

Taking Climate Action & Protecting the Environment with Plant-Rich Diets



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ESRAG Plant-Rich Diet Task Force
September 16, 2021

HOW TO TALK ABOUT CLIMATE CHANGE IN A WAY THAT MAKES A DIFFERENCE

'The antidote to climate anxiety is action.
Make your first action reading this book.' OSHER GÜNSBERG

REBECCA HUNTLEY

ESRAG.ORG

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Agenda

1. Climate Change
2. Terrestrial Environment
3. Sustainable Eating Strategies
4. Human Health
5. Plant-Rich Diet Challenge
6. Calls-to-Action



Find out how
what's on your
plate can
save the planet
and your health.

Take the 15 Day Plant-Rich Diet Challenge!

Brought to you by ES Rotary Action Group Plant-Rich Diet Task force



Presentation and
Challenge Kickoff
Thursday, October 13
7:00 PM



SIGN UP TODAY!

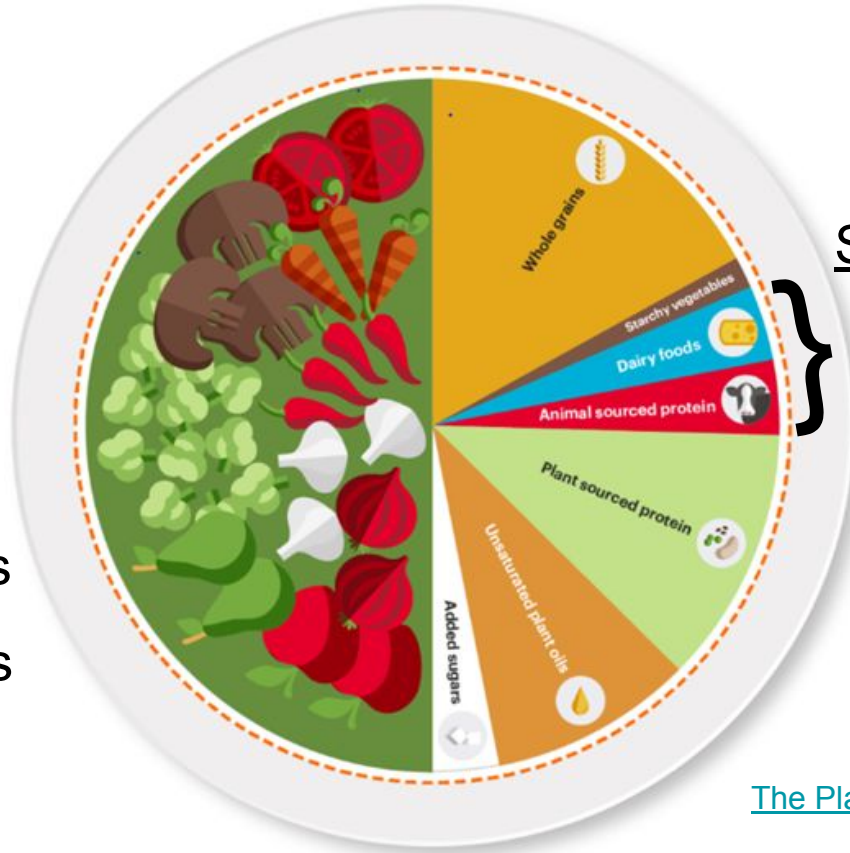
www.tinyurl.com/prdwenatchee



Plant-Rich Diets are Optimal for Human Health & Sustainability

The EAT Lancet Planetary Health Diet

Mostly:
Vegetables
Fruits
Legumes
Whole Grains
Nuts & Seeds



Small Amount of:
Meat, Dairy,
Eggs, Fish

THIS is Plant-Rich Eating!!!



It's NOT Just Salad!

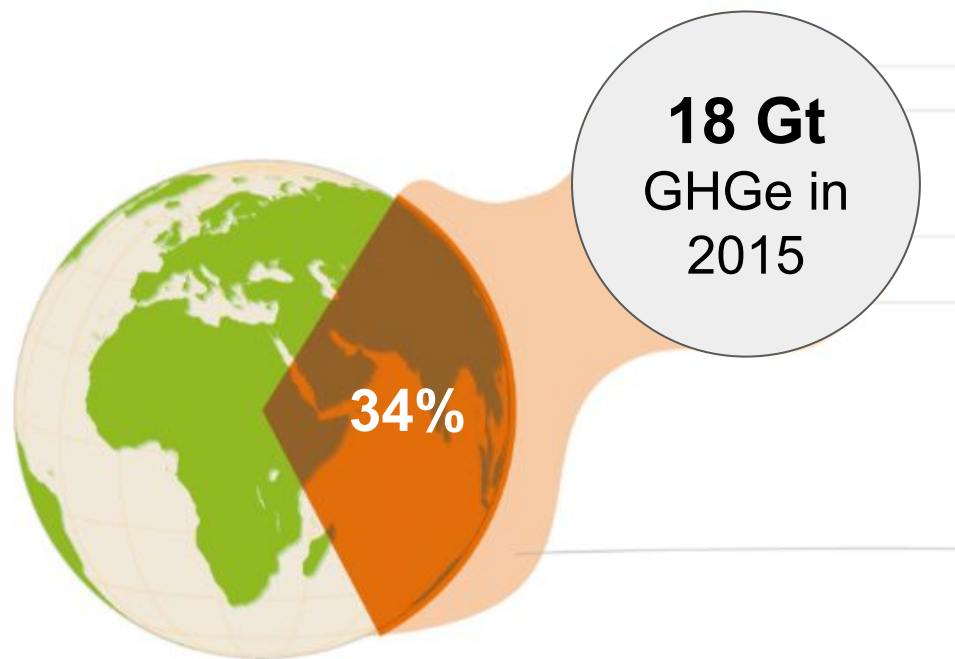


Animal Agriculture & Climate Change 101

“...unless there are **immediate, rapid and large-scale reductions in greenhouse gas emissions**, limiting warming to close to 1.5°C or even 2°C will be **beyond reach**.”

