

Proteins for a Healthy Planet

Innovative Strategies for Sourcing Better Meat and Plant-Based Foods



Welcome



Your hosts



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Who's in the room?

Food Service



Administrators



Educators



Support Orgs



Producers

The WHY:

Why Less Meat? Why More Plant-based
Proteins?



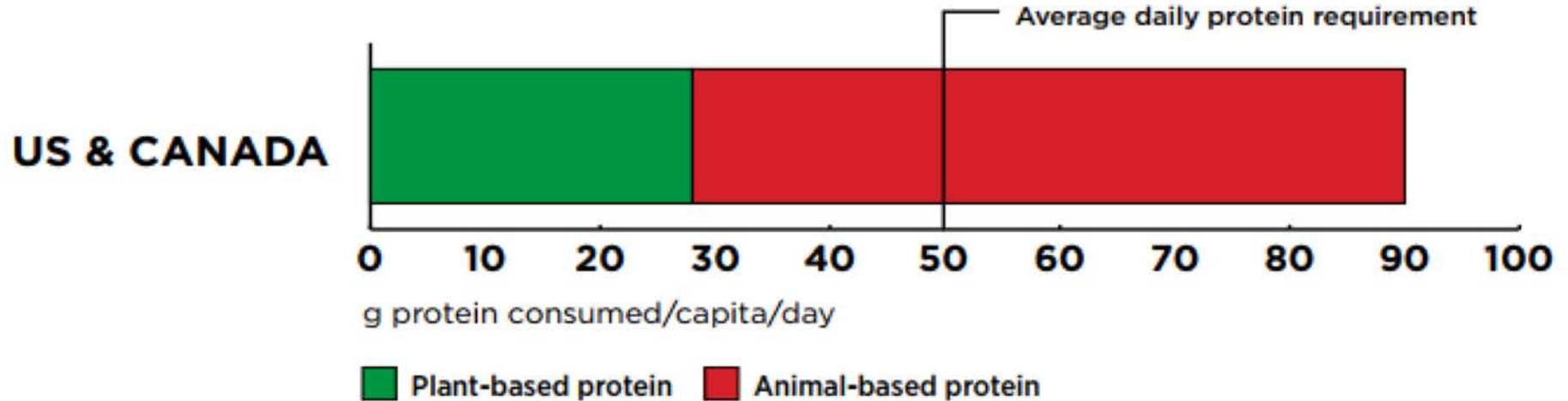
AMERICANS EAT
3X AS MUCH MEAT

(RED MEAT AND POULTRY)

AS THE
GLOBAL AVERAGE.
50% higher than Europe.

OVER HALF
IS RED MEAT.

People are eating more protein than they need



Source: Adapted from People Are Eating More Protein than They Need - Especially in Wealthy Regions. (2016). World Resources Institute. Retrieved from www.wri.org/resources/data-visualizations/protein-scorecard

2015 Dietary Guidelines Report calls for more plants and less meat for healthier people and planet



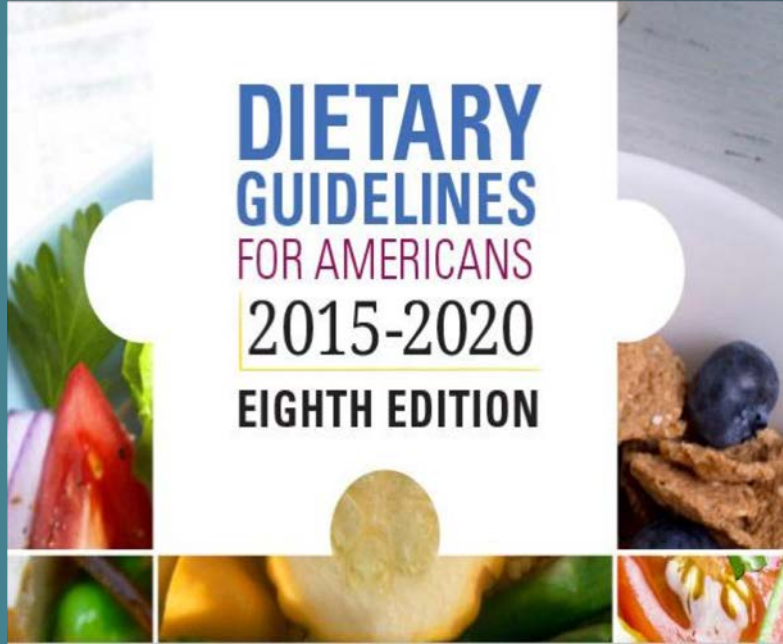


Scientific Report of the 2015 Dietary Guidelines Advisory Committee

Advisory Report to the Secretary of Health and Human Services
and the Secretary of Agriculture

“The major findings regarding sustainable diets were that **a diet higher in plant-based foods...** and lower in calories and animal based-foods is **more health promoting** and is associated with **less environmental impact.**”

A climate-friendly diet is a healthy diet!



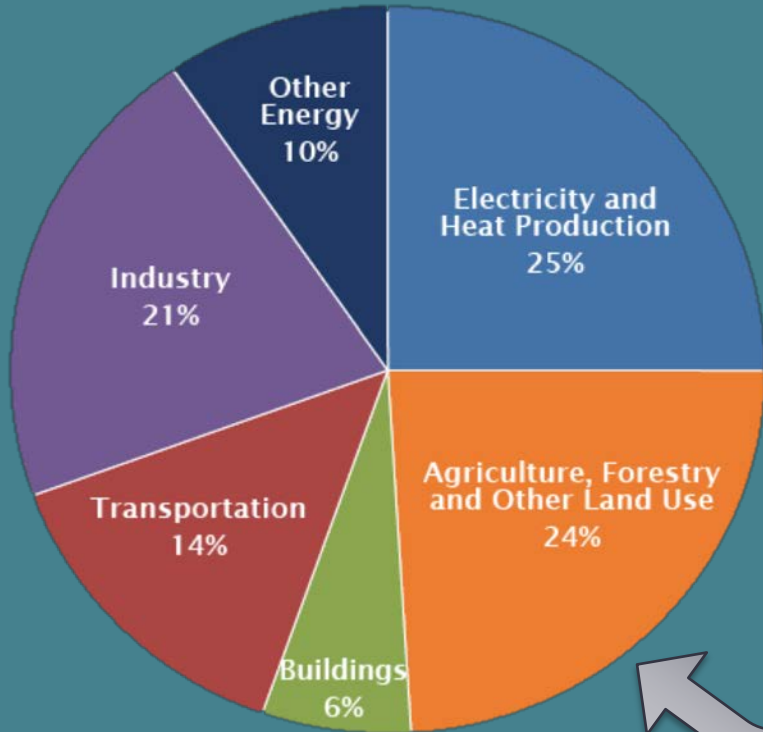
“lower intakes of meat as well as processed meats and poultry are associated with reduced risk of cardiovascular disease in adults”.

