

# NATURAL CAPITALISM SOLUTIONS



A FINER FUTURE IS POSSIBLE



Whatever you  
thought your  
agenda was, it  
just got changed

2° C is much more dangerous than governments thought when the Paris deal was signed

1.5° C instead of 2° C is a huge difference

Limiting warming to 1.5° C or below is challenging but achievable

We must be net zero by 2050 but current trajectories put us far beyond that.

Report says we must cut carbon ½ by 2030.

Global warming could cost some sectors of the economy losses exceeding \$100 billion each year by the end of the century.



That's more than the gross domestic product of some US states

# Fourth National Climate Assessment

The losses won't be borne equitably: communities of color and lower-income communities will be more exposed to climate change impacts.





2011, a new record: 14 weather related disasters with damages over \$1 billion.

2013 6<sup>th</sup> year in a row with weather related damages over \$10 billion. 2016 there were 15

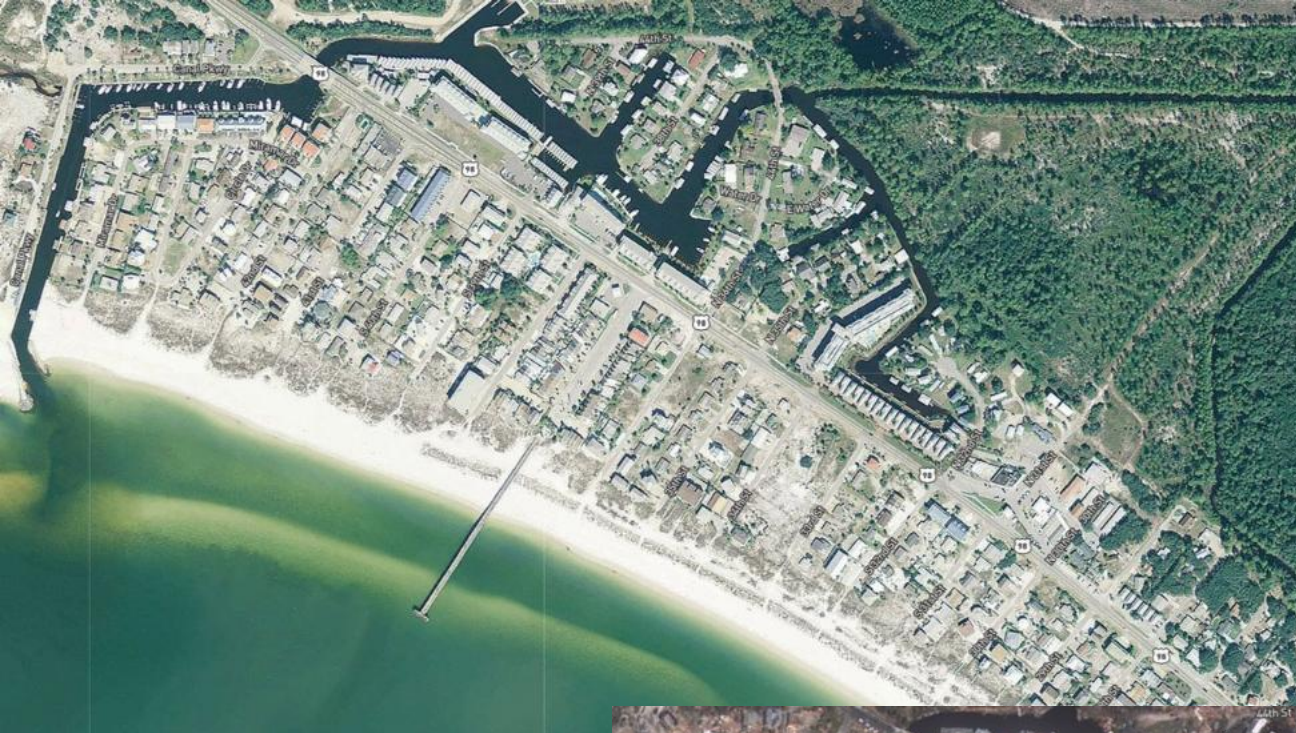
2017 16 billion dollar storms: 306 Billion — new record









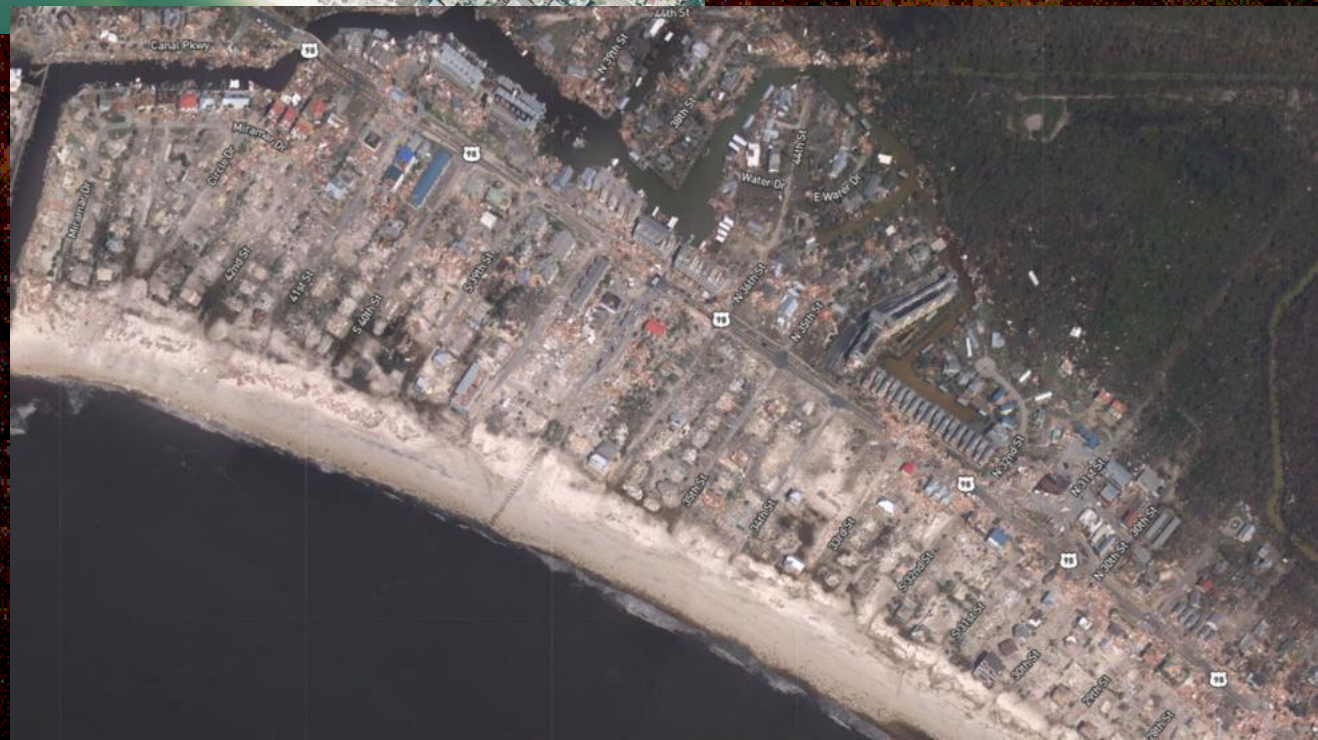


Mexico Beach, Fla

Two weeks before  
Hurricane Michael

Mexico Beach, Fla

One week after









Climate change cost U.S. taxpayers more than \$350 billion over the past decade

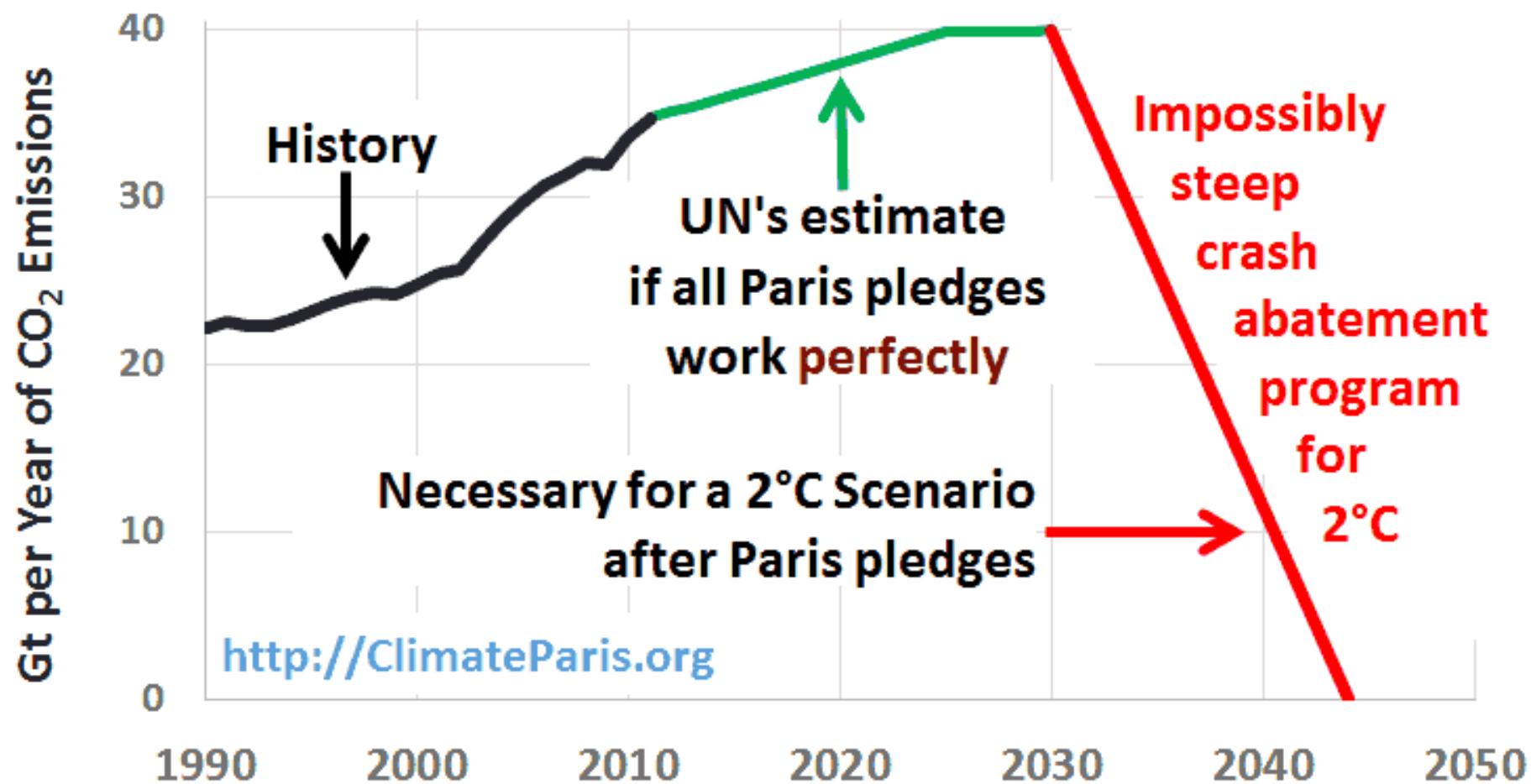
By 2050, that figure will be \$35 billion per year. Costs include clean up and disaster assistance from flooding and storms, which will increase under rising temperatures.

Government Accountability Office

Incomes are expected to shrink by 36% by 2100 due to climate change, and millennials will bear the brunt of the economic effects.