– August 9, 2021

The Food System is Responsible for About 34% of Global GHGe



57% Animal-Based Foods

29% Plant-Based Foods

14% Other Utilizations



The top 5 meat and dairy companies combined emit more greenhouse gases than ExxonMobil, Shell or BP

		JBS	Tyson Foods	Cargill	DFA	Fonterra
	Top 5 Total 578.3 mt	280.2 mt	118.1 mt	86.3 mt	52.2 mt	41.5 mt



Exxon-
Mobil
577 mt



Shell
508 mt

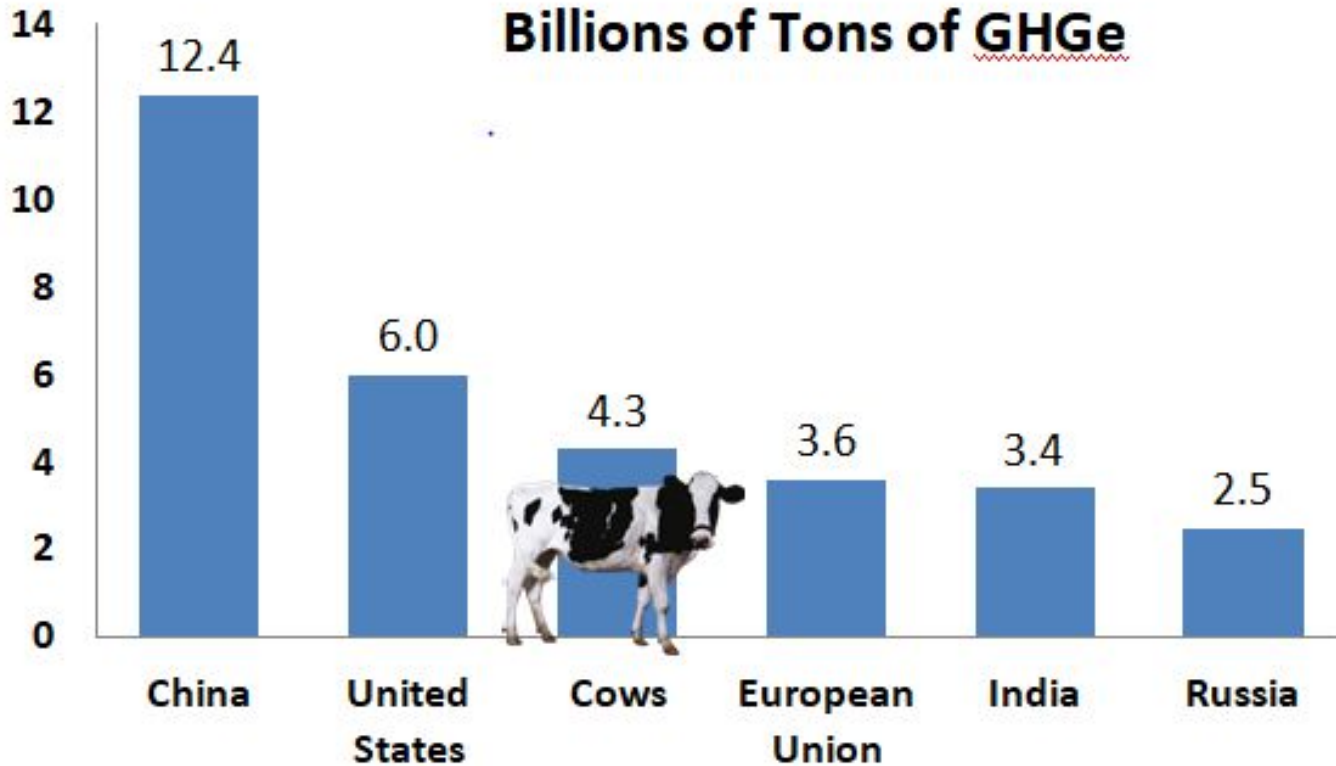


BP
448 mt



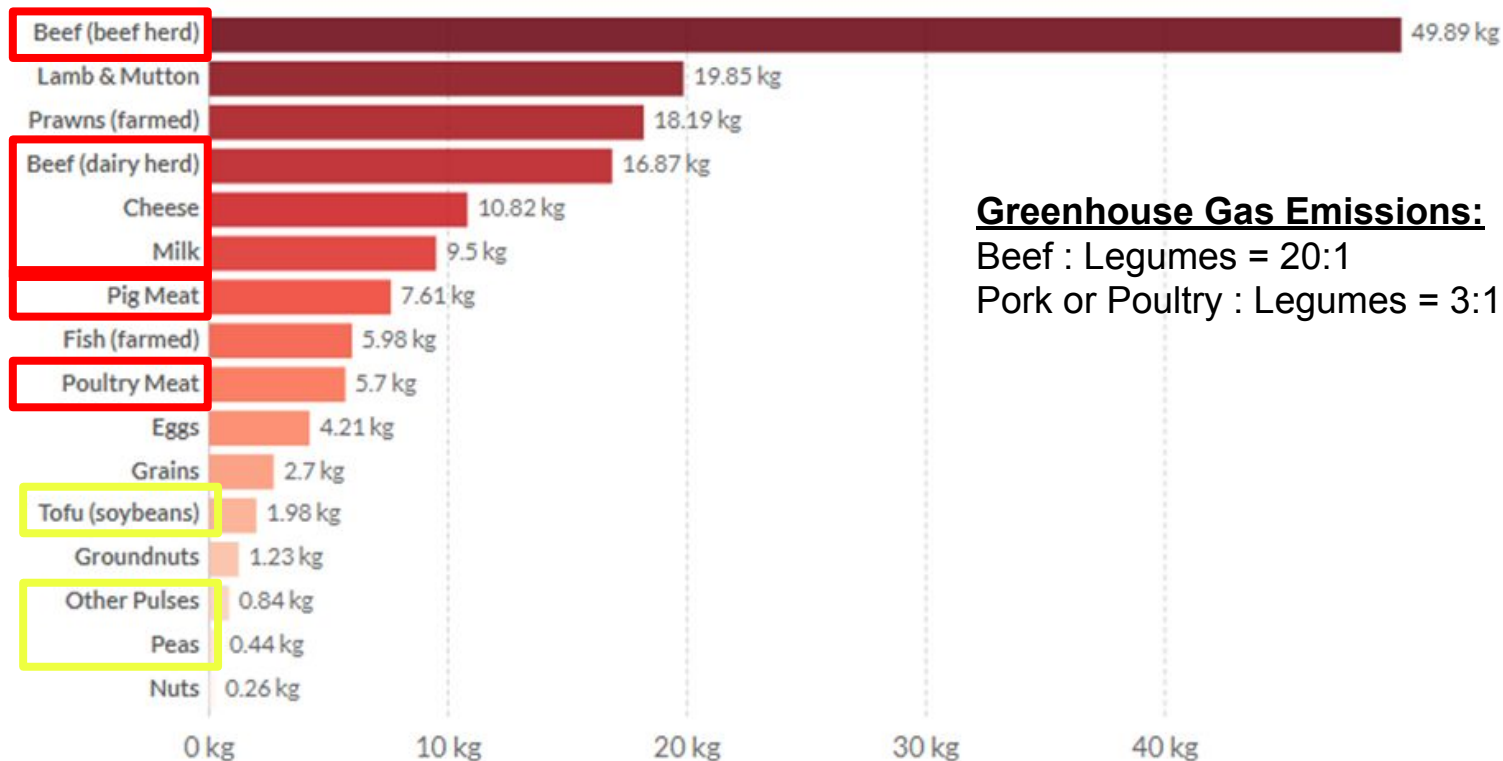
[Emissions impossible](#): How big meat and dairy are heating up the planet.
GRAIN and IATP. July 2018.

If Cows Were a Country, They'd be the 3rd Leading Emitter of GHGs



Producing Animal Products Emits More GHGs than Producing Plant Foods

Greenhouse Gas Emissions Per 100 g of Protein Produced



Greenhouse Gas Emissions:

Beef : Legumes = 20:1

Pork or Poultry : Legumes = 3:1

Source: Poore, J., & Nemecek, T. (2018). Additional calculations by Our World in Data.