Source: <https://health.gov/dietaryguidelines/2015/guidelines/>

- Average intake of meat & poultry is too high for teenage boys and adult men (aim for 3.7 ounces/day)
- Legumes are under consumed across all age categories. These are lean, nutrient dense protein which DGA recommends.
- Vegetarian and (low-meat) Mediterranean diets are considered as healthy eating patterns by guidelines

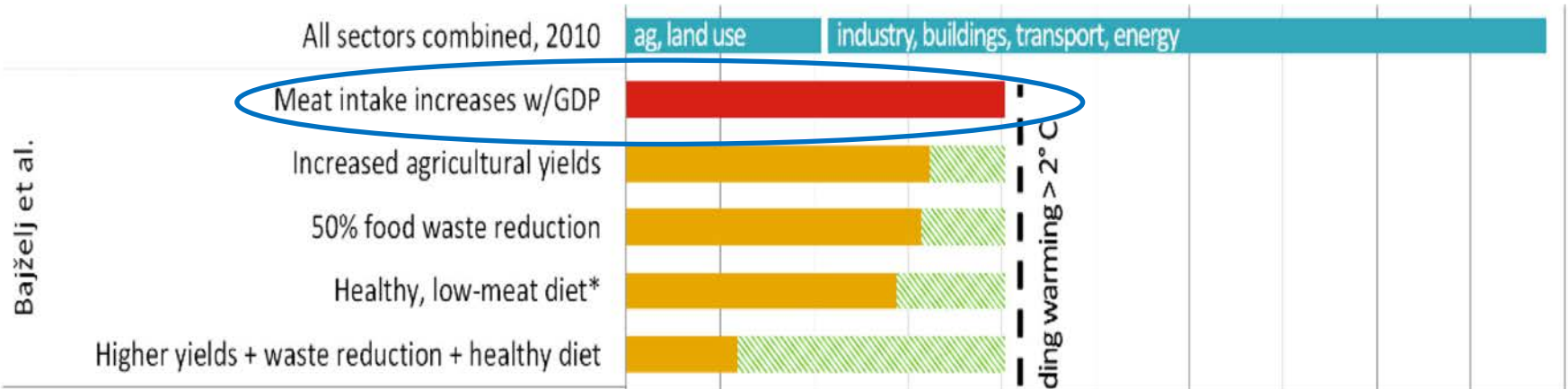
“these dietary patterns are associated with reduced risk of obesity, type 2 diabetes and some types of cancer”

Food & Climate Change



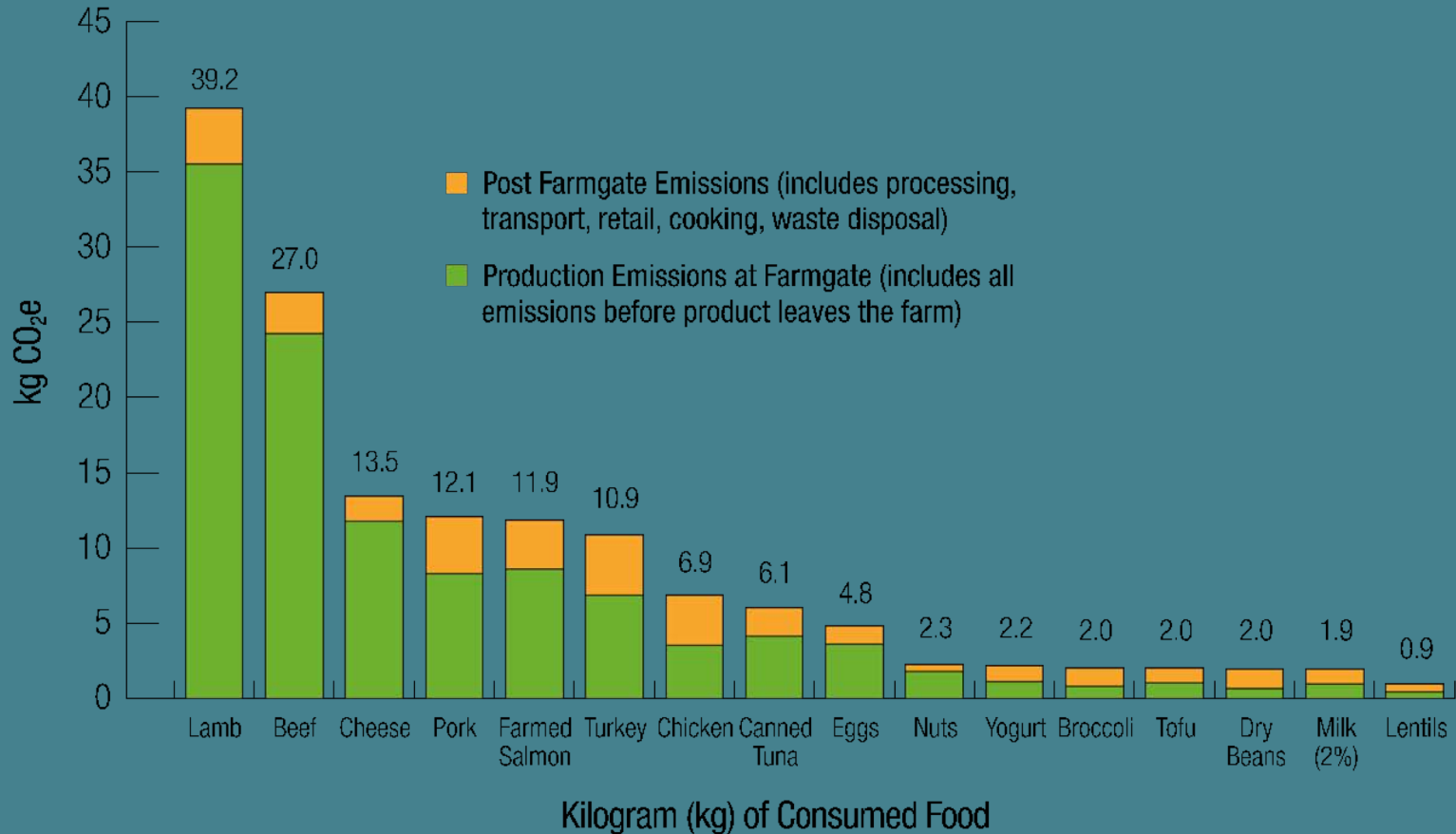
We can't avert the worst impacts of climate change without meat & food waste reduction

