



Australia's National Science Agency

# Towards a healthier and more sustainable diet in the Australian context

Gilly Hendrie | March 2022

I would like to begin by acknowledging the Traditional Owners of the lands that we are all meeting on today, and pay my respect to their Elders past and present.



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Extent of the inclusion of environmental sustainability in food-based dietary guidelines?

How do Australian diets compare to global and national dietary guidelines?

# Food-based Dietary Guidelines (FBDGs)

- Designed to influence policies that shape the food system and population diets
- Traditionally they provide health oriented advice
- Opportunity to highlight the synergies between human and planetary health



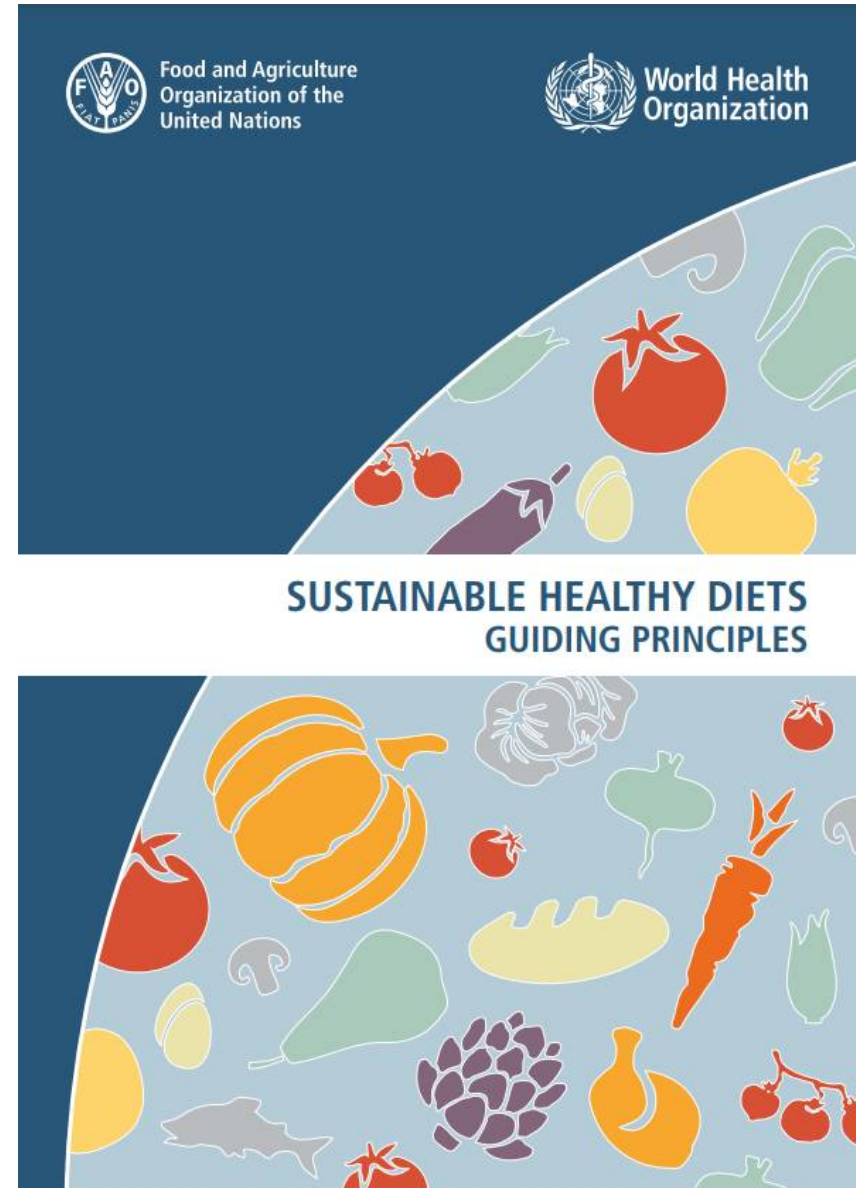
## Inclusion of environmental sustainability in FBDGs

- Few FBDG around the world include sustainability
  - <5% of countries included sustainability (Gonzalez Fischer and Garnett, 2016)
  - Content does not align with the FAO Guiding Principles for Sustainable Healthy Diets (Martini et al, 2021)
- FAO has suggested as countries develop or revise their FBDGs, sustainability needs to be incorporated in an effective way
  - Informative and accessible
  - Clear guidance on how to make changes for sustainable dietary patterns

# Environmental sustainability in national food-based dietary guidelines *[Under review\*]*

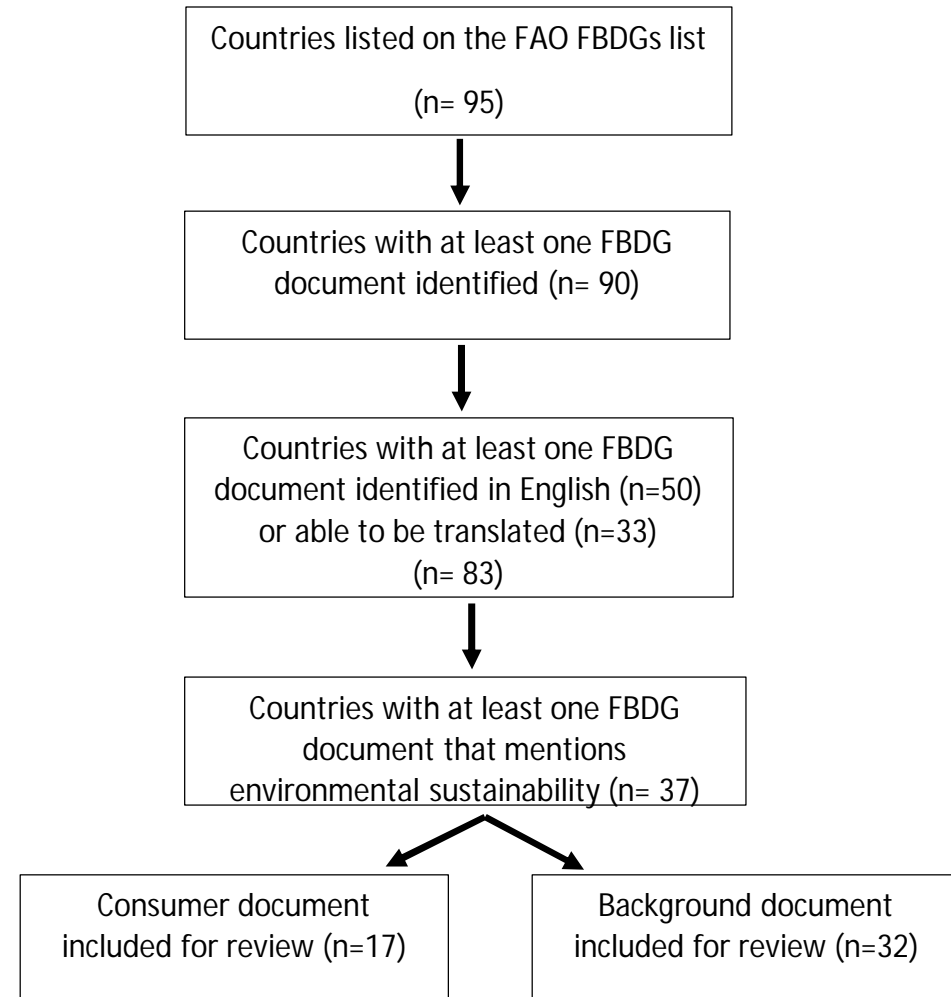
- Assess the inclusion of environmental sustainability messaging in FBDGs around the world
- The depth of coverage against FAO Guiding Principles of a Healthy Sustainable Diet

