

A Climate Change Solution We Can Live With

Presentation for the
Dean Democratic Club
May 14, 2018



About Me



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TOPICS FOR TODAY

1. What we know about climate change
2. Our proposed solution
3. Profile of Citizens Climate Lobby

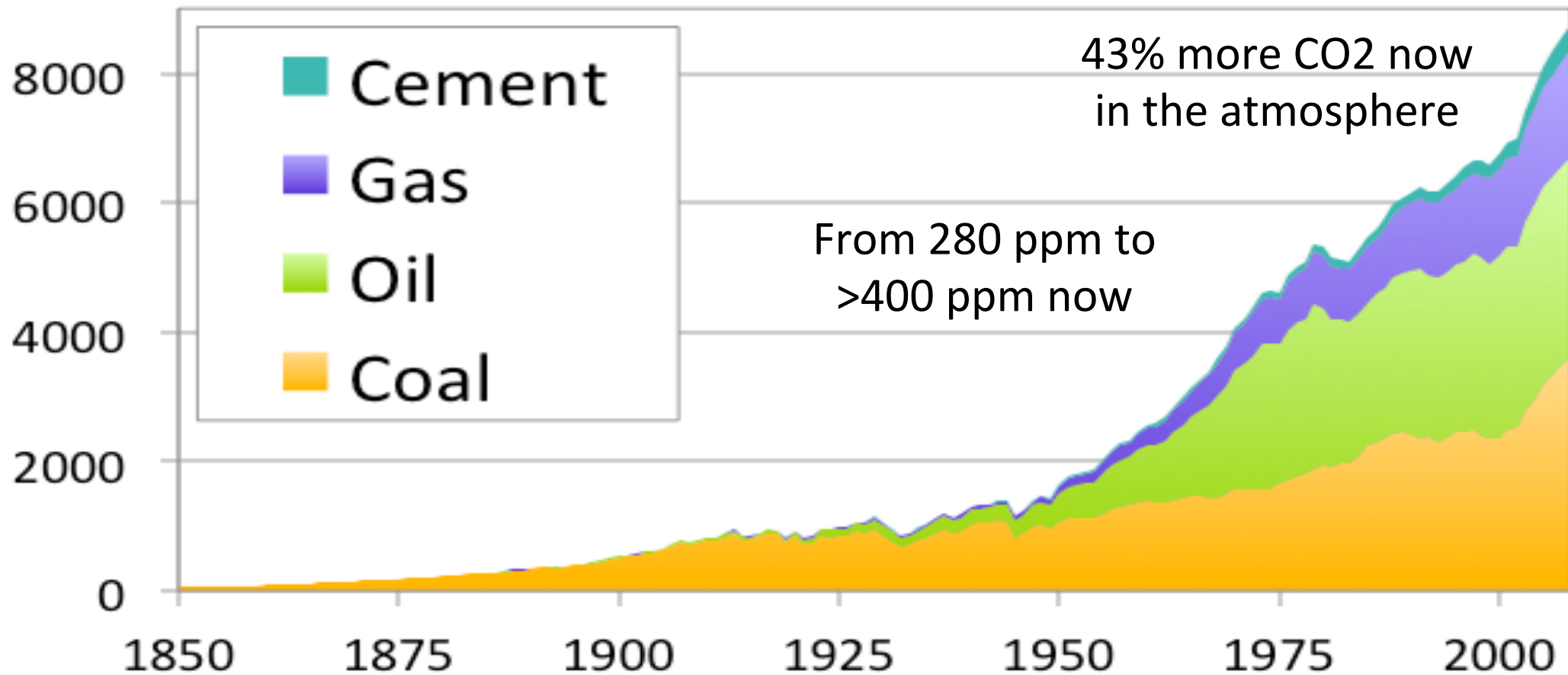
Burning coal, gas and oil produces CO₂



...and we've been burning lots of it

Carbon dioxide level in the atmosphere has increased sharply in our lifetimes, and is now higher than its been in over 2 million years.

Carbon Emissions (million metric tons)



..and this enhances the greenhouse effect

The Natural Greenhouse Effect naturally increases earth's temperature by over 60°F

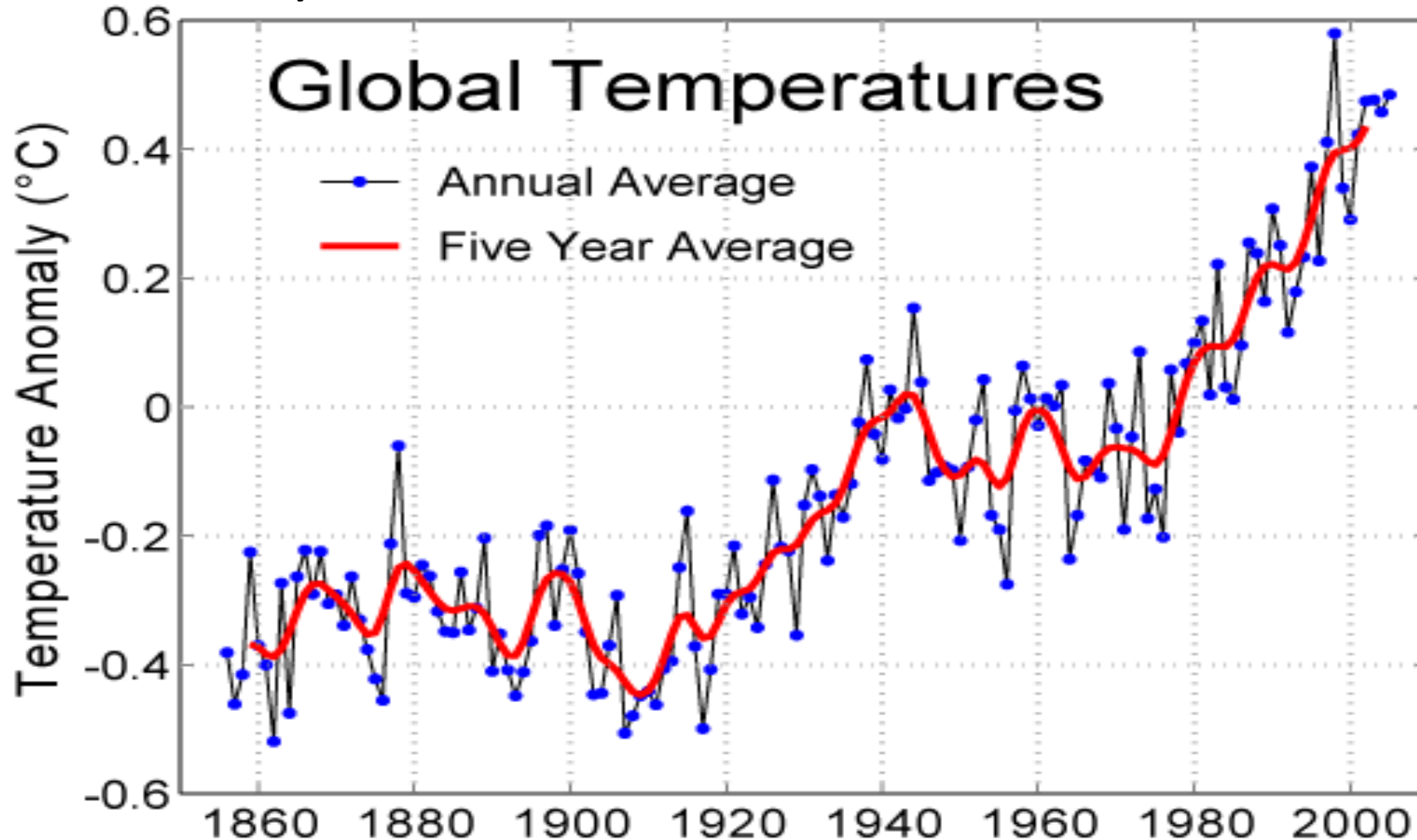


The Enhanced Greenhouse Effect has artificially increased earth's temperature by 1.8°F

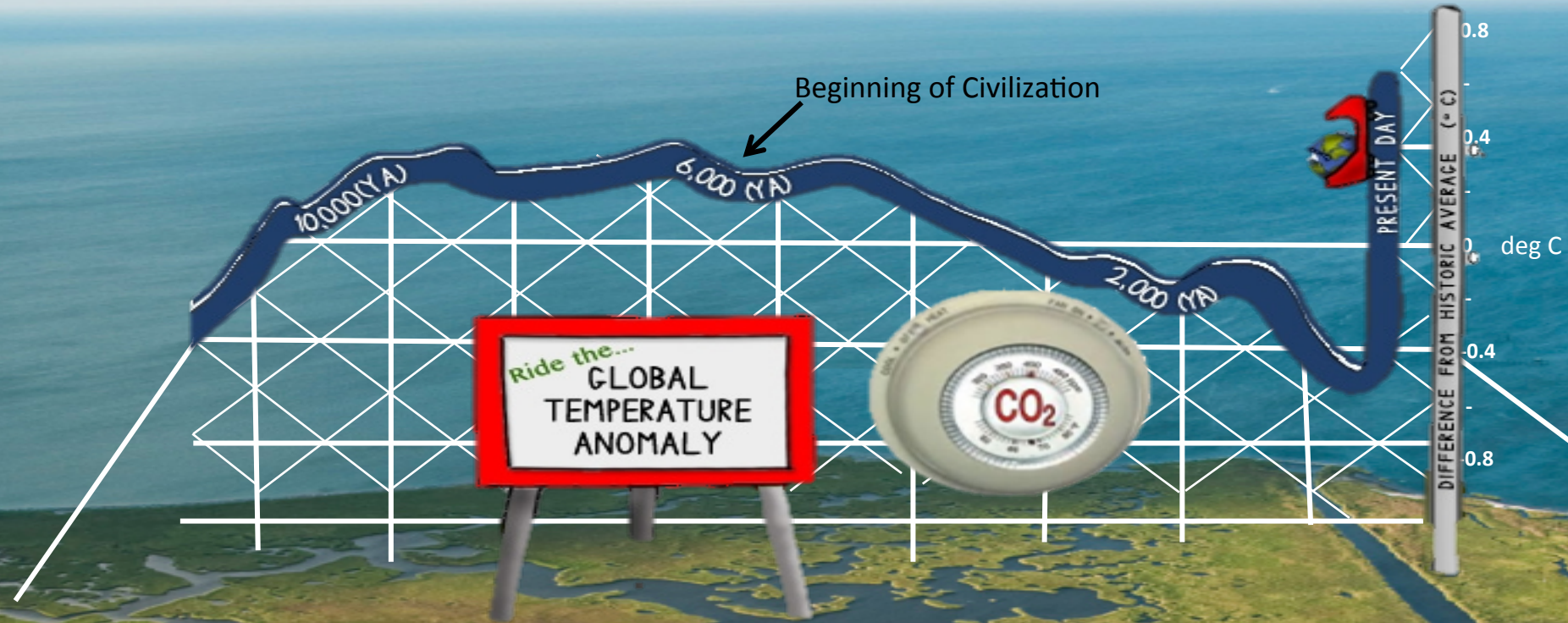


And that's why the Earth is warming

The 16 warmest years on record have all occurred within the last 17 years.