Rising temperatures, the erosion of topsoil in farming states, and erratic weather events are expected to drive food costs up between 3% and 84% by 2050

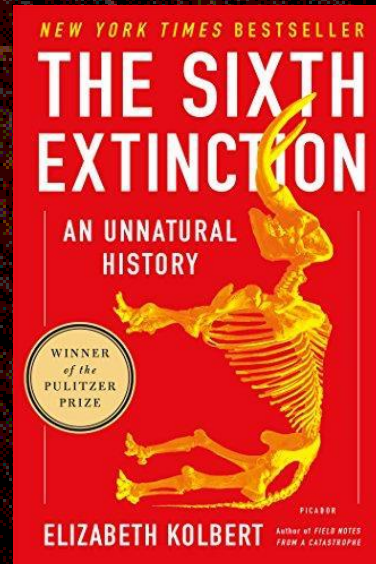
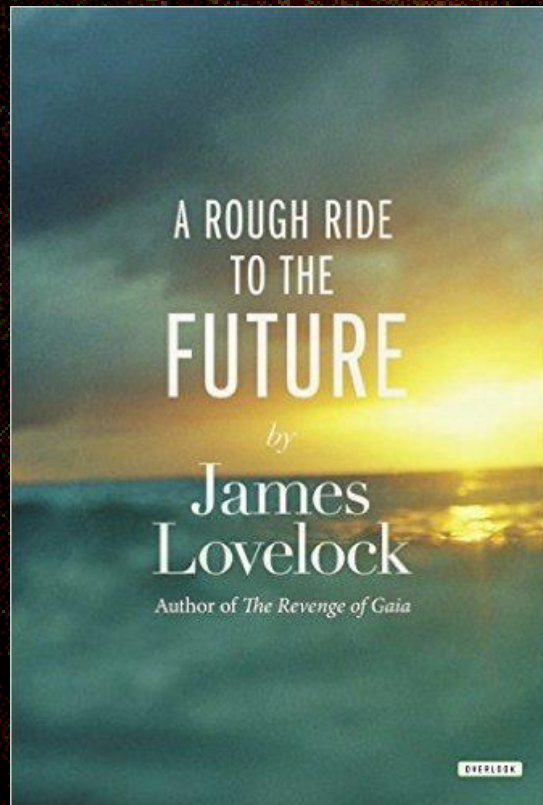
Brookings Institution Study



Some say it is  
too late



## Near Term Human Extinction



**YOU ARE THE RESULT OF 4 BILLION  
YEARS OF EVOLUTIONARY SUCCESS.**

**ACT LIKE IT.**



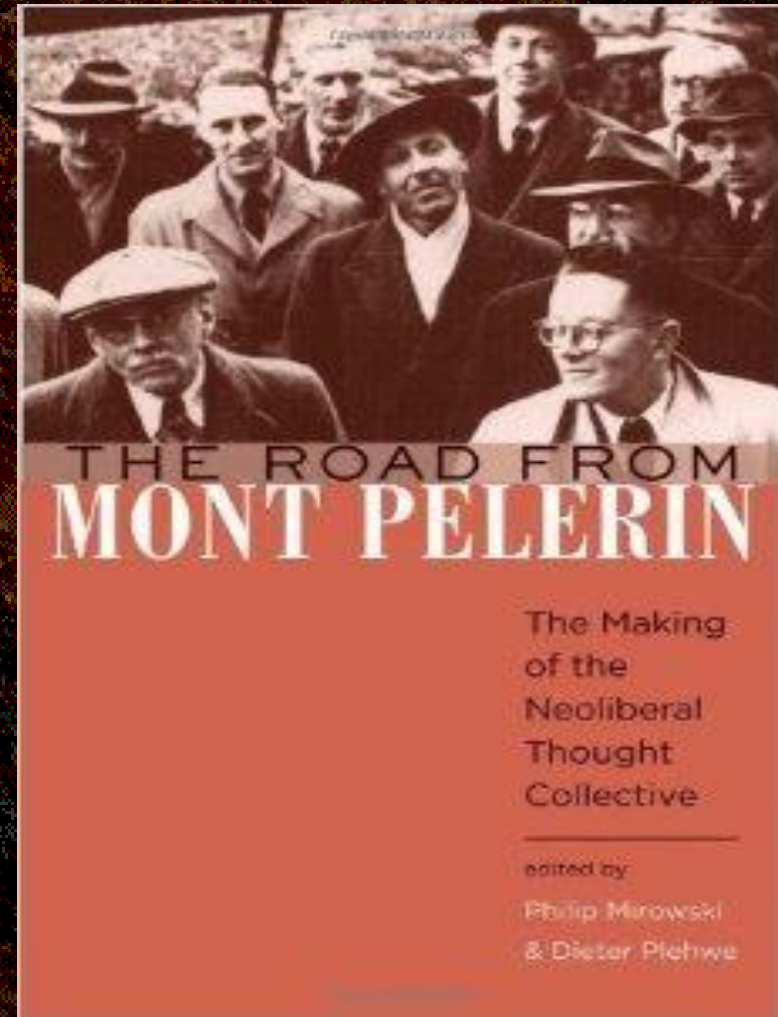
How did we get into this mess?

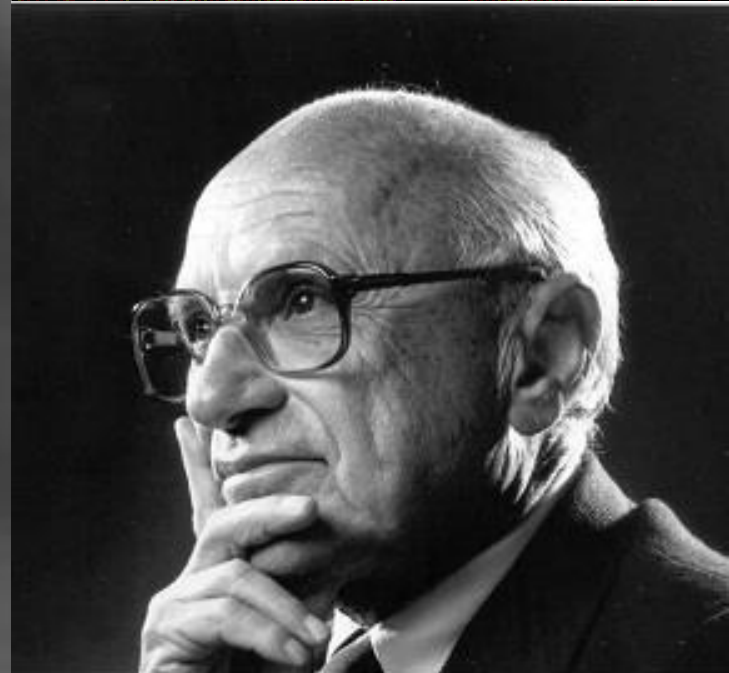


# Neo-liberal economics

In 1947, 36 men met for 10 days at the Mont Pelerin Hotel, Montreux Switzerland, to lay the intellectual foundation of neo-liberalism.

The founded the Mount Pelerin Society





**"Columbus did not seek a new route to the Indies in response to a majority directive."**

**Milton Friedman**

The group crafted the ideology that

- personal freedom is paramount,
- government interference is evil,
- markets are perfect and
- there should be no constraint on an individual's freedom to make economic decisions.

# Friedman on Corporate Social Responsibility

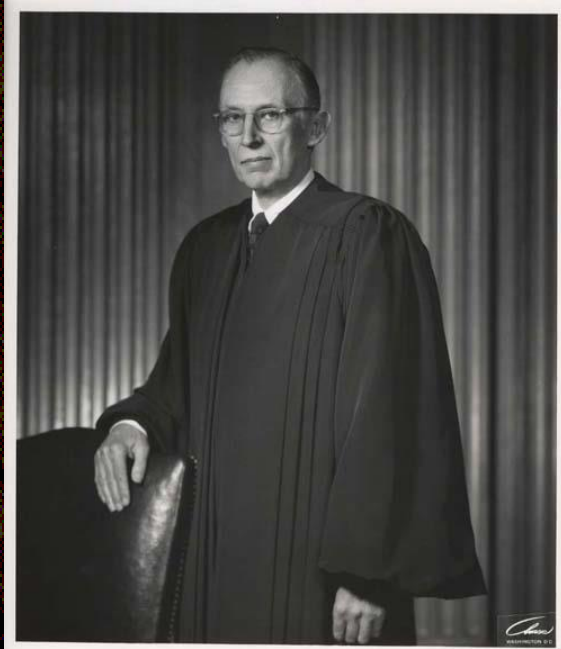
“There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.”







# Powell Memorandum



August 23 1971

A corporate lawyer, member of boards of 11 corporations, soon-to-be Supreme Court Justice Lewis Powell wrote a memo to Eugene Sydnor, head of U.S. Chamber of Commerce:

“American economic system is under broad attack.... Business must learn the lesson . . . that **political power is necessary**, that **such power must be assiduously cultivated** and that when necessary it must be **used aggressively** and with determination—without embarrassment and reluctance”

# Powell's 26 targets

“Strength lies in organization, in careful long-range planning and implementation in consistency of action over an indefinite period of years in the scale of financing available only through joint effort and in the political power available only through united action and national organizations.”

Businesses/ Chambers of Commerce/ Business Roundtable

Campuses

- Graduate schools of business

- Secondary education

- Evaluate/ change textbooks

- Create staff scholars to take university positions

- Speakers' bureau

- Equal time on campus/ Balanced faculties

# Powell's 26 targets

## Public

Press , TV, Radio

Scholarly journals

Books/ paperbacks/ pamphlets

Paid advertisements

## Political Arena

Influencing politicians at state and federal

Direct action

Lower Court Judges – Judicial Crisis Network

Stockholders – Shareholder Primacy

Business should take a more aggressive attitude

It should raise money to fund all this

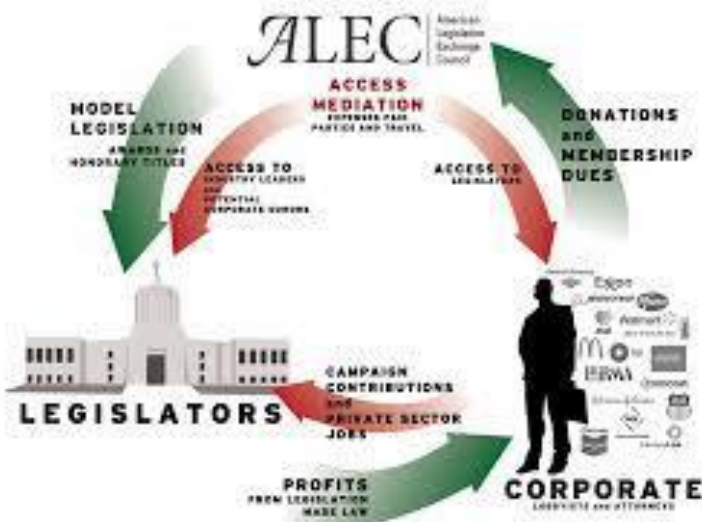
The way to ensure freedom is to discredit the old ideology



**HUDSON**  
INSTITUTE



**John Birch Society Celebrates Koch Family For Their Role In Founding The Hate Group**  
thinkprogress.org



**JCN** judicial crisis network

**MANHATTAN**  
INSTITUTE

**PR1**  
PACIFIC  
RESEARCH  
INSTITUTE

American Enterprise Institute

**AEI**



1980 elections:

Ronald Reagan in US,  
Margaret Thatcher in the UK:  
neo-liberalism became the  
dominant global economic  
ideology.



“Deregulation: implemented in many countries.  
Corporate directors assumed greater control, initiated hostile  
take-overs of many smaller companies.

1990s / 2000s: accounting scandals, off-shoring, outsourcing,  
globalization of labor, transport, and transaction costs.

2008 financial collapse was a predictable result of the systematic  
dismantling of welfare state sought by neo-liberalism



# Growth Of Family Income

+261%

**1947-1979:  
We All Grew**

**1980-2007:  
We Grew Apart**



1947-1979 Source: United for a Fair Economy ([www.FairEconomy.org](http://www.FairEconomy.org)): Based on analysis of US Census Bureau data  
1980-2007 Source: Congressional Budget Office, Average Income Pretax ([www.cbo.gov](http://www.cbo.gov)): 2007 Dollars

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# Inequality



Almost half of the world's wealth now owned by just one percent of the population





# WORLD

**TRENDING**

[Fort McMurray](#) | [Raptors](#) | [Liberal Report Card](#) | [Bombardier](#) | [Bosma](#) | [Lotto](#)

## Swathes of Middle East and North Africa will be too hot for humans as early as the 2040s: study



**JAKE EDMISTON** | May 3, 2016 4:03 PM ET  
[More from Jake Edmiston](#)



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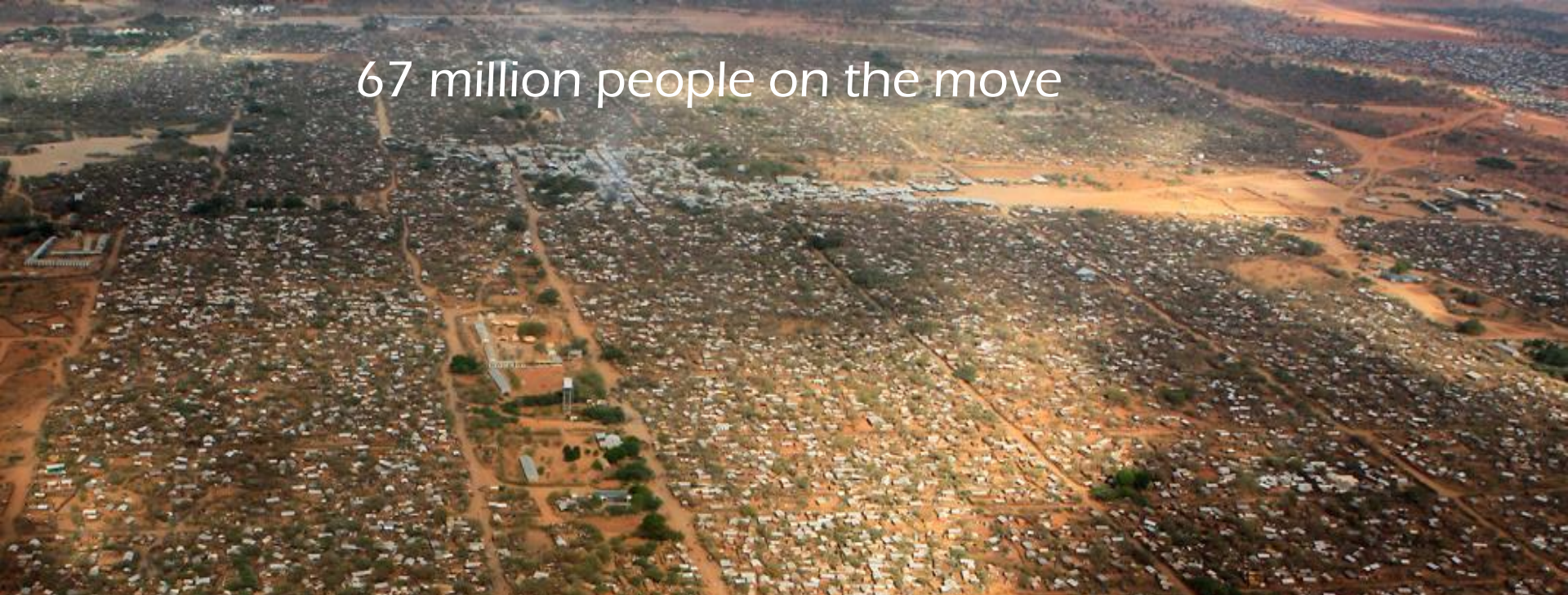


A road in North Africa's Sahara Desert.

