebrovascular disease	10-18%	↓	1190-2580
Dementia	7-8%	↓	200-240
Breast cancer	12-13%	↓	200-210
Road traffic crashes	19-39%	↑	50-80

Source: Woodcock et al, *Lancet* 2009

Increase in house prices following the announcement that there would be major upgrades to the Auckland western line passenger train service. New Lynn, Henderson and Ranui/Swanson

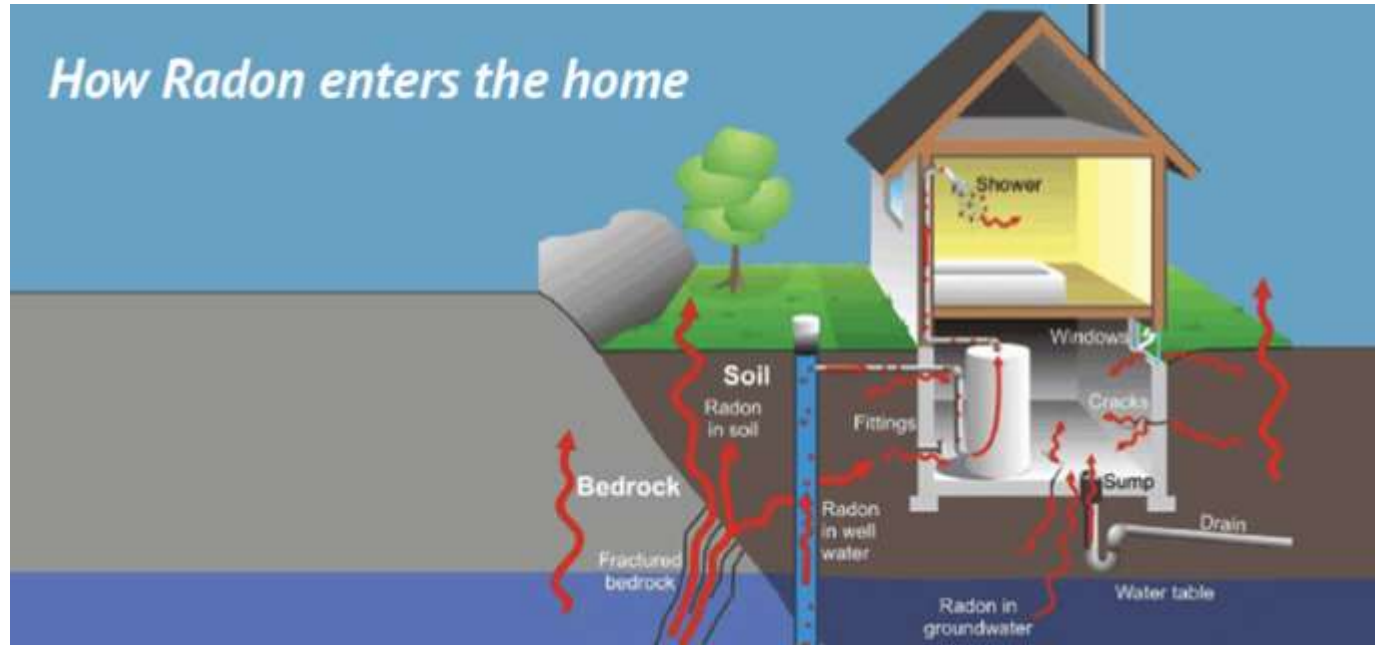


Grimes & Young 2013



Howden-Chapman et al, 2007

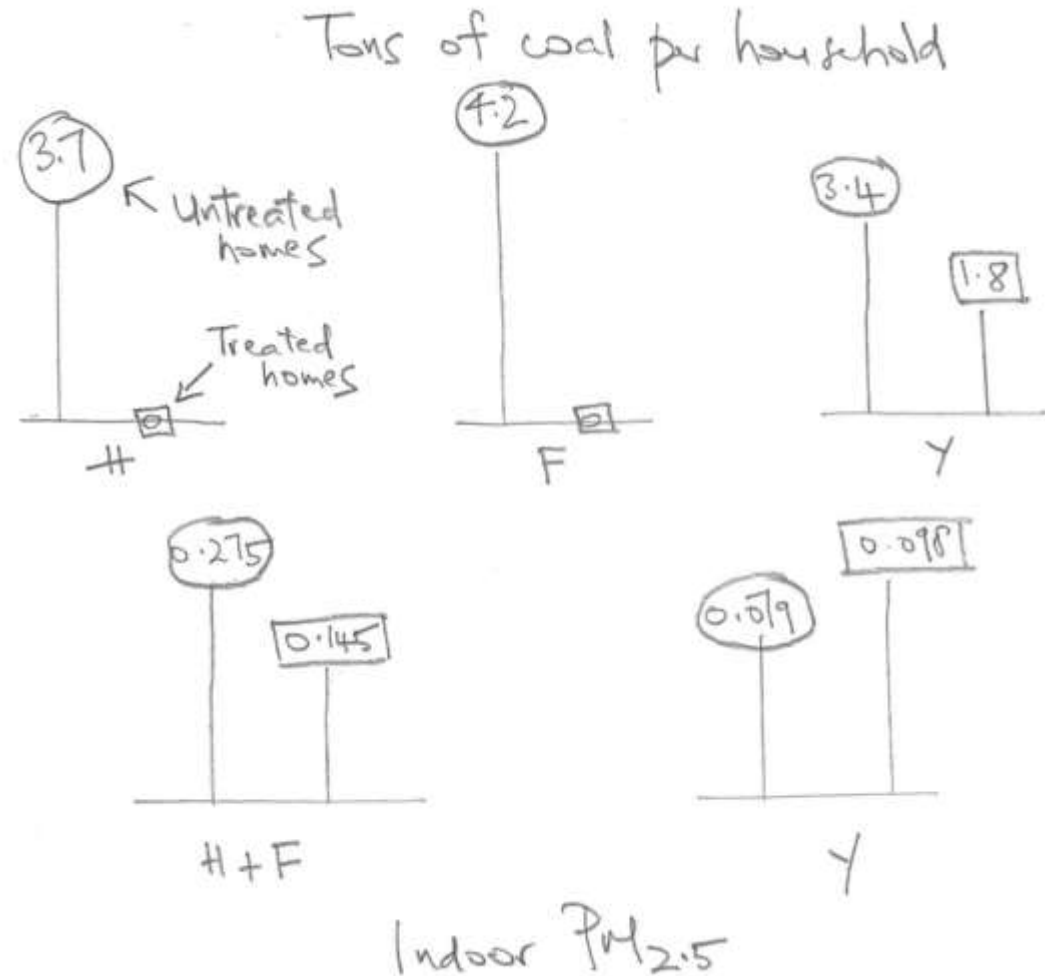
Unintended consequence of improving household energy efficiency: increase in indoor levels of Radon in air-tight homes



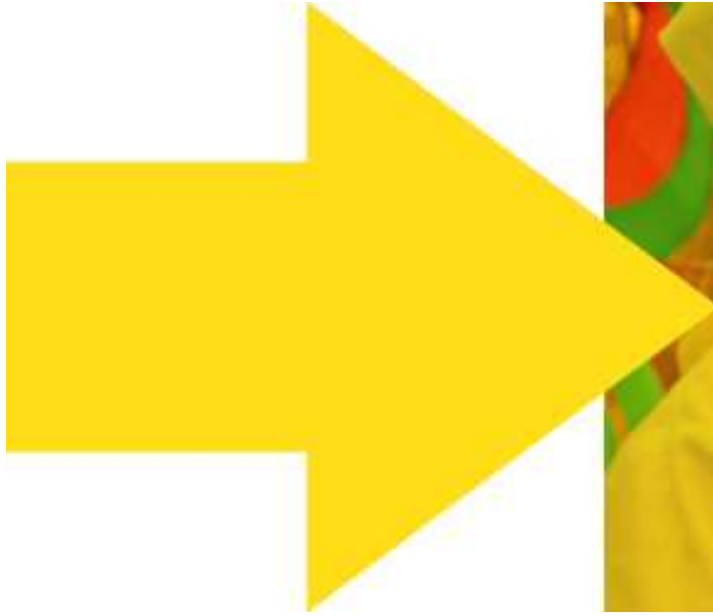
2nd most important cause of lung cancer in the UK – leads to about 1400 cases a year

