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#ClimateChangesHealth
apha.org/climate

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AMERICAN PUBLIC HEALTH ASSOCIATION
For science. For action. For health.

FOOD & CLIMATE CHANGE

How sustainable agriculture and reducing animal product consumption and wasted food are key to avoiding catastrophic climate change

APHA July 27, 2017

Becca Bartholomew, MS

Adapted from a presentation by Kari Hamerschlag

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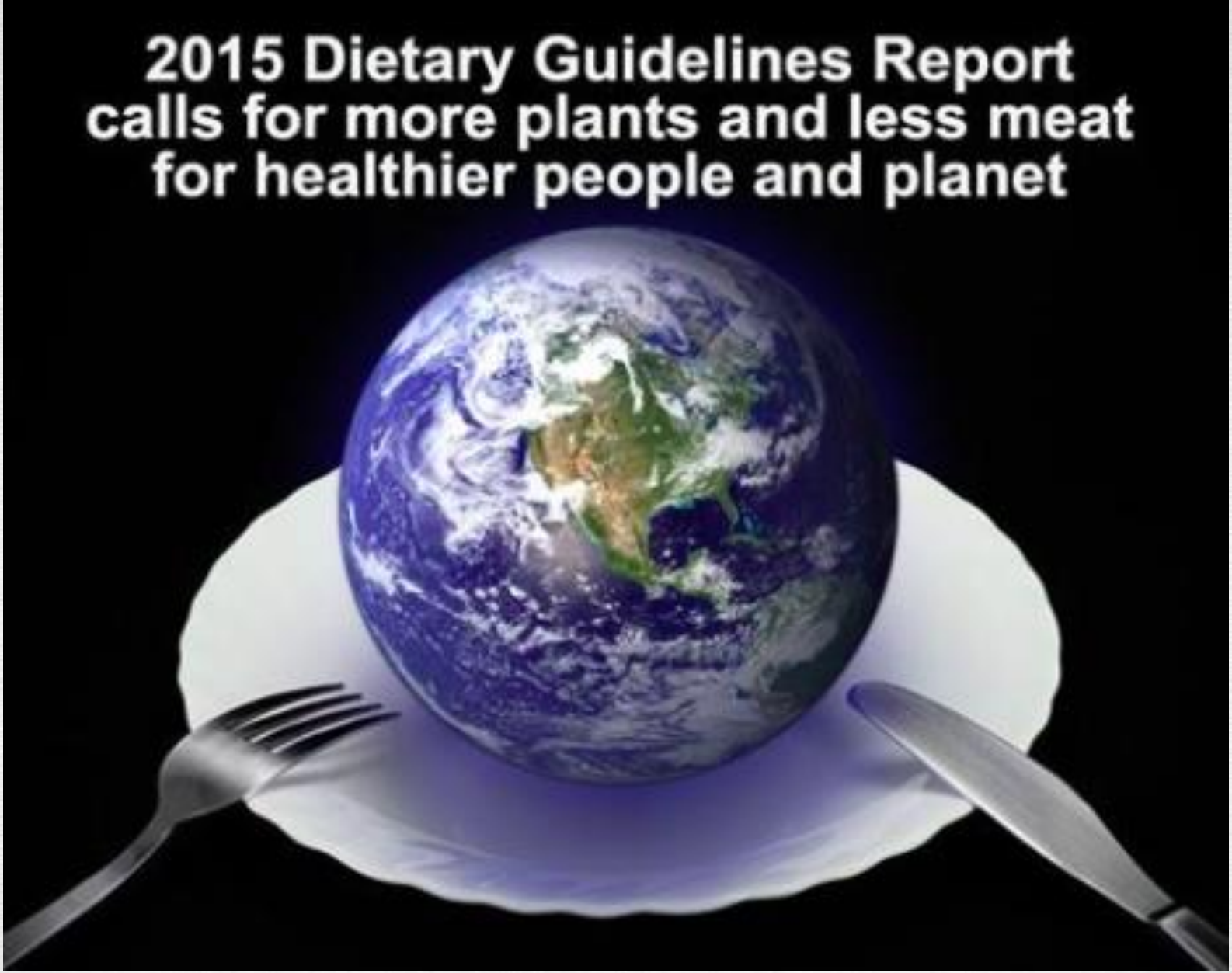

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UN Intergovernmental Panel on Climate Change (IPCC)

"…changes in human diet can have a significant impact on GHG emissions."