Figure 2: 2050 agriculture-related emissions scenarios



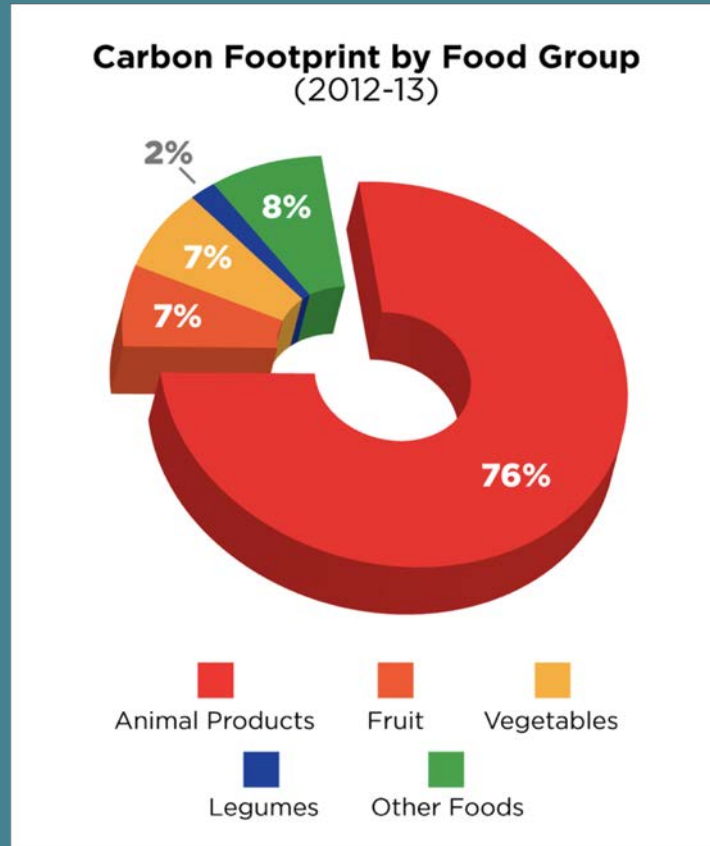
meat-eating nations like the United States, which consumes 2.6 times more meat than the global per capita average, must help shoulder this responsibility.

Not all protein is created equal



Source: Environmental Working Group, Meateaters Guide to Climate Change and Health

Animal products account for 76% of Oakland Unified School Food's Carbon Footprint



Source: Friends of the Earth, Shrinking the Carbon and Water Footprint of School Food, 2017

Cows and Methane Emissions



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

6-10 pounds of feed per pound of meat.

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

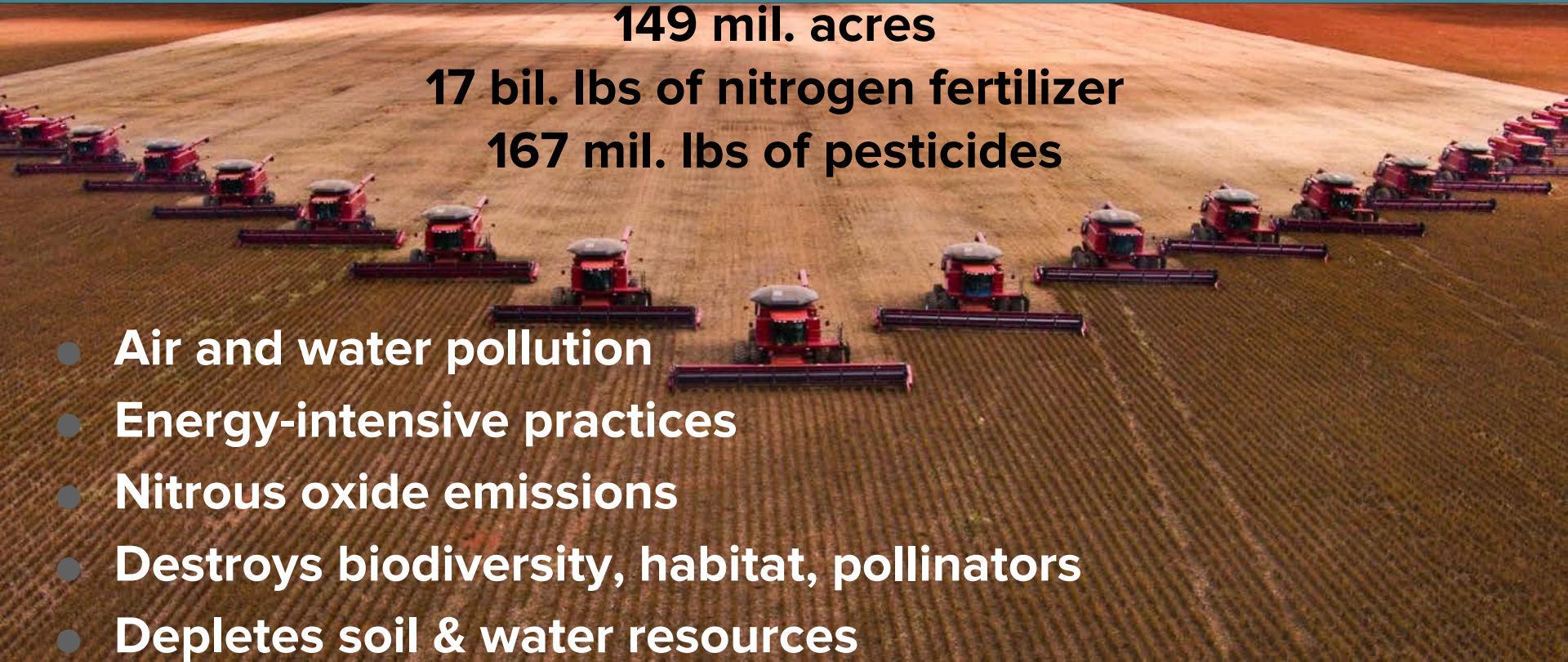
Resource-intensive Animal Feed Production

