Greening School Food: A SoCal Forum on Climate-Friendly School Food

Monday, October 1, 2018, Los Angeles

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#climatefriendlyfood

#SchoolFood

#PlantBased

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The Environmental Case for Climate-Friendly School Food Service

Kari Hamerschlag

Friends of the Earth, Food & Agriculture Program

Greening School Food: A So-Cal Forum on Healthy, Climate-Friendly Food Service

October 1, Los Angeles, CA

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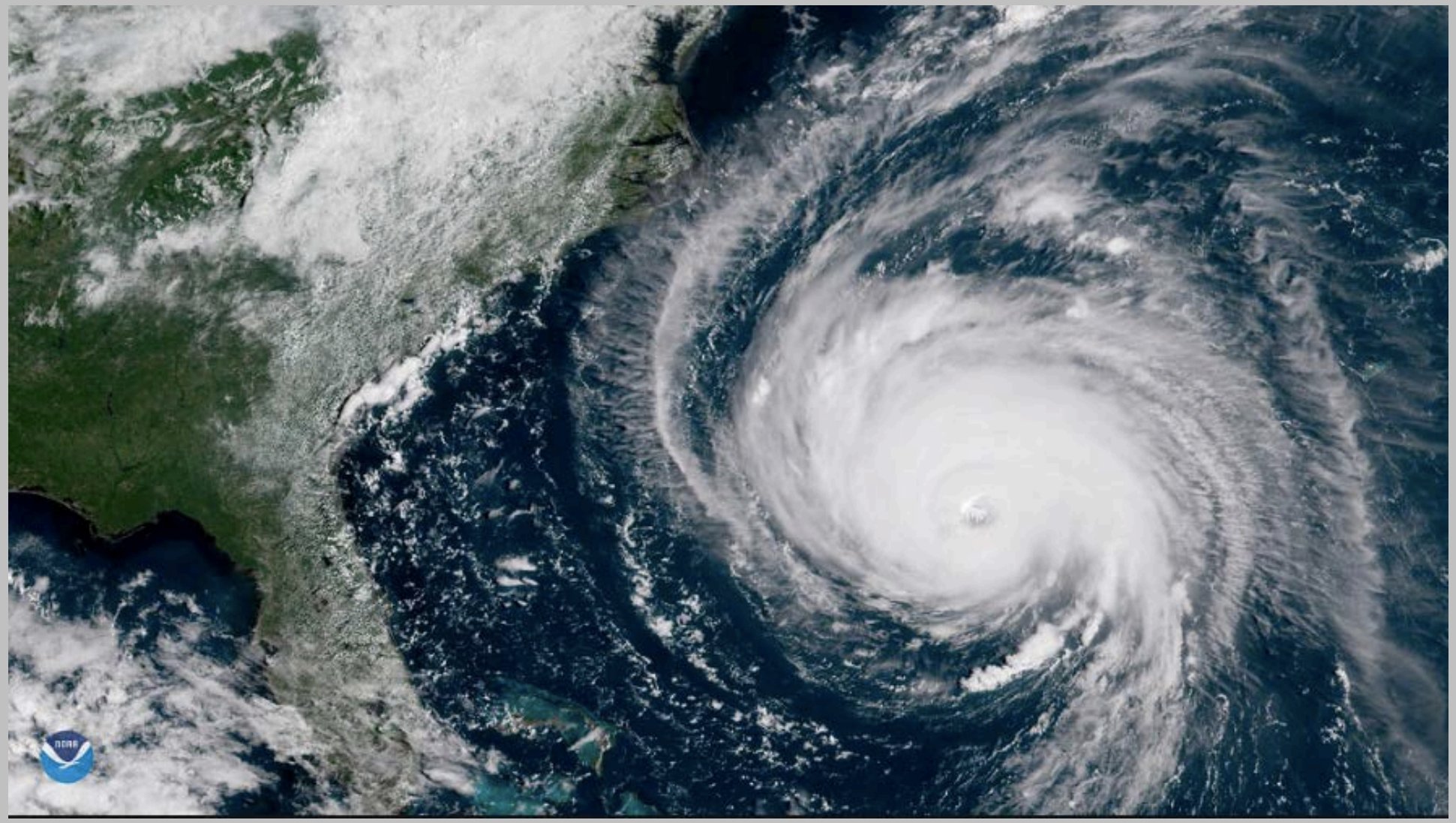

