

# Healthy food and climate

Medical Society Consortium on Climate and Health

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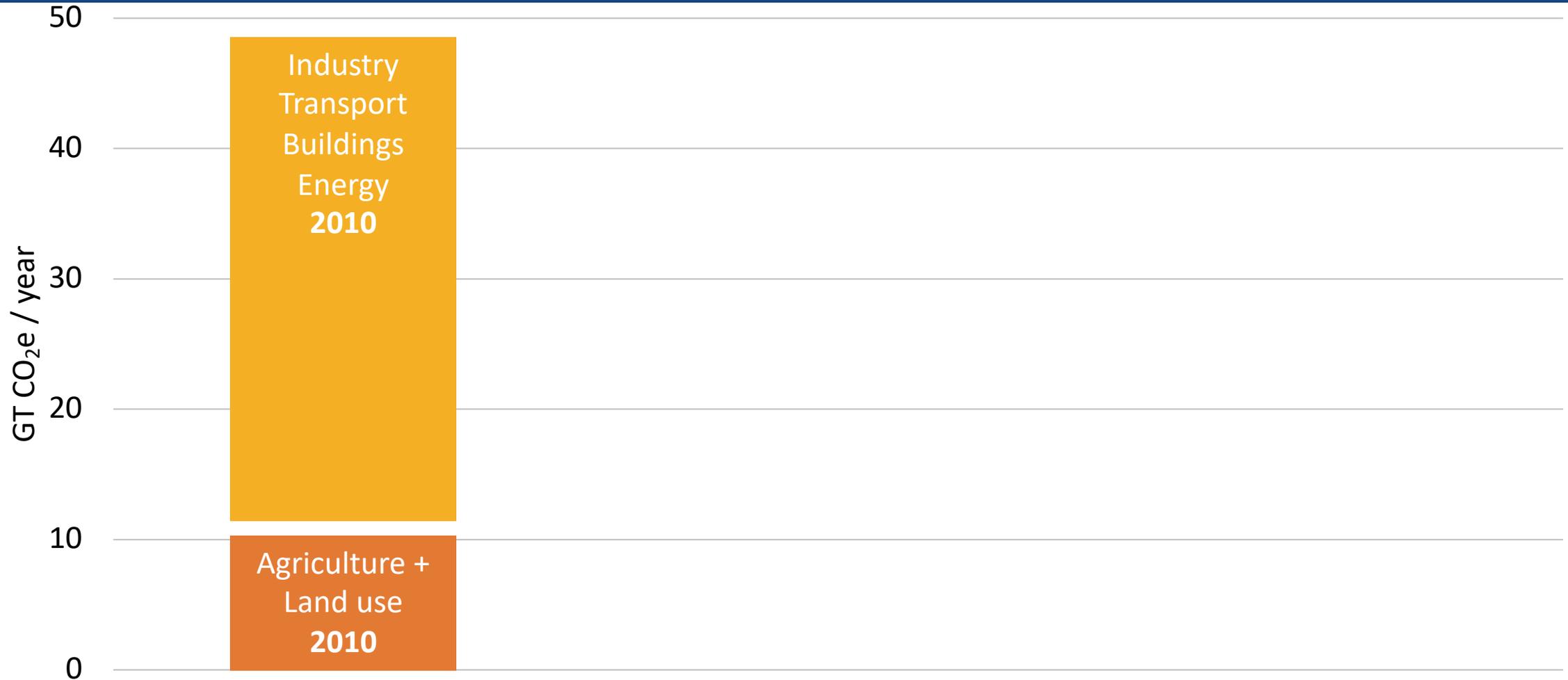
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# Overview

- ▶ Urgency of addressing climate impacts of food and agriculture
- ▶ Ways to reduce food and agricultural related emissions
- ▶ Health benefits of dietary shifts

