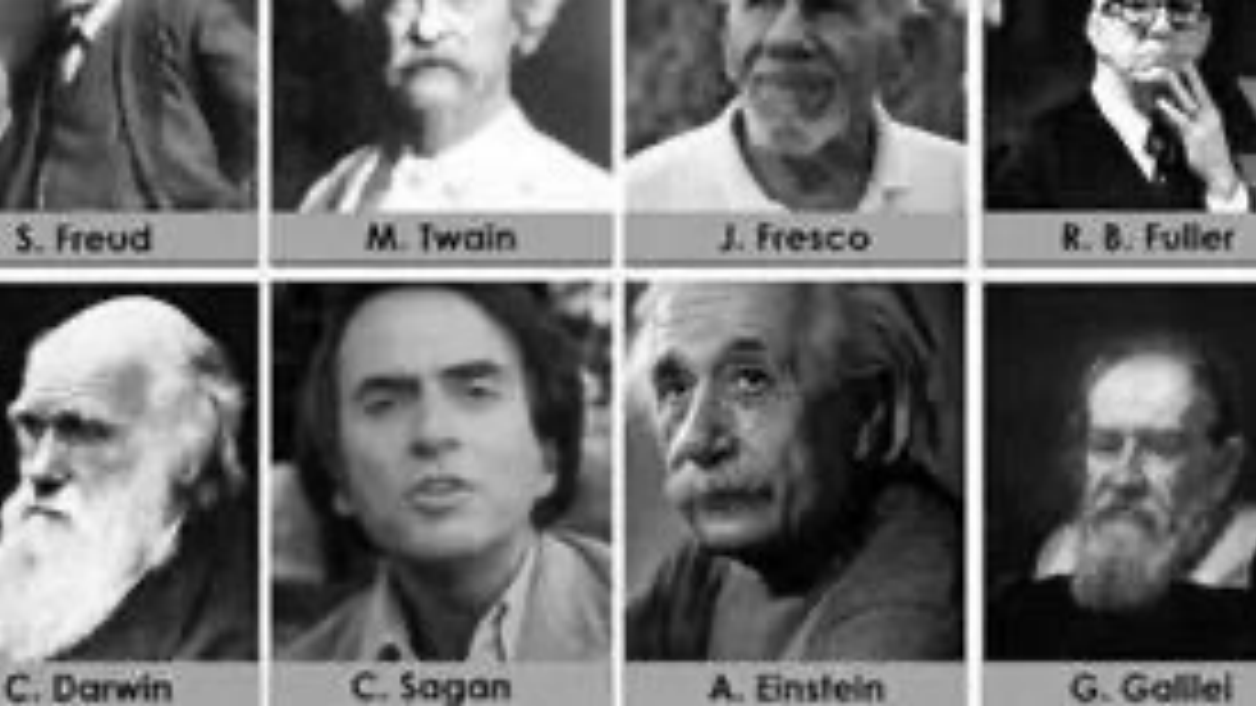



RAINMAKER FARM'S REFLECTIONS: WHY OKLAHOMA, OUR BIG PLANS, AND WHAT DOESN'T COUNT AS A TRACTOR

Presented by Angel Lance, CEO and Aviva Rossi, PhD





Dictionary
Definitions from [Oxford Languages](#) · [Learn more](#)

 **vi·sion·ar·y**
/ˈvɪZHəˌnerē/

adjective

- (especially of a person) thinking about or planning the future with imagination or wisdom.
"a visionary leader"

Similar: [inspired](#) [imaginative](#) [creative](#) [inventive](#) [insightful](#) [ingenious](#) [▼](#)

- relating to or able to see visions in a dream or trance, or as a supernatural apparition.
"a visionary experience"


noun

a person with original ideas about what the future will or could be like.
"he is a visionary keen on policy-making"



FORTUNE TELLING AND VISIONARY THE SAME? Google....

Dictionary
Definitions from [Oxford Languages](#) · [Learn more](#)

 **for·tune tell·er**
/ˈfô:rCHənˌtelər/

noun

a person who is supposedly able to predict a person's future by similar methods.
"he went to a fortune teller to ask for advice"

Similar: [clairvoyant](#) [crystal gazer](#) [psychic](#) [prophet](#)

Farmers are visionaries. Business people are visionaries .

What do we do?

- We see a future
- We work really hard to create something to impact that future
- Ideally we profit from that change



THE FUTURE I SEE:

The Good:

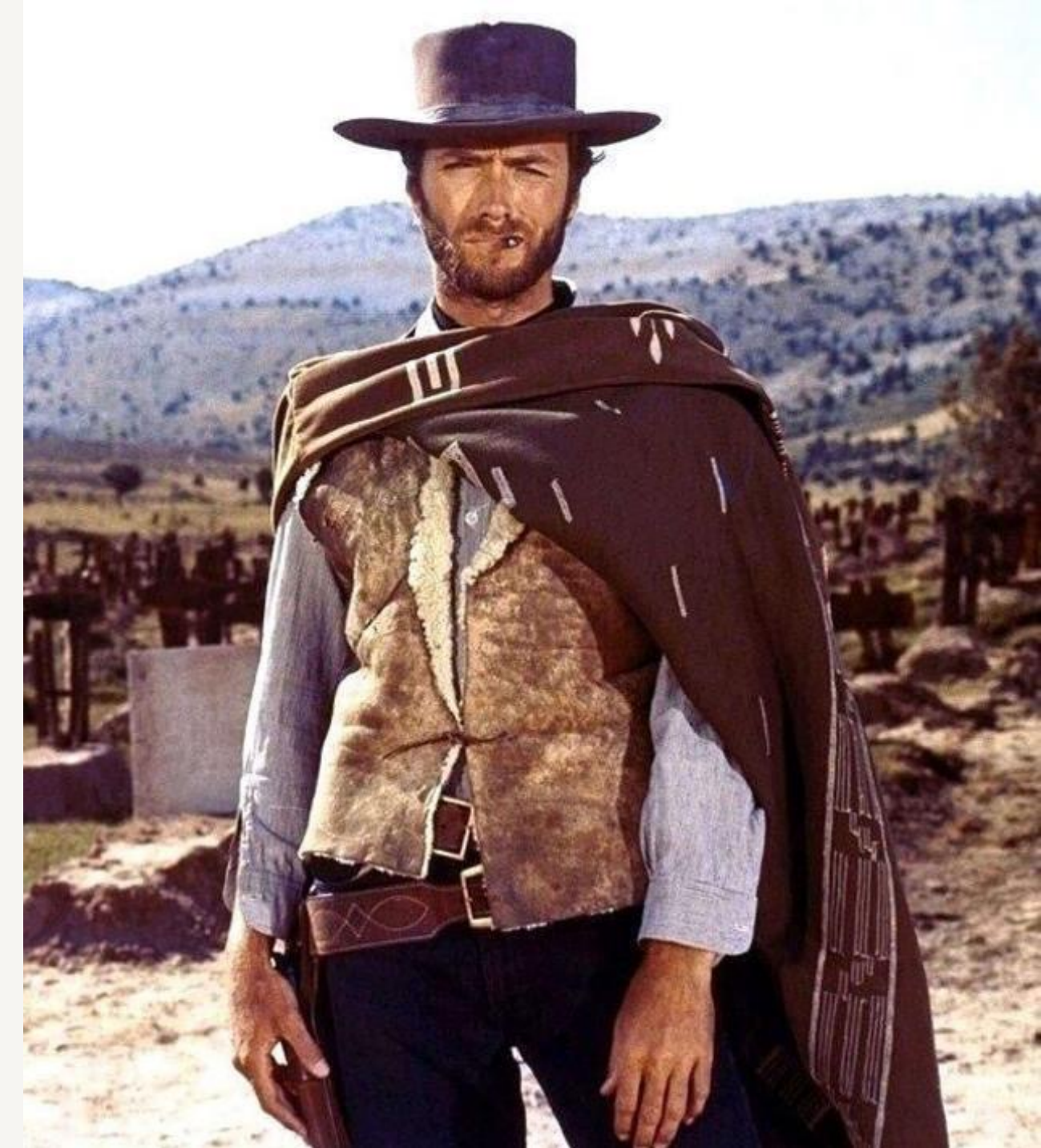
- THE MONEY Business is now interested in regenerative farming
- To make money businesses are increasingly integrated and aligned with the common denominator of sustainability and impact
- Business as a force for good

The Bad:

- Business is one of the reasons we need to conserve
- We are an increasingly resource hungry society

The Ugly:

- A farming industry that is struggling world wide
- Fresh water shortages, desertification, a return to the dust bowl
- Increased geo-political conflict (wars) and refugee migration
- Multi generational farming families forced to divest of their lands



BUSINESS WANTS TO CHANGE THE WORLD

These are our areas of focus:

1. Initiate Draw Down
2. Get the energy industry to net zero
3. Assist the 3rd largest GDP in the world to DRIVE conscious capitalism

In order to do any of these things, or anything in business one needs to follow the money.





INTRODUCTION

Angel Lance - Business lady, not a scientist. Storyteller not a politician. A doer



Founder & CEO:

- Motive Power, 10/6 Professional Services, and the National Public Utilities Council

Founder & Executive Director:

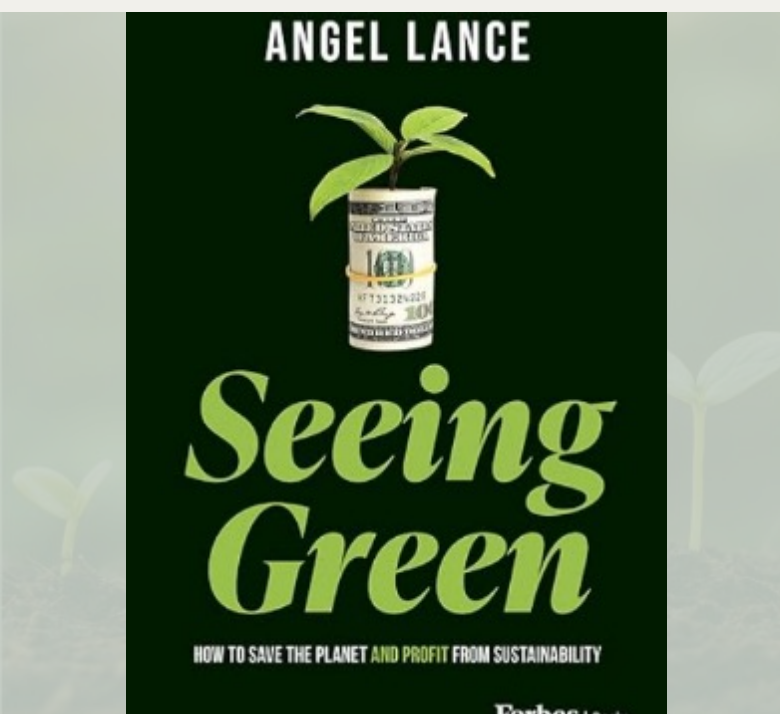
- Gulch Environmental Foundation, which runs Rainmaker Farm

Author:

- Seeing Green: How to Save the Planet and Profit From Sustainability

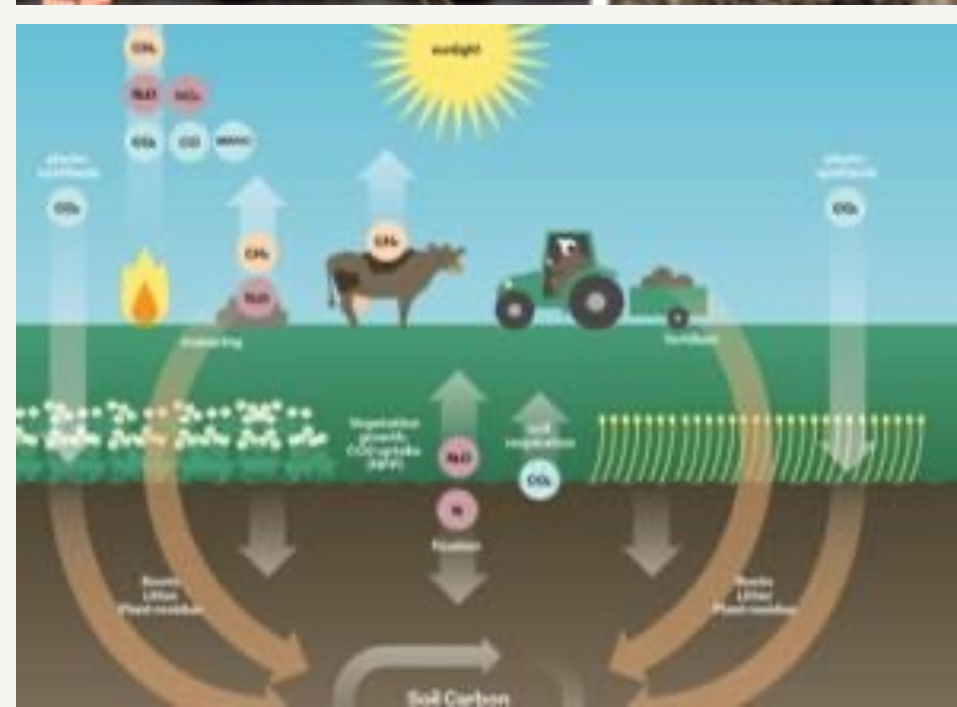
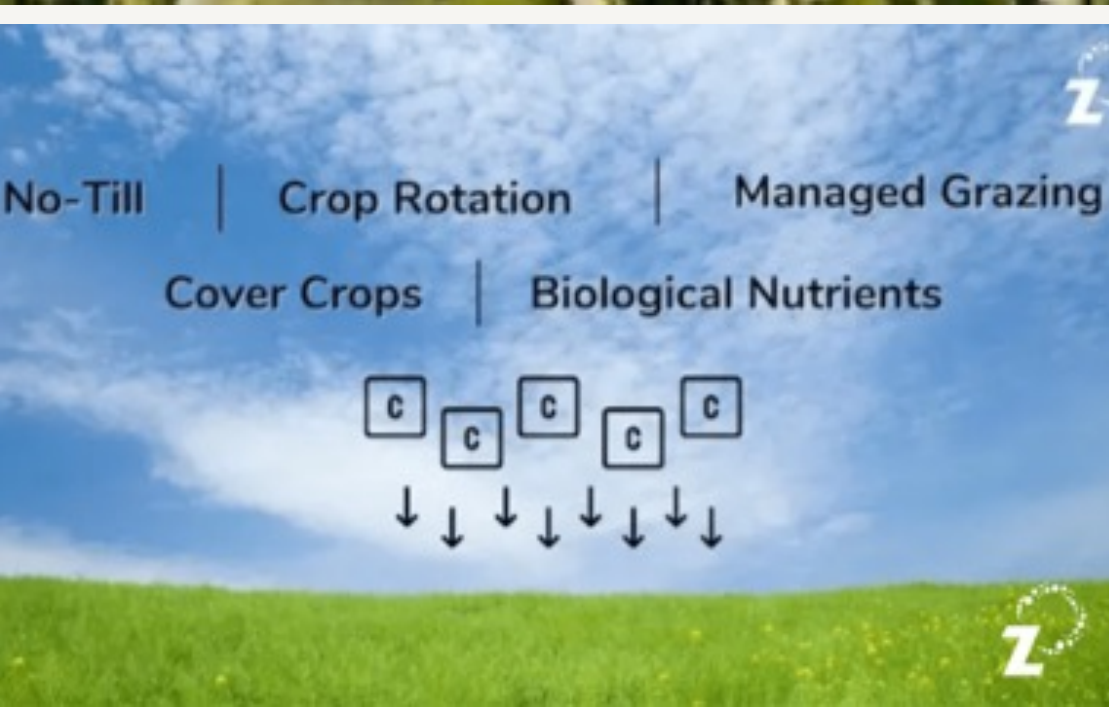
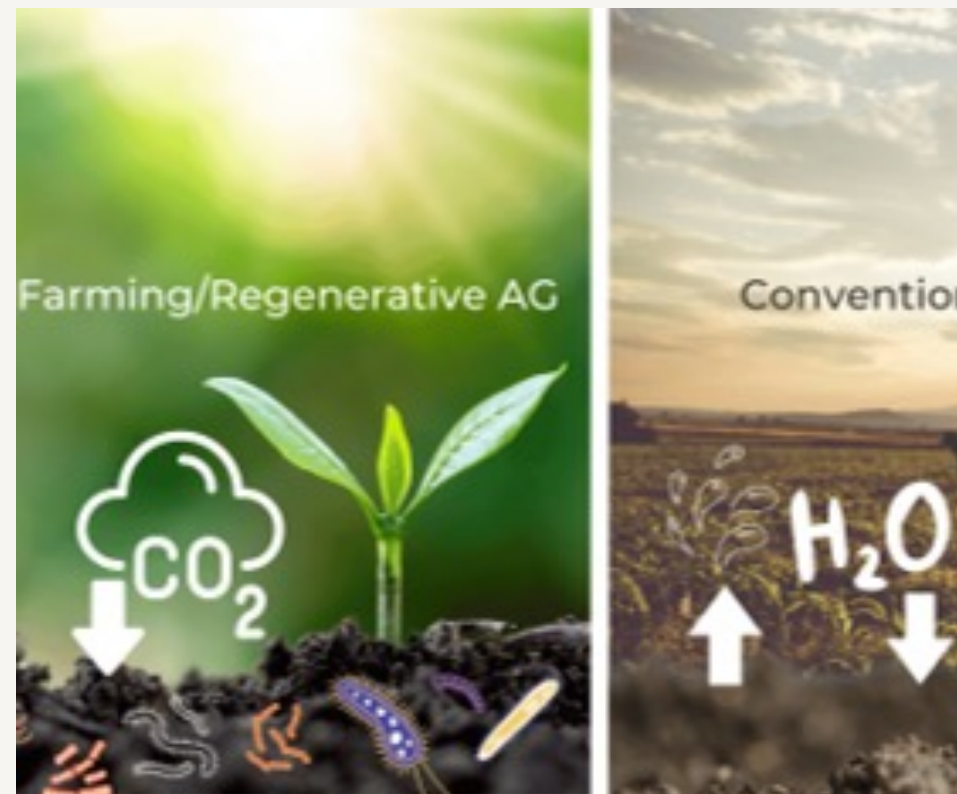
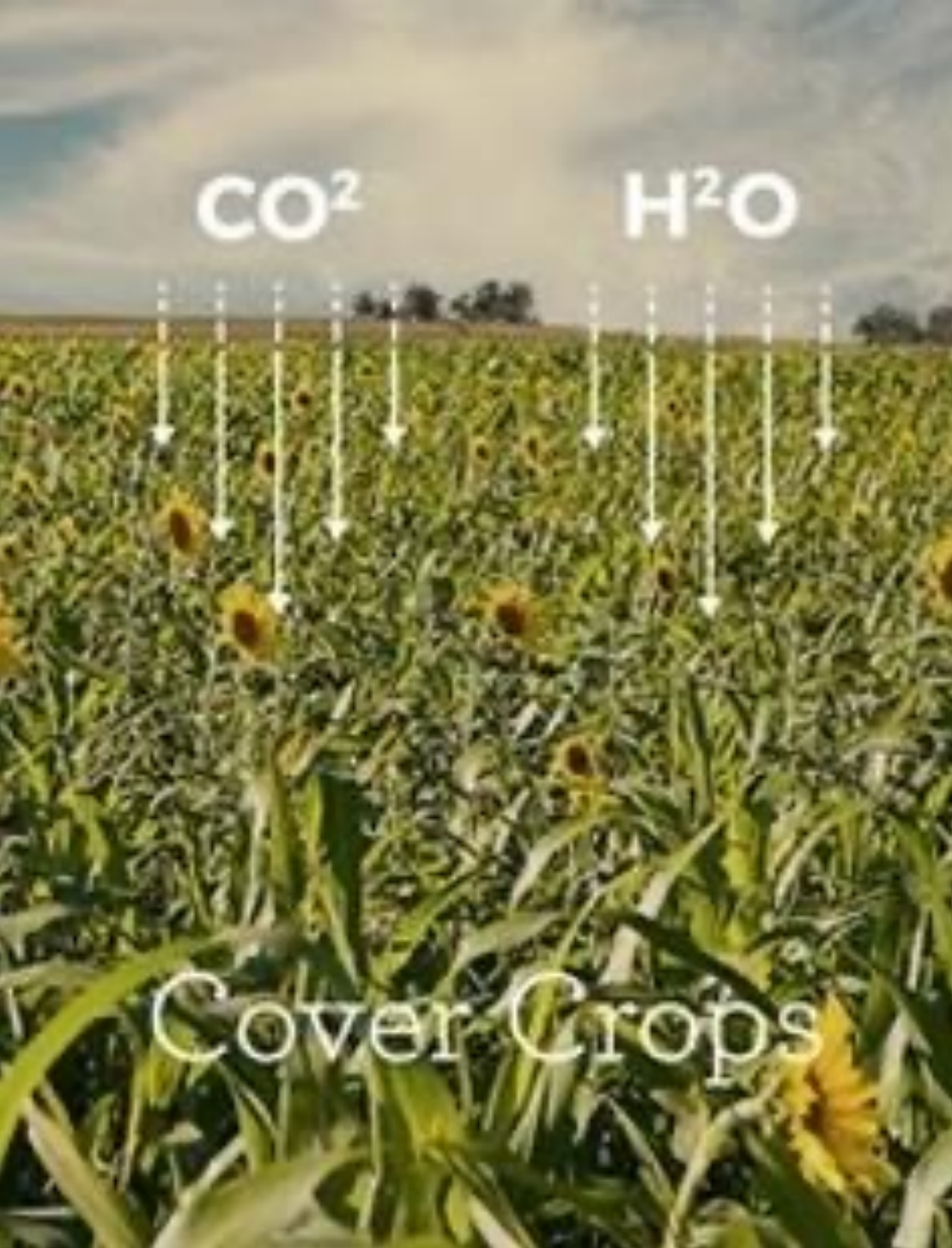
Active Member:

- YPO: The Young Presidents Organization



1. INITIATE DRAW DOWN





WHAT IS DRAW DOWN?

- Pulling carbon out of the atmosphere and capturing it in the ground, oceans, other natural carbon storages
- If we initiate Draw Down via agriculture, we can:
 - Create microclimates
 - Restore aquifers
 - Produce better crops
 - Feed more people, Make more money
 - Preserve our legacy for our families or "Create Legacy through Stewardship"



OUR BIG PLANS IN OKLAHOMA

- To invest in regenerative farming
- To offset our carbon foot print
- Measure carbon sequestration

WHY OKLAHOMA?

- Because it's the best place to change the agricultural world from and #1 Initiate Draw Down
- Because we can start
- And because
 - I like to do things the hard way, and Oklahoma has the most erratic weather in the United States. (confirmed by Aviva and other science-y things)
 - The scene of the dust bowl and the most proven heroes to do it again.
 - And I'd like to prove that size doesn't matter.
- As an entrepreneur, big business is coming to sustainability
- Agriculture is a major area of conservation needed to solve for extreme weather world wide





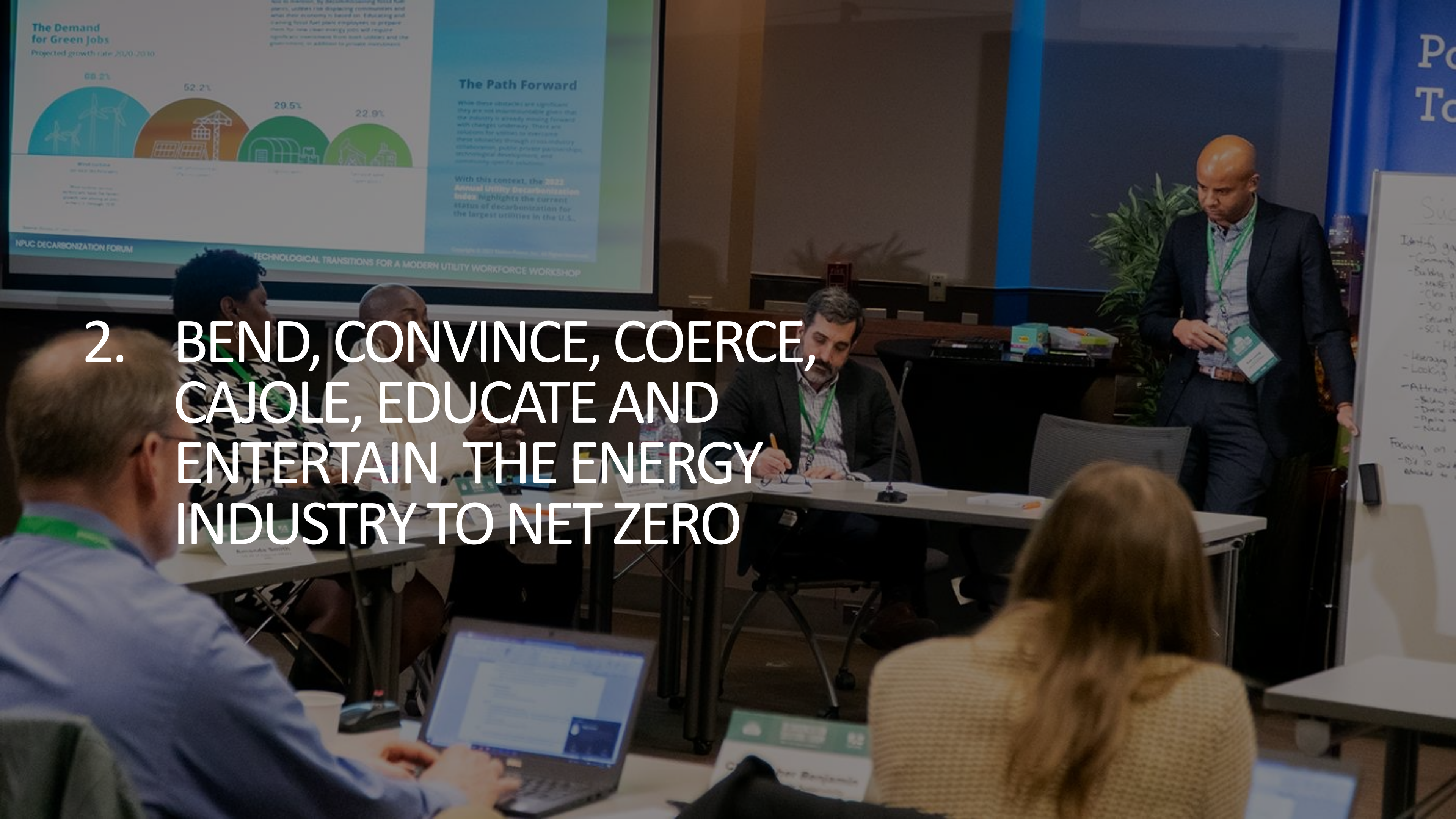
EXCELLENT PARTNERS

Rainmaker Farm is partnering with OSU & NRCS to:

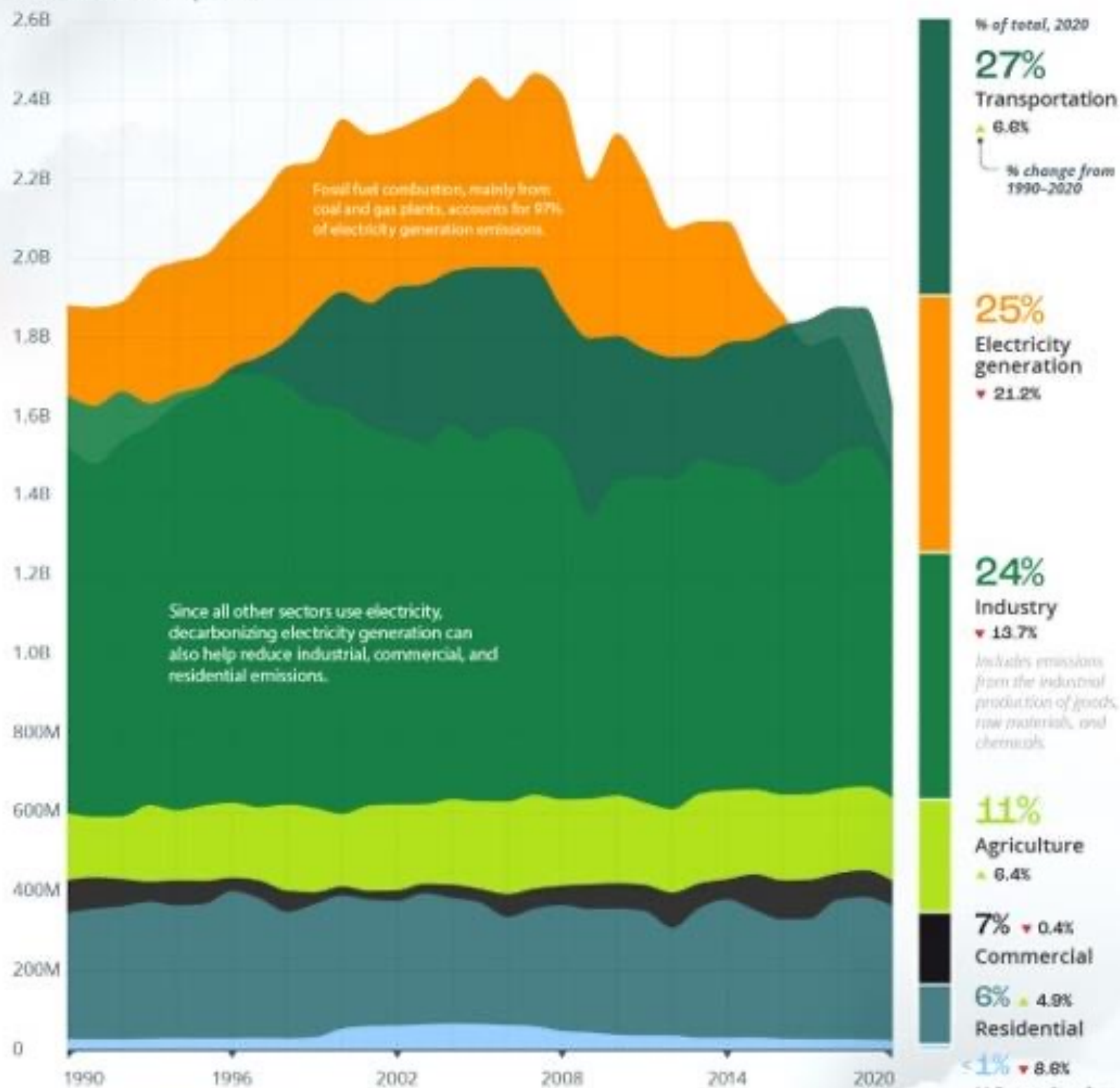
- Measure how much additional carbon is captured through regenerative farming practices vs. conventional.



2. BEND, CONVINCE, COERCE, CAJOLE, EDUCATE AND ENTERTAIN THE ENERGY INDUSTRY TO NET ZERO



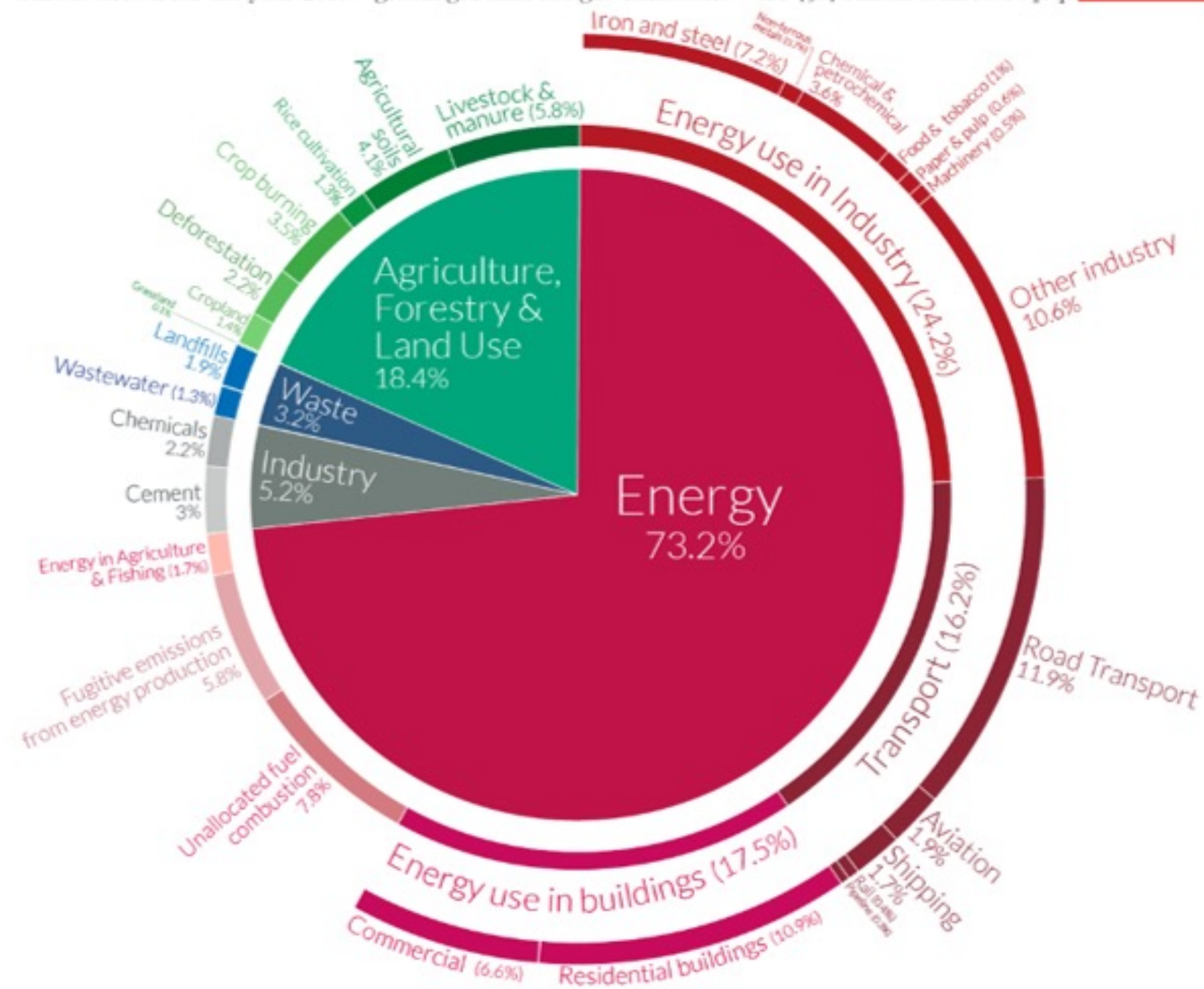
Metric tons of CO₂ equivalent



Global greenhouse gas emissions by sector

Our World
in Data

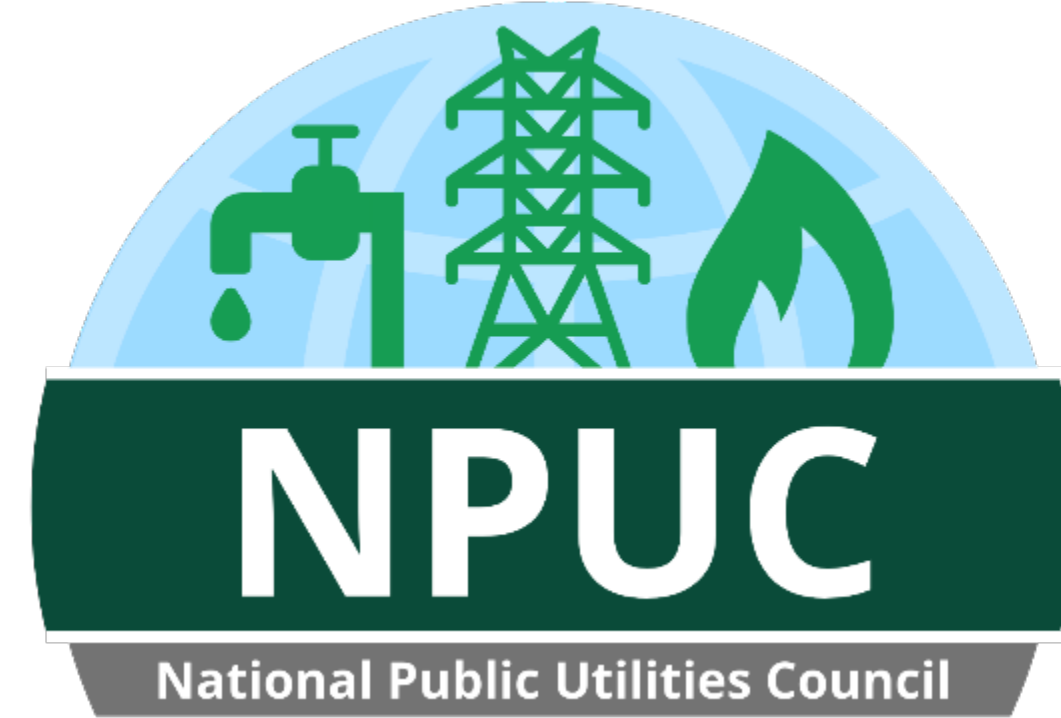
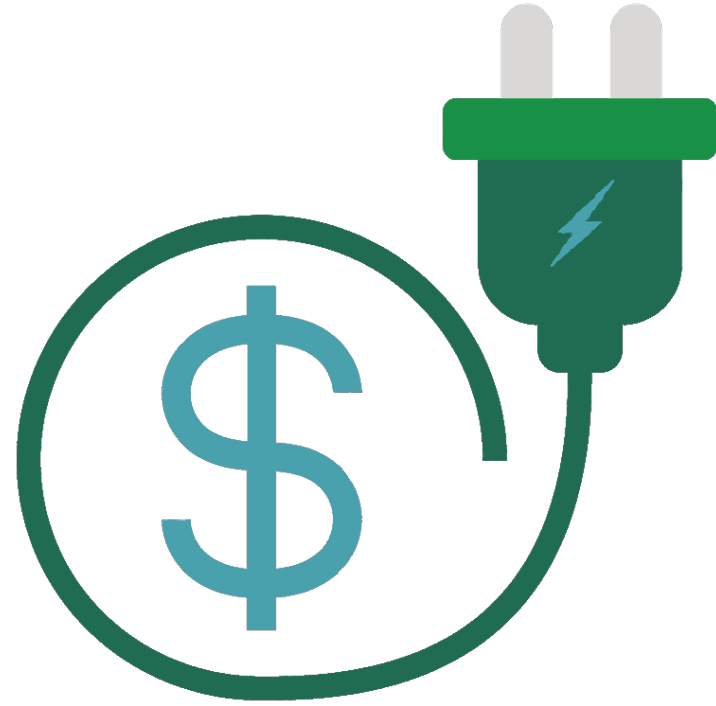
This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.