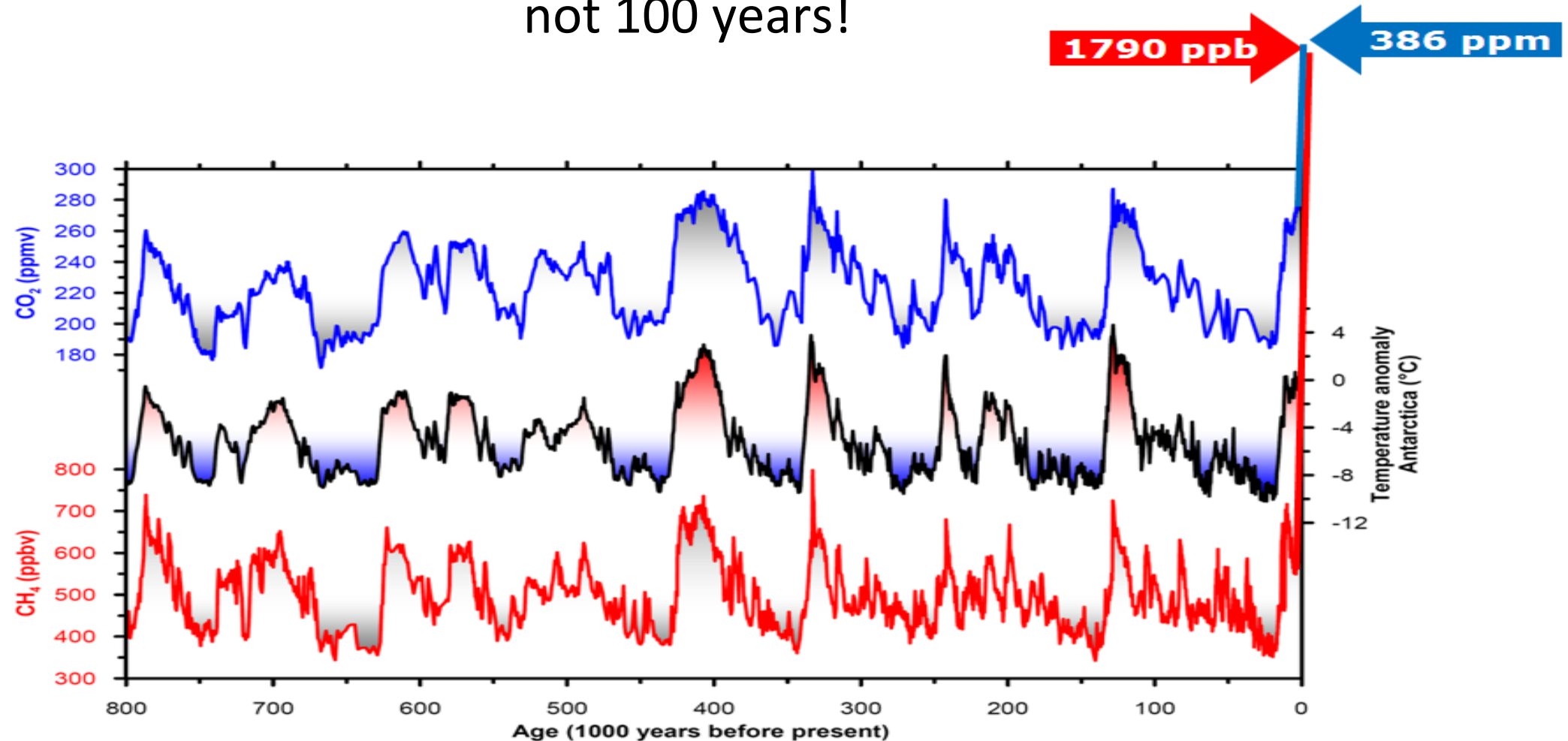
Temperature Increase in 10,000 Years Context



<https://www.climate.gov/news-features/climate-qa/what%E2%80%99s-hottest-earth-has-been-%E2%80%9Clately%E2%80%9D>

Hasn't the earth gone thru heating & cooling cycles before?

Yes, but the cycles averaged roughly 100,000 years,
not 100 years!



In recent news ...

- ◆ **National Climate Assessment Report** released last fall.
- ◆ Produced every 4 years by hundreds of experts from government and academia, peer reviewed by the **National Academy of Sciences** and reviewed by 13 Federal agencies. Among its many findings:

“Human influence has been the dominant cause of observed warming since the mid 20th century. ...there are no convincing alternative explanations supported by the extent of observational evidence.”

- ◆ Look it up at: <https://science2017.globalchange.gov/>

Scientific Consensus about Human Caused Global Warming



**97% of climate scientists agree
humans are causing global warming**



Doran & Zimmermann 2009; Anderegg et al 2011; Cook et al 2013

<http://sks.to/consensus>

Who else endorses AGW?

- ◆ Over 200 worldwide **scientific and professional organizations**:
AAAS, Nat'l Academy of Sciences, NASA, AMA, American Meteorological Society, World Bank, U.N., IPCC, etc.
- ◆ All of the **major oil companies**
Shell, BP, Total, ENI, Exxon-Mobil (!), Chevron, etc
- ◆ **Pope Francis**
- ◆ **195 countries** at the 2015 U.N. Conference in Paris
- ◆ Virtually all of the **major political parties** of all countries

Effects of climate change

Climate change evidence all around us

Sobranes Fire



McKinsey Park Tree Disease

Lake Oroville – California Drought



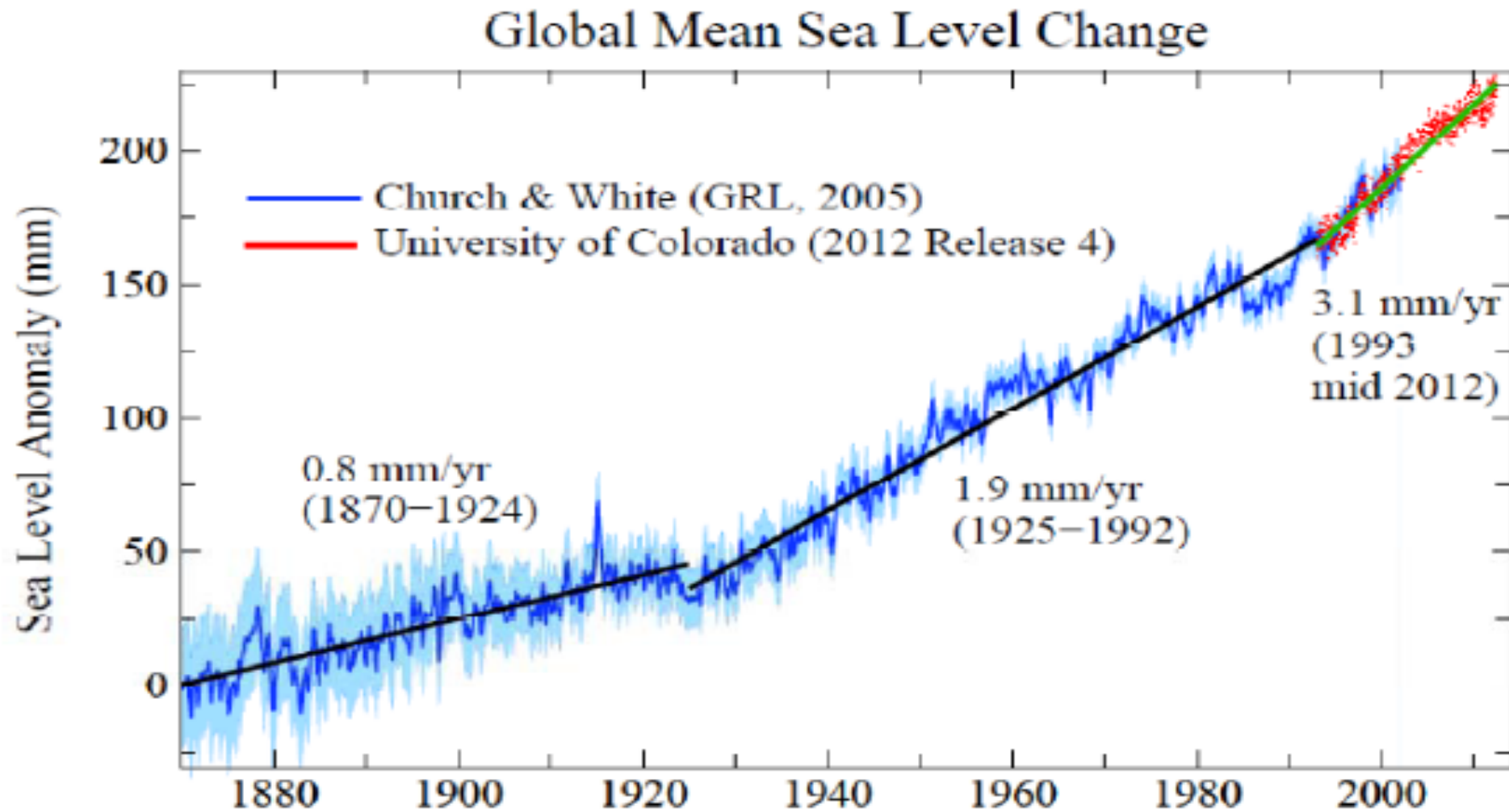
Lake Temescal Algae

Intensity of Hurricanes Amplified

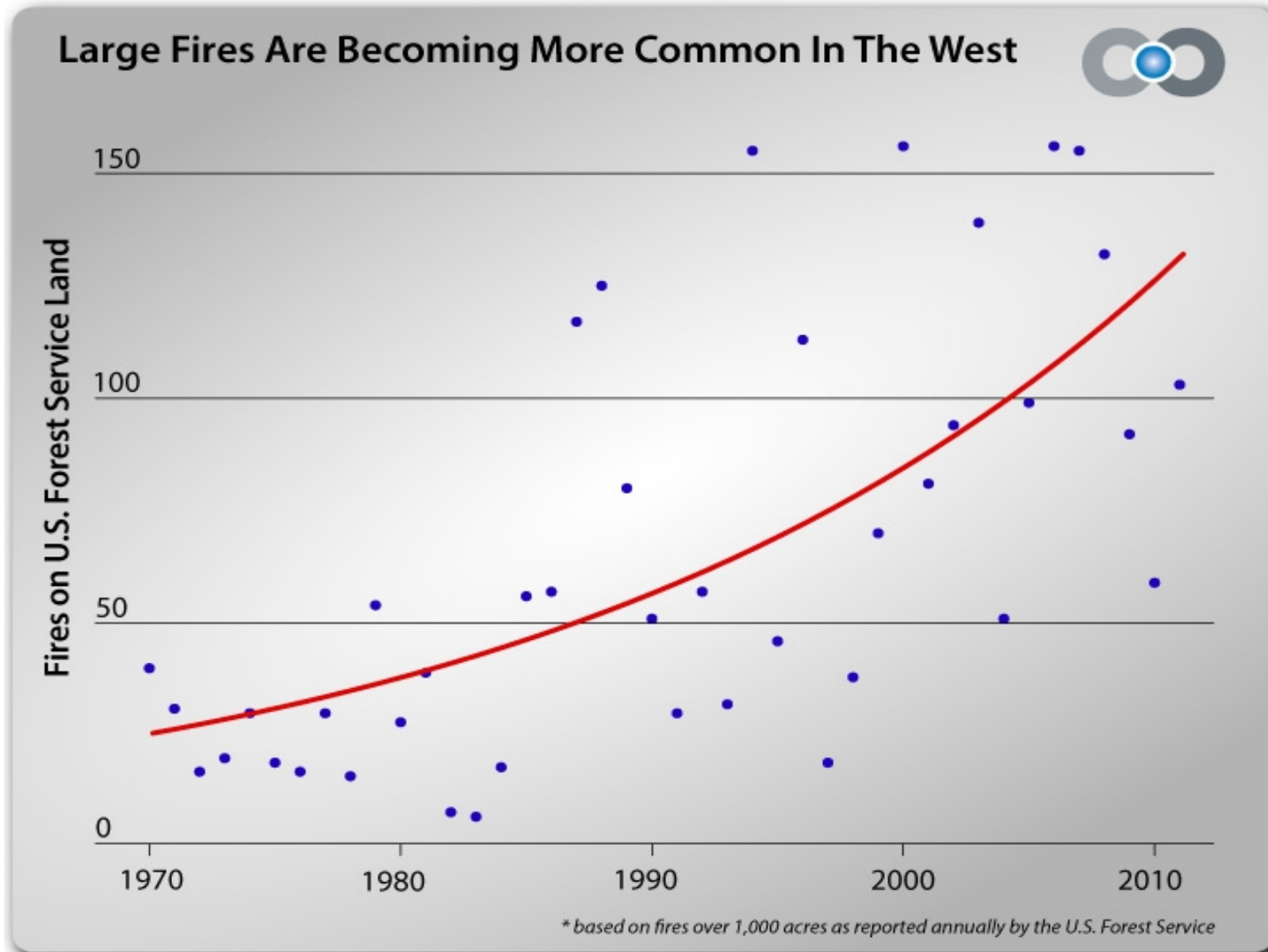
- Warmer ocean fuels stronger hurricanes (higher wind speeds)
- More water vapor in atmosphere causes more rain and flooding
- Sea level rise causes bigger storm surges



Sea Level Rise is Accelerating



Wildfires Becoming Larger & More Frequent



Warmer Air & Water Leads to Both More Floods & More Drought

- 5-10% more water vapor in atmosphere than 50 years ago
- While vanishing ice in the Arctic has altered the jet stream
- Result is more rain in some areas, but less in others
- Also dries soil due to increased evaporation