\*Authors: Genevieve James-Martin, Gilly Hendrie, Danielle Baird, Jessica Bogard, Gemma Williams, Kim Anastasiou, Paige Brooker, Bonnie Wiggins, Mario Herrero, Malcolm Riley (CSIRO), Mark Lawrence (Deakin), Amanda Lee (UQ)



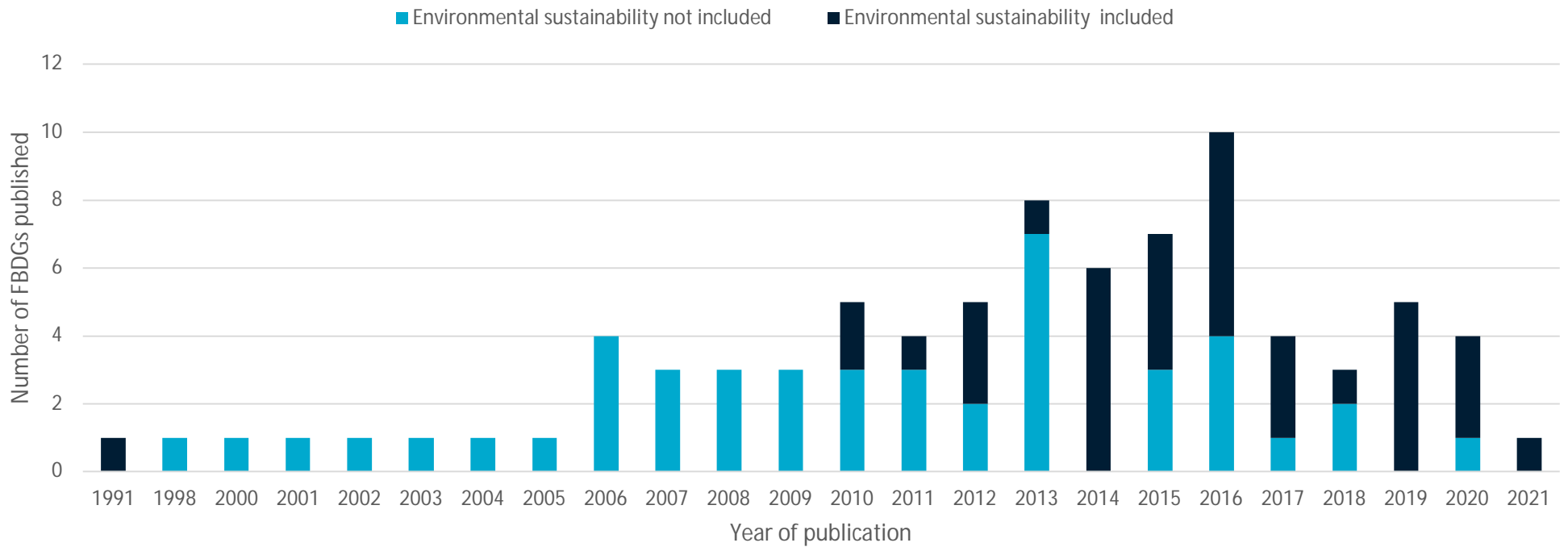
# Method for the review

- Systematic search to locate dietary guideline documentation for each country (FAO website & google search)
- 1 background & 1 consumer document per country selected for review
- Inclusion criteria:
  - Developed or endorsed by government body
  - Target general healthy population
  - Included reference to environmental sustainability



Search terms: 'Biodiversity', 'conservation', 'climate', 'environment', 'environmental', 'ecological', 'eco-friendly', 'ecofriendly', 'emissions', 'emit', 'pollution', 'resources', 'sustainable', 'sustainability' or 'nature'

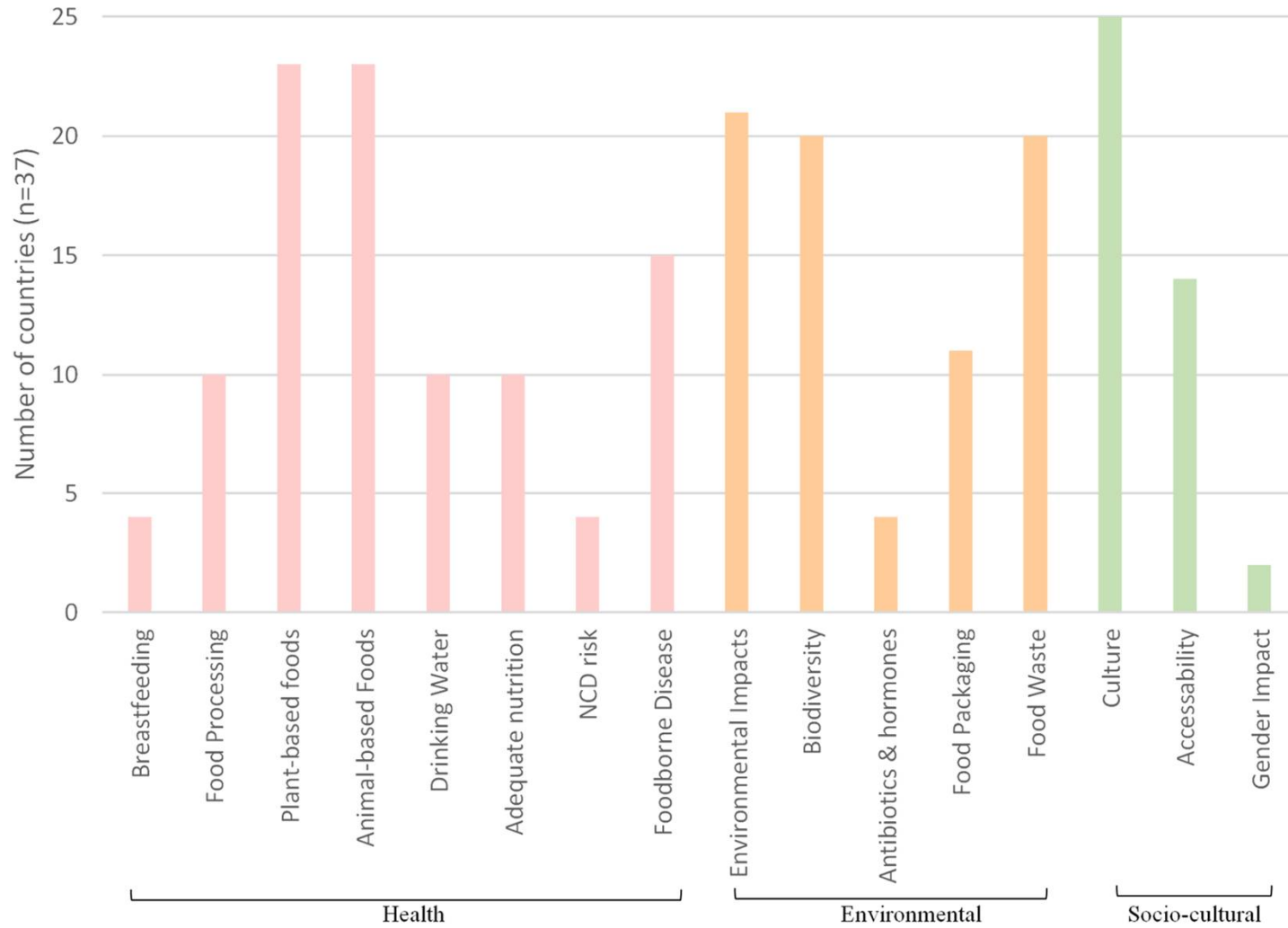
## 44% (37 of 83) countries included sustainability





