The Ian Potter Foundation

Australian Academy of Science

UNSW AUSTRALIA

Eating more sustainably by trimming off the excess—what about discretionary foods?

Never Stand Still | Faculty of Engineering | School of Civil and Environmental Engineering

Michalis Hadjikakou
Sustainability Assessment Program,
Water Research Centre
University of New South Wales
Sydney, Australia

SUSTAINABILITY ASSESSMENT PROGRAM

water@UNSW water research centre

ISEE 2016, Washington D.C., 27 June 2016

1. Diets and sustainability

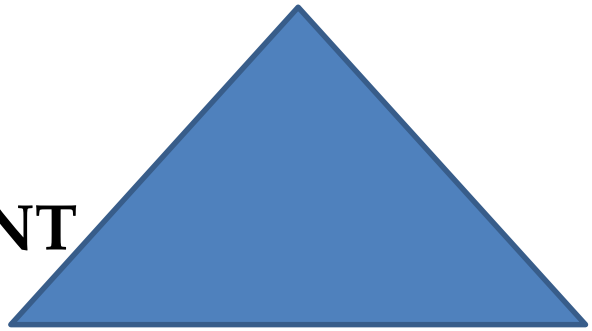
- Well-established link between diets and environmental impact (Goodland, 1997; White, 2000)
- Current consumption patterns also unsustainable from a health perspective (see SDGs)
- Environmental concerns in national dietary guidelines (Netherlands, Sweden, Brazil, USA)
- Implications for food security and inter-generational equity – concept of planetary health (Whitmee et al., 2015)

2. Optimising diets for health & environment

- Optimising for *min* (cost, environmental impact) and *max* (nutrition) (Gephart et al., 2016; Stigler, 1945; Wilson et al., 2013)

LEAST COST

LEAST ENVIRONMENT IMPACT



BEST NUTRITION

- Animal protein comes at a high environmental cost
- **BUT often complex and unrealistic recommendations**
- Can we make this simpler?

3. Discretionary foods

- Concept of discretionary consumption in economics – non-essential expenditure (Druckman and Jackson, 2010)

- Australian Dietary Guidelines distinguish between discretionary and non-discretionary foods (ABS, 2014)
- Overconsumption of discretionary foods in Australia, especially amongst low income groups (Fayet-Moore et al., 2016; Watson et al., 2016)
- *What are their environmental impacts?*

4. Environmental impacts of discretionary foods

- Limited existing research but some evidence that the environmental impact could be significant:

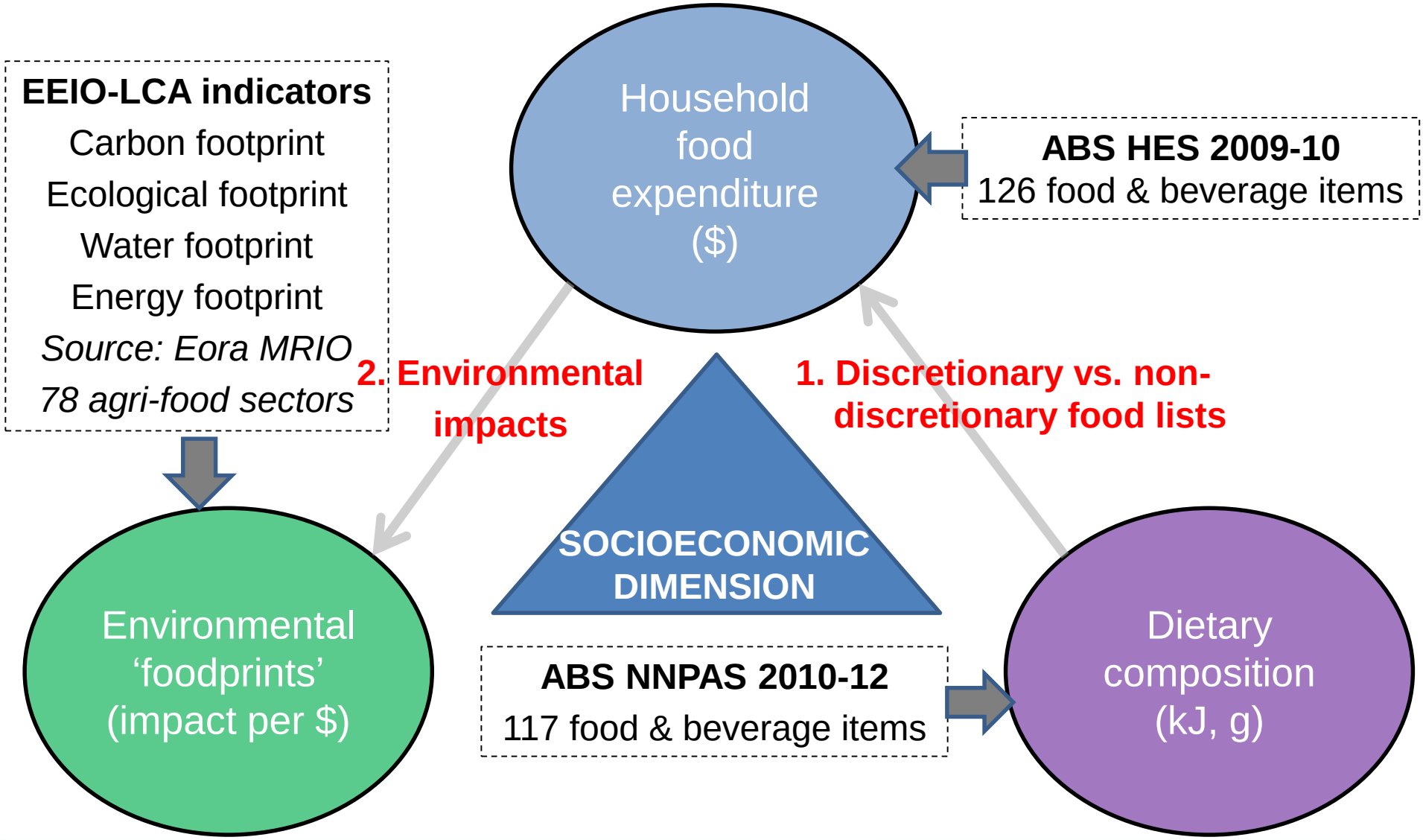
- Non-core foods - 27% of diet-related carbon emissions (Hendrie et al., 2014)