"…the potential to reduce GHG emissions through changes in consumption (that include some meat, fish and eggs) was found to be substantially higher than that of technical mitigation measures."

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Intergovernmental Panel on Climate Change. (2014). Ch. 11: Agricullure, Forestry and Other Land Use (AFOLU).

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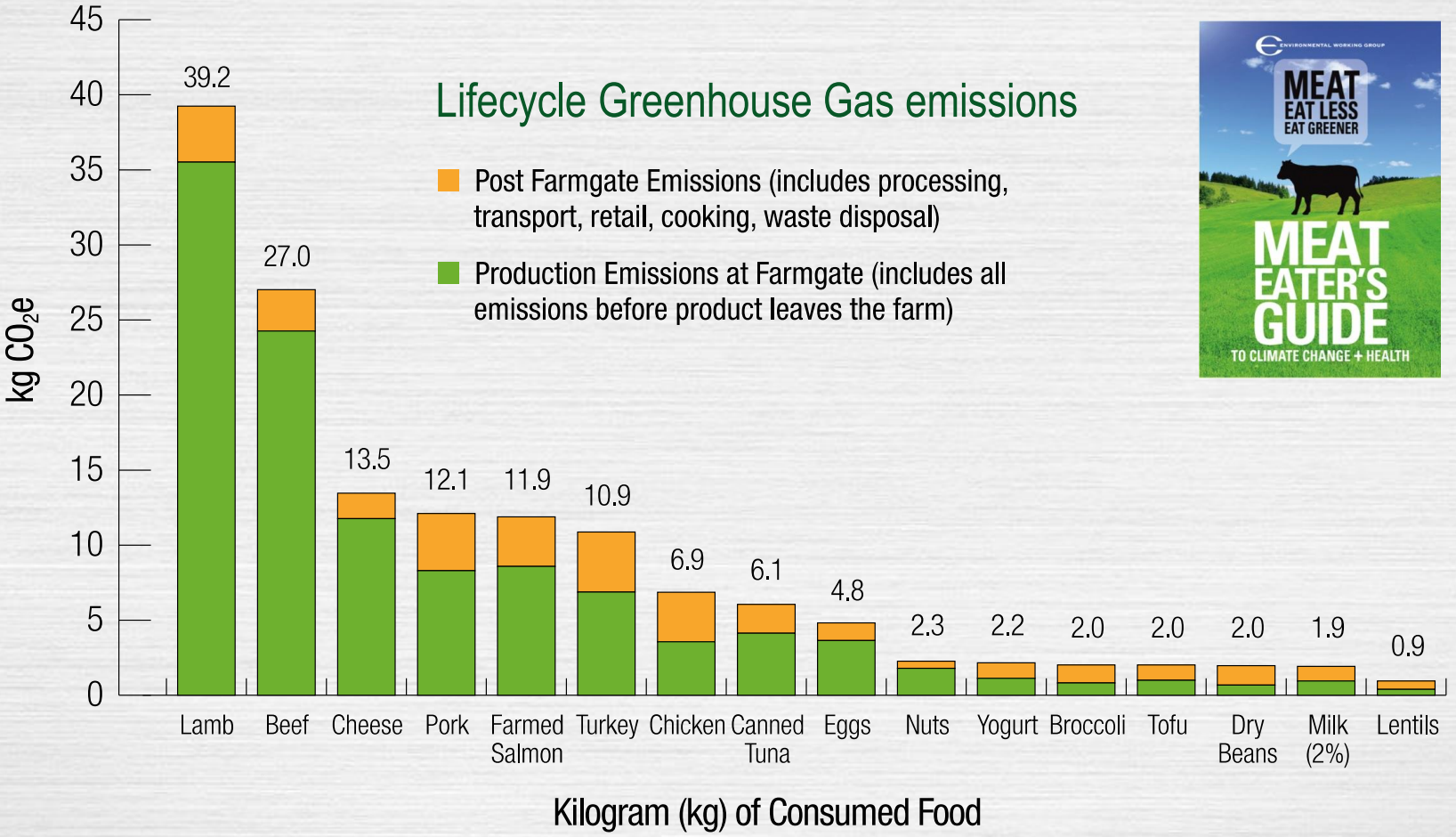
All Protein is Not Created Equal