$\frac{1}{2}$ of U.S. grain production →→→ feeds domestic animals

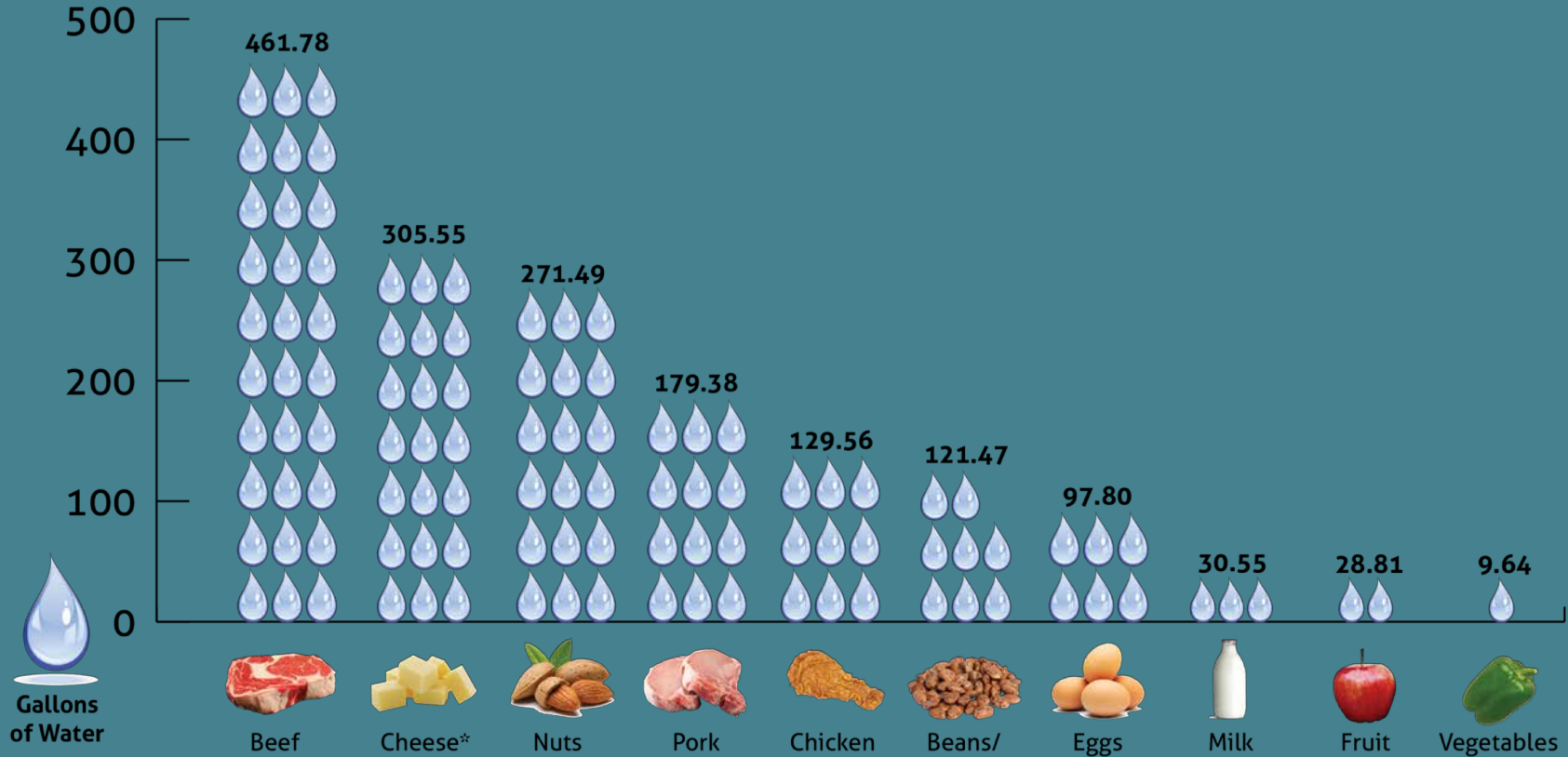
149 mil. acres

17 bil. lbs of nitrogen fertilizer

167 mil. lbs of pesticides

- **Air and water pollution**
 - **Energy-intensive practices**
 - **Nitrous oxide emissions**
 - **Destroys biodiversity, habitat, pollinators**
 - **Depletes soil & water resources**
- 

Gallons of Water Per 4oz Serving



Source for all water figures: Mekonnen, M.M. and Hoekstra, A.Y. (2010) The green, blue and grey water footprint of crops and derived crop products, Value of Water Research Report Series No. 47, UNESCO-IHE, Delft, the Netherlands

If current trends continue (esp. growing demand for animal foods), demand for food in 2030 is expected to be 40 percent greater than current, accessible, reliable water supplies



Quarter pound burger

=

8 showers



OR

5 days of indoor washing activities
(washing dishes, laundry, showers etc).



Benefits of Better Meat & Well-Managed Crop-Livestock Systems



- healthier soil
- carbon sequestration; fewer greenhouse gas emissions
- reduces toxic pesticides & chemical fertilizers
- protects water supply
- increases biodiversity & pollinator habitat (more bees)
- less chemical exposures for farmworkers & consumers
- more resiliency in face of climate change

Photo by Irene Kightley

The HOW:

Strategies for Serving Less Meat and
Better Meat

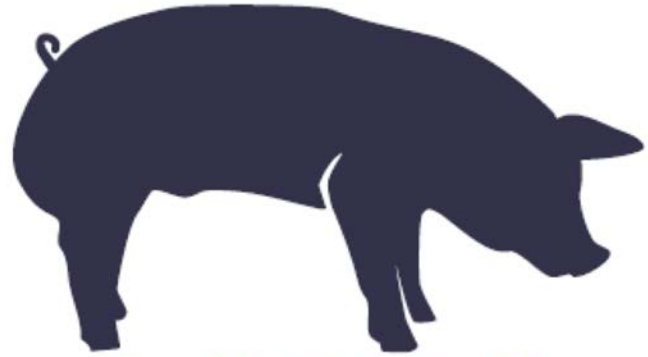
Strategy #1: **Better Meat**

Whole animal model

If we want to build a thriving local food system, we need to go beyond bacon



NORTHWEST
FOOD
BUYERS
ALLIANCE

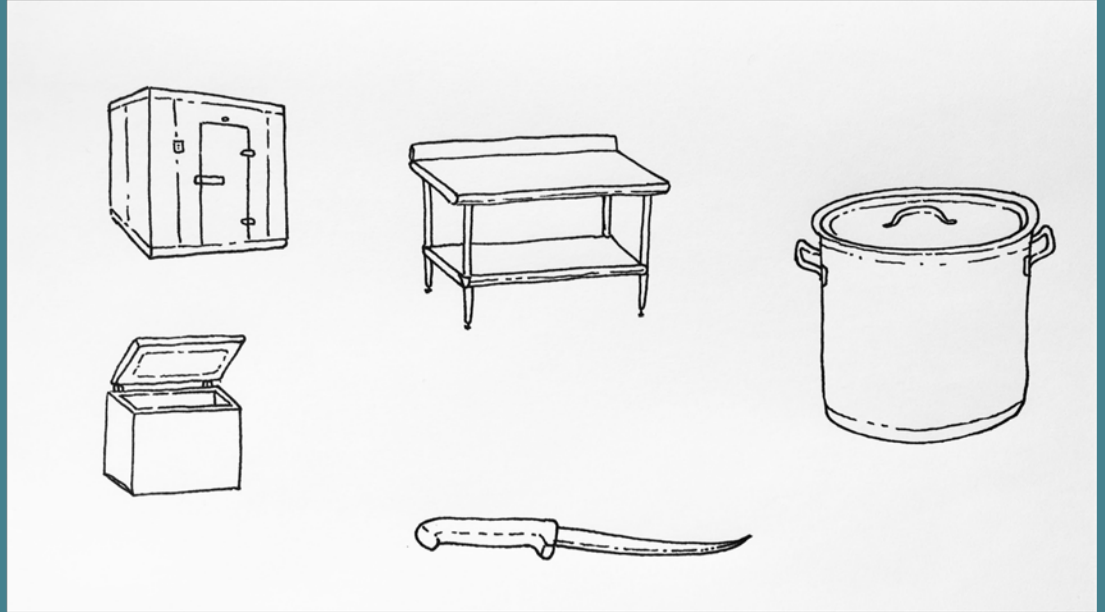


GOING
WHOLE
HOG

Whole animal model: How it works



Chef Andre Uribe @ Willamette University in Salem, Oregon uses 2-3 whole hogs in his kitchen each week



Some of the tools and equipment needed: Cooler, worktables, freezer, deboning knives, stock pots



**Whole animal model:
Making it work**



**Whole animal model:
Making it work**

Learn More

Contact Us: [nwfb@food-hub.org](mailto:nwfba@food-hub.org) | ssobell@ecotrust.org

Follow us on Twitter: @NWFoodBuyers

Download materials: <https://ecotrust.org/project/local-proteins>



Local Beef Procurement

Beef Production: How does it get from there to here?