GETTY IMAGES / THINKSTOCK



67 million people on the move



☐ Face death in a war zone?

☐ Escape, but leave loved ones behind?

#refugees

What would you do?





# NASA funded the HANDY Study: Is Industrial Civilization Headed for Irreversible Collapse

The study sought to understand long-term behavior not make a short term prediction, but its warning is stark.

“Cases of **severe civilisational disruption** due to  
"precipitous collapse - often lasting centuries -  
**have been quite common.**”

Two crucial features drove collapse:

“...the **stretching of resources** due to the strain placed on the ecological carrying capacity”; and


“...the **economic stratification** of society into Elites [rich] and Masses (or "Commoners") [poor]"

These phenomena have played “a central role in the process of the collapse” in all cases over “the last five thousand years.”

# What will it take to avoid collapse?

The minimum requirement for an economic system that can sustain humanity is one that:

1. Lives within ecological limits
2. Meets the basic needs of all humans; and
3. Has sufficient equality to maintain social stability and enable basic needs to be met.

A serene sunset scene over a calm ocean. The sun is a bright, glowing orb on the horizon, casting a long, shimmering reflection across the water. The sky transitions from a deep blue at the top to a warm orange near the horizon. Gentle waves are visible in the foreground, and a dark, silhouetted beach is at the bottom. A semi-transparent dark blue circle is positioned on the left side of the image, containing white text.

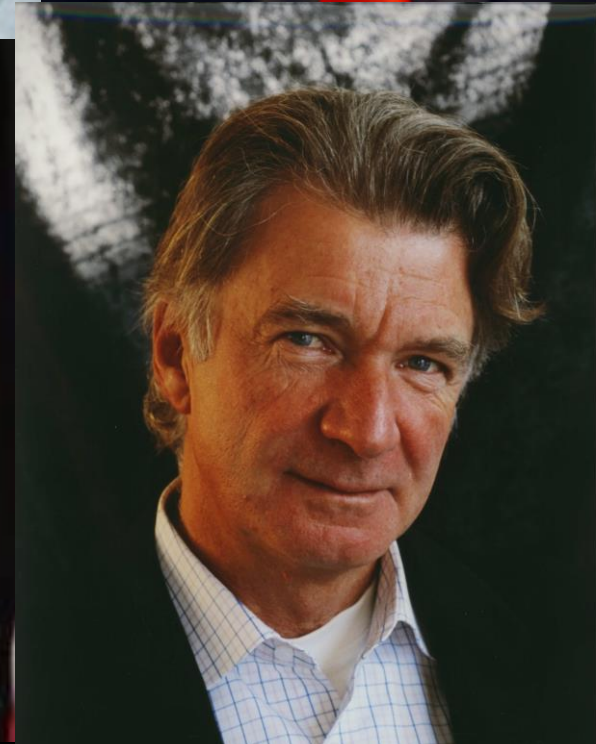
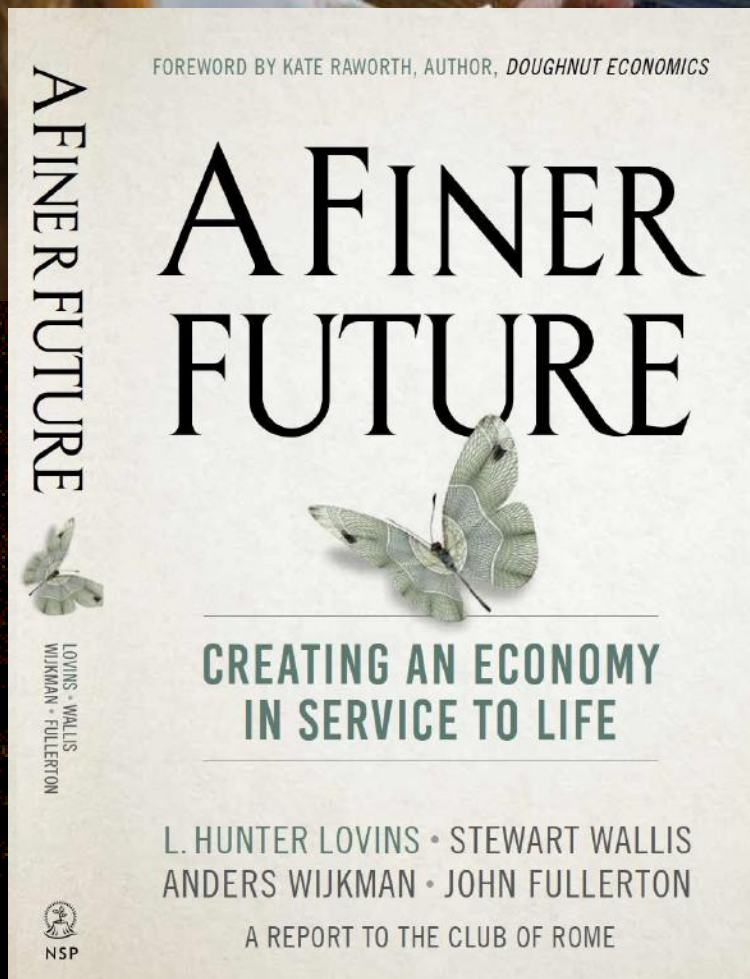
**"The key to the future  
of the world is finding  
the optimistic stories  
and letting them be  
known."**

**- Pete Seeger, 1919-2014.**

# New Story

1. We have no choice: BAU = collapse
1. The solutions are emerging
2. It's better business: you'll make more money
3. People want it – more desirable





# Who Are We?

Dr. Paul Lawrence – Dr. Michael Pirson

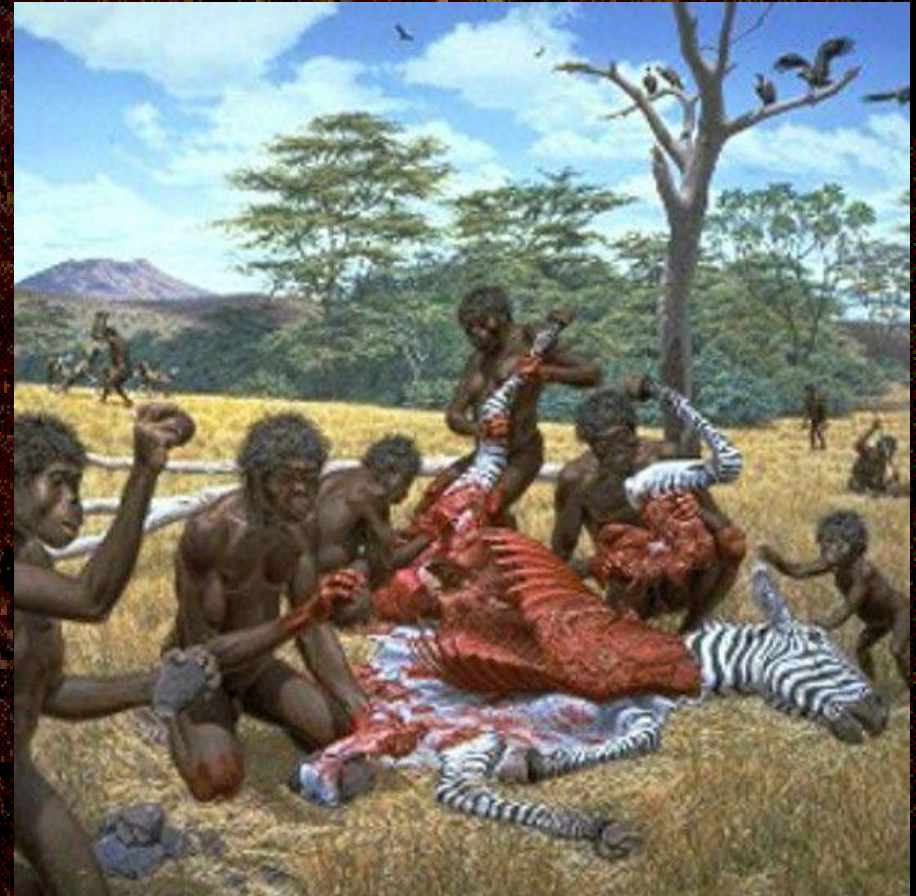
## Four Drivers

Drive to acquire

Drive to defend

Drive to bond

Drive to comprehend





Desired Outcome

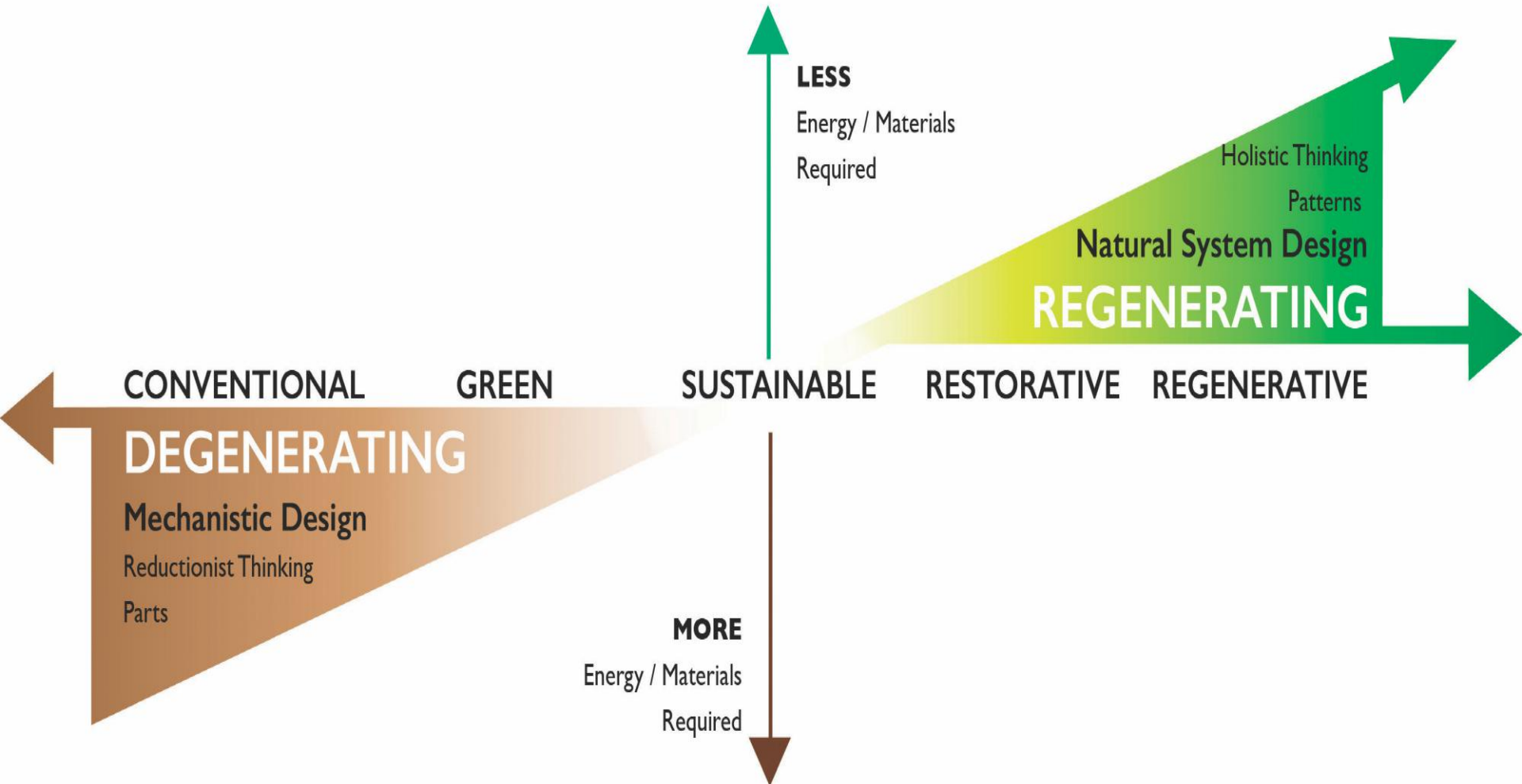
Finance

Economy



# AN ECONOMY

Place - Culture - Enterprise - Government - Commons



# 8 elements of regenerative capitalism

- in right relationship
- holistic wealth
- Innovative and adaptable
- empowered participation
- edge effect abundance
- robust circulation
- seeks balance
- honors community and place

