Rethinking Food System Resource Use & Distribution To Support Planetary Health & Boundaries:

Wasted Food and Meat Consumption

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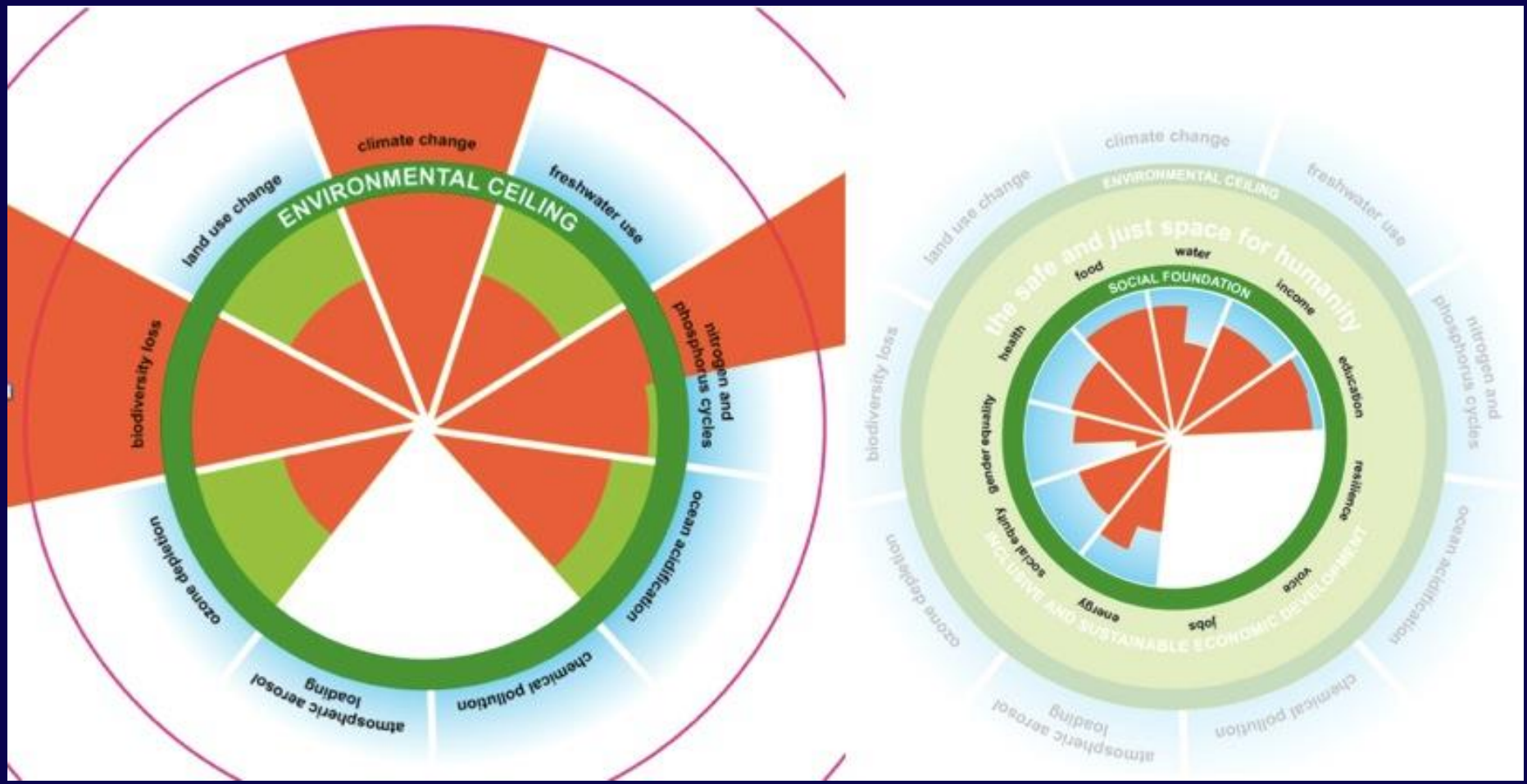
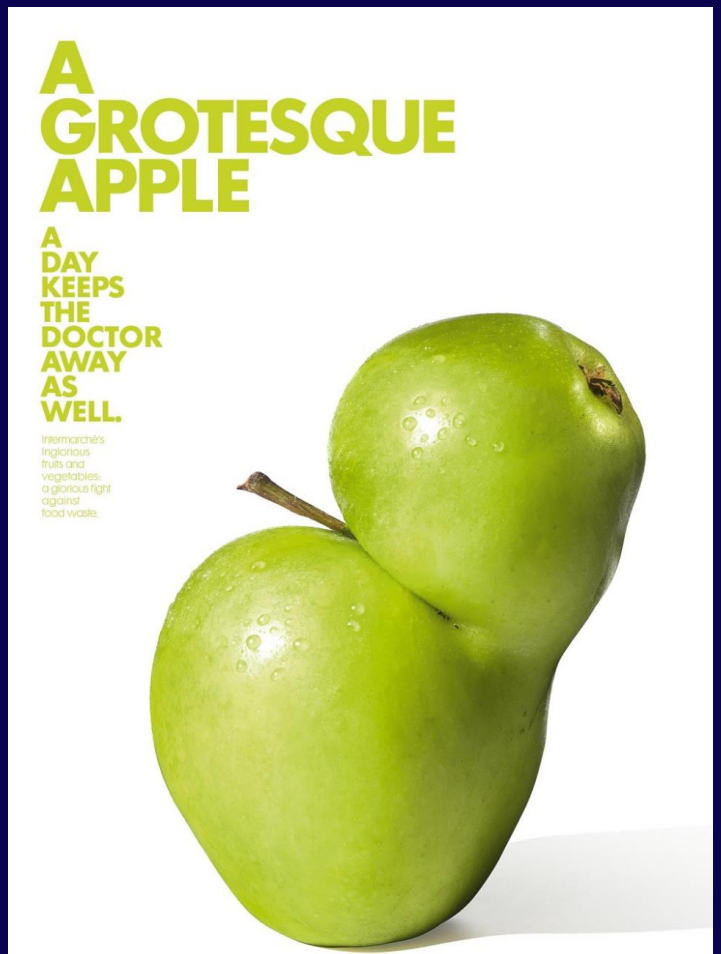
“We cannot get into the doughnut’s safe and just space without tackling the distribution of global resource use in both consumption and production. “ -Kate Raworth



