



# Towards a ‘Great Food Transformation’: Equity, values and the future of food

“One Health and the Future of Food”  
One Health One Planet 3<sup>rd</sup> Annual Symposium  
14 March 2019

# What are sustainable diets?

“ Sustainable diets are those diets with low environmental impacts, which contribute to food and nutrition security and to healthy life for present and future generations.

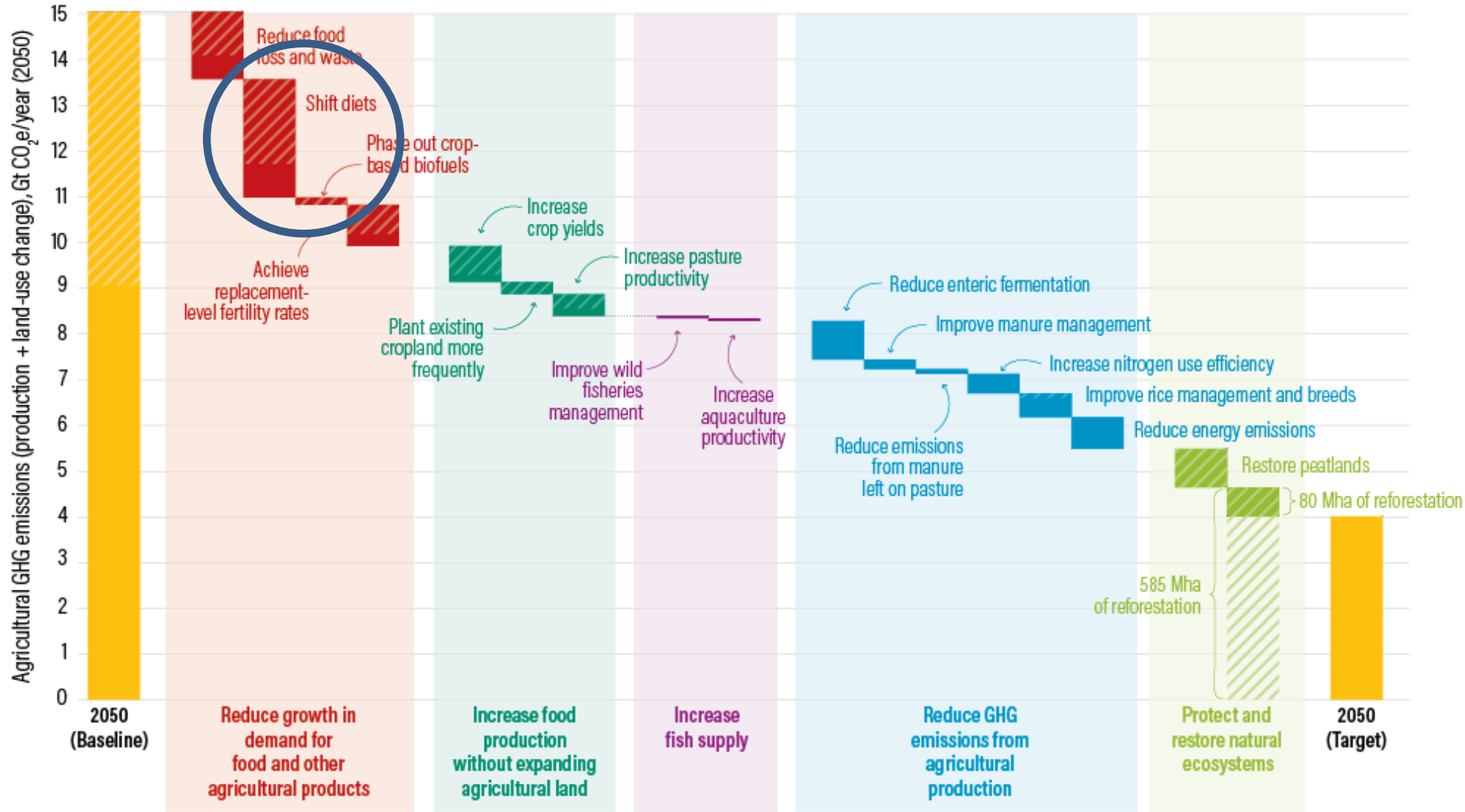
Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources. ”

– FAO, 2010



How can we meet the projected needs for food, while also staying within environmental boundaries?

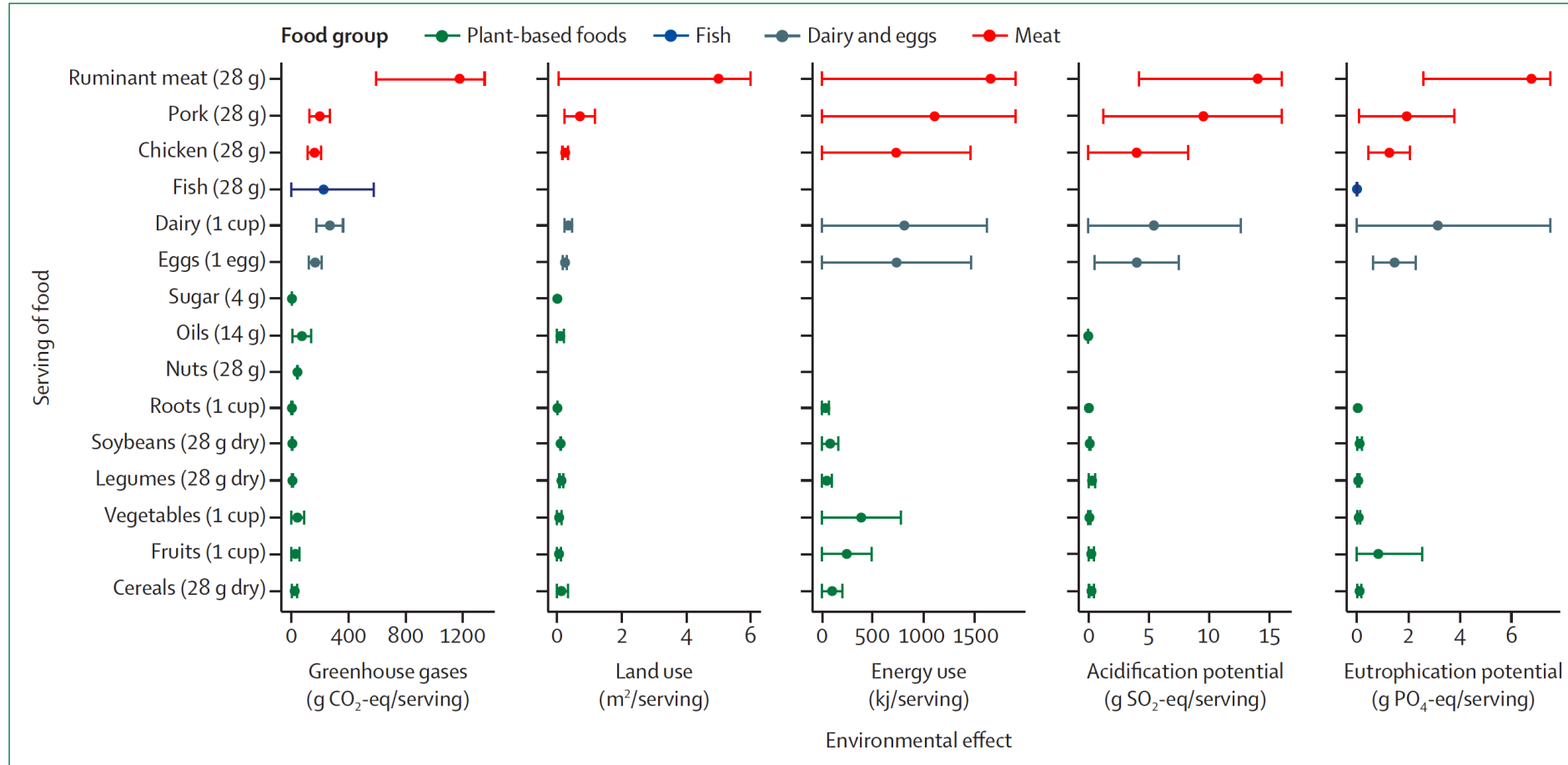
# World Resources Institute: 5-course menu of solutions