	Include environmental sustainability messaging		
	Yes N (%)	No N (%)	Total N
<b>Region (World Bank)</b>			
East Asia and Pacific	3 (33)	6 (67)	9
Europe and Central Asia*	17 (61)	11 (39)	28
Latin America and the Caribbean	11 (39)	17 (61)	28
Middle East and North Africa	2 (33)	4 (67)	6
North America	1 (50)	1 (50)	2
South Asia	0 (0)	3 (100)	3
Sub-Saharan Africa	3 (43)	4 (57)	7
<b>Income</b>			
Low	1 (100)	0 (0)	1
Lower-middle	2 (20)	8 (80)	10
Upper-middle	12 (39)	19 (61)	31
High	22 (54)	19 (46)	41
<b>All countries</b>	<b>37 (45)</b>	<b>46 (55)</b>	<b>83</b>

\*all countries including environmental sustainability were from Europe



FAO Guiding Principles for Sustainable Healthy Diets

# Examples from consumer documents

	<b>WHAT</b>	<b>WHY</b>	<b>HOW</b>	<b>QUANTITY</b>
<b>Plant-based foods</b>  <b>E.g. Belgium (2019)</b>	<p>“Eat proportionally more plant-based than animal food”</p>	<p>“Legumes tax the climate less than most animal protein sources.</p> <p>“...legumes ... can be stored for a long time and the transport does not require cooling or speed.”</p>	<p>“They [legumes] can be served in a soup or as a purée to spread on bread.”</p>	<p>“Eat legumes weekly and use them to replace meat at least once a week to increase your intake of vegetable protein.”</p>
<b>Animal-based foods</b>  <b>E.g. Denmark (2020)</b>	<p>“Eat less meat”</p>	<p>“Cutting down on meat also benefits the climate. This applies to all types of meat, and in particular beef and lamb, which are among the foods with the highest climate footprint.”</p>	<p>“... choose legumes and fish... Introduce meat-free days and cut down on meat in your meals.”</p>	<p>“About 350 g of meat a week (Limit especially beef and lamb and processed meat)”</p>



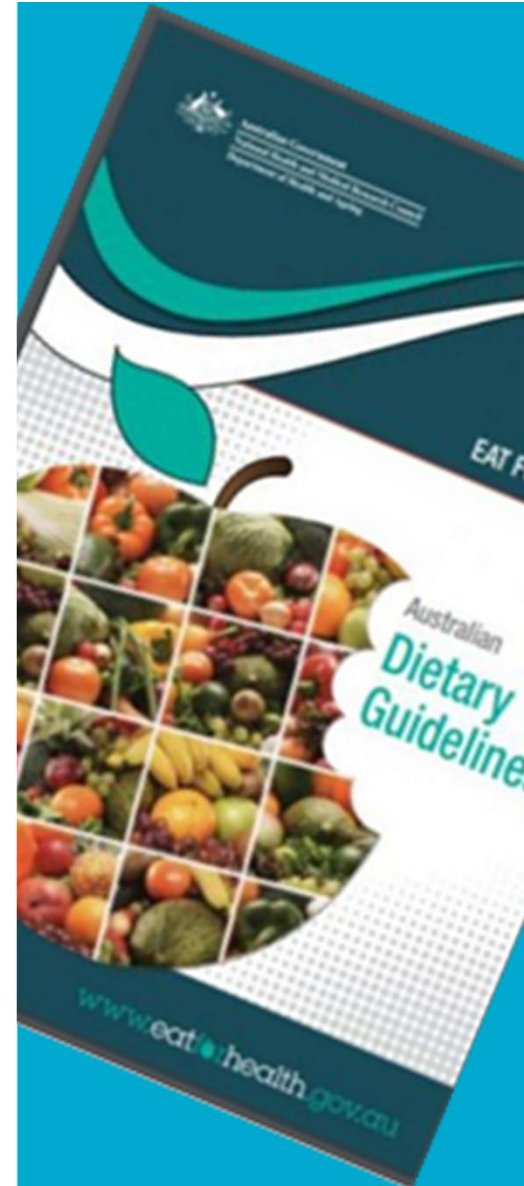
**A summary of the depth of coverage of the FAO Guiding Principles in the context of environmental sustainability within consumer and background documents for each included countries' FBDGs.**

Country	Year published	Consumer documents					Background documents					Combined total
		What <sup>1</sup>	Why <sup>2</sup>	How <sup>3</sup>	Qty <sup>4</sup>	Sub total (/64)	What	Why	How	Qty	Sub total (/64)	
Denmark	2020	7	2	6	4	19	11	9	8	2	30	49
Belgium	2019	12	7	8	1	28	7	4	2	2	15	43
Italy	2018	8	5	5	0	18	11	9	4	0	24	42
Sweden	2015	7	6	3	1	17	13	7	4	0	24	41
Finland	2014	6	3	0	0	9	8	7	4	0	19	28
Estonia	2017						9	6	5	1	21	21
Brazil	2015						11	5	5	0	21	21
Australia	2013						11	6	4	0	21	21
Qatar	2015	10	7	3	0	20						20
Germany	2017						1	0	0	0	1	18
Norway	2012	3	0	0	0	3	7	4	3	1	15	18
Switzerland	2016	6	2	4	1	13						13
New Zealand	2020						12	0	0	0	12	12
Malta	2016						7	0	4	1	12	12
Canada	2019						6	4	1	0	11	11
Greece	2014	1	0	0	0	1	6	3	1	0	10	11
South Africa	2013						7	4	0	0	11	11
Uruguay	2016	8	0	0	0	8	1	0	0	1	2	10
Colombia	2015						7	3	0	0	10	10
Iceland	2014	4	2	2	1	9	1	0	0	0	1	10
Japan	2016	2	0	1	0	3	3	1	2	0	6	9
Mexico	2014						6	2	1	0	9	9
Argentina	2016						5	1	0	1	7	7
Netherlands	2015	2	0	0	0	2	3	0	0	1	4	6
Ecuador	2018						3	0	1	0	4	4
Sierra Leone	2016						2	2	0	0	4	4

Countries scoring ≤2 not shown (n=11), light grey denotes no reference to environmental sustainability in the document, dark grey denotes that no document was identified

# Australian Dietary Guidelines

- Environmental sustainability included in background document only (as an Appendix)
- Principals covered:
  - Health: breastfeeding, food processing, adequate nutrition, NCD risk
  - Environment: Environmental impacts, biodiversity, food packaging, food waste
  - Sociocultural: Culture and accessibility
- Depth: What, Why, How but not Quantity.