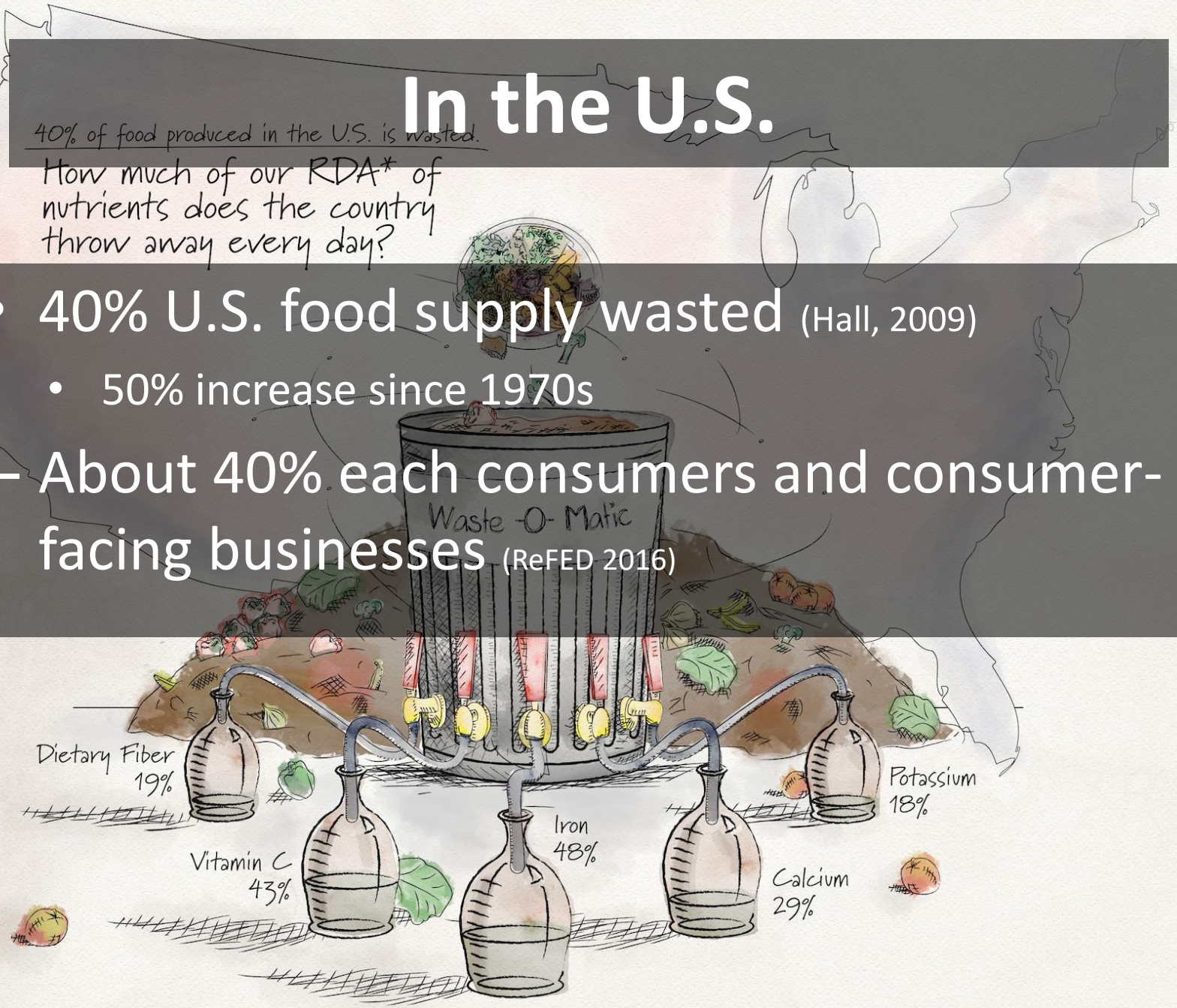
WASTED FOOD & PLANETARY/HUMAN HEALTH



Wasted Food
Greenhouse Gas Emissions

UN FAO 2013

In the U.S.