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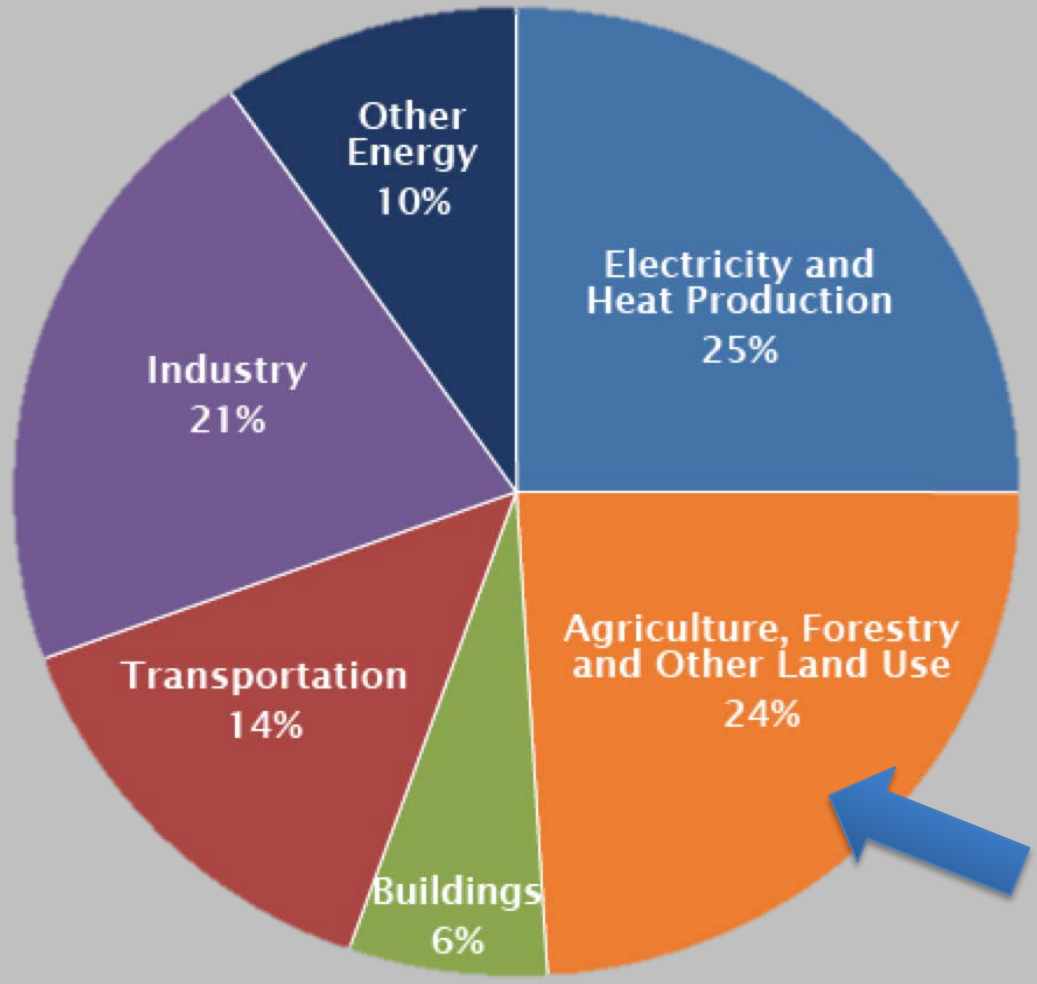
Food & Climate Change



Source: (EPA)
https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

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Food animal production accounts for 14.5 percent of global GHG emissions--more than the entire transport sector combined!

- beef and dairy account for ½ of emissions from agriculture

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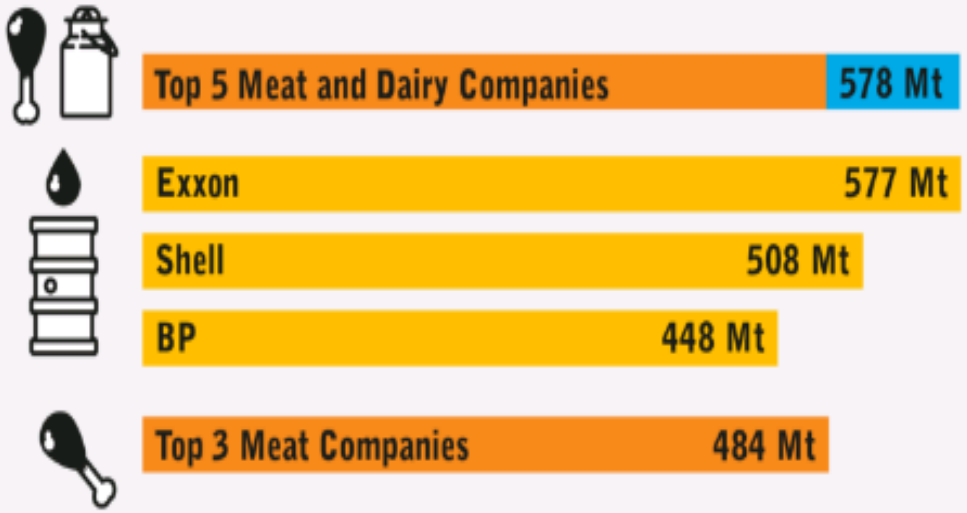
THE TOP MEAT AND DAIRY CORPORATIONS EMIT MORE GHGS THAN EXXON, SHELL OR BP



Source: GRAIN/ IATP/ Carbon Majors Report (2016)