OurWorldinData.org – Research and data to make progress against the world's largest problems.

Source: Climate Watch, the World Resources Institute (2020).

Licensed under CC-BY by the author Hannah Ritchie (2020).



YEAR-TO-YEAR PROGRESSION

The 2023 Utility Decarbonization Index analyzed more companies than in 2022, and considered parent companies only.

Here is a look at how the rankings have changed between the two years.

- Rank Increase
- Rank Decrease
- Newly Added in 2023





3. BRING 3RD LARGEST GDP IN
THE WORLD TO DRIVE
CONSCIOUS CAPITALISM

BUSINESS TRENDS



ECONOMIC TRENDS

- 75% of Silicon Valley companies have a CSO
- 49% have DEI programs with 79% raising budgets in 2022.
- BOC's 1.5% set aside
- With "92% of global companies adapting their business strategy and model to be more sustainable and plan to increase investment in sustainability initiatives to improve ESG performance in 2022." - Verdantix
- 80% of leading companies around the world now report on sustainability. – KPMG
- Multi-industry cooperation – Duke/ATT & Honeywell





PRODUCT & SERVICE TRENDS

- A good example: Ford
 - Used to be able to get one in any color as long as ?
 - Now also a household generator and onsite tool powerhouse
- Greenwashing (or Mimicry)
 - Common in nature – if you don't want to get eaten, look like something that is poisonous – or if you don't want your business to die, look like a sustainable company
- State and Federal
 - Carbon offset programs
 - Carbon taxes
 - Federal & administrative mandates

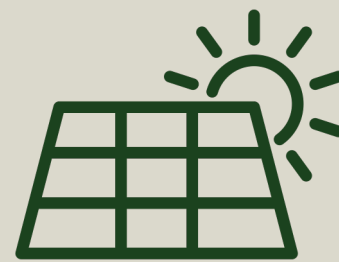
CONSUMER TRENDS





ELECTRIC CARS

After a decade of rapid growth, there are now over 10 million electric cars on the road, representing ~1% of the global car stock. For 2030, the Net Zero Emissions by 2050 Scenario projects 300 million electric cars on the road and they account for over 60% of new car sales, compared with only 4.6% in 2020.



SOLAR

Today, the 2 million residential, commercial and utility-scale solar installations produce enough electricity each year to power more than 12 million American homes. By 2024, 2.5 percent of all U.S. homes will have a solar installation.



HOW BIG IS THE GREEN CONSUMER MARKET?

Is green yet more than a fad? The Lifestyles of Health and Sustainability annual survey estimates that 13-19% of American adults are dedicated green buyers – a \$290bn market. The US-based Cone Communications estimates that 70% of American consumers consider the environmental impact of their purchasing.

SHOW OF HANDS PLEASE:

- When I go to the grocery store, I look to see where my meat/fish come from and how it is farmed.
- Where I live, I am considering battery back up or generator to power my home in case of a weather event or power outage.
- I am or have already bought a hybrid or electric vehicle.
- I am actively or looking to reduce single use plastics in my home.
- I compost.
- Carbon labeling is on the rise, and I have noticed.



APPLICATION



PRO CLIMATE IMPACTORS FAMILY OF COMPANIES



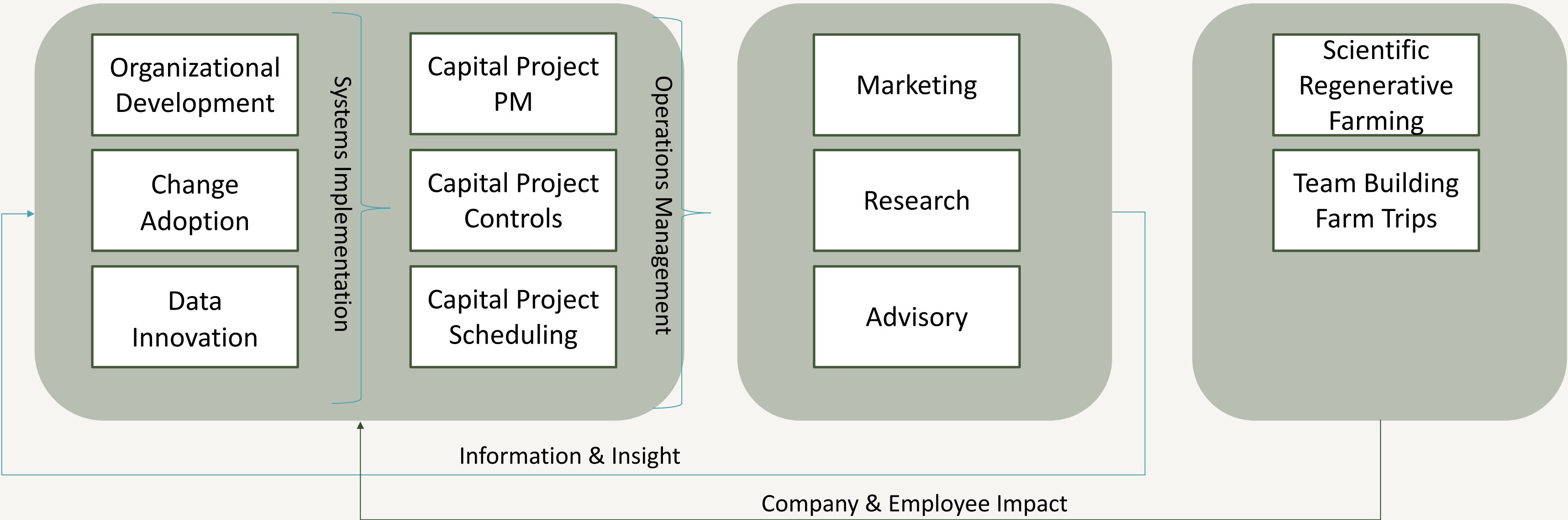
Capital Project Delivery Consultation & Services



Research & Thought Leadership



Measurable Carbon Sequestration





GLOBAL BUSINESS IMPACT MEASUREMENT & REPORTING

About YPO

YPO is the global leadership community of extraordinary chief executives. YPO provides a platform for these leaders to connect, share experiences and learn from one another, and offers a range of programs and educational resources for personal and professional growth.

Our members are some of the most successful and innovative executives from more than 150 countries. They come from a wide range of industries and backgrounds but are united by their shared commitment to excellence and their desire to make a positive impact on the world.

Note: All figures are in USD throughout the document.



Our Members

► By the numbers

35,000+
global members

USD9 trillion
combined revenue of YPO
member-run companies

1950
YPO founded



- How does this affect Oklahoma?
- Investing communities are now focused on the 17 UN sustainability goals many of which include regenerative farming

SUSTAINABLE DEVELOPMENT GOALS



An aerial photograph of a landscape. The top half of the image shows a large, flat, brown field, likely cleared land or a dry riverbed. Below this field is a dense line of green trees. In the foreground, there is a pond that reflects the sky and the surrounding greenery. The word "CONCLUSION" is written in white capital letters on the left side of the image, over the brown field.

CONCLUSION



I FOLLOWED THE MONEY AND:

- The ecological economy is here
- Big money is coming to sustainability (YPO, Governments, Major companies of the World)
- Economies are proving out that old systems won't work for future needs (utilities, farming)
- If you want to be a viable business of any kind going forward, you will need to have an ecological stance
- If you want to make money, you'll need to invest in people who have an ecological stance

STAY THE COURSE!

"It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat."