BEEF LIFECYCLE

COW-CALF

Cows are bred and calves are born and raised every year on cow-calf farms and ranches, spending time grazing on grass pastures within sight of their mothers.



WEANING

Beef calves are weaned away from their mothers between 6-8 months of age.



LIVESTOCK AUCTION MARKETS

Many calves leave the farm or ranch where they were born and are sold at livestock auction markets to stockers and backgrounders between 6-12 months of age.



STOCKERS AND BACKGROUNDERS

Between 6-12 months of age cattle spend time at stocker and backgrounder farms and ranches where they graze on a variety of pastures. Here they gain weight and convert forage and grass into lean protein.



FEEDYARD

Cattle spend 4-6 months at a feedyard being fed a scientifically-balanced diet and receiving daily care. Some spend the rest of their lives on a pasture being grass finished.





The Montana Beef to School Project

Together we find strategies to encourage the use of local beef in **every** Montana school



NATIONAL CENTER
FOR APPROPRIATE
TECHNOLOGY



Montana Producers + Processors



MT B2S Coalition



The Beef to School Equation



+



+



**Beef
Producer**

**Beef
Processor**

**School Food
Service**

Montana B2S Case Study Report



The Montana Beef to School Project conducted comprehensive case study research with schools, producers, and processors across Montana to identify the benefits, challenges, best practices, and gaps that exist for beef to school procurement models in Montana.





BEEF TO SCHOOL

CASE STUDY PARTNERSHIP MODELS

Schools, producers, and processors can enter into several business partnerships to make a beef to school program successful. The procurement models that you will see in this case study are illustrated below.

PROCESSOR CONTRACT

The processor buys local cull cattle from producers, processes the beef, and sells the beef to school. The processor delivers beef frozen or fresh to the school as specified by the foodservice.



PRODUCER DONATION

The producer raises cattle through finishing stage and contracts with a meat processor for a fee. The meat processor returns the beef product to the producer. The producer donates the beef to the school. The producer delivers beef frozen or fresh to the school as specified by the foodservice.

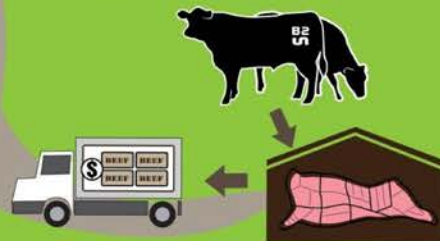


PRODUCER CONTRACT

The producer raises cattle through finishing stage and contracts with a meat processor for a fee. The meat processor returns beef product to the producer. The producer sells the beef to school. The producer delivers beef frozen or fresh to schools as specified by the foodservice.

VERTICALLY INTEGRATED

Cattle are raised, finished, and processed by a business that is both a producer and processor (referred to as vertically integrated). The producer and processor business sells and delivers fresh or frozen beef as specified by the foodservice directly to school.



COMMUNITY MEMBERS

A 4-H producer raises cattle through the finishing stage. Community members and businesses purchase 4-H cattle from annual fair. The school, community member, or business contracts with processor and donates cattle to the school. The processor delivers beef frozen or fresh to the school as specified by the foodservice.



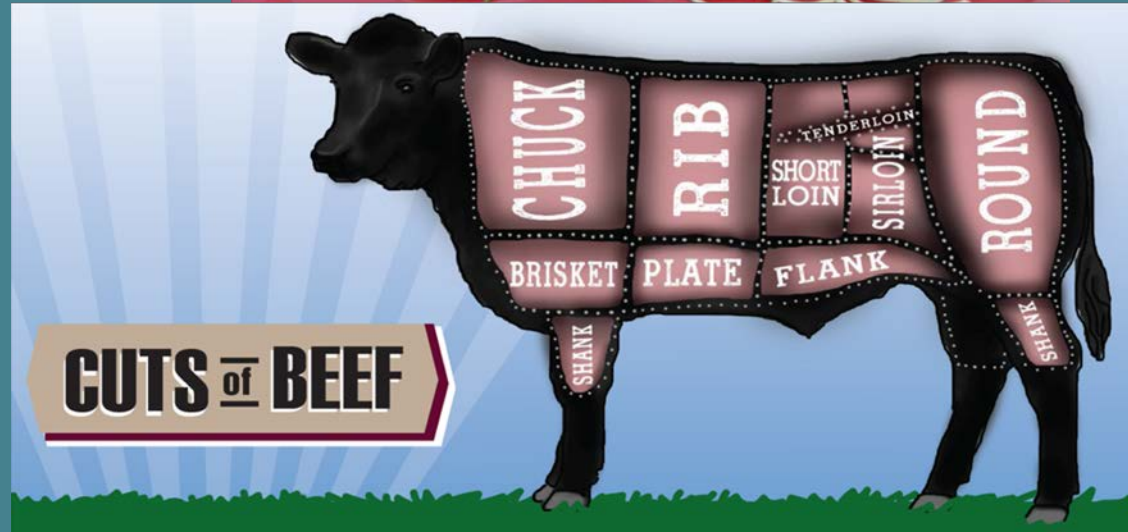
Key Case Study Findings

MOTIVATIONS

Quality
Community
Literacy
Nutrition

COMMUNITY INVOLVEMENT

Relationship Building
Donations
Parent & Student Support
Economics
Education





Whitefish School District



Kalispell Public Schools



Lower Valley Processing



Somers Lakeside School District





Learn More

Contact Us: beef2school@gmail.com

Follow us on Facebook:

facebook.com/montanafarmentoschool/ @montanafarmentoschool

Follow us on Twitter:

twitter.com/mtbeeftoschool @MTBeeftoSchool

Download the case study report: goo.gl/hr7cOA

Strategy #2: **Less Meat**

Beef, Lentil & Mushroom Meatballs



Recipe Development and Tasting



Taste Test

Montana Beef-Lentil Crumble

- 100% Montana grown and made
- Fully cooked, heat and serve
- Helps meet legume and protein requirements
- Versatile protein addition to soup, sauces, sloppy Joes, burritos, tacos, nachos, and so much more
- Use just like ground beef without losing flavor

The Better Burgers Campaign

Using less & better meat to transform the classic American hamburger into a force for a better food system.

For our health, the environment, farmers & animal welfare.

www.betterburgers.org



What is a Better Burger?

- Domestic organic and/or grass-fed beef from well-managed animals, raised humanely on pasture without routine antibiotics or hormones.
- Replace 30-50% of the meat with mushrooms. Best with grass-fed is 50% with mushrooms.
- Use less meat to cut the carbon footprint & afford better quality, healthier, third party certified beef.
- Use no more than 2.8 ounces of beef.

