

Ardea Youth Climate Coalition

I Climate Crisis in 2025

Tipping point exercise

Solutions and non-solutions

II Action Strategies

Climate Education

Social Action ideas and discussion

XR Examples

Your voice and stories



8-20-25

Dr. Allen Webb
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Presentation
online at:



<https://allen-webb-wmu.github.io/website/ClimateAdea2025.pdf>

My Climate Action



Activism



Writing & Speaking



Teaching

Professor of English Education
and Postcolonial Studies

Dr. Allen Webb

My scholarship and teaching focus on English education, postcolonial and minority literature, Internet learning, and climate change from a humanities perspective.

My site contains on-line course syllabi, resources for preservice and inservice English teachers, information about my research and publications, and contact and personal data.

Courses

Resources

Research

Contact

AllenWebb.net

TEACHING
CLIMATE CHANGE
TO ADOLESCENTS

Reading, Writing, and Making a Difference



Richard Beach, Jeff Share, Allen Webb



A Co-publication of Routledge and the National Council of Teachers of English



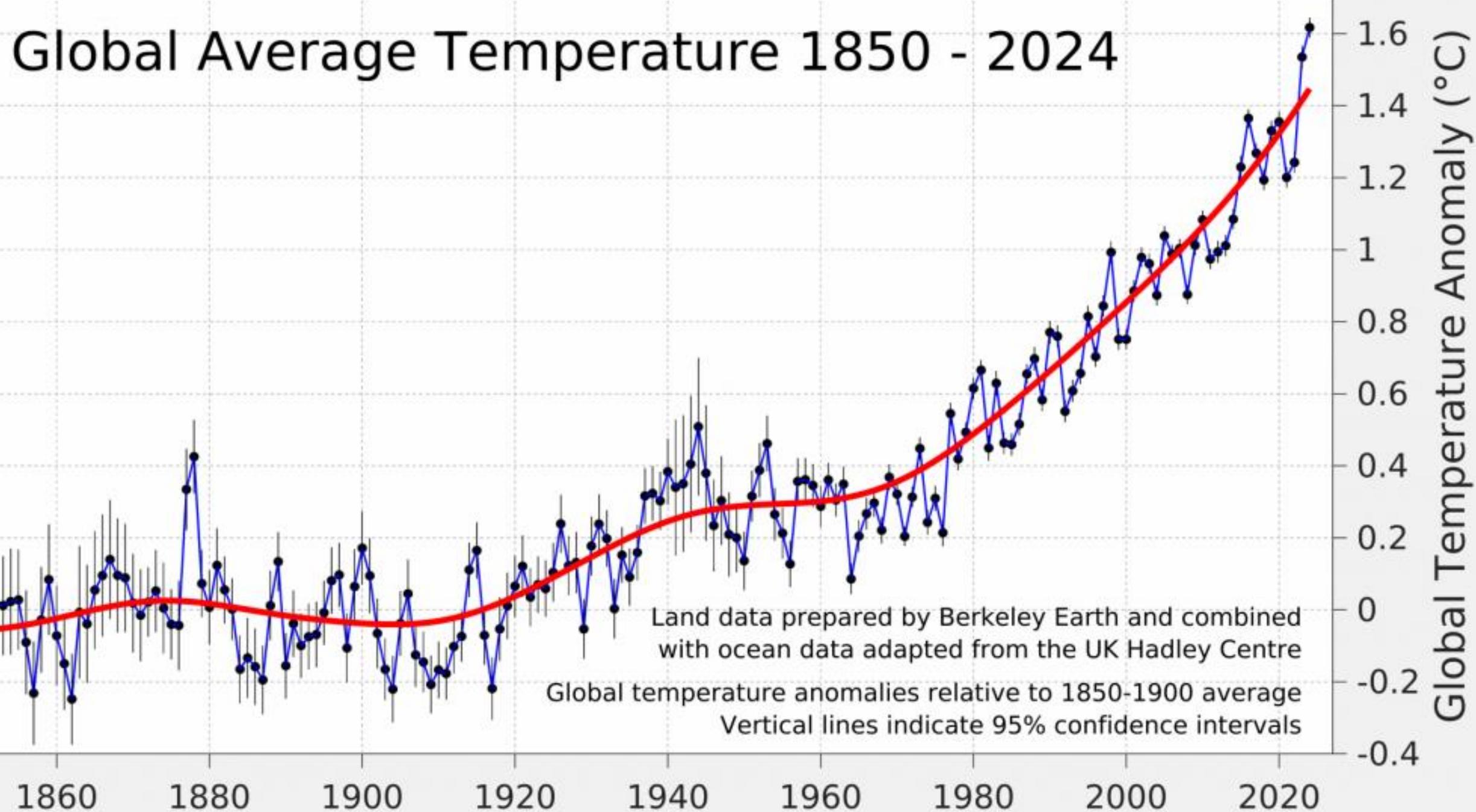
Empowering
Youth
to Confront the
CLIMATE CRISIS



Allen Webb, Richard Beach, and Jeff Share, Editors

I Climate Crisis in 2025
Tipping point exercise
Solutions and non-solutions

Global Average Temperature 1850 - 2024



2023 & 2024 Hottest Years in 120,000 years...



- In 2023 & 2024 human produced greenhouse gasses added [9 Hiroshima bombs](#) of heat per second
- 2023 & 2024 $> 1.5^{\circ}\text{C}$ – Paris Target for 2100. Several months of 2024 $> 2^{\circ}\text{C}$
- July 21, 2024 hottest day ever recorded
- Global heating accelerating ([James Hansen](#))

Climate Emergency: 1) Greenhouse gas emissions.



Burning Fossil Fuels



Deforestation



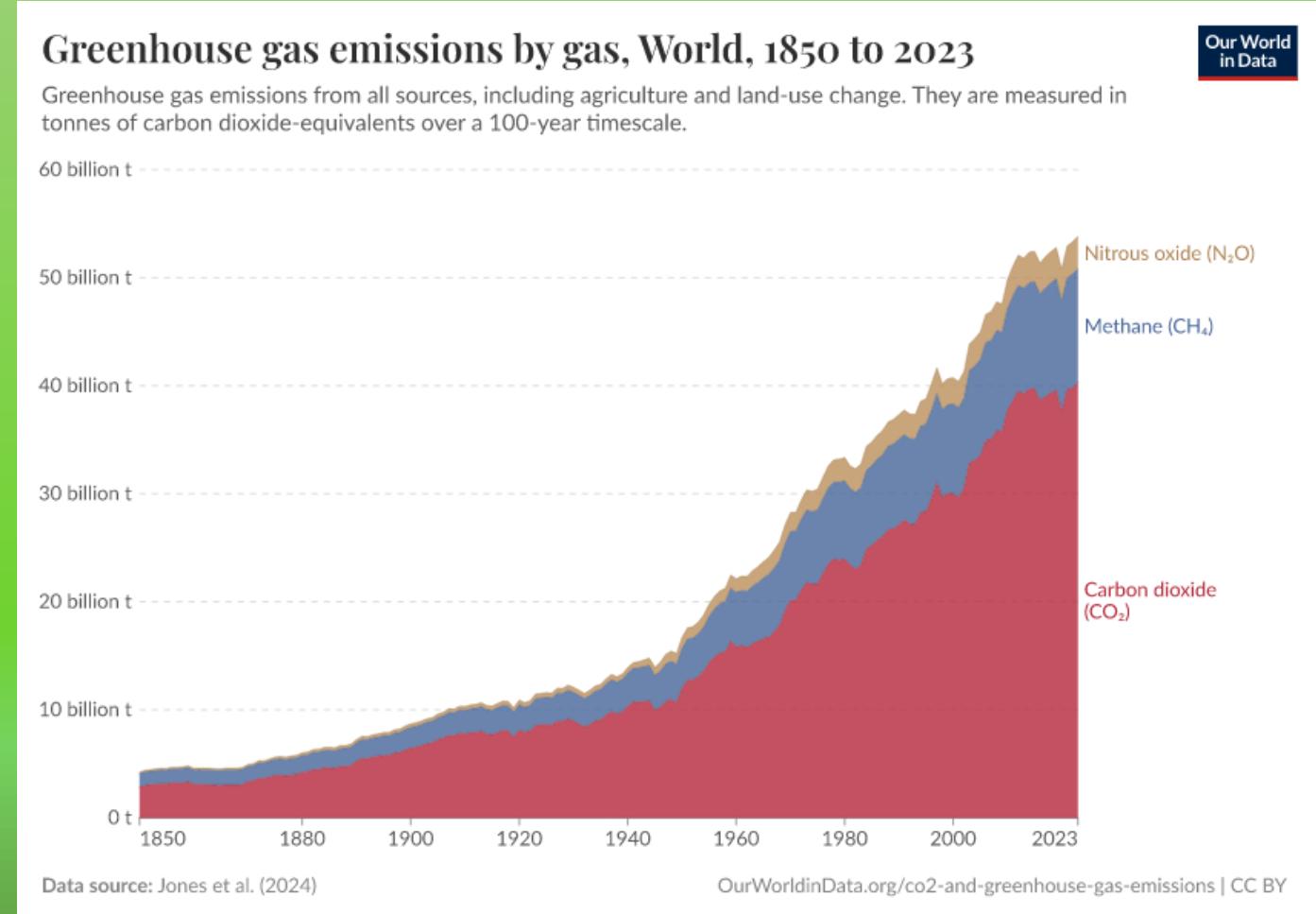
Animal Agriculture

2) Failure of governments and society to act.

United Nations Framework
Convention on Climate Change
(UNFCCC) 1992
– 33 Years Ago –

Since 1992 we've emitted as
much CO₂ as in the entire
industrial era back to the
1700's.

Greenhouse Gas Emissions
keep rising! [2023](#) & [2024](#)
setting record highs.



A lot of



- The weight of CO₂ produced by burning gasoline is 3.1 times greater than the weight of the gasoline alone because each carbon atom combines with 2 oxygen atoms (each 33% heavier than the carbon atom), and gasoline is 85% carbon by weight.
- Since one gallon of gasoline weighs 6 pounds, burning the gasoline of a 14-gallon tank (car) releases **260 pounds** of CO₂ ($6 \times 14 \times 3.1$), and a 30-gallon tank (pick up truck) releases **558 pounds** of CO₂.
- At 72°F 1 pound of CO₂ is 8.8 ft³. For a car that would be 2288 ft³ or truck 4910 ft³, or about 4,600 or 10,000 party balloons.
- In 2024 humans released [41.6 billion](#) metric tons of CO₂, 4.5 times the volume of Lake Michigan.

Fossil Fuels Responsible for 1 in 5 deaths

- Air pollution caused by the burning of fossil fuels responsible for *8.7 million premature deaths globally in 2018*
- Especially in areas with high fossil fuel use, North America, Europe, China, India



What have you heard in the news about what might happen with climate change in the future (during your lifetime)?

Abrupt Climate Breakdown Already Upon Us



- High temperatures
- Droughts
- Wildfires
- Storms
- Flooding
- Polar Vortex
- Ocean Currents
- Species Loss
- Refugees

What we are seeing is
NOT the “New Normal”

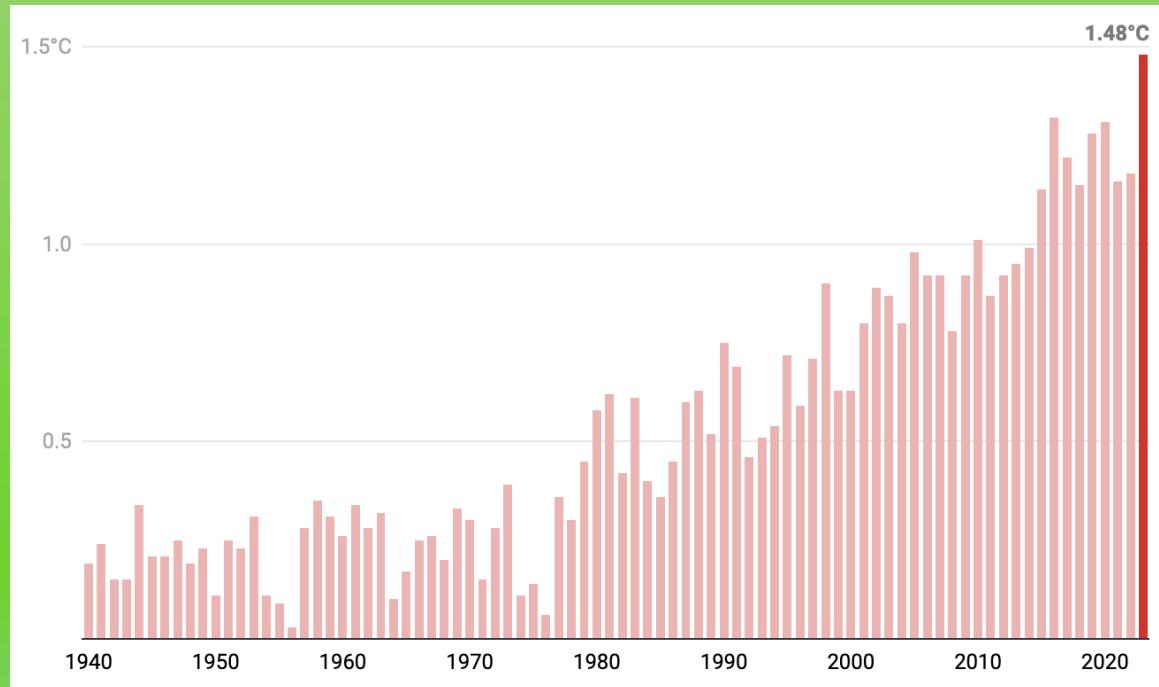


What's coming is far more serious!