— Theodore Roosevelt

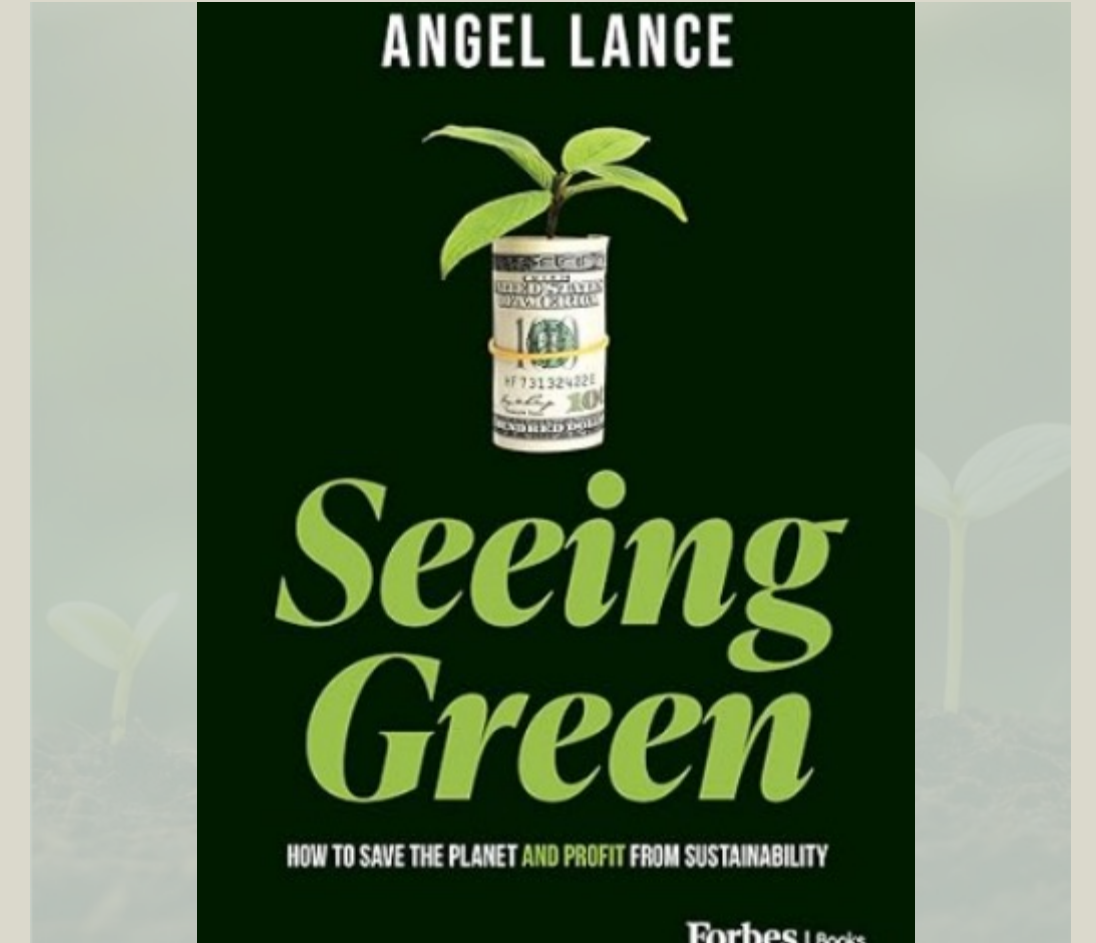




MOTIVE POWER



THE GULCH ENVIRONMENTAL FOUNDATION



SEEING GREEN



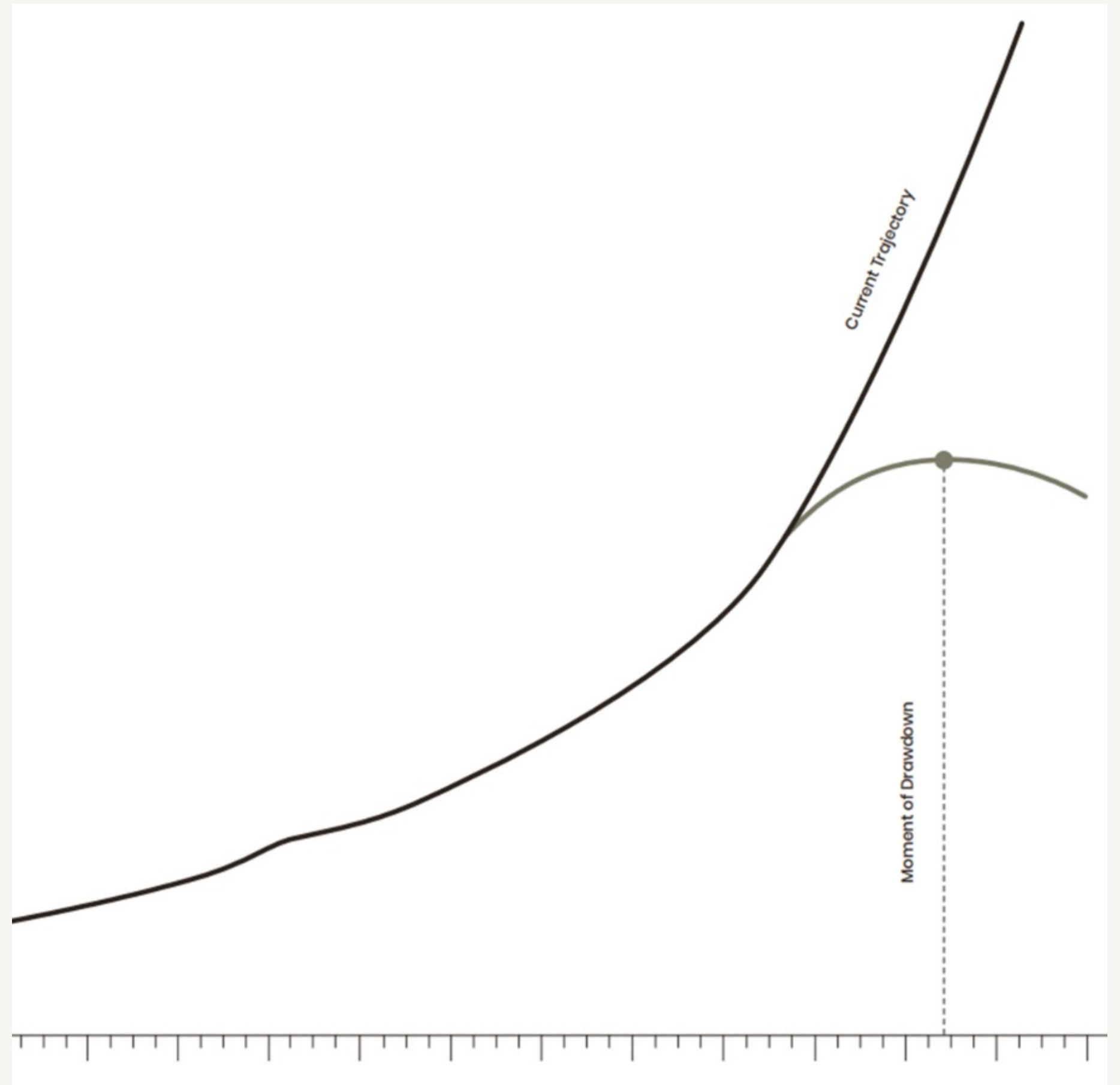


AVIVA ROSSI, PHD

Research Director at the Gulch
Environmental Management
Wildlife Ecology and Climate Change



ATMOSPHERIC GREENHOUSE GAS CONCENTRATIONS

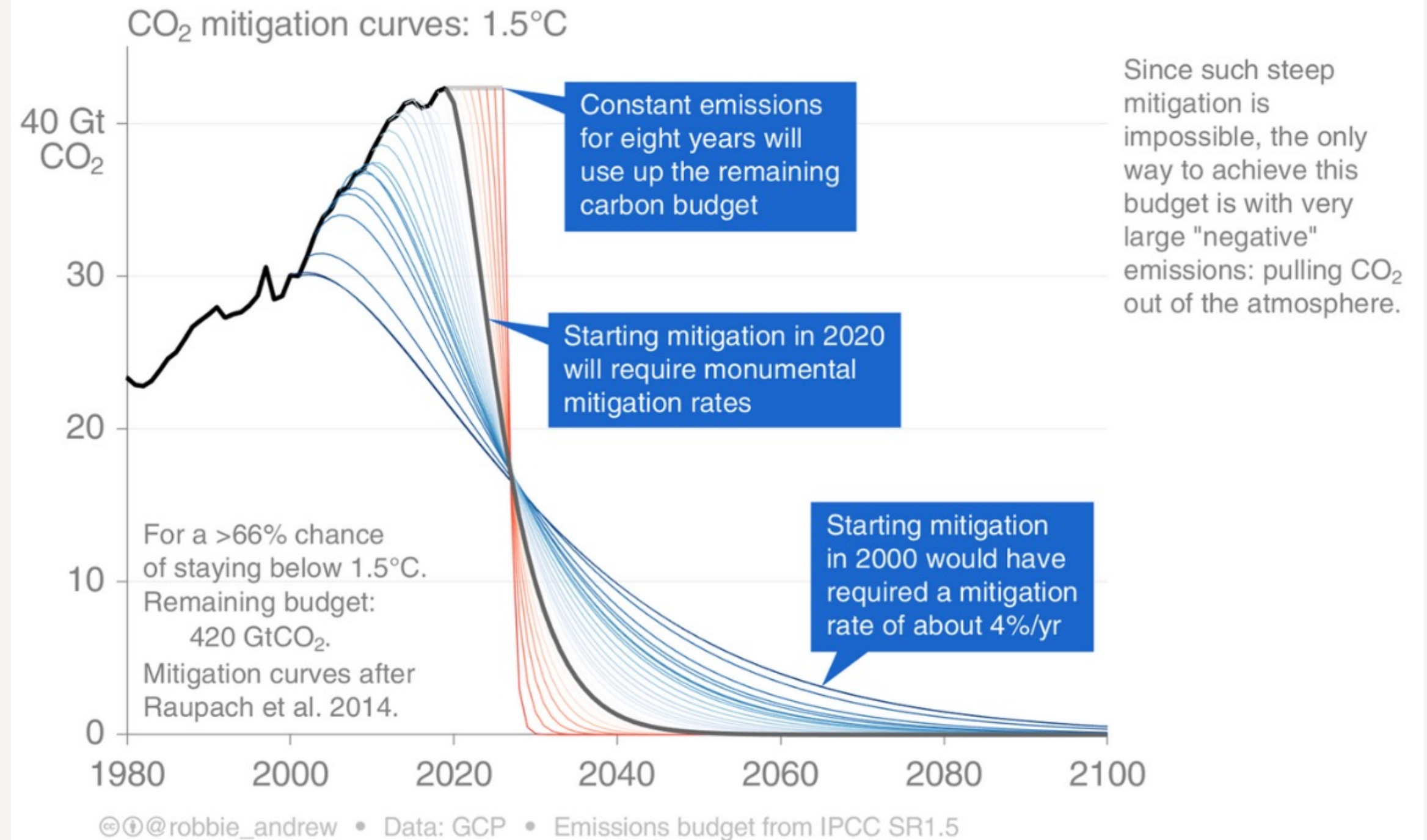


Graphic: The Drawdown Project

WE HAVE 10 YEARS ...MAYBE

“Limiting warming to 1.5°C is possible within the laws of chemistry and physics but doing so would require unprecedented changes”

– Jim Skea, PhD





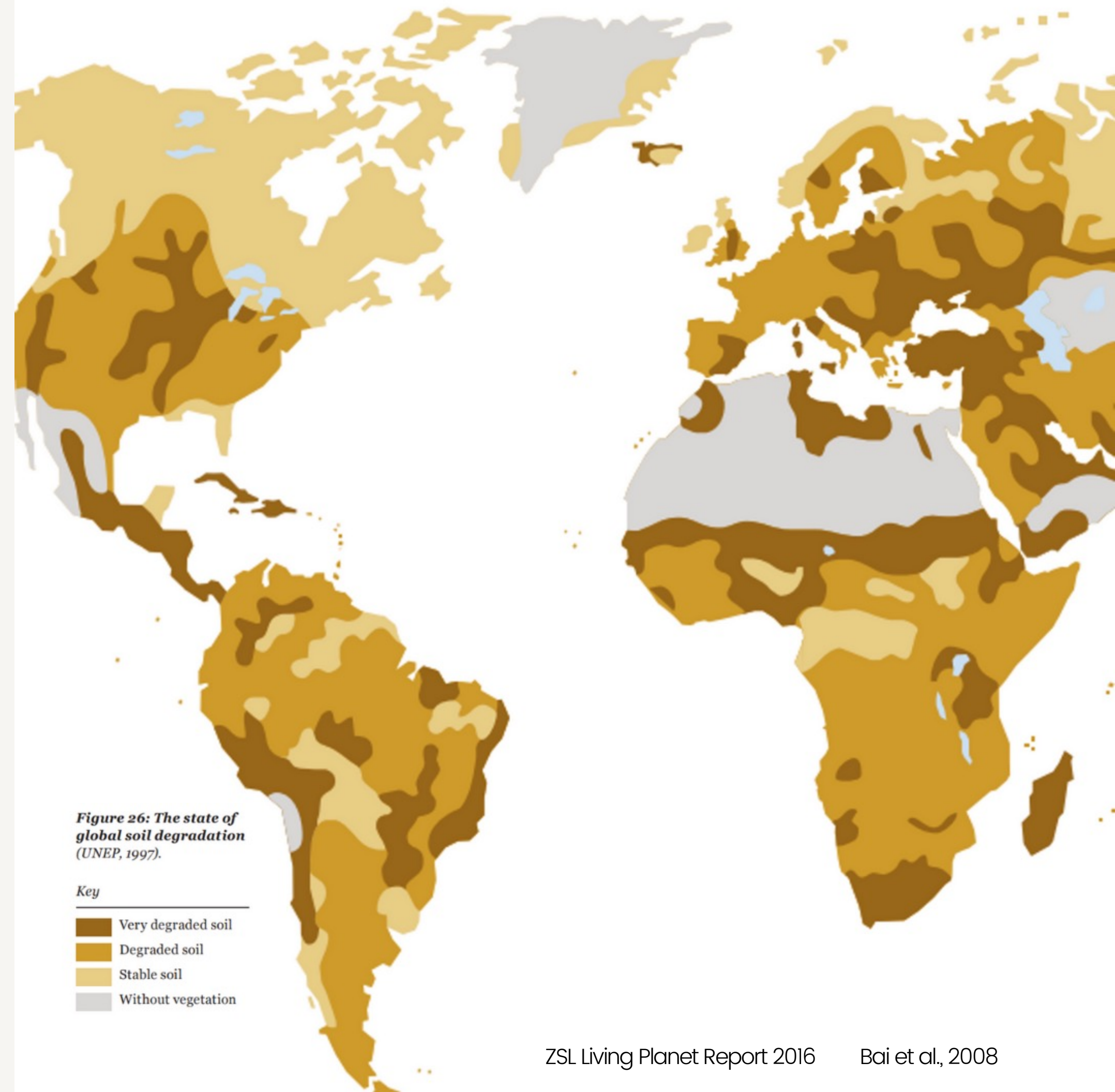
CARBON IN SOIL

Dark colored topsoil showing high levels of Soil Organic Carbon due to plant roots and their associated soil fauna and microbes.

CURRENT CARBON LOSS FROM SOILS

SOIL DEGREDDATION

- ~50% of all vegetated land globally now croplands and pasture
- ~ 30% of global land has significant degradation.
- From land-use and poor agricultural practices.
- Reduced carbon fixation.
- 1981-2003 – loss of nearly a billion metric tonnes of carbon from soils
- Only ~6 decades of farming if current rates of soil degradation continue. - UN