- Sweets and snacks - 1/3 of life cycle energy (Carlsson-Kanyama et al., 2003)

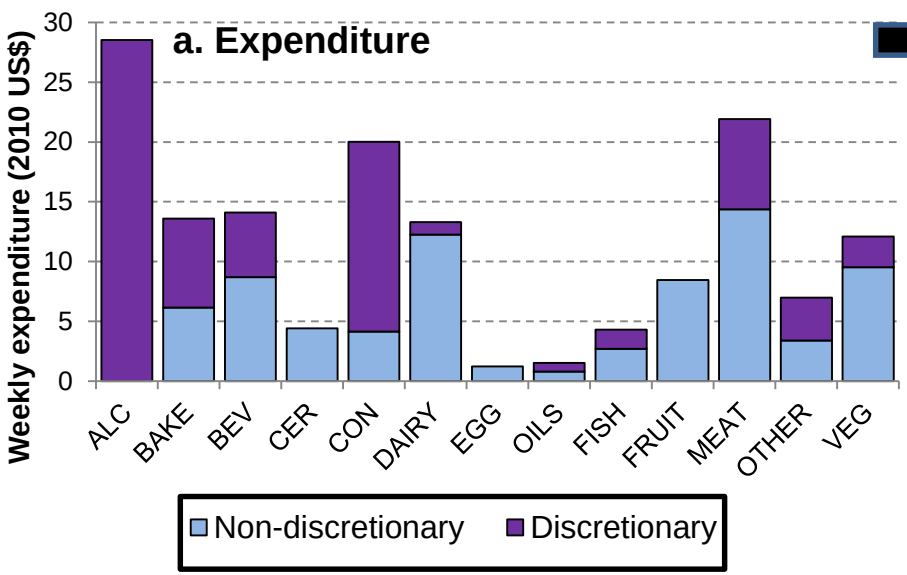
- Significant 'luxus consumption' in the US (Blair and Sobal, 2006)