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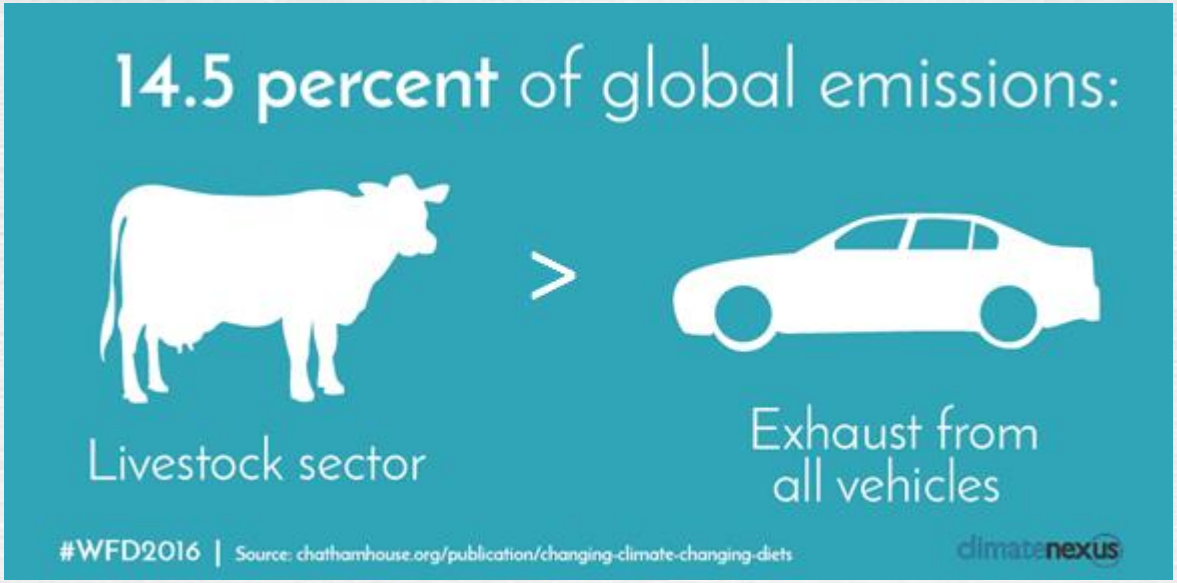
14.5 percent of global emissions:
>
Livestock sector
Exhaust from all vehicles
#WFD2016 | Source: chathamhouse.org/publication/changing-climate-changing-diets
climatenexus


9024

China

United States

Cattle

If the world's cattle formed a nation, it would be the 3rd largest greenhouse gas emitter after China and the U.S.

Graphic Source: Plant Power Taskforce; Info Source: World Resources Institute

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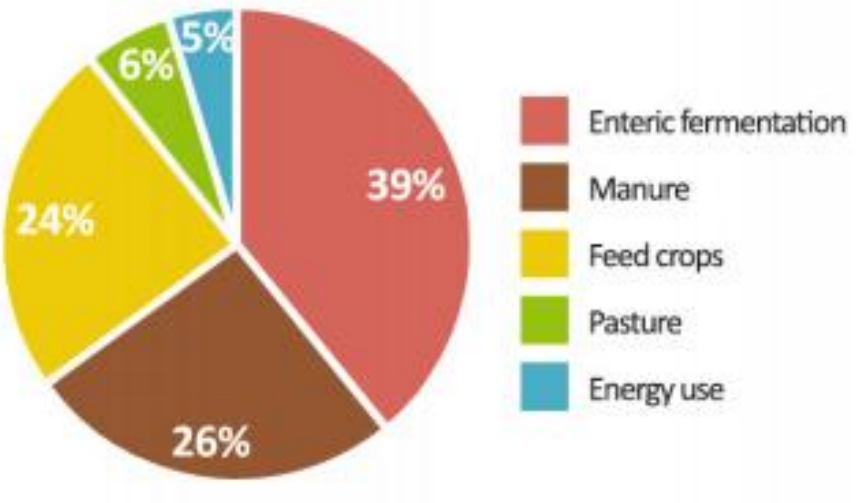
Livestock and Methane Emissions