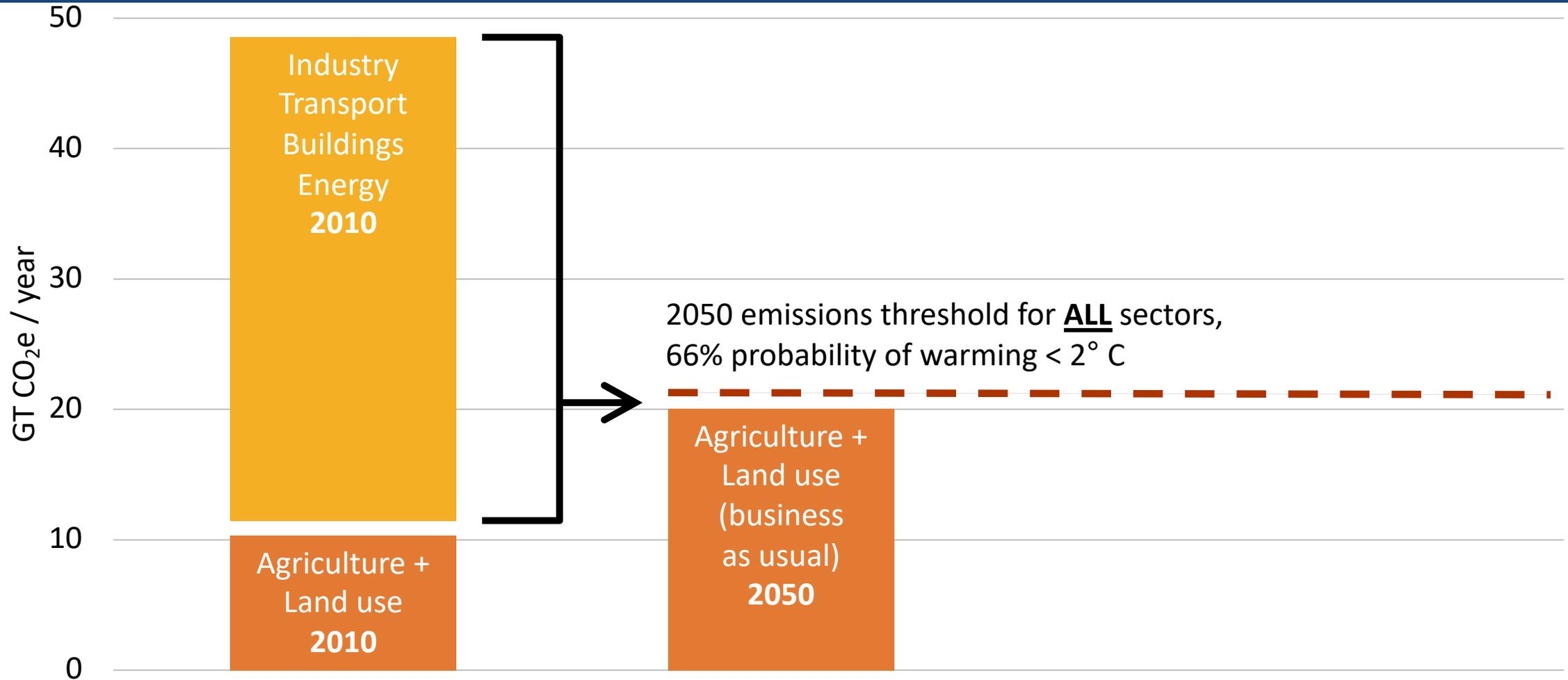


# Emissions scenarios



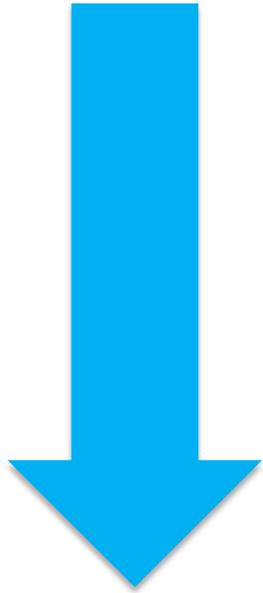
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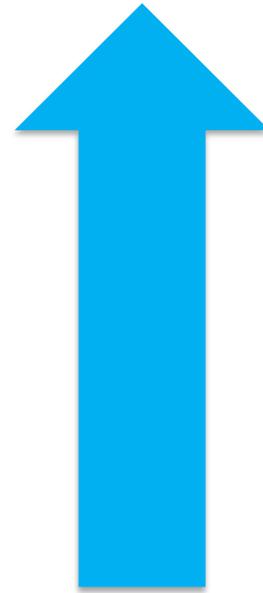
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# What can be done?