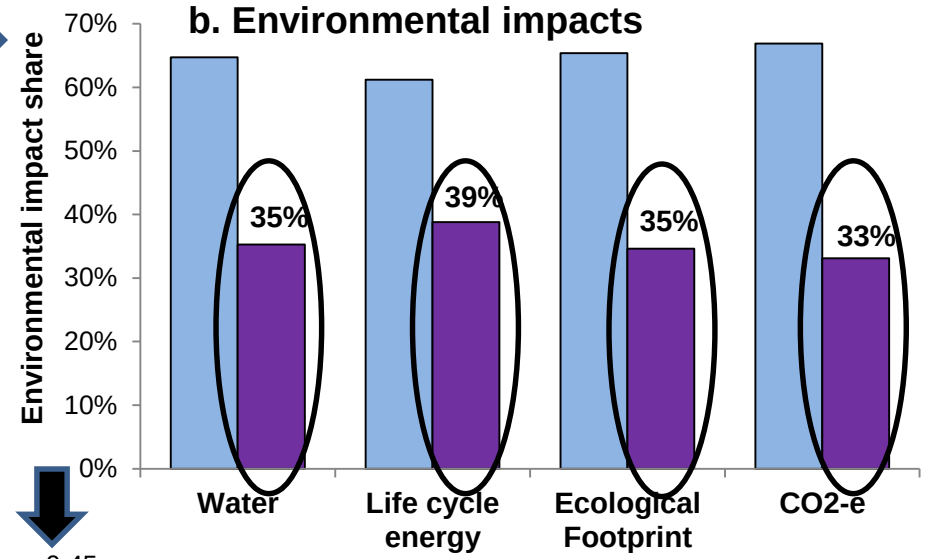
- Discretionary versus non-discretionary classification allows more rigorous assessment
- BUT no comprehensive study looking at multiple environmental impacts across different socioeconomic groups