Paleoclimatology & climate modeling show that climate change does not just impact “nature” out there but also:

- Our food, our homes & buildings, the breathability of our air
- Livable temperatures: above wet-bulb 95°F (35°C) limit for human survival
- Mass migration of billions of people
- Stability of society, collapsing laws, governments, border, conflict

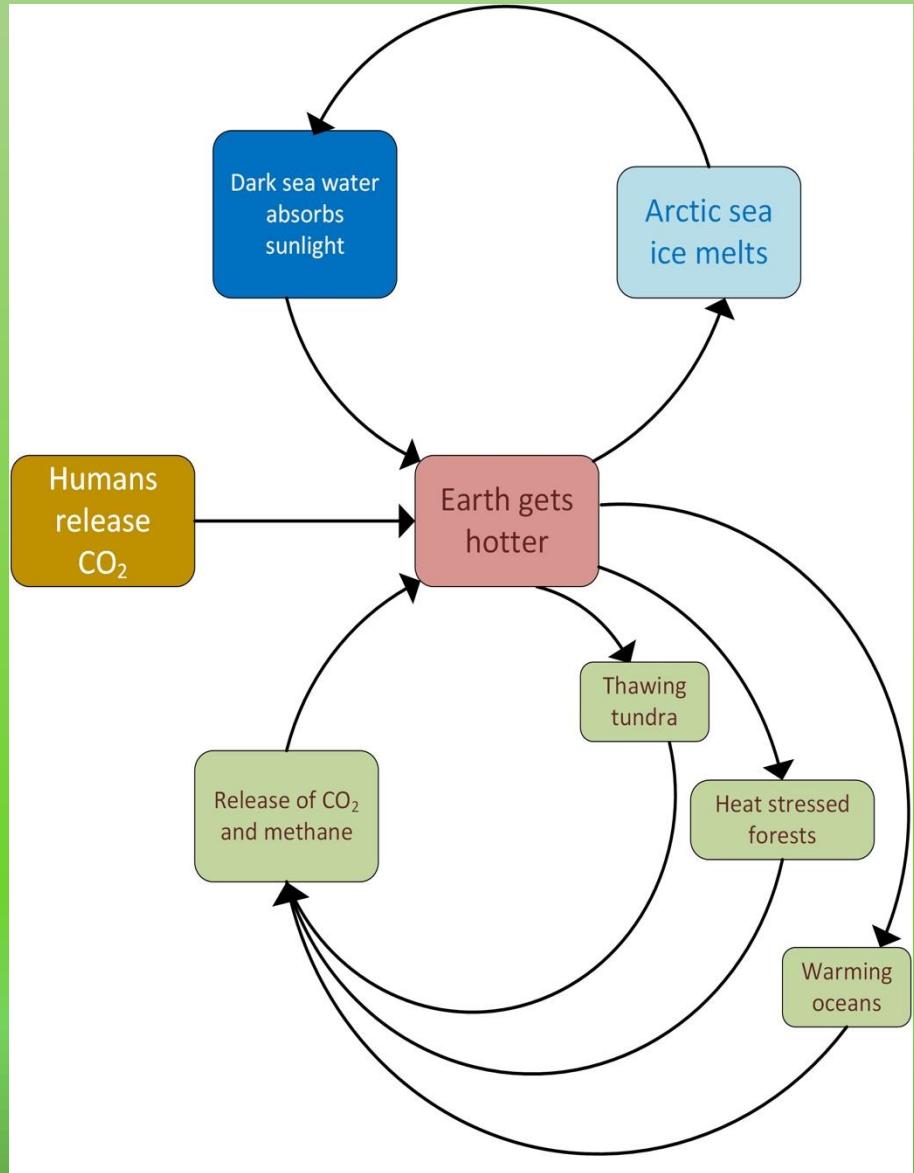
Exponential Growth Can Confuse Us



1st month 1 lily pad. 2 months 2 pads. Covered in 36 months. [When is the pond half covered?](#)

We are entering a “critical and unpredictable new phase of the climate crisis”

- Trees and land -earth’s carbon sinks- no longer absorbing carbon.
- World rivers drying up. Amazon “savannafication.”
- Thwaites “doomsday glacier” undermined by warmer water.
- 28 positive feedback loops, including increasing emissions from melting permafrost, can trigger multiple tipping points, inc AMOC currents.
- “Climate change has already displaced millions of people, with the potential to displace hundreds of millions or even billions. That would likely lead to greater geopolitical instability, possibly even partial societal collapse.”
- Global heating accelerating. (James Hansen, 11-2-23)



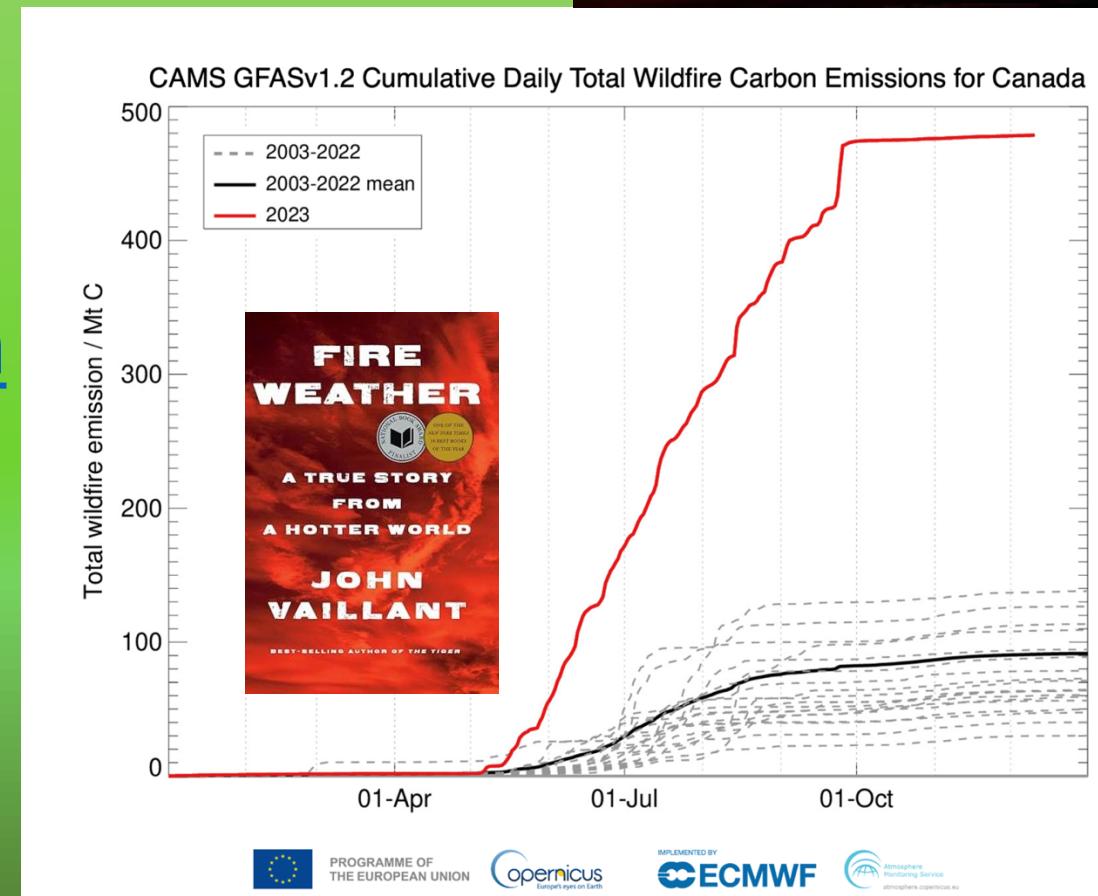
2°C, even 1.5°C, may initiate dangerous feedback loops & tipping points that could spiral beyond human control...

No Longer Any “Carbon Budget”

- Global heating has already passed the danger point.
- Fossil fuels must stay in the ground; exploration, production, and burning must stop.
- Fossil fuel states and companies are resisting removing trillions of dollars of assets from their balance sheets and imagined future profits. “It is hard for a man to understand something if his salary is based on not understanding.” - Upton Sinclair
- “By 1.5°C there may be so many carbon-cycle and other feedbacks under way and active systems instabilities that the climate will not stabilize at 1.5°C. ” - David Spratt, National Center for Climate Restoration, August 2025

Wildfires turn Canada's vast forests from carbon sink into super-emitter

- In 2023 about 2.2 billion tons of CO₂ released, also fostering melting of permafrost
- Same as 4 x global airline industry in a year, or 647 million gas burning cars
- Canadian wildfires only 22% of 2023 global total wildfires

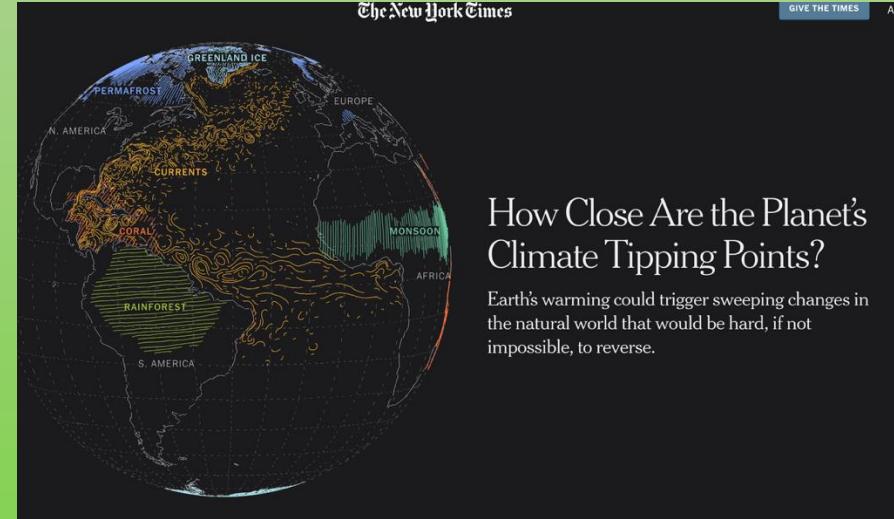


PROGRAMME OF
THE EUROPEAN UNION



1. Coral Reefs
2. Permafrost
3. Greenland Ice Sheet
4. West Antarctic Ice
5. West African Monsoon
6. Amazon Rainforest
7. Atlantic Currents

NY Times
Aug 2024



<https://www.nytimes.com/interactive/2024/08/11/climate/earth-warming-climate-tipping-points.html>



Climate Emergency

More than half of the greenhouse gasses in the air have gotten there in the last 30 years.



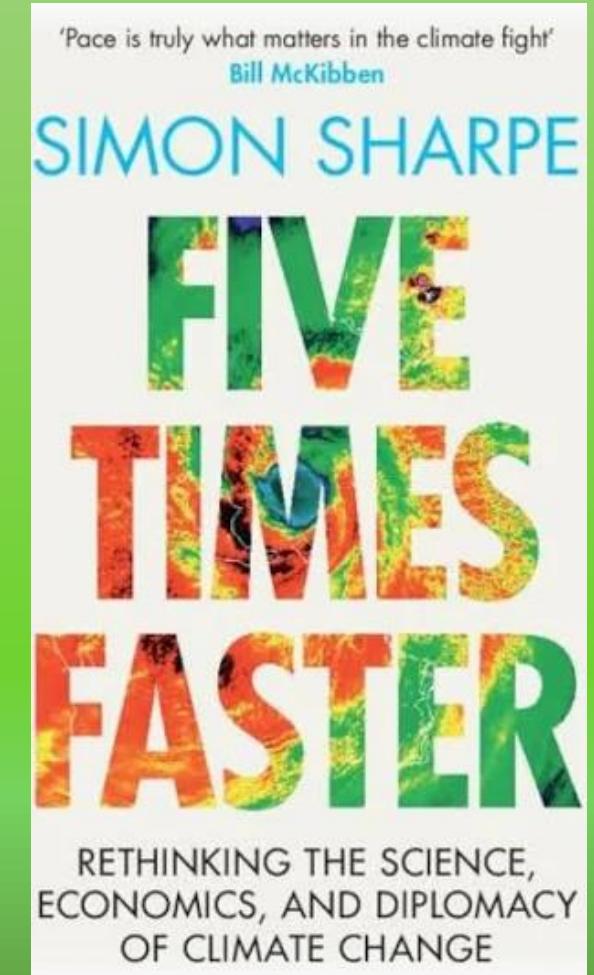
IPCC: To keep the world livable and avoid risks of feedback loops there must be a reduction of 45% of GHG by 2030, and “net-zero”* by 2050

Current Paris Agreement (voluntary, self-reported) nationally determined contributions (NDCs) are still for 9% increase by 2030.

*Assumes substantial Carbon Capture and Storage (CCS) which is impossible.

Prediction vs Risk Assessment

- Prediction focuses on providing at least 90% accurate estimates of future events
- Risk Assessment focuses on worst case scenarios and their likelihood
- Risks of climate change keep increasing until all greenhouse gas emissions are stopped and the world returns to equilibrium
- Medium level of GHG emissions = 20% chance of 4°C
- Would you take an airplane flight with a 20% chance of crashing?



Future Impacts of Increasing Temperature

3°

- Tremendous heat waves. 1/3 of global land area exceeds heat deadly threshold 20 days per year
- Mediterranean region becomes desert, drought engulfs majority of land area now inhabited by humans, megafires

4°

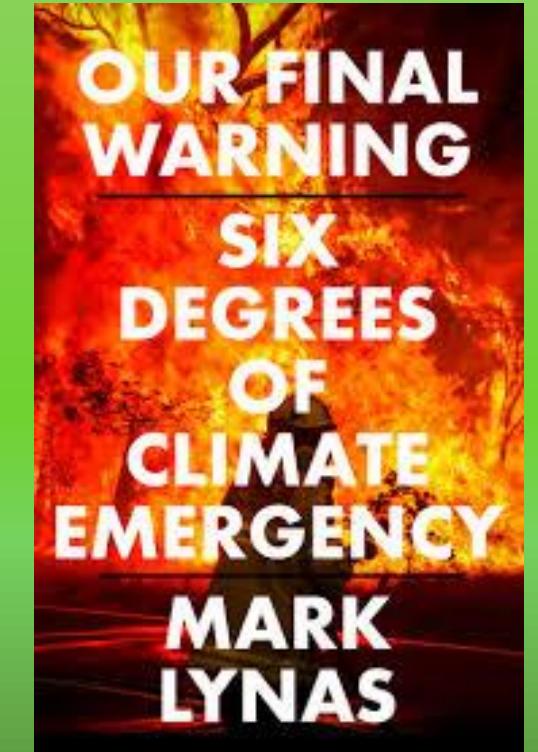
- Collapse of food production in China, the western half of India, southern Africa, Australia, and the western United States
- Sea level rise forces billions to move

**“The difference between 2°C and 4°C
is human civilization.”**

[Hans Schellnhuber](#), founding director
of the Potsdam Institute for Climate Impact Research

“If we stay on the current business-as-usual trajectory, we could see two degrees as soon as the early 2030s, three degrees around mid-century, and four degrees by 2075 or so. If we’re unlucky with positive feedbacks...from thawing permafrost in the Arctic or collapsing tropical rainforests, then we could be in for five or even six degrees by century’s end.”

Every tenth of a degree matters — and warming in the pipeline means delay = disaster!



Earth's 6 Mass Extinction Events

450 M 75%*

380 M 75%

252 M 96%

200 M 80%

66 M 75%

Present

global heating: greenhouse gas

global heating: greenhouse gas

global heating: greenhouse gas

global heating: greenhouse gas

asteroid & greenhouse gas

global heating: greenhouse gas



- Currently adding carbon at a rate 10x faster than at any time in Earth's history.
- Already more carbon in the atmosphere than the last 20 million years
- 50% of the greenhouse gasses in the air in the last 30 years, since 1990.