Note: Data represents the global average greenhouse gas emissions of food products based on a large meta-analysis of food production covering 38,700 commercially viable farms in 119 countries.

CC BY

If every American cut out just $\frac{1}{4}$ lb of beef per week, it would be like....



If every American cut out just $\frac{1}{4}$ lb of beef per week, it would be like....taking 10 million cars off the road for a year



=



**If the world's 2 billion high consumers cut their meat
& dairy consumption by 40%, the world would...**



**Avoid
168Gt of
Future
GHGe**

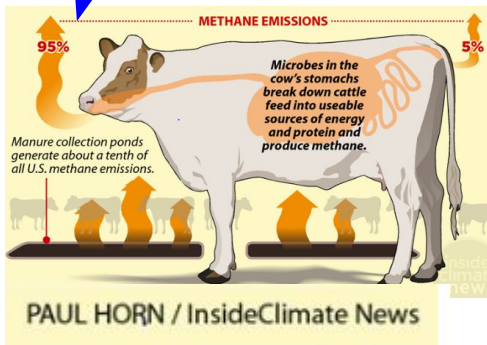
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**2.8 X
Total Emissions
in 2019**

Sources of Emissions from Animal Agriculture

Methane: Animals

Burps



Manure Lagoons



Nitrous Oxide: Feed Crops

Nitrogen Fertilizer

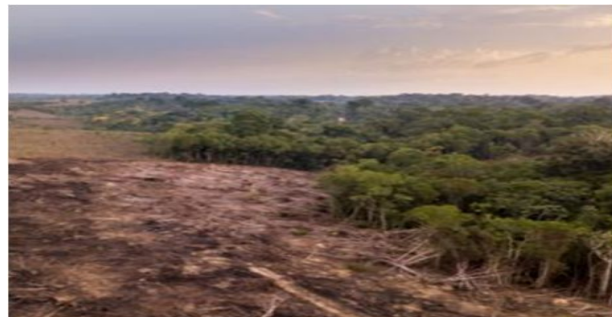


Manure as Fertilizer



CO2: Land Use & Other

Land Use Change (Deforestation)



Fertilizer & Pesticide Manufacture



Transporting & Processing Animal Feed



Slashing METHANE is URGENT!