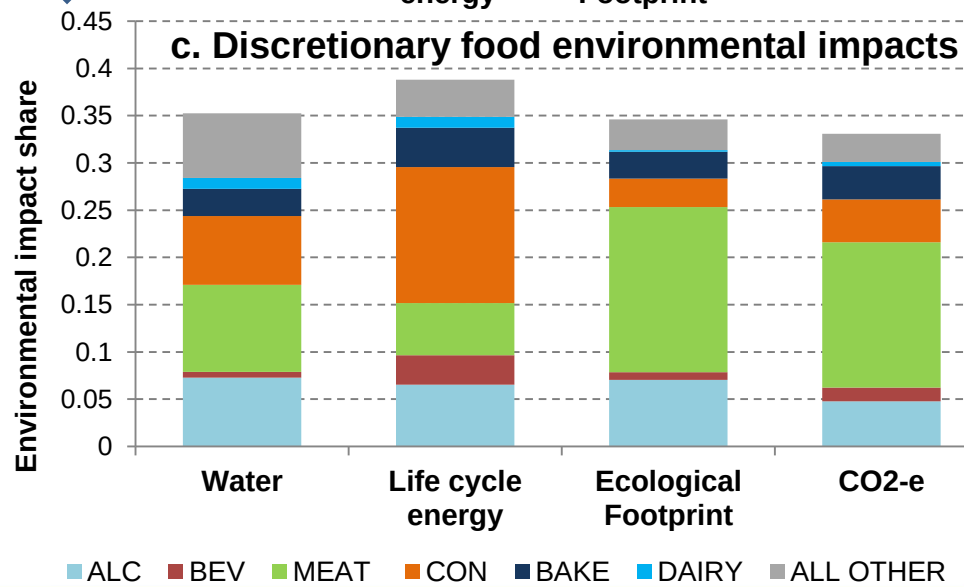
5. Data and methods



6. Results – average discretionary food impacts



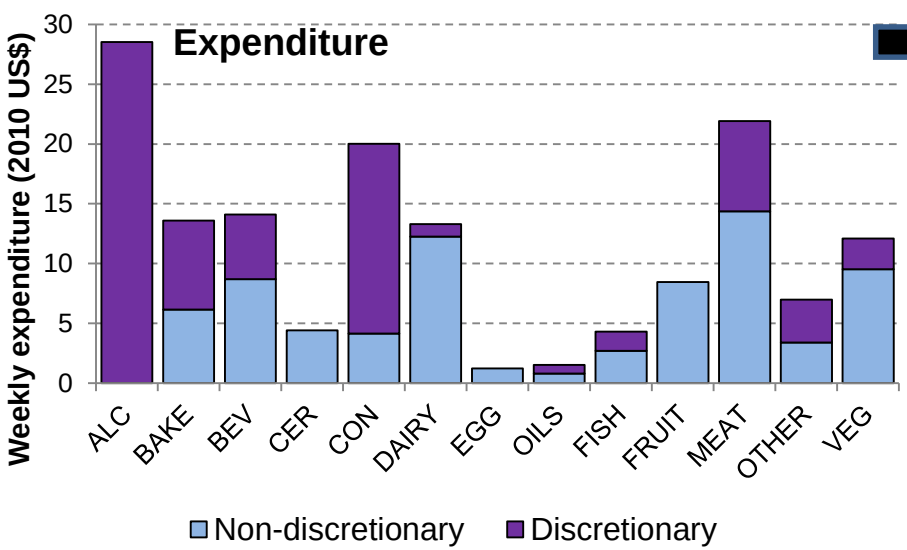


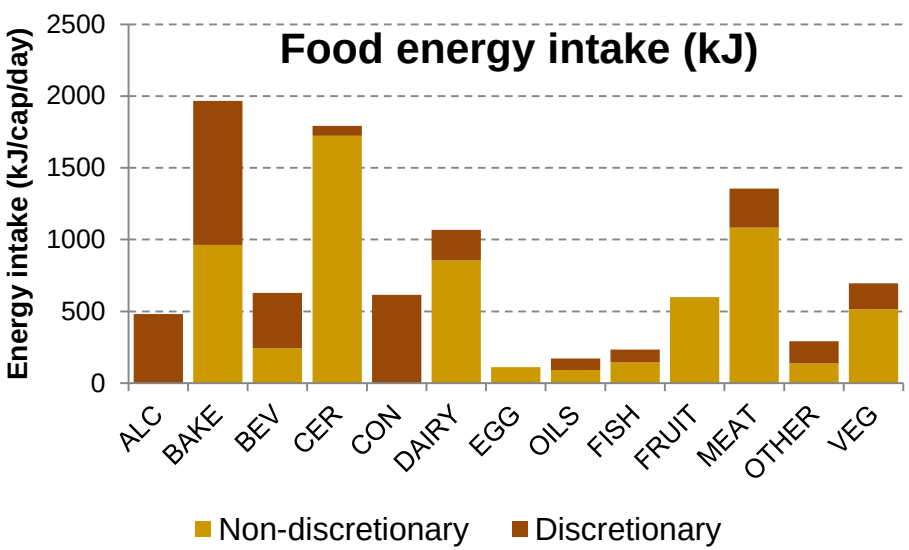


- Discretionary foods have significant environmental impacts
- Processed meats, confectionery and alcohol dominate

Hadjikakou, M. (in review) Trimming the excess: environmental impacts of discretionary foods and sustainability consumption in Australia

7. Results – less discretionary food impacts





Total energy intake = 10 006 kJ/cap/day

Average recommended = 8700 kJ/cap/day

Excess intake = 1306 kJ/cap/day

Only about 325 calories!

Hadjikakou, M. (in review) Trimming the excess: environmental impacts of discretionary foods and sustainability consumption in Australia

Assuming this can be reduced through elimination of discretionary foods….

Total water footprint = **-14%**

Total energy footprint = **-16%**

Total ecological footprint = **-14%**

Total carbon footprint = **-13%**

Plus further substitutions…

8. Discussion points

- Discretionary foods have significant environmental impacts
- Substitution with non-discretionary foods usually leads to lower environmental impacts
- 'Food optimisation' studies useful but do not adequately tackle this issue
- Discretionary versus non-discretionary argument provides a more nuanced health-driven conceptual framework
- Challenges current *modus operandi* of the food system by re-emphasising non-discretionary food provision