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## REGENERATIVE CAPITALISM

How Universal Principles And Patterns

Will Shape Our New Economy



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JOHN FULLERTON

April 2015





FAST COMPANY

CREATIVE BRAINTRUST

FAST COMPANY

DESIGN

EXIST

CREATE

LABS



FEATURES

EMAILS

ISSUES

# Creating A "Regenerative Economy" To Transform Global Finance Into A Force For Good

What if the economy protected people and the planet?

Co.EXIST

## John Fullerton and Hunter Lovins

THERE IS NO SILVER  
BULLET

BUT WE SURE HAVE  
SILVER BUCKSHOT



The future is already here;  
it's just not widely distributed.

William Gibson

We have all the technologies we need  
to solve **all** the challenges facing humanity



# CLEAN DISRUPTION

OF ENERGY AND TRANSPORTATION

Tony Seba

How Silicon Valley  
Will Make Oil, Nuclear,  
Natural Gas, Coal,  
Electric Utilities and  
Conventional Cars  
Obsolete by 2030.



World will be **100% solar by 2030**, says Tony Seba, Stanford Professor and Silicon Valley entrepreneur,

[www.tonyseba.com](http://www.tonyseba.com)

# 2015 – Clean Disruption of Energy & Transportation

- The technologies, skills, organizations, and culture of the industrial revolution have run out of steam
- They are being replaced by the technologies, skills, organizations, and culture of the "Silicon Valley" technology revolution

1. Solar

2. Energy Storage

3. Electric Vehicles

4. Self-Driving Vehicles

- Generation, Storage, and intelligence are pushed to the edges
  - Distributed, Mobile, grid-independent
- **Bits + photons** are replacing **atoms** (coal, nukes, gas, oil)
  - Electric + ICT replacing combustion





# Solar will drop below two cents in 2017: GTM

By John Parnell | Apr 06, 2017 9:45 AM BST | 1

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The Saudi tender structure will be similar to those used with success in Dubai and Abu Dhabi. Credit: First Solar.

A solar power project is likely to register a per kWh price below two US cents at some stage during 2017, according to analysis firm GTM Research.



## Colorado: Excel Energy - All-Source Solicitation 30-day Report - Dec 29, 2017

	# of		# of	Project	MEDIAN	Pricing
Generation Technology	Bids	Bid MW	Projects	MW	Bid Price	Units
Wind	96	42,278	42	17,380	<b>\$18.10</b>	\$/MWh
Wind and Solar	5	2,612	4	2,162	<b>19.90</b>	\$/MWh
Wind + Battery Storage	11	5,700	8	5,097	<b>21.00</b>	\$/MWh
Solar PV	152	29,710	75	13,435	<b>29.50</b>	\$/MWh
<b>Solar + Wind + Battery Storage</b>	7	4,048	7	4,048	<b>30.60</b>	\$/MWh
<b>Solar PV + Battery Storage</b>	87	16,725	59	10,813	<b>36.00</b>	\$/MWh
<b>Total</b>	358	101,073	195	<b>52,935</b>		

- ▶ RFP part of Solicitation Process of up to 1,100 MW (Aug 2017) <sup>(1)</sup>
- ▶ Many companies provided multiple bids for single projects so Bid MW > Project MW

China has already installed 112 GW: more solar than they pledged to do in 2020. 45GW for 2017. Total German capacity is 41 GW  
10 nuclear plants worth of solar in 3 months 2018





Electric Vehicles

[+ Add to myFT](#)

## Oil groups 'threatened' by electric cars

Fitch says investors could sell out of energy companies





# How the world has changed



Tesla is valued  
at more than  
GM – despite  
producing 300  
times fewer  
cars

It's a battery company





# Aliso Canyon Battery deployment





# Tesla to the rescue



Sent hundreds of powerwalls to Puerto Rico.  
Elon donated \$250,000 personally



China phasing out ICE cars.

Is launching world's biggest  
carbon market





# Investments in Battery Megafactories increasing

- ▶ **20 Li-iOn Megafactories** in the pipeline to come online by 2021 totaling **325 GWh** (1)
- ▶ **In 2014 there were just 3** (in the 2021 pipeline) **totaling 50 GWh**. (2)
- ▶ **Samsung SDI, Dyson**, LG Chem, Total, Bosch, Boston Power, BYD, TDK, Apple, Nissan, Daimler, VW, etc.
- ▶ **Tesla** may **Triple** expected output to 105 GWh (cells) / 150 GWh (packs) (4)



Image Source: Samsung SDI

**Tech Cost Curve has accelerated**  
**to ~20% (2010-2016)**



# Battery Disruption – Commercial Scale

**Bloomberg**

Aug 24, 2017

## ~~5 Million U.S. Businesses Can Cut Power Bills with~~ Batteries

*National Renewable Energy Lab (NREL) study of 10,000 utility rate plans: more than a quarter of U.S. businesses could cut power bills if they installed batteries to reduce peak energy demand. <sup>(1)</sup>*

*Companies with Demand Charges > \$15/kW can benefit...including more than one million customers in Georgia, Colorado, Michigan, Texas, Florida and New England.*



Photo Source: Stem

Sources: (1) Bloomberg (2) NREL

# Peak Energy Rates – Arizona Public Service

- Peak Rates up to **10x** off-peak rates
- Peak Rates apply during the sunniest times of the year

Energy Charge:

**Peak: 49.4 ¢/kWh**

**Off-Peak: 5.2 ¢/kWh**

June – August Billing Cycles  
(Super Peak Summer)

\$0.49445 per kWh during Super-Peak hours, plus  
\$0.24445 per kWh during On-Peak hours, plus  
\$0.05254 per kWh during Off-Peak hours

May, September, and October Billing Cycles  
(Summer)

\$0.24445 per kWh during On-Peak hours, plus  
\$0.05254 per kWh during Off-Peak hours

November – April Billing Cycles  
(Winter)

\$0.19825 per kWh during On-Peak hours, plus  
\$0.05253 per kWh during Off-Peak hours

- Residential Batteries -> 10x savings for consumers & huge hit on utility margins (even w/o solar)

# Business Model Innovation: **Storage as a Service**

The screenshot shows the GreenCharge Networks website. At the top is the logo and a navigation menu with links: Home, Solutions, Customers, Partners, Resources, Company, News, and Login. Below the navigation is the heading 'Power Efficiency Agreement<sup>SM</sup>'. A large image shows three white energy storage units. Below the image is the text 'Save up to 50% on your demand charges with Energy Storage' and a 'Get a Quote' button. At the bottom, there are three key benefits listed with icons: 'No Cost' (dollar sign in a circle) with the text 'We install the GreenStation™ for you, at no charge to you.', 'No Risk' (umbrella in a circle) with the text 'We maintain the device for you.', and 'Just Savings' (dollar sign in a circle) with the text 'Savings are shared.'

- ▶ Many companies, including Stem and GreenCharge Networks offering **storage-as-service** to reduce **DEMAND CHARGES** for businesses
  - ▶ **Zero-money down**, 10 years
- ▶ **Lower utility bills by 10-50%** <sup>(1)</sup>



# Autonomous electric vehicles

...may spell the end of smokestack industries as we know them, and the beginning of successor industries. \$10b committed to development. Such cars should be widely available in 5 years, dominant in 10



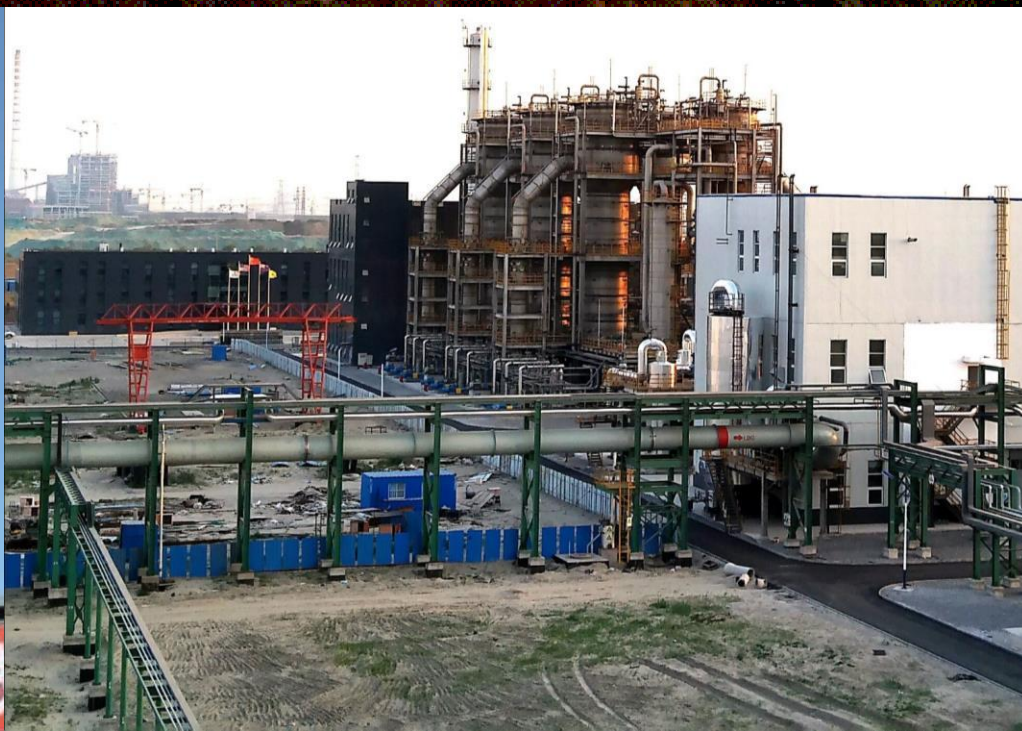
# 44 Corporations Working on Autonomous Vehicles





Many of you flew to get here:  
How do we get airline fuels?