Reduce methane or face climate catastrophe, scientists warn

Exclusive: IPCC says gas, produced by farming, shale gas and oil extraction, playing ever-greater role in overheating planet

**METHANE : CO₂ = 85 : 1
(GWP20)**

Only lasts a decade

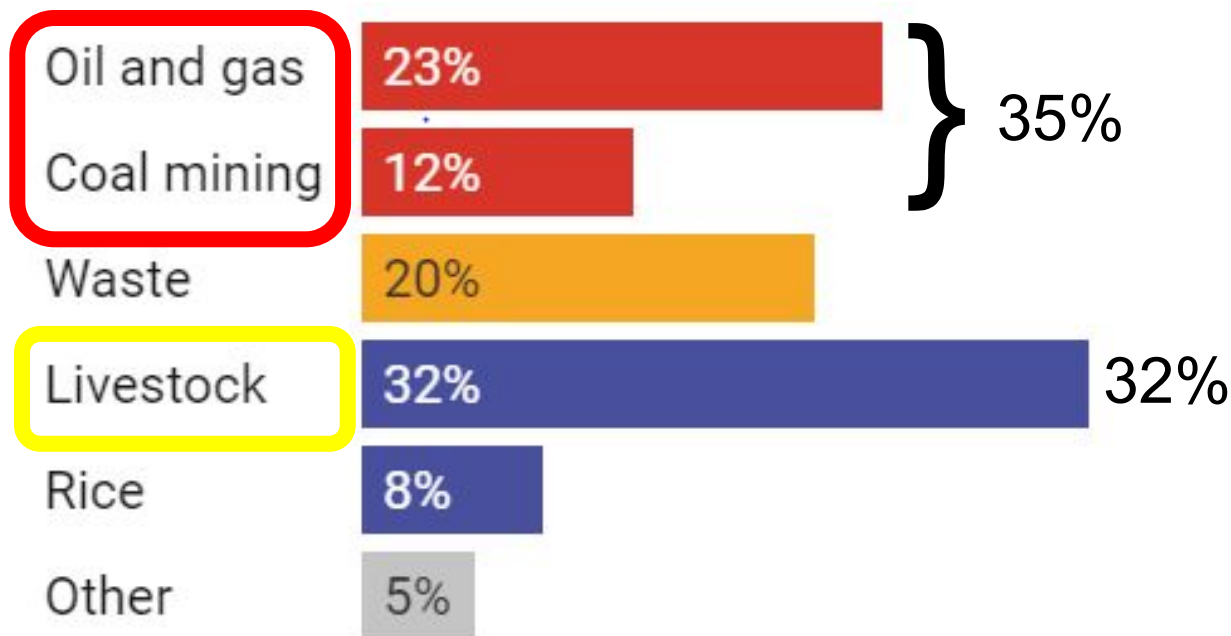
Reductions will slow
planetary warming quickly



▲ Animal farming is one of the activities producing methane, which has a warming potential more than 80 times that of CO₂. Photograph: Yves Herman/Reuters

Methane Emissions from Livestock ~ Fossil Fuel Industry

Global Human-Caused Methane



Methane: Shindell D. [Reducing methane is crucial for protecting climate and health, and it can pay for itself – so why aren't more companies doing it?](#) The Conversation Website. 6 May 2021.

Nitrous Oxide Traps **298** Times More Heat than CO₂!!!

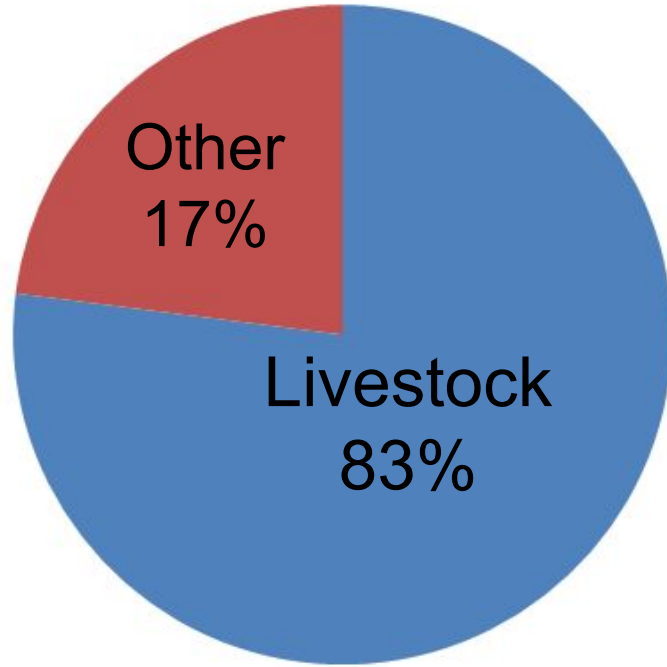
Animal agriculture emits **53%** of the global total

FEWER livestock animals means... **LESS** need for **FEED** &... **LESS** nitrogen & manure use