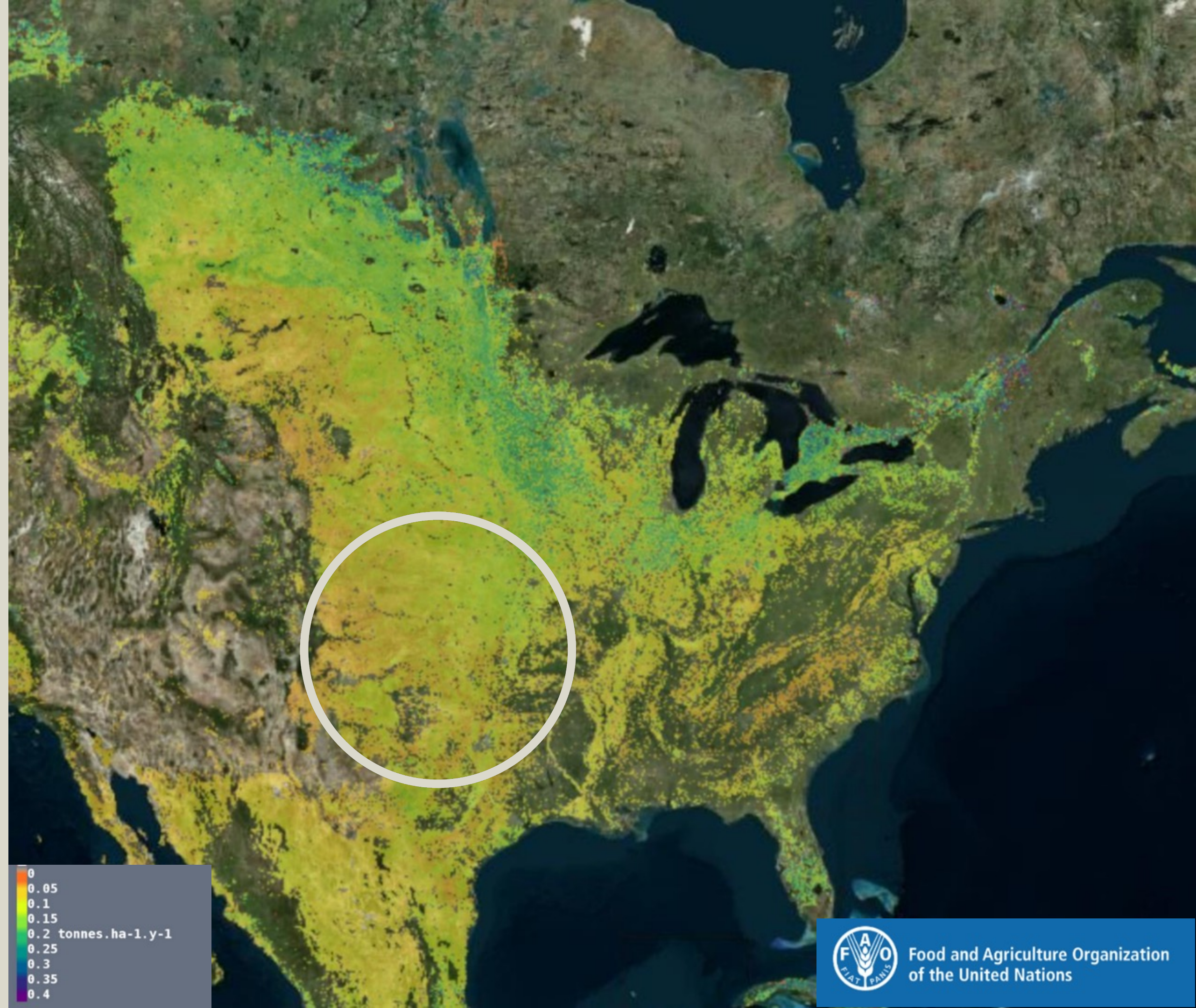
GLOBAL TERRESTRIAL CARBON SEQUESTRATION POTENTIAL



Food and Agriculture Organization
of the United Nations

WHY OKLAHOMA? - POTENTIAL

CARBON SEQUESTRATION POTENTIAL

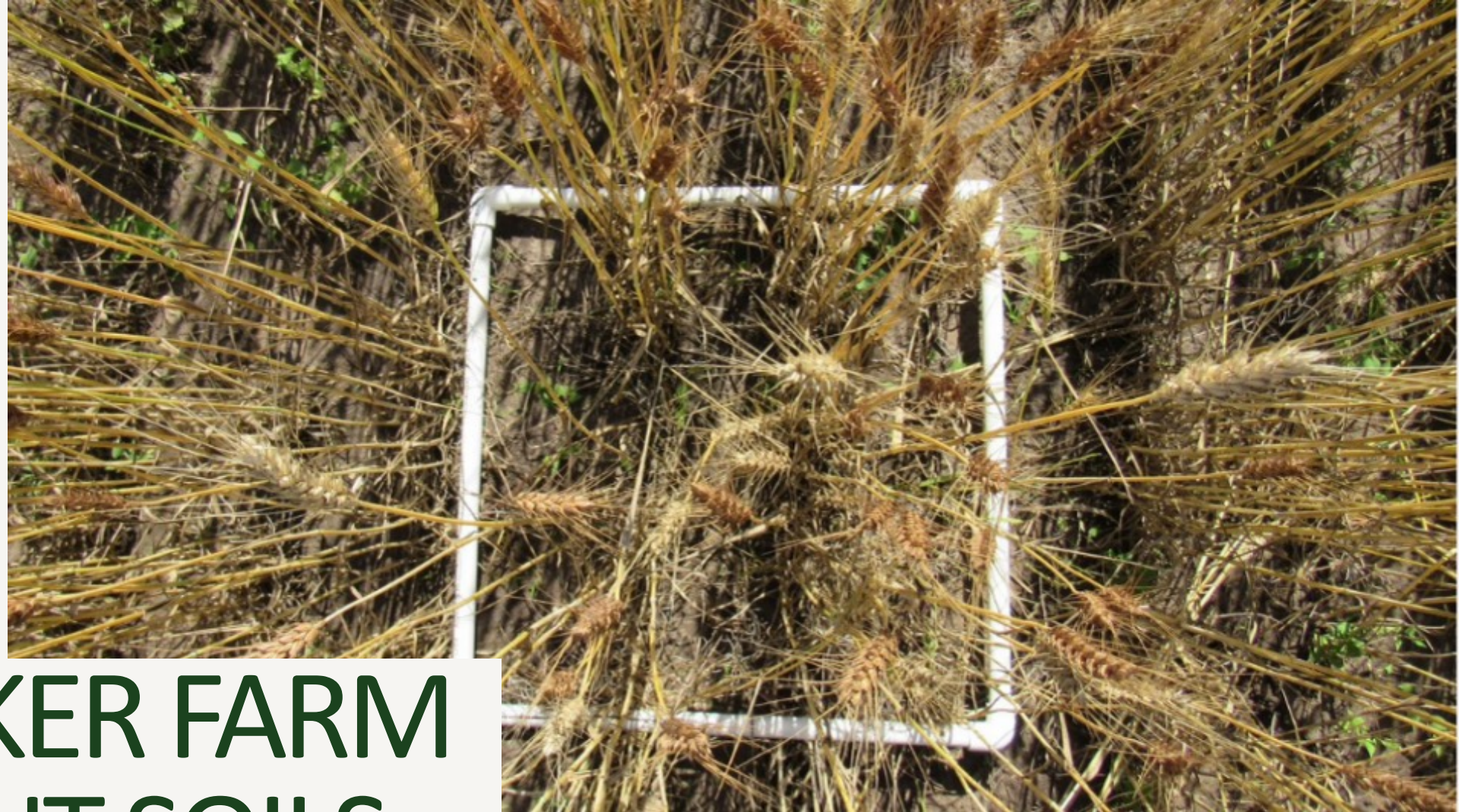


Food and Agriculture Organization
of the United Nations

RAINMAKER FARM

Farm Charter: Sequester carbon through regenerative farming practices and to prove out those practices in-situ.



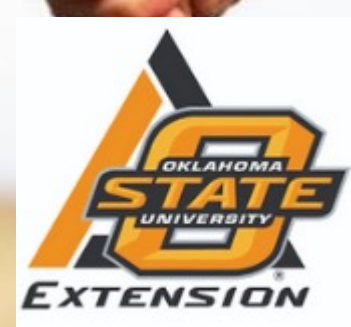


RAINMAKER FARM CURRENT SOILS



WHY OKLAHOMA? - PEOPLE

- Most Important Part
- Local contacts
 - Neighbors, community builders, respected individuals
- Local resources
 - NRCS
 - University
 - Local orgs and companies



REGENERATIVE AGRICULTURE

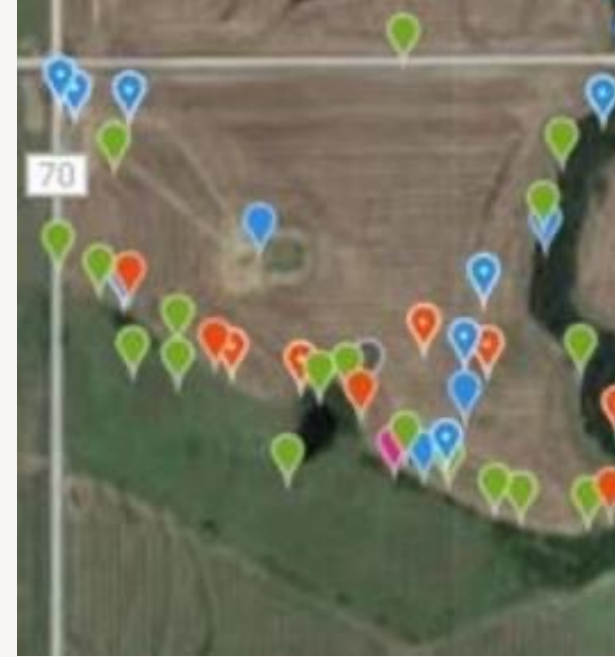


Farming and grazing practices that, among other benefits,
reverse climate change
by
rebuilding soil organic matter
and
restoring degraded soil biodiversity
– resulting in both **carbon drawdown**
and
improving the water cycle.



Quantification

- Baseline Metrics/"Before" Sampling
 - Abiotic
 - Soil and Water Testing
 - Biotic/Biodiversity
 - Photo Monitoring
 - Wildlife Cameras
 - Tracking Incidental observations – iNaturalist
 - Identify invasives