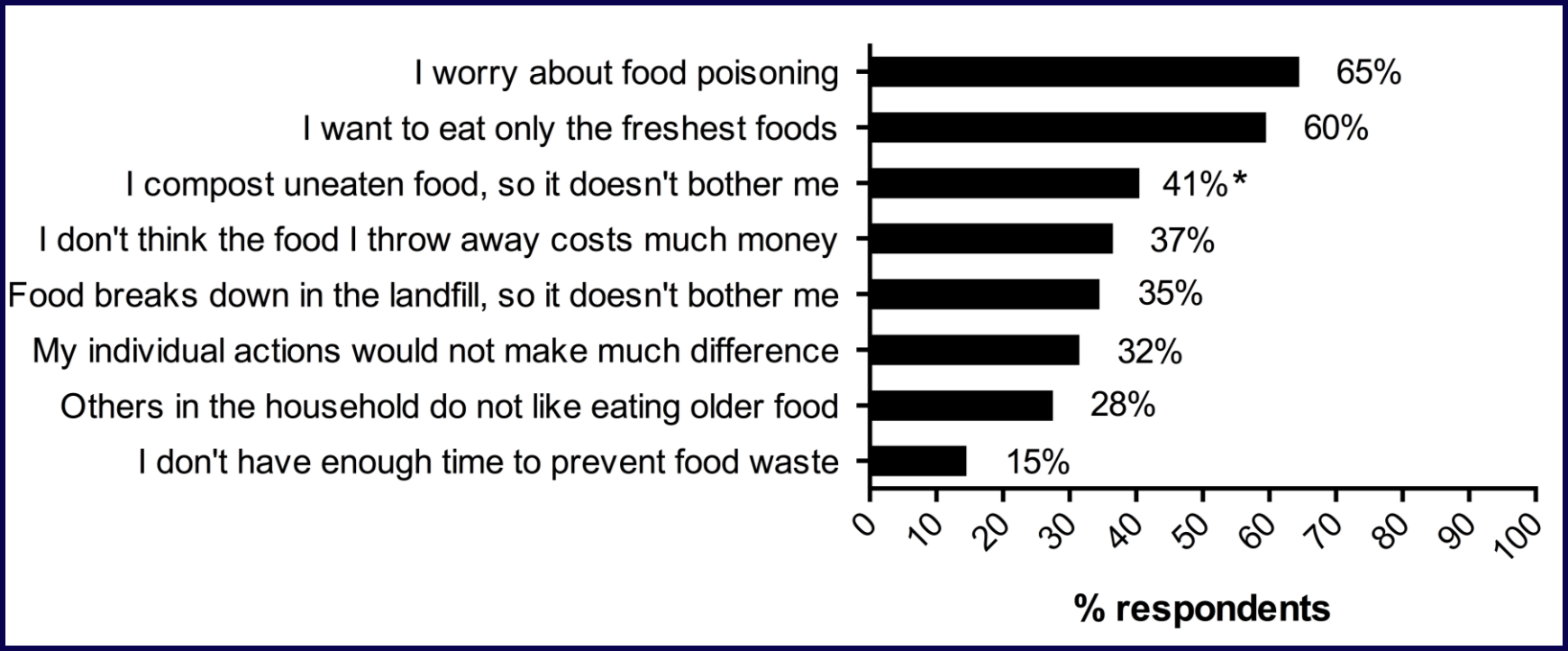


- 40% U.S. food supply wasted (Hall, 2009)
  - 50% increase since 1970s

– About 40% each consumers and consumer-facing businesses (ReFED 2016)

Spiker, Hiza, Siddiqi, & Neff. 2017. Wasted Food, Wasted Nutrients: Nutrient Loss from Wasted Food in the United States & Comparison to Gaps in Dietary Intake. *JAND.*

Why do consumers discard food?



Concerned about food safety and freshness.