*Note:* Solid areas represent agricultural production emissions. Hatched areas represent emissions from land-use change.

Source: GlobAgri-WRR model, as presented in Searchinger et al. Creating a Sustainable Food Future, World Resources Institute, 2018

# Shifting diets to plant-based foods

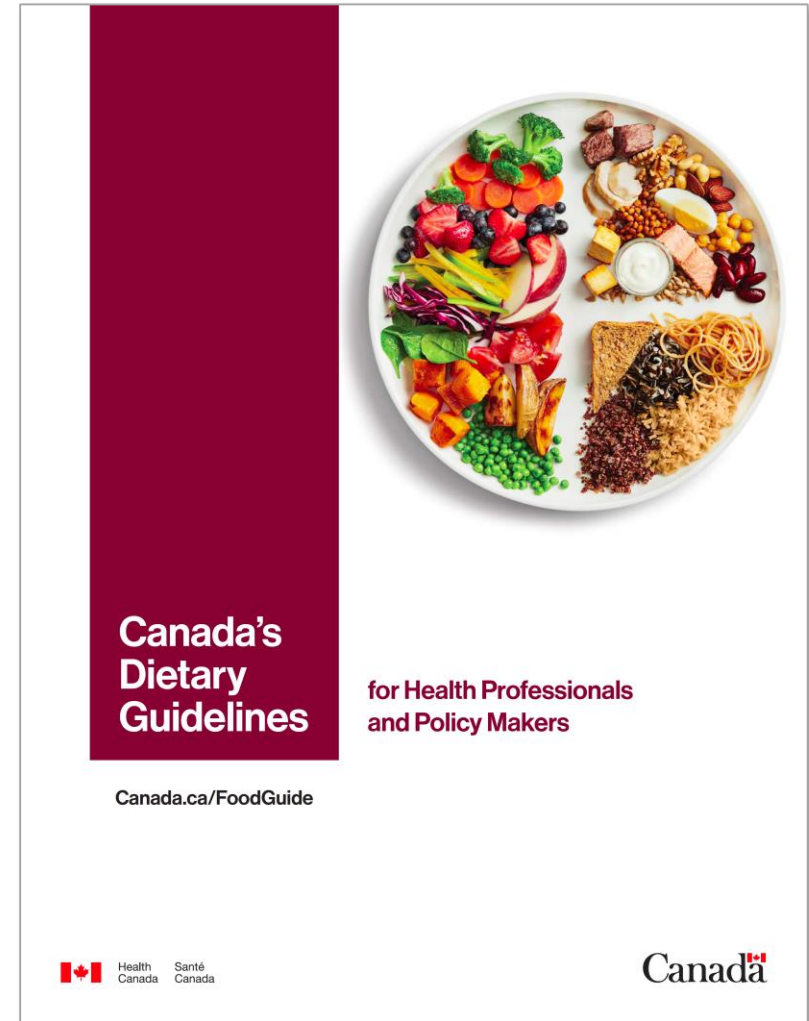
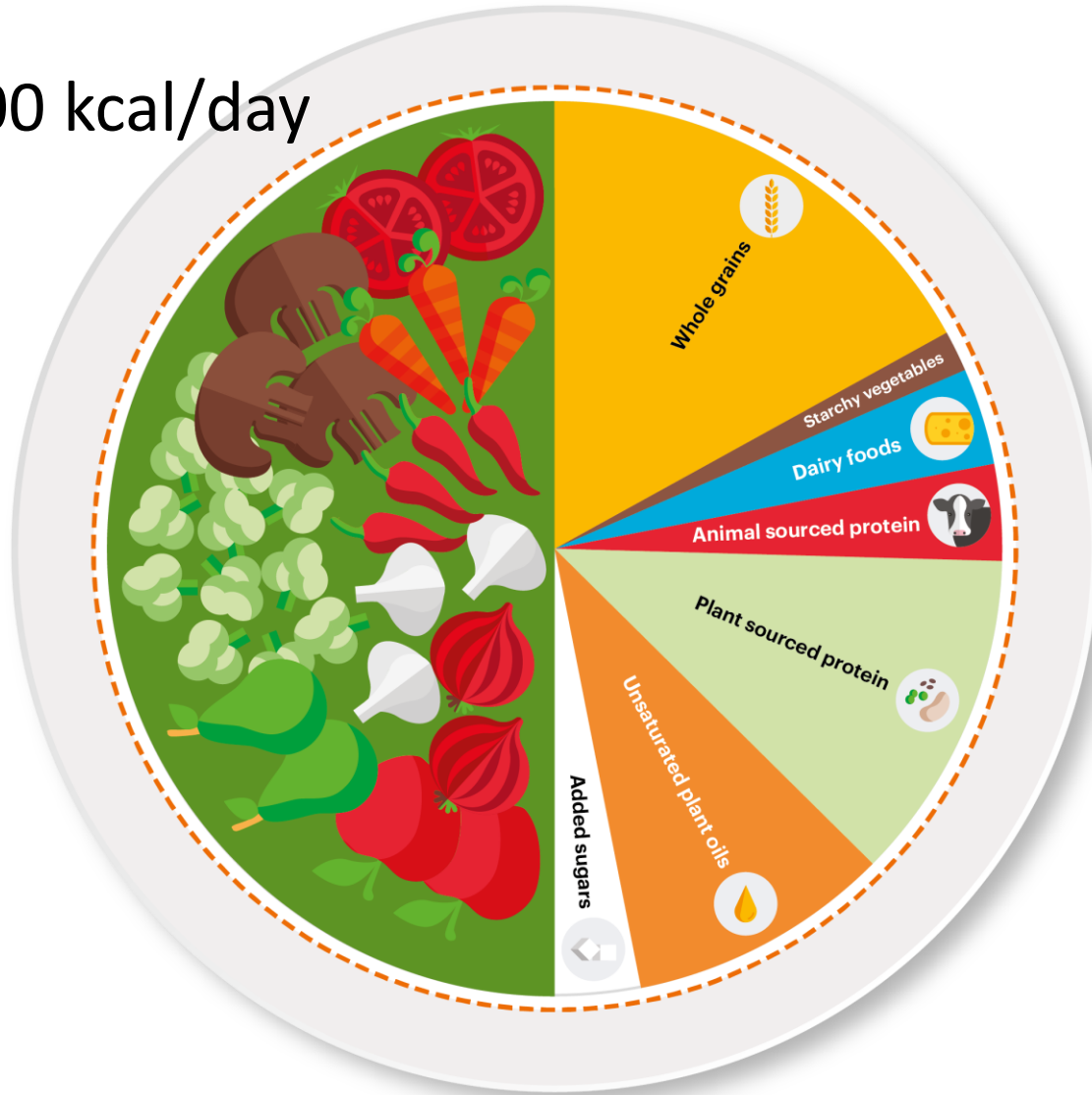