## **Reduce emissions:**

- Plant-rich diets
- Reduced food waste
- Improved agricultural practices



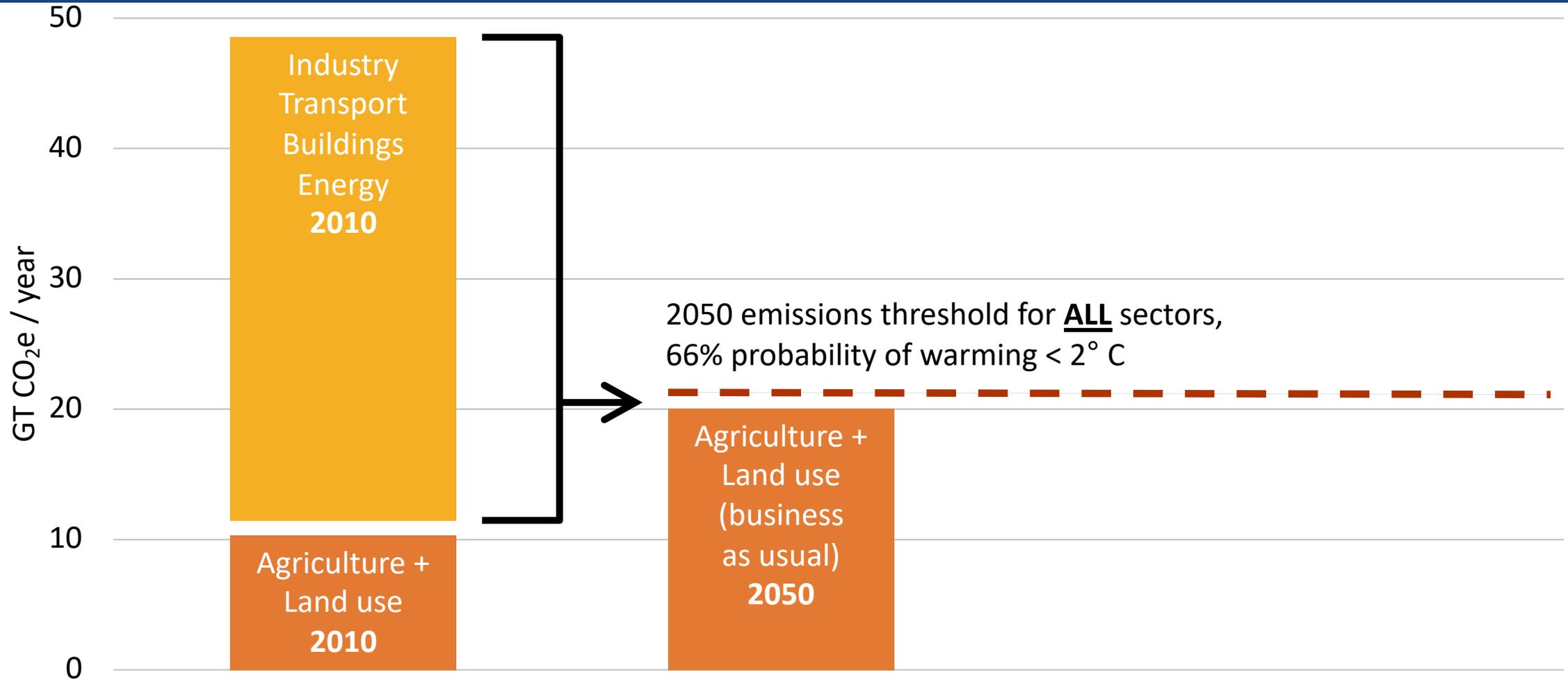
## **Increase carbon sequestration :**

- Improved agricultural practices

# Emissions reduction vs. sequestration

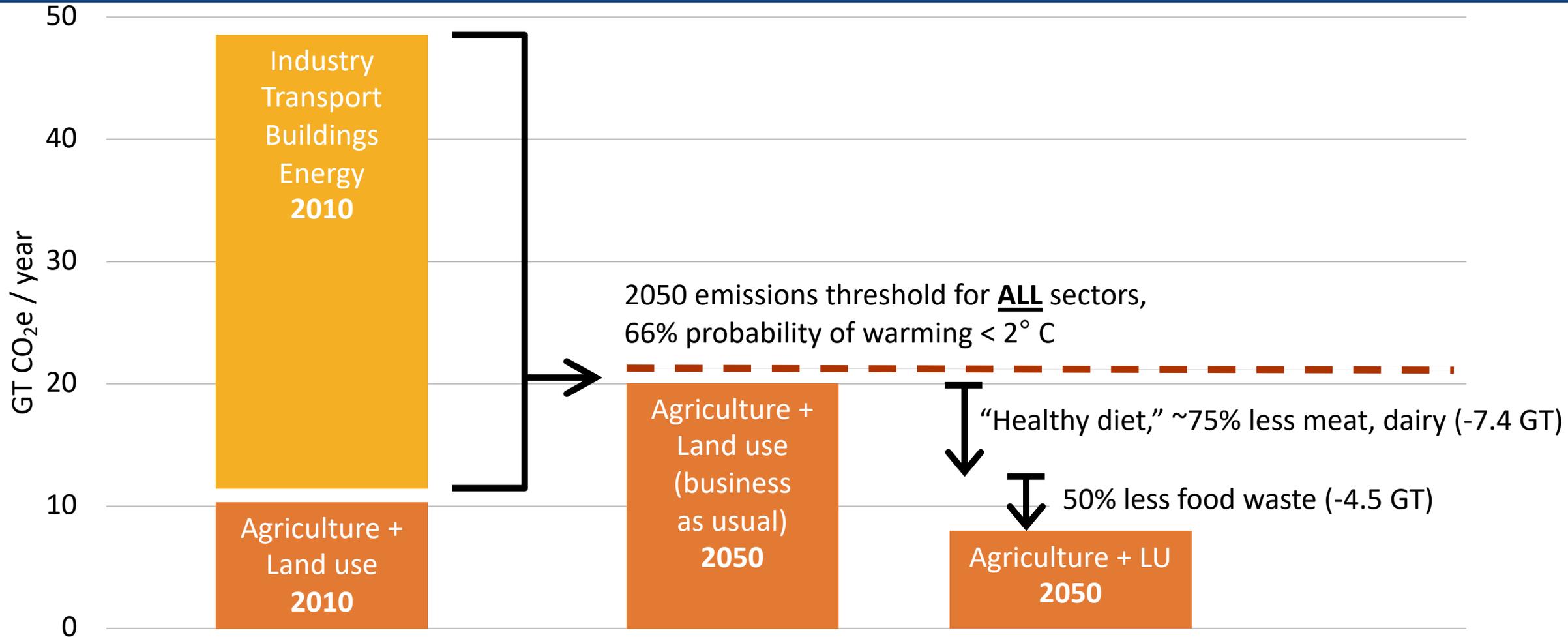
	TIMELINE OF IMPACT	LIFETIME OF IMPACT	REVERSIBILITY OF IMPACT	EASE OF MEASUREMENT	POTENTIAL ANNUAL IMPACT GT CO <sub>2</sub> -EQ/YR
<b>Emissions reduction</b>	Immediate	Can continue forever	Irreversible	Relatively simple	1.3–4.2
<b>Biosequestration: Soils</b>	Delayed (may take several years to begin)	Measured in decades	Can be reversed through return to poor farming practices or climate disasters	Very challenging to predict and measure	1.0–7.1
<b>Biosequestration: Aboveground Biomass</b>	Delayed (may take several years to begin)	Measured in decades	Can be reversed through return to poor farming practices or climate disasters	Relatively simple	1.1–6.4