Neff, Spiker, Truant 2015

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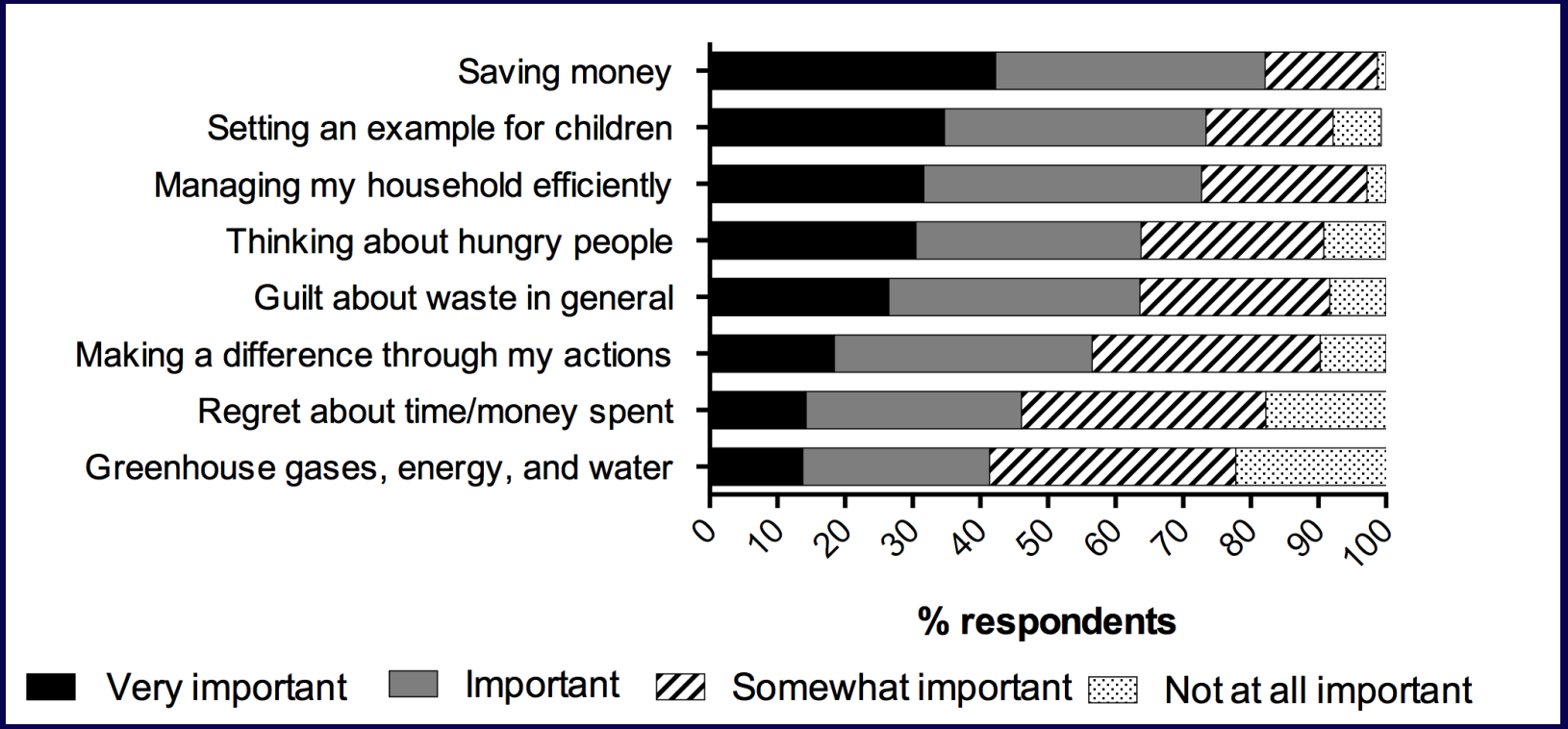
What Motivates Wasting Less?



- Money is top motivator
  - $1,500 average family of 4 (Buzby, 2014)
- Environmental concerns rank lowest

Neff, Spiker, Truant. Wasted food: US consumer awareness, attitudes and behaviors, *PLOS ONE* 2015

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Setting Targets

- US: pledged 50% reduction by 2030 (USDA, EPA, 2015)
- Systems approach - key relevant features
  - Across food chain, complexity, interactions among components/factors, attention to unintended consequences, feedback loops (not always co-benefits)
- UK: Comprehensive interventions at consumer level, education, business changes, policy, all informed by research, evaluation

  → 21% reduction in avoidable consumer waste of food, 5 years (WRAP 2013, 2014)

Public Health Co-Benefits of Addressing Wasted Food

- Nutrition
  - Behaviors benefit both, e.g., avoid excess, planning
  - Packaging – size, frozen, etc.
  - *BUT: processed*
- Food Safety
  - Learn better "home economics" skills
  - *BUT: "Just eat it"*
- Food Security
  - Avoid food production impacts on resources, climate, etc.
  - Save $ -less waste, purchasing "seconds"
  - Recovered/donated food feeds people

Neff, Kanter & Vandevijvere, Reducing Food Loss & Waste While Improving the Public's Health. *Health Affairs.* 2015.