# Putting Carbon in the Circular Economy





## We Are Still In

Nine states,  
280+ cities,  
~350 universities  
2,140 companies  
representing  
120 million  
Americans and  
35% of carbon  
emissions



Climate Central   
@ClimateCentral

 Follow

More than 1,200 tech companies, states, cities and universities just said [#wearestillin](https://twitter.com/wearestillin) the Paris Agreement [buff.ly/2rqQQz4](https://buff.ly/2rqQQz4)

2:27 AM - Jun 18, 2017



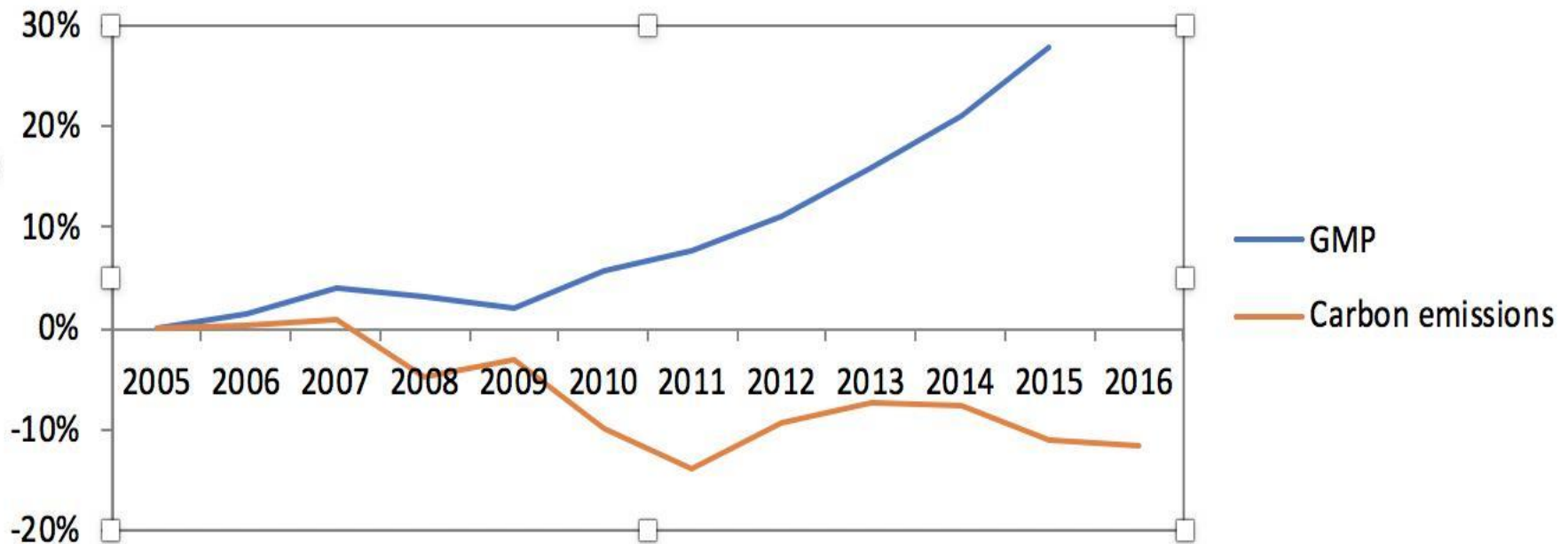
### State and Corporate Climate Action Just Got Serious

More than 1,200 businesses and states have reaffirmed their commitment to the Paris Agreement following Trump's decision to [climatecentral.org](https://climatecentral.org)



# Fort Collins Climate Economy

## Fort Collins Gross Metropolitan Product (GMP) and Carbon Emissions



# Boulder Climate Commitment

## EMISSIONS AND ECONOMICS

FROM 2005 TO 2016, BOULDER ADDED MORE THAN **7,500 JOBS** AND SAW A GROSS DOMESTIC PRODUCT INCREASE OF **\$7.8 BILLION** OR 49 PERCENT.

EMISSIONS HAVE REDUCED 13% DURING THAT PERIOD.



April 2017 Kentucky Coal Museum installs solar because it's cheaper than buying coal fired power from the local utility

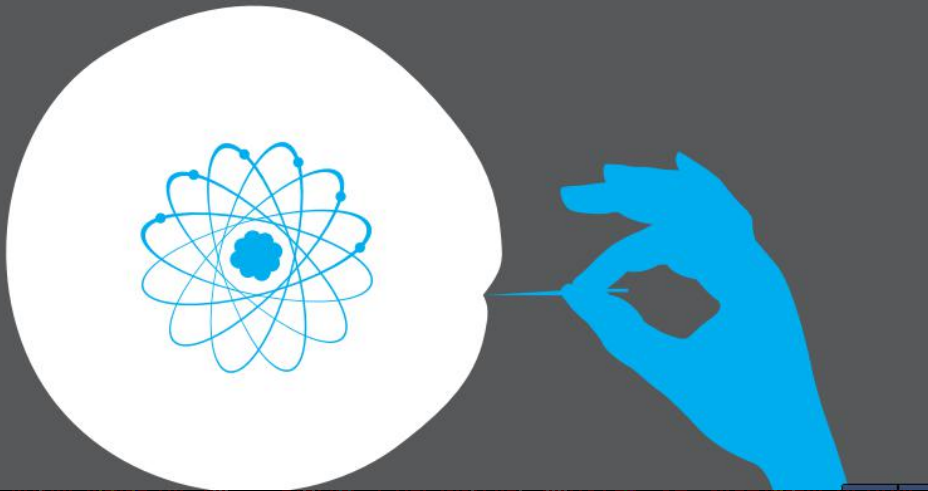


# Hothouse Earth



## Unburnable Carbon –

Are the world's financial markets carrying a carbon bubble?



Between 60 to 80% of coal, oil & gas reserves of publicly listed companies are “unburnable” to keep within the 2° C limit.

And we continue to search for more....

25% of global corporate debt—\$3.4 trillion—is linked to utility- and auto-industry bonds that rely on fossil fuel activities

# Batteries May Trip ‘Death Spiral’ in \$3.4 Trillion Credit Market

By **Brian Parkin**

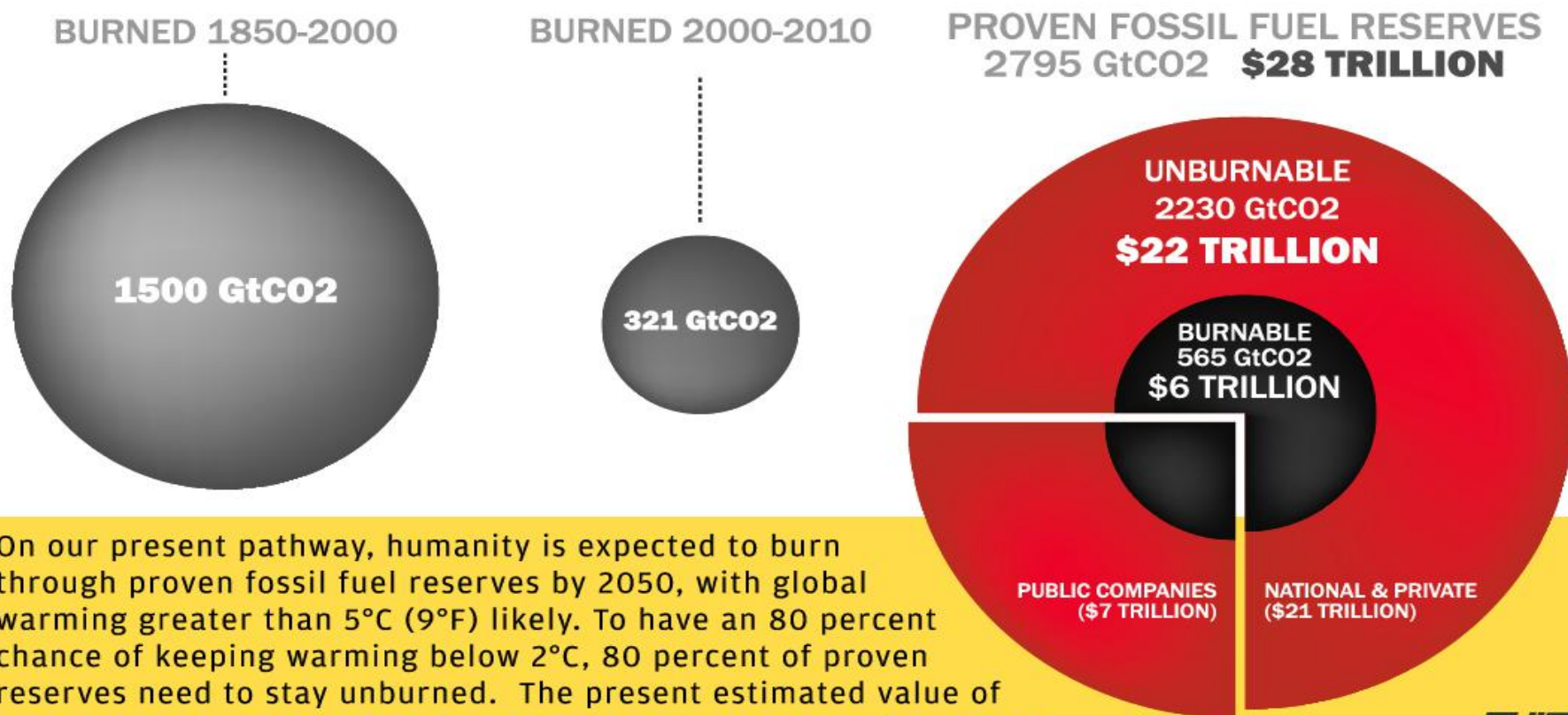
October 18, 2016, 8:44 AM MDT

- Energy storage technologies impact a quarter of corporate debt
- Fitch urges utilities to diversify to limit risk of disruptive

Battery technologies starting to disrupt the electricity and automobile industries may also emerge as a trillion-dollar threat to credit markets, according to Fitch Ratings.

# Consequences: Financial Overshoot

## THE **\$22 TRILLION** CARBON BUBBLE



On our present pathway, humanity is expected to burn through proven fossil fuel reserves by 2050, with global warming greater than 5°C (9°F) likely. To have an 80 percent chance of keeping warming below 2°C, 80 percent of proven reserves need to stay unburned. The present estimated value of these civilization-threatening reserves is approximately \$22 trillion.

**THINK  
PROGRESS**



*e.on*



RWE



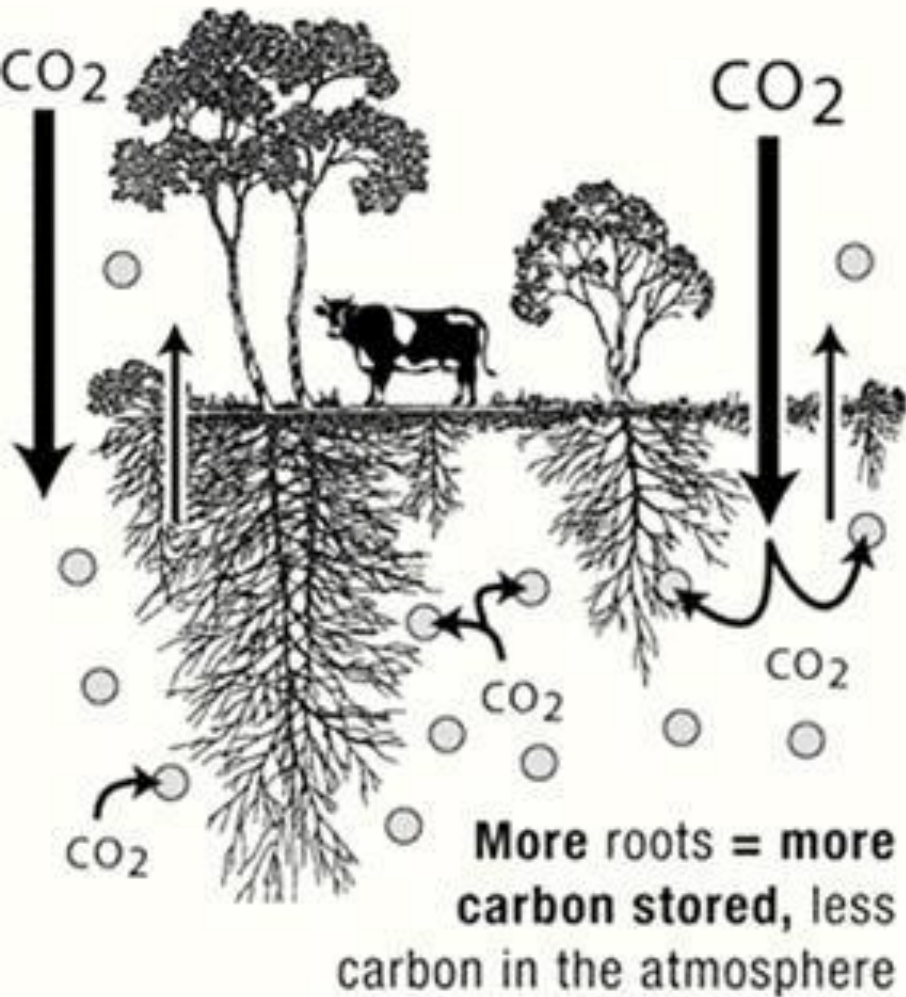


Robert Rodale:

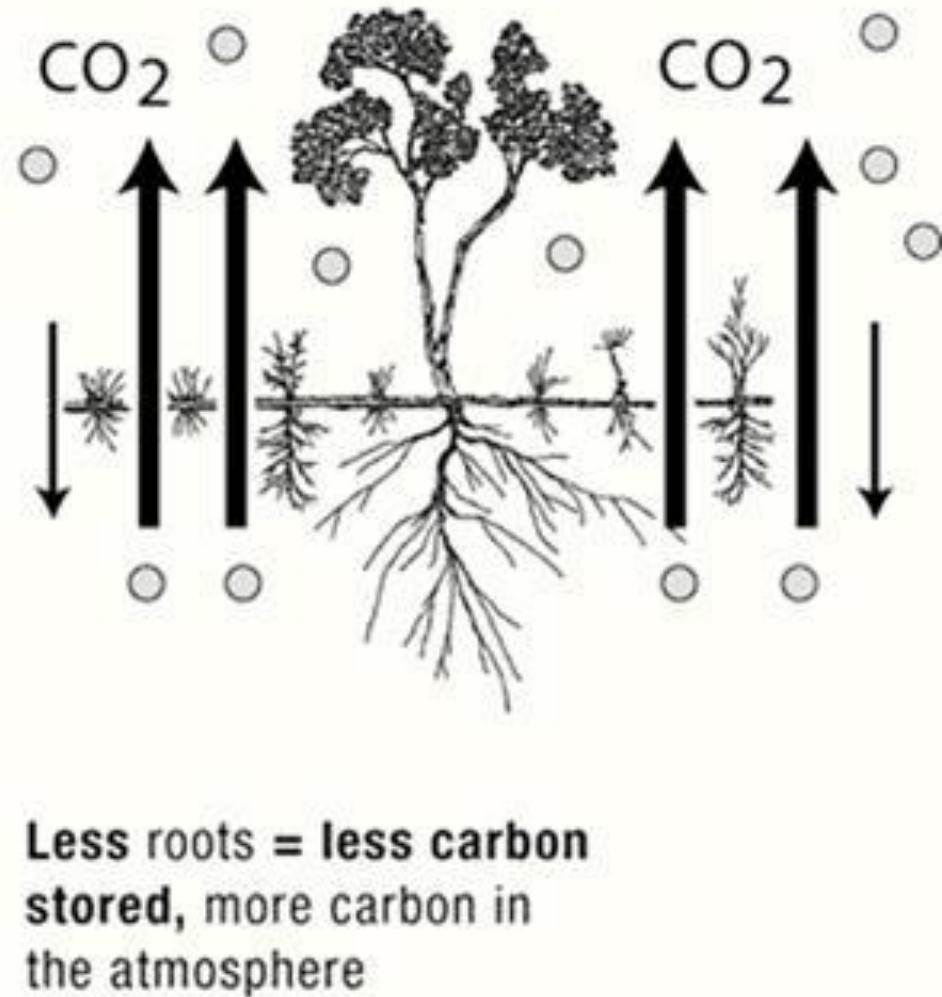
"Regenerative organic agriculture improves the resources it uses, rather than destroying or depleting them. It is a holistic systems approach to agriculture that encourages continual on-farm innovation for environmental, social, economic and spiritual well being."



## Holistically Managed Land



## Conventionally Managed Land



**Regen**

**AG**

REGENERATIVE AGRICULTURE  
UNITED KINGDOM

Healthy soils, plants, animals, people and profit





# Wyoming – both taken same day



Left-side upstream, managed holistically - 260% stocking increase in 10 years

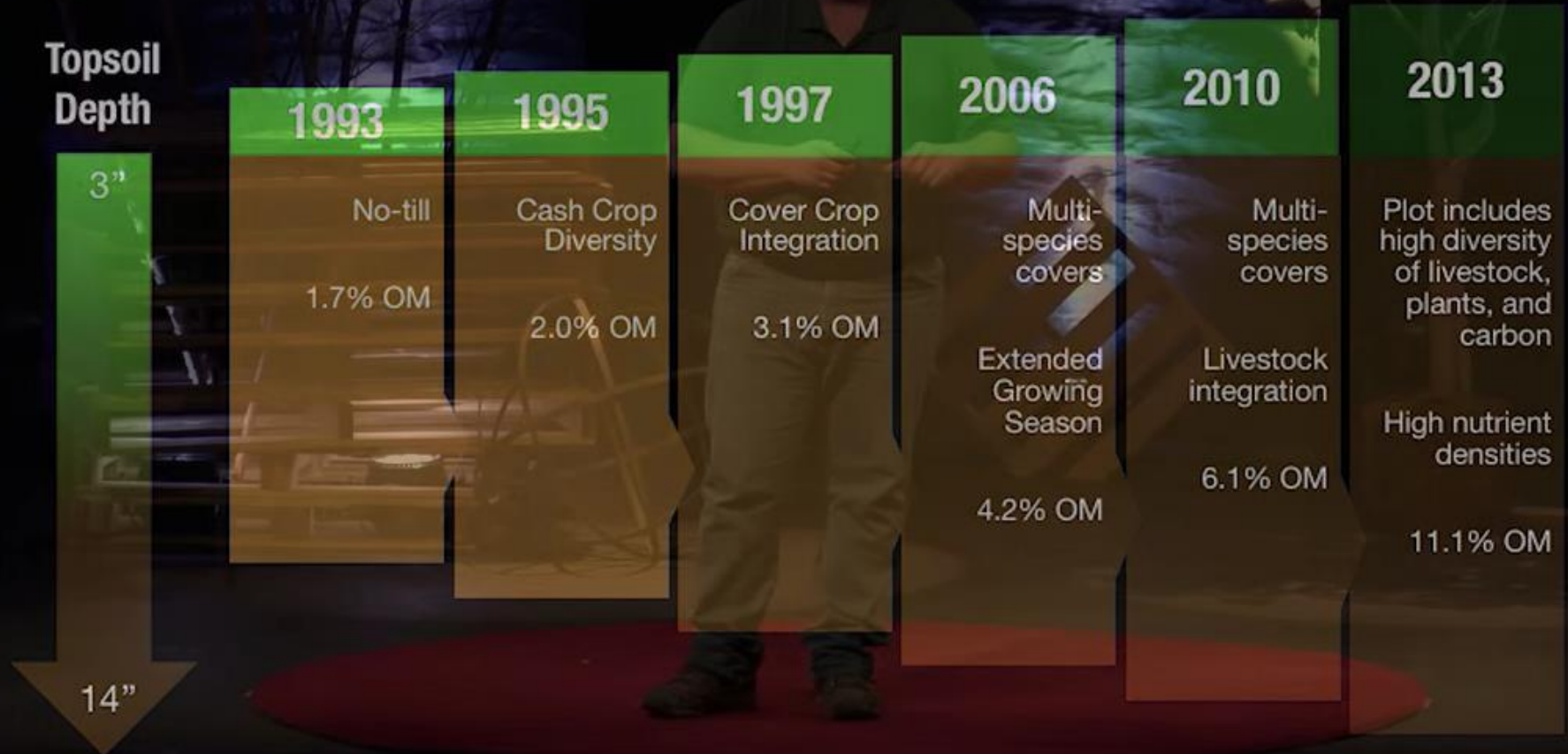
Right-side is downstream land managed 'conventionally'







# Brown's Ranch Soil Building



If you have healthy soil, you will have clean water, clean air, healthy plants animals and people – a healthy ecosystem

Gabe Brown numbers

Runs cows, sheep, broiler hens (\$5 a pound for these) corn costs him \$1.35 to produce, it's now selling at ~\$3.50

Cannot keep up with demand

Started in 1993 with shallow soils, 1.3% organic matter.

In '95 started no-till, diversifying cash crop, using rotations. In 1997 focused on cover crops. In 2006 planting multi-species cover crops, mob grazing and different livestock species.

2013, have plot with 11.1% organic matter – can increase soil health fast

If healthy soil will have clean water, clean air, healthy plants animals and people – healthy ecosystem





Long Root Ale





How much carbon can be sequestered?

Marin Carbon Project – spreading composted manure: 1 metric ton per hectare per year

Dr. David Johnson: creating mycorrhizal inoculant: getting ~10 tons per acre per year

Soil 4 Climate: : 1 ton per acre or more, on the 12 billion acres of degraded land could pull 12 billion tons of carbon a year = 6 PPM. Even if add 2 PPM each year we will return to pre-industrial 280 PPM in 30 years

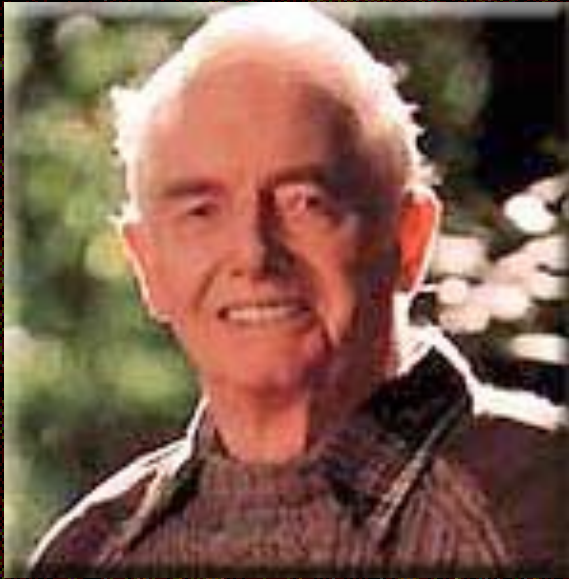
“Regenerative agriculture  
provides answers  
to the soil crisis,  
the food crisis,  
the health crisis,  
the climate crisis  
and the crisis of  
democracy.”

***Vandana Shiva***





We are eliminating the greatest threat to humankind's existence. Now we need to regenerate our world, our communities



## David Brower:

What do we want the earth to be like fifty years from now? Let's do a little dreaming.

Aim high! Navigators have aimed at the stars for centuries. They haven't hit one yet, but because they aimed high they found their way

# Transforming the Economy

Homo Sapiens is an interesting species.

We have incredible power to transform our environment to meet our needs, and yet we have this odd tendency to create a world, forget that we have created it, and then throw up our hands and proclaim our inability to change the system.

Capitalism is not a set of natural laws that Adam Smith discovered.

It is our creation, and it is constantly evolving and changing – consciously or unconsciously...







# SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE DEVELOPMENT GOALS

# There is lots of money

Product	Expenditure	Economic goal	Investment needed to achieve goal
Makeup	\$ 18 billion	Reproductive health care	\$ 12 billion
Pet food- EU and US	\$ 17 billion	Elimination of hunger and malnutrition	\$ 19 billion
Perfumes	\$15 b	Universal literacy	\$ 5 b
Bottled water	\$ 35 b	Clean drinking water for all	\$ 10 b
Ice cream in EU	\$ 11 b	Immunizing every child	\$ 1.3 b

- Wealth is inequitably distributed
- The UN estimates that to meet the Sustainable Development Goals will require investments of \$5 trillion a year



# Regenerative Communities Network

Honors community and place





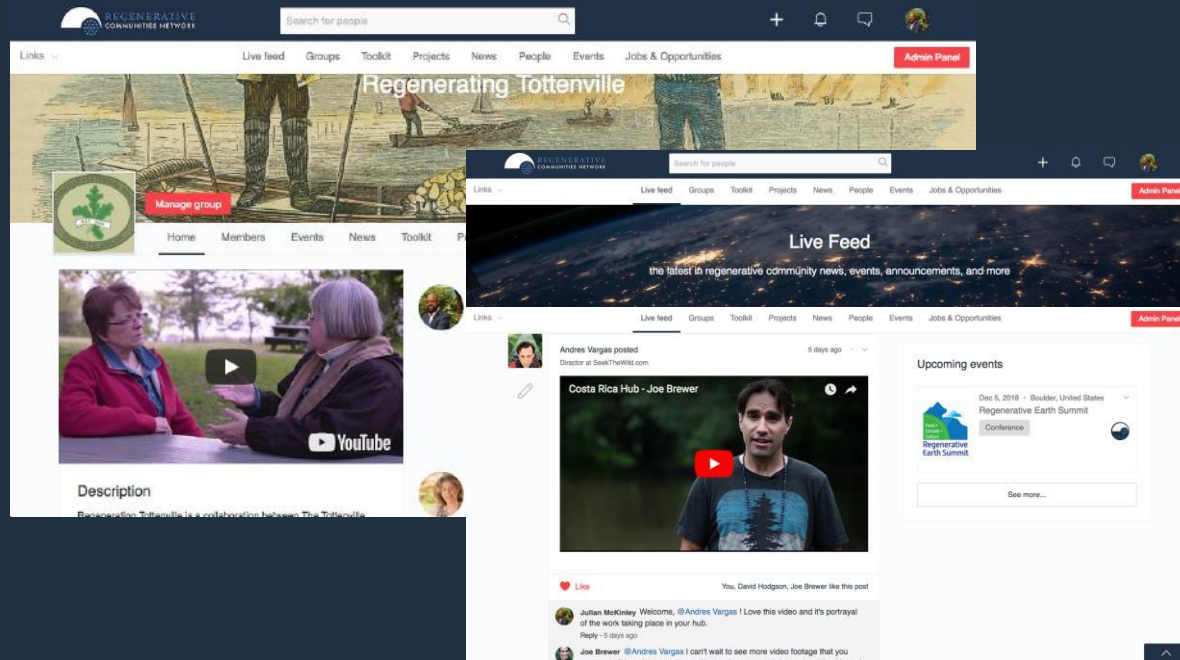
- 
- A world map with a dark blue background. Overlaid on the map is a network diagram consisting of red circles and red lines. The red circles represent hubs, and the red lines represent connections between them. The hubs are distributed across the world, with a high concentration in North America and Europe. The legend in the top left corner indicates that orange dots represent Active Hubs (7) and green dots represent Emerging Hubs (40+).
- Active Hubs (7)
  - Emerging Hubs (40+)

Emergence is how Life  
creates radical change  
and takes it to scale

- Margaret Wheatley

# Digital Platform: Join Now!

## <https://regencommunities.net>





In Metro Denver, cleantech employs 22,440, and fossil fuels employs 28,840.