Figure 1: Livestock's contributions to climate change



Source: Gerber et al., 2013

Methane is **30 times** more potent than CO2

Livestock contributes to **1/3** of all U.S. methane emissions

Beef accounts for 36% of U.S. diet related emissions

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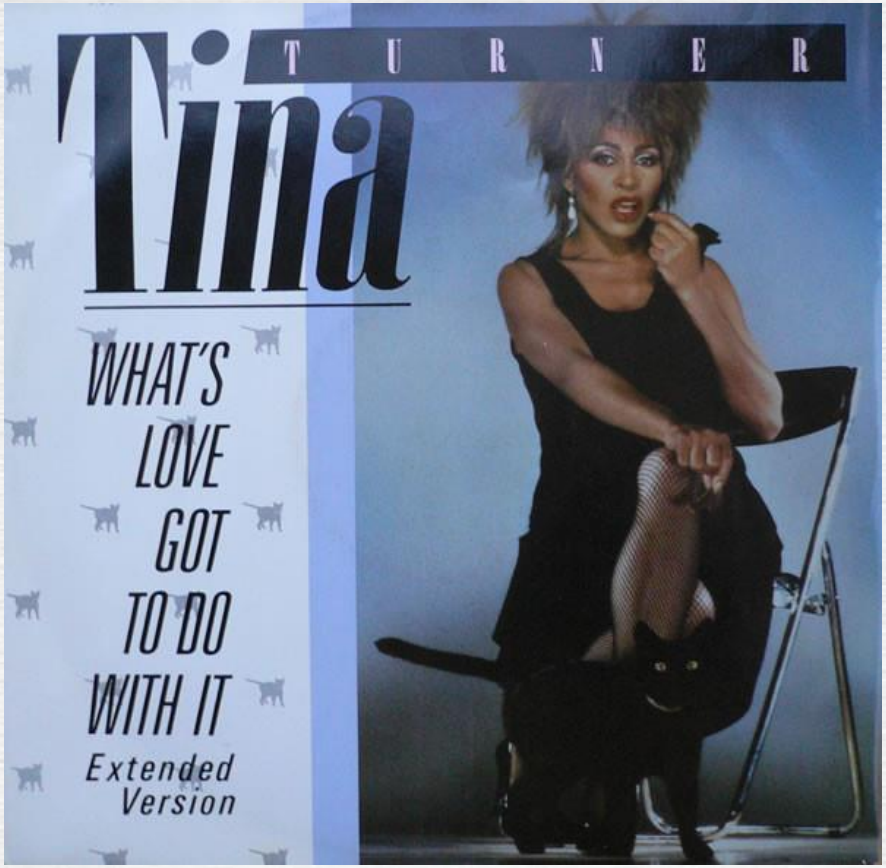
WHAT'S WASTE GOT TO DO WITH IT?



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Food Waste = Wasted Water, Energy, Fertilizer, Pesticides and other resources

Resource-intensive animal foods account for 1/3 of GHG emissions from food waste so reducing food waste from animal products through purchasing less, ordering less, putting less on the plate, is really important.

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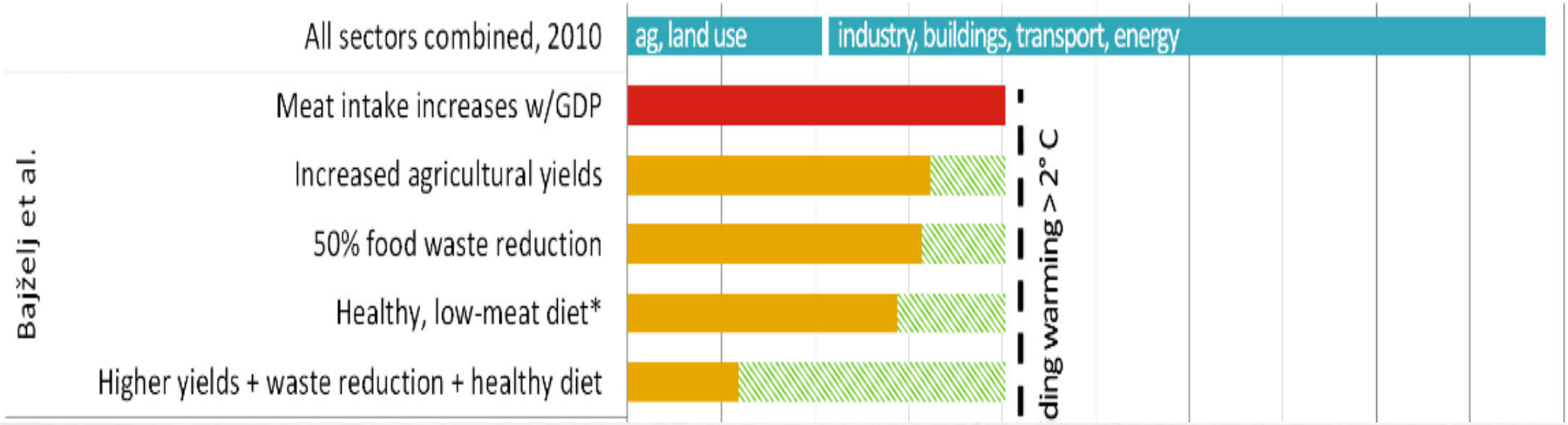
Business as Usual vs. Meat & Food Waste Reduction