Animal Agriculture is the Largest User of Land on Earth

% of Global Farmland



Animal Agriculture is Land-Intensive

The Plantrician Project
Planting the seeds of change™



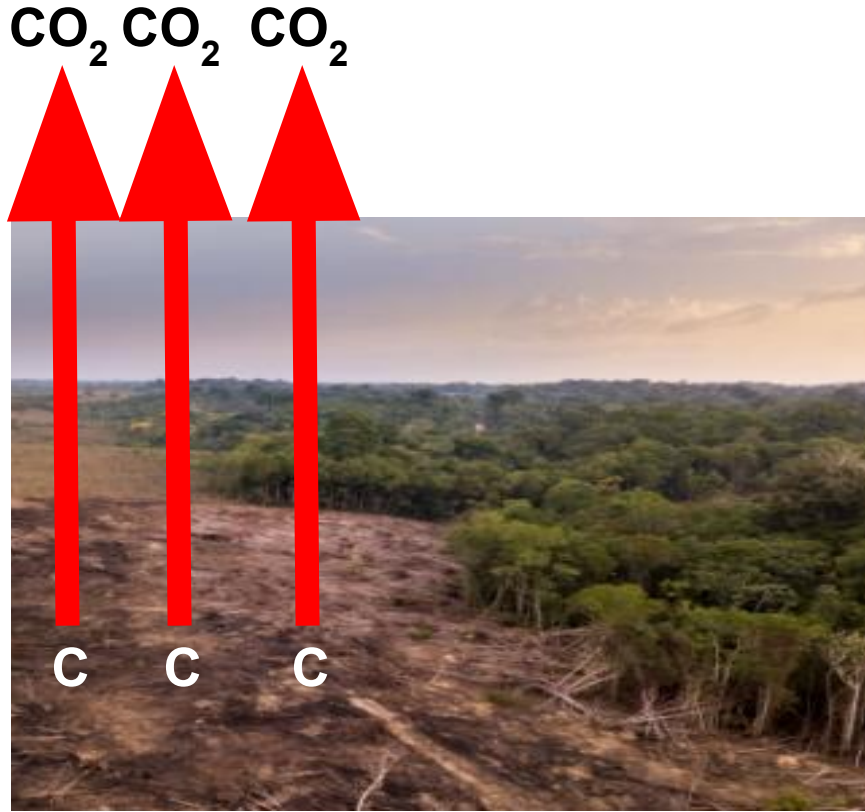
STANDARD AMERICAN DIET

2 football fields (1.3 acres each) feed 1 person per year

PLANT-BASED DIET

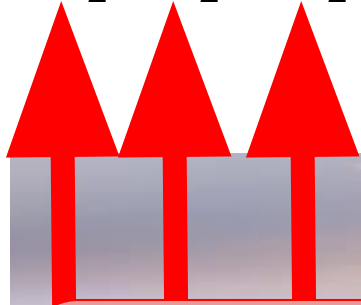
2 football fields (1.3 acres each) feed 14 people per year

Deforestation Emits Huge Quantities of CO₂



Deforestation Emits Huge Quantities of CO₂

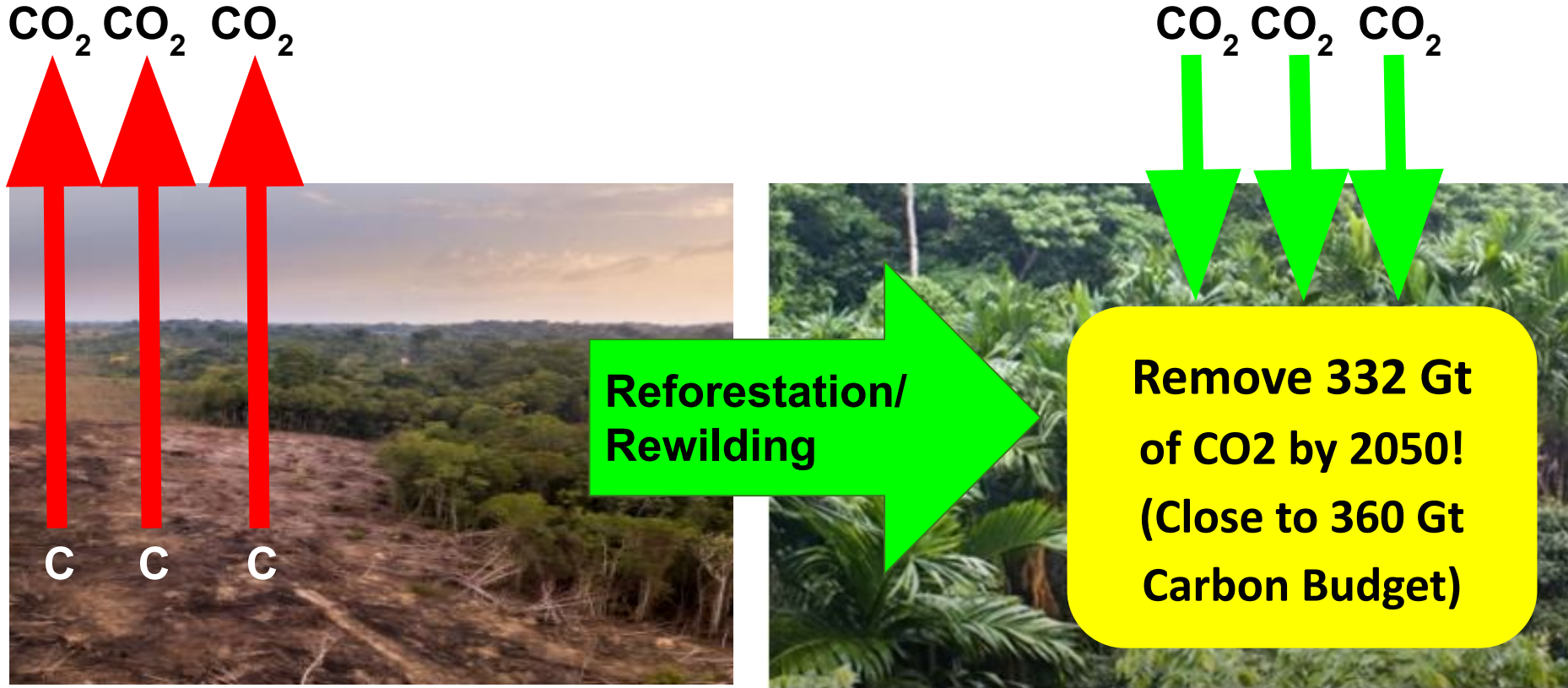
CO₂ CO₂ CO₂



**Emit 86 Gt
MORE CO₂ from
Land Use Change
by 2050!**



Reforested Land Could Sequester Vast Amounts of Carbon



Plant-Rich Diets Offer the Opportunity to Restore Our Earth

**Let's Sequester Carbon
& Revitalize Our Earth
Simultaneously**

Project Drawdown Ranks Plant-Rich Diets #3 Out of 76 Solutions

<https://drawdown.org/solutions/table-of-solutions>

A¹¹ 101 101

* Gigatons CO₂ Equivalent Reduced / Sequestered (2020–2050)