TOP 5 MEAT AND DAIRY EMITTERS

1 JBS

2 TYSON

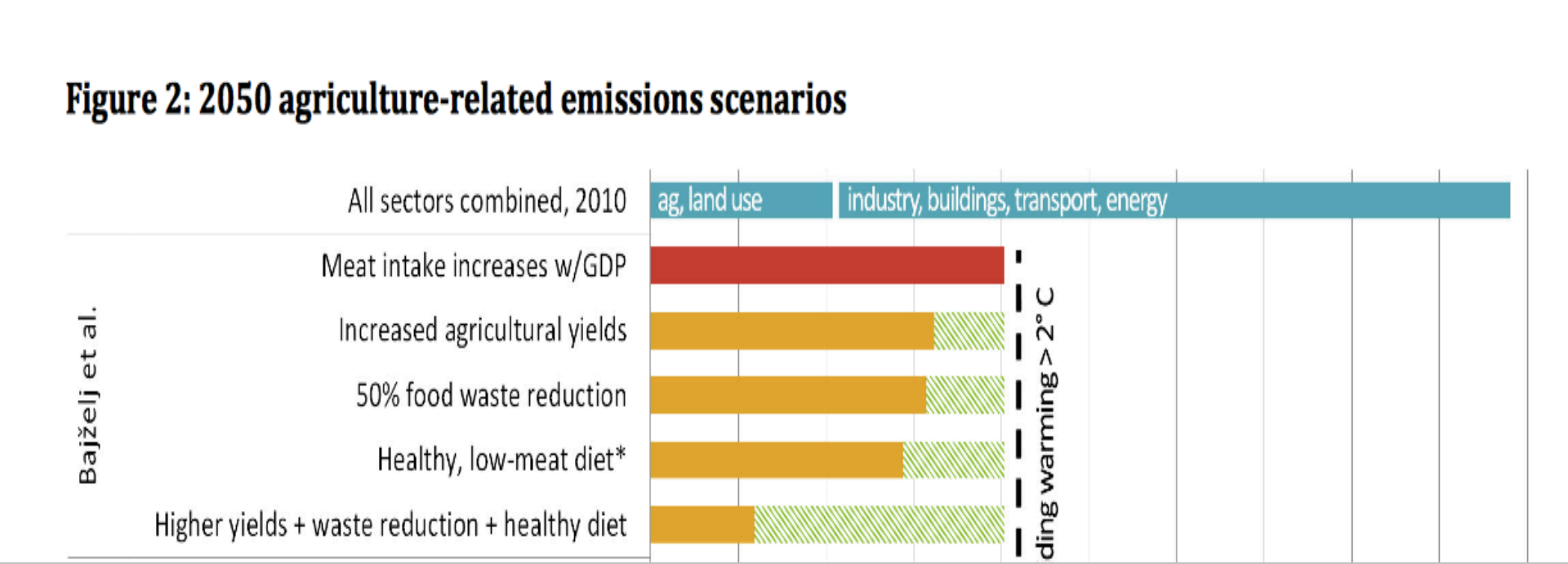
3 CARGILL

4 DAIRY FARMERS OF AMERICA

5 FONTERRA GROUP

Grafik: CAEPSELE.DE

We can't avert the worst impacts of climate change without reducing consumption of animal products and food waste



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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AMERICANS EAT

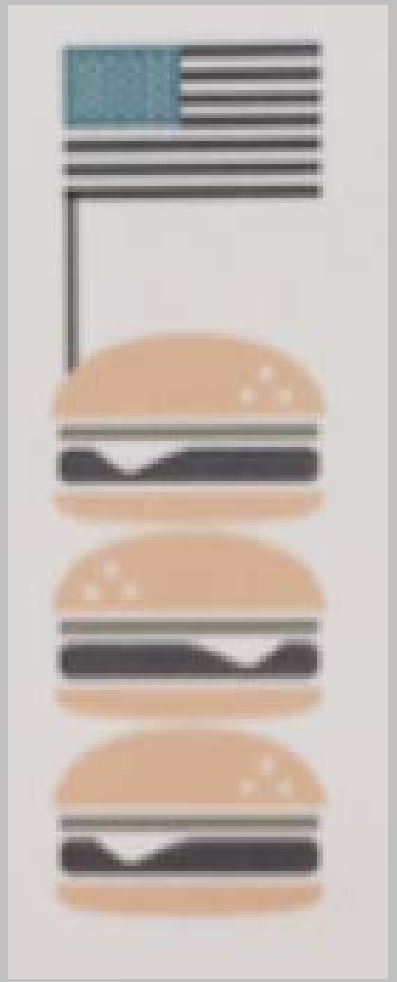
3X AS MUCH MEAT

(RED MEAT AND POULTRY) AS THE

GLOBAL AVERAGE.

OVER HALF

IS RED MEAT.



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What is Healthy, Climate-Friendly Foodservice?

Healthy, climate-friendly foodservice is a multi-benefit strategy that can be achieved in incremental steps. Principally, it achieves a lower carbon and water footprint than traditional foodservice by offering a wider array of healthy, plant-forward and plant-based foods and reducing food waste.

It also cuts emission by sourcing food from regenerative farms that use carbon-enhancing, healthy soil practices and implementing energy and water-saving measures within cafeterias. The shift to climate-friendly food is inclusive of farm-to-school initiatives that prioritize fresh, organic and responsibly sourced ingredients from local farms and educate students about the power of food to cultivate healthy people and healthy minds.

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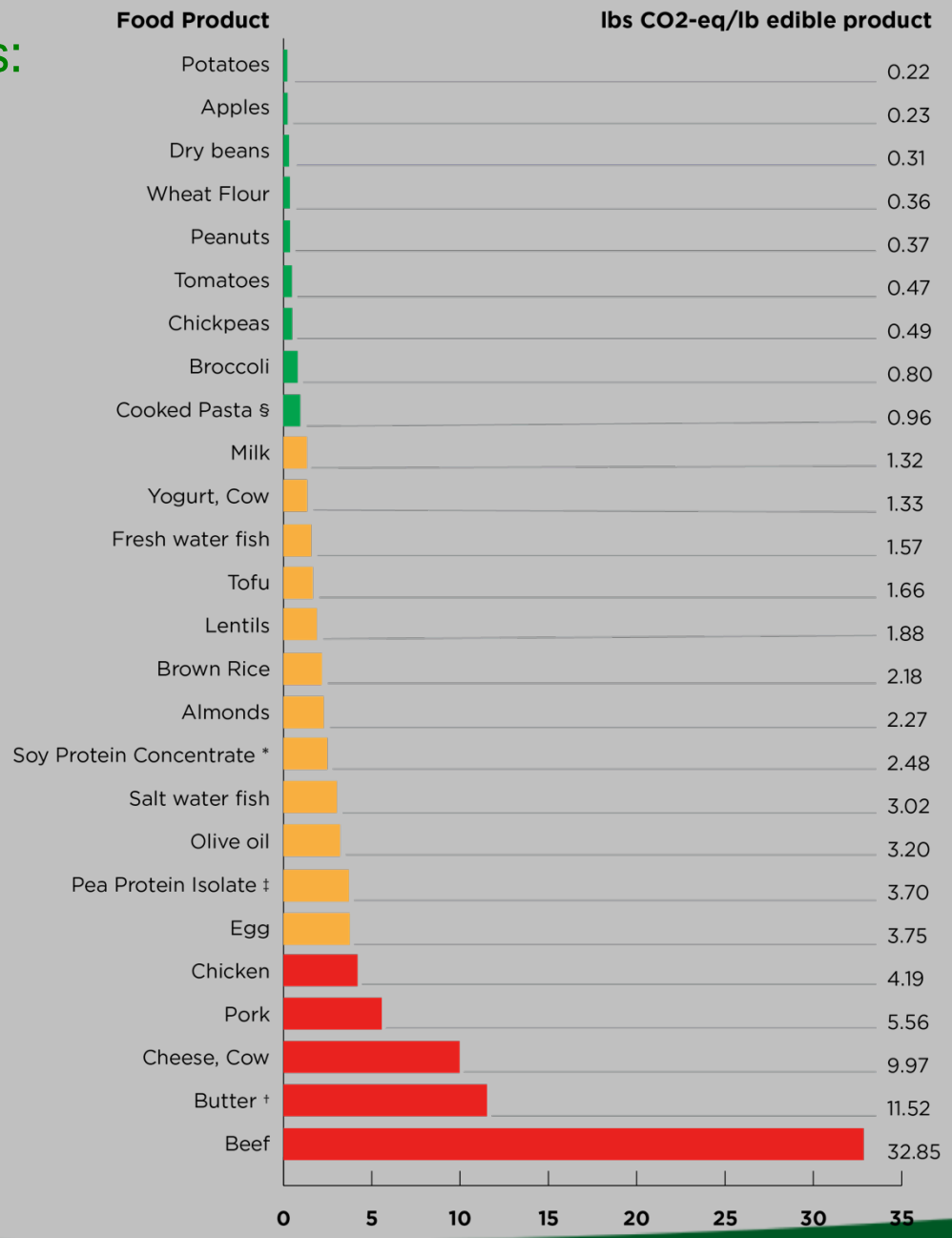
Carbon Footprint of Select Foods: Not all Protein is created equal