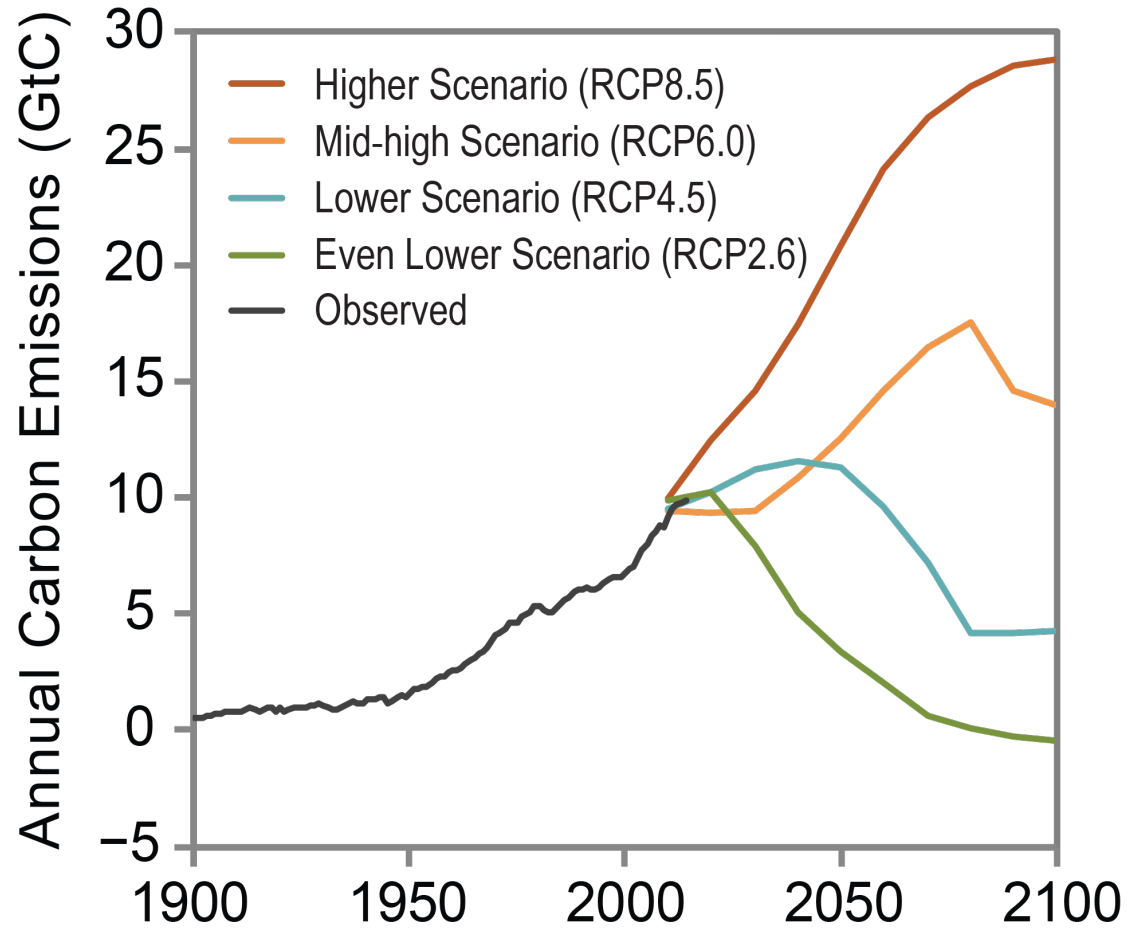
Ecological Havoc

27 million dead trees in the Sierras

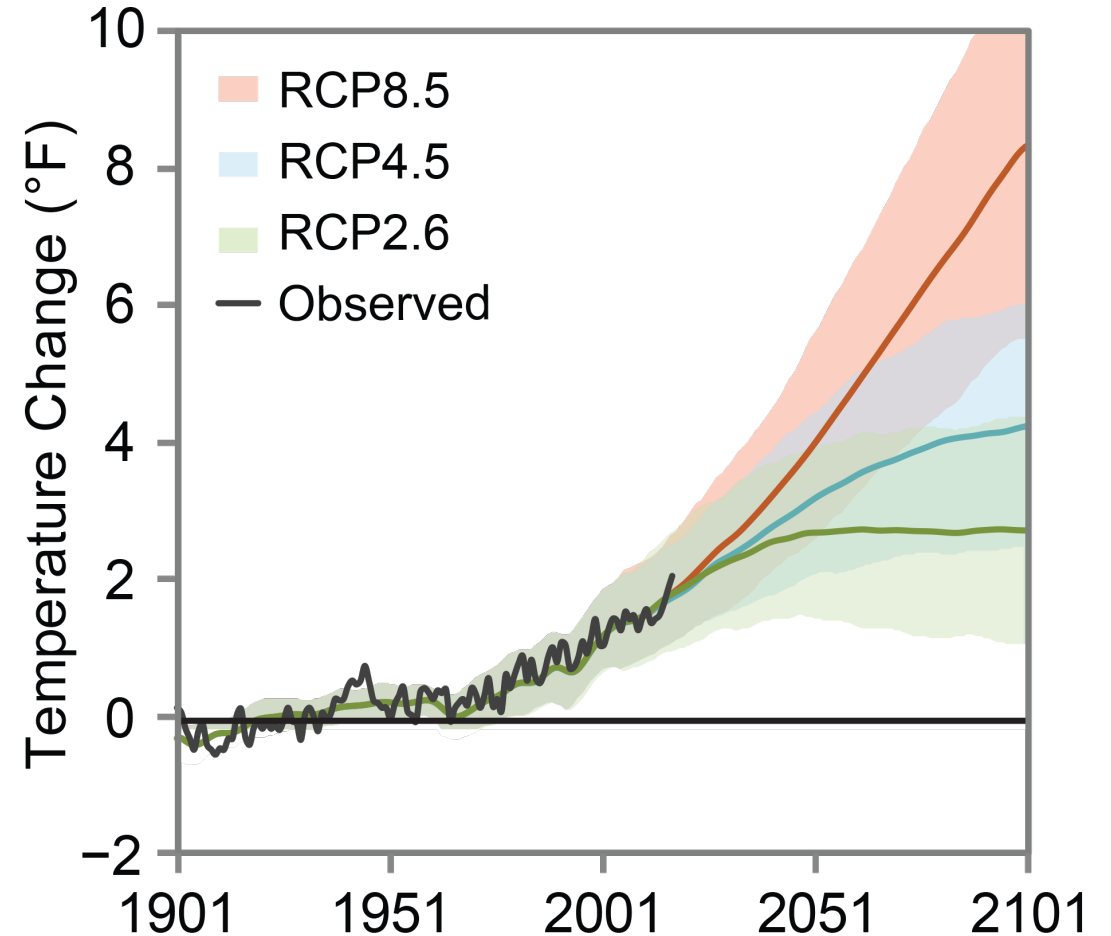


But the Future is Far from Baked In

Projected Annual Global Carbon Emissions



Projected Global Temperatures



What is CCL's solution?

We know how to solve this:
If we want less of this,
Make this more expensive



Carbon Fee and Dividend Policy

This is CCL's Calling Card!

- 1 Place a fee on fossil fuels at the source (mine, well or port) - \$15/ton of CO₂ initially + \$10/yr.



- 2 Return all of the revenue to households equally.

- 3 A border adjustment on goods imported from or exported to countries without an equivalent price on carbon.

Is this a Democrats Only Solution? No!



George Shultz

Treasury Secretary, Secretary of State

“We argue for revenue neutrality on the grounds that this tax should be exclusively for the purpose of leveling the playing field, not for financing some other government programs or for expanding the government sector.”

“Before you get mugged by reality, take out an **insurance policy**. It’s the **Regan way**” – Wash. Post, 3/13/15

CCL Advisory Board

Preparing for or Advocating for Carbon Fees

CONSERVATIVE ECONOMISTS

- ◆ **Jerry Taylor** – former climate change skeptic with Cato Institute, now author of *“The Conservative Case for a Carbon Tax”*
- ◆ **Greg Mankiw** – Harvard economist & former Chairman of Council of Economic Advisors for Pres. George W. Bush
- ◆ **Gary Becker** – U. of Chicago economist, winner of Nobel Prize and Presidential Medal of Freedom, strong advocate of carbon fees

OTHER WELL KNOWN REPUBLICANS

James Baker
Hank Paulson
Mitt Romney
Lindsey Graham
Rex Tillerson
Martin Feldstein

COMPANIES ALREADY ACCOUNTING FOR A CARBON FEE

American Elec Pwr, BP
Chevron, ConocoPhillips
Delta Air, Duke Energy
DuPont, General Electric
ExxonMobil, Google
General Electric
Microsoft, PG&E
Walt Disney, Walmart
Wells Fargo

**What will be the effects of
Carbon Fee and Dividend ?**

Carbon Fee and Dividend

National and regional study from REMI



Under Carbon Fee and Dividend



Emissions



Economy (jobs and GDP)