Figure 2: 2050 agriculture-related emissions scenarios



Note: the black dotted line represents the emissions threshold (21□ 3Gt CO2e) for at least a 66% chance of keeping global warming below 2 degrees C; the blue bar shows emissions from all sectors (49 Gt)

**The "healthy diet" limits intake of red meat (max of two 3 oz. portions (e.g. 2 burgers per week), poultry (max of one 85 g / 3 oz. portion per day), dairy, eggs, sugars, and oils to levels recommended by health organizations (e.g., WHO, FAO, American Heart Association, Harvard Medical School), and sets a minimum for fruit and vegetable intake.*

Source: Center for Livable Future, 2015 and Bajzelj et al, 201

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SOLUTIONS

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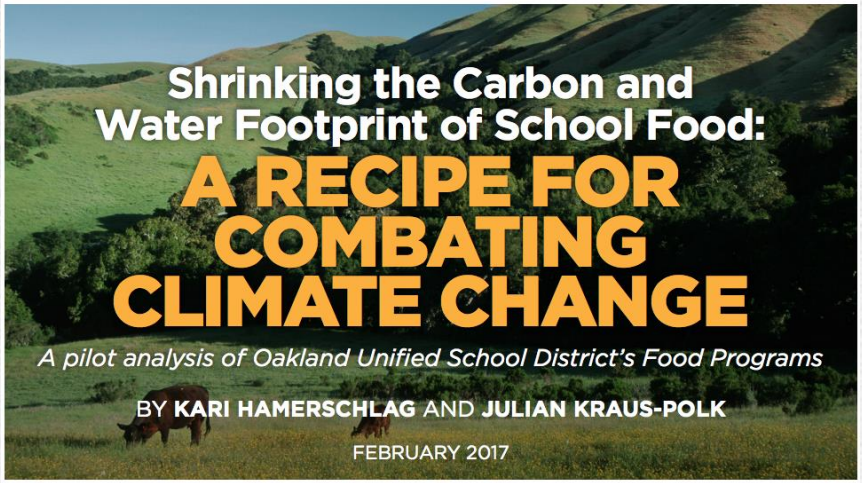

Food service directors face complex demands and requirements, and serving kids tasty and nutritious food is and must remain their number one priority. The OUSD case study shows that plant-forward menu planning is feasible and can support the mandate for **healthier and more delicious food.**

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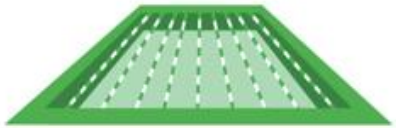
FOOD SHIFTS MATTER

Over 2 years, Oakland Unified School District reshaped its menu with fewer animal foods and more protein-rich legumes and vegetables. This shift generated considerable **water** and **climate benefits**, and **cost savings**:

SAVED 42million GALLONS OF WATER



63 OLYMPIC SIZED SWIMMING POOL

14% REDUCTION IN THE CARBON FOOTPRINT OF ITS ENTIRE FOOD PURCHASES

15,000 TREES PLANTED

1.5 million FEWER MILES DRIVEN

87 SOLAR SYSTEMS INSTALLED ON THE SCHOOL DISTRICTS' ROOVES

COST SAVINGS

$42,000

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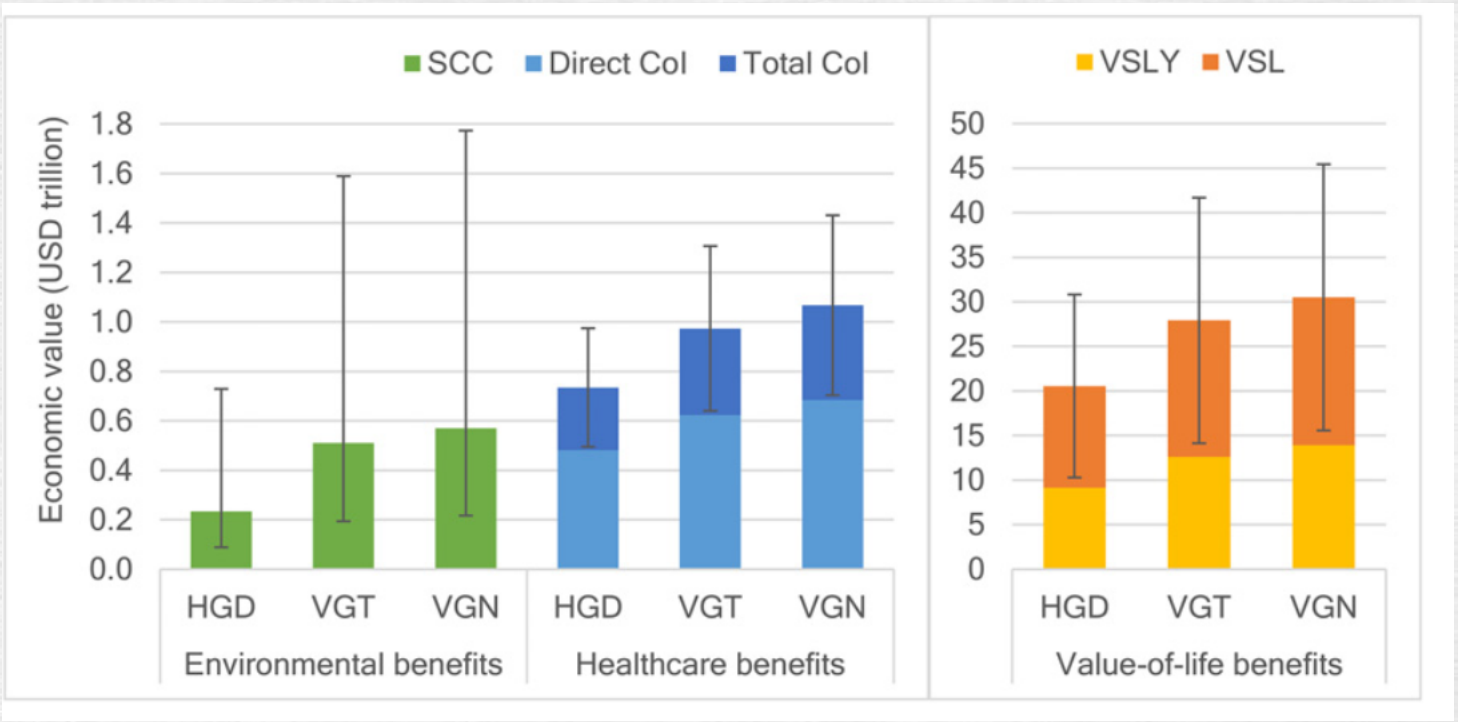
By 2050 dietary change can:

- **Reduce food-related GHG by 29-72%**
- Decrease global mortality by 6-10%
- Generate $1-31 trillion in savings

Cost-of-illness: direct health-care costs, indirect costs of informal care/lost workdays

Willingness to pay – value of statistical life (VSL) or life year (VSLY)



HGD: Healthy Global Diet, VGT: Lacto-ovo vegetarian; VGN: fully plant-based (vegan)
Slide adapted from Roni Neff, Johns Hopkins Center for a Livable Future

Springmann et al 2016, PNAS

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ROLE OF MUNICIPALITIES

Triple Bottom Line:

- Increased healthful food offerings
- Reduced environmental and climate impacts
- Cost savings

Image source: https://www.pinterest.com/pin/401313016766779843/

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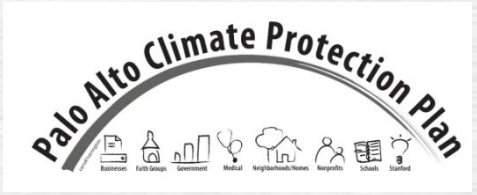
Climate Action Plans Encouraging Reduced Meat Consumption



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Meatless Monday Resolutions

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Climate and Environmental Benefits of Organic and Sustainable Food Production

Cover cropping, crop rotation, composting, rotational grazing, mixed crop-livestock systems

- Build Soil Organic matter
- Conserve Water
- Sequester Carbon
- Reduce toxic chemical use
- Reduce nitrogen pollution
- Increase Biodiversity & Pollinator Habitat

More resiliency in face of climate change

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BETTER BURGER CHALLENGE

Less Meat
Better Meat
More Veggies
More Organics
www.betterburgerchallenge.org

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Thank you! For more information, please contact:

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