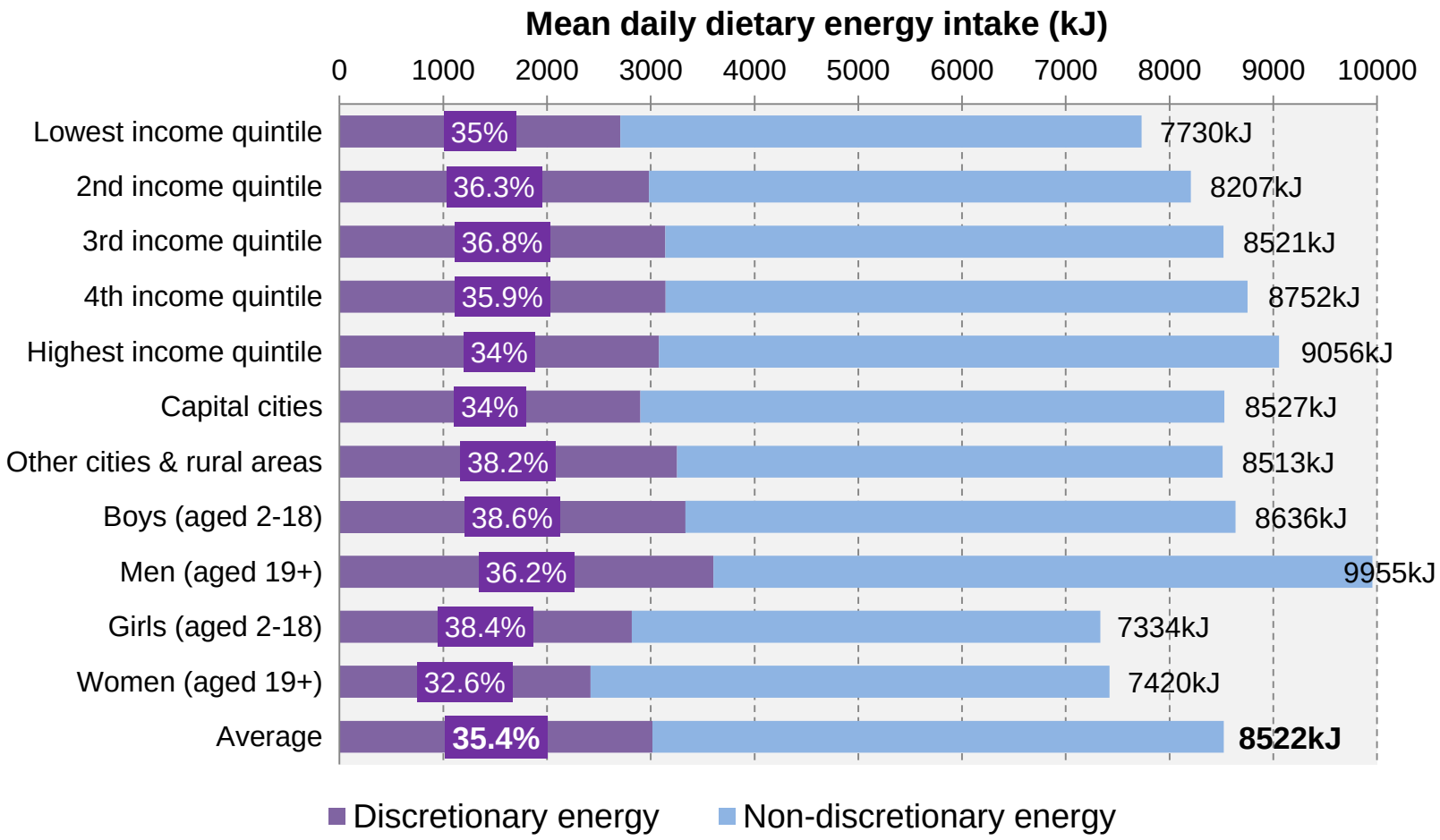
9. Implications and future research

- Less meat plus less discretionary foods - health stealth approach (Hoek et al., 2014)
- Modelling consequences of reduced production and consumption of discretionary foods
- Need to stop these trends fully manifesting themselves in the developing world
- Combination of short-term and longer-term solutions
- Reconsider the role of the food industry
- Issue fundamentally linked to ecological economics principles (Daly, 2007; Jackson, 2009)

Hadjikakou, M. & Wiedmann, T. (in press) Shortcomings of a growth-driven food system in *Handbook on Growth and Sustainability*, eds. P. Victor & B. Dolter, Edward Elgar Publishing, Cheltenham, UK

