

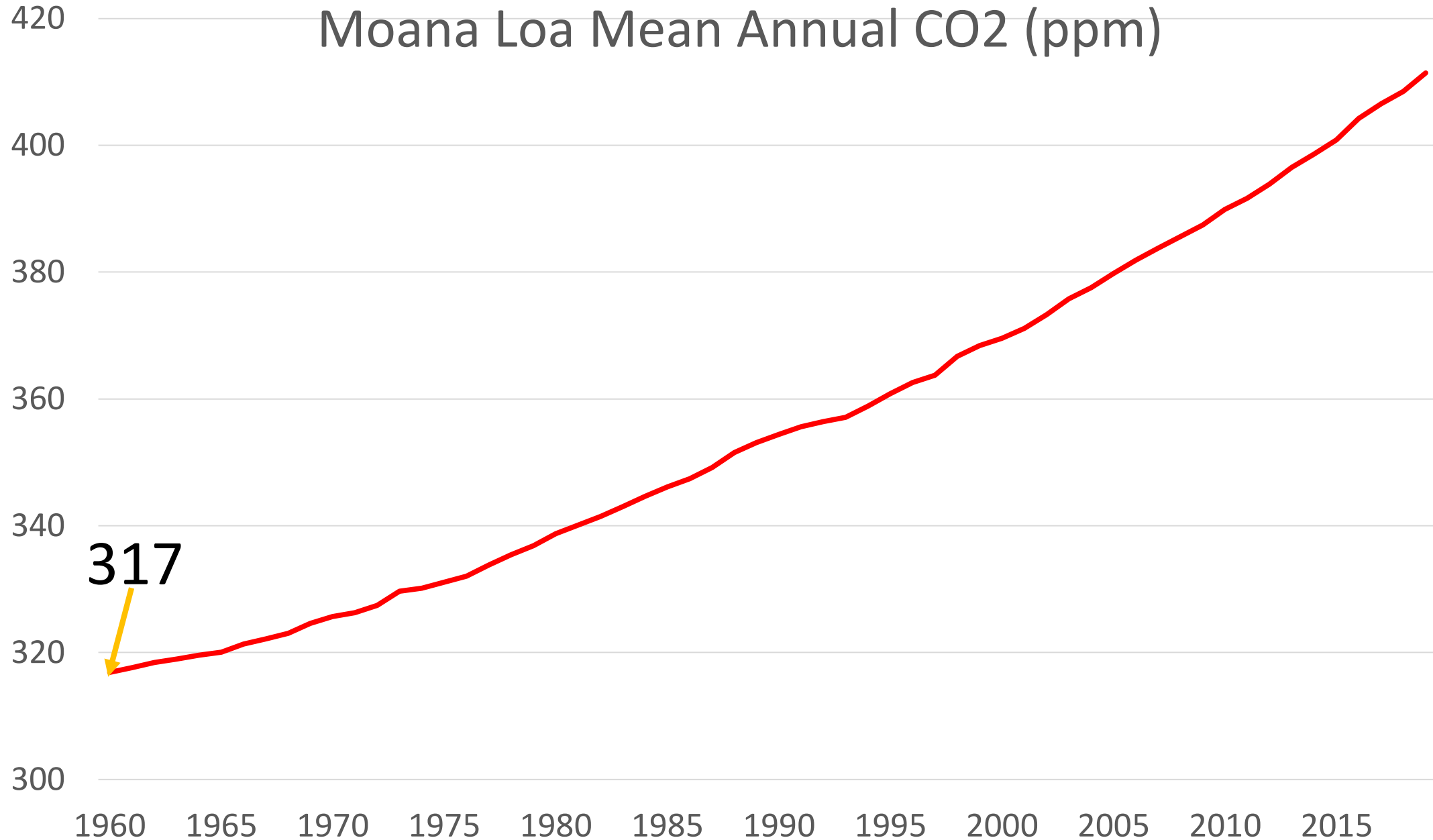
U.S. Climate Policy

A Six Decade Sketch

David Hawkins

June 4, 2024

The Sixties: Kennedy, LBJ and Nixon



ENERGY RESOURCES

**A Report to the
Committee on Natural Resources
of the
National Academy of Sciences—National Research Council**

**by
M. King Hubbert
Publication 1000-D
National Academy of Sciences—National Research Council
Washington, D. C.**

1962

ENERGY RESOURCES

There is evidence that the greatly increasing use of the fossil fuels, whose material contents after combustion are principally H_2O and CO_2 , is seriously contaminating the earth's atmosphere with CO_2 . Analyses indicate that the CO_2 content of the atmosphere since 1900 has increased 10 per cent. Since CO_2 absorbs long-wavelength radiation, it is possible that this is already producing a secular climatic change in the direction of higher average temperatures. This could have profound effects both on the weather and on the ecological balances.