BUT: donation quality, dignity concerns
NATURE VALLEY
CRUNCHY
Oats 'n Honey
Cheerios
Cinnamon Toast Crunch
KIT
Condiments
Weight
11Kg - 11.5Kg
CAN PREP
YES

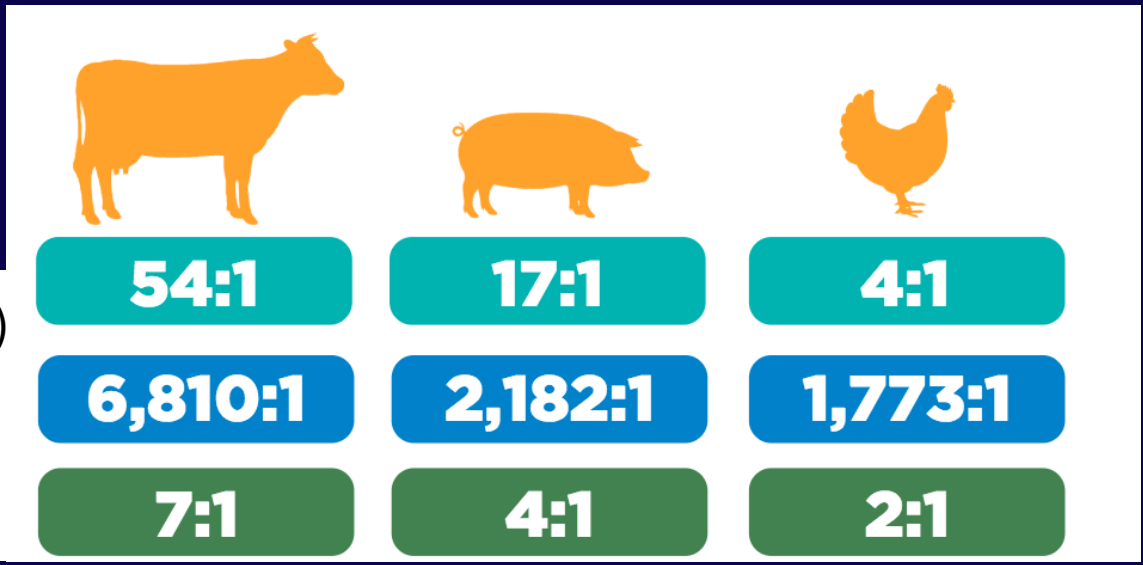
BUT: risk of "too much" appeal – lose big picture

Food recovery is not the solution to hunger OR waste

MEAT AND PLANETARY/HUMAN HEALTH

Image: wikimedia commons

Feed Conversion Ratios of Animal Source Foods



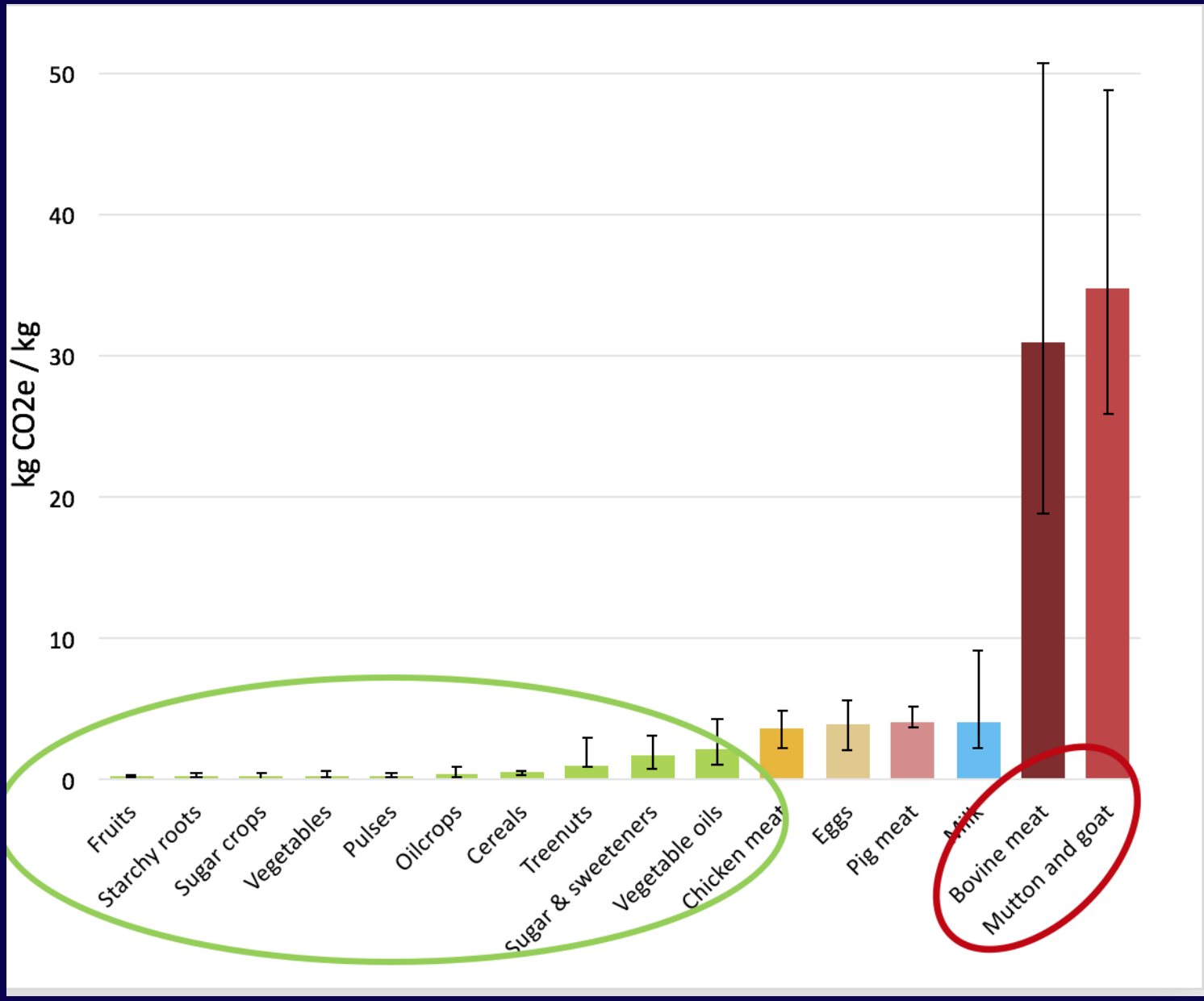
Energy (fossil fuel use : lb protein)