## Summary of global review of FBDGs

- 37 countries include environmental sustainability in their FBDGs
- More commonly addressed in background vs consumer documents
- Lack of depth to the content with relatively few countries addressing:
  - The link between diet and environment
  - Providing clear guidance on how to make change

# Opportunities for dietary guidelines

- To provide contemporary guidance based on the latest evidence drawing on multidisciplinary science.
- Provide guidance that is contextualised to food preferences and current dietary patterns.
- Give Australians an understanding of why it is important, and how to change intake with actionable information.

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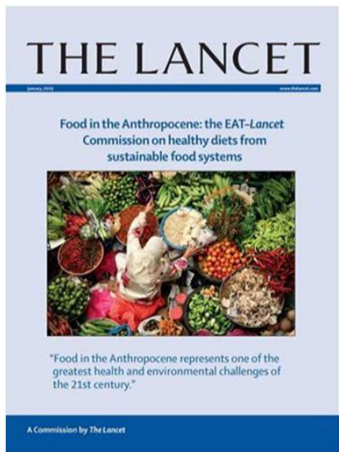
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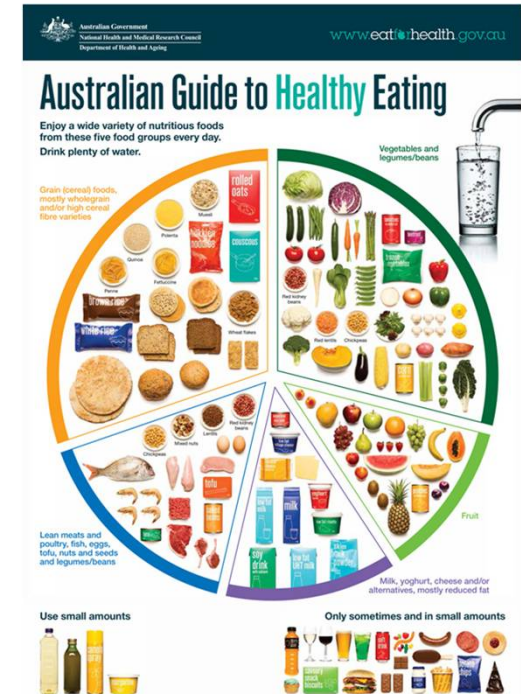
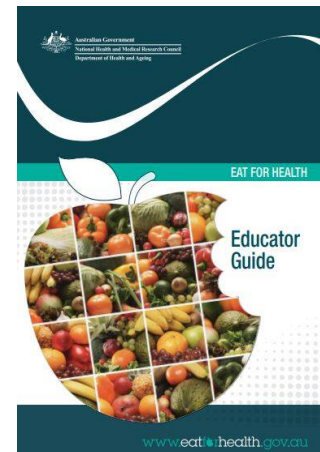


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## Global: EAT Lancet Planetary Health Diet (2019)