# Emissions scenarios



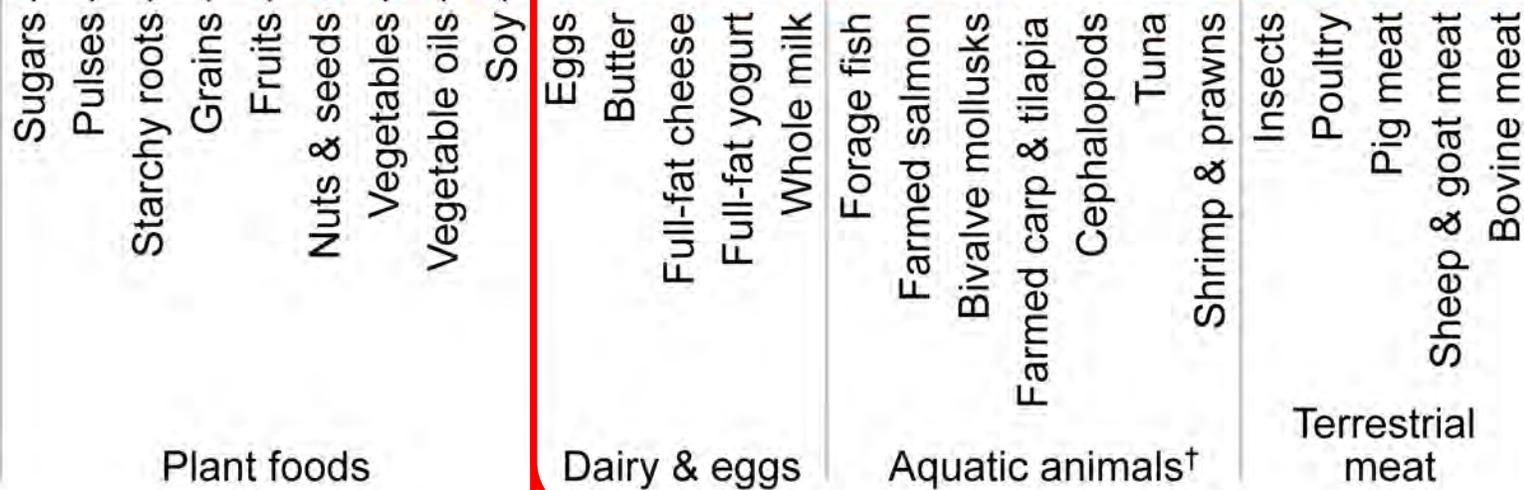
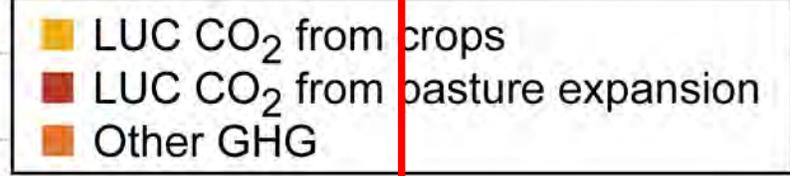
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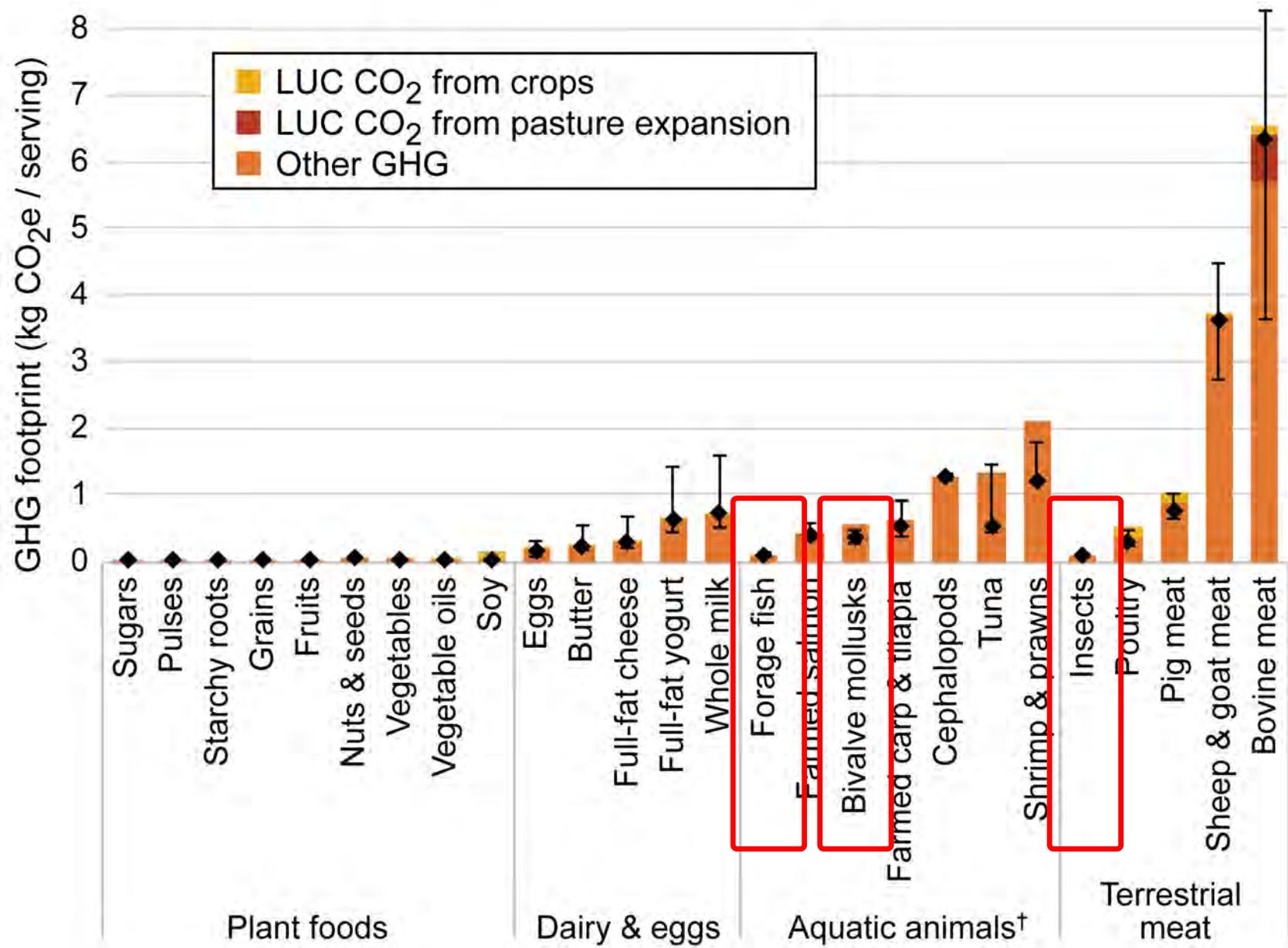
GHG footprint (kg CO<sub>2</sub>e / serving)



## Per serving GHG footprints

>3800 unique observations  
>150 countries

Kim et al. (2019). Country-specific diets to mitigate climate and water crises. *Global Environmental Change*.