Source: Friends of the Earth, Scaling Up Climate-Friendly School Food

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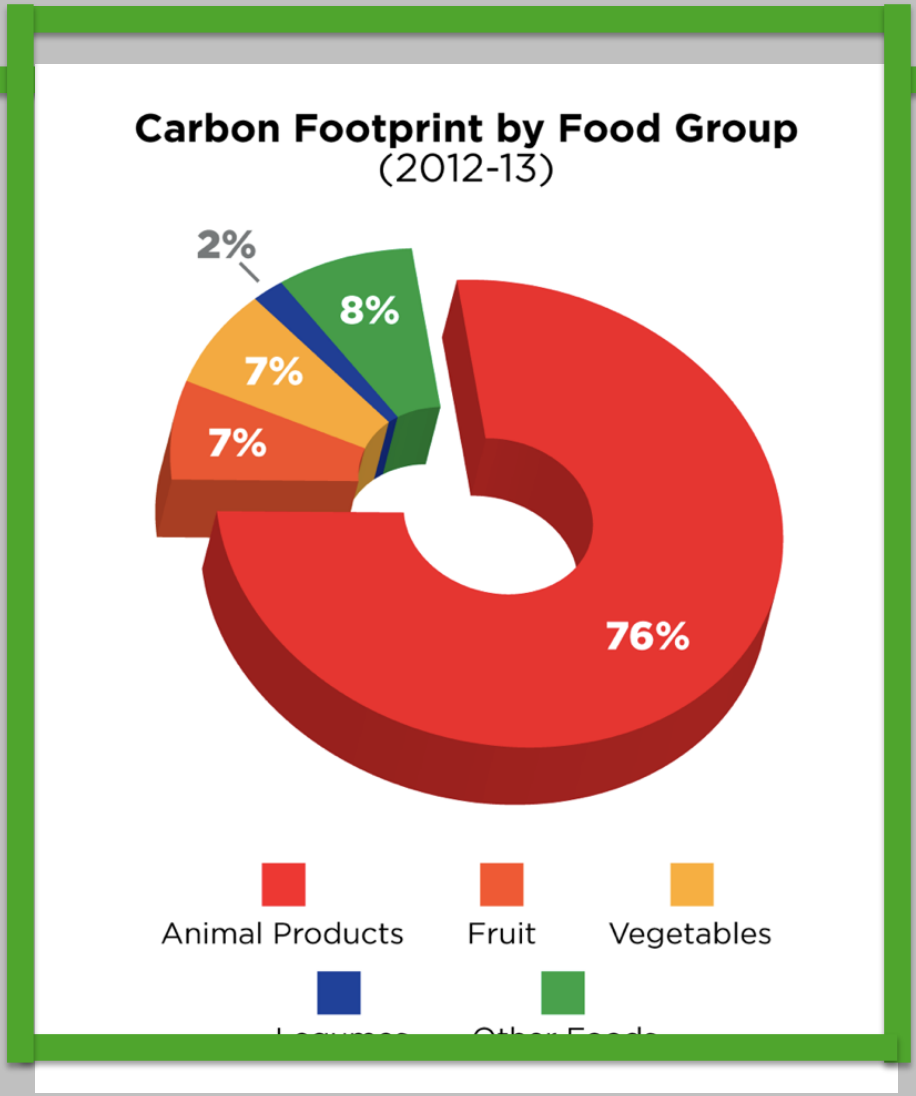
Animal Products Dominate OUSD's Footprint



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

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Cows and Methane Emissions

Methane is **30 times** more potent than CO_2

6-10 pounds of feed per pound of meat.