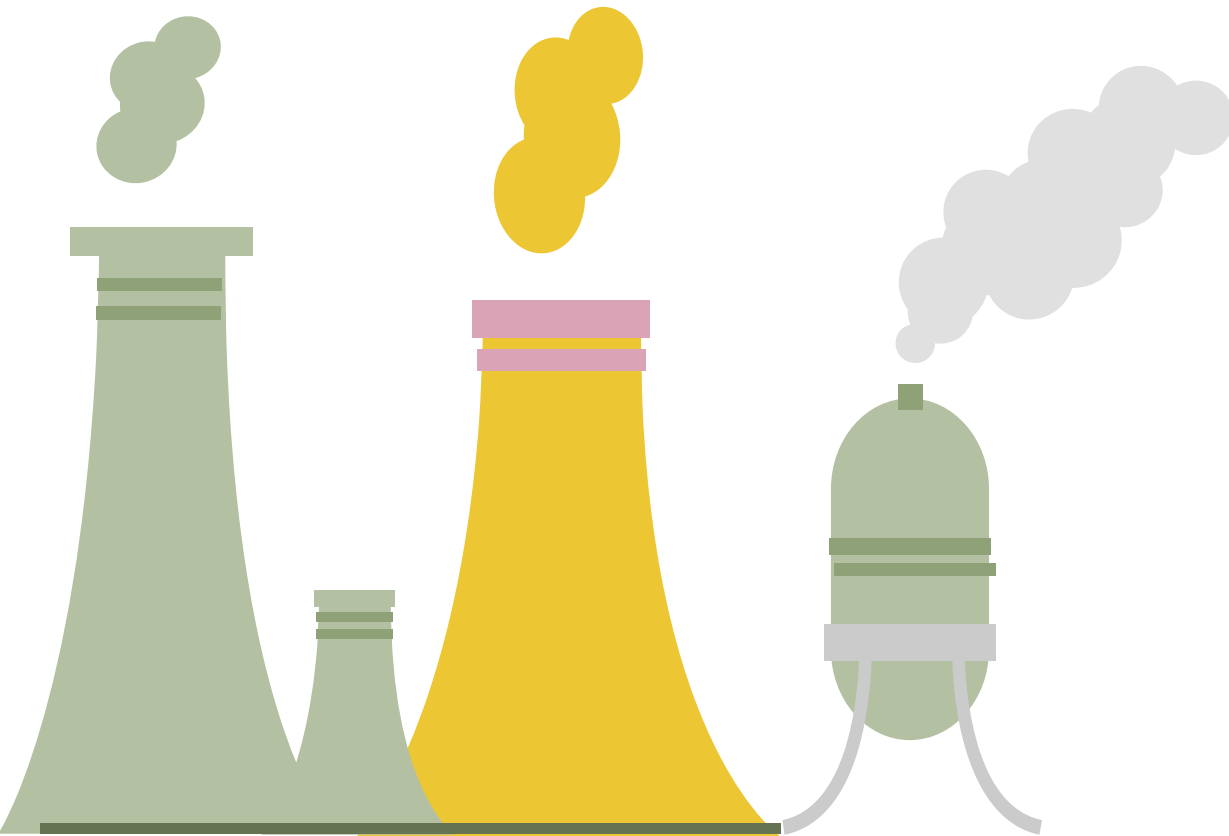


Health



Incomes

Emissions reductions



Under Carbon Fee and Dividend

31%



Within 10 years*

50%



Within 20 years*

*Below 1990 levels

Jobs created



Under Carbon Fee and Dividend

2.1M New Jobs

10 years

2.8M New Jobs

20 years

GDP Growth



Under Carbon Fee and Dividend

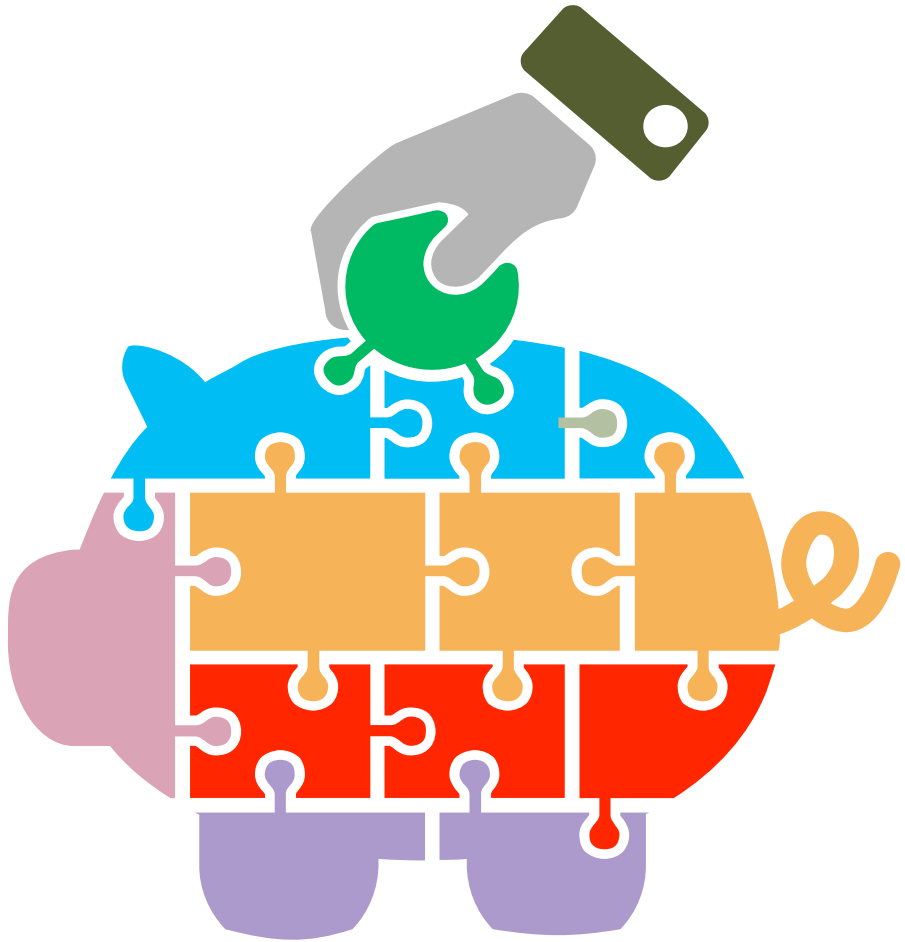
\$70 - \$85B/year

Average

\$1.375 T

20 years

Household Dividend



Under Carbon Fee and Dividend

\$288/month*

10 years

\$396/month*

20 years

*For a family of four

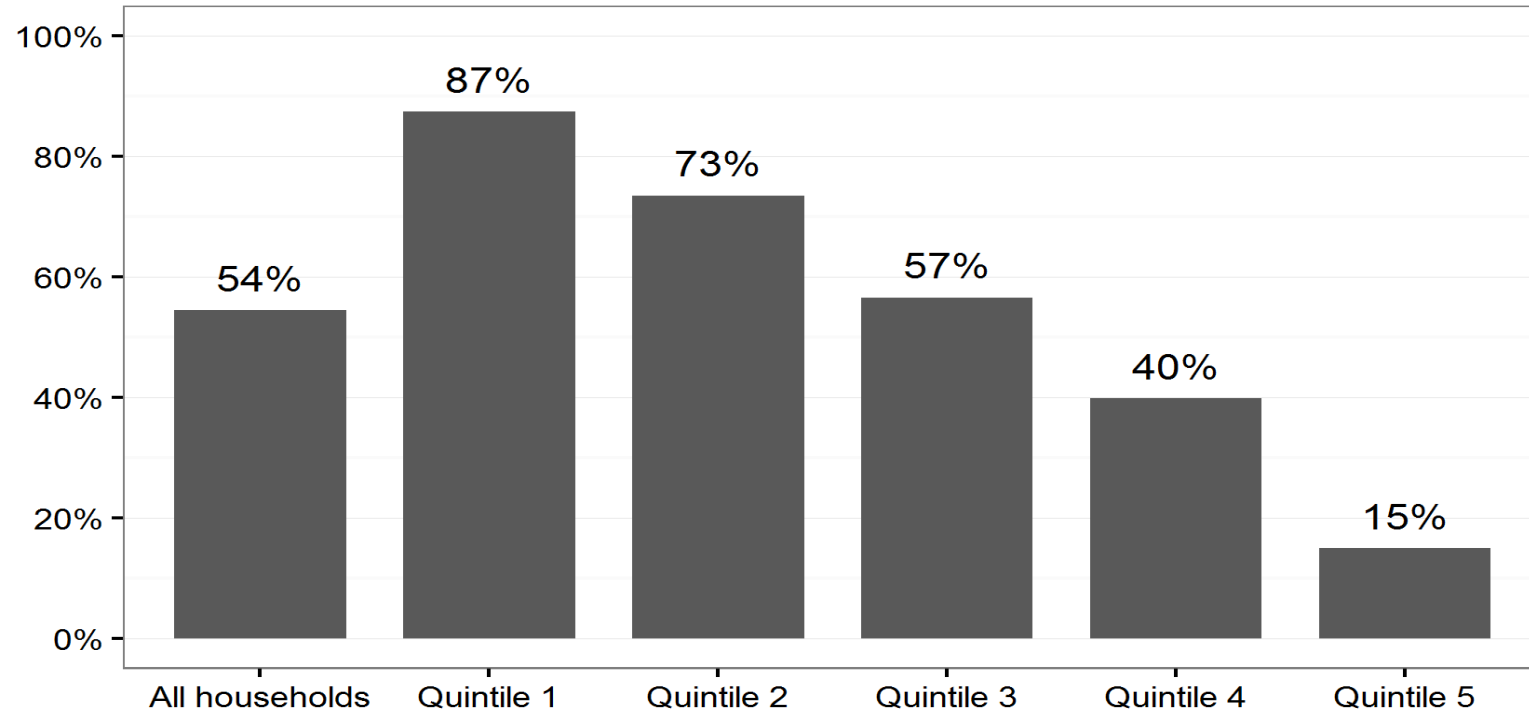
Household Impacts Study

- Study to assess CFD impacts by demographic groups
 - Shows upper bounds of CFD costs because it assumes no change in how much of each good households purchase
-
- 72% of all households experience net benefits or costs < 0.2% of income
 - Same is true for 88% of lowest income quintile

Household Impacts by Income Quintile

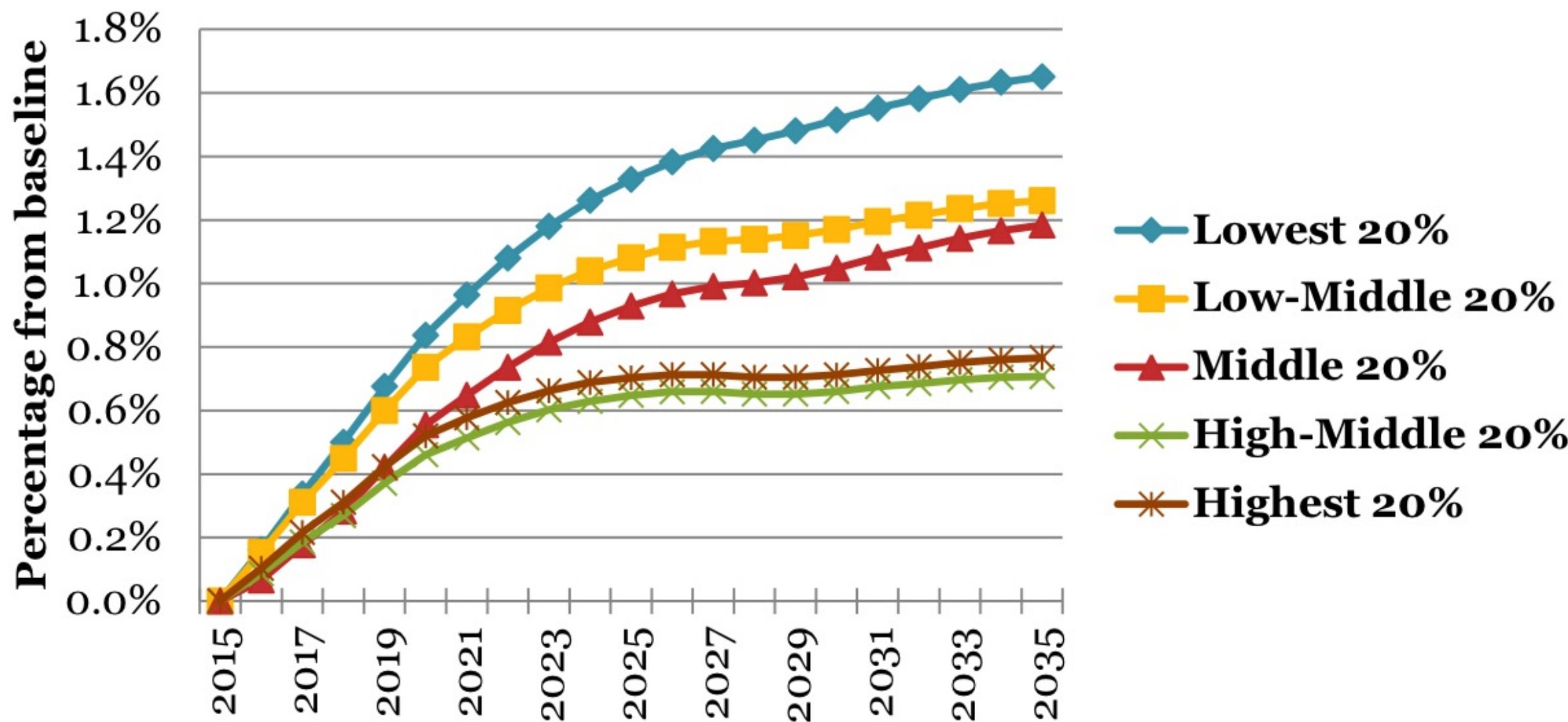
National

Percent of households benefited by policy

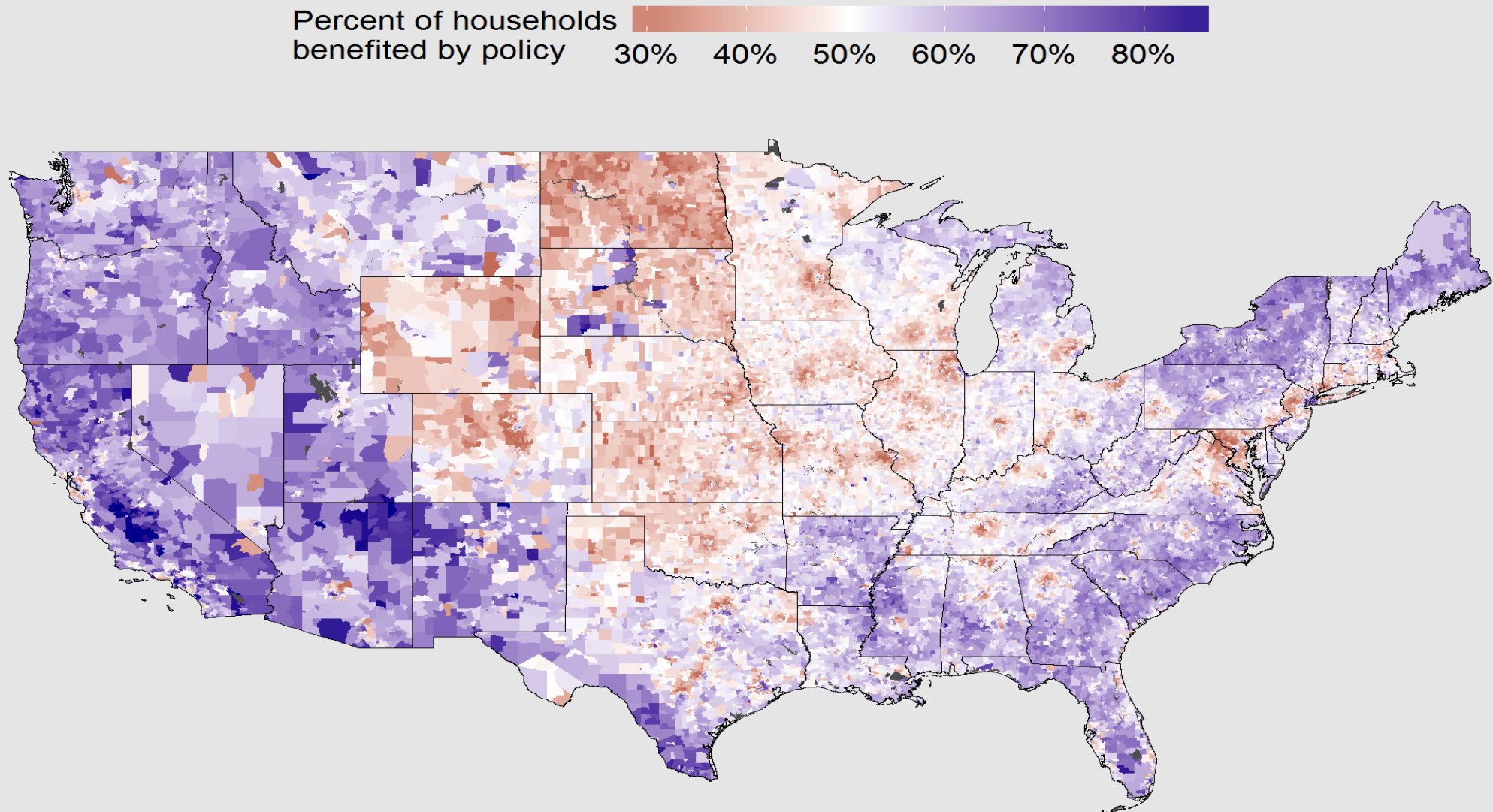


Mean net benefit (% of income)	\$17 (0.02%)	\$305 (1.87%)	\$149 (0.42%)	\$39 (0.07%)	-\$74 (-0.09%)	-\$332 (-0.20%)
Median gain (% of income)	\$198 (0.37%)	\$296 (2.06%)	\$208 (0.64%)	\$165 (0.31%)	\$130 (0.16%)	\$91 (0.07%)
Median loss (% of income)	-\$196 (-0.37%)	-\$93 (-0.65%)	-\$113 (-0.34%)	-\$139 (-0.26%)	-\$181 (-0.23%)	-\$325 (-0.23%)
Median HH income % of FPL	320%	95%	200%	320%	479%	818%