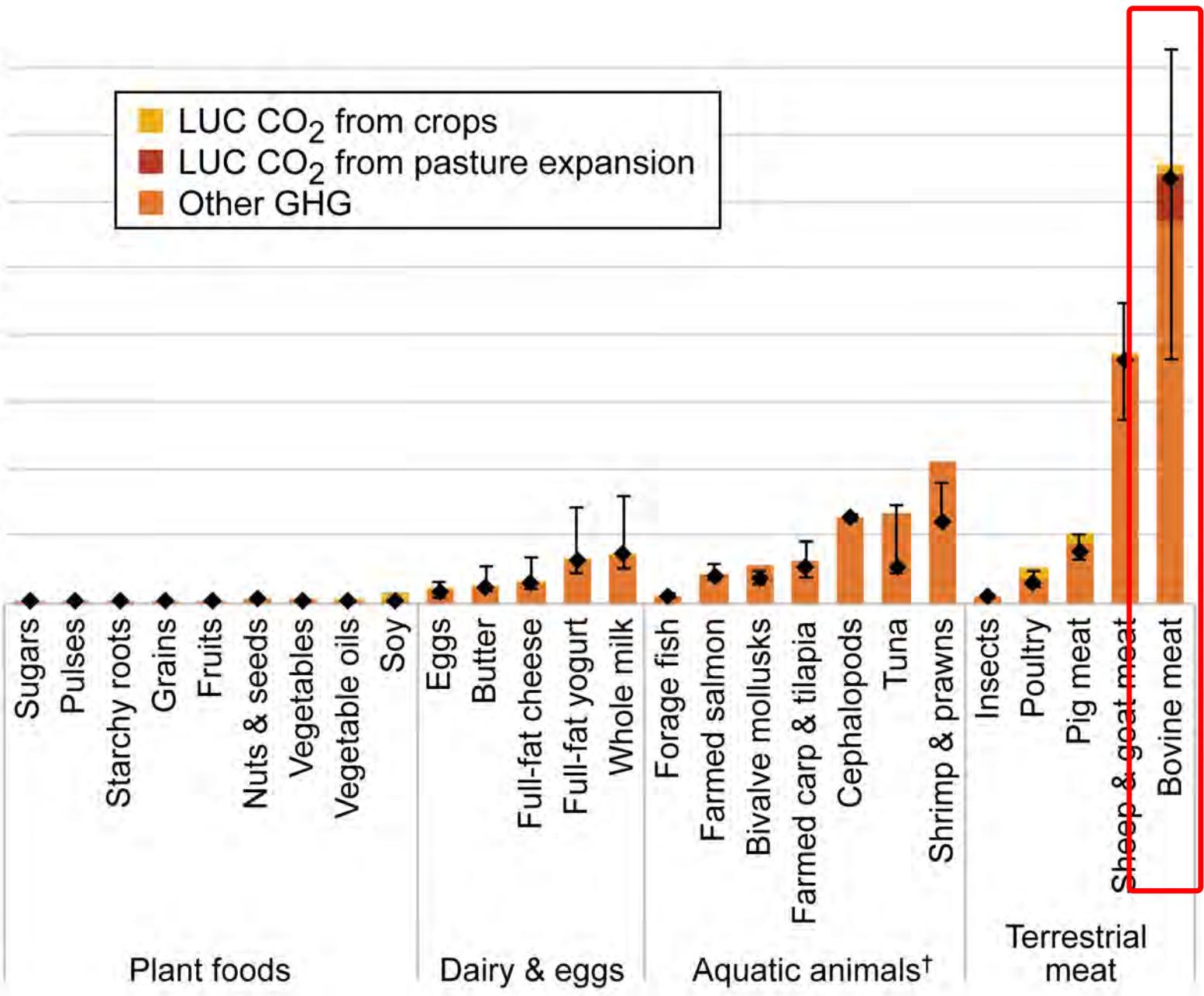
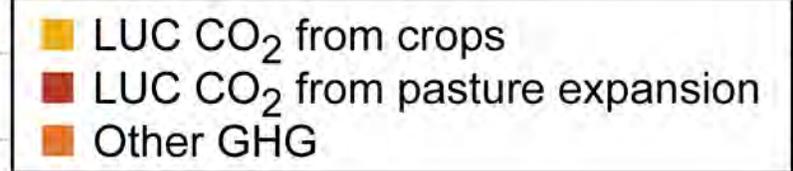