Milner et al. 2014

Clean household heating intervention, Beijing Municipality, reduces coal burning and improves indoor air quality, in high and middle income districts



H = Haidian
F = Fangshan
Y = Yanqing

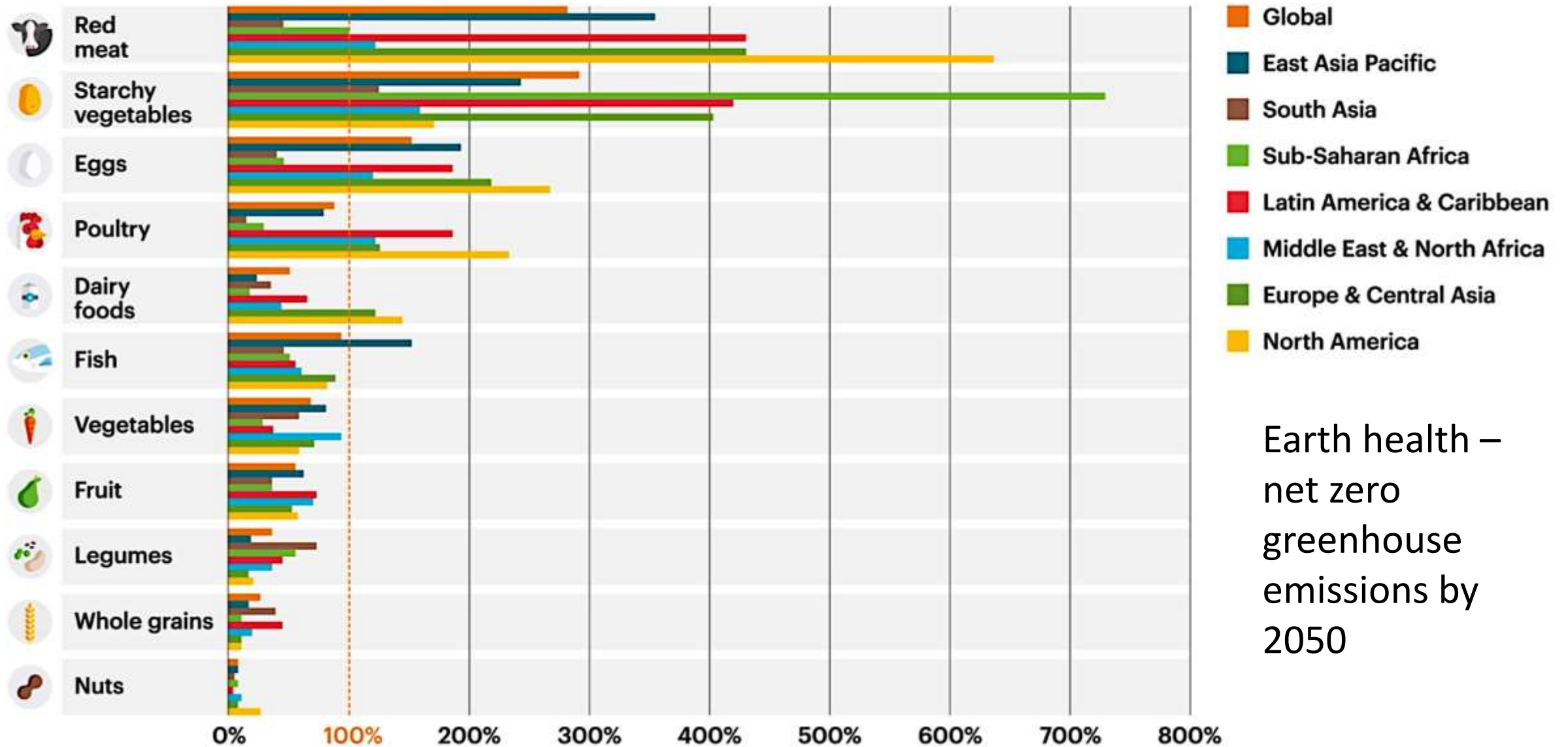


The Good Food Cities Declaration

G

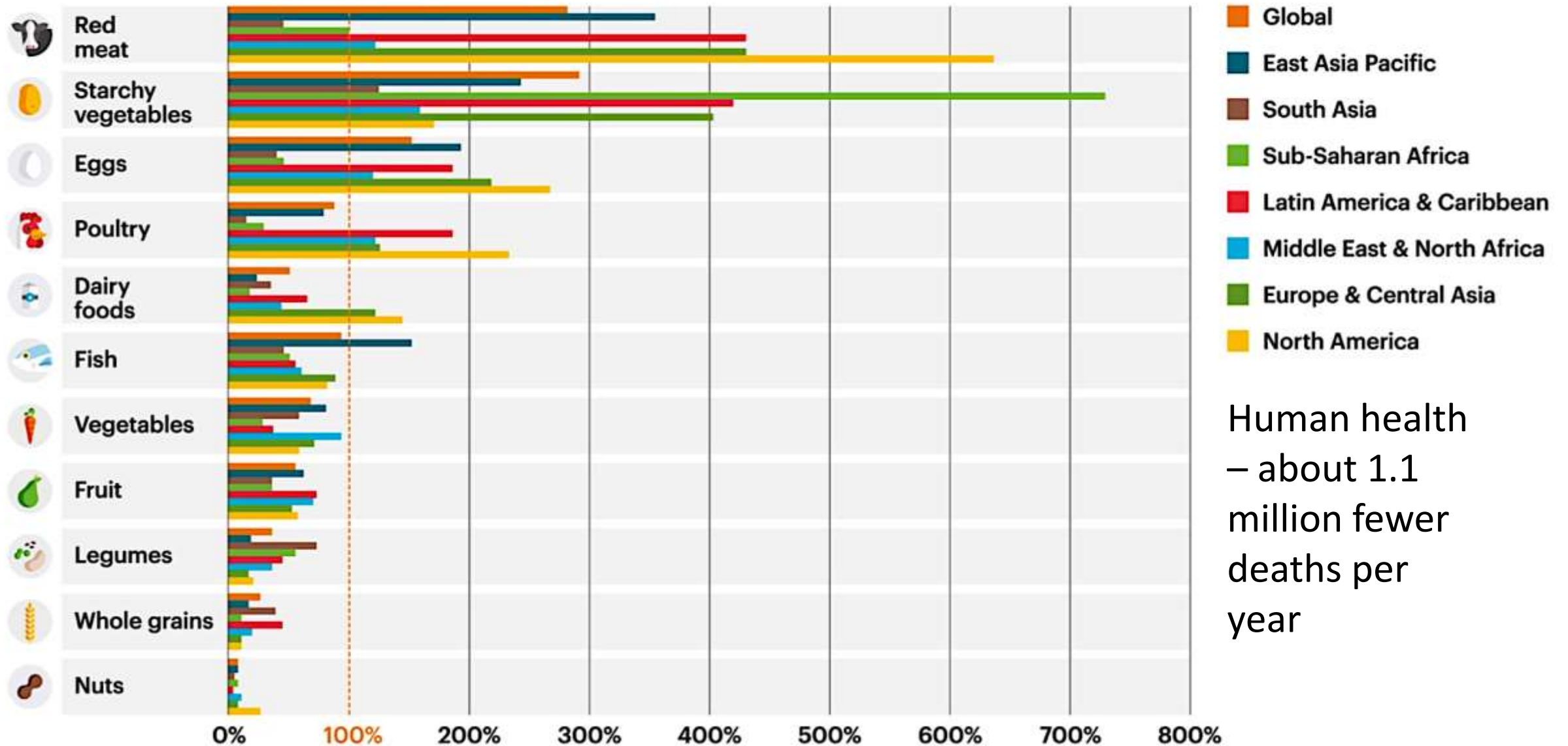
ood Food Cities: Achieving a Planetary Health Diet for All