Total Employment (by quintile, national level)

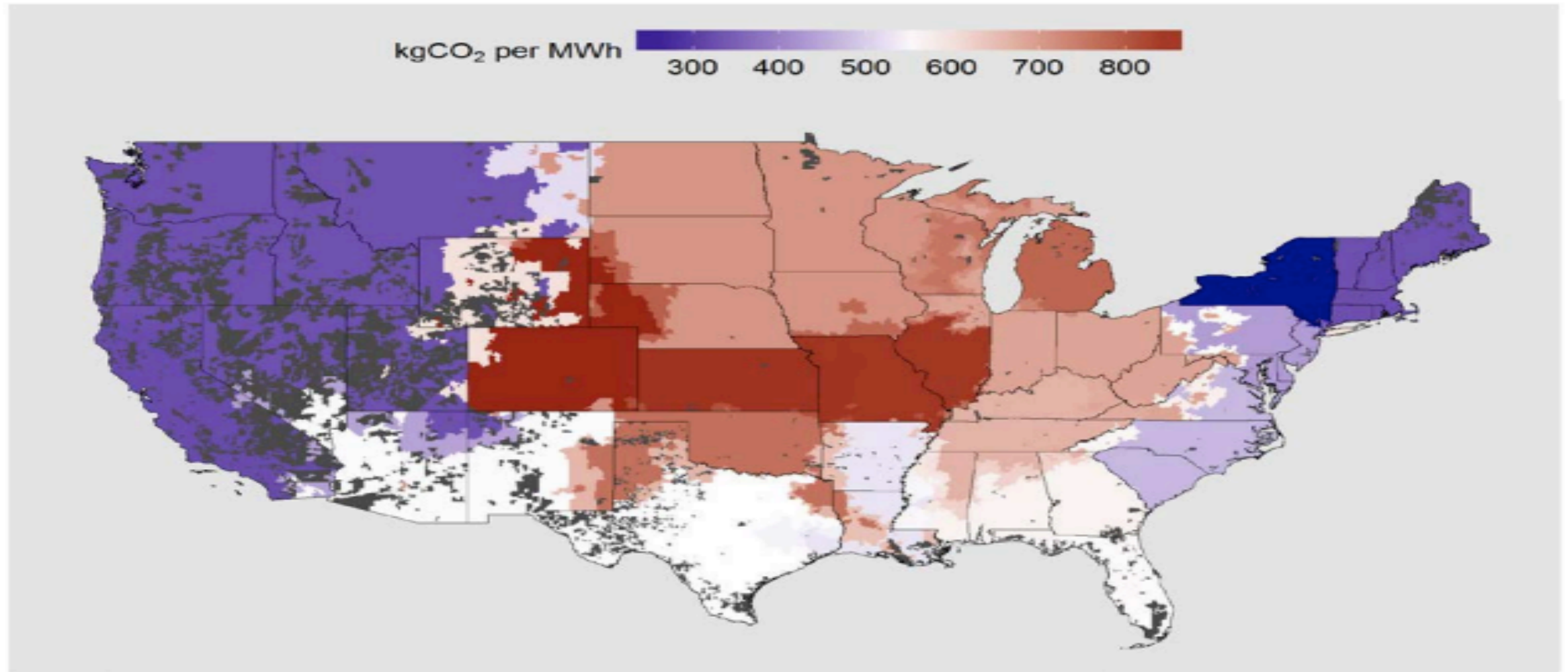


National Results – Percent benefited



Carbon Intensity of Electricity Supply

Figure 5 - Carbon intensity of electricity supply (2012)

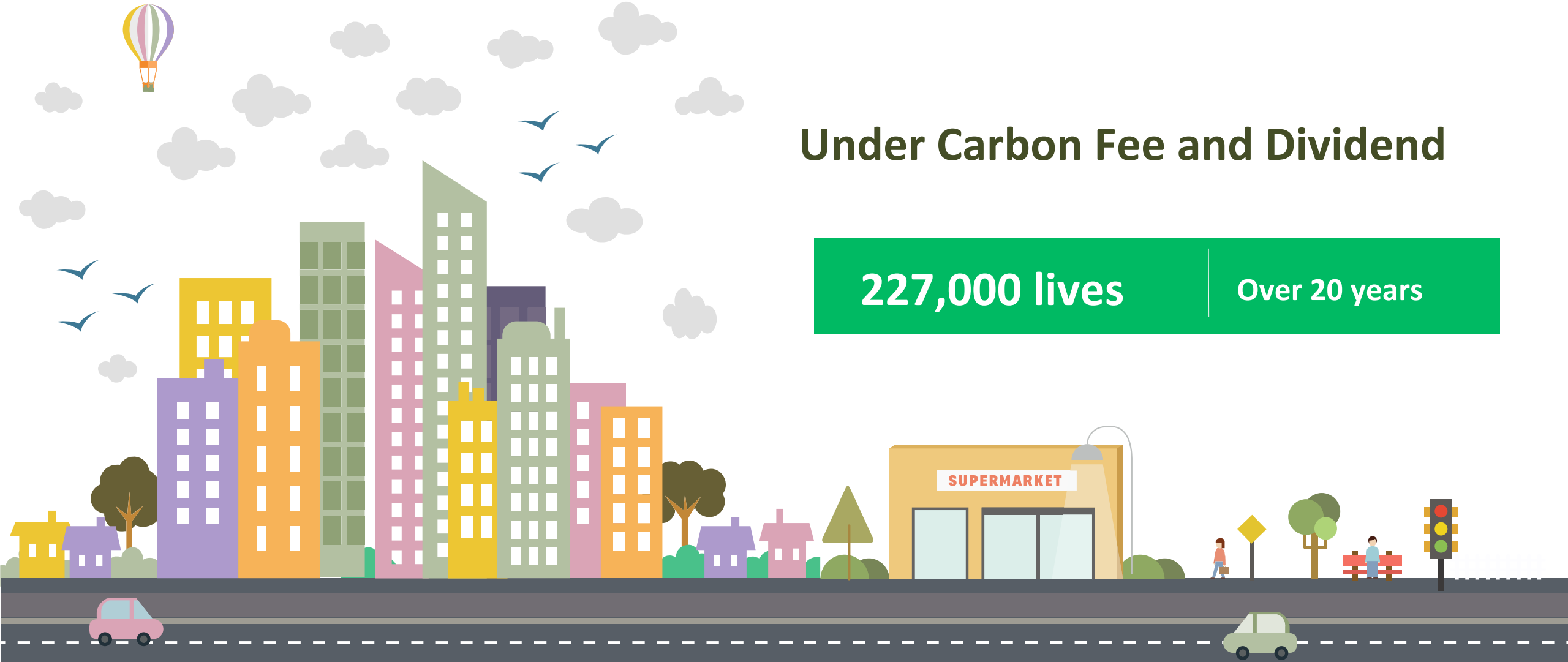


Lives Saved

Under Carbon Fee and Dividend

227,000 lives

Over 20 years



REMI Report Summary

Employment

- **2 million more jobs**

Climate

- **Reduces carbon dioxide**

Fiscal

- **Increases household incomes**

Humanitarian

- **Saves Lives**

Economic

- **\$1.3 trillion more GDP**

No economic case against Carbon Fee

Why Advocate for a CFD Solution?

- Uses market forces to reduce carbon emissions
 - No new bureaucracies, heavy handed regulations, picking winners or pet projects
 - Economically beneficial overall – and especially for lower income groups (on average)
-
- It's the most effective policy for reducing CO2 emissions – AND -
 - It's the most likely approach to engender bipartisan support



Citizens' Climate Lobby

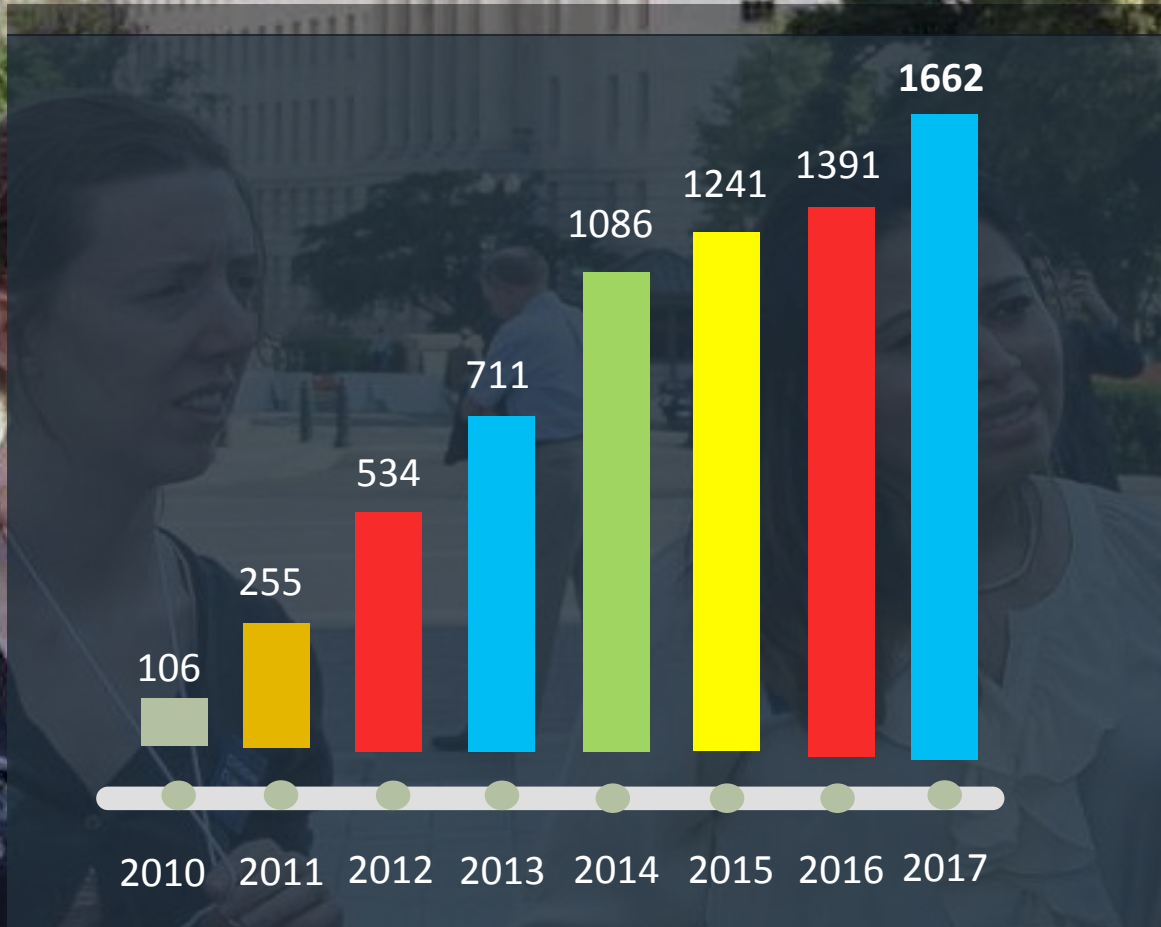
Who is Citizens' Climate Lobby?