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

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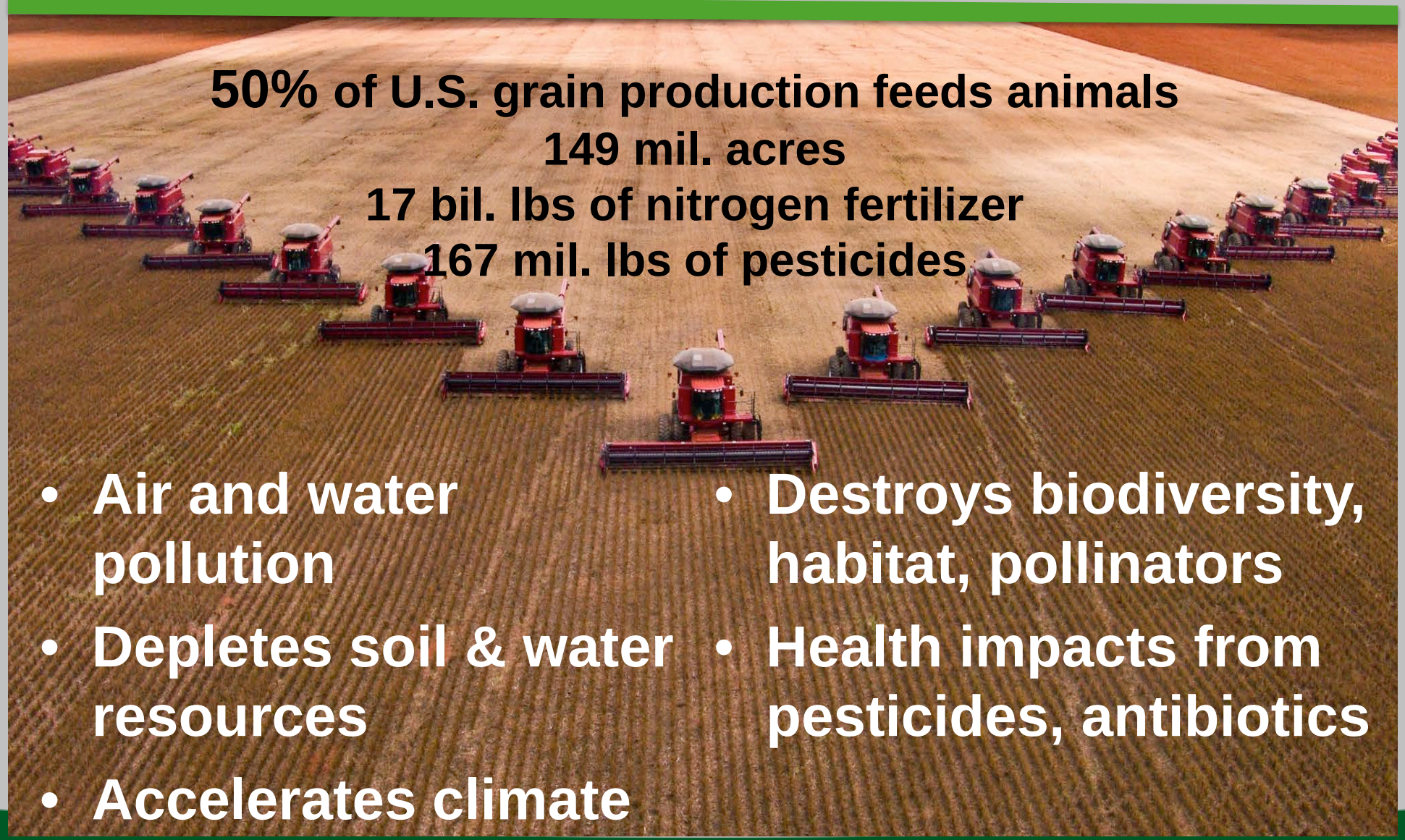
Animal Feed, Destructive Impacts



50% of U.S. grain production feeds animals
149 mil. acres
17 bil. lbs of nitrogen fertilizer
167 mil. lbs of pesticides

- **Air and water pollution**
- **Depletes soil & water resources**
- **Accelerates climate change**
- **Destroys biodiversity, habitat, pollinators**
- **Health impacts from pesticides, antibiotics**

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Land Conversion for Animal Feed

Land conversion releases large amounts of carbon emissions, destroys biodiversity and habitat, depletes water resources

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Methane Emissions & Water Pollution

U.S. factory farms produce more than 500 million tons of manure every year, **3x the waste produced by humans**.

All the waste in Iowa from animals is more than the waste generate by every human in US and Canada combined

Manure pits generates nitrous oxide & methane, a greenhouse gas that is 30 times as potent—as CO2—. It also can leach harmful pollutants—such as antibiotics, metals and nitrogen and phosphorous directly into ground and surface water.