**Figure 4: Environmental effects per serving of food produced**

Bars are mean (SD).<sup>5,216</sup> Some results are missing for fish due to lack of data for some impact categories (eg, land use stemming from plant-based feeds in aquaculture). This was, however, accounted for in the global food systems modeling framework used in Section 3. CO<sub>2</sub>=carbon dioxide. Eq=equivalent. PO<sub>4</sub>=phosphate. SO<sub>2</sub>=sulphur dioxide.

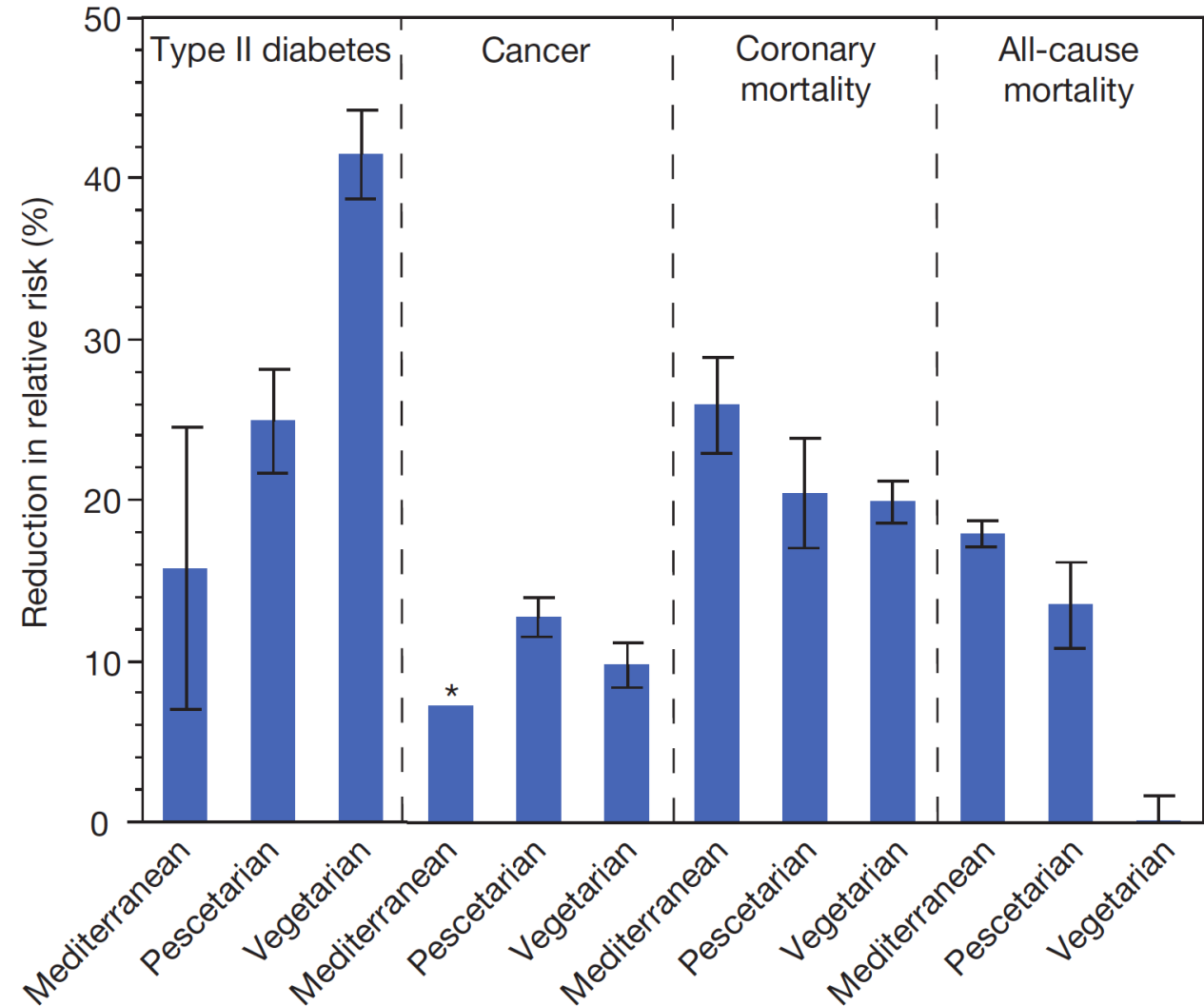
# Sustainable diet targets

2500 kcal/day



# Are sustainable diets healthier?

**Figure 3 | Diet and health.** Diet-dependent percentage reductions in relative risk of type II diabetes, cancer, coronary heart disease mortality and of all-cause mortality when comparing each alternative diet (Mediterranean, pescetarian and vegetarian) to its region's conventional omnivorous diet (Methods). Results are based on cohort studies<sup>32-39</sup>. The mean and s.e.m. values shown are weighted by person-years of data for each study. Number of studies for each bar are, from left to right, 3, 2, 2, 1, 2, 2, 4, 2, 5, 13, 2 and 4. \*Cancer in Mediterranean diets is from a single study so no s.e.m. is shown.