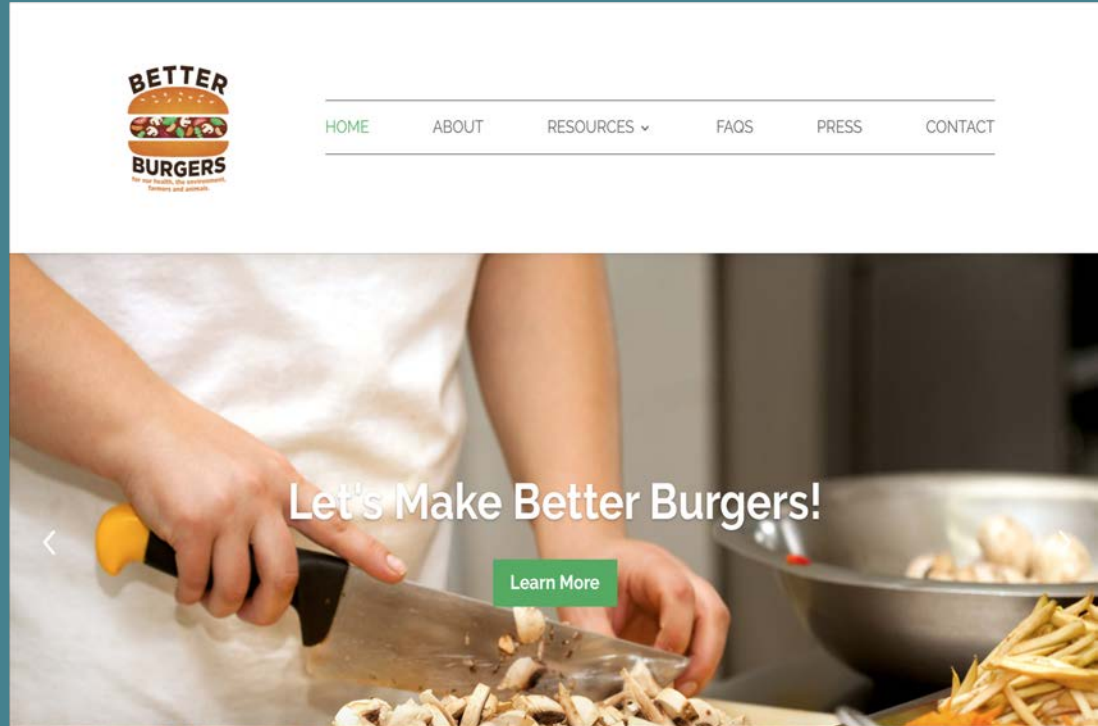


Certifications to look for:



What We're Doing

- Outreach & technical support to help university & college food service & student advocacy
- Outreach & support for grass-fed ranchers to build blended burger supply
- Outreach and partnership with food service companies to ensure widespread distribution channel for better burgers



[Link to the Wholesale Guide to Pre-Made Blended Burgers](#)

Partnerships

National Partners

- Real Food Challenge
- Farm Forward
- Turning Green

Foods Service Collaborators

- BAMCo
- Metz Culinary Management

Colleges & Universities

- University of Virginia
- University of North Carolina-Asheville
- University of North Carolina-Charlotte
- Duke University
- Florida Gulf Coast University
- Indiana University
- Fort Lewis College



Producers

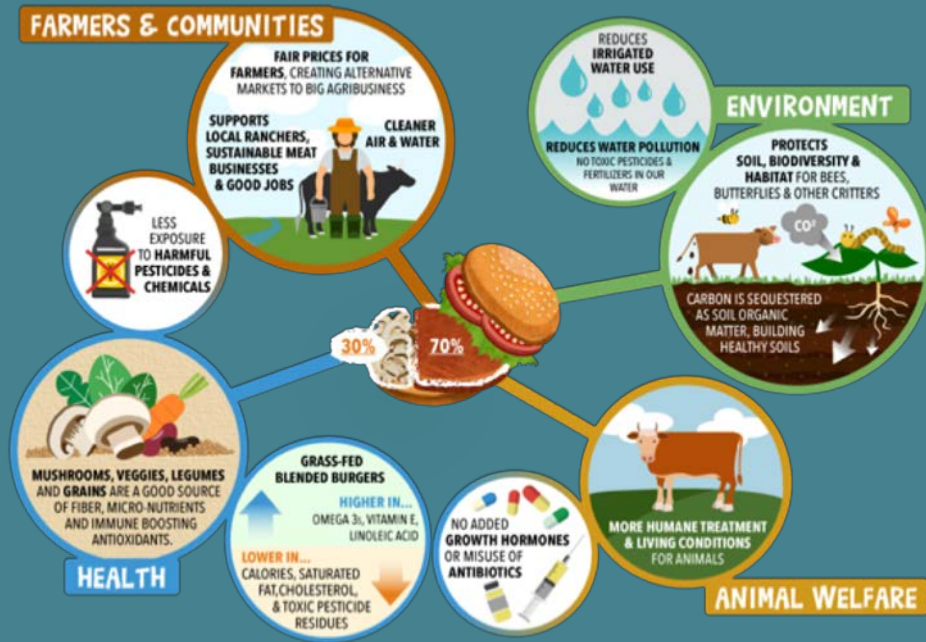
- Sun Fed Ranch (CA)
- Carman Ranch (PNW)
- Ranch Direct (CO)
- 7 Hills (VA)
- Hickory Nut Gap (NC)

Producer Collaborator

- The Mushroom Council

Equity Matters

- Supports local producers to be competitive in the wholesale market
- Access to a healthier “hamburger”
- Better wages & higher prices for producers
- Supports better animal welfare
- Supports local economies & alternative markets to big agribusiness
- Once there are economies of scale & blends become norm, price point will lower



[Link to infographic](#)

Blended burger sensory test





Strategy #3: **No Meat**

What is the role of institutional food service?