Citizens' Climate Lobby (CCL)

- ◆ Founded in 2007
- ◆ >80,000 members
- ◆ 455 chapters
- ◆ Nonpartisan, Nonprofit
- ◆ Singular Mission: Lobby Congress to pass Carbon Fee and Dividend



Meet with Congress



2017

73,988 personal letters to members of Congress

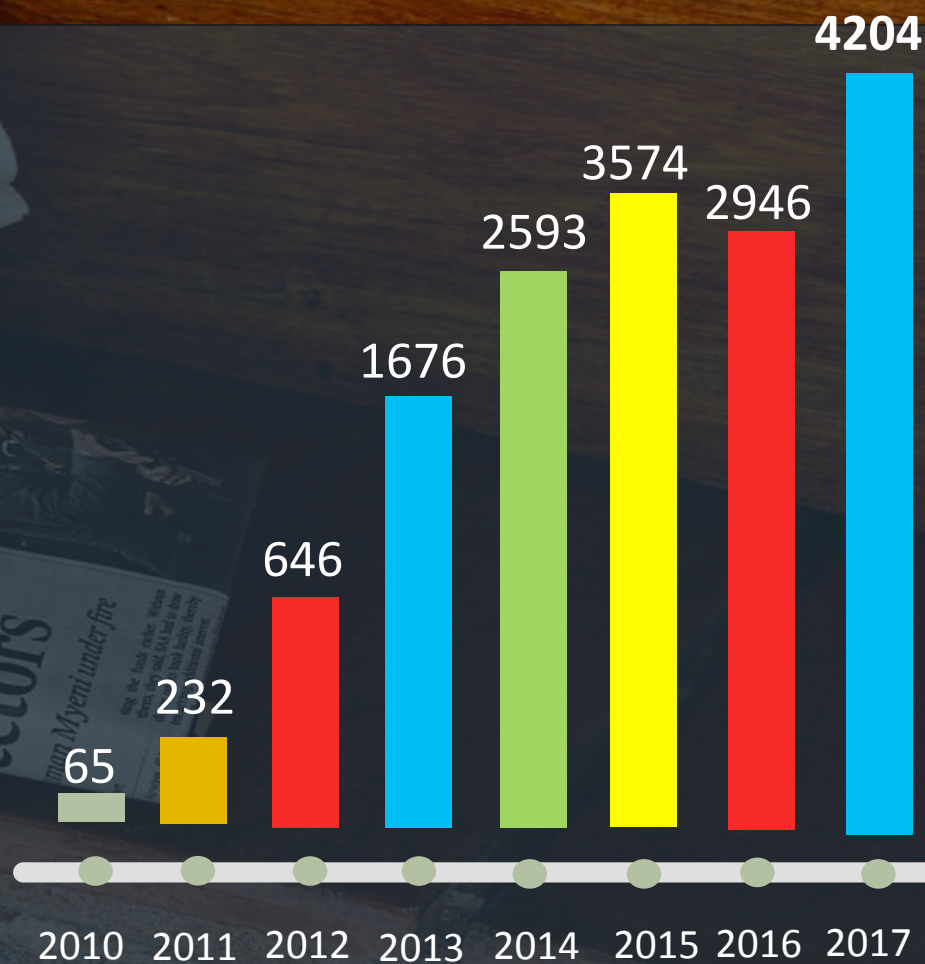
Published Media

Letters to Editor

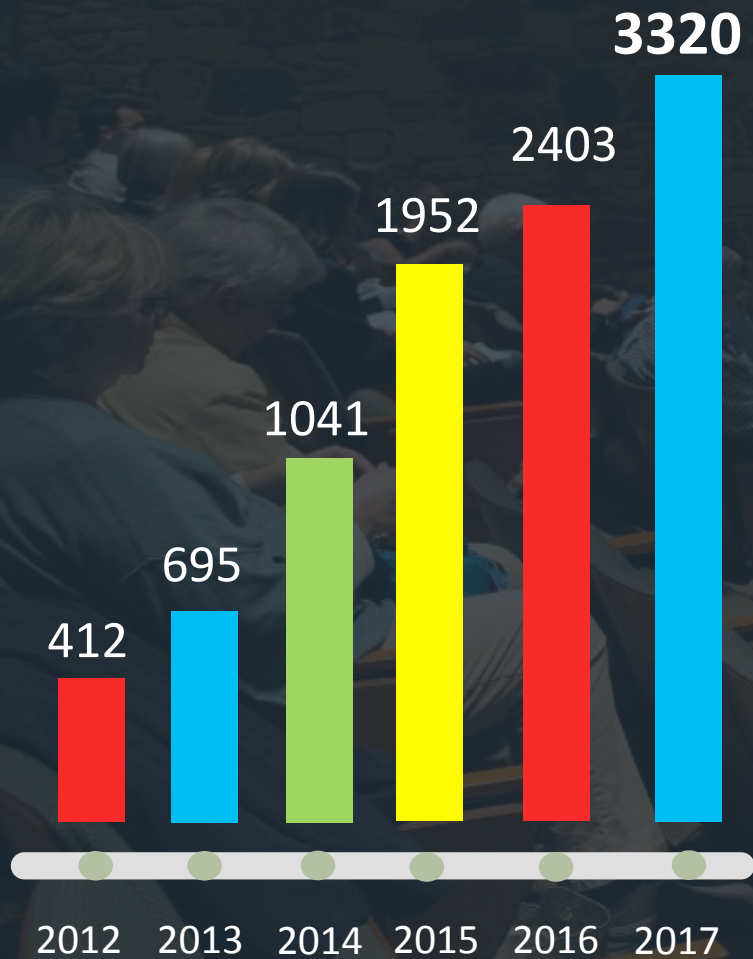
Op-eds

Radio/TV

Online



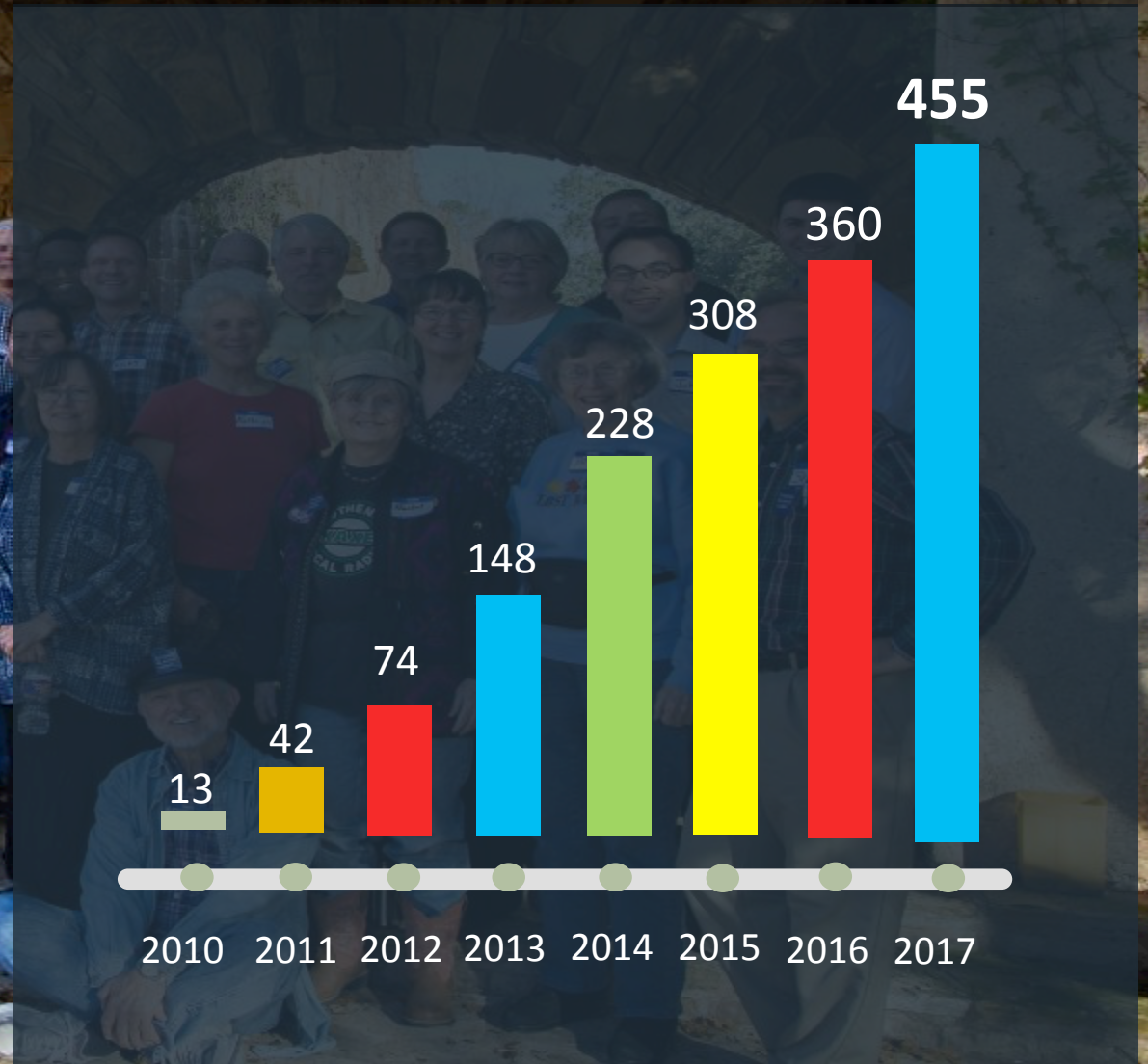
Outreach



Public Speaking

Tabling

Chapters



Bipartisan Climate Solutions Caucus



Explore policy options that address the impacts, causes, risks, and challenges of our changing climate

Caucus now has 72 members.

Educate Members of Congress on economically viable options

EXTRA SLIDES

FOLLOWING SLIDES AVAILABLE
BUT NOT IN PRESENTATION.

Exercise your personal power! ◀

1

- Talk with others
- Reduce your carbon footprint



2 ▶

Exercise your political power!

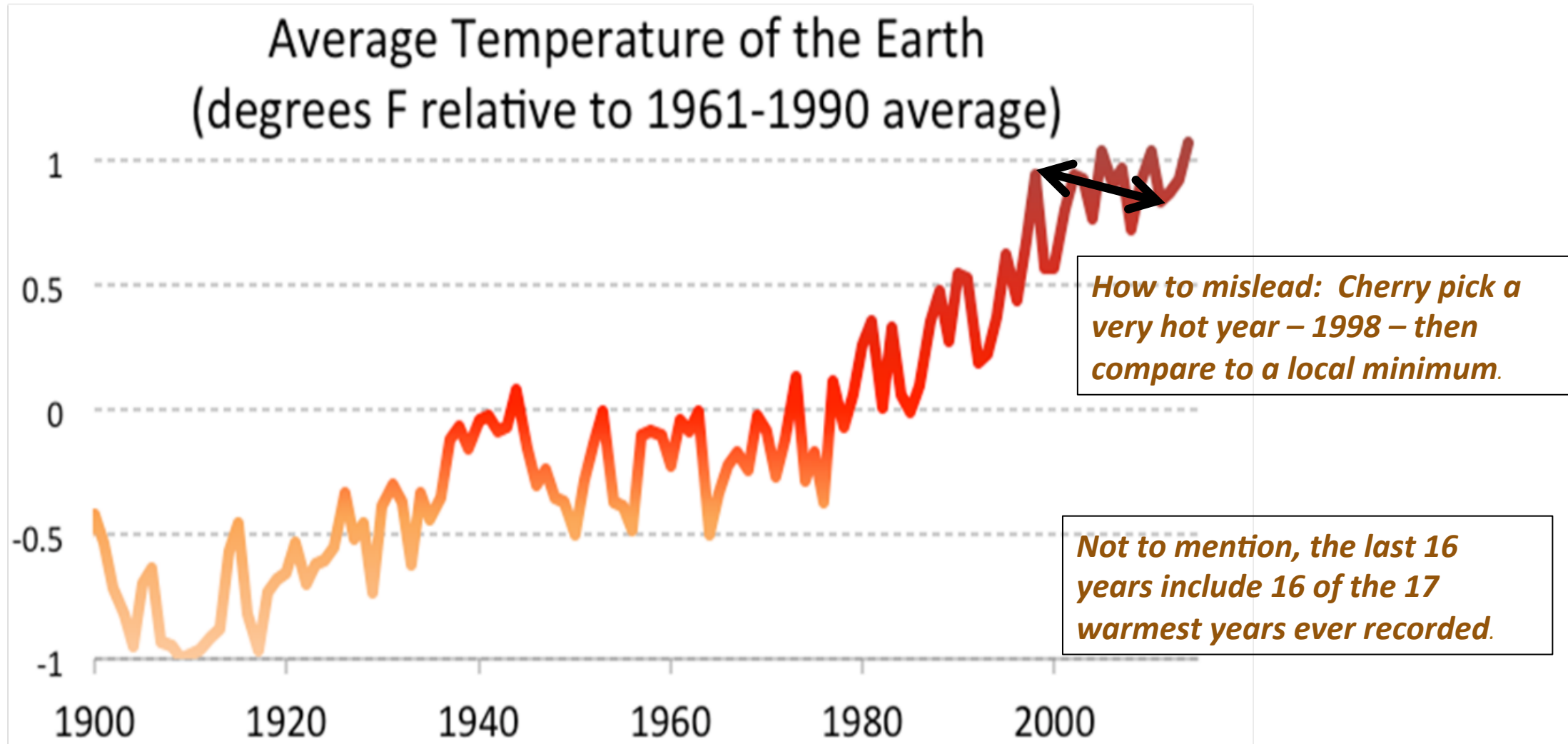
- Meet, write or call your member of Congress
- Encourage others to do the same

WHAT CAN I DO?