In view of the dangers of atmospheric contamination by both the waste gases of the fossil fuels and the radioactive contaminants from nuclear power plants, Professor Hutchinson urges serious consideration of the maximum utilization of solar energy.

Publication 1000-D

National Academy of Sciences—National Research Council

Washington, D. C.

1962

CO2 = Air Pollution (1963)

“Air Pollution Affects Our Weather”

“As stated earlier, there is evidence that the amount of carbon dioxide in the atmosphere is increasing as a consequence of human activities. This increase is raising the temperature of the earth's atmosphere by intercepting infrared heat waves going out from the earth into space. An increase in heat will lead to more violent air circulation and thus to more destructive storms.”

Sen. Pub. Wrks. Comm. Hearing on Clean Air Act of
1963, 9/9/63

LBJ

NATURAL BEAUTY OF OUR COUNTRY

M E S S A G E

Air pollution is no longer confined to isolated places. This generation has altered the composition of the atmosphere on a global scale through radioactive materials and a steady increase in carbon dioxide from the burning of fossil fuels. Entire regional airsheds, crop plant

TRANSMITTING

A MESSAGE ON NATURAL BEAUTY OF OUR COUNTRY

FEBRUARY 8, 1965.—Referred to the Committee of the Whole House on the State of the Union and ordered to be printed

RESTORING THE QUALITY
OF
OUR ENVIRONMENT



APPENDIX Y4

Atmospheric Carbon Dioxide

ROGER REVELLE, *Chairman*

WALLACE BROECKER
HARMON CRAIG

C. D. KEELING
J. SMAGORINSKY

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tain an unchanging content of carbon dioxide in the atmosphere. Within a few short centuries, we are returning to the air a significant part of the carbon that was slowly extracted by plants and buried in the sediments during half a billion years.

RESTORING THE QUALITY OF OUR ENVIRONMENT

The combustion of coal, oil, and gas in our homes, vehicles, and factories results in the discharge into the air of sulfur dioxide, carbon dioxide, carbon monoxide, oxides of nitrogen, and partially burned hydrocarbons. Some of these gases, together with gasoline and natural gas vapors, undergo chemical change in air and in sunlight, and become the noxious constituents of smog; others, like carbon dioxide, are accumulating in such large quantities that they may eventually produce marked climatic change. Large amounts of lead are dis-

RESTORING THE QUALITY OF OUR ENVIRONMENT

CLIMATIC EFFECTS OF POLLUTION

Carbon dioxide is being added to the earth's atmosphere by the burning of coal, oil and natural gas at the rate of 6 billion tons a year. By the year 2000 there will be about 25% more CO₂ in our atmosphere than at present. This will modify the heat balance of the atmosphere to such an extent that marked changes in climate, not controllable though local or even national efforts, could occur. Possibilities of bringing about countervailing changes by deliberately modifying other processes that affect climate may then be very important.

'67 AQA

Calendar No. 390

90TH CONGRESS }
1st Session

SENATE

{ REPORT
No. 403

AIR QUALITY ACT OF 1967

AMENDING THE CLEAN AIR ACT
AS AMENDED

The immediate need is to develop methods to control the emission of sulfur compounds, oxides of nitrogen, carbon monoxide and carbon dioxide, and other substances which are products of man's activities.