## National: Australian Guide to Healthy Eating (2013)

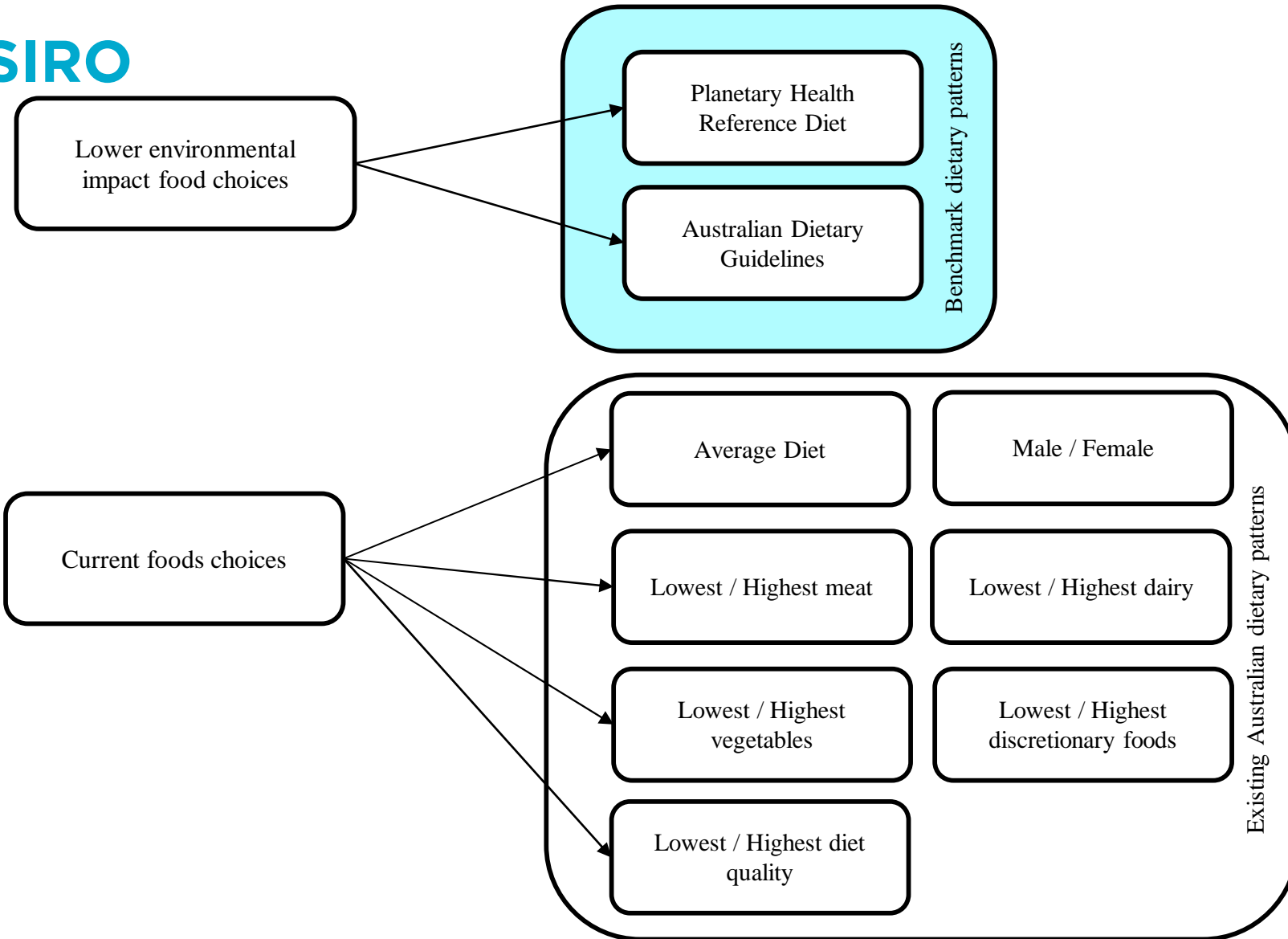


## Modelling of Australian diets using population survey data

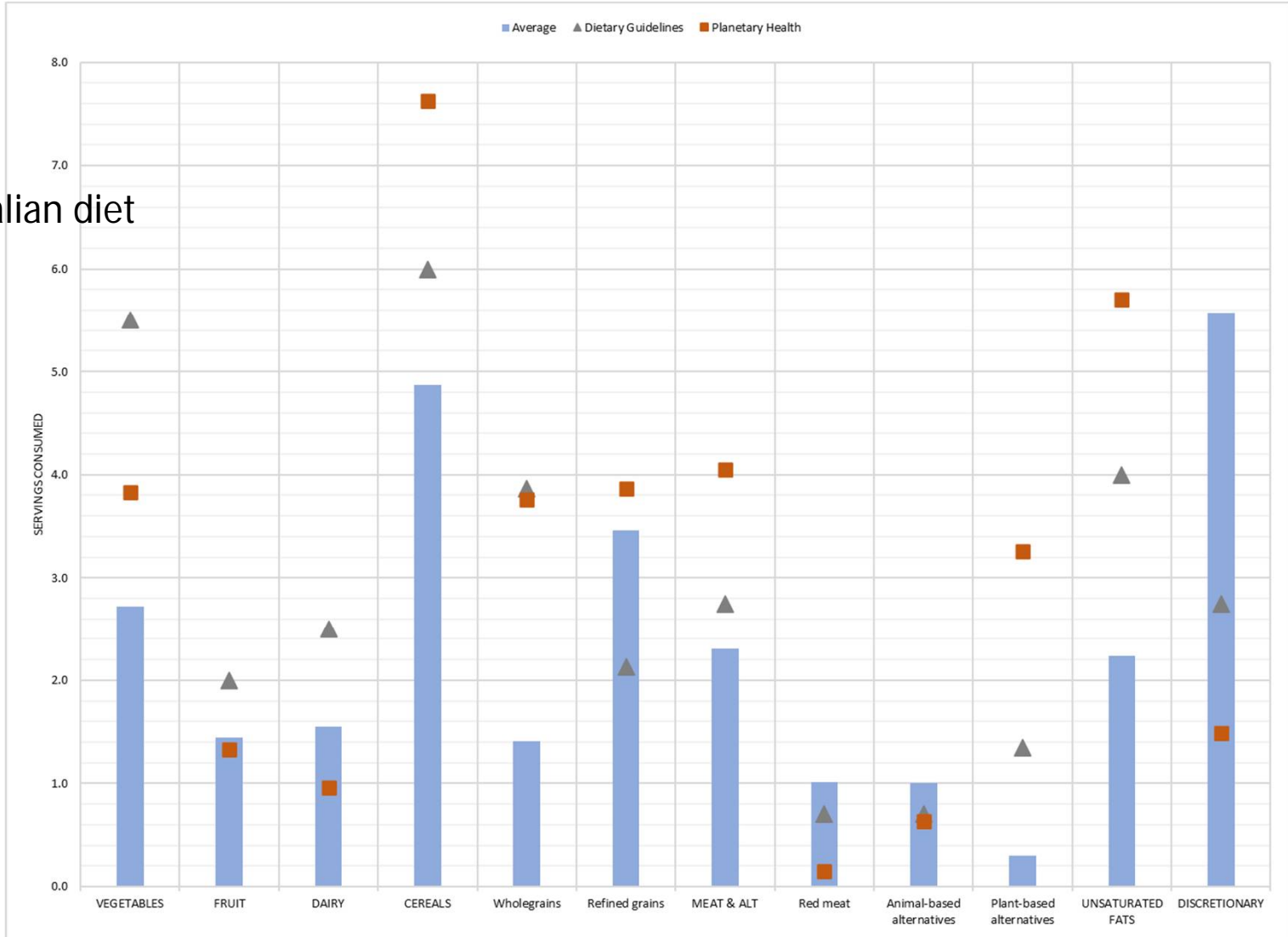
- Data from Australian Nutrition and Physical Activity survey 2011-12
- Dietary intake data collected via 24-hour recall
- Limited it to adults aged 19-50 years (n=5920)
  - largest adult age group, comprising 55.2% of the adult sample

\*Paper in preparation. Authors: Gilly Hendrie, Megan Rebuli, Danielle Baird, Genevieve James-Martin, Brad Ridoutt (CSIRO), Anita Lawrence (Uni Melbourne)