◆ SOLUTION	◆ SECTOR(S)	▼ SCENARIO 1 *	◆ SCENARIO 2 *
Reduced Food Waste	Food, Agriculture, and Land Use / Land Sinks	88.50	102.20
Plant-Rich Diets	Food, Agriculture, and Land Use / Land Sinks	78.33	103.11
Family Planning and Education	Health and Education	68.90	68.90
Refrigerant Management	Industry / Buildings	57.15	57.15
Tropical Forest Restoration	Land Sinks	54.45	85.14
Onshore Wind Turbines	Electricity	46.95	143.56
Alternative Refrigerants	Industry / Buildings	42.73	48.75
Utility-Scale Solar Photovoltaics	Electricity	40.83	111.59
Clean Cooking	Buildings	31.38	76.34
Distributed Solar Photovoltaics	Electricity	26.65	64.86

[Table of Solutions](#). Project Drawdown website. Accessed 09 Apr 2023.

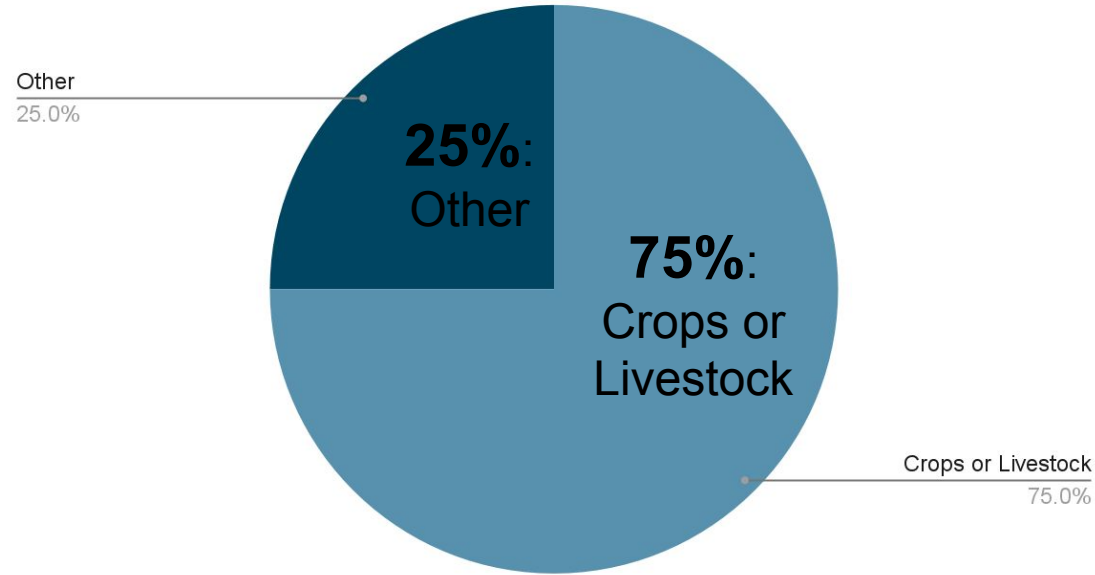
Plant-Rich Diets Would Reduce Water Pollution

Fertilizers (Nitrogen, Phosphorus), Pesticides, Herbicides, Manure, Other Animal Waste, Hormones, Viruses, Antibiotic-Resistant Bacteria, Chemical Additives, Cleaning Agents, Heavy Metals, Silage Leachate, etc.



Downsizing Animal Agriculture Would Free Up Water

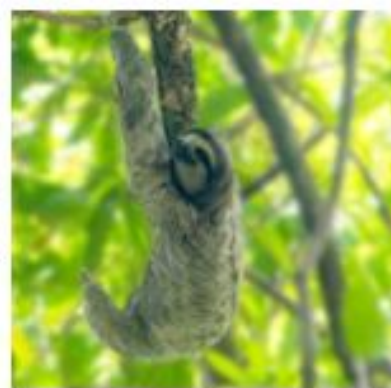
Freshwater Use Globally:



Freshwater Use in the U.S.:

Cattle Feed Consumes:
23% Nationally
32% in Western U.S.
55% in Colorado River Basin

Let's Save These Guys



Farmer Transitions are Key: Let's Support Them \$\$\$



Grow: Oats, Hemp, Fava Beans,
Vegetables, Mushrooms, Peas,
Nuts, Bamboo, Etc.

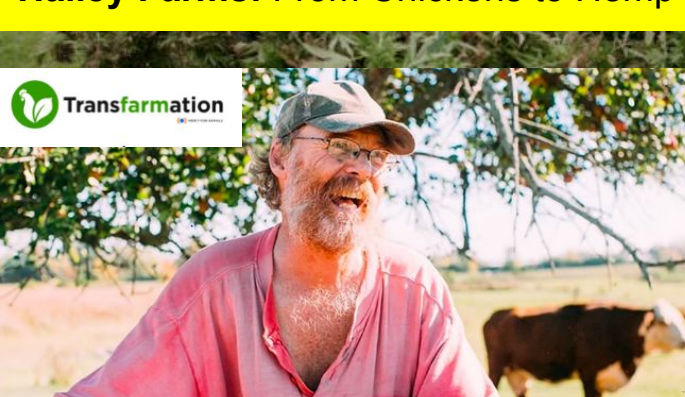
Set Aside Land For: Carbon
Sequestration, Biodiversity
Protection, Water Restoration, Etc.