*percentage extinction of all life on earth



The “Oh, Shit” Moment

They say that everyone who finally gets it about climate change has an “Oh, shit” moment — an instant when the full scientific implications become clear and they suddenly realize what a horrifically dangerous situation humanity has created for itself. - Mark Hertsgaard, [The Nation](#)

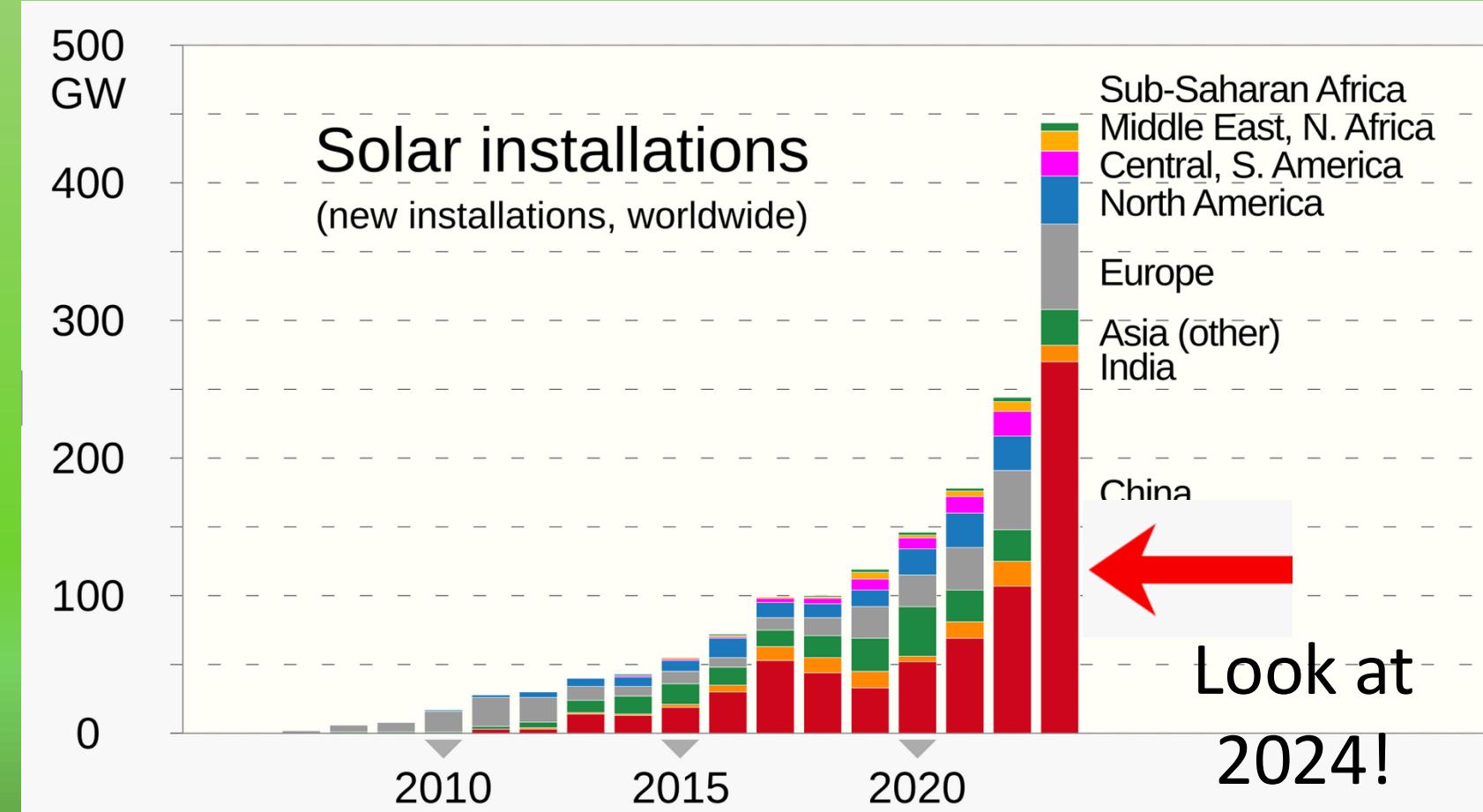
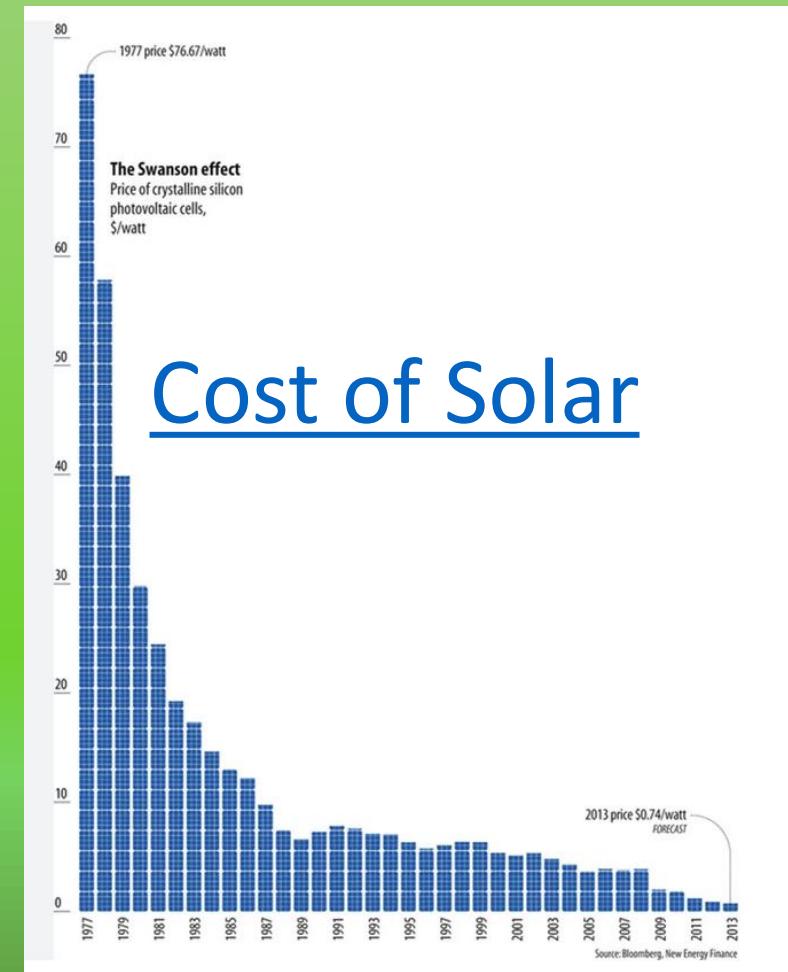
Al Gore once told me that he thinks that everyone who cares deeply about *climate change* has had what he called an "*oh, shit*" moment when the full scientific implications become clear and the future scary. - Jeff Goodell

Transformation Not Efficiency



- Environmental thinking from the 1970s must shift to 21st C realities.
- Individuals conserving, reducing, recycling is not going to get us there.
- The system must be transformed to **end all greenhouse gas emission**.
- Reducing meat consumption, especially beef, insulating homes and buildings, less air travel, less consumption – fine and good, but energy, agriculture, transportation, and industrial systems must be changed.

Two Charts Show Transformation Beginning



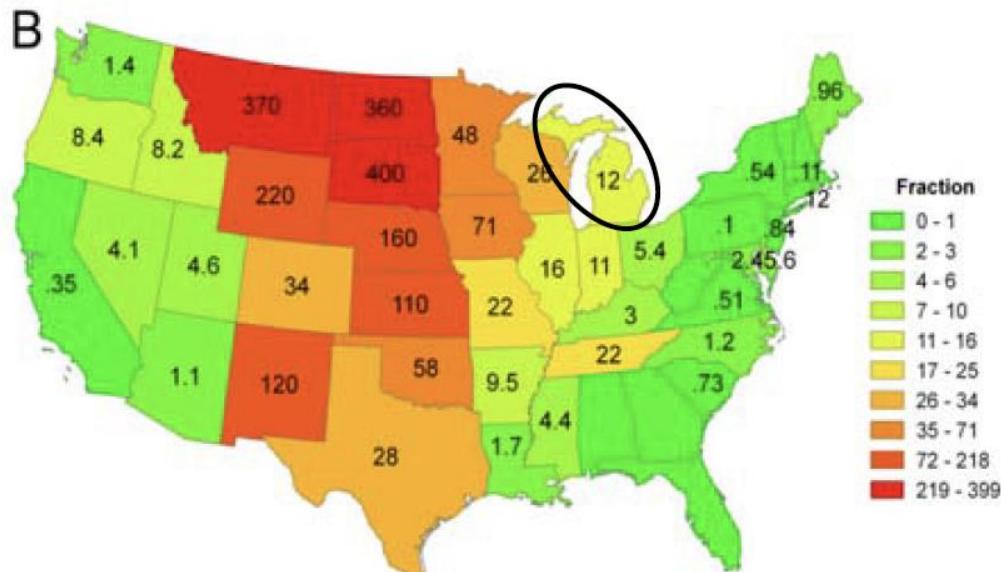
Renewable Energy Breakthrough

- Solar power is being deployed 100x faster than nuclear.
- In California solar and wind supplied 100% of power, for months.
- China 6 years ahead of schedule to build renewables.
- Far greater efficiency and less cost than any other energy sources.



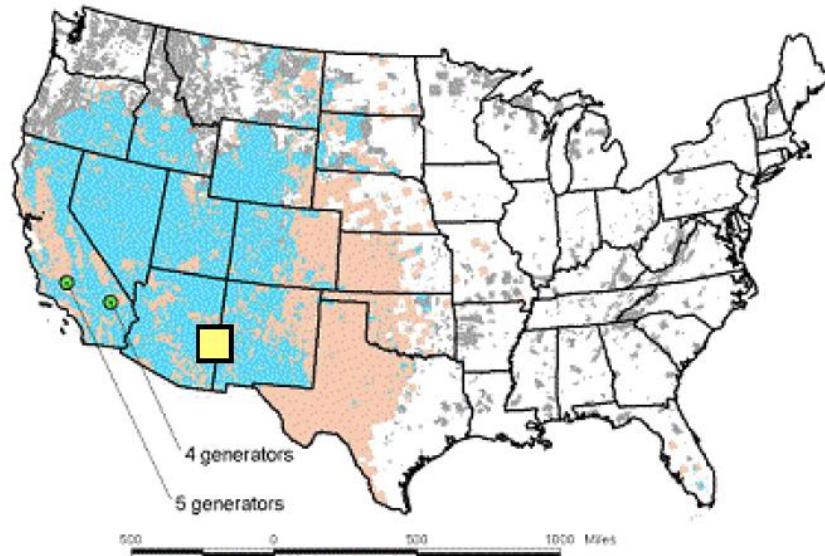
Wind, solar, and batteries can provide **all** US power!

Wind power could supply 16 times current U.S. electricity demand using only onshore windmills



- Michigan can supply 12 times our current use

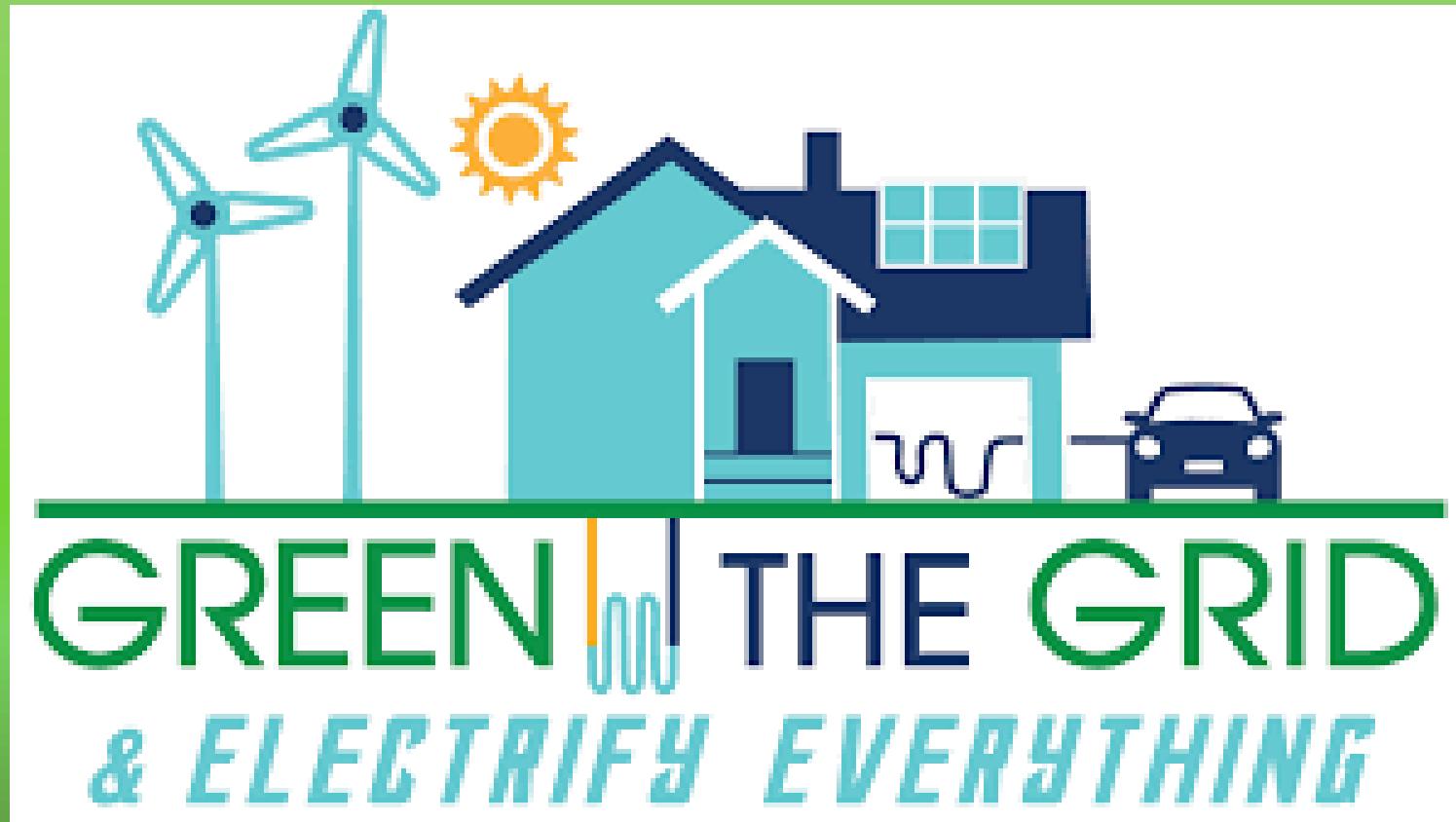
A CSP solar array 100 x 100 miles could provide all of U.S. electricity needs today



- excess energy captured during the day could be stored as heat and used to produce electricity at night

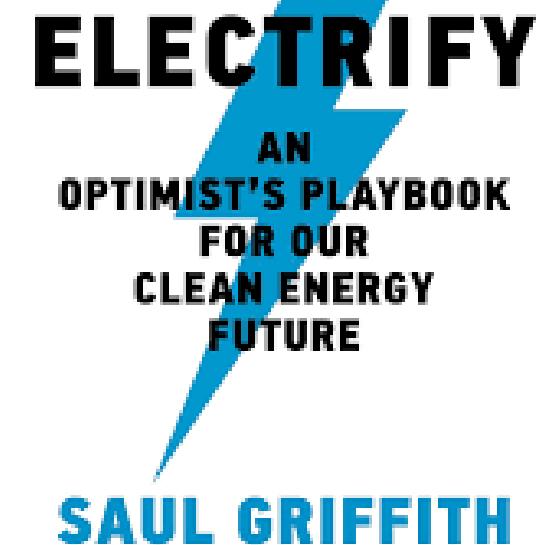
[Mark Jacobson, Stanford](#)

Electrify. Everything.