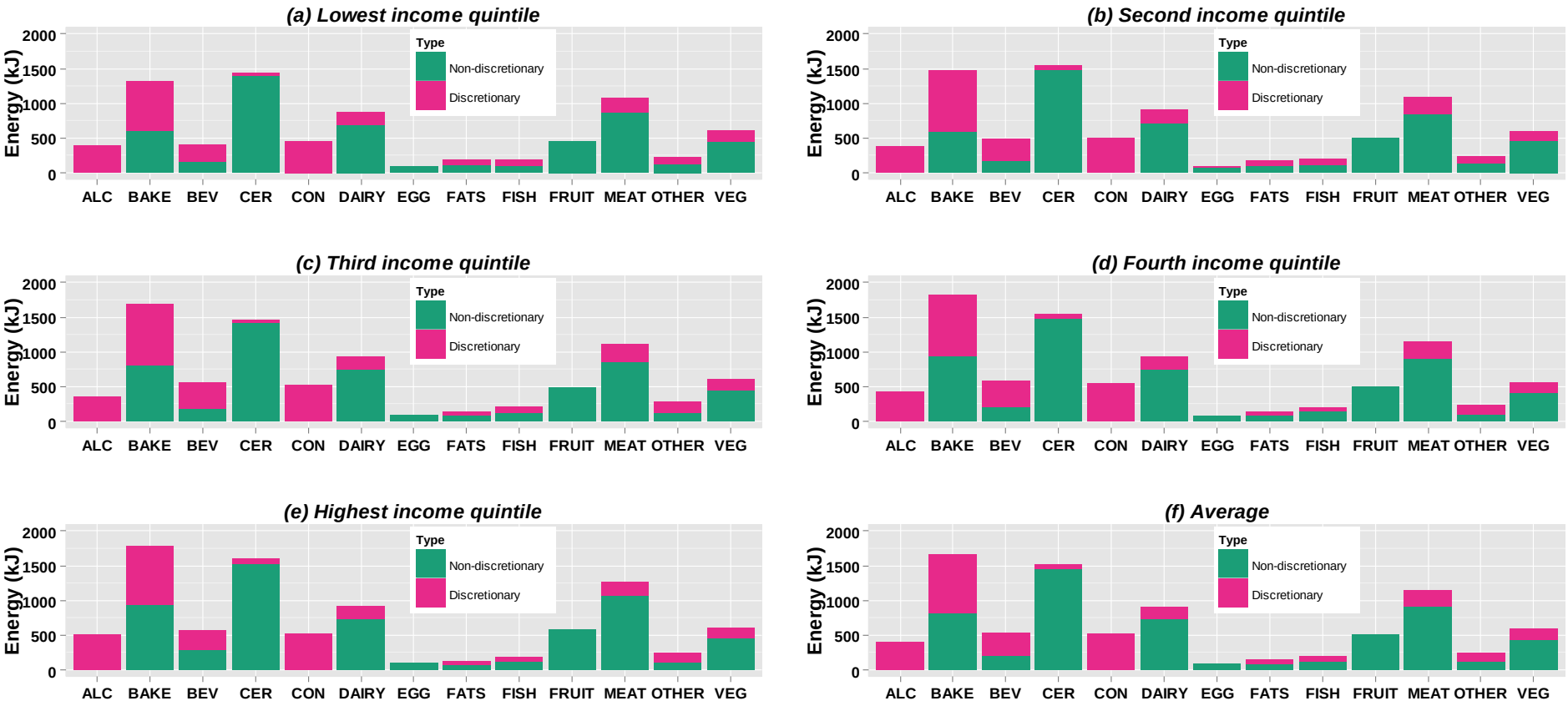
THE END

Appendix – dietary energy intake across income quintiles



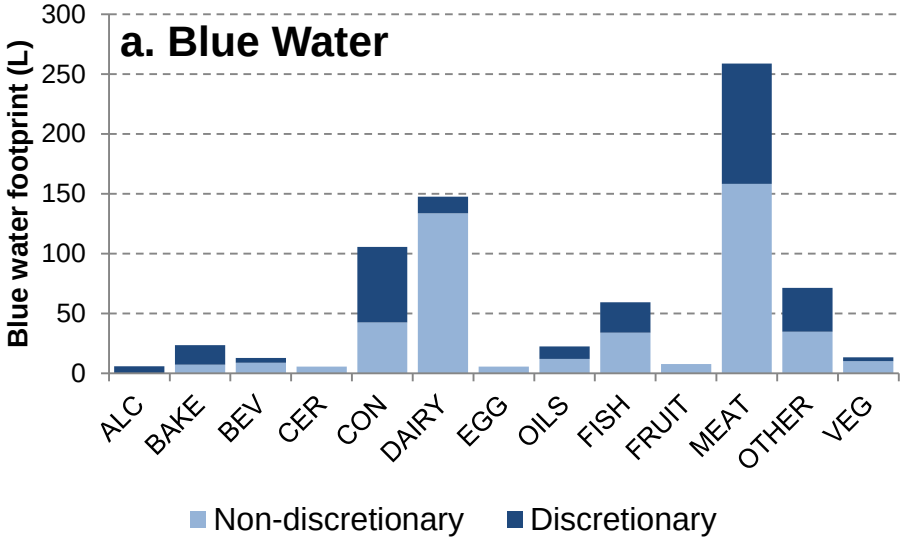
Hadjikakou, M. (in review) Trimming the excess: environmental impacts of discretionary foods and sustainability consumption in Australia

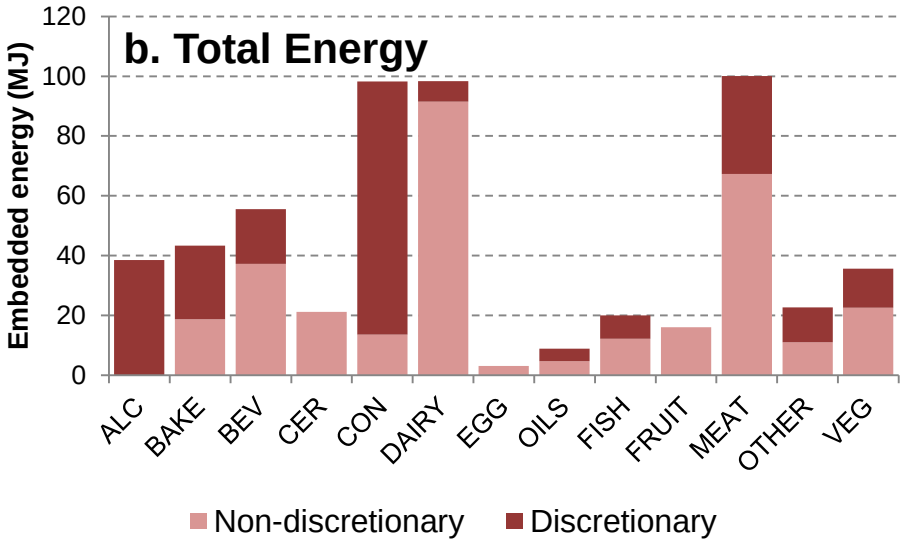
Appendix – dietary energy intake across income quintiles