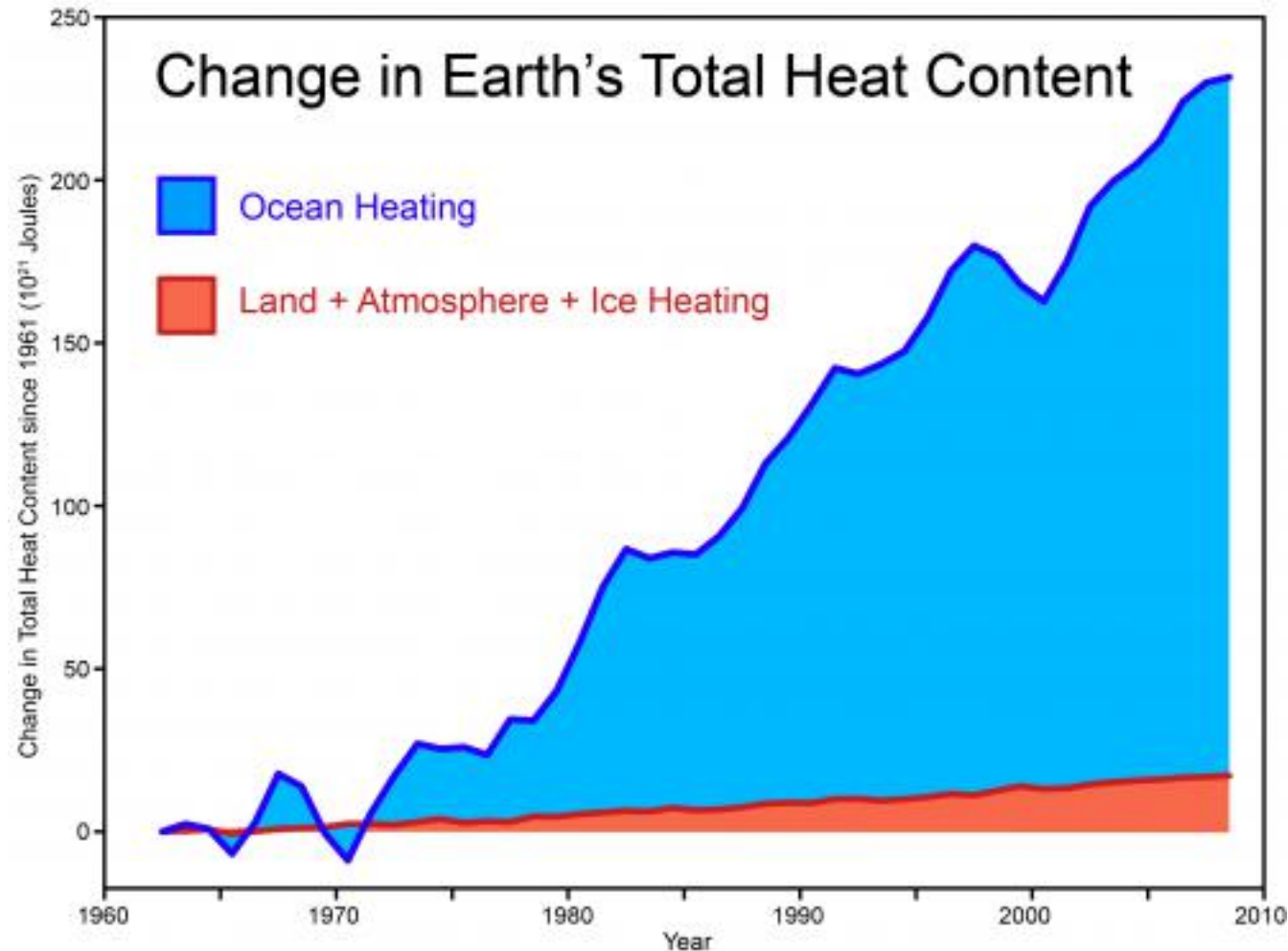
Who does not endorse AGW?

- ◆ Some fossil fuel interests
 - Coal companies, “small” oil & gas
- ◆ Organizations / people with small government ideologies
 - Cato Institute, etc.
- ◆ Hired guns of the above
 - Heartland Institute, Koch Brothers network

The 'No Warming in 18 Years' Myth



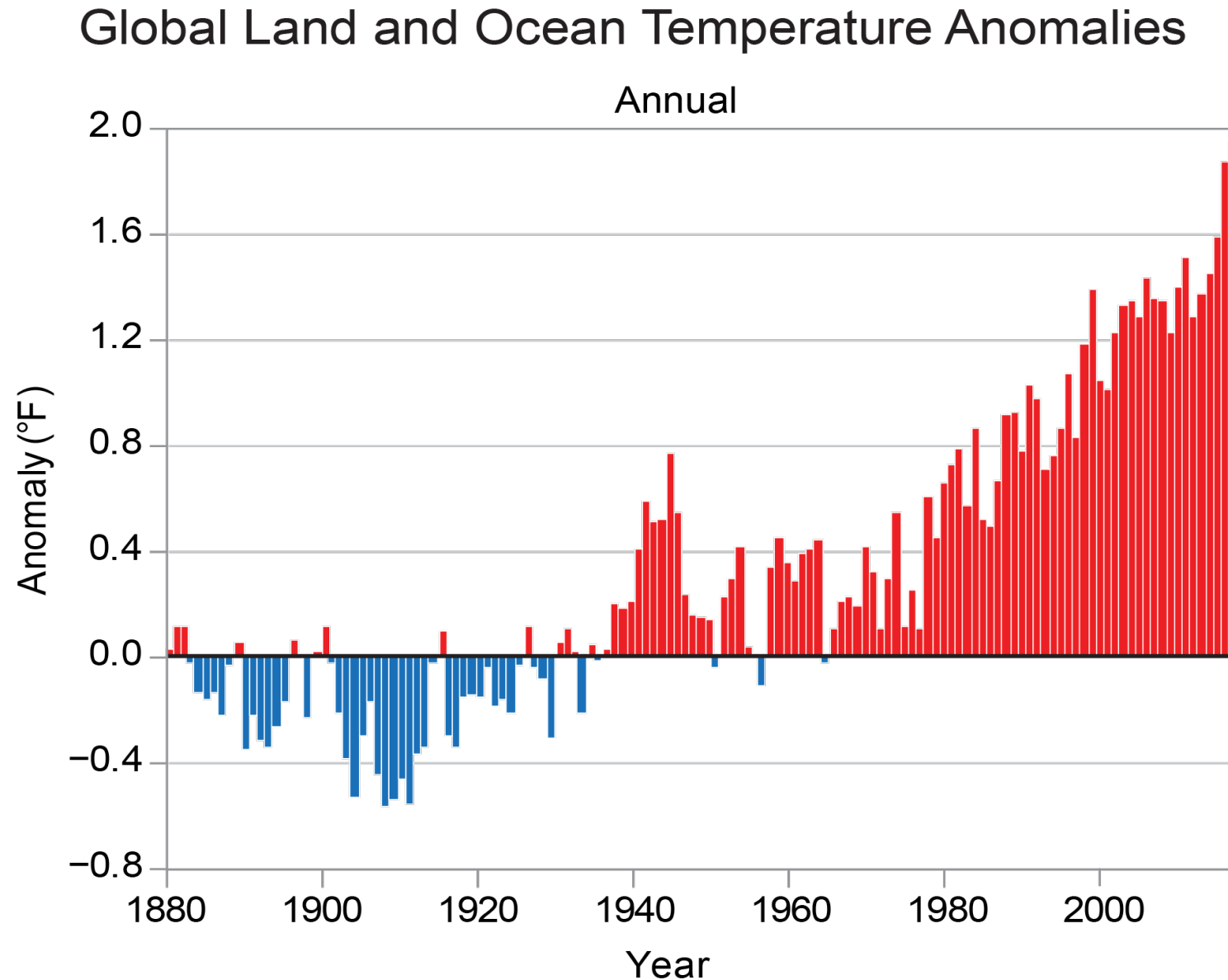
The 'No Warming in 18 Years' Myth



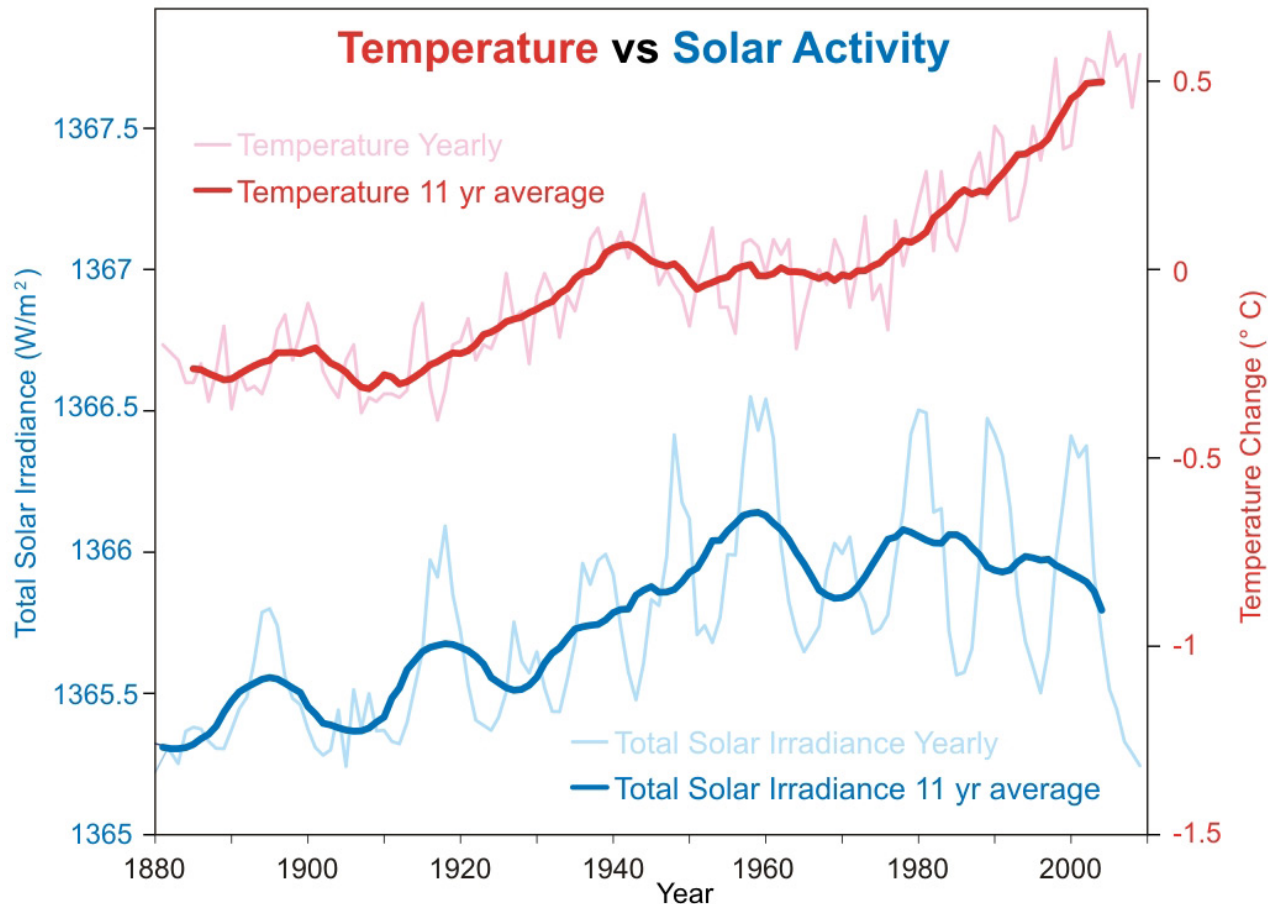
- Surface temperature (atmosphere) has warmed, but more slowly over the past 10-20 years
- Only 1-2% of global warming heats the surface/atmosphere
- Over 90% of global warming goes into heating the oceans
- Over the past 18 years, the oceans and Earth have accumulated heat at a rate equivalent to 4 atomic bomb detonations per second, accelerating
- This myth is based on cherry picking – ignoring over 90% of the data

Not to mention, the last 16 years include 16 of the 17 warmest years ever recorded.