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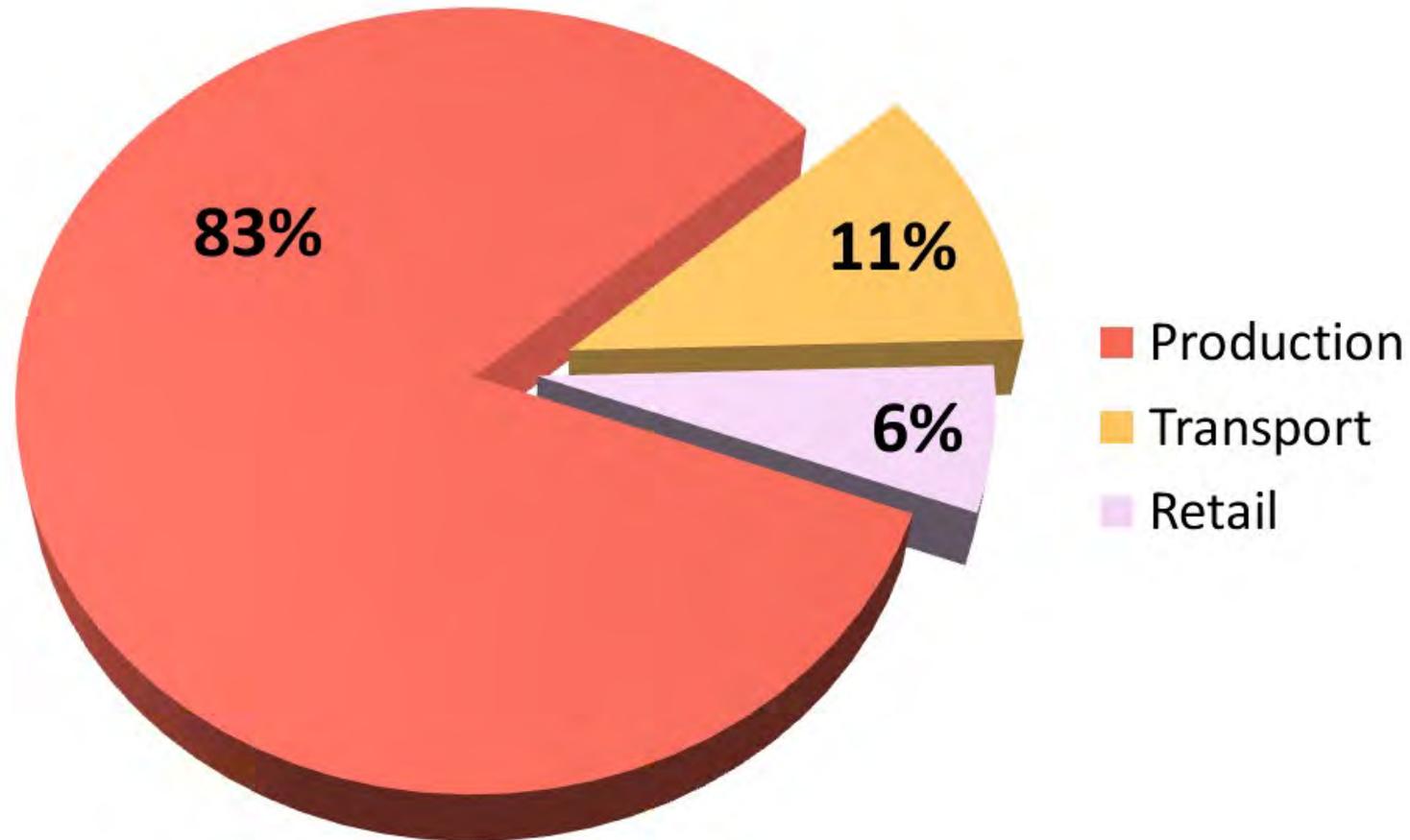
# Feedlots vs. grass-finishing systems



Photo credits: USDA (left), Chris Stevens, CLF (right)



# Food miles vs. dietary choices



Source: Weber & Matthews (2008). Food-miles and the relative climate impacts of food choices in the United States. *Environmental Science & Technology*.

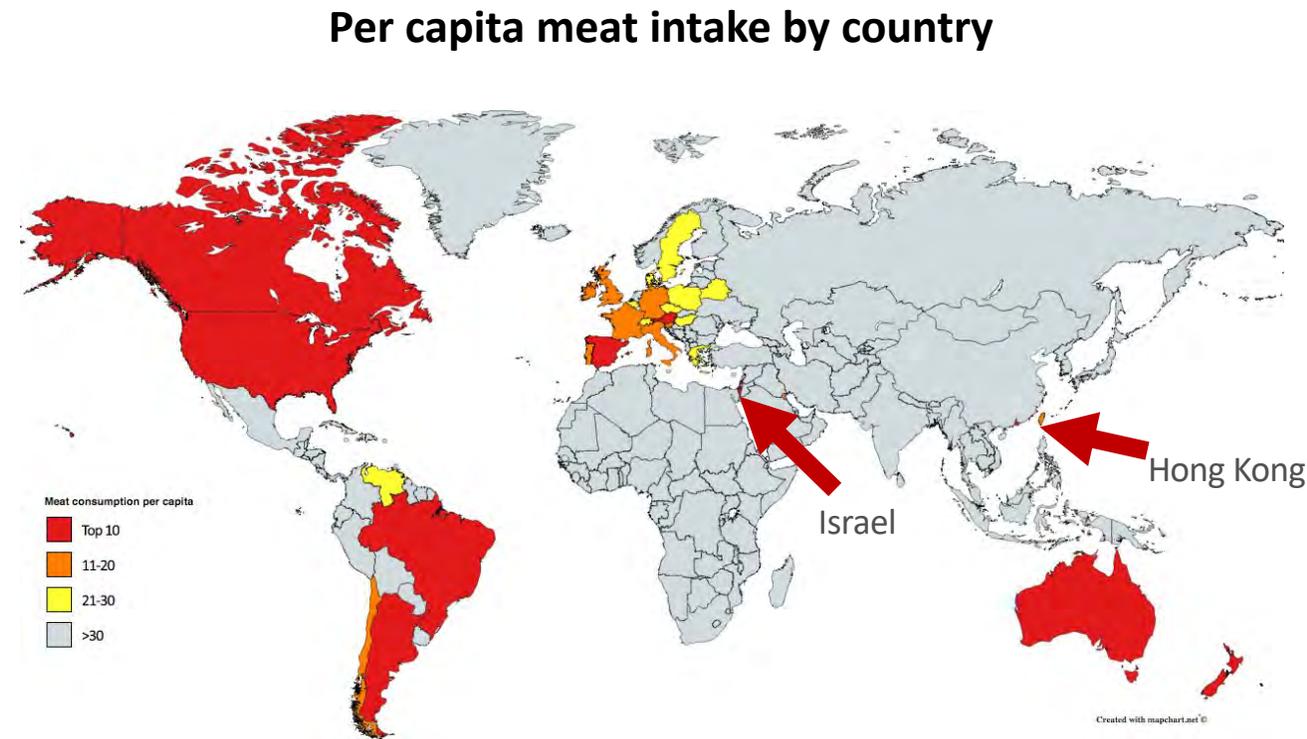
# Climate-friendly foods are healthier too