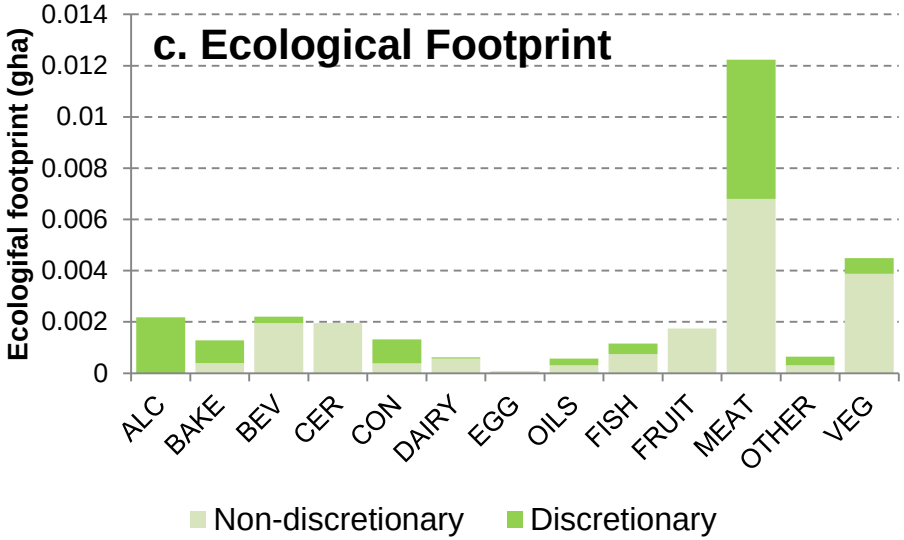


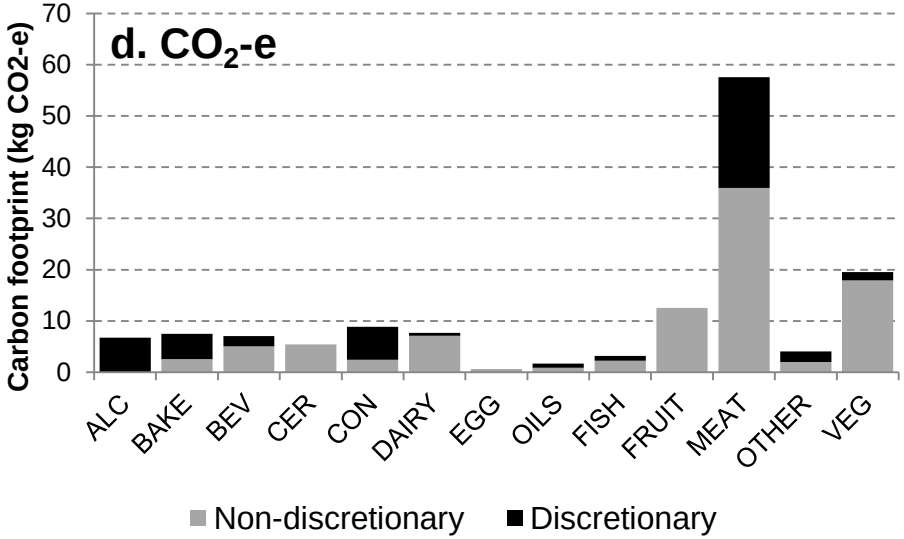
Hadjikakou, M. (in review) Trimming the excess: environmental impacts of discretionary foods and sustainability consumption in Australia

Appendix – average discretionary food impacts









Hadjikakou, M. (in review) Trimming the excess: environmental impacts of discretionary foods and sustainability consumption in Australia