Water (L water : kg meat)

Feed (kg feed : kg meat)

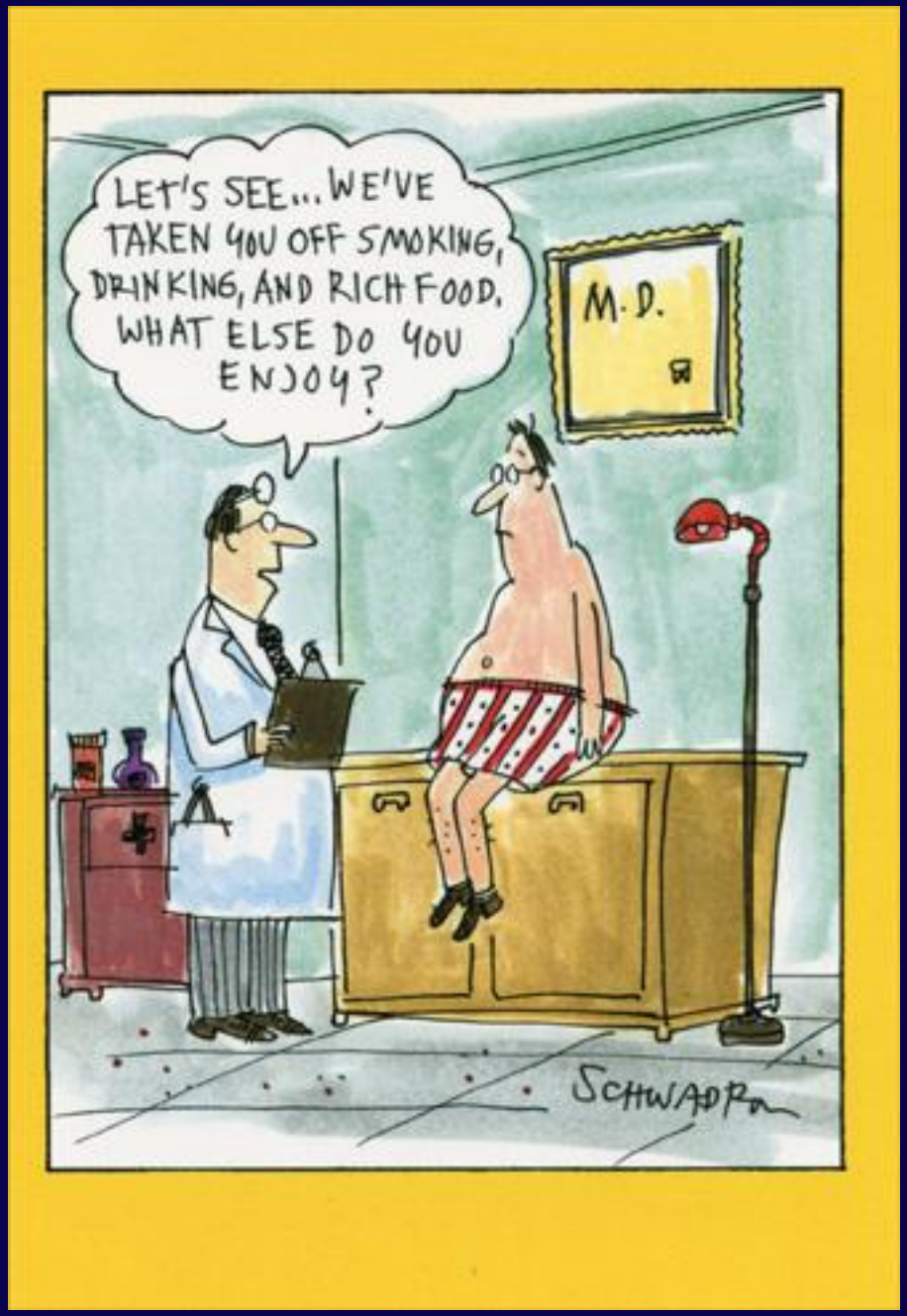
Cradle to Farmgate Impact

(Kim, Santo, Scatterday, Neff, Nachman, in progress)