Diet component		Why 'healthy'/'unhealthy'	
Fruits (100 g/serving)		<ul style="list-style-type: none"> <li>↓ Coronary heart disease (CHD),</li> <li>↓ oesophageal cancer,</li> <li>↓ lung cancer, ↓ stroke</li> </ul>	HEALTHY
Vegetables, including legumes (100 g/serving)		<ul style="list-style-type: none"> <li>↓ CHD,</li> <li>↓ oesophageal cancer,</li> <li>↓ stroke</li> </ul>	
Nuts/seeds (100 g/serving)		<ul style="list-style-type: none"> <li>↓ CHD, ↓ diabetes</li> </ul>	
Wholegrains (50 g/serving)		<ul style="list-style-type: none"> <li>↓ CHD, ↓ diabetes</li> </ul>	
Seafood (100 g/serving)		<ul style="list-style-type: none"> <li>↓ CHD, ↓ stroke</li> </ul>	
Red meat, unprocessed (100 g/serving)		<ul style="list-style-type: none"> <li>↑ Diabetes,</li> <li>↑ colorectal cancer</li> </ul>	UNHEALTHY
Processed meat (50 g/serving)		<ul style="list-style-type: none"> <li>↑ CHD, ↑ diabetes,</li> <li>↑ colorectal cancer</li> </ul>	

Global Panel on Agriculture and Food Systems for Nutrition (2016). *Foresight report: Food systems and diets: Facing the challenges of the 21st century*. London, UK. Compiled by the authors, based on Imamura et al. (2015). Dietary quality among men and women in 187 countries in 1990 and 2010: A systematic assessment. *The Lancet Global Health*, 3(3).

# No “one-size-fits-all approach” – equity considerations

- ▶ Global inequities in animal product consumption
  - ▶ Significant reductions in meat and dairy consumption among affluent consumers
  - ▶ Moderate increase in consumption among less affluent
- ▶ Within countries, differing ability to eat healthy, climate-friendly foods:
  - ▶ Affordability
  - ▶ Accessibility
  - ▶ Cultural appropriateness



Source: FAO. Excludes the bottom quintile by population size.

# Promising policy solutions

Institutional,  
Local, State,  
Federal

- ▶ Change procurement policies at hospitals, schools and other institutions
  - ▶ Offer healthier and more plant-forward meals
  - ▶ Change *sources* of meal ingredients (e.g., from more sustainable producers)
  - ▶ Change *proportions* of ingredients in meals (e.g., meat as a garnish, blended burgers)
  - ▶ Include metrics to track and reduce wasted food

State, Federal

- ▶ Strengthen regulatory oversight of industrial food animal production, especially:
  - ▶ Air pollution
  - ▶ Antibiotic use
  - ▶ Manure and waste management

Federal

- ▶ Align dietary guidelines with sustainability goals
- ▶ Support independent research and development of plant-based meat alternatives and lower-emissions livestock production

# More information and detailed policy recommendations

- ▶ Healthy, climate-friendly food procurement policy efforts:
  - ▶ World Resource Institute's Cool Food Pledge: <https://coolfood.org/pledge/>
  - ▶ Health Care Without Harm: <https://noharm-uscanada.org/issues/us-canada/people-and-planet-friendly-food>
  - ▶ Friends of the Earth's Climate Friendly Food Policy Campaign: <https://foe.org/projects/healthy-climate-friendly-food/>
- ▶ Policy recommendations around regulatory oversight of industrial food animal production: <https://clf.jhsph.edu/sites/default/files/2020-06/apha-cafo-all.pdf>
- ▶ U.S. food waste policy finder: <https://policyfinder.refed.com/> (covers date labeling regulations, donation liability protections, donation tax incentives, animal feed regulations, and organic waste bans and waste recycling laws)

# Questions?

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