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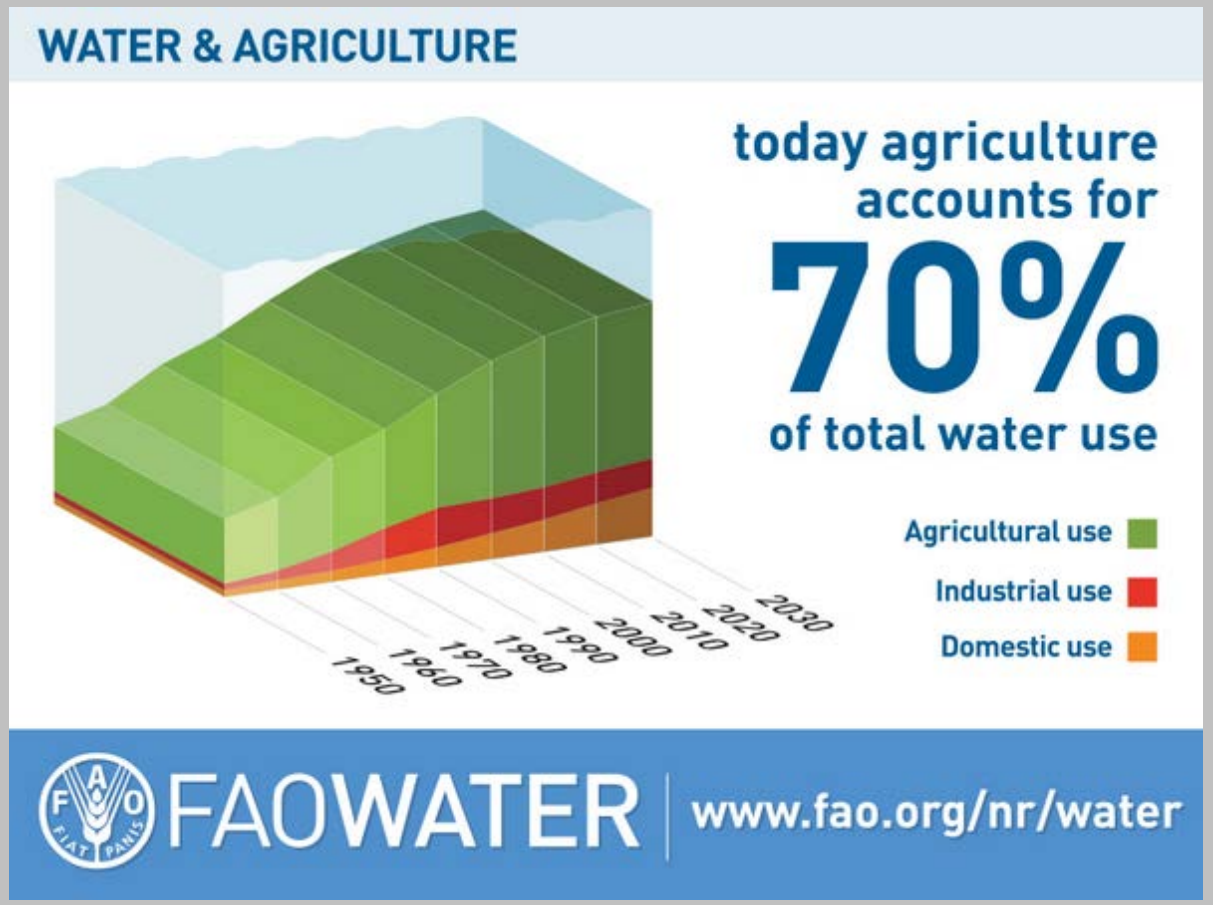
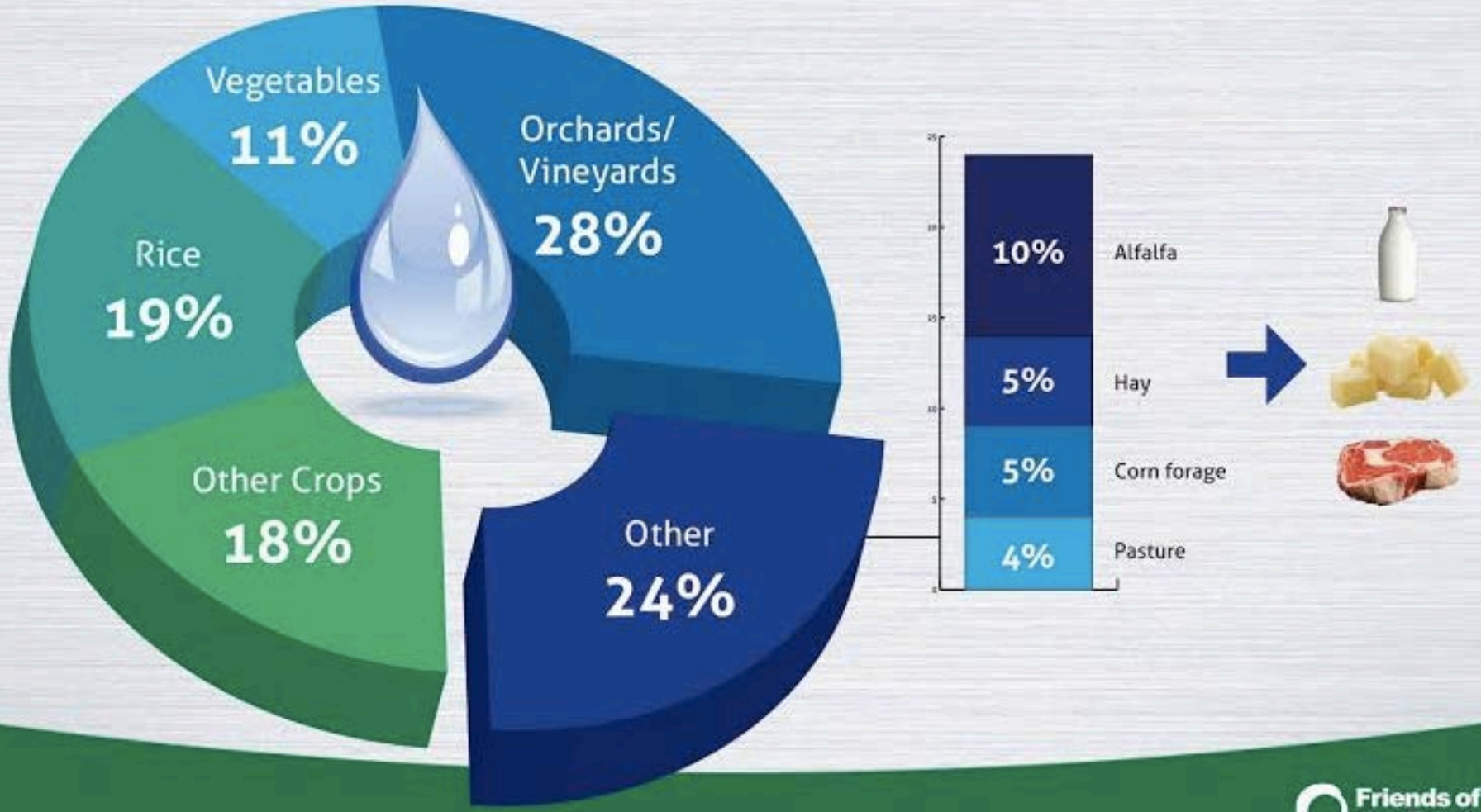
Food's Water Footprint



¼ of global fresh water is used for animal feed production

Animal Feed Crops Used One Quarter of California's Irrigated Water in 2013



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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