"Required reading for an economy-wide green transition in the USA."

MARINA MARZUCATO, AUTHOR OF MISSION ECONOMY



Problematic

Carbon tax

NOT Solutions

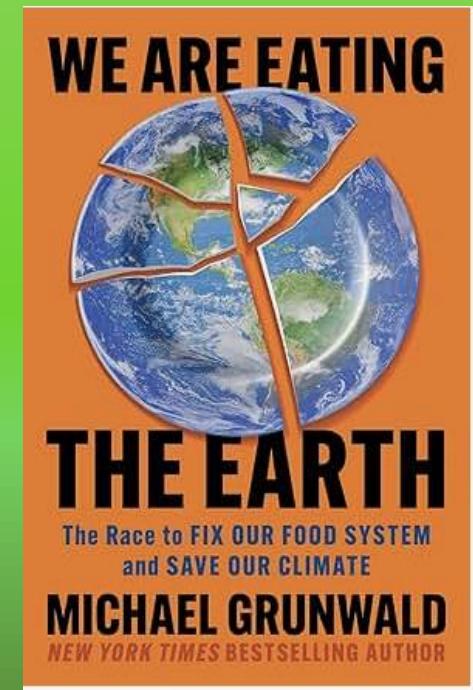
- Natural (fossil) gas
- Fracking
- Carbon capture & storage
- Hydrogen, inc “green”
- Nuclear
- Geoengineering
- Ethanol
- Biomass combustion



Someone profits from these
“not solutions”... but not the
rest of us or life on earth.

Ethanol - More Greenhouse Gases than Gasoline!

- In the US gasoline is required to include a minimum of 10% ethanol “Renewable Energy Standard.”
- Recent critical studies of lifecycle emissions by scientists (not funded by agri-business) indicate that ethanol produces 25% more greenhouse gases than gasoline – and has many other negative environmental impacts.
- 40% of US corn is grown to produce ethanol.



Ethanol vs Solar Panels

- Solar panels are 300 times more efficient than corn plants in capturing solar energy (photosynthesis 1-2% efficient) and converting to energy.
- Ethanol: high water and fertilizer use & competes with food raising prices
- Same land → 6,600 GW solar capacity
- **More electricity than 3x current US electricity generation!**
- Corn to cars is a dead end. Sun to grid is a climate solution.



Biden and Democrats on Climate

- Oil drilling: removed offshore areas but approved Willow Project and Alaska drilling
- Infrastructure Act & “Inflation Reduction Act” – largest and best climate legislation in US history – half way to 2050 Paris target:
 - Global cooperation
 - **Mitigation:** Specific targets for reducing greenhouse gas emissions including power plants and vehicles; promoted research, clean energy & electric vehicles
 - **Adaptation:** Enhance nation's ability to withstand the impacts of climate change through investments in infrastructure, community support, and disaster preparedness
 - **Climate Justice:** benefits for disadvantaged communities, community climate grants

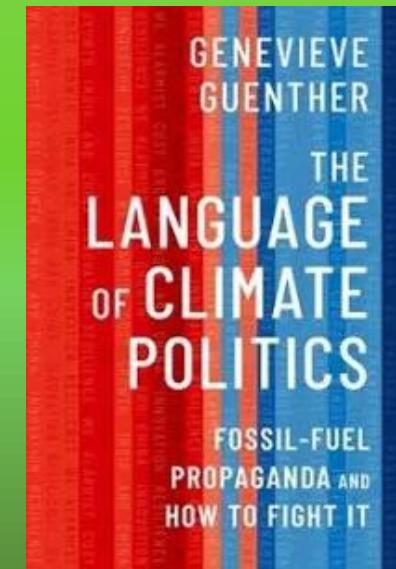


Trump and Republicans?

Ending all Biden efforts & everything possible to increase fossil fuel use and stop renewable energy!



- Withdrawing from the Paris Agreement – US only country not in
- Destroying climate science, data, and research, federal & university
- Dismantling the EPA and greenhouse gas regulation
- Discourage renewable energy, electric cars, and electrification
- Eliminating all previous Biden and blocking state climate actions
- Removing climate change from Defense Department planning
- Dismantling democracy and creating a climate of fear.



2025 Climate News

In 2030, if current projections hold, the United States will drill for more oil and gas than at any point in its history. Russia and Saudi Arabia plan to do the same.

***Nations That Vowed to Halt Warming
Are Expanding Fossil Fuels, Report
Finds***

G20 poured more than \$1tn into fossil fuel subsidies despite Cop26 pledges - report

Climate Fascism

- Scapegoating immigrants and militarizing borders, leaders use fear and claim dictatorial power.
- Increasing inequality and poverty caused by climate change used to foster racism and a global politics of armed lifeboats.

But plants, animals, and humans have a right to migrate, and we must work together with all our brothers and sisters to protect the planet we share!

II Action Strategies

Climate Education

Social Action ideas and discussion

XR Examples

Your voice and stories

Take Fear, Anxiety & Grief to Action

Recognizing that emotions are often what leads people to act, it is possible that feelings of ecological anxiety and grief, although uncomfortable, are in fact the crucible through which humanity must pass to harness the energy and conviction that are needed for the lifesaving changes now required.

(*The Lancet*, Cunsolo et al., 2020, p. 262)

Critical Place-Based Inquiry

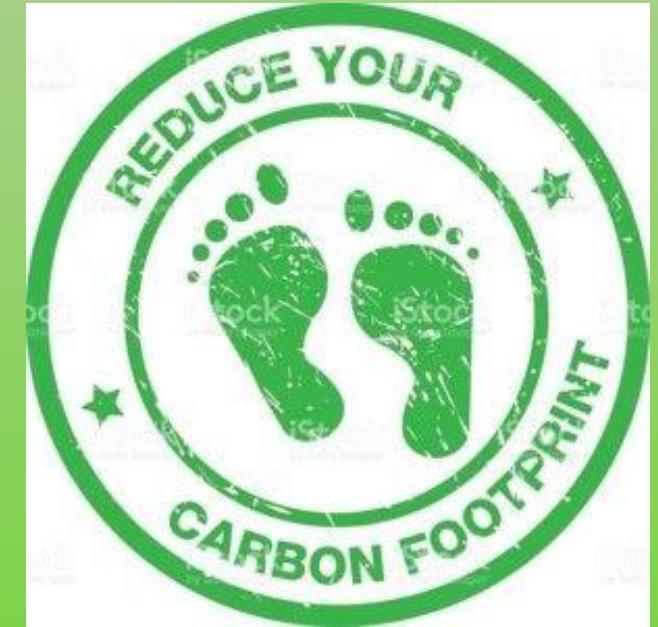


- How is your location ground zero for climate change?
 - How are those impacts experienced differently for different social, economic, and racial groups?
 - What history made certain groups vulnerable? How does wealth or power cause or protect against the impacts? Who does the government help or protect? Why?
 - What climate refugees are in your area and how are they treated?
 - How are climate crises militarized in your area?
 - What would need to be done to create a Just Transition in your community?

Carbon Footprints?

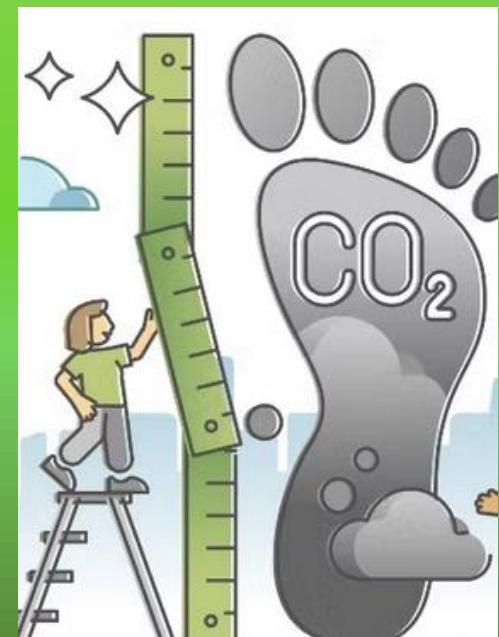
Why would fossil fuel companies promote the study of individual carbon footprints?

Toward a pedagogy of citizenship, not refined consumerism!



Understanding “Carbon Footprints”

- Footprints depend on energy source, not consumer behavior – electrify!
- **National** carbon footprints? (USA #1, 25-30% of total carbon)
- **Social class** carbon footprints / **Corporate** carbon footprints
- Environmental racism (inc. location of fossil fuel infrastructure)
- Challenges of carbon tax implementation
- Importance of laws, regulations, global cooperation
- Legal accountability, reparations, Green Fund



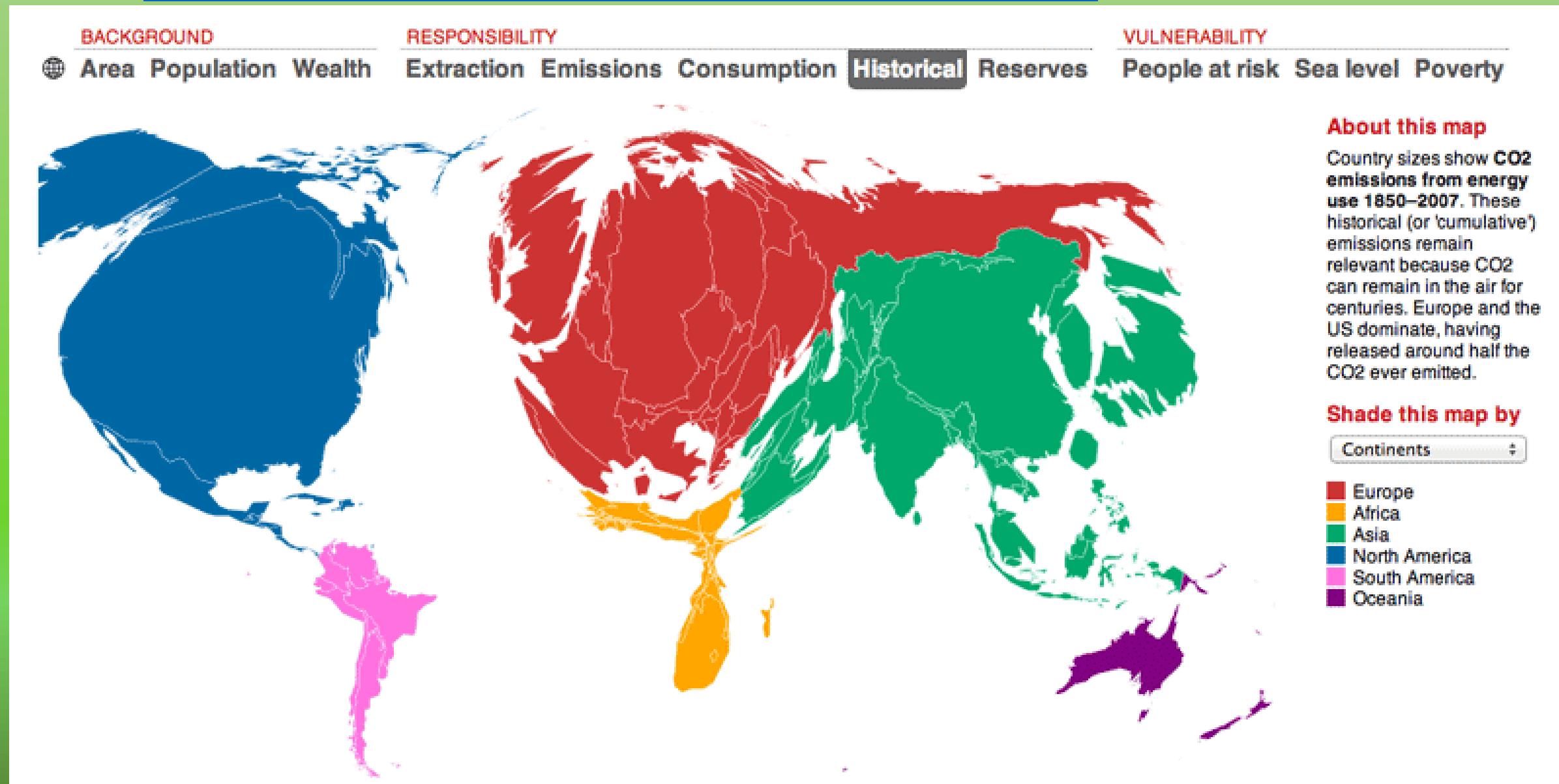
Climate Crisis is a Justice Crisis

- Who caused the crisis? Who suffers first and most?
- Who knew and could have acted? Who fostered denial?
- How will decisions of the older generation impact the young?
- What is it like to be a climate victim or refugee? What responsibility do we have to victims and refugees?
- What should be America's role in the global community?
- What responsibilities do humans have to animals, plants, and the natural world?
- What would a just and fair approach to addressing the climate emergency look like? How do we create a just transition?