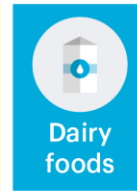
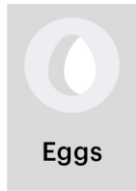


# Current Intakes vs. Reference Diet

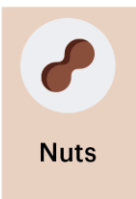
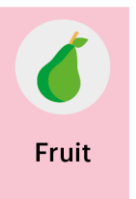
## Limited intake



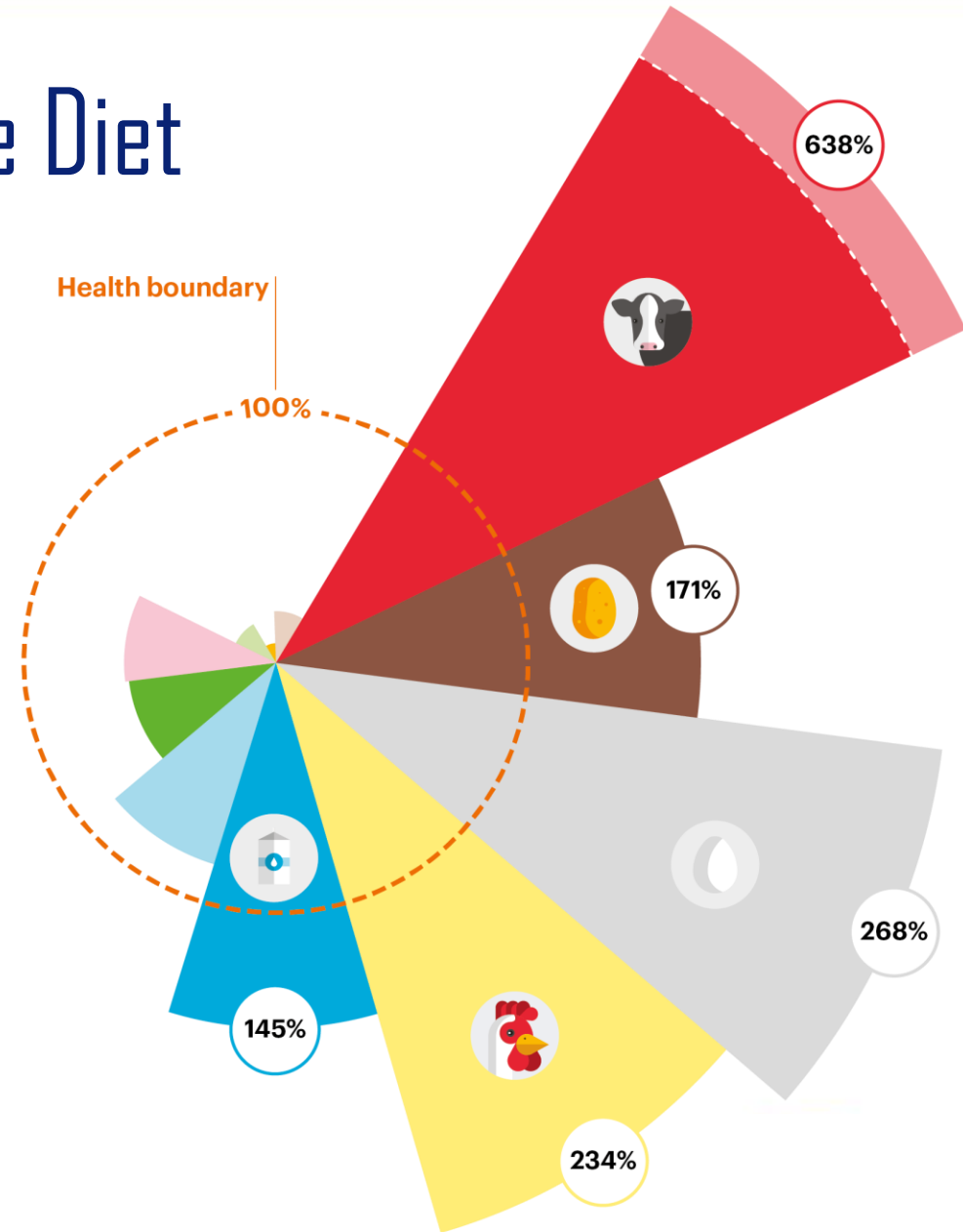
## Optional foods



## Emphasized foods

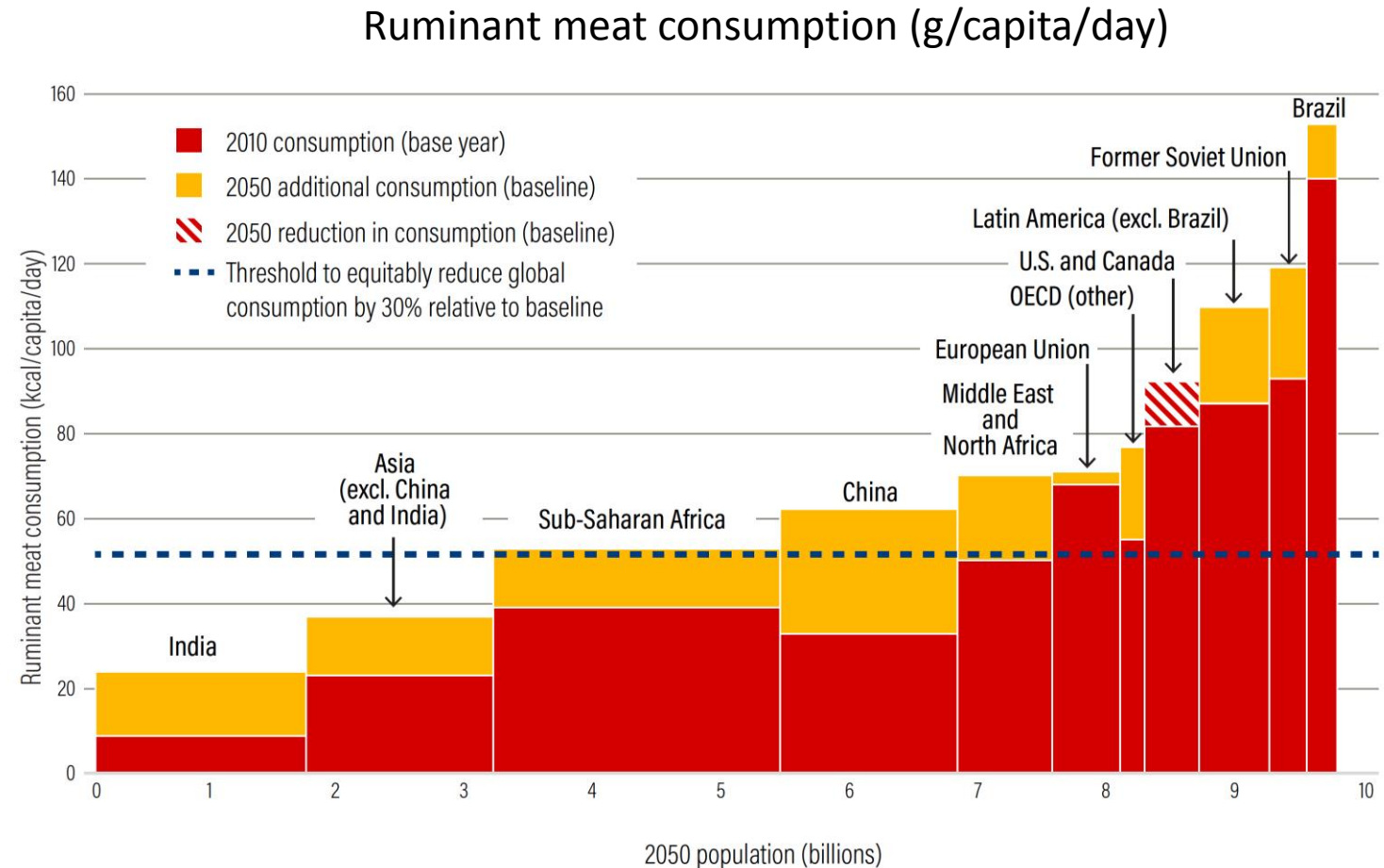
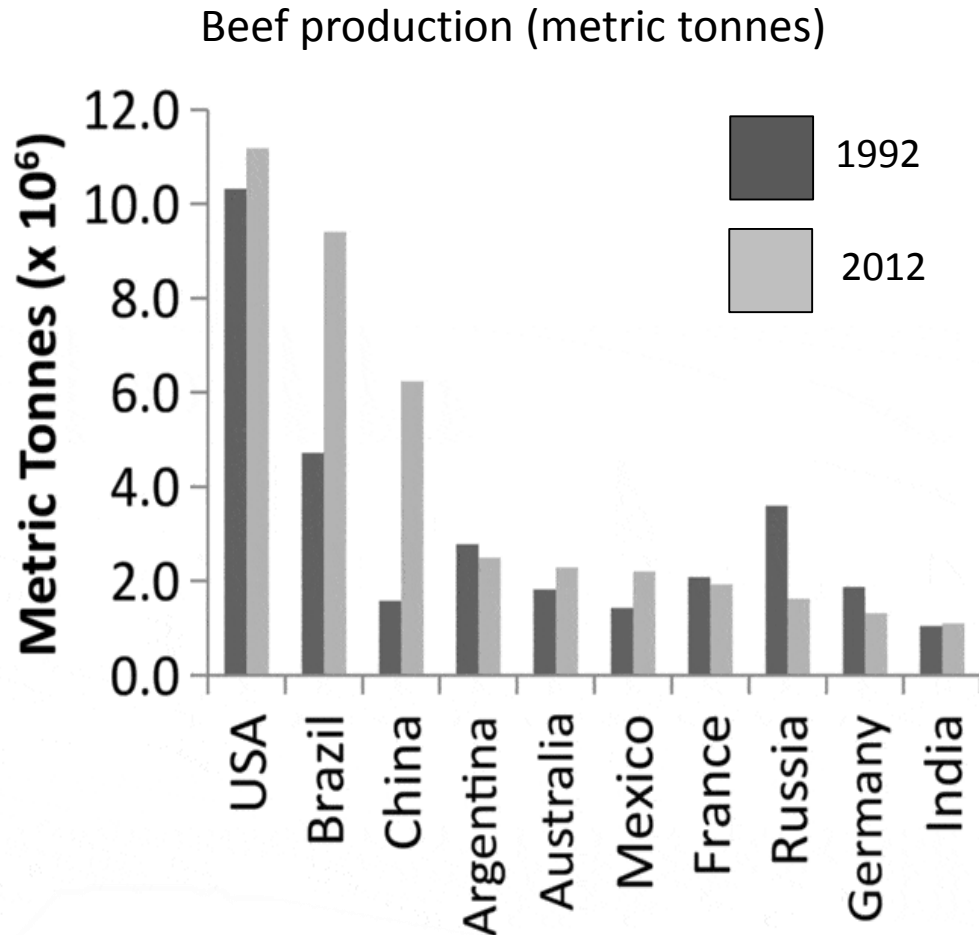