Current Intakes vs Planetary Health Diet

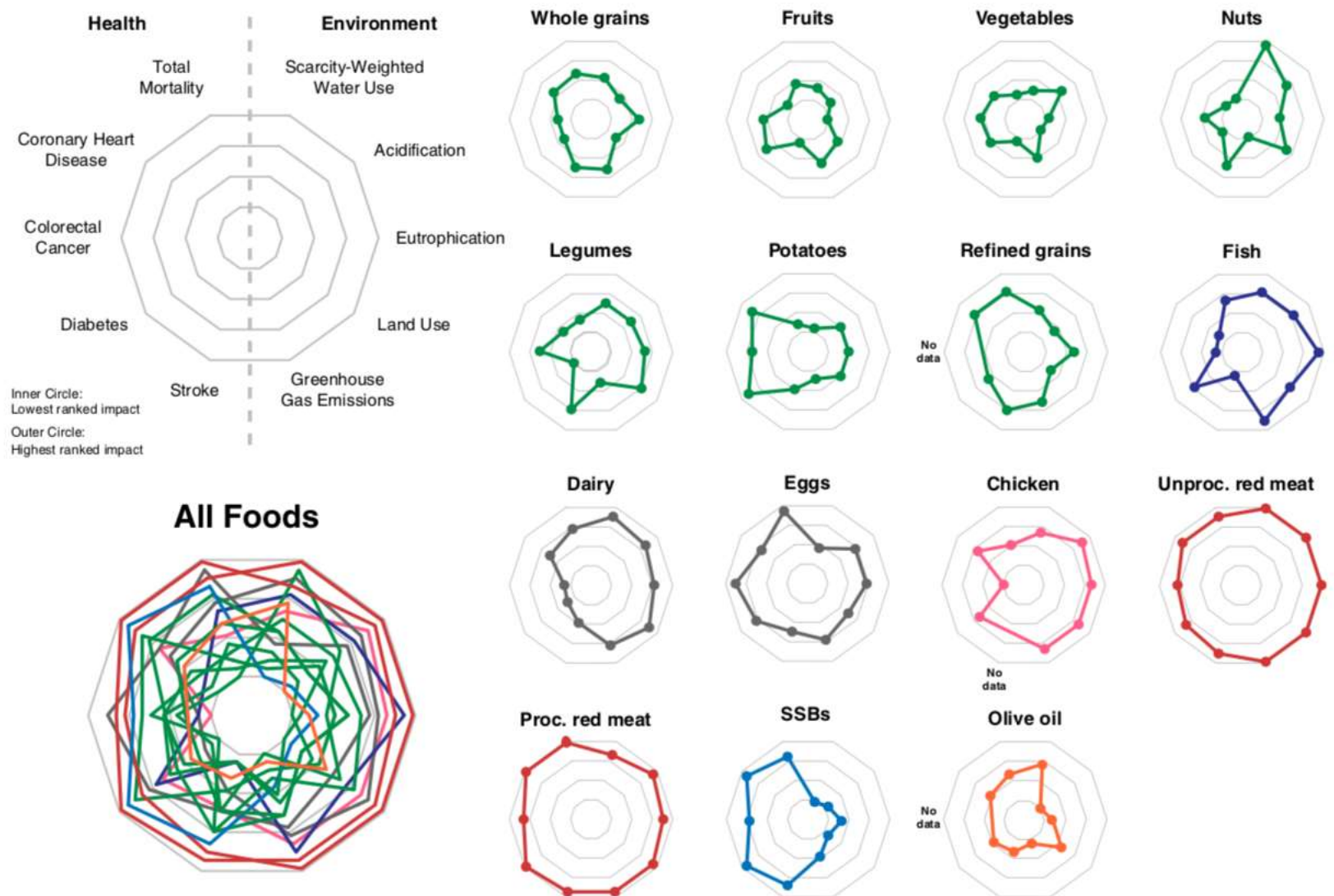


Earth health –
net zero
greenhouse
emissions by
2050

Current Intakes vs Planetary Health Diet

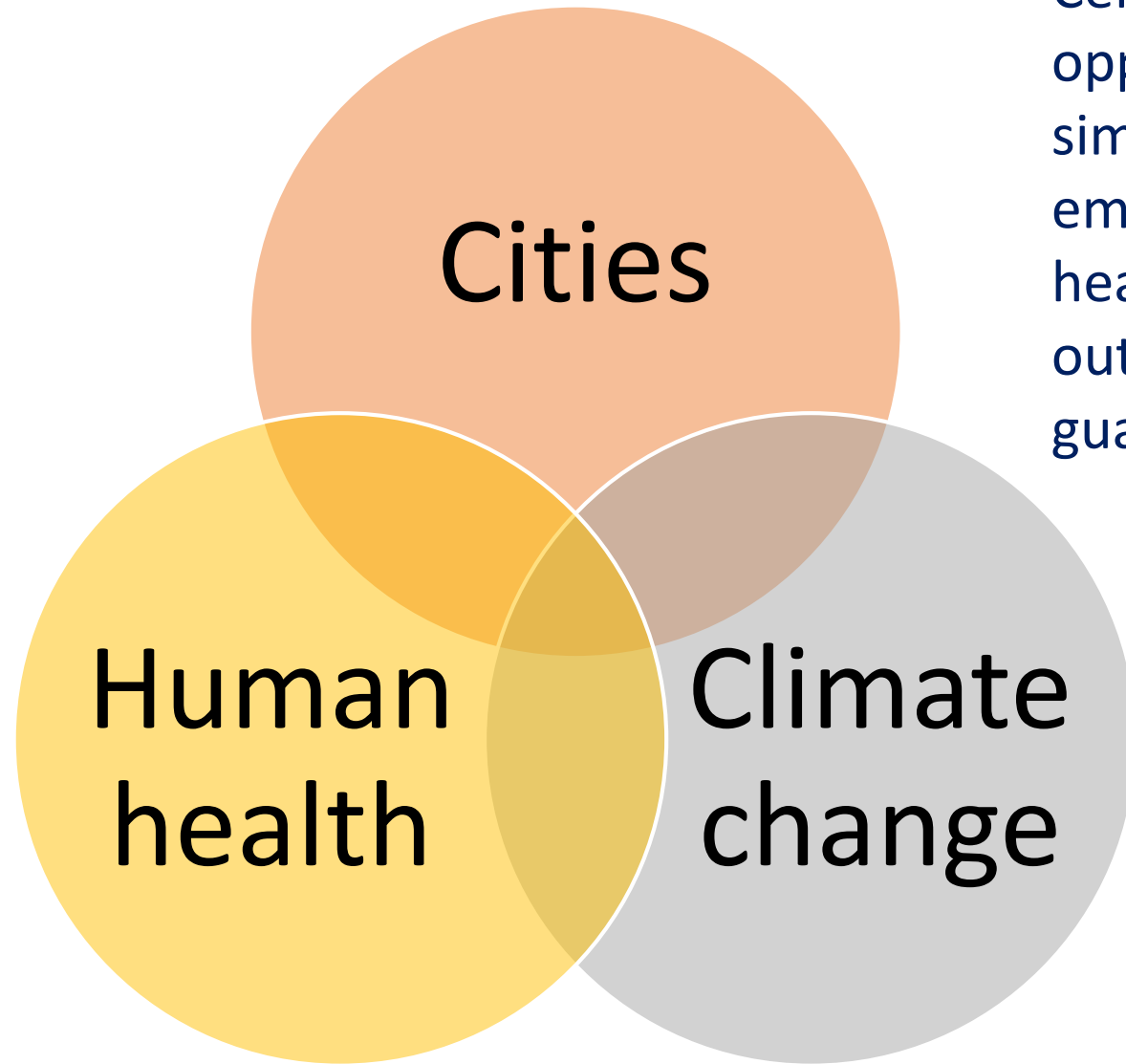


Human health
– about 1.1
million fewer
deaths per
year



Food types, health gains, environmental impacts. Few unambiguous win-wins.

Allen et al.
PNAS November 12,
2019



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