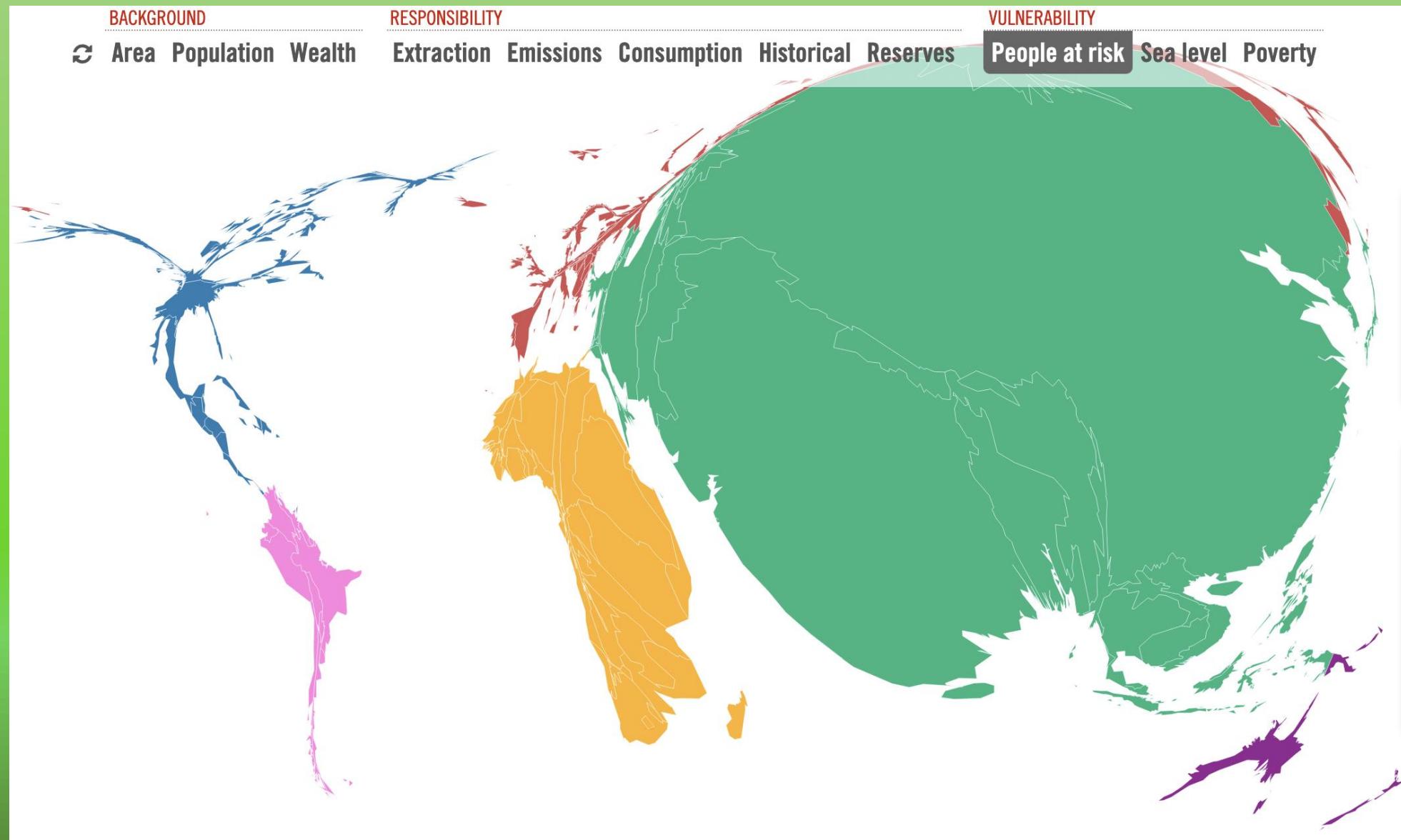


94% or 85% habitat loss
by 2050

Responsibility for Climate Crisis



Already Suffering from Global Heating



Justice of Climate Crisis Tied to History of Global Development & Underdevelopment

- Colonialism
- Slavery
- Capitalism
- Cold War
- Neoliberalism (radical privatization and deregulation creating state crisis and greater inequality)
- Racism, Segregation
- Rise of Carbon Economy

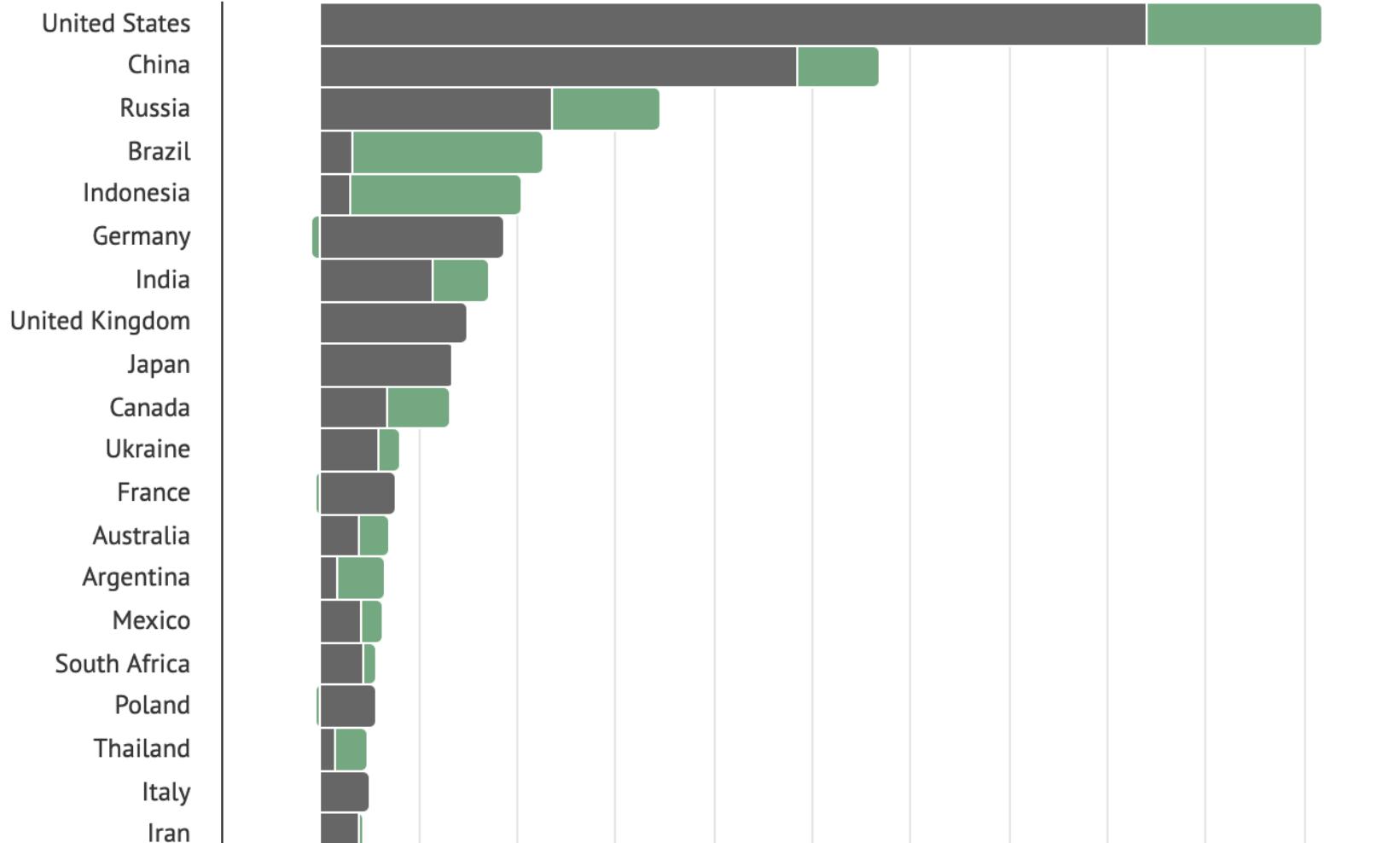


How Europe Underdeveloped Africa, Walter Rodney
Tropic of Chaos, Christian Parenti
This Changes Everything: Capitalism vs. the Climate, Naomi Klein
A Billion Black Anthropocenes or None, Kathryn Yusoff
How Capitalism Broke the Planet, Kate Arnoff
Nutmeg's Curse, Amitav Ghosh

The countries with the largest cumulative emissions 1850-2021

Billions of tonnes of CO₂ from fossil fuels, cement, land use and forestry

● Fossil ● Land



-50 0 50 100 150 200 250 300 350 400 450 500 550

Generational Justice



- While the present generation has a right to use the Earth and its natural resources to meet its own needs, the present generation must pass the Earth on to future generations in a condition no worse than they received it.
- “We do not inherit the world from our ancestors; we borrow it from our children.” -- common wisdom variously attributed to Chief Seattle, Ralph Waldo Emerson, Wendell Berry.
- Recognized in nearly all cultural and religious traditions, including the Judeo-Christian, Islamic, and Asian non-theistic traditions.
- A legal principle intergenerational equity is found in European common law, Islamic law, African, Native American, and many other indigenous laws and practices.
- Youth-led lawsuits: 1990s – Philippines , 2015 Pakistan & Netherlands, 2018 Columbia, 2019 Germany, France, Brazil, Argentina, and Turkey, 2021 Germany, Juliana v United States
- Generational justice should infuse and support all aspects of climate and environmental education and activism.

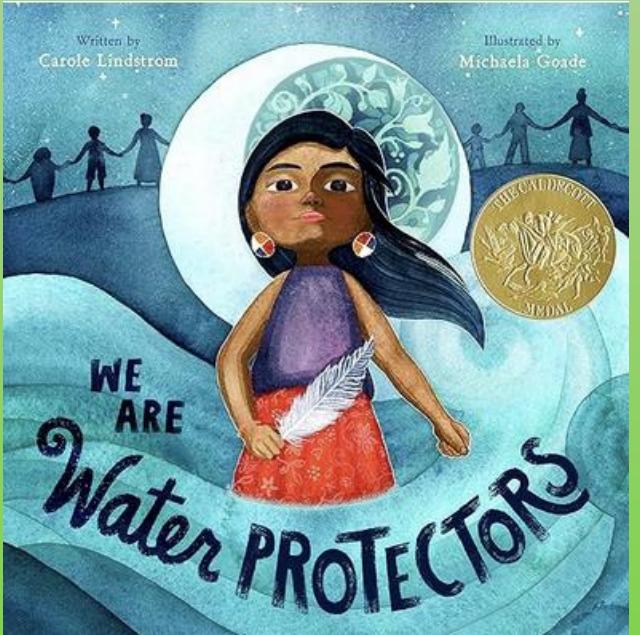
Hope Comes from Taking Action

- Learn about the difference action can make
- Talk about the Climate Crisis
- Educate others
- Learn about others taking action
- Public writing
- Create clubs, join groups, create local chapters
- Support global co-operation
- Direct action, social activism / nonviolent methods (Gene Sharp)



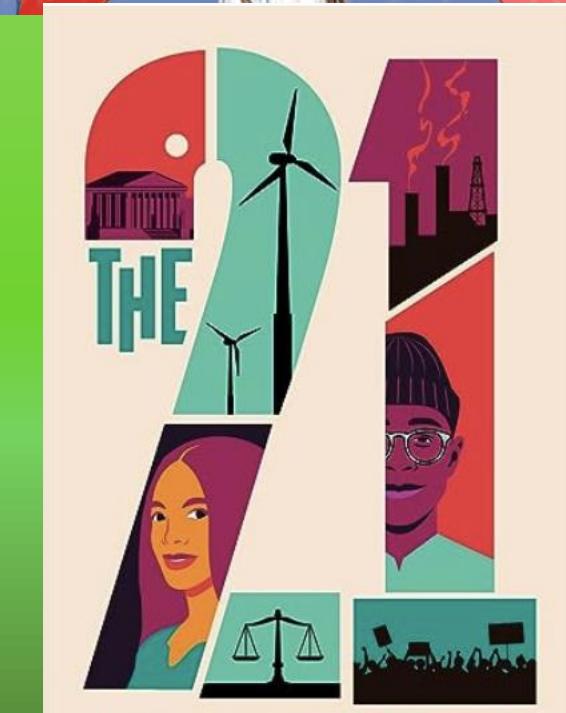
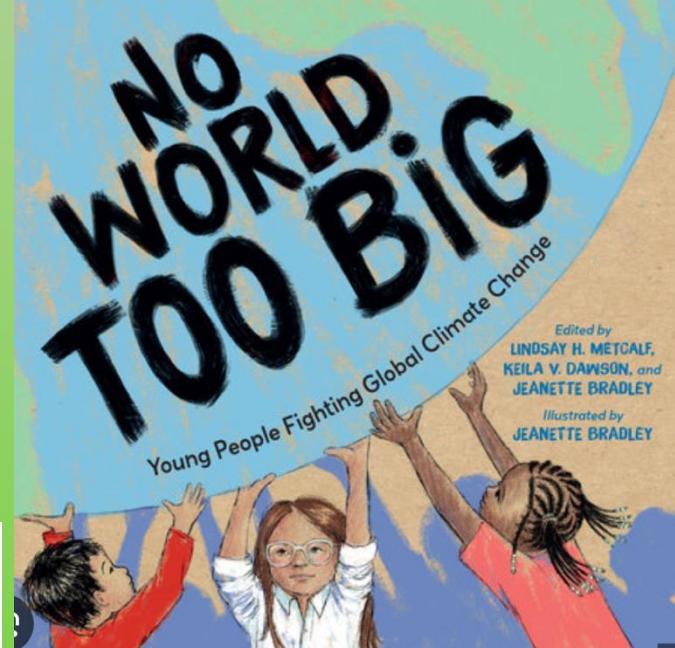
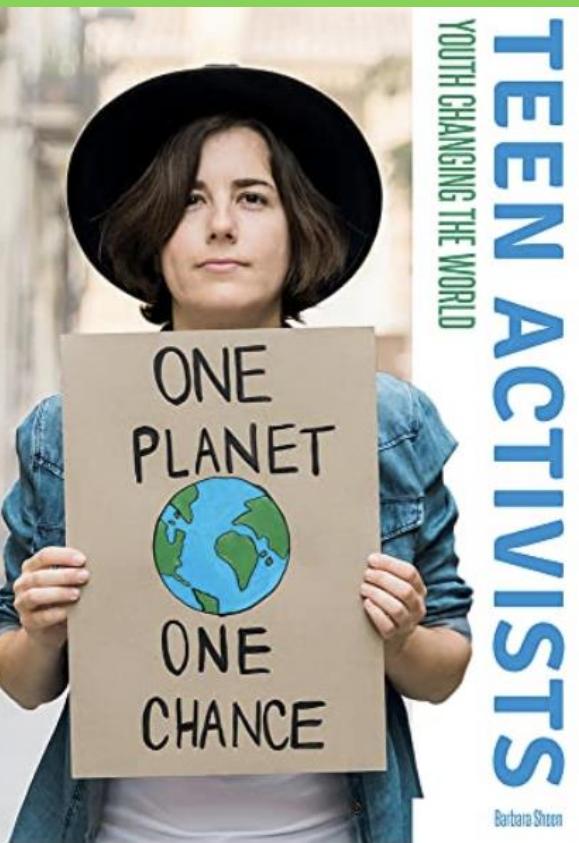
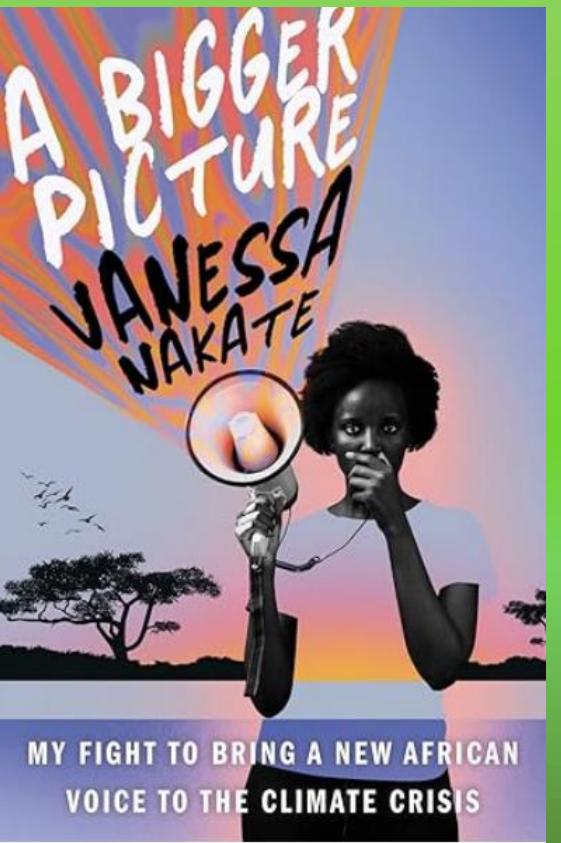
Young People – Critical to Saving the Planet





Teach About Youth Climate Activists

[Greta Ted Talk](#)



Invite Research on Youth Climate Activists

- Greta Thunberg
- Vanessa Nakate
- Varshini Prakash
- Dominique Palmer
- Elizabeth Wathuti
- Tori Tsui
- John Paul Jose
- Xiuhtezcatl Martinez
- Xiye Bastida
- Luisa Neubauer
- Jerome Foster
- Haven Coleman
- Lea Namugerwa
- Txai Surui
- And so many more...