North America





# U.S. beef production and consumption are among the highest in the world



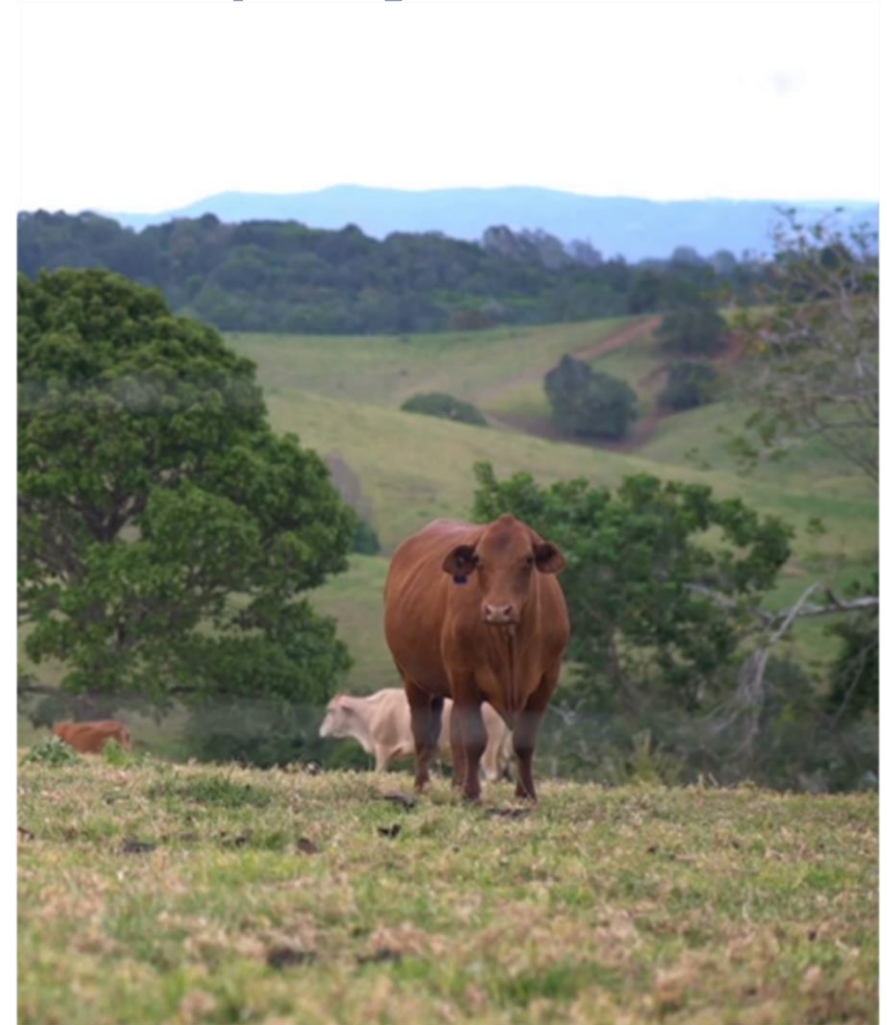
# Beef, Food Choice, and Values project

## Overall Goal:

Identify policies & interventions that are:

- ethically permissible,
- effective, and
- acceptable to stakeholders

for altering beef production & consumption practices in the U.S. to levels that sustain planetary & human health



# Beef, Food Choice, and Values project

## Specific aims:

1. Identify the values, trade-offs, and trigger points for potential shifts in beef production and consumption practices

Semi-structured interviews, surveys with producers and consumers

2. Identify the relevant considerations and trade-offs of different policies and interventions to alter beef production and consumption practices

Quantitative modeling outcomes for 3 scenarios:

(1) Beef tax, (2) Education campaign, (3) Non-beef alternatives

3. Develop a framework to evaluate the ethical permissibility of different interventions to achieve shifts in beef production and consumption patterns

Ethical analysis

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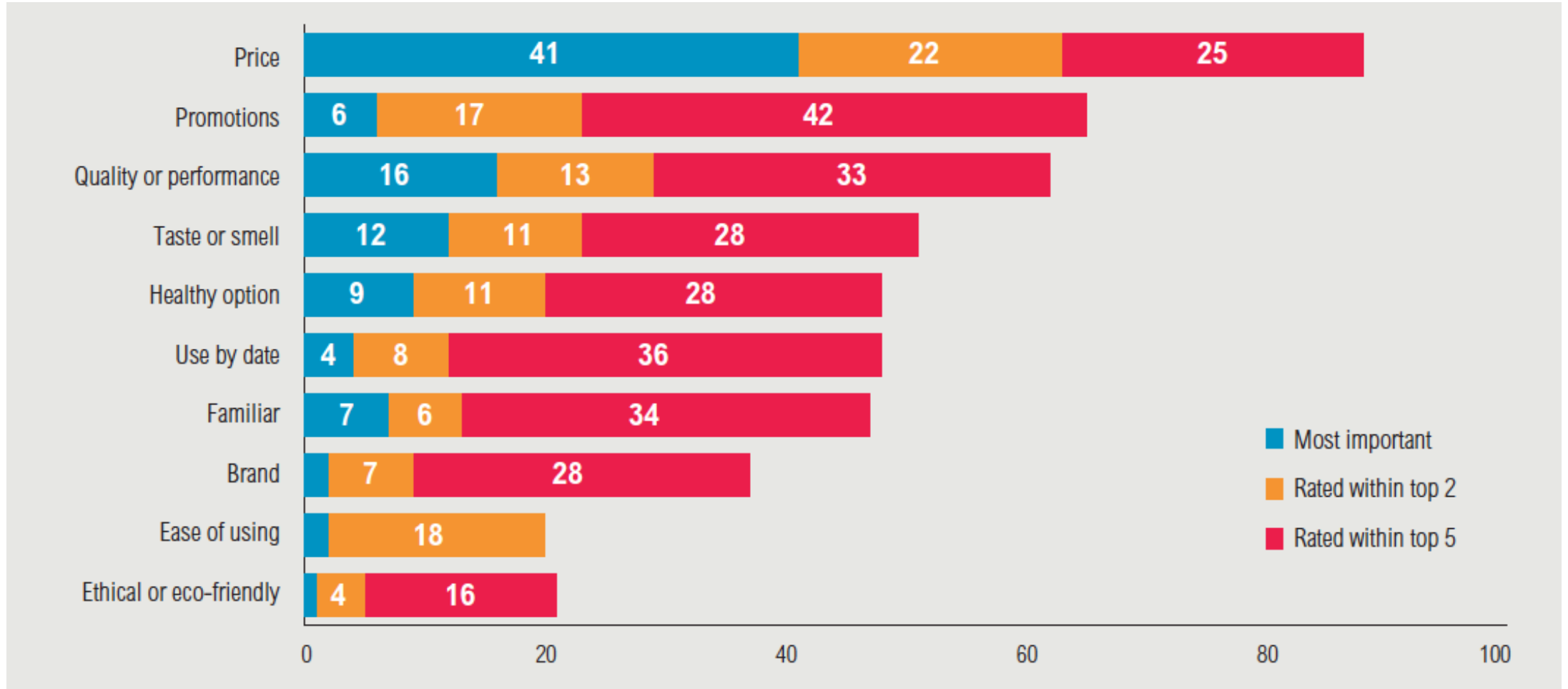
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Ethical analysis

# Price, quality, and taste are important to consumers

Factors influencing consumer product choice, percentage of UK shopper responses



# Preliminary findings from semi-structured interviews with consumers

- Price is a major determinant in consumer's food decisions

*I think it's important to also have **an affordable substitute**... if we're going to say "Hey, these are the problems with this" then there's got to be other ways you can get the foods you need at an affordable price.*