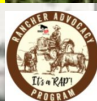
Farmers Are Transitioning



Halley Farms: From Chickens to Hemp



Farmhouse Gardens: From Cattle to Organic Vegetables



Barretts: From Chickens & Cattle to Mushrooms

Hoosick Farm serves as pilot farm for oat conversion program



(Albany NY, 4 Oct 2020)

DAIRY FARM TAKES UP OAT PRODUCTION

Images by



Avellana Creamery: From Goats to Vegan Cheese

Every Meal is An Opportunity To FIGHT CLIMATE CHANGE



T. COLIN CAMPBELL
Center for Nutrition Studies

Each day,
a person who eats
a **plant-based diet** saves:

1100 gallons of water

45 pounds of grain

30 sq ft of forested land

20 pounds of CO2 equivalent

1 animal's life

Consistent Small
Behavioral
Changes



Large
Consequences

Plant-Rich Diets Lower Our Risk of Chronic Diseases...

A vibrant collage of fresh vegetables including yellow corn cobs, green bell peppers, cucumbers, and various chili peppers, all resting on a rustic wooden surface. A bright pink stethoscope is prominently placed in the center, symbolizing the connection between diet and health.

Heart Disease

Type 2 Diabetes

Obesity

Cancer

Plant-Rich Diets Lower Our Risk of Chronic Diseases... ... And Can Improve Health

Heart Disease

Type 2 Diabetes

Obesity

Cancer

Lower Blood
Sugar

Lower
Cholesterol

Lower Blood
Pressure

Reduce
Inflammation



Plant-Rich Diets Lower Our Risk of Chronic Diseases... ... And Can Improve Health