Connect Students to Youth Climate Organizations



[FridaysForFuture.org](https://www.fridaysforfuture.org)



[SunriseMovemnet.org](https://www.sunrisemovement.org)



[EarthUprising.org](https://www.earthuprising.org)

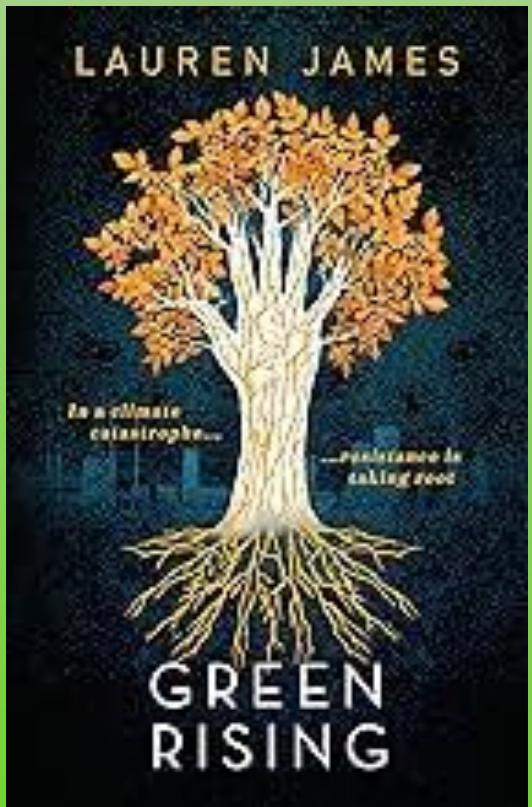


[EarthGuardians.org](https://www.earthguardians.org)

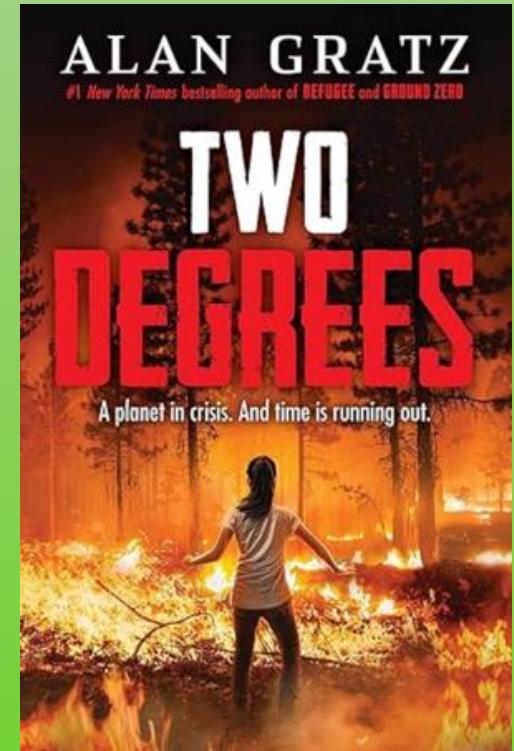
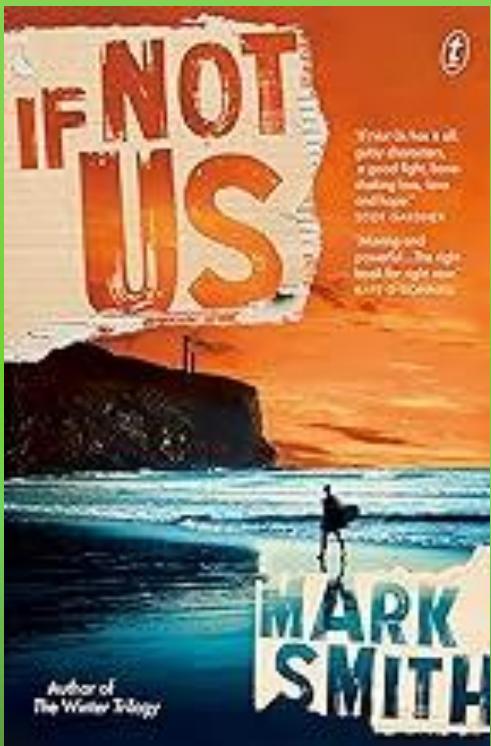


Students can:

- Learn about youth activism
- Research youth climate groups
- Write about and present to others
- Organize school clubs & chapters



YA Literature about Youth Climate Activists



Youth Climate Activist Novels: Questions

- How is climate change portrayed? What are its impacts? Who is impacted? Are the impacts unequal or unjust?
- In the novel, how is climate change caused? By whom?
- What groups/individuals prevent or delay taking action on climate change?
- What actions do characters take to address climate change? How do those actions impact self and others?
- How do the characters' attitudes toward climate change evolve?
- What connections can you make between the novel and the real world?
- What did you learn about climate change from reading the novel? What else would you like to know or learn about climate change?
- How are youth and youth climate activists portrayed? Can you find youth activists in the real world acting in a similar way? What are real world youth climate groups doing?
- How could we educate others about climate change? How might we connect with youth climate groups? What actions could students at our school take to learn about and address the climate crisis?

My students... Educate and Act Locally

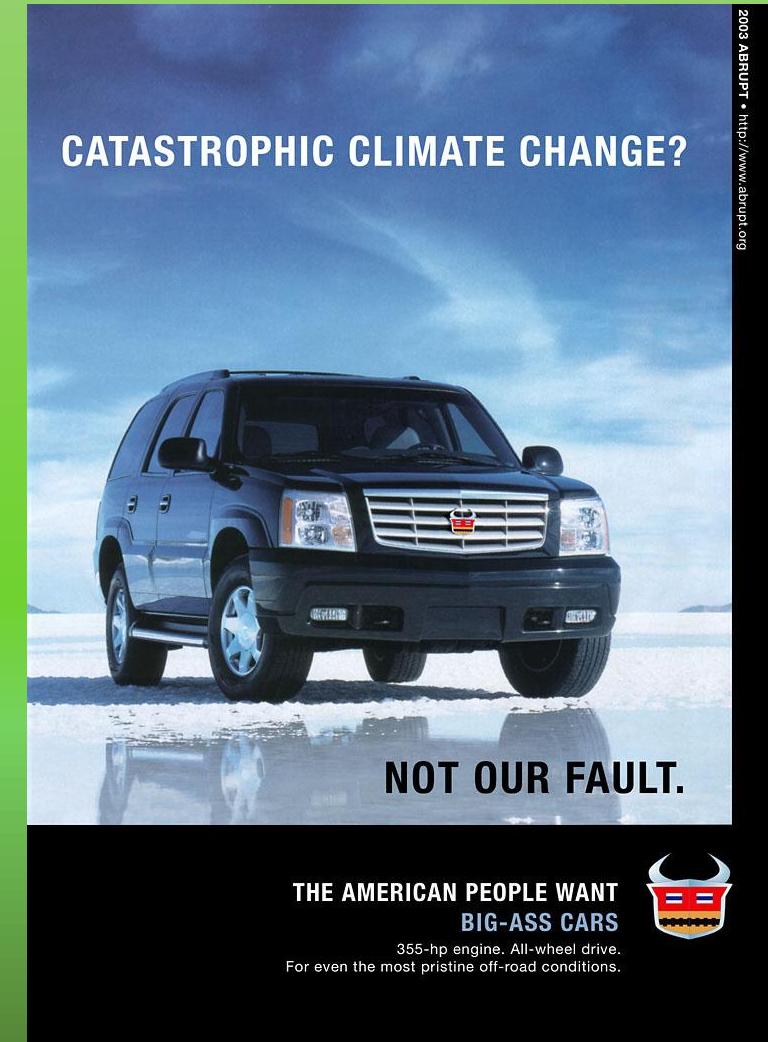
- Wrote and shared poetry, short stories, & persuasive essays
- Led community discussions about climate change
- Wrote “Climate Manifestos” & created climate documents
- Spoke at community climate protests
- Organized a climate change “teach-in”
- Designed climate action projects
- Organized community film/discussion/tabling on refugees
- Showed a climate change documentary at school and led panel after
- Examined how future careers can address climate change
- Protested tree cutting, and planted trees
- Joined Fridays for Future and Global Climate Strike





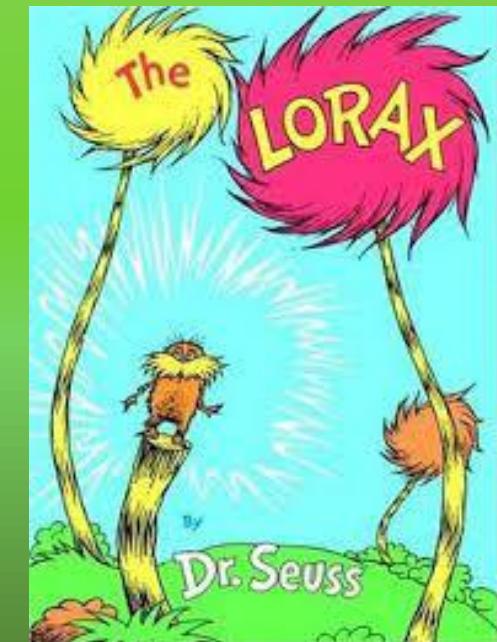
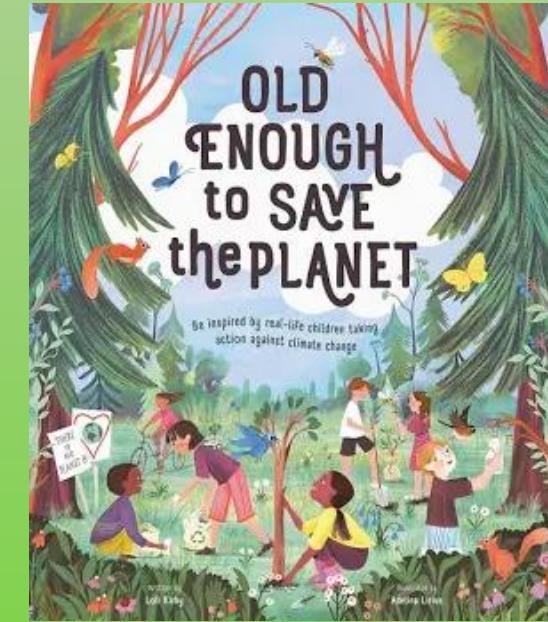
My students... Use Online Tools to Communicate Globally

- Blogs, wikis, websites, Snapchat, Facebook
- Climate crisis “culture jams” Memes [Culture Jamming](#), [samples](#), [Brandalism](#)
- Online climate change cookbook for young people



Cli-Fi Short Stories & Picture Books

- [Future Hopes](#) (2024) Short stories
- Rich-"[Hermie](#)," May-"[The Audit](#)"
- Chadrasekera- "[Half-Eaten Cities](#)," [Everything Change II](#)
- Atwood-"[Time Capsule Found on the Dead Planet](#)" (Flash fiction)
- [Everything Change I](#): "Into the Storm" (Canada), "The Grandchild Paradox," "Acqua Alta" (Venice), "LOSD and Fount"
- Atcheson-"[How Close to the Savage Soul](#)" – mature themes



Climate Change Raps, YouTubes, & Poetry

Dr.Octagon 'Trees'

YouTube · geekhead · Nov 8, 2006



- [Trees Are Dying](#), Dr. Octagon ([lyrics](#))
- [Dear Future Generations](#) ([Lyrics](#)), [Man vs Earth](#), ([Lyrics](#)), Prince Ea
- [Climate Change](#), Coma Niddy
- [Global Warming](#), [Make It Hot](#), Baba Brinkman
- Climate Summit "Poem to My Daughter," Kathy Jetñil-Kijiner, [Lyrics](#)

Two Degrees, Alan Gratz (2022)

Dry, Neil & Jarrod Schusterman (2018)

Carbon Diaries 2015, Staci Lloyd (2010)

Pacifica, Kristen Simmons (2018)

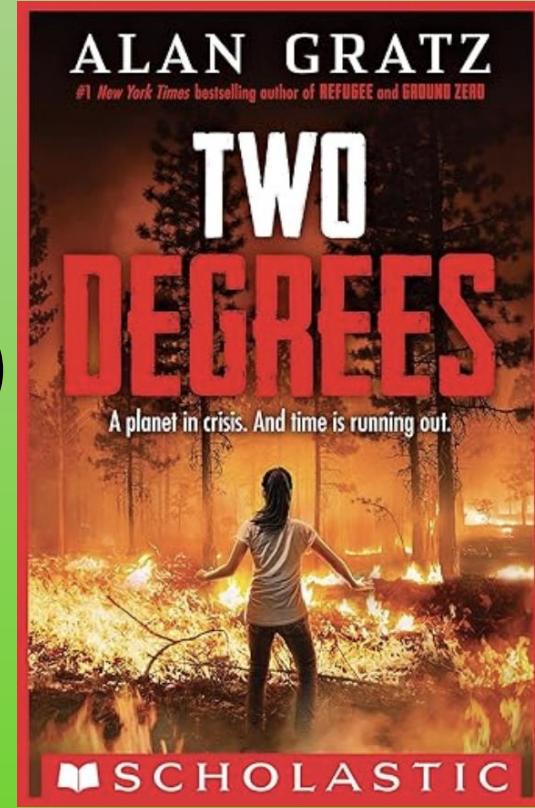
Orleans, Sherri Smith (2013)

Ship Breaker, Paulo Bacigalupi (2010)

Fireseed One, Catherine Stine (2011)

Hunger Games, Suzanne Collins (2009)

The Last Panther, Todd Mitchell (2017)

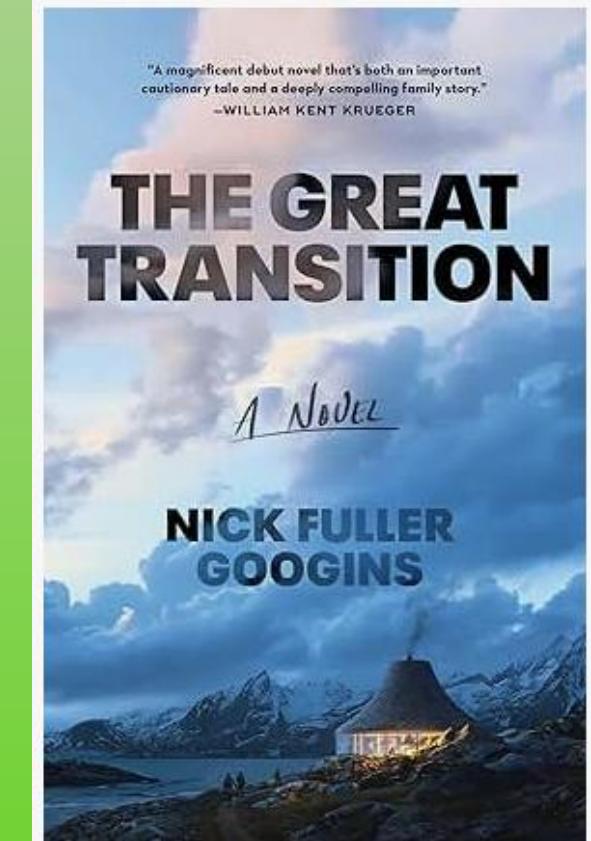


Cli-Fi YA



Cli-Fi Appropriate to High School

- *The Great Transition*, Goggins (2023)
- *Ministry for the Future*, Robinson (2020)
- *The Rapture*, Jensen (2009)
- *Water Knife*, Bacigalupi (2010)
- *Parable of the Sower*, Butler (1993)
- *The Marrow Thieves*, Dimaline (2017)
- *Odds Against Tomorrow*, Rich (2014)
- *Collapse of Western Civilization*, Oreskes & Conway (2014)
- *Grapes of Wrath*, Steinbeck (1939)



How might Ardea use non-violent direct action?