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2017 Project Drawdown

most powerful strategies for reversing climate change

8 of the top 20 solutions are in Food

#3 Reduced Food Waste
#4 Plant-Rich Diet

RANK	SOLUTION	SECTOR	REDUCED CO2
1	Refrigerant Management	Materials	89.74 GT
2	Wind Turbines (Onshore)	Energy	84.60 GT
3	**Reduced Food Waste**	Food	70.53 GT
4	**Plant-Rich Diet**	Food	66.11 GT
5	Tropical Forests	Land Use	61.23 GT
6	Educating Girls	Women and Girls	59.60 GT
7	Family Planning	Women and Girls	59.60 GT
8	Solar Farms	Energy	36.90 GT
9	**Silvopasture**	Food	31.19 GT
10	Rooftop Solar	Energy	24.60 GT
11	**Regenerative Agriculture**	Food	23.15 GT
12	Temperate Forest	Land Use	22.61 GT
13	Peatlands	Land Use	21.57 GT
14	**Tropical Staple Tree Crops**	Food	20.19 GT
15	Afforestation	Land Use	18.06 GT
16	**Conservation Agriculture**	Food	17.35 GT
17	**Tree Intercropping**	Food	17.20 GT
18	Geothermal	Energy	16.60 GT
19	**Managed Grazing**	Food	16.34 GT
20	Nuclear	Energy	16.09 GT

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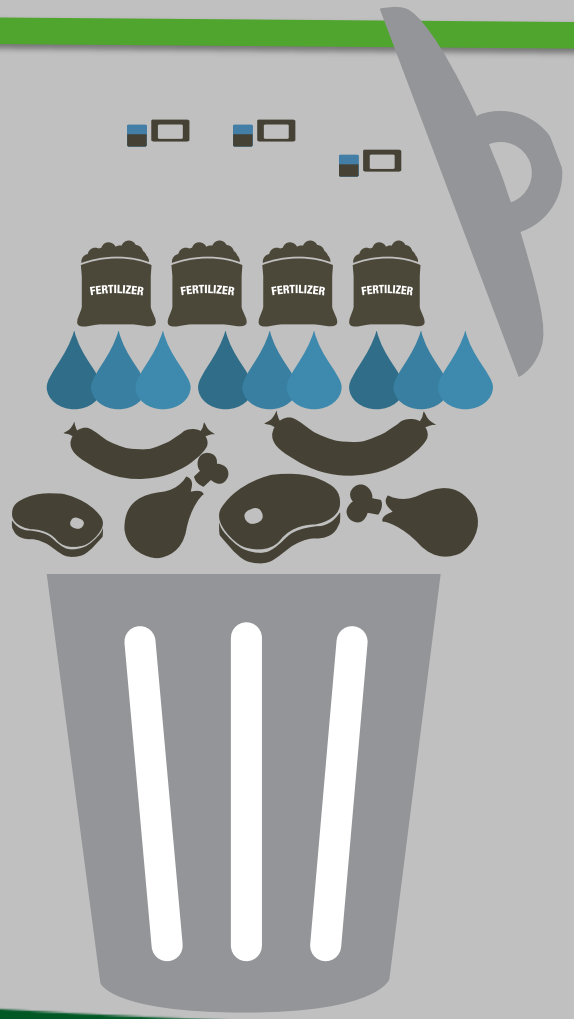
Food Waste = Wasted Water, Energy, Fertilizer, Pesticides and other resources



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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“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”

Culinary Institute of America and Harvard’s School of Public Health

MENUS of CHANGE®

The Business of Healthy, Sustainable, Delicious Food Choices

2016 Annual Report

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If every public school swapped out a beef burger for a protein-rich veggie burger just once a month, we would save 1.4 billion pounds of CO2-eq = not burning 72 million gallons of gas or 700 million pounds of coal. And that is just one recipe swap 10 times a year!

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Shrinking the Carbon and Water Footprint of School Food:

A RECIPE FOR COMBATING CLIMATE CHANGE

A pilot analysis of Oakland Unified School District's Food Programs

BY **KARI HAMERSCHLAG** AND **JULIAN KRAUS-POLK**

FEBRUARY 2017

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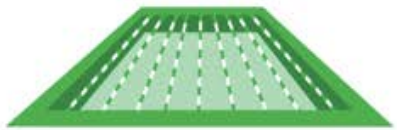
FOOD SHIFTS MATTER