2021 RAINMAKER FARM PHOTO MONITORING REPORT

2021

RAINMAKER FARM PHOTO MONITORING



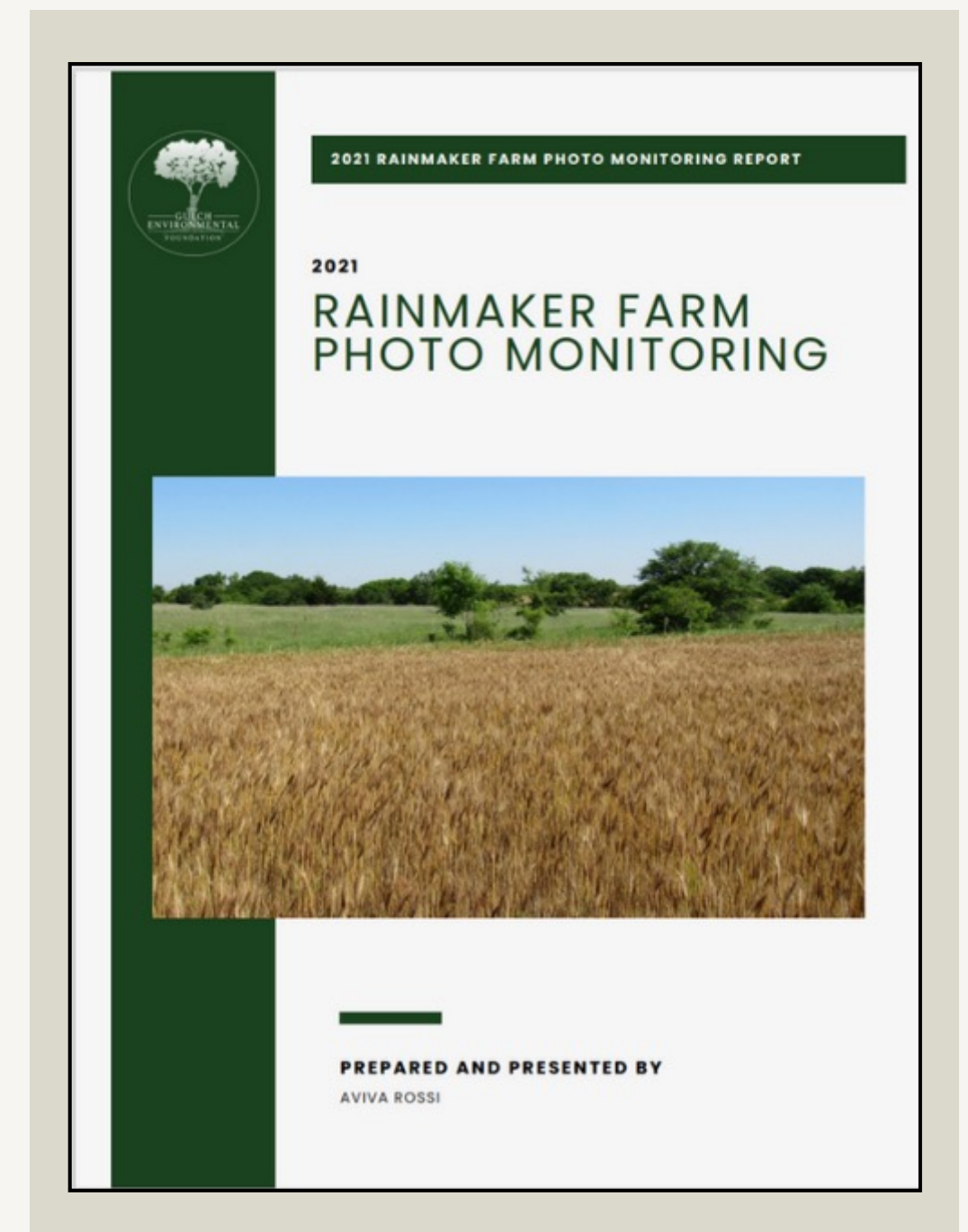
Water & Forage Analytic

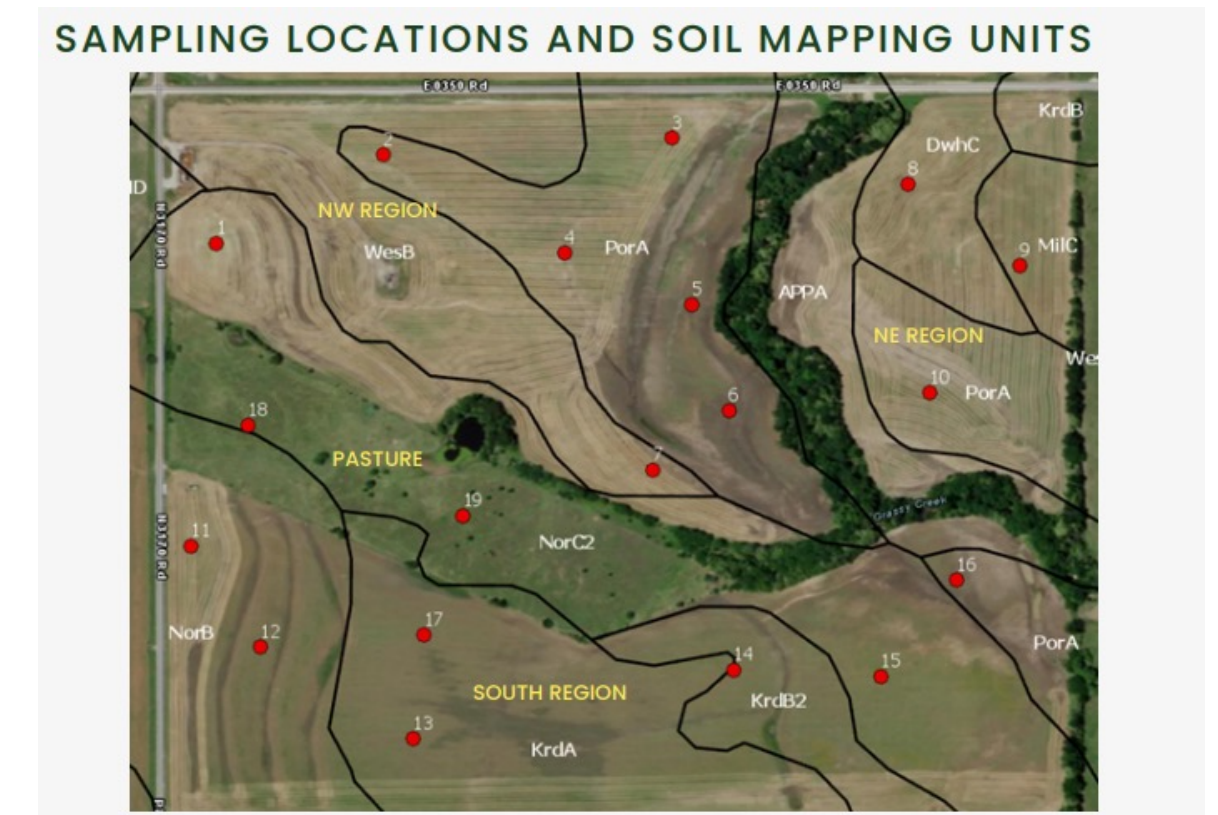
a State University Division of Agricultural Sciences
cultural Hall
r, OK 74078
Email:
Website: w

WATER QUALITY REPORT

Name : The Gulch Foundation

BASELINE STUDIES





SOIL SAMPLING STUDY

BIODIVERSITY STUDIES



Baseline Avian Biodiversity Study Report

(Coming Soon)





PUBLIC OUTREACH





Farm Day Events

- People are excited to be part of projects with hope
- Politics fall aside when you are standing in a field
- Doing vs. Telling



INSIGHTS AND LESSONS LEARNED

THE BEST LAID PLANS
OFTEN GO ASTRAY

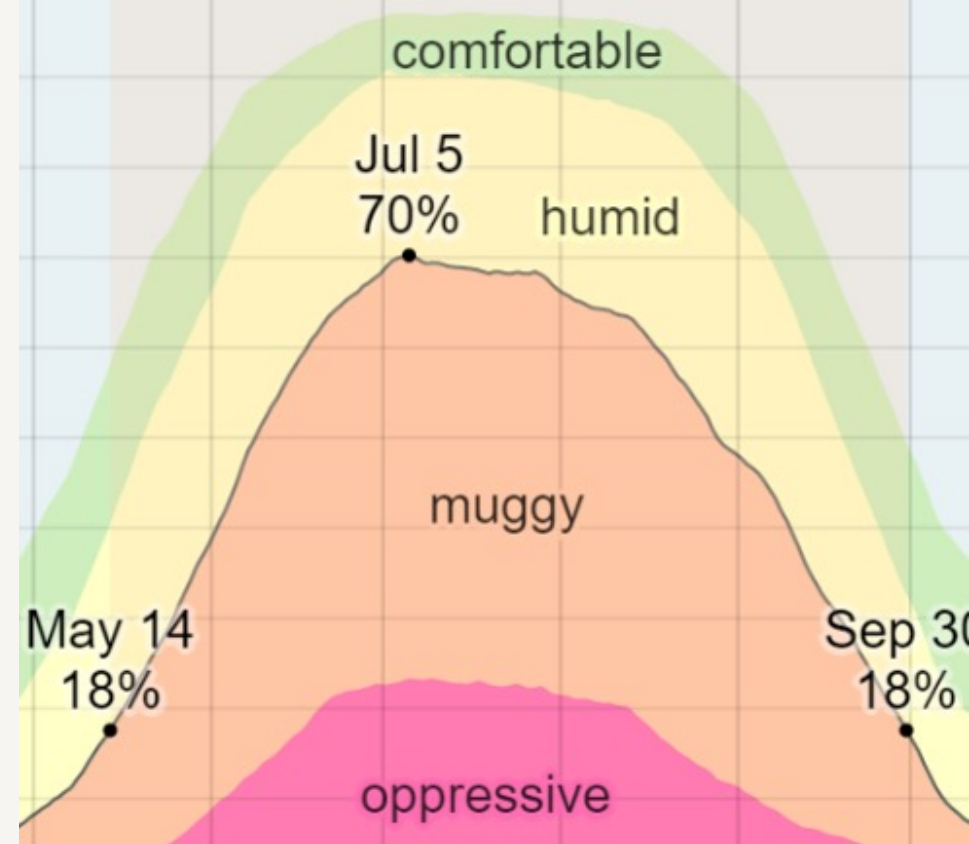
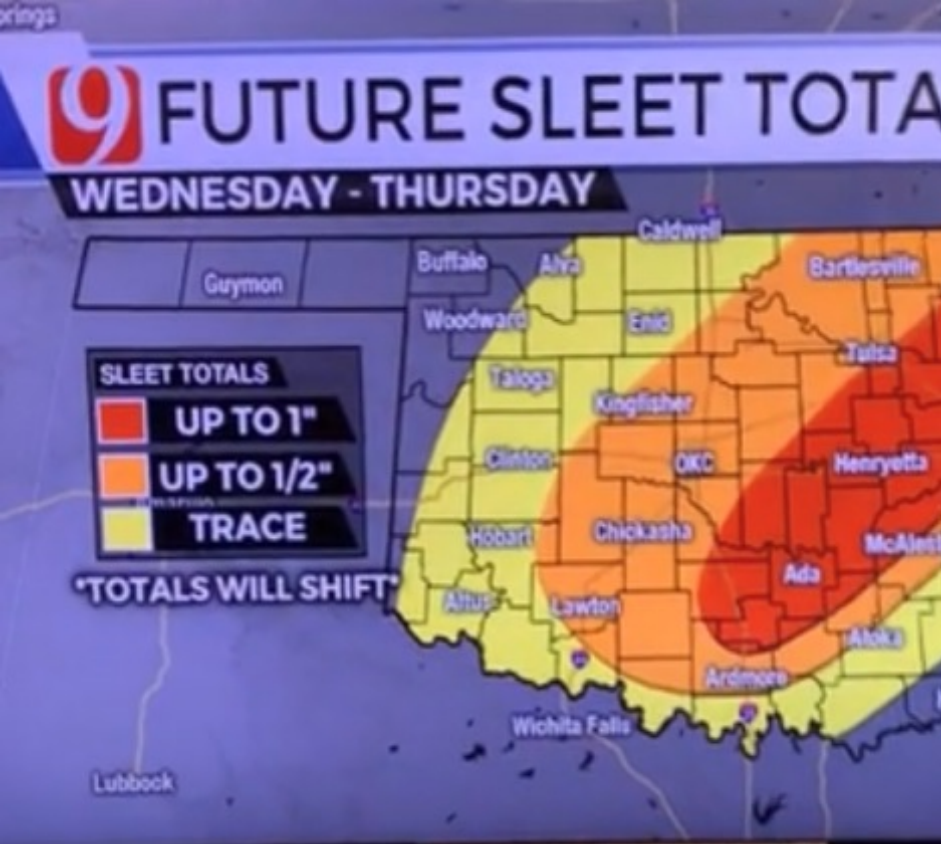
No, not pot

Learning by Doing

Weather

Tractors

People



Meteorologist Lacey

Swope ✓

13m · 🌐

DANGEROUS ROADWAYS!! Numerous accidents have occurred over the last 15 minutes. Our Trackers are barely doing 25 mph on I-40 & I-35 and sliding around. Freezing rain has produced a sheet of ice on everything.

[#okwx](#) -- Justin

WEATHER

Oklahoma does not exaggerate weather concerns



Meteorologist

Lacey Swope ✓

53m · 🌐

Oklahoma doing it again! On this Tuesday 2/22/22 the wind chill in OKC is 2 degrees! Just nasty! It feels 68 degrees colder than 14 hours ago.



PEOPLE + WHAT
DOESN'T
COUNT AS A
TRACTOR



GOING FORWARD

- Get Better
- Learn More
- Try More
- Invite More
- More Conversations
- Laugh Always