“Greater emphasis on plant-based foods, including plant based proteins is the single most important contribution the food service industry can make toward environmental sustainability”



HARVARD T.H. CHAN
SCHOOL OF PUBLIC HEALTH

theguardian

Vegans, vegetarians and now...
reducetarians



INDEPENDENT

INDY/EATS

FLEXITARIANISM PREDICTED AS KEY

FOOD TREND FOR 2017

FOOD
navigator-usa.com

Vegan is going mainstream, trend data suggests

By Elizabeth Crawford

17-Mar-2015 - Last updated on 17-Mar-2015 at 20:41 GMT



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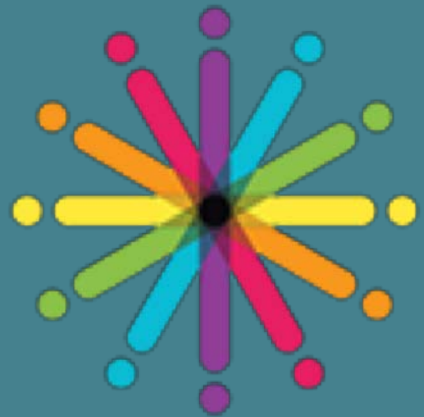


11 COMMENTS

Inspiring Stories of K-12 Foodservice



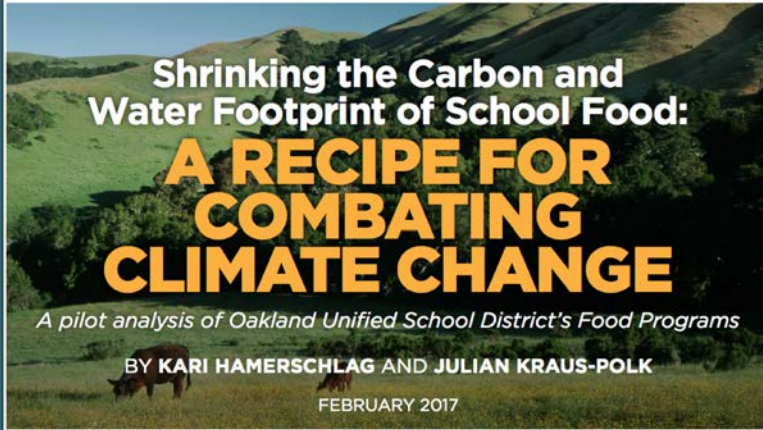
**OAKLAND UNIFIED
SCHOOL DISTRICT**
Community Schools, Thriving Students
Teach | Grow | Inspire



NOVATO
UNIFIED
SCHOOL
DISTRICT



**Santa Barbara
Unified
SCHOOL DISTRICT**



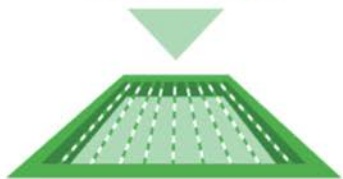
The OUSD case study shows that plant-forward menu planning is feasible and can support the mandate for healthier and more delicious food.

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

1.5million  
FEWER MILES DRIVEN

87 
SOLAR SYSTEMS INSTALLED
ON THE SCHOOL DISTRICTS' ROOFS
















COST
SAVINGS

\$42,000



Plant-Forward is Affordable

	FOOD	IMPACT (GHG emissions per gram of protein)	COST (Retail price per gram of protein)
LOW	Wheat		\$
	Corn		\$
	Beans, chickpeas, lentils		\$
	Rice		\$
	Fish		\$\$\$
	Soy		\$
	Nuts		\$\$\$
	Eggs		\$\$
MEDIUM	Poultry		\$\$
	Pork		\$\$
	Dairy (milk, cheese)		\$\$
HIGH	Beef		\$\$\$
	Lamb & goat		\$\$\$

Source: Adapted from Protein Scorecard. (2016). World Resources Institute. Retrieved from www.wri.org/resources/data-visualizations/protein-scorecard

Plant-Forward is Affordable



Analysis of Health Care Without Harms Less Meat Better Meat program found that four San Francisco Bay Area hospitals generated an estimated food service saving of

\$400,000 per year

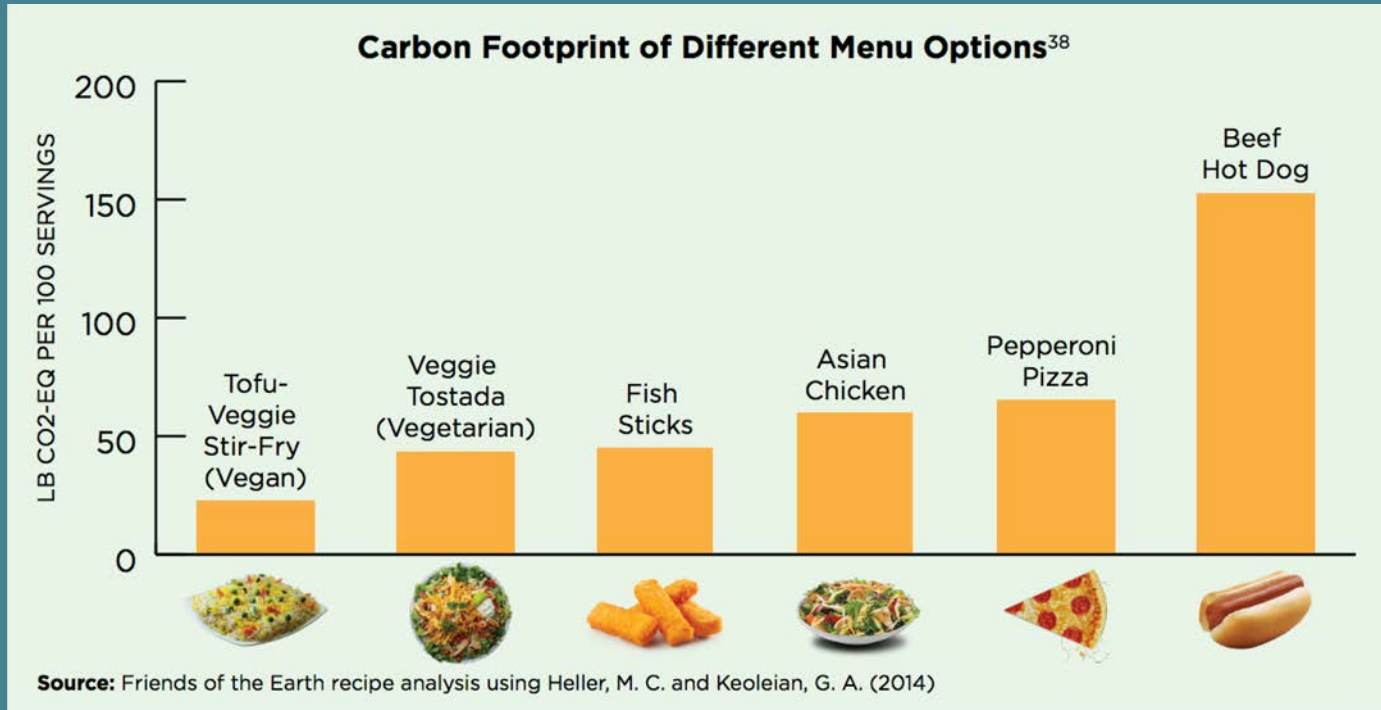


Analysis of Oakland Unified School Districts Menu Shifts indicated that OUSD saved

\$42,000 per year

Menu Based Strategies at OUSD

Developing lower-carbon menus and recipes is an effective and approachable way to shift food purchasing.