Global Warming Since the Industrial Revolution



Other Myths: “It’s the Sun. It’s Cosmic Rays! It’s the Earth’s Orbit!”



- Over the past 50 years, the amount of solar energy reaching the Earth has decreased slightly
- Since the early 80's the cosmic ray flux has declined precipitously
- During that same time, the planet has warmed rapidly
- Can't be the Earth's orbit either: We'd be getting cooler.

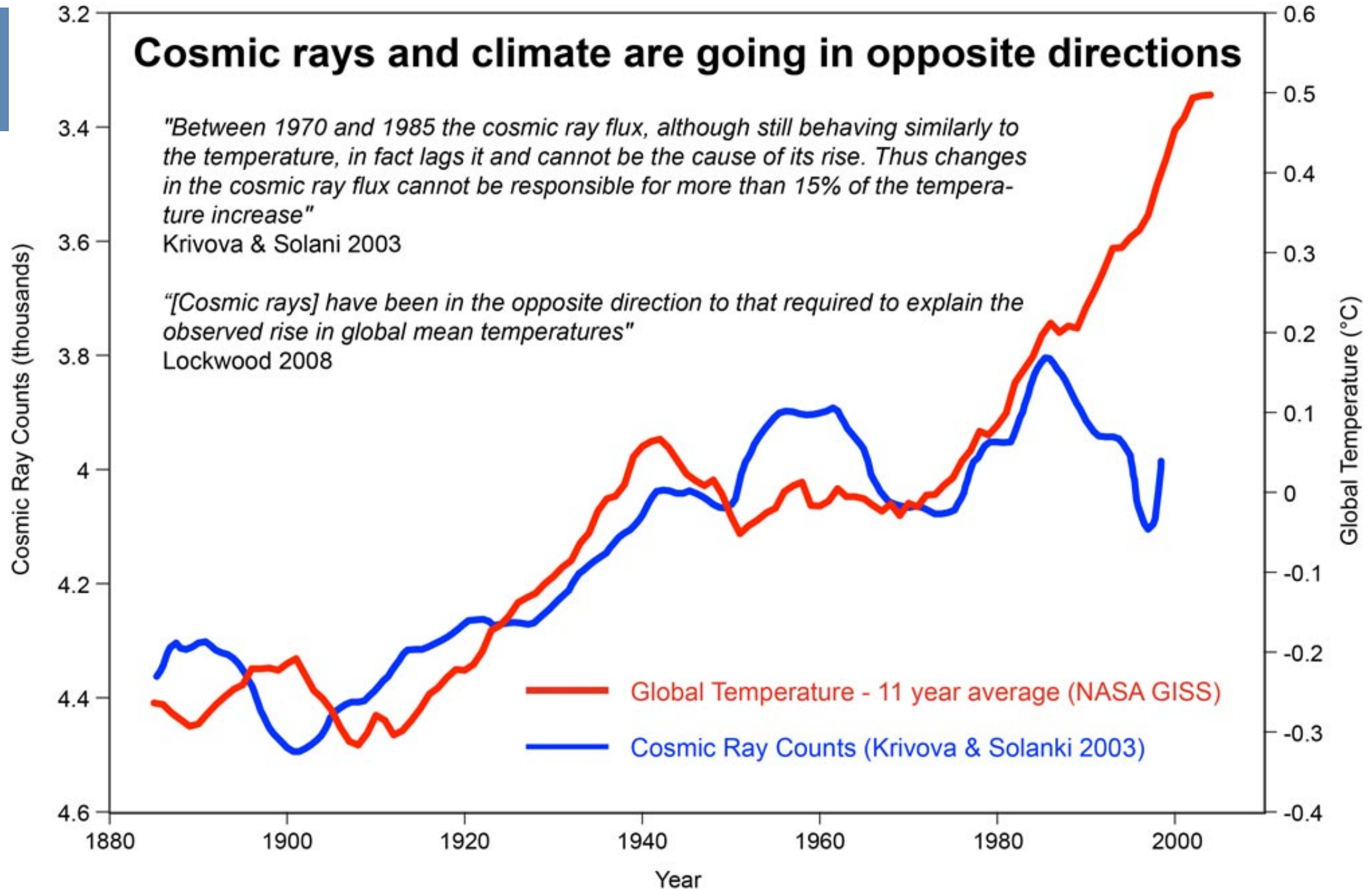
Cosmic rays and climate are going in opposite directions

"Between 1970 and 1985 the cosmic ray flux, although still behaving similarly to the temperature, in fact lags it and cannot be the cause of its rise. Thus changes in the cosmic ray flux cannot be responsible for more than 15% of the temperature increase"

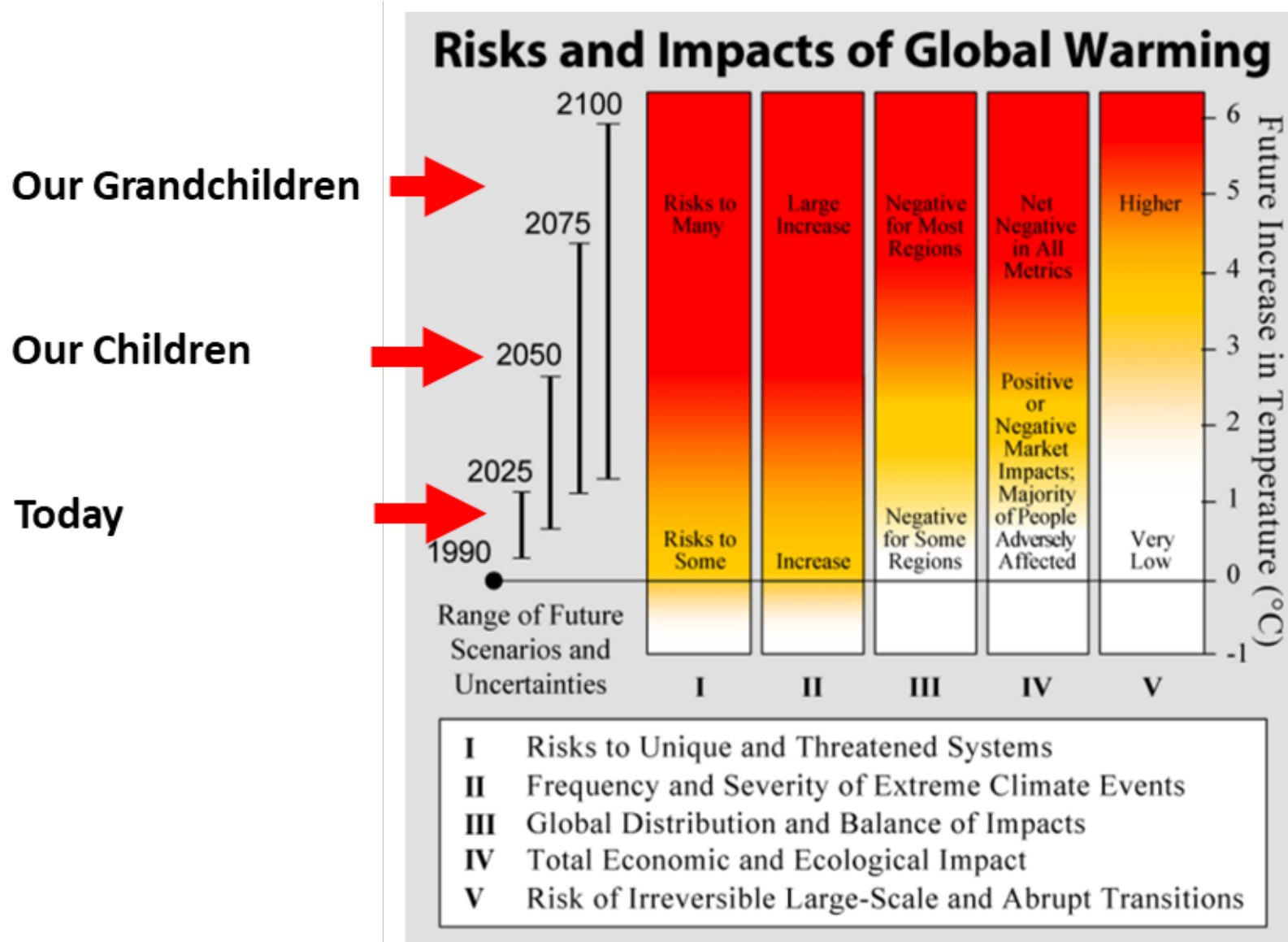
Krivova & Solani 2003

"[Cosmic rays] have been in the opposite direction to that required to explain the observed rise in global mean temperatures"

Lockwood 2008



Impact on Our Children and Grandchildren



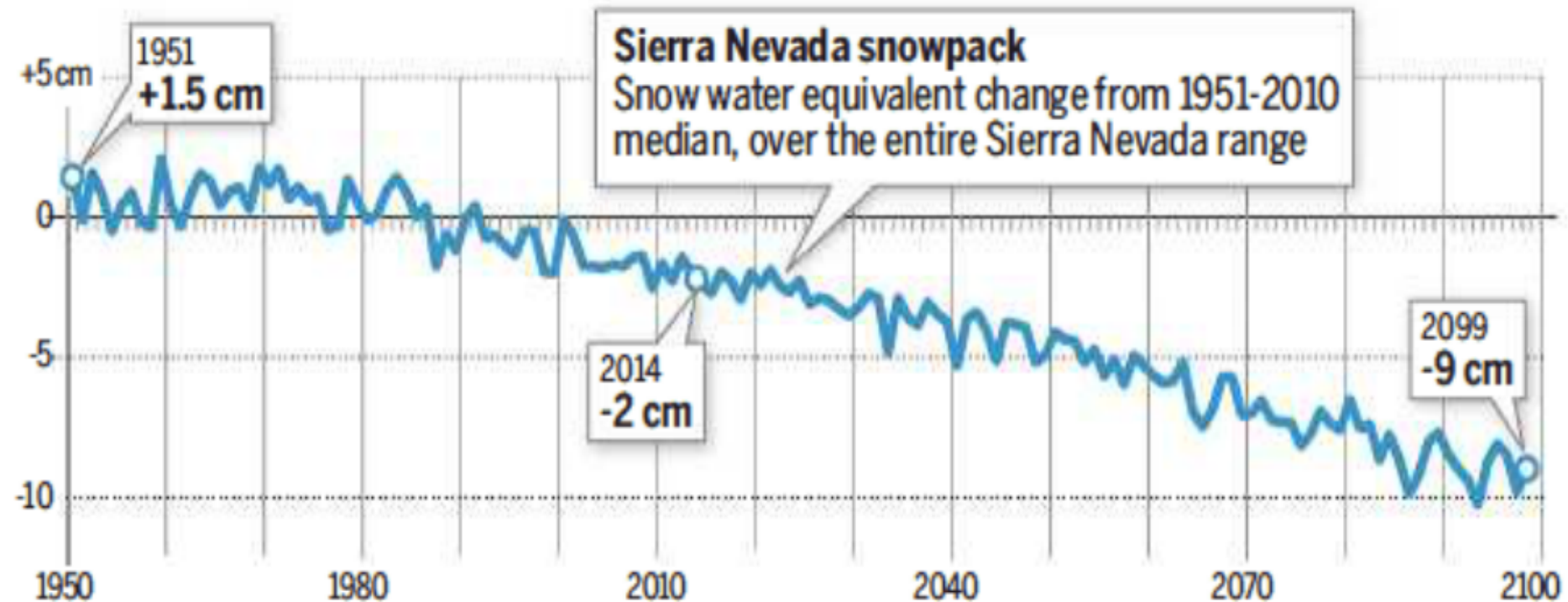
Risks and Impacts of Global Warming

This Intergovernmental Panel on Climate Change (IPCC) table of risks and impacts of global warming depicts an assessment of the relative impact and risks associated with global climate change. Five categories are assessed. The bars are color coded to show level of impact or concern for each factor as a function of temperature increase.

Each 1°C Warming Reduces Snowpack by 23%

SHRINKING SIERRA SNOWPACK

The Sierra Nevada snowpack is projected to shrink dramatically over the course of this century as a result of temperature increases caused by climate change. This chart shows the projected change in snow water equivalent moisture in the snowpack on April 1 each year.



Source: Dan Cayan, Scripps Institution of Oceanography

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