Australian context

- Overweight and obesity now at 63% (AIHW, 2012)
- Direct costs of diet-related disease at $21bn a year (Colagiuri et al., 2010)
- Overconsumption of processed foods, especially by poorer socioeconomic groups (Dixon and Isaacs, 2013)
- Health and sustainability not compatible with ‘productionist’ National Food Plan (Caraher, 2013; Trevena et al., 2014)
- Unhealthy diets can be sustainable and healthy diets can be unsustainable if everyone was eating that way
- Vegetarian and vegan diets still uncommon (1-2% of population) (Lea et al., 2006; Ruby, 2012)

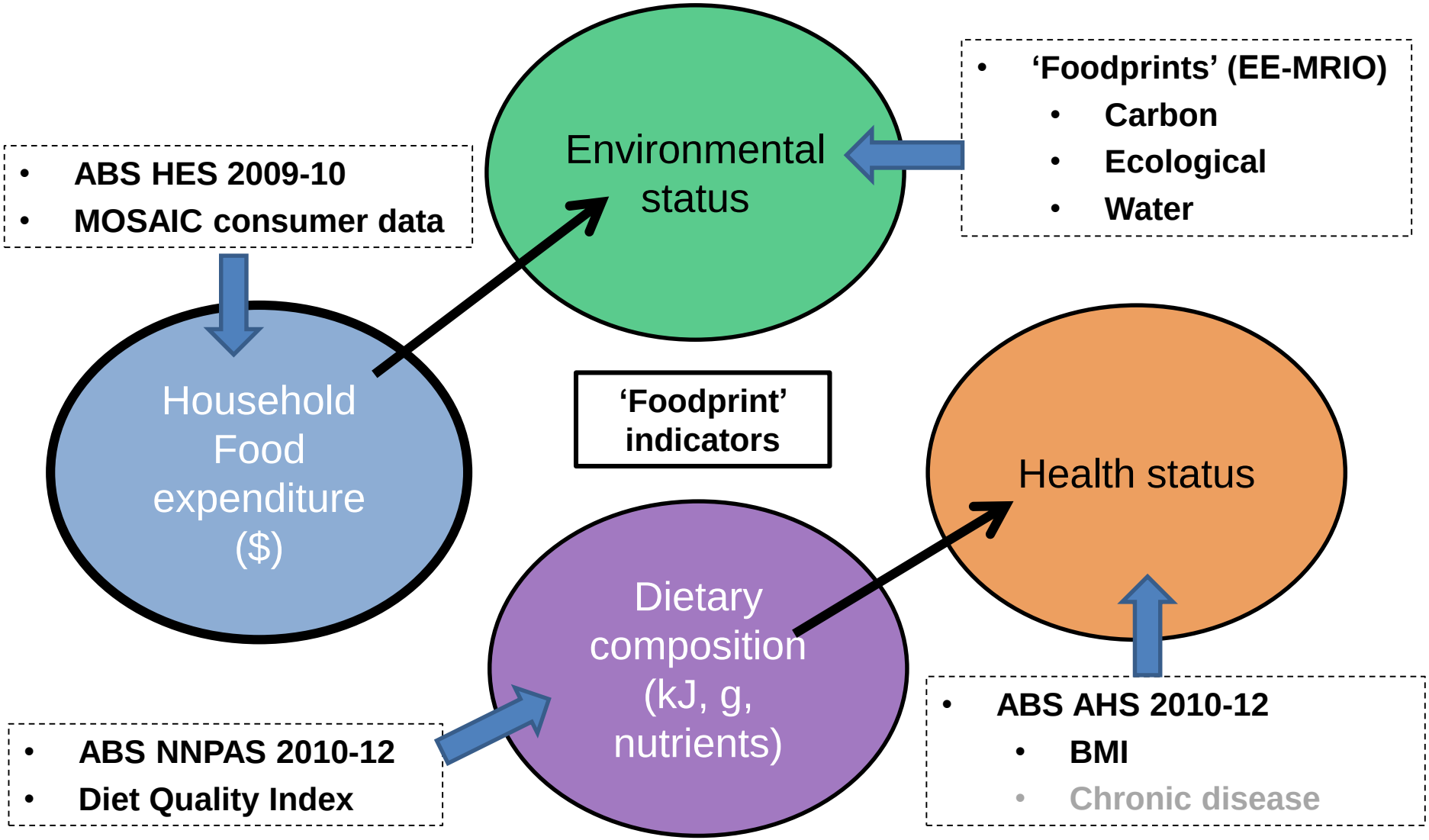
Motivation - Current AAS project



AIM : Can everyone eat healthily AND sustainably?

- Avoiding burden shifting
- Account for spatial and socioeconomic diversity
- Develop ‘foodprint’ indicators
- Develop bespoke dietary recommendations
- Test recommendations and develop scenarios

Methods and datasets



IElab as the hub for research on diets, health and sustainability