198 Methods of Nonviolent Action by Gene Sharp

- 1) 1, 2, 3, 4, 8, 12, 14, 15
- 2) 16, 17, 19, 21, 35, 38, 39, 44
- 3) 48, 50 51, 52, 55, 62, 98, 141,
- 4) 158, 159, 162, 163, 164, 177, 178



<https://commonslibrary.org/198-methods-of-nonviolent-action/>

XR Examples of Climate Social Activism, Creative Protest, & Civil Disobedience



Dr. Allen Webb

October 2018



- blocked five major bridges across the Thames River
- planted trees in the middle of Parliament Square
- dug a hole there to bury a coffin representing the future
- super-glued themselves to the gates of Buckingham Palace as they read a letter to the Queen



Time is Running Out!



Over the next year, 100s of XR chapters formed world-wide.



Extinction Rebellion Kalamazoo











Climate activists host 'die in' on Black Friday at Michigan mall

Updated: Nov. 29, 2019, 3:46 p.m. | Published: Nov. 29, 2019, 3:45 p.m.

m
LIVE Michigan ▾



Demonstrators pretend to be dead during Black Friday at The Crossroads mall in Portage.

Advertisement



Kalamazoo Tree Lighting

THIS TREE IS A GIFT
FROM EXTINCTION REBELLION
TO THE CITY OF KALAMAZOO

TO COMMEMORATE THE CITY GOVERNMENT
COURAGEOUSLY STEPPING UP TO
TELL THE TRUTH
THROUGH THE FORMAL DECLARATION OF
CLIMATE EMERGENCY
ON Oct 21, 2019

MAY IT SERVE AS A REMINDER TO
US ALL TO PROTECT OUR CHILDREN'S
HOPES AND DREAMS
BY PROTECTING THE EARTH



Rudolf Green Nosed Rain Deer
Fossil Fuel Grinch
XR Polar Bear



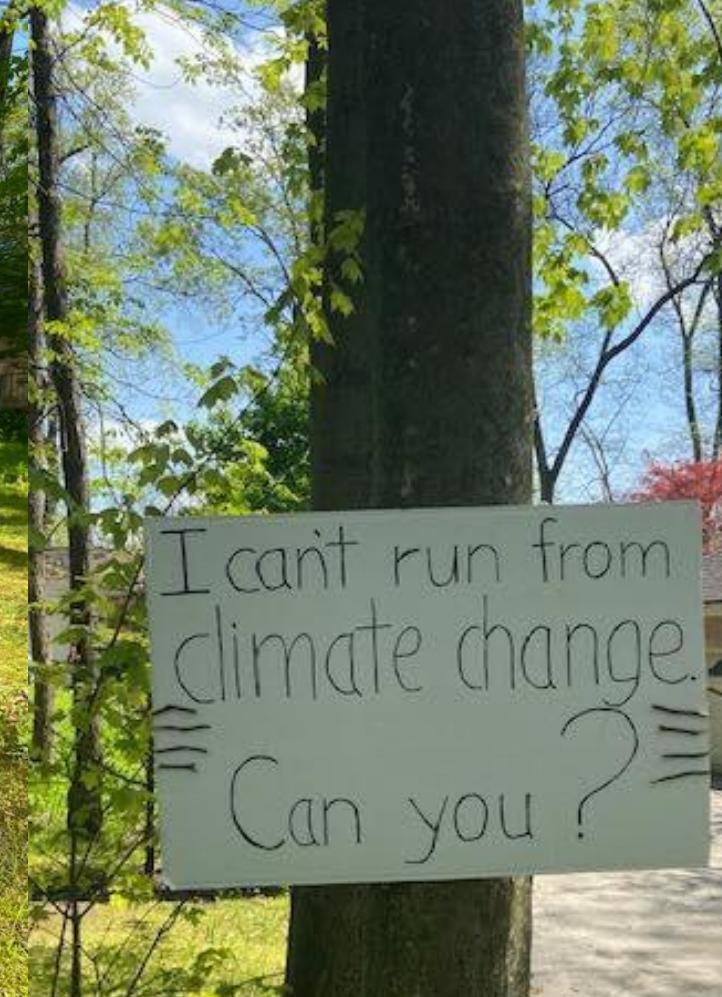


How banks have fueled climate change

JPMorgan Chase Leads the Way (to Climate Chaos)

In the three years since the [Paris Agreement](#), JPMorgan Chase was the:

#1	Banker of Fossil Fuels (BY 29%)	\$196 B TOTAL
#1 in 2016, 2017, and 2018		
#1	Banker of 100 Top Companies Expanding Fossil Fuels (BY 68%)	
#1 in 2016, 2017, and 2018		
#1 U.S. Banker of Tar Sands Oil	#1 Banker of Arctic Oil & Gas	#1 Banker of Ultra-Deepwater Oil & Gas
#2 Banker of Fracking (JUST BEHIND WELLS FARGO)	#1 Banker of LNG	#1 U.S. Banker of Coal Mining



Cardiff, 2020

XR Week of Action



Informational Hub



Create your own shirts
Social media photo booth





Across from Barclays Bank



Daily Marches





Focus on
Climate
and
Ecological
Emergency
Bill





Welsch Parliament
Rally to support climate legislation



Cardiff
Endangered by sea level rise





XR “Beach Party”

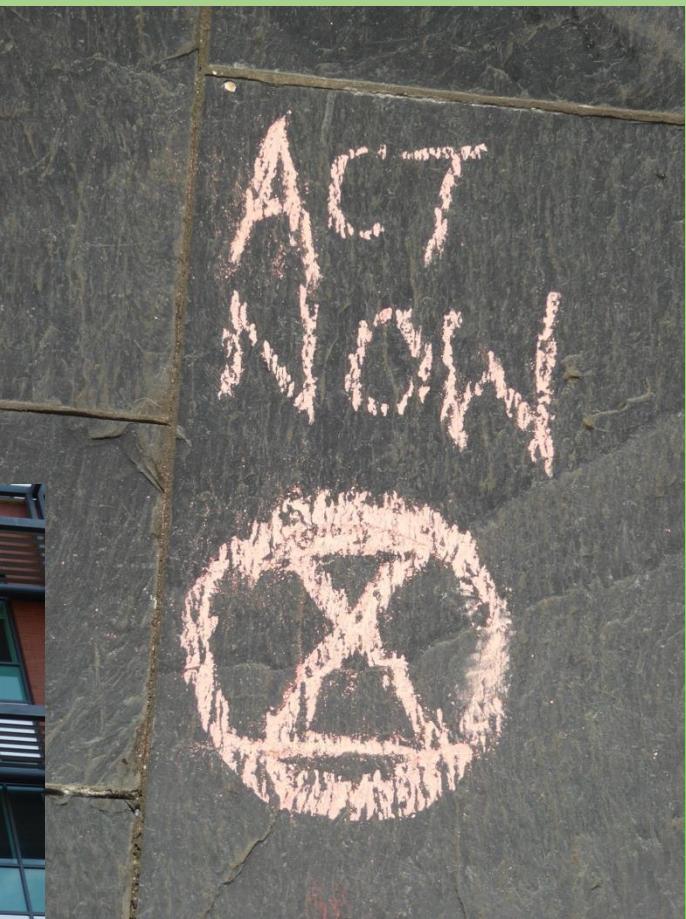


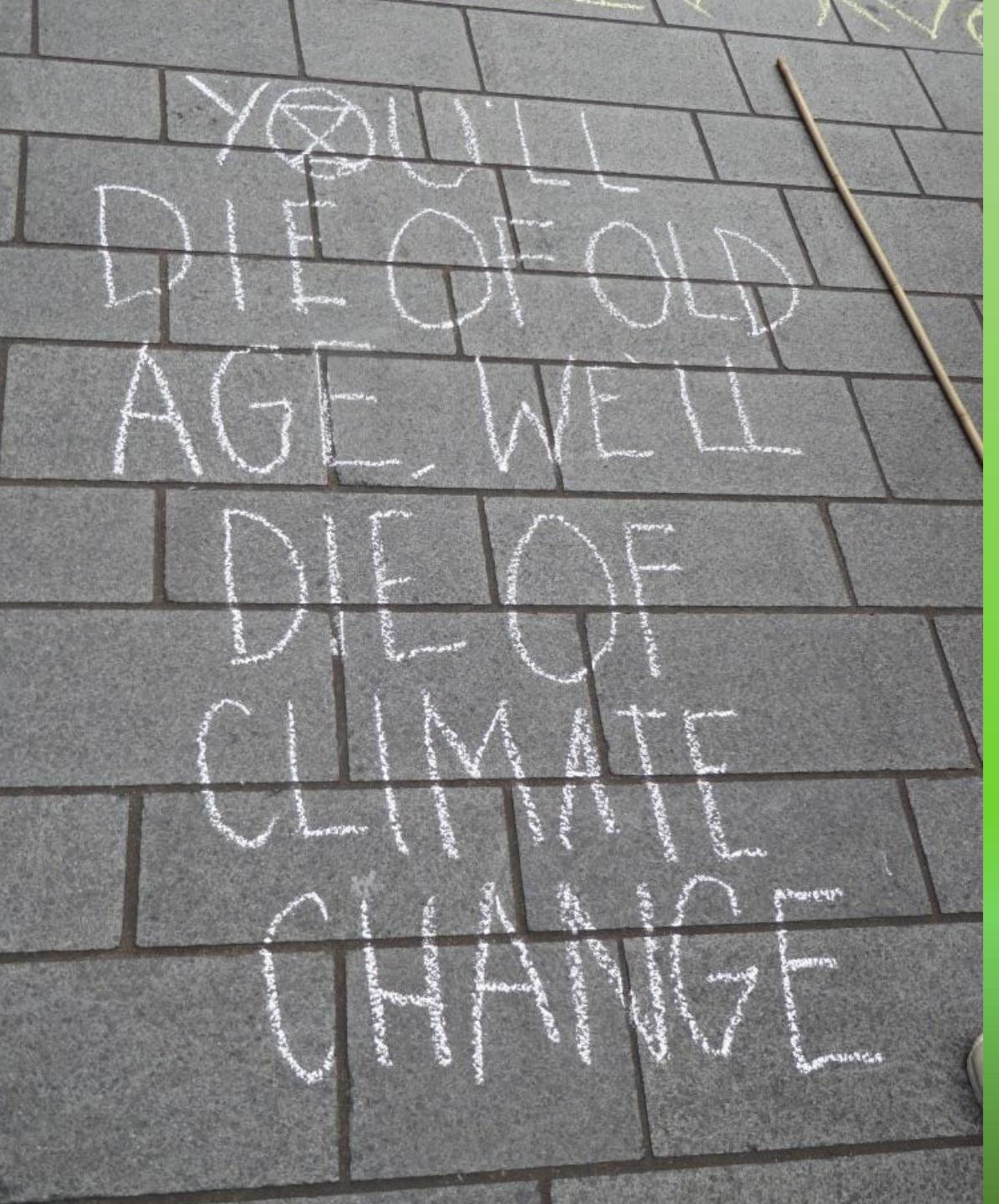
Painted across the city



Drown In







Media Rally at Welsh BBC Headquarters





BBC Spoof Performance

BBC Blockage







Public Protest

- rallies and marches
- mock funerals for the earth
- fake blood / chalking to represent environmental threats to children's future

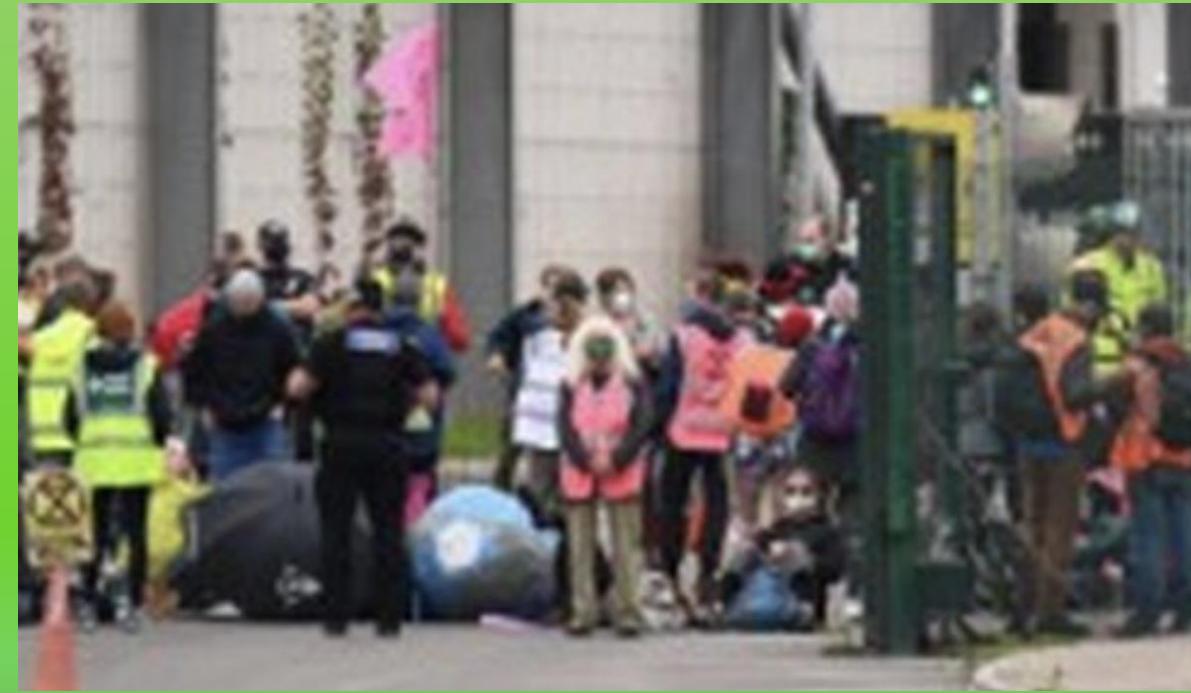


Civil Disobedience

- climbing buildings or bridges to unfurl banners
- blocking streets and bridges in front of government offices, banks, or industries causing climate change
- chaining or gluing themselves down

Live updates as Extinction Rebellion protesters set up blockade at incinerator site

It came after a lunchtime protest in the city's Central Square



Public support for climate civil disobedience.