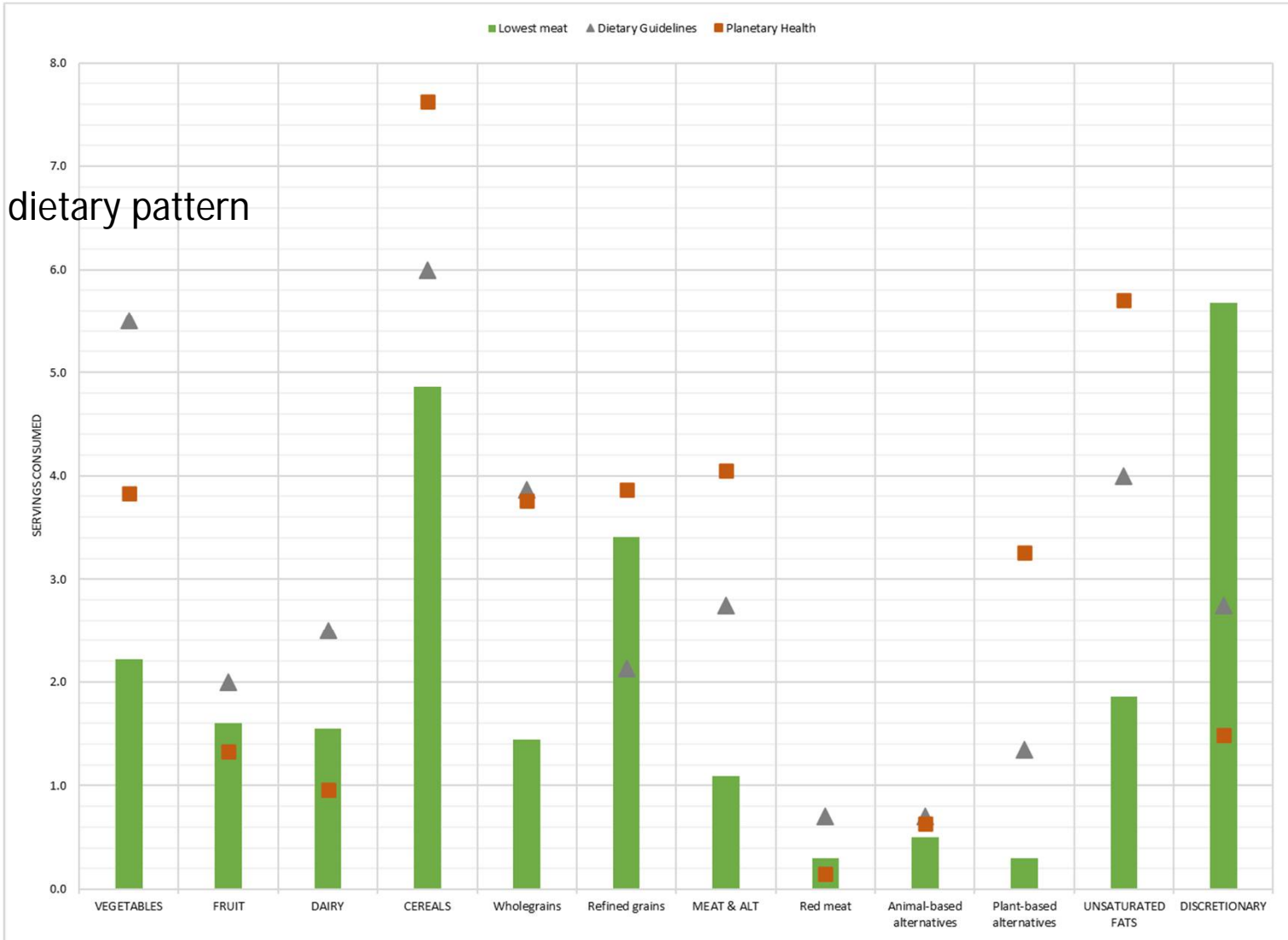
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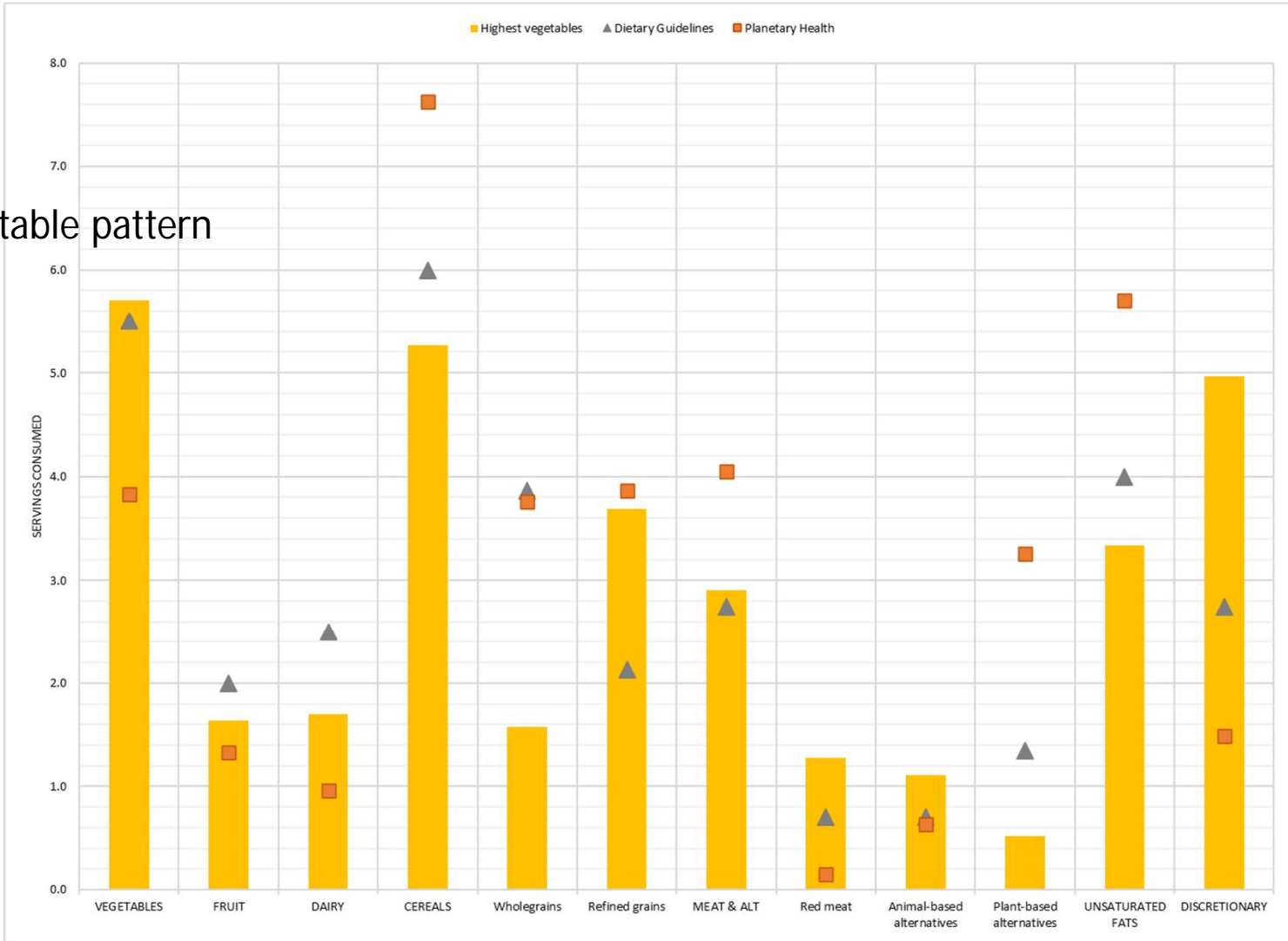
## Average Australian diet