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

1.5million FEWER MILES DRIVEN

87 SOLAR SYSTEMS INSTALLED ON THE SCHOOL DISTRICTS' ROOVES

COST SAVINGS

$42,000

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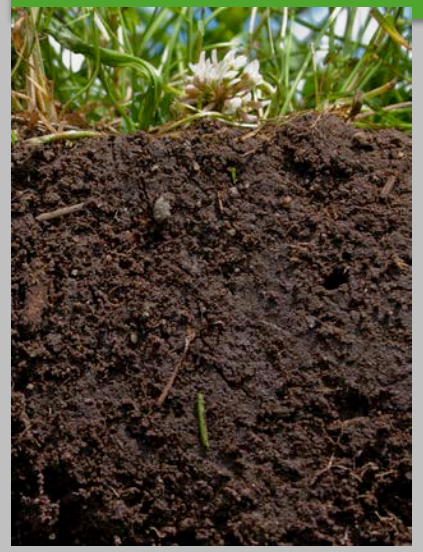
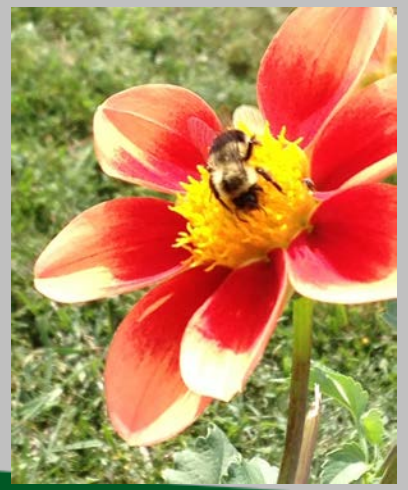
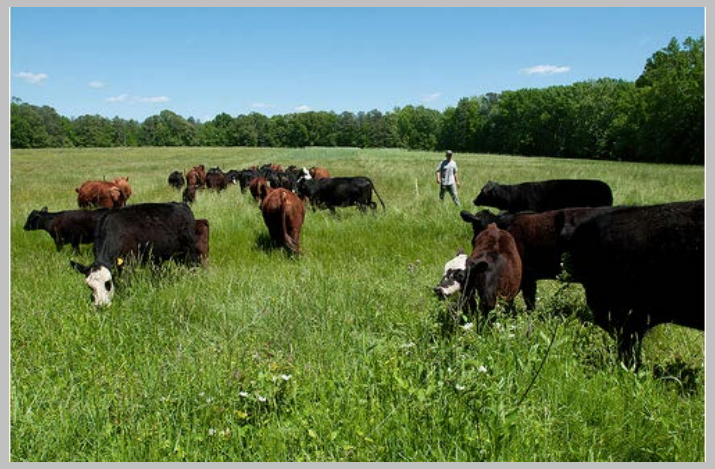
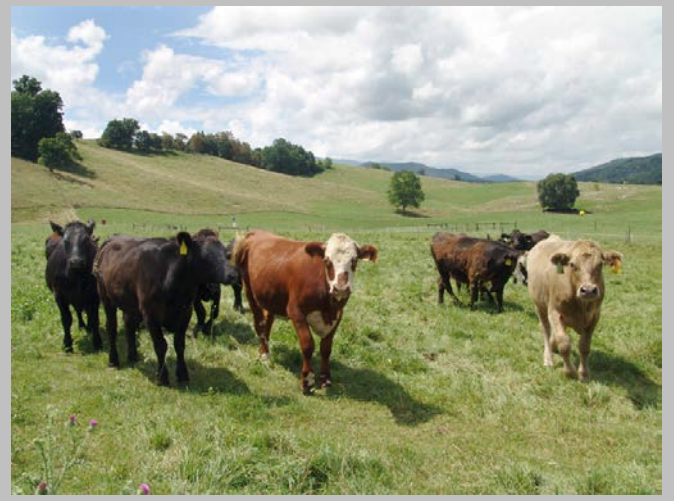
Oakland Invested in Better Meat: Benefits of Well-Managed Crop-Livestock & Grazing Systems









- 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

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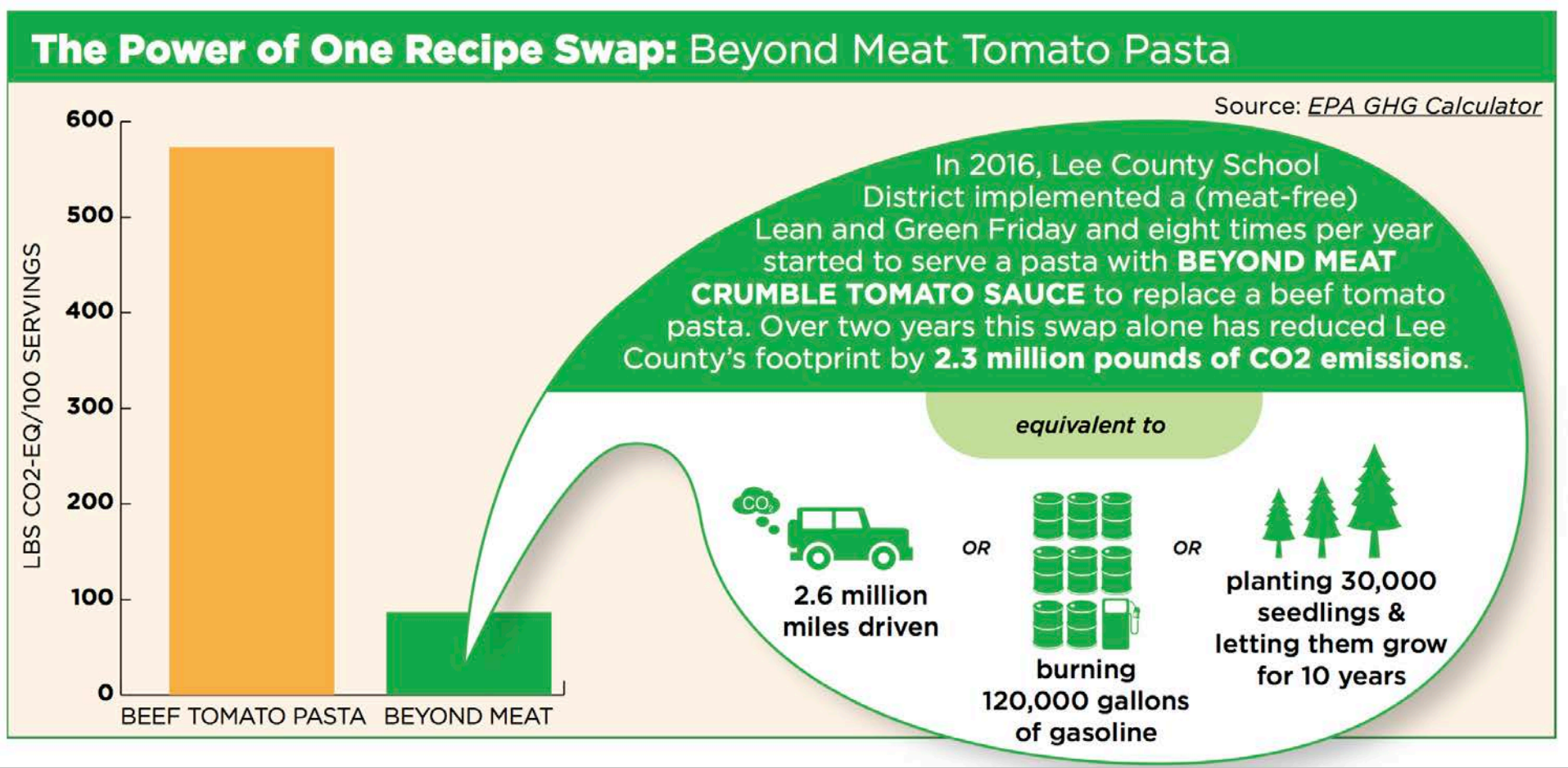

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