Heart Disease

Type 2 Diabetes

Obesity

Cancer

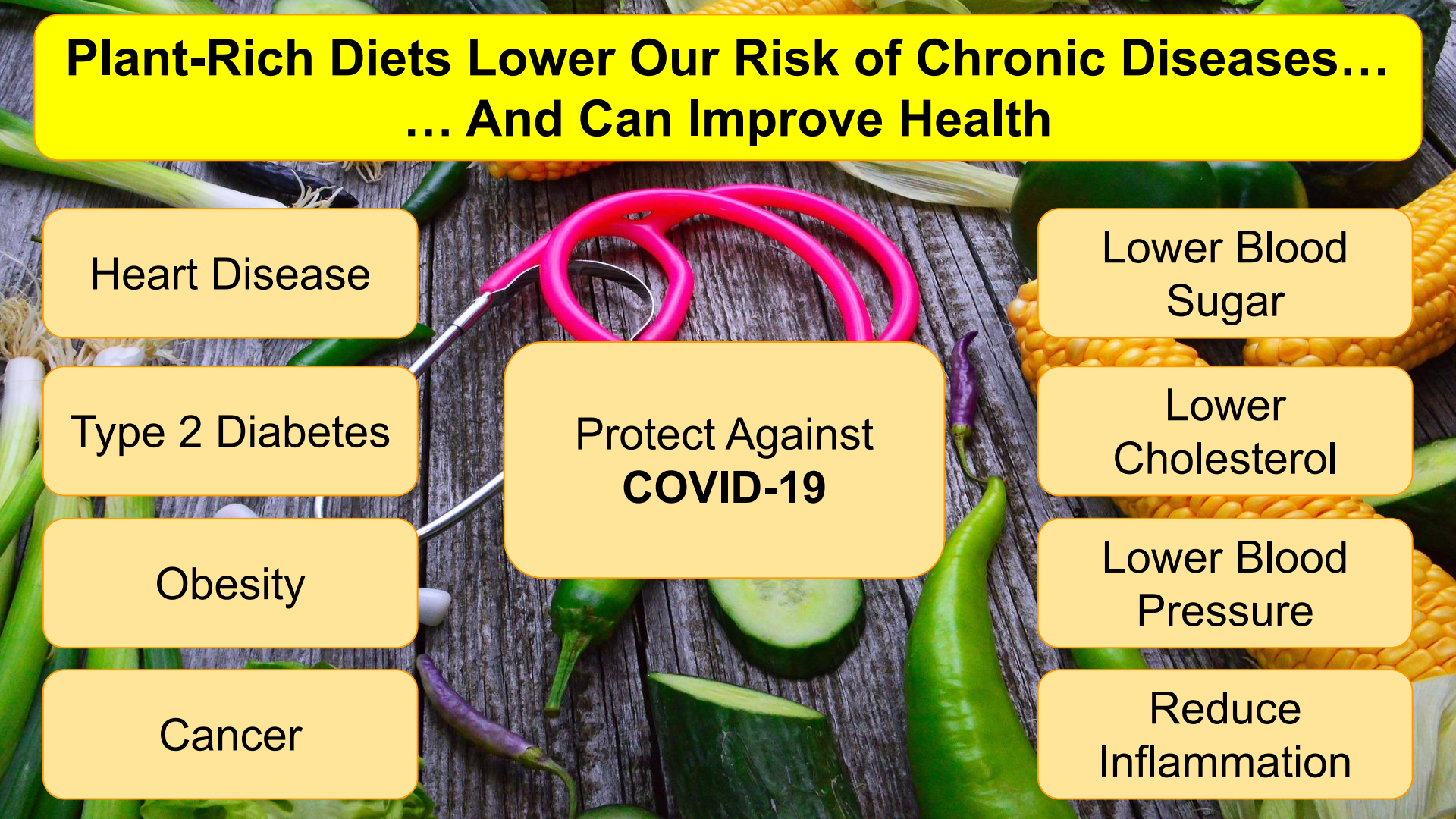
Protect Against
COVID-19

Lower Blood
Sugar

Lower
Cholesterol

Lower Blood
Pressure

Reduce
Inflammation





Plant-Rich Diets Would Reduce Global Mortality and Save Money

Prevent 12.7 to 13.7 million
premature adult deaths

Reduce diet-related health
expenditure worldwide by 95%

Savings could be invested in
lowering the cost of
nutritious food

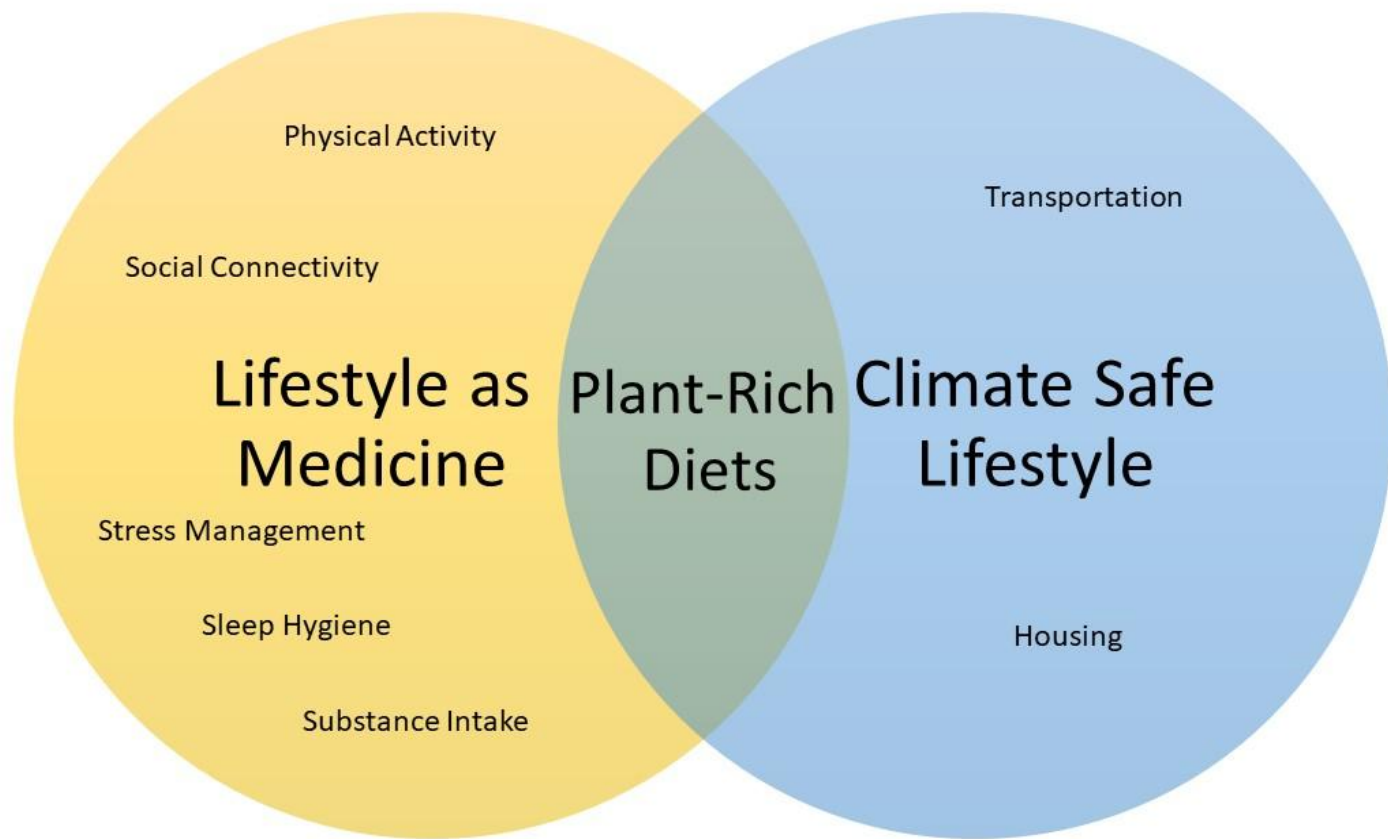
But... Diet is a Personal Choice!



The Four-Way Test

of the things we think, say or do.

- 1 Is it the truth?
- 2 Is it fair to all concerned?
- 3 Will it build goodwill and better friendships?
- 4 Will it be beneficial to all concerned?



Register here for
The Challenge



Watch the 5
Minute Video

A promotional poster for the ESRAG 15 Day Plant-Rich Diet Challenge. The poster is framed by a border of fresh fruits and vegetables, including kiwi, orange, grapefruit, grapes, apples, avocados, and tomatoes. At the top, the logos for Rotary, ESRAG (Environmental Sustainability Rotary Action Group), and the United Nations are displayed. The main text reads: "THE POWER IS ON YOUR PLATE TO HELP STOP CLIMATE CHANGE." Below this is a small globe icon. The text continues: "FOR A GUIDED JOURNEY TOWARD BETTER PERSONAL AND PLANETARY HEALTH JOIN THE ESRAG 15 DAY PLANT-RICH DIET CHALLENGE STARTING ON EARTH DAY APRIL 22, 2023". A subtext line says: "Receive a starter kit & cookbook, daily emails, practical tips, expert speaker series, cooking demonstrations & more!". At the bottom, it says "Register [here](#) for the challenge" and "Watch 5 min video". There are two QR codes: one for registration and one for the video. A URL is provided: "tinyurl.com/5minutestochangeyourworld". A quote at the bottom states: "Plant-Rich Diets hold enormous potential for climate change mitigation if adopted on a global scale." with the attribution "Project Drawdown, ESRAG partner".

Calls-to-Action

1. Experiment with a Plant-Rich Diet Yourself
2. Sign-up for the Global Plant-Rich Diet Challenge
3. Promote the Challenge in Your Club/District
4. Suggest Plant-Rich Meals at Club Meetings