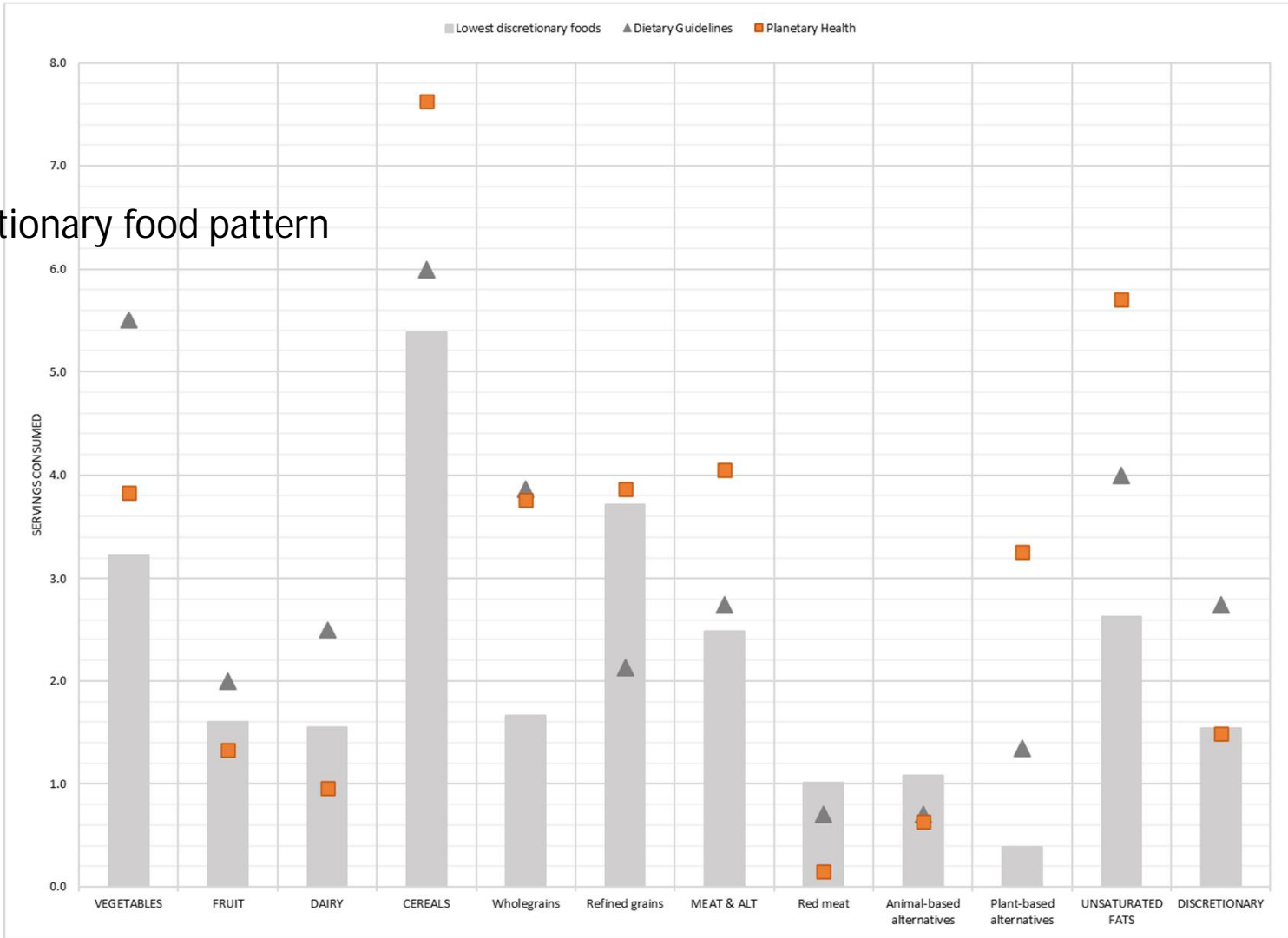
Lowest meat dietary pattern




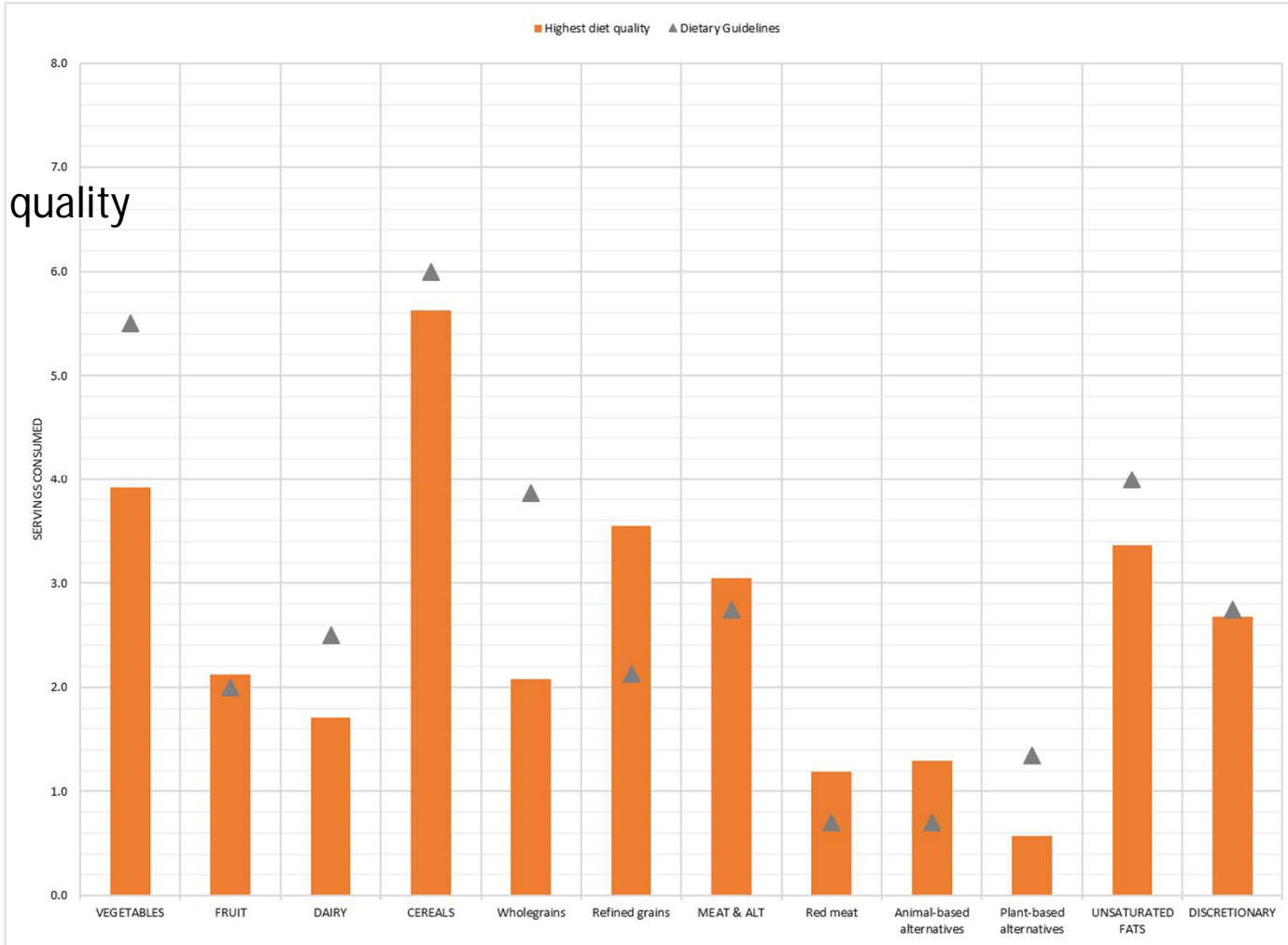
■ Highest vegetable pattern



Lowest discretionary food pattern



 Highest diet quality



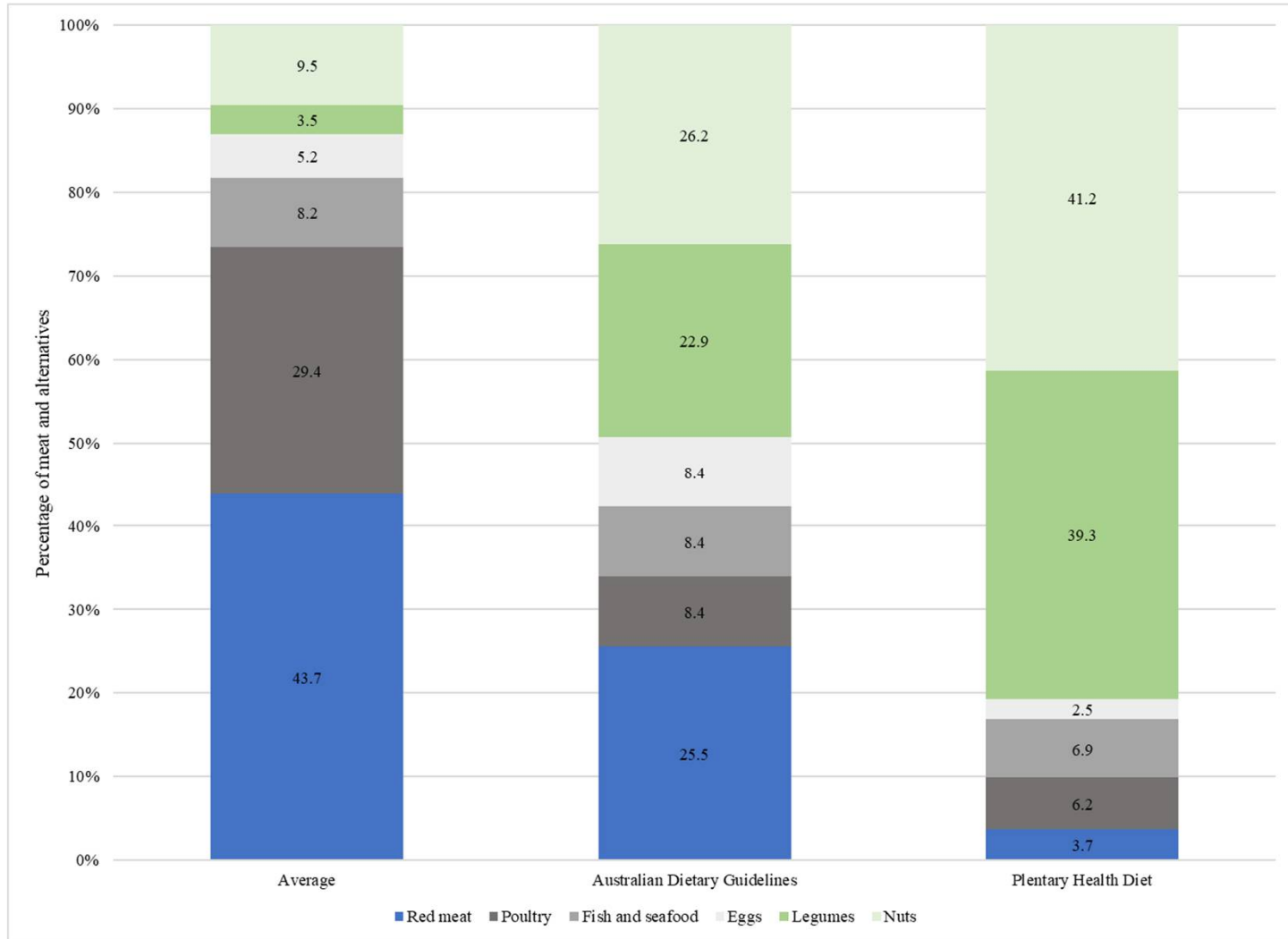


## Summary of dietary pattern analysis

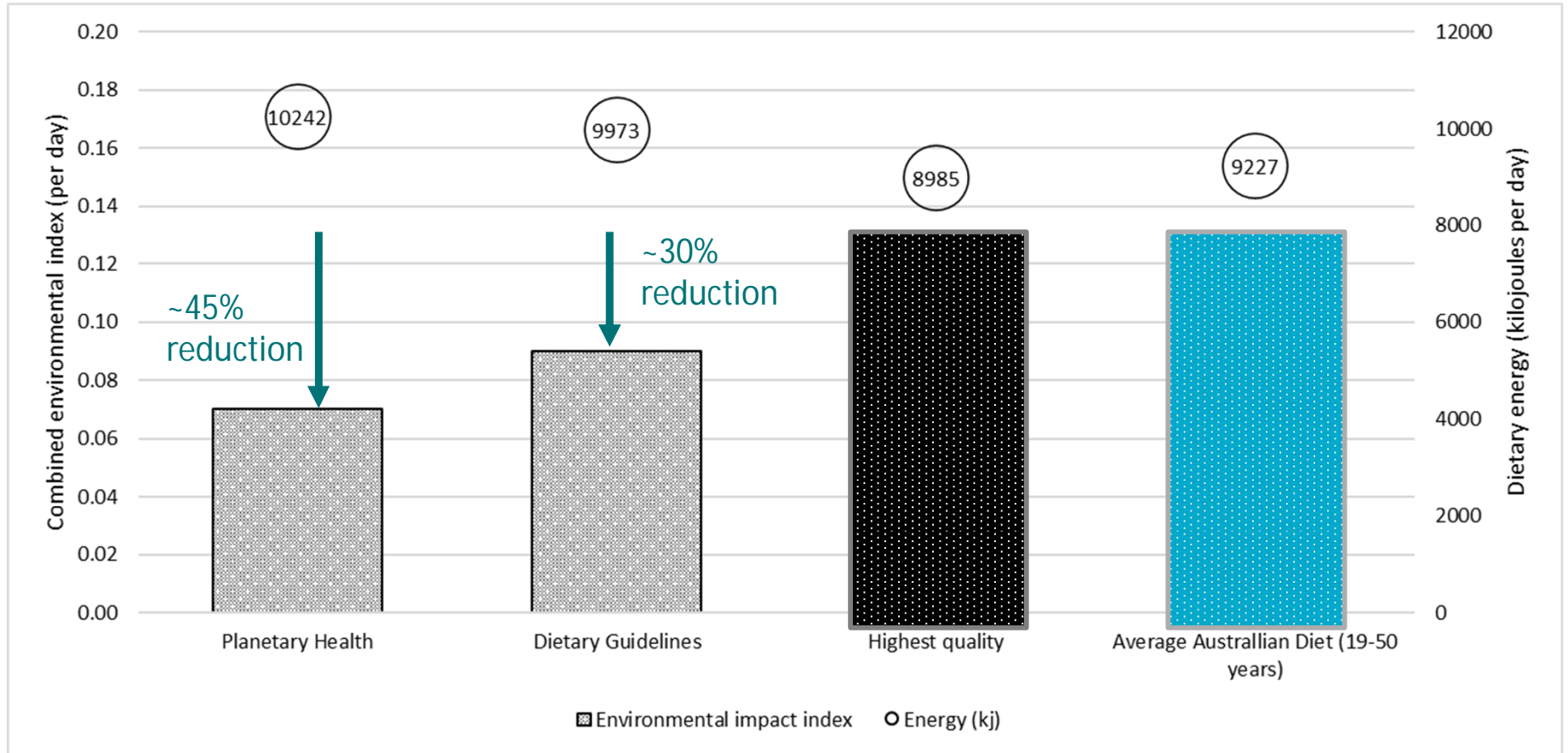
- Australians diets are low in vegetables, wholegrains and unsaturated fats, and we overconsume discretionary foods.
- Australians aren't achieving food group intake targets of Dietary Guidelines, or the Planetary Health Diet.
- Focusing on reducing one aspect of diet doesn't necessarily means a healthier dietary pattern overall.

## Importance of variety

- Variety is promoted throughout the Australia Dietary Guidelines
- Promote a variety of *“different types and colours”* of vegetables and *“the wide variety of foods”* within the meat and alternatives group.
- The average Australian diet does not exceed the total amount of serves of lean meat and alternatives recommended in the Dietary Guidelines or Planetary Health Diet.
  - What about variety within meat and alternative choices?



\*Average = 2.3 serves of meat and alternatives; ADG = 2.75 serves; PHD = 4.0 serves of meat and alternatives



## Key learnings

- Regardless of the benchmark used for comparison, Australians diets are low in vegetables, wholegrains and unsaturated fats, and we overconsume discretionary foods.
- National guidelines need to consider current food preferences to ensure guidelines are as realistic and practical to adopt.
- Dietary guidelines need to be adopted by as many people as possible for the health and environmental benefits to be realised.

## Key learnings

- Inclusion of environmental sustainability in FBDGs is often focused on 'what'. Few guidelines address how dietary changes can be made, or provide quantified advice for implementing a healthier, more sustainable diet.
- Developing dietary advice can be difficult as there are trade-offs between food, health and the environment that need consideration. These research findings support a whole of diet approach as opposed to a single focused approach.