Plant-Based Options

Cooking from
Scratch:

Using convenient Pre-
made products:



Photo credit Sodexo

Sodexo Black Bean Burger

OUSD Bean & Cheese Tostada is a perfect example of what you can do with scratch cooking to enhance the flavor and freshness of low-carbon recipes



Photo credit Alex Emmott

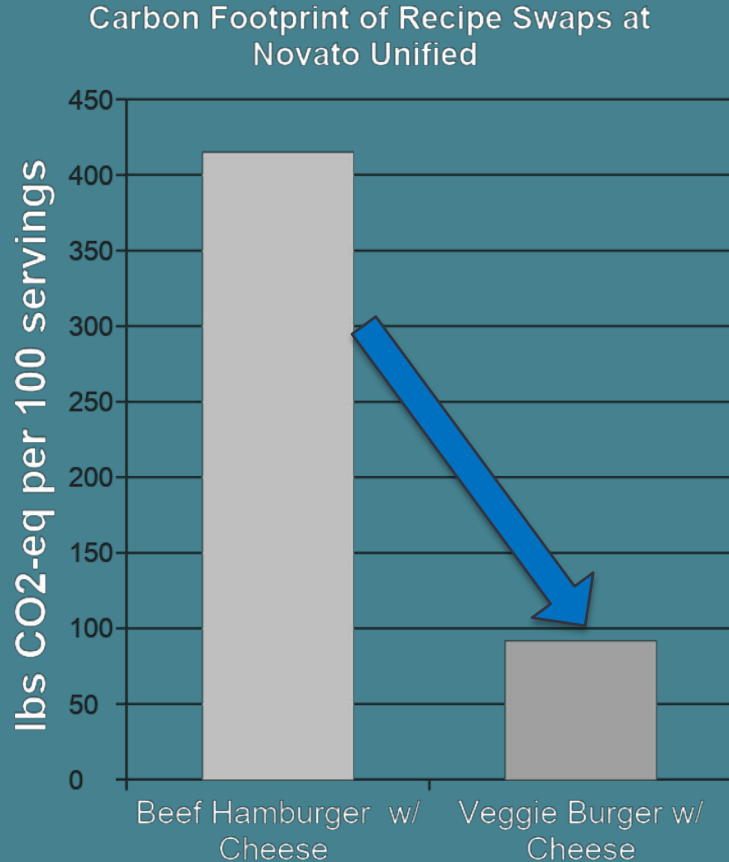
Hungry Planet™

Range-Free Burger
Santa Barbara Unified School Districts has **aspirations** to switch all their meat to Hungry Planet's plant-based options



Photo credit Hungry Planet

Menu Based Strategies at NUSD



In 2008, Novato eliminated all red meat from the menu and switched the Beef Burger to a Veggie Burger

Over the 10 year period this recipe swap alone has had the equivalent carbon saving as driving **1.2 million** less miles in a car.

Engaging Students



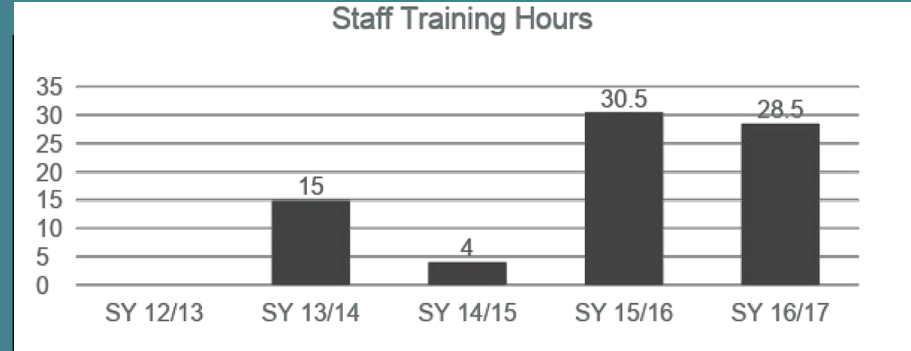
OUSD Nutrition Services has conducted over **9000** student taste tests since 2015!

- Taste tests at over 85 Schools and Child Development centers.
- More than 40 new or revised recipes.



Photo credit: Center for Ecoliteracy

Investing in Nutrition Services Staff



- 90% increase in staff professional development hours since 2013, thanks to grants from USDA and CDFA.
- 86% of staff surveyed report an increase in knowledge since 2013.

Institutional Commitments

The logo for Meatless Monday features the words "MEATLESS" and "MONDAY" in a bold, bubbly, orange-to-yellow gradient font with a red outline. The text is set against a dark green, slightly tilted rectangular background.The logo for the Center for Good Food Purchasing. It features a large orange letter "C" with a green leaf on top, followed by the word "CENTER" in blue. Below this, the word "FOR" is in a smaller blue font, flanked by horizontal lines. Underneath, "GOOD FOOD PURCHASING" is written in blue, and at the bottom, "BUILDING A VALUES-BASED FOOD SYSTEM" is written in a smaller green font.

- Global movement with a simple message: choose not to eat meat, one day a week
- Great new toolkit (Promotional, marketing, educational, training materials)
- E-Cookbooks: K-12 cookbook (with 30 recipes that credit for at least 1oz meat-alternate)
- Participants: Almost 200 hundred K-12 school districts nation wide have adopted meatless Monday. See full list here.

The logo for Lean & Green Kids. It features a green pea in its pod on the left. To the right, the text "Lean & Green Kids" is written in a blue, rounded font. Below this, the tagline "changing lives, one little bean at a time!" is written in a smaller, green, cursive font, underlined.

The shift from
**Meatless
Mondays**

to

**Lean and Green
Wednesdays**

meant more scratch cooked
and student vetted vegetarian
choices like: Nachos, Chow
Mein, and even vegan
Bolognese sauce! Plus, more
colorful sides like fiesta corn
salad & California carrot
salad.



Additional Resources

Tools & Technical Support

- [Food Forward](#), Case studies, Technical Support and Culinary Training
- Meatless Monday: [Toolkit](#) and [Cookbook](#) (For All Foodservice) [Coalition for Healthy School Food](#), Plant-based recipes and resources for K-12
- [Lean and Green Kids](#), Recipes and Educational Materials for K-12
- [Center for Good Food Purchasing](#) Good Food Tracking for Public Schools and Municipalities
- Menus of Change: [Principal Resources](#) (For All Foodservice)
- Vegetarian Recipes from [Chef Ann Foundation](#) (For K-12)
- Friends of the Earth: Menu/recipe footprinting assistance, [Shrinking the Carbon & Water Footprint of School Food](#)
- Friends of the Earth: [Better Burgers Initiative](#) (For All Foodservice)
- [Friends of the Earth: Municipal Guide to Climate-friendly Food Service](#)

Small Group Activity

Small Group Activity: Groups

Three groups by keenest area of interest:

- 1) Better Meat: Whole Animal & Pastured Proteins
- 2) Less Meat: Blended Burgers
- 3) No Meat: Plant-Based Proteins



Small Group Activity: Questions

1. Do you have **successful examples** in your foodservice to share? If so, what made it possible? (e.g., education, taste tasting, training, recipe development, local producer relationships) How has it been received by your eaters?
1. What are the **biggest challenges** and what do you need to overcome obstacles?
1. What **policy shifts** or **changes at the institutional level** could help?

Other questions?

Wrap Up

Thank you!



Jen Dalton

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