Q&A

LEARN MORE
ABOUT THE GULCH



<https://gulchfoundation.org/>

info@gulchfoundation.org

***LAND, THEN, IS NOT MERELY SOIL; IT IS A
FOUNTAIN OF ENERGY FLOWING THROUGH
A CIRCUIT OF SOILS, PLANTS AND ANIMALS.***

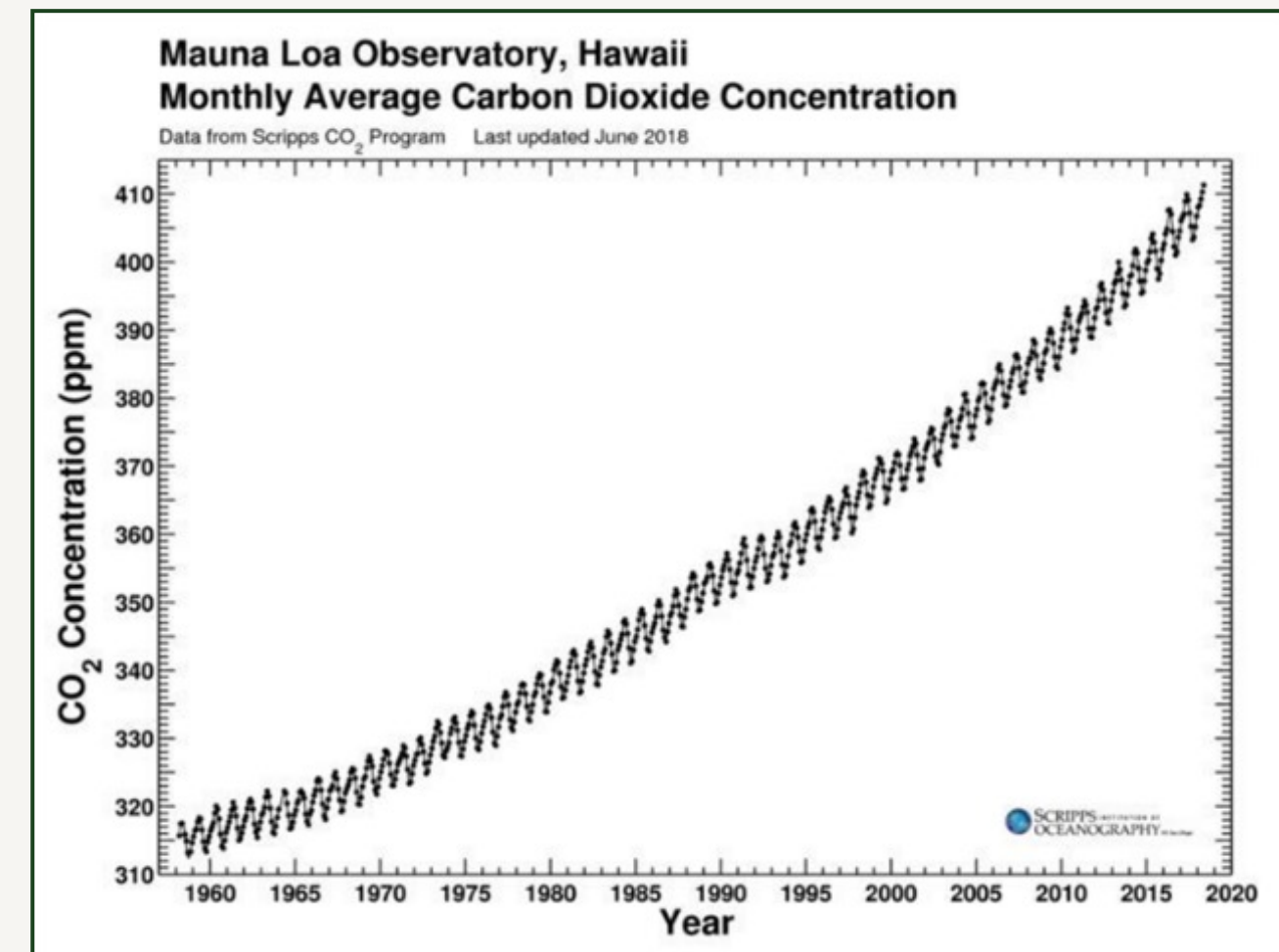
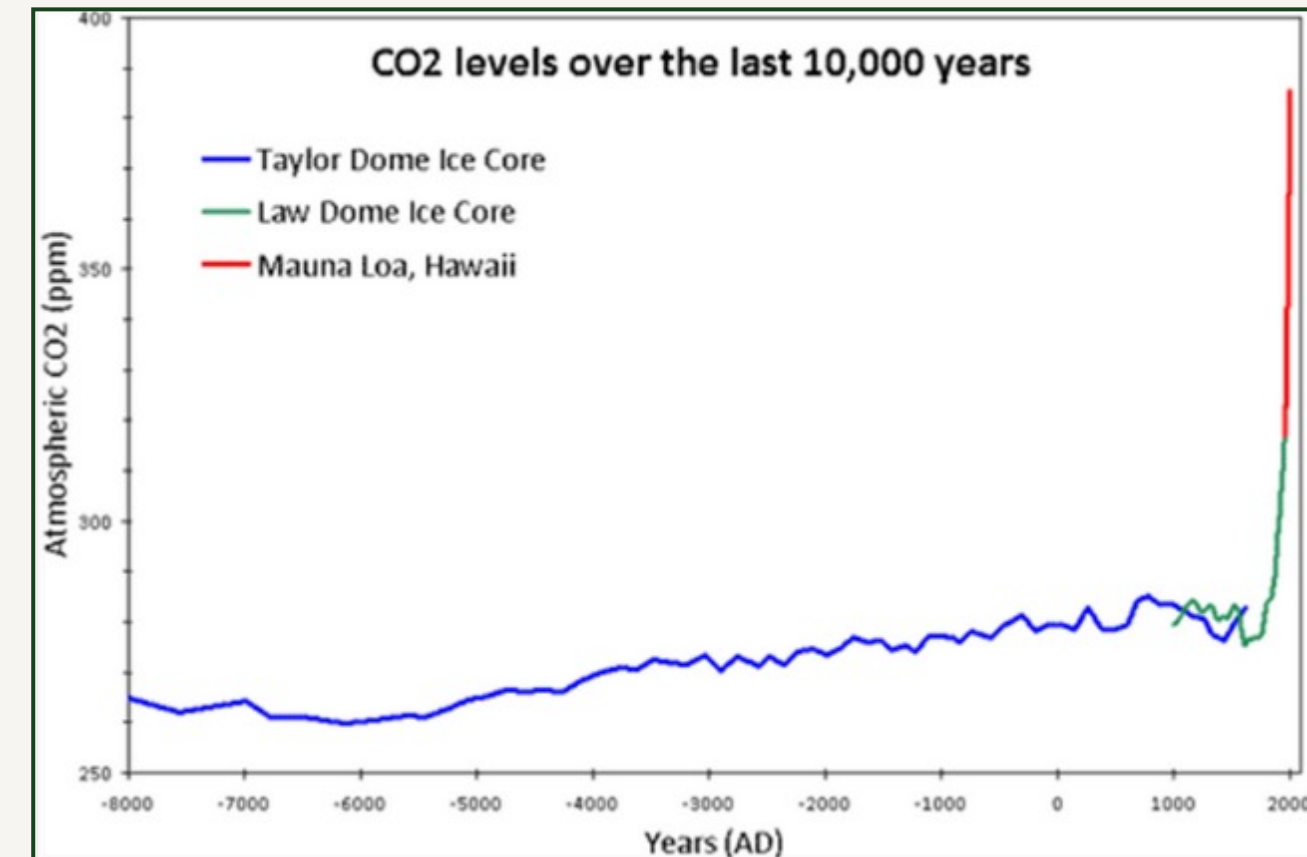
— ALDO LEOPOLD



EXTRA SLIDES for Q&A

CO2 LEVELS

SINCE LAST ICE AGE
AND IN LAST 60 YEARS



Source: <https://www.skepticalscience.com/co2-measurements-uncertainty.htm>

THE GULCH ENVIRONMENTAL FOUNDATION

The Gulch Environmental Foundation is a nonprofit focused broadly on environmental concerns. *Climate crisis mitigation as a top priority.*

- Boots-on-the-Ground land management
- University lead carbon sequestration study
- Outreach via College-level Corporate Trainings on Climate Change, Speaking Engagements, Farm Days

Sister organization to family of for-profit firms.

- Gulch is the E Part of ESG Efforts. Tangible verification of corporate ESG commitment.
 - *ESG – Environmental, Social, and Corporate Governance - framework for identifying, assessing, and addressing organizational objectives and activities. Metric used by investors.*



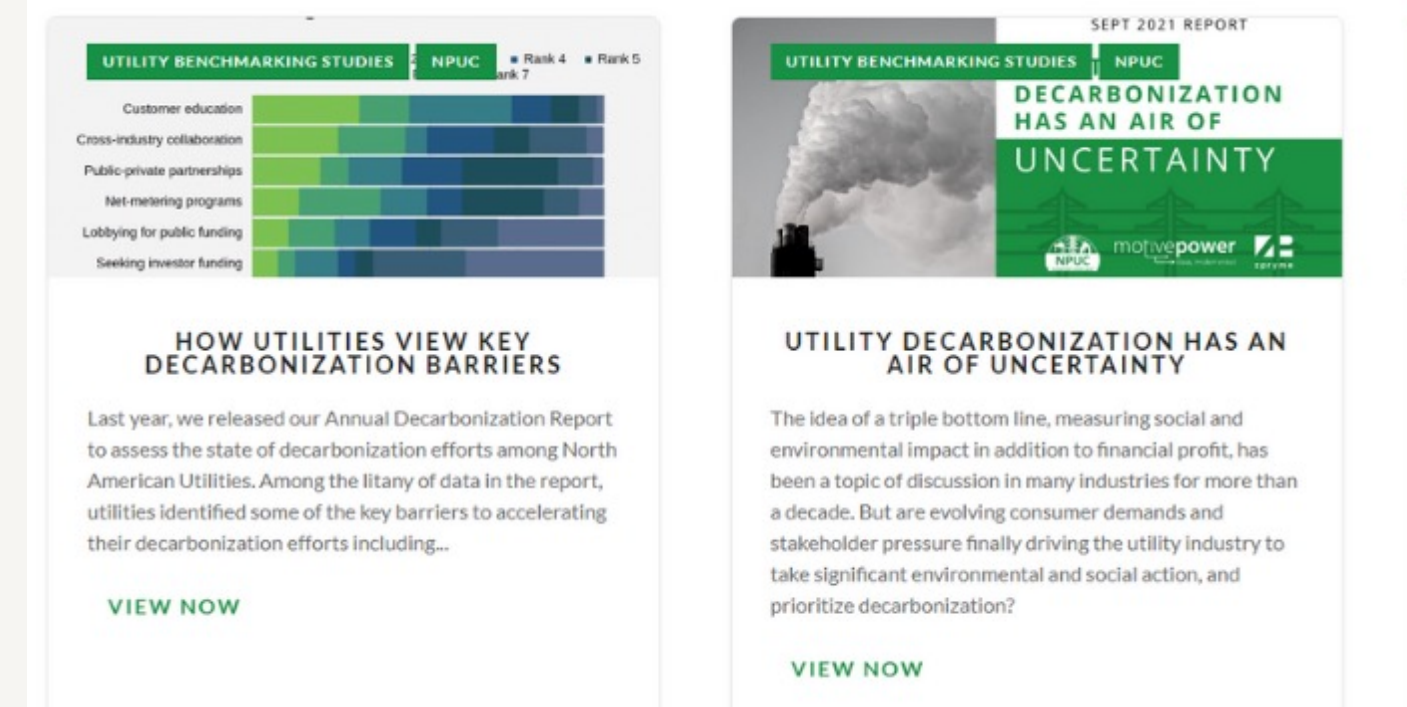
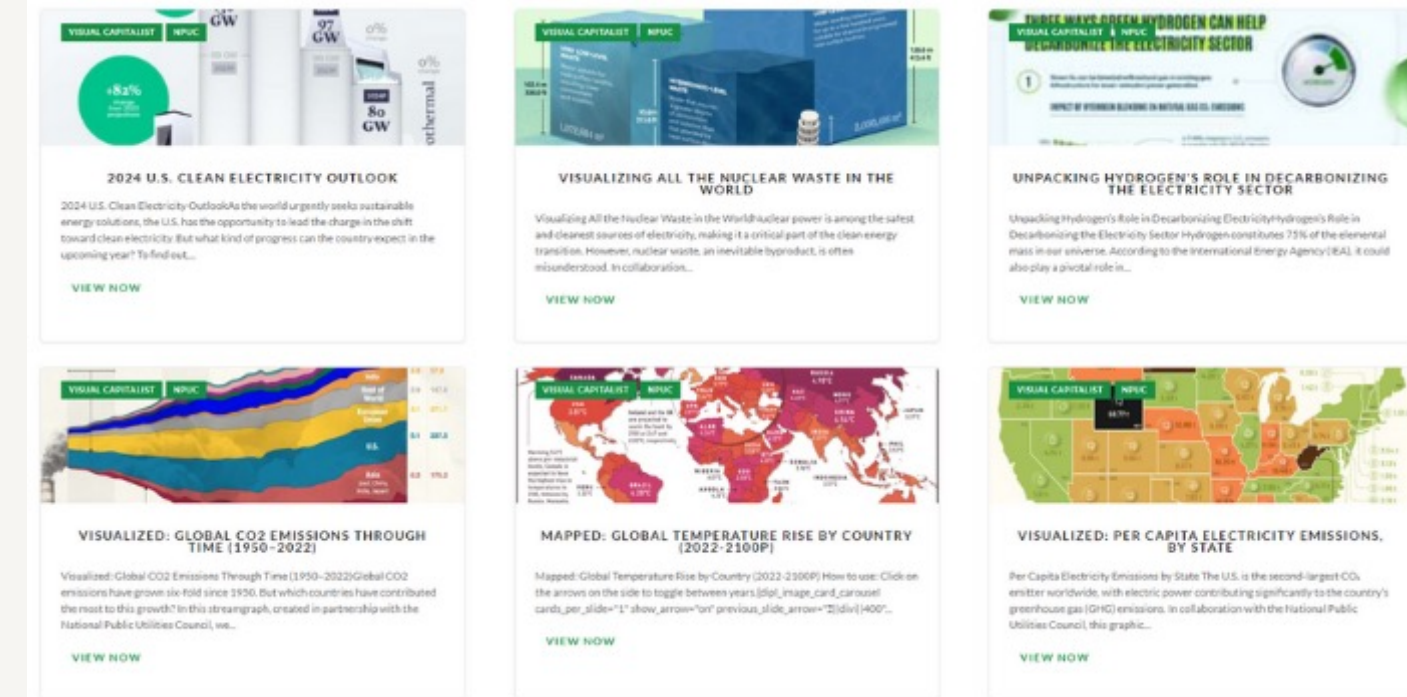
NATIONAL PUBLIC UTILITIES COUNCIL

Founded in 2020, the NPUC developed from the need for utilities to collaborate to expediate the clean energy transition.

The NPUC aims to provide:

- **A forum** for energy thought leaders to devise solutions to shared decarbonization obstacles.
- **Infographics and visualizations** that shape the national discourse around decarbonization.
- **A knowledge repository** for utilities to use to achieve their decarbonization goals.
- **Reports and benchmarking** assessing the current decarbonization efforts of US utilities.
- **Research and information** for utilities to help prepare for possible federal regulations.

The NPUC allows for utilities to tackle the road to decarbonization *together*.





INFRASTRUCTURE

CARBON CREDIT EXCHANGE

- Carbon Credit Verification
 - Verification requirements mostly meaningless at detecting change carbon
 - Small change over time compared to spatial (across field) and temporal (seasonal) variation
 - Cost vs return
 - Expensive to do statistically significant monitoring
 - Highly variable markets
- Carbon credit companies
 - Ask for big investment from farmers, then disappear



LEARNING BY DOING

**Drought Continues to Be
'Broken Record' in Oklahoma**