Meat & Public Health

- U.S. meat consumption 20-60% above recommendations in 2015-20 DGA (Fehrenbach, Righter & Santo, 2015; DGA 2015)
- Excess meat consumption, esp red/processed (Pan et al, 2012, Sinha et al, 2009, Micha et al 2010, Kaluza et al 2012, Pan et al 2011, Vergnaud et al, 2010, Wang et al, 2015, etc.)
  - –Heart disease, stroke, T2 diabetes, obesity, some cancers
  - –Red/processed assoc w higher overall, cardiovascular and cancer mortality

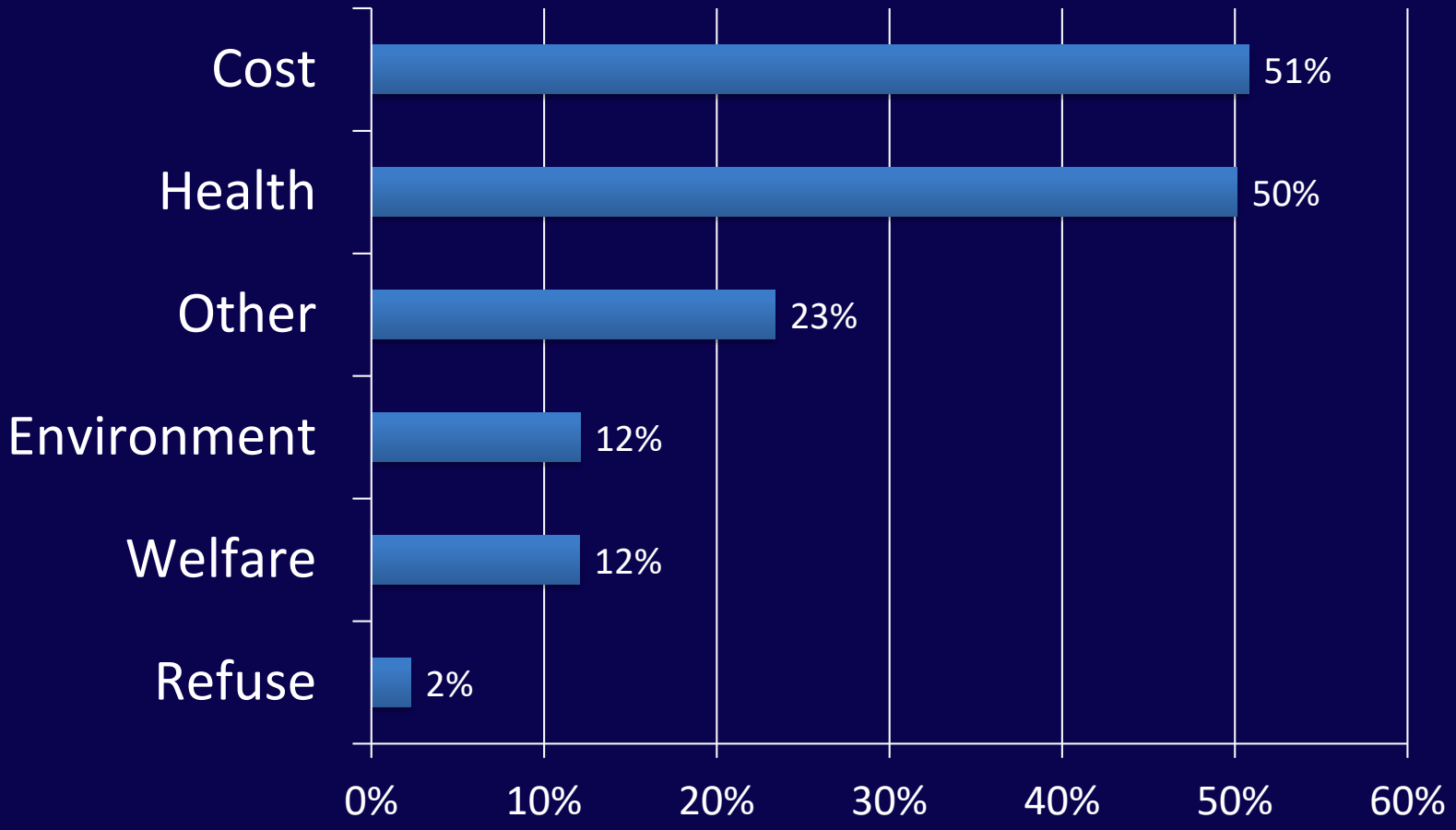


- 32% eat less meat now than 3 years ago
- Of those *not* currently reducing meat, about 1/3 want to in future

(NPR/Thomson Reuters 2015)