However, cleantech is growing rapidly: from 2012 to 2017, its labor force in Metro Denver grew by 20.5%, and in 2017, it grew by 1%. Fossil fuels shrunk by 0.2% in 2017 (Metro Denver EDC, 2018).

Naturally Boulder's "Natural and Organic Industry" member organizations contribute \$2.5 billion and 8,278 jobs (2011)

In Colorado, net farm income (industrial agriculture) in 2017 was expected to drop to \$1.16 billion, down from \$1.23 billion in 2016.

"Of Colorado's \$3.7 billion livestock industry, 75% comes from cattle and calves... Colorado is the fourth largest exporter of fresh and frozen beef in the United States" (Colorado Cattlemen's Association, 2018).

Outdoor Recreation in Colorado creates nearly four times as many direct jobs (229,000) as the oil and gas industry (39,000) and the mining industry (19,000) combined”(OIA, 2017).

“More Americans are directly employed by hunting and fishing (483,000) than oil and gas extraction (180,000).

Spending on snow sports results in more American jobs (695,000) than the extractive industries in the United States (627,000)” (OIA, 2017).



Tech entrepreuneuring: ITand Software industry in Metro Denver employs 58,190 workers at 5,550 , contributes \$14 billion of economic impact in Colorado,

Nearly two-thirds of carbon dioxide & methane emissions can be attributed to 90 entities.

Half of this has been emitted since 1986



“Where capital goes over the next fifteen years is going to decide whether we’re actually able to address climate change and what kind of a century we are going to have,”

**Christiana Figueres UN FCCC**

# Fossil Fuels Divestment

2018: \$6 trillion divested:

“It is entirely plausible, even predictable, that continuing to hold equities in fossil fuel companies will be ruled negligence.”

- Bevis Longstreth, former  
Commissioner of the Securities  
and Exchange Commission





**Exxon Mobil Corporation (XOM)** ★

NYSE - Nasdaq Real Time Price. Currency in USD

**82.16** -0.26 (-0.32%)

As of 3:06PM EDT. Market open.



Source: Yahoo.com Finance



# **CHANGE** FINANCE

INVESTING IN SERVICE TO LIFE

# Change is hard

Margaret Mead said the only person who likes change is a wet baby





Now is the time to transform our





# Natural Capitalism Solutions

LONGMONT, COLORADO

Email: [solutions@natcapsolutions.org](mailto:solutions@natcapsolutions.org)

Visit: [www.natcapsolutions.org](http://www.natcapsolutions.org)





Natural Capitalism is an internationally recognized leader in sustainability education, strategy, and implementation.

We help companies, communities and countries implement more regenerative practices profitably





# Finer Future Force

The Chrysalis Process:

creation of imaginal cells





# Sustainability for All



What We Do Training enables student-coaches to help businesses increase sustainability in a way that the businesses to keep at it year after year.

Purchasing, energy use, water usage, waste handling, material inputs, transportation, employee engagement, outside stakeholder relations, creative process facilitation, how to write a sustainability action plan, internal and external messaging, marketing, change management and product development.

# Sustainability for All



For local small businesses

Guide them to build their own action plan

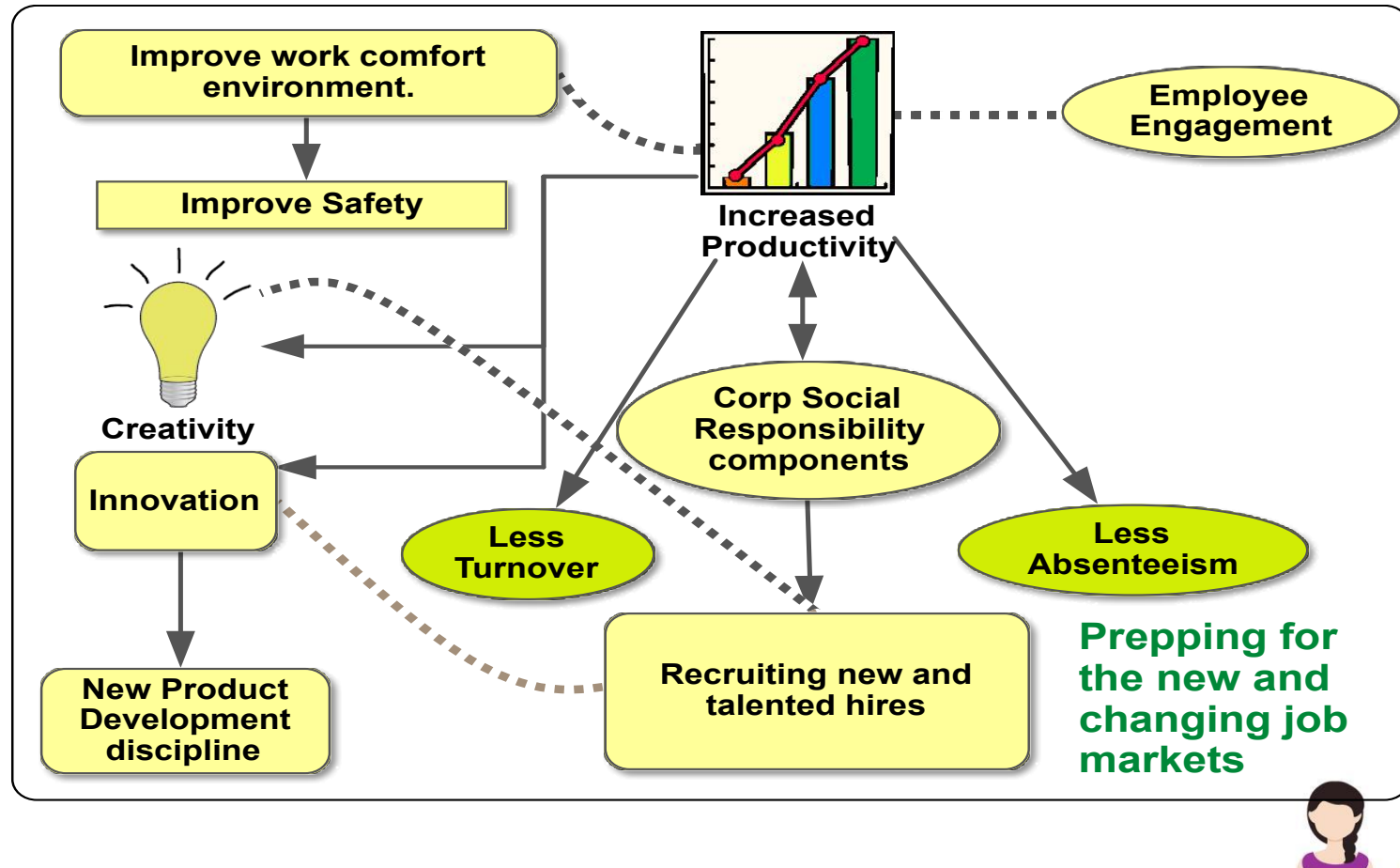
World-class curriculum

Meet five half-days, spread over 3 months

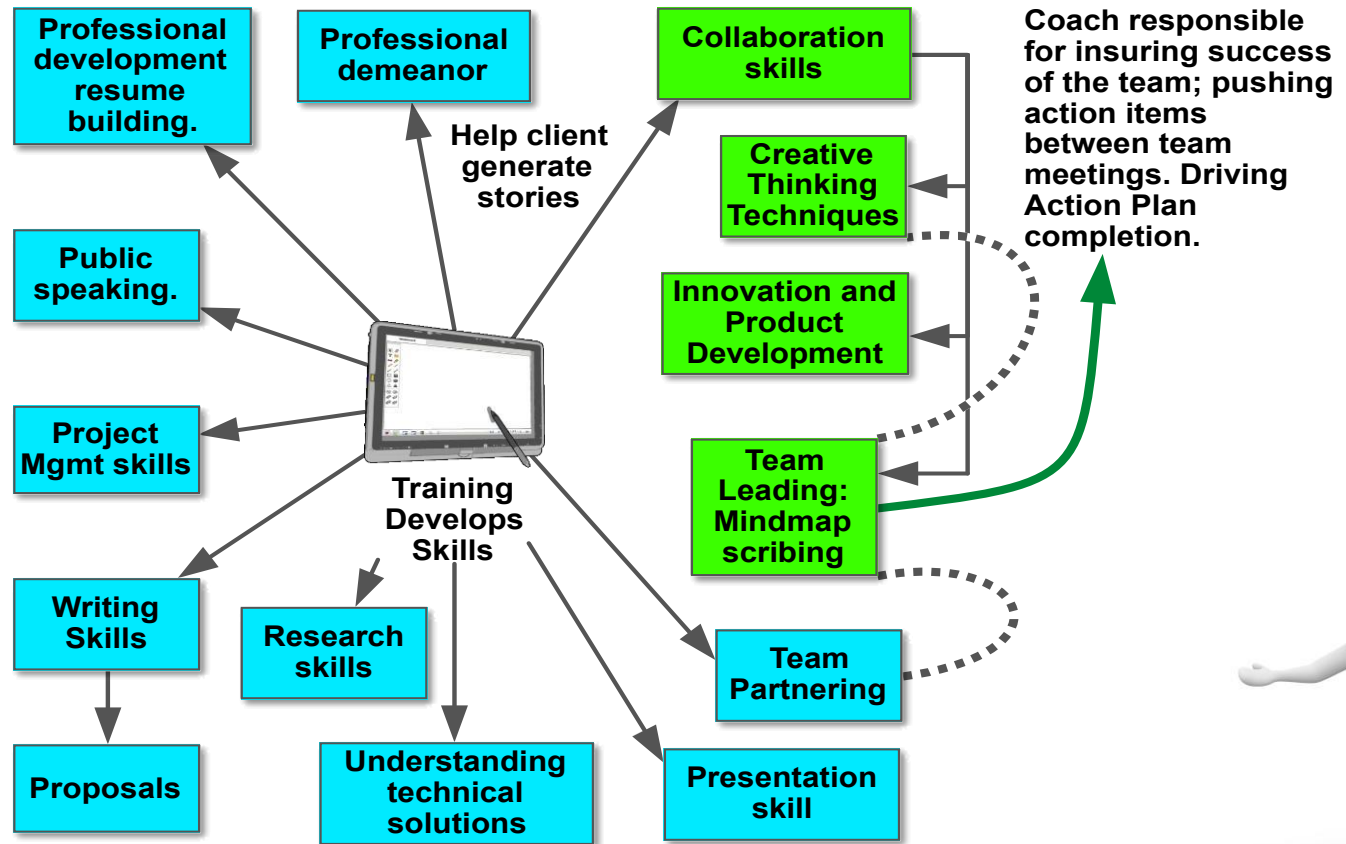
Monthly action plan check-ins

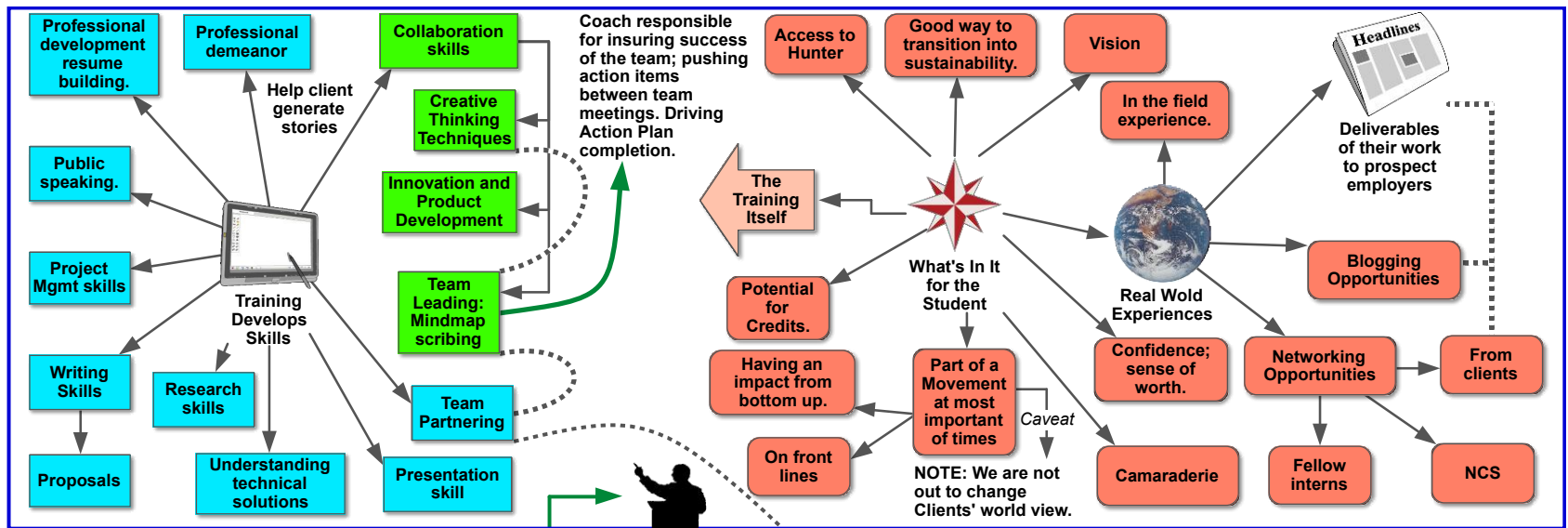


## Benefits to the local small business



## Benefits to the student-coaches





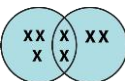
**Replicate**

Each School should have **Master Trainer** to work with Interns in the field when needed.  
NCS needs to train that Master Trainer.