Three in ten Americans (31%) would support an organization engaging in non-violent civil disobedience against corporate or government activities that make global warming worse, and one in five (20%) say they would personally engage in non-violent civil disobedience.

Feb, 2020 Yale Climate Change Communication Report on Climate Activism



Your Climate Persuasion Stories

- As a young person, your voice on climate change has special power.
- Climate stories are effective – there are also many other ways to communicate.
- You can have multiple stories. What do you want each climate story to convey?
- How might a collection of Ardea climate stories complement each other?
- How can you inspire others to find their climate story?

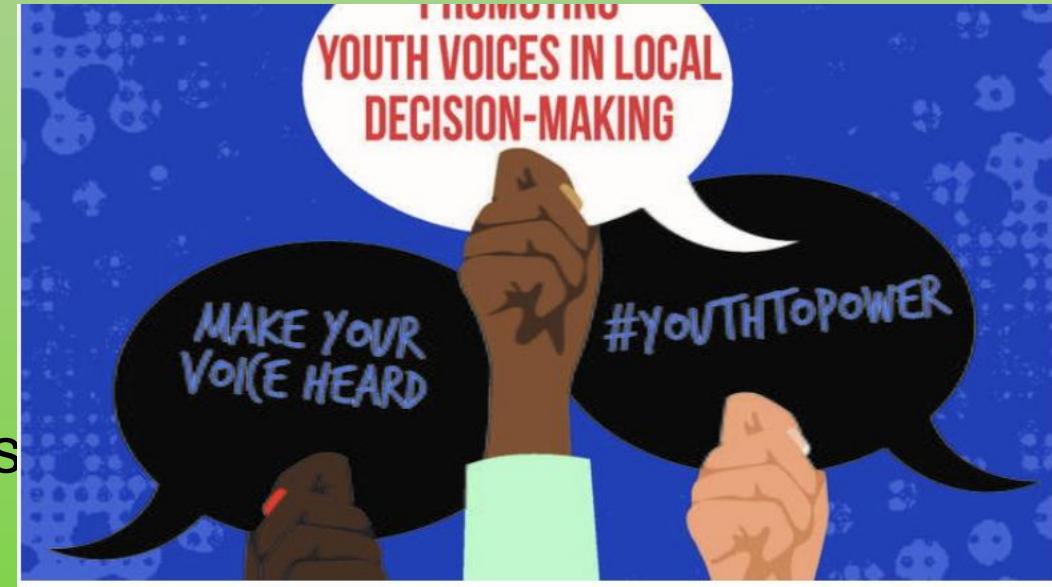
Suggestions for Climate Persuasion

- Emphasize your status as a young person
- Express concern and fear about the future
- Recognize the urgency of action
- Find a way to connect your thinking to issues that will touch your audience – awareness of nature is fine, but consider societal impacts
- Show your knowledge about climate change and specific strategies to address it
- Modify your story and focus for specific audiences

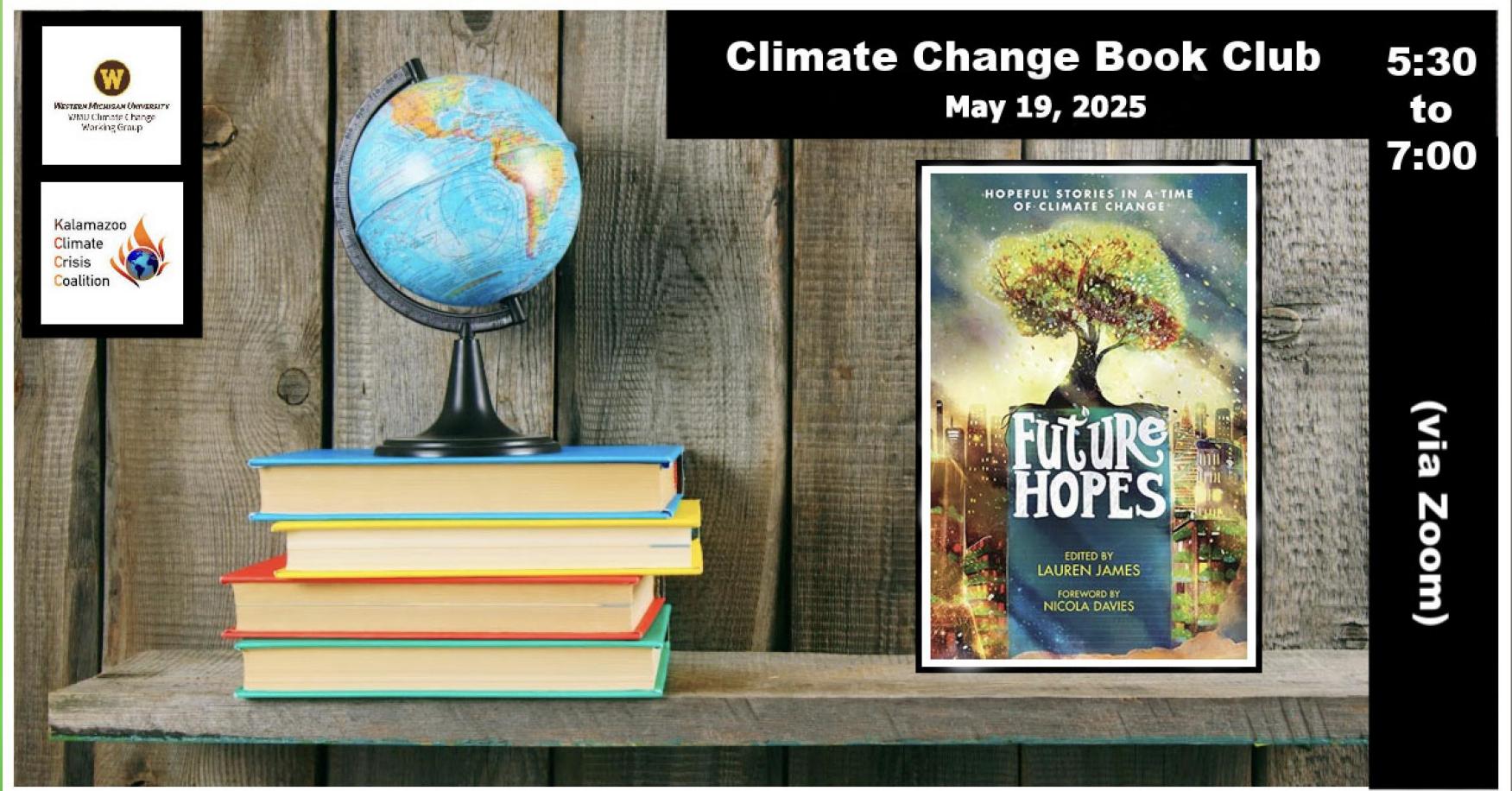


Community Audiences

- General public
 - Teachers, school boards, service districts
youth programs
 - Townships, city, local government - Do they have a climate action plan? What are they doing to reduce greenhouse gas emissions?
 - Homeowners - access to insulation & solar panels / Realtors – have a carbon rating for homes
 - Utility boards / Businesses – car dealers, local better business bureau, sustainable business forums
- & Don't forget online audiences: other young people, potential voters, etc



You are invited to join:



Climate Change Book Club
May 19, 2025

**5:30
to
7:00**

(via Zoom)

The image features a stack of colorful books and a globe on a wooden shelf. To the left, there are two logos: one for Western Michigan University's WIND Climate Change Working Group and another for the Kalamazoo Climate Crisis Coalition. To the right, there is a book cover for "Future Hopes: Hopeful Stories in a Time of Climate Change", edited by Lauren James and foreworded by Nicola Davies.

Allen.Webb@wmich.edu

Extra Slides

Carbon must stay in the ground

- In July 2022, U.N. Secretary-General António Guterres [said](#), “The only true path to energy security, stable power prices, prosperity and a livable planet lies in abandoning polluting fossil fuels and accelerating the renewables-based energy transition. [...] Current national commitments will lead to an increase of almost 14 per cent this decade. That spells catastrophe.”

Carbon Taxes

- A **high, durable carbon price** is still the economist's ideal—but is **rare** in practice. Australia repealed its carbon price in 2014; France's proposed fuel tax hikes triggered the “gilets jaunes” backlash; and in **2025 Canada set its federal consumer carbon price rates to zero**, despite years of rebates. It is hard to **pass, raise, and keep** broad fuel taxes.
- **Renewables + grids + standards + incentives** are doing most of the near-term heavy lifting, because they're **politically passable** and **cost-competitive today**.
- The **best-performing countries/regions** blend tools: **price carbon where you can, invest and regulate where you must**—and always build the wires and flexibility to use the clean power you're buying.

Carbon Capture and Storage

Investing in carbon capture and direct air capture increases air pollution, carbon dioxide emissions, fossil-fuel mining, fossil-fuel infrastructure, carbon dioxide and fossil-fuel pipelines, energy requirements, private energy costs, and social energy costs ([by a factor of 9-12](#)) relative to investing the same money in clean, renewable energy.

What is more, over 82 percent of all carbon dioxide captured worldwide, in reality, is used for enhanced oil recovery. During this process, 30 to 40 percent of the carbon dioxide captured is released back to the air.

Further, another 20 to 80 percent captured is released due to the additional oil obtained, so a total of [50 to 120 percent](#) of the carbon dioxide captured during enhanced oil recovery is released.

Hydrogen and “Green” Hydrogen

- Using renewable energy to make hydrogen is a lot less efficient than simply using the renewable energy directly.
- Releasing hydrogen... increases the lifetime of methane in the atmosphere with huge climate impact & hydrogen is the leakiest gas known to humankind.

Ethanol

There are thirty million acres of cornfield in the U.S. that are used for growing ethanol, and in the process providing about one percent of our energy needs. Scientists estimate those thirty million acres, covered in solar panels, would provide all the power the country requires.

Stages of Activism

3.5% active and sustained participation of population

- Planning
- Trigger Event
- Disruption, Sacrifice, Escalation
- Whirlwind
- Institutionalize



Kalamazoo Wildfire Smoke Protest



Demands
Tell the Truth
Act Now
Beyond Politics
Just transition

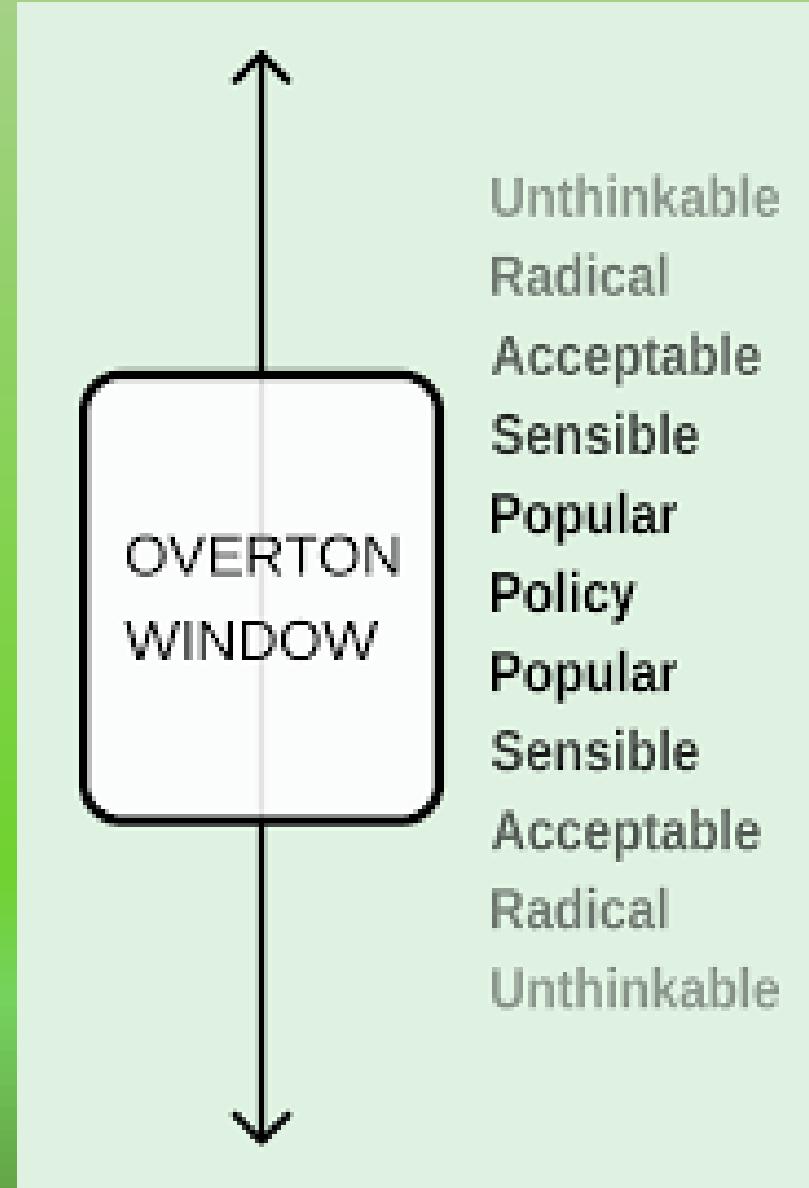
Principles

- Future Generations
- Everyone Welcome
- Momentum Driven Organizing
- Art & Creativity
- Non-Violent
- Collaboration with Other Groups
- Civil Disobedience & Direct Action
- Regenerative and Reflective
- Avoid Blaming & Shaming
- Autonomy



Overton Window

- Unthinkable ideas can actually become the basis for government policy.
- Social movements and uprisings may make their greatest impacts as they change broad public understanding of what is happening and acceptable to do about it.
- Overton suggested that ideas can move in a sequence from unthinkable to radical to acceptable to sensible to popular to policy.



Bute Park (estate)



Activists camped, had meetings and presentations, and organized for a week. (Donna & Stewart)





Red Brigades: color red like the blood humans share with all species; coordinated movements express humility, compassion, and peace

THIS IS NOT A DRILL

AN
**extinction
rebellion**
HANDBOOK



HOW NONVIOLENT REVOLT
IS SHAPING THE
TWENTY-FIRST CENTURY

THIS IS AN UPRISING

"ABSORBING...AMBITIOUS...INDISPENSABLE. A GENUINE
GIFT TO SOCIAL MOVEMENTS EVERYWHERE." —NAOMI KLEIN

MARK ENGLER AND PAUL ENGLER

Role of Violence against Property?