TO ACCOMPANY

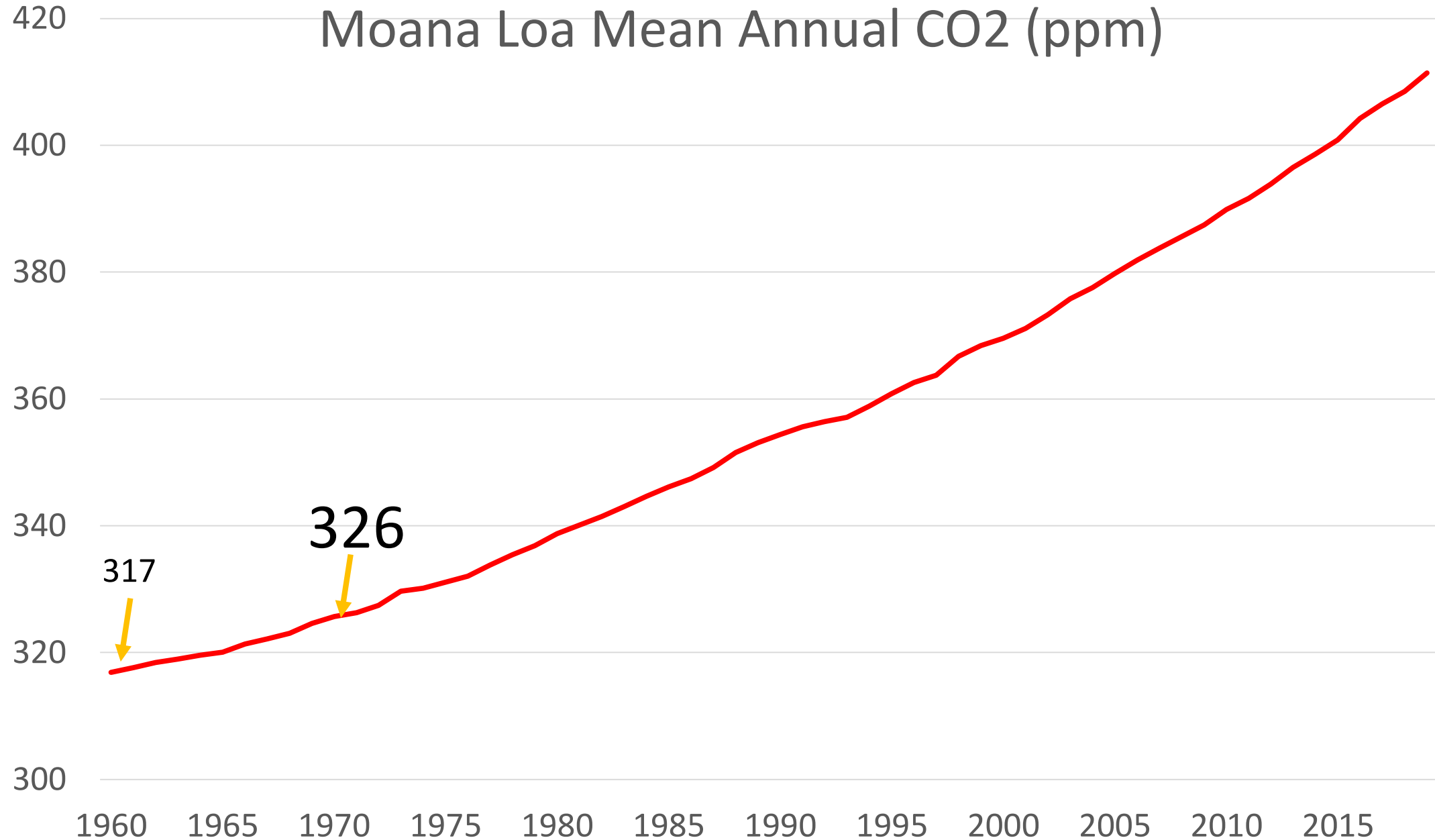
S. 780

Moynihan Heads-Up to Ehrlichman, 1969

hypothesis has been refined, and more evidence has come along to support it. It is now pretty clearly agreed that the CO₂ content will rise 25% by 2000. This could increase the average temperature near the earth's surface by 7 degrees Fahrenheit. This in turn could raise the level of the sea by 10 feet. Goodbye New York. Goodbye Washington, for that matter. We have no data on Seattle.

example, an increase of dust in the atmosphere would tend to lower temperatures, and might offset the CO₂ effect. Similarly, it is possible to conceive fairly mammoth man-made efforts to countervail the CO₂ rise. (E. g., stop burning fossil fuels.)