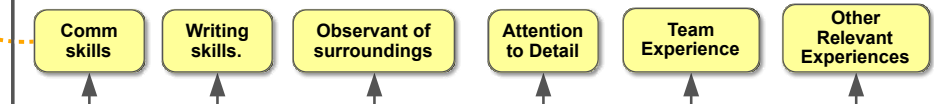
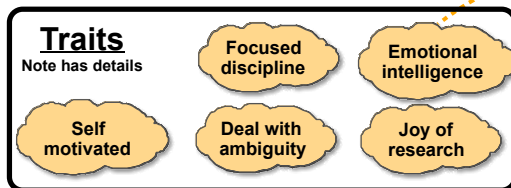
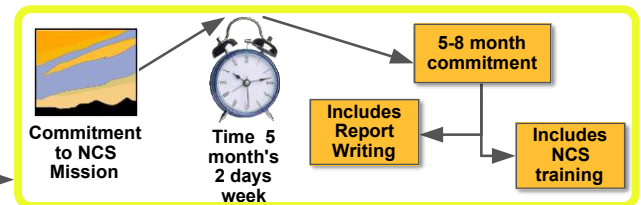
**Graduate Student Coaches**

**APPEAL**

**PROFILE**



Any grad school candidate is good. For manufacturers, an engineer perhaps. For all clients: Analytic tagger for metrics.





# Current Situation

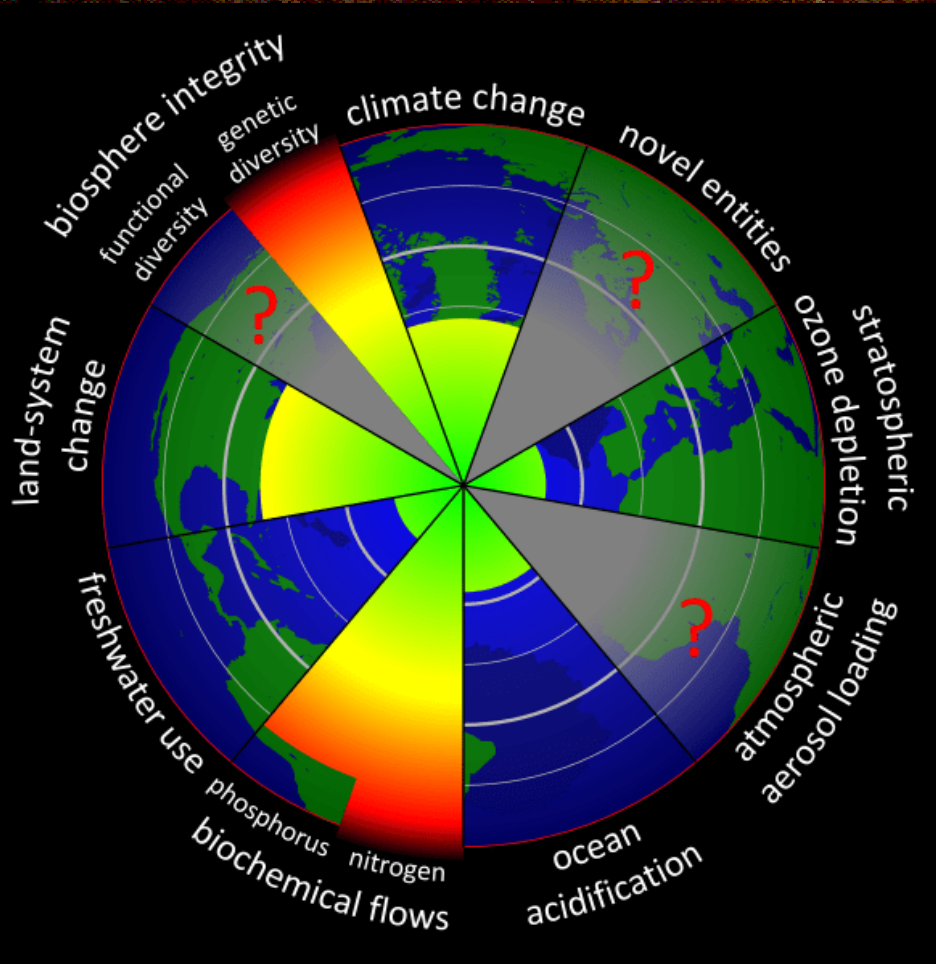
We have exceeded four of the nine planetary boundaries:

Rapid loss of biodiversity

100 years of industrial ag has eroded 50 - 70% of organic matter in the soil. We've exceeded the nitrogen limit.

Ground water tables are falling meters a year, much more rapidly than they can be regenerated.

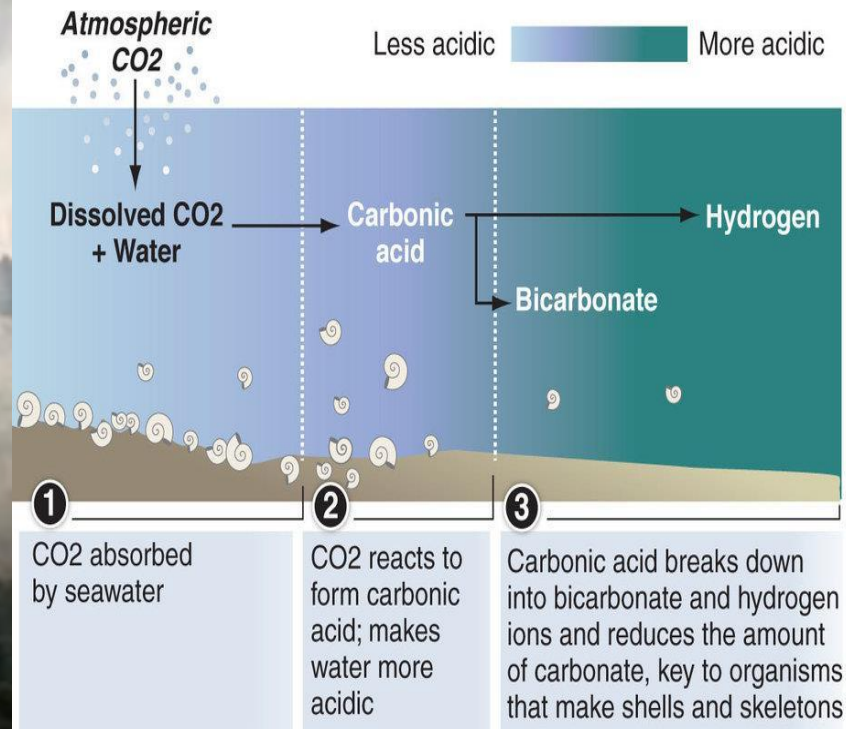
Climate crisis is existential



# Global Biodiversity Outlook Three -

## Oceans turning acidic

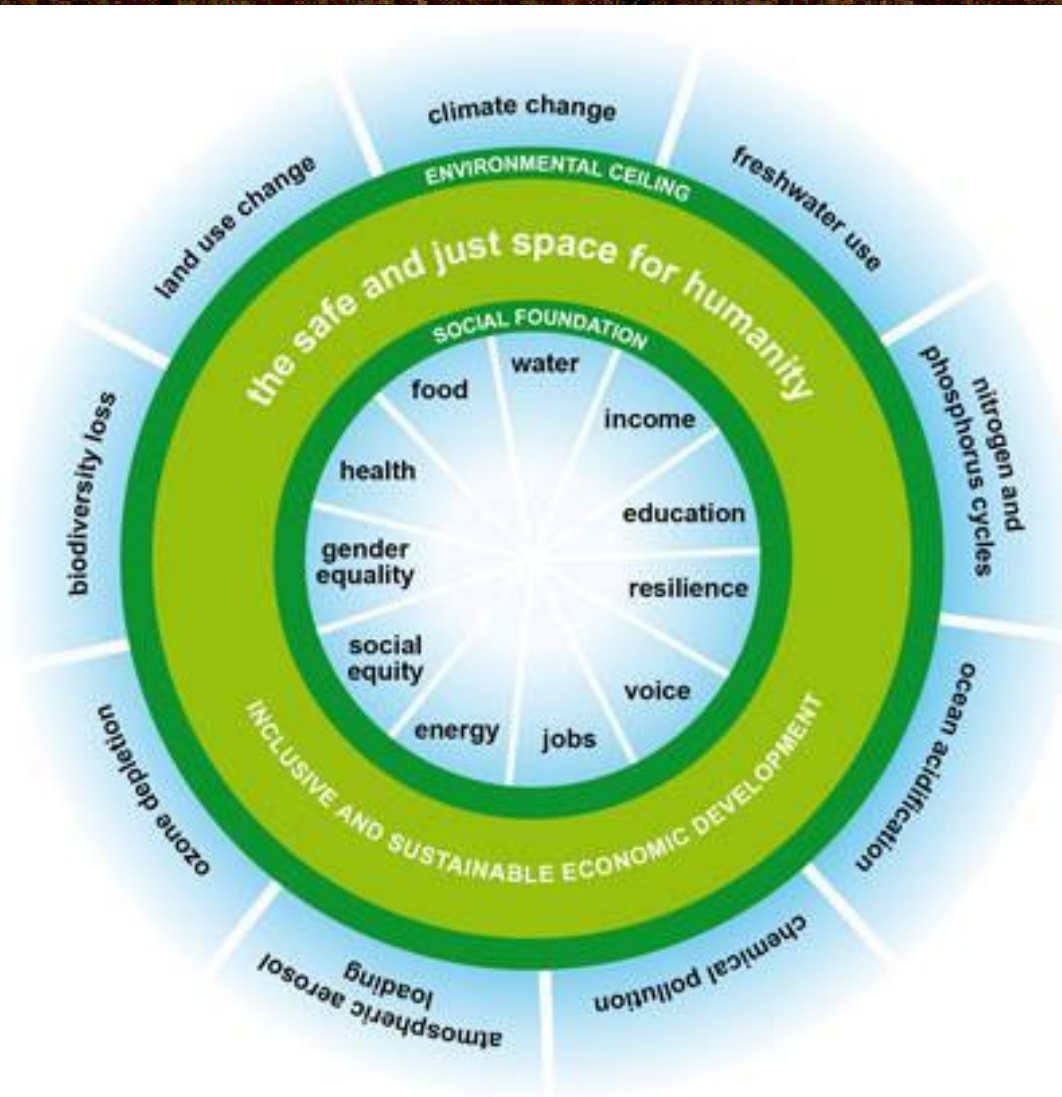
Higher carbon dioxide (CO<sub>2</sub>) emissions from human activity are acidifying the oceans and could harm everything from plankton to whales.



### How acidity affects marine life

- Depletes oceans of compound that clams, coral, plankton, other creatures need to build shells, skeletons
- Fish, other organisms can develop metabolic, immune, reproductive problems
- Kills off food for animals at higher end of food chain

# We are failing to meet basic human minimums to ensure dignity





# Dana Meadows



Humanity stands  
on the edge of a  
crumbling cliff.

Most of the  
world's people  
live on  
precarious edges  
of one sort or  
another,  
watching it all  
unravel







Wisdom, when standing on a crumbling cliff, is to turn around to see what is behind us - all the intactness of the natural world, of human community, and build from there.