*-- Jen, 46 years old*

- Health considerations outweigh environmental ones for consumers

*There's a lot of people who feel that it [eating less beef] is both the healthy and environmental thing to do. But myself, I'd say right now, **it's more about health**. As I'm learning about it, it makes sense.*

*-- Jeff, 55 years old*

# Preliminary findings from semi-structured interviews with consumers

- People receive a lot of (mixed) information about what to eat

*Where do I get my information? I mean, it comes from everywhere; I just try to process it in a way that works for me.* -- Chris, 46 years old

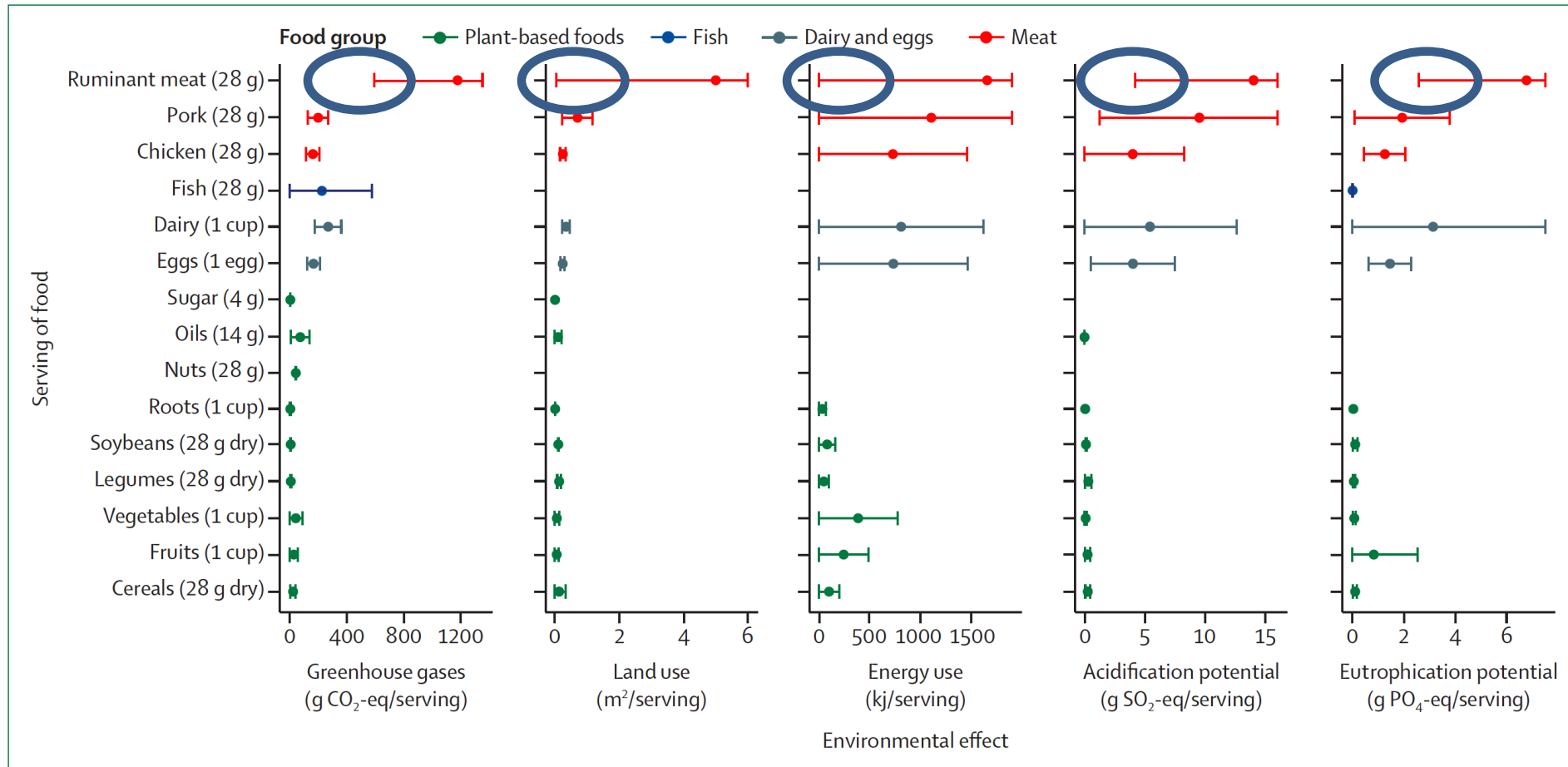
*I am very confused all the time and have no idea what to think about food. Is that crazy? ... I just hear so much conflicting information about food now.* -- Jay, 35 years old

- Not all beef alternatives are created equal

*I had a Beyond Burger once, it was terrible... I don't know why they try to make it look like a meat patty, but it just didn't taste or look very good. And then all this stuff that is made with tofu, to try to make phony meat, also doesn't taste very good.* -- Sally, 55 years old