The Seventies: Nixon, Ford & Carter





Federal Energy Administration
Project Independence Blueprint
Final
Task Force Report

Solar Energy

Summary of Impacts: Table II summarizes the potential

impacts on climate for the several scenarios and options. Clearly, the use of fossil fuels should be curtailed so that atmospheric CO₂ concentration does not exceed 400 to 420 parts per million, and the

Under Direction of
National Science Foundation
November 1974

Carter Energy Plan, April 1977

Resources in plentiful supply should be used more widely as part of a process of moderating use of those in short supply. Although coal comprises 90 percent of United States total fossil fuel reserves, the United States meets only 18 percent of its energy needs from coal. Seventy-five percent of energy needs are met by oil and natural gas although they account for less than 8 percent of U.S. reserves. This imbalance between reserves and consumption should be corrected by *shifting industrial and utility consumption from oil and gas to coal* and other abundant energy sources.

A committee will study the health effects of increased coal production and use, and the environmental constraints on coal mining and on the *construction of new coal-burning facilities. A study will also be made of the long-term effects of carbon dioxide from coal and other hydrocarbons on the atmosphere.*

Energy v.
Environment
June 1977
J. Liverman,
DOE

CONSTRAINTS ON COAL DEVELOPMENT

OVERSIGHT HEARING BEFORE THE SUBCOMMITTEE ON

tion to insuring that ERDA constantly balances the need to protect and enhance the quality of the environment with the equally urgent need to provide tools to the Nation for securing the energy it needs. Let me make very clear, then, that my discussion does not suggest that there is an impending enormous crisis caused by the increase in CO₂ derived from combustion of fossil fuels which is a cornerstone of the President's energy program.

CONSTRAINTS ON COAL DEVELOPMENT

HEARING HELD IN WASHINGTON, D.C.

JUNE 9, 1977

Energy v.
Environment
June 1977
J. Liverman,
DOE

CONSTRAINTS ON COAL DEVELOPMENT

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON

Because our knowledge of the global carbon cycle is still inadequate, it is not possible to put limits on the rate of fossil fuel utilization that could be tolerated worldwide. Very crude estimates suggest some small increase in the current rate would be acceptable, leading only to a small temperature increase, but this is very uncertain. What is clear is that it will take a long time for the increased CO₂ to leave the atmosphere once it is put there. Several thousand years may be needed to return the world's atmosphere to its preindustrial state after it has been "loaded" with fossil fuel CO₂.

JUNE 9, 1977

Energy v.
Environment
June 1977,
O'Leary, FEA

CONSTRAINTS ON COAL DEVELOPMENT

OVERSIGHT HEARING BEFORE THE

Mr. O'LEARY. I think we are not at the moment prepared to come to those sorts of conclusions on an organized basis. I think you have to say, Mr. Chairman, that at the moment the very, very long-term meteorological effects of what we are doing here is essentially a hobby of a few individuals. I do not mean "hobby" in the pejorative sense, but in the sense that there are no organized efforts. I know one of the

JUNE 9, 1977

Research the Problem, Nat'l Climate Program Act 1978

PUBLIC LAW 95-367—SEPT. 17, 1978

92 STAT. 601

Public Law 95-367 95th Congress

An Act

To establish a comprehensive and coordinated national climate policy and program, and for other purposes.

Sept. 17, 1978
[H.R. 6669]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the “National Climate Program Act”.

SEC. 2. FINDINGS.

The Congress finds and declares the following:

- (1) Weather and climate change affect food production, energy use, land use, water resources and other factors vital to national security and human welfare.

National Climate
Program Act.
15 USC 2901
note.
15 USC 2901.

Too Busy to Think About It: Hawkins 1979

David Hawkins, assistant administrator of the Environmental Protection Agency for air pollution issues, said that he believed carbon dioxide was a serious problem that should be addressed by the Federal Government. "But we simply do not have the resources at E.P.A. to deal with it," he said. "We have all we can do keeping up with today's problems."

Increase of Carbon Dioxide in Air Alarms Scientists

By PHILIP SHABECOFF

Special to The New York Times

WASHINGTON, June 8 — It is invisible, odorless and poses no immediate threat to human health. Government policies to combat air pollution ignore it completely. But the rapid increase of carbon dioxide in the earth's atmosphere is arousing growing alarm among scientists and environmentalists and could impede this country's efforts to solve its energy problems.

Carbon dioxide, or CO₂, is a gas released by the burning of fossil fuels. Burning oil produces carbon dioxide, and burning coal produces even more. Unlike other gases released into the air by combustion, such as sulfur dioxide or nitro-

Department of Energy a study called "The Long-Term Impact of Atmospheric Carbon Dioxide on Climate."

That report indicated that if the world kept on burning carbon-based fuels at the present rate, the amount of carbon dioxide in the atmosphere would double by the year 2035. If that occurred, the world's temperature would increase by an average of 2 to 3 degrees, but at higher latitudes, where the polar icecaps are situated, the shift would be as much as 9 to 12 degrees.

This could result, Dr. MacDonald said, in a rapid melting of the icecaps, an increase in the sea level of 15 feet or more and other major changes in climate.

Dust Bowls and Flooding

Such changes might play havoc with agricultural production and produce widespread famine and inundate coastal areas. Grain-producing regions in the United States might turn into dust bowls.

"And this is if we go on burning fuels at current levels," Dr. MacDonald said. But Federal energy policy, he said, calls for doubling the use of coal by 1990 and greatly increasing the use of synthetic fuels. Both these fuels release high quantities of carbon dioxide into the atmosphere.

This would mean, Dr. MacDonald said, that the "greenhouse effect" would occur much more quickly and severely than under current levels and mixes of fuel consumption. In fact, he said, some effects should be felt by 1990. By that time, however, it would be too late to change the direction of the nation's energy policy, he said, because enormous investments would have been made in coal-fired plants and in the development of synthetic fuels.

Action Now Is Urged

"The Government must start dealing with this problem now," Dr. MacDonald said.

David H. Slade, manager of the Carbon Dioxide and Climate Research Office in the Energy Department, said that his office was not as positive as Dr. MacDonald was of the consequences of increased car-

bon dioxide levels in the atmosphere. But he added, "Everybody agrees that the potential for a serious problem is there."

Mr. Slade said he agreed that the carbon dioxide problem should be factored into policy planning, and he added, "But I don't know how. Nobody does."

He said that the problem was international as other countries were also increasing their consumption of fossil fuels. The United States accounts for one-quarter of the carbon dioxide released into the atmosphere.

David Hawkins, assistant administrator of the Environmental Protection Agency for air pollution issues, said that he believed carbon dioxide was a serious problem that should be addressed by the Federal Government. "But we simply do not have the resources at E.P.A. to deal with it," he said. "We have all we can do keeping up with today's problems."

Unmanned Soviet Craft Links Up With Space Station Manned by 2

LONDON, Saturday, June 9 (Reuters) — The unmanned Soviet spacecraft Soyuz 34 has docked with the Salyut 6 orbiting space station manned by two Soviet astronauts, Moscow radio said today.

The radio, monitored here, said checks were conducted during the docking on the approach system and on the craft's orbit correction engine.

The astronauts, Lieut. Col. Vladimir Lyakhov, the flight commander, and Valery Ryumin, a civilian flight engineer, have been orbiting the Earth in Salyut 6 for more than 100 days. A manned Soyuz attempt to link up with them failed in April.

Official Soviet press reports have said that they were expected to use Soyuz 34 for their eventual return to Earth if the docking operation succeeded.

scholars that recently prepared for the

1877-1979: THE FRESH AIR FUND

1979 NAS (Charney)
Report

Carbon Dioxide and Climate: A Scientific Assessment

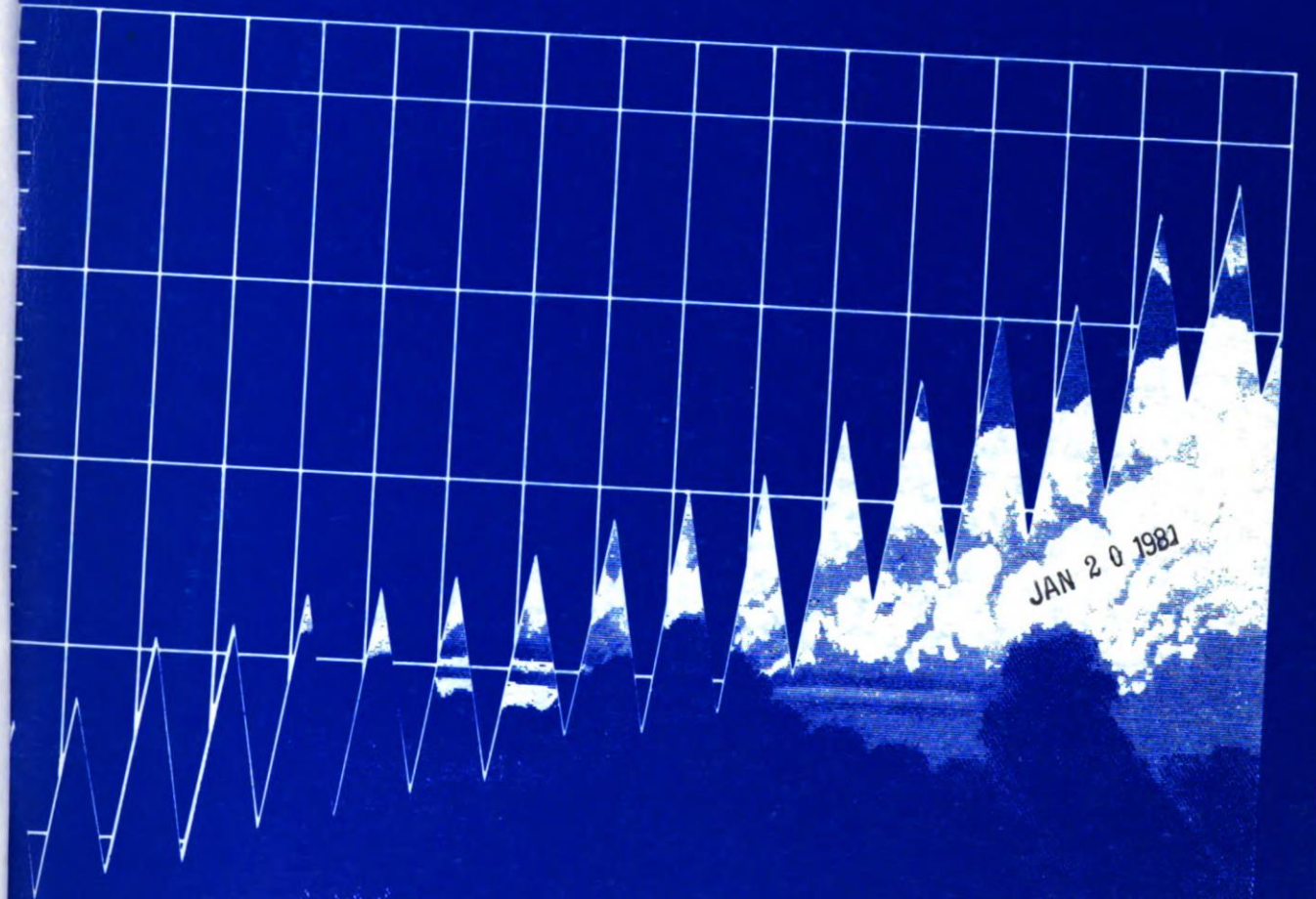
to scientists but disturbing to policymakers. If carbon dioxide continues to increase, the study group finds no reason to doubt that climate changes will result and no reason to believe that these changes will be negligible. The conclusions of prior studies have been generally reaffirmed. However, the study group points out that the ocean, the great and ponderous flywheel of the global climate system, may be expected to slow the course of observable climatic change. A wait-and-see policy may mean waiting until it is too late.

CEQ CO2 Rept: last week of Carter Admin.

22:33 GMT / <https://hdl.handle.net/2027/uc1.31822016444614>
/www.hathitrust.org/access_use#pd-google

Global Energy Futures and the Carbon Dioxide Problem

Council on Environmental Quality
January 1981



U.S. Study Warns of Extensive Problems From Carbon Dioxide Pollution

By PHILIP SHABECOFF

Special to The New York Times

WASHINGTON, Jan. 13 — The President's Council on Environmental Quality warned today that national and international energy policies must immediately start addressing the problem of carbon dioxide pollution if major long-range climatic and economic problems were to be avoided.

In a report, the council said that carbon

Urges limiting CO₂ to 1.5
times pre-industrial
(438 ppm)

a direct effect on
recently was not
mental problem.

ce Feared

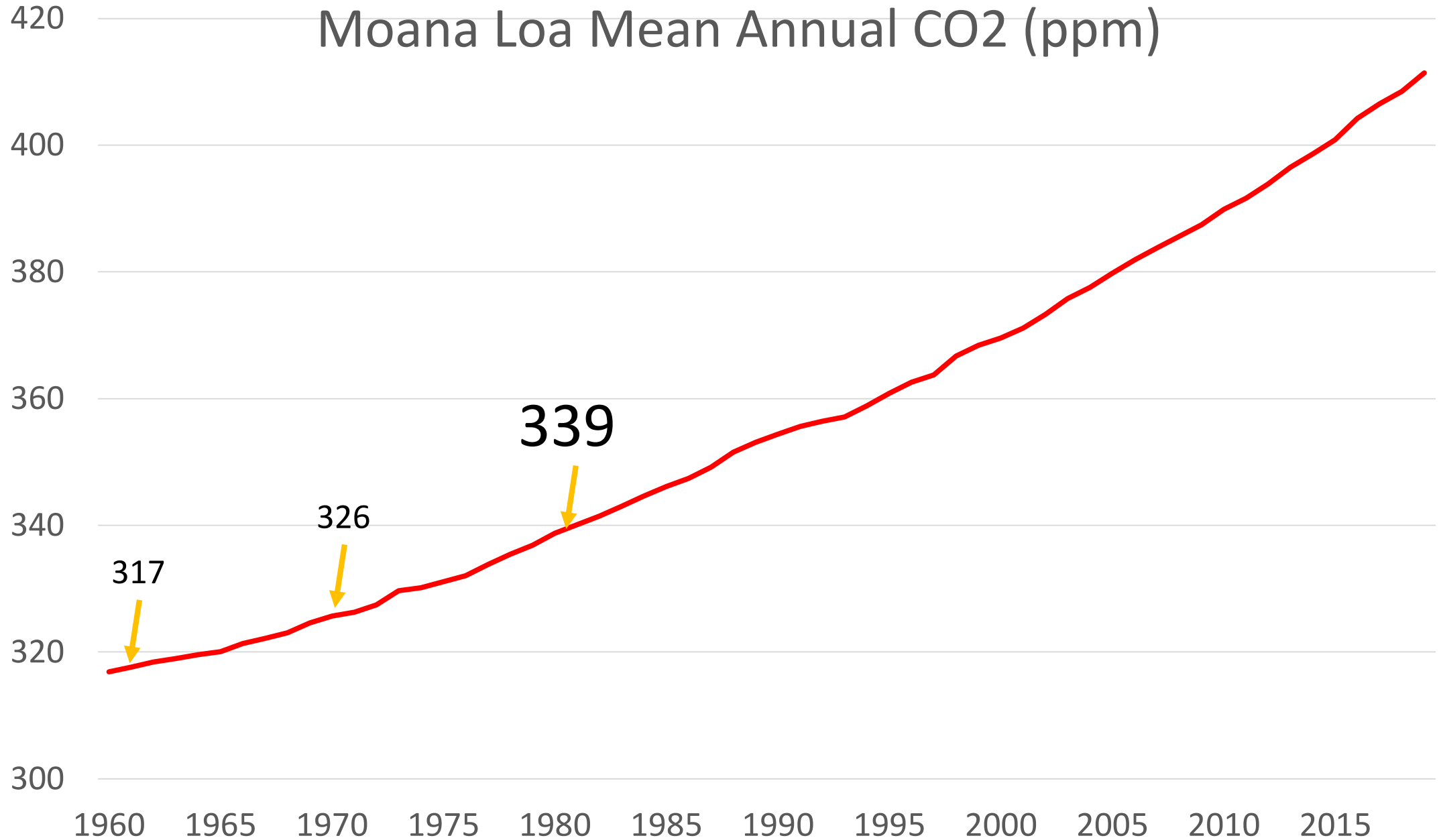
been a growing
at the buildup of
atmosphere is
effect" by trap-
heat and warm-

d that a doubling

of carbon dioxide in the atmosphere from pre-industrial levels would raise the average global temperature by about 3 degrees centigrade and by 7 to 10 degrees centigrade at the poles. The report said that if the warming pattern persisted long enough it could melt polar ice and raise ocean levels by over 20 feet in several decades.

"This rise would force a gradual evacu-

The Eighties: Reagan & Bush Père



DOE Testimony, Nov. 1987

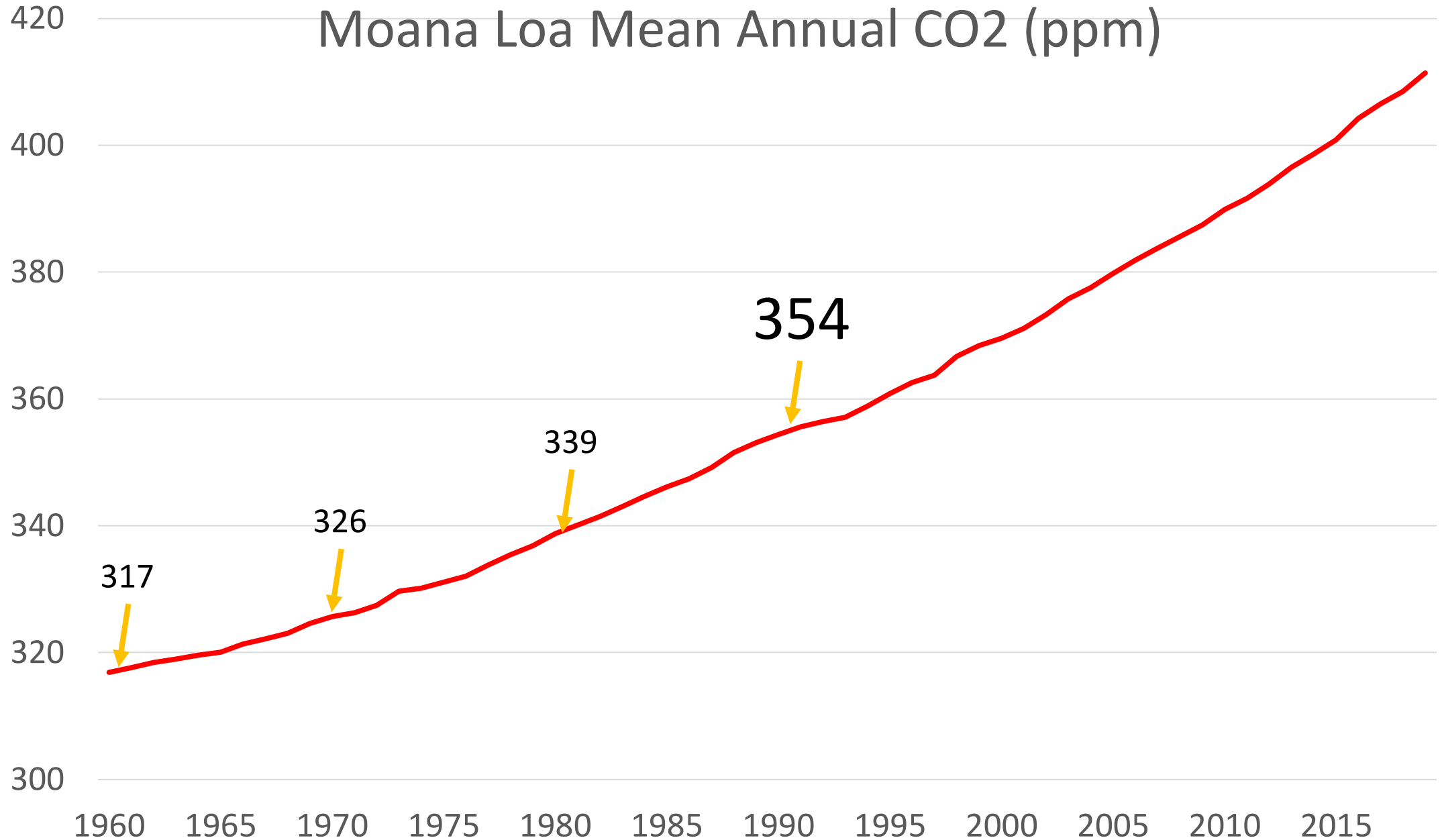
In my opinion, it would take an extremely compelling scientific evidence of impending disaster to convince most countries, particularly developing countries, to endure the economic penalties associated with major changes in energy policy.

Senate ENR Comm., Hearing on Greenhouse Effect & Global Climate Change
Nov. 10, 1987

A Brief Policy Flourish

- 1988 -- IPCC established
- 1988 – US Pres Election Yr: Bush v. Dukakis
- June 23, 1988 – James Hanson Testifies. (Inhofe attack <https://bit.ly/3mVabVF>)
- June 27-30, 1988 – Toronto Conference on the Changing Atmosphere. Cut global CO2 by 20% from 1988 by 2005
- July-Oct 1988 – Multiple bi-partisan regulatory climate bills introduced
- 1989 – More bipartisan bills introduced. Pushback from coal and utilities.

The Nineties: Bush Père & Clinton



The Early 90s—Promises of Action

- 1990—EPA, Policy Options for Stabilizing Global Climate
- 1992—UNFCCC adopted. No binding targets

The