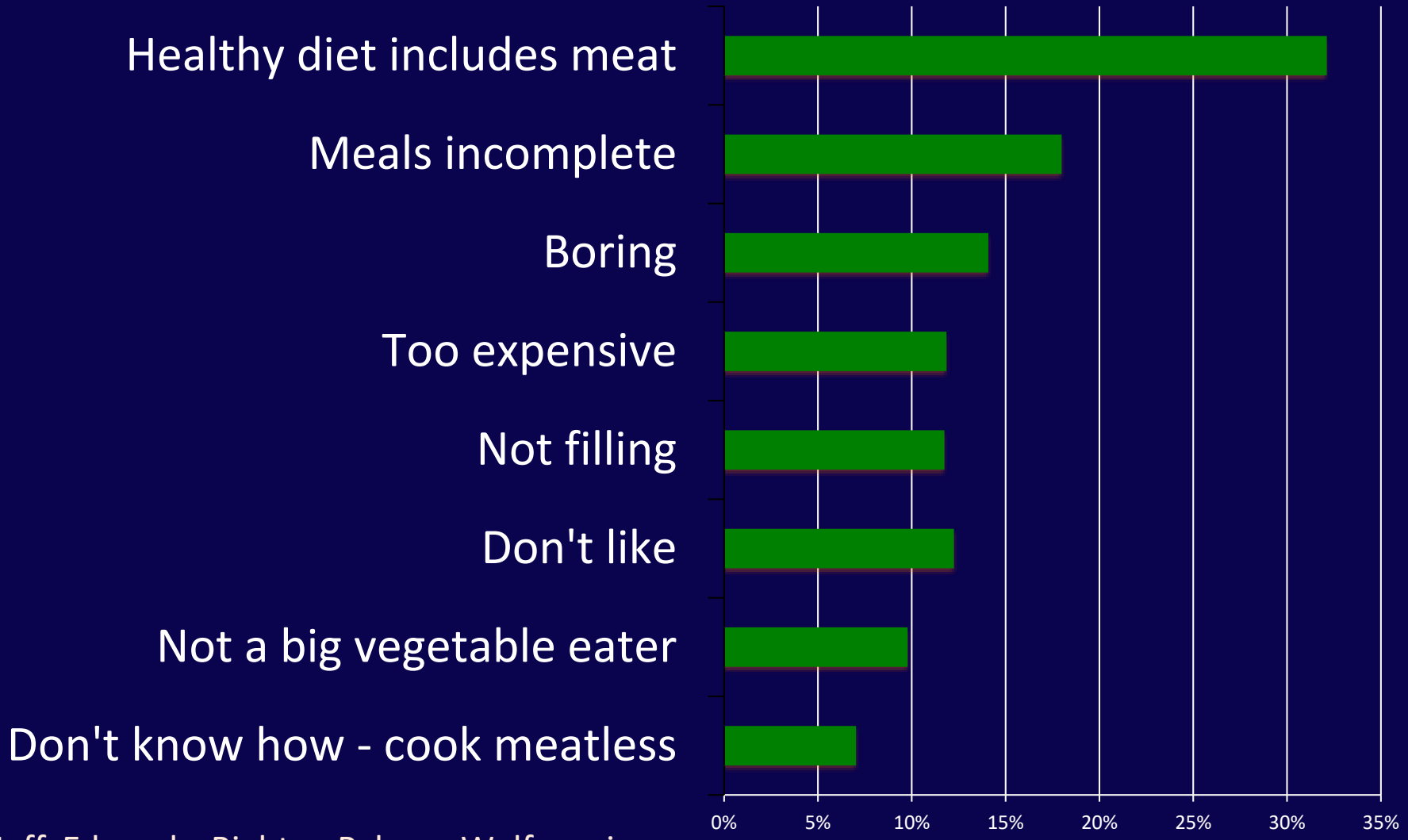
Harley Schwadron

What explains change in amount of meat you eat?



Neff, Edwards, Righter, Palmer, Wolfson, in progress

Non-Reducers: Agreement with Statements



Neff, Edwards, Righter, Palmer, Wolfson, in progress

Systems Approach to Changing Meat Consumption – Example

- Level playing field for animal products vs produce
  - Regulations on meat production: clean air/water; antibiotics
  - Address disparate government support
  - Carbon tax policies that account for livestock emissions…?

Roles for Nutrition Educators

- Advice - Waste
  - Challenge “Fresh” and overly precautionary discarding
  - Encourage uses of leftovers, spare ingredients
  - Encourage waste tracking
- Advice - Meat
  - Challenge ideas like: “A healthy diet includes meat”
  - Meats not all same; replacements matter too
  - Convenience, cost saving
- Engage in policy efforts on wasted food, meat, food security/poverty, and environment

Conclusions

- Diet pushing us to the edge of planetary and social boundaries
  - We must rethink food system resource use, distribution
  - Cut waste of food and meat consumption
- Dietary choices guided less by environmental or social concern than nutrition and economics
  - Critical co-benefits exist
- Nutritionists uniquely positioned to use systems thinking, build on co-benefits, help push us back into the safe & just space for humanity

Thank you!

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The Johns Hopkins Center for a Livable Future

F*ood systems & public health* www.jhsph.edu/clf

Research, policy, communications, education

Opportunities for students include:

- *Doctoral fellowships*
- *Food systems certificate*
- *MPH concentration*