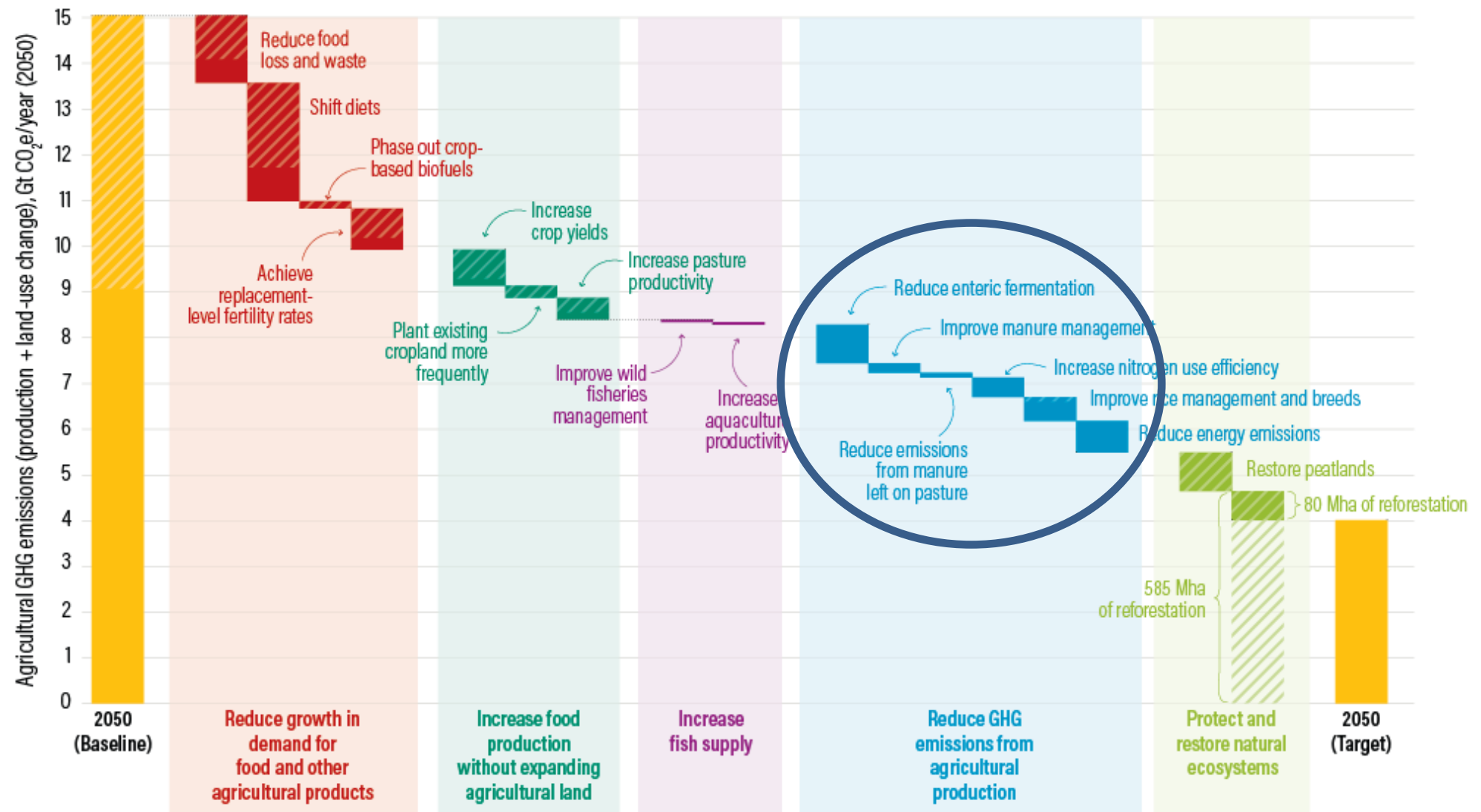
# There is an opportunity to improve production practices



**Figure 4: Environmental effects per serving of food produced**

Bars are mean (SD).<sup>5,216</sup> Some results are missing for fish due to lack of data for some impact categories (eg, land use stemming from plant-based feeds in aquaculture). This was, however, accounted for in the global food systems modeling framework used in Section 3. CO<sub>2</sub>=carbon dioxide. Eq=equivalent. PO<sub>4</sub>=phosphate. SO<sub>2</sub>=sulphur dioxide.

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Source: GlobAgri-WRR model, as presented in Searchinger et al. Creating a Sustainable Food Future, World Resources Institute, 2018

# Preliminary findings from semi-structured interviews with producers

- Sustainability is an underlying goal for many producers
  - Economics, profit, and financial well-being are an important part of sustainability,
  - Conservation and land management are cornerstones of many producers' commitment to sustainability

Sustainable can be somewhat of a buzzword that's overused, but we define that by the ways that I described earlier: by people, community, natural resources and conservation, and profitability. Those are our goals. **To be able to have success in all of those areas simultaneously, with success in one not at the expense of success in another.** For instance, I don't want to be profitable at the consequence of poor natural resource management. We do not want to put profits ahead of having good people and taking care of people in the business, or to have our communities in decline.

-- Trey, 47 years old, large-scale production operation

# Preliminary findings from semi-structured interviews with producers

- Sustainability is an underlying goal for many producers
  - Economics, profit, and financial well-being are an important part of sustainability,
  - Conservation and land management are a cornerstone to many producers' commitment to sustainability
- Ranching is also a way of life, and a big part of producers' identity

If it wasn't for the way of life, and the lifestyle, and the peace of mind, and the mental therapy that you get out of owning the place, okay, the returns are low enough that **you either have to be passionate about doing it or you had better find something else to do.**

-- Patrick, 65 years old, small-scale production operation

# Preliminary findings from semi-structured interviews with producers

- There is recognition that not all producers practice sustainable practices, and that there is room for improvement

I think one of the things that we're guilty of in the beef industry is that we try to promote the best practices and put forth what we're doing and that we're responsible and sustainable and so forth, and **that's not always the case.** And so, we've got to make sure that we're bringing those other producers [who are not practicing sustainably] on board, and that they're moving in that direction.

-- Henry, 46 years old, medium-scale production operation

# Disconnects between producers and consumers

- Most consumers lack knowledge and awareness about production

*My reasoning is that the American consumer has become **so disconnected from production agriculture** that they don't understand the difference between cattle that are raised to produce beef and cattle that are used to produce milk.*

-- Patrick, 65 years old, small-scale production operation

*I think my perspective is more that the consumers **don't necessarily understand what they are demanding**... not really realizing what else they consume and how much worse it may be or similar it may be.*

-- Courtney, 23 years old, feedlot

- The producers we spoke to were confident in their practices, and believed that being open and transparent was important

# Disconnects between producers and consumers

- Most consumers do not pay (or value) the full costs associated with production

**“What would you say if your child were to say, ‘I want to become a farmer’?”**

I’m an activist, and I’m really in for the farming, but you know what? To be really frank, if either my son or daughter said, “I’m going to become a farmer,” there’s an element of me that would have been disappointed... **it’s a cultural thing** about how respected and honored the profession of farming is. And that goes back into, also, very deeply into **how much people think they should be paying for food,** and **how important that is,** and that’s a big deal.

-- Lucia, 64 years old, organic small-scale production operation



# Conclusions and moving forward

- Eating food and ranching cattle are deeply personal practices
  - They are shaped by conceptions of identity, culture and family
  - Economics are important to everyone (price, profitability)

*How do we incorporate that into conversations about sustainable diets?*

*What do we do when economics and lifestyle aspects are at odds with current recommendations?*

- There are major barriers to accessing and using information

*How do we reach both consumers and producers to improve practices?*

- We need to be conscious, thoughtful, and respectful of these factors when we talk about sustainability and shifting diets

A photograph of a person wearing a striped shirt, holding three bowls of peanuts and fried snacks. The image is overlaid with a blue tint. The text "Thank you" is written in white on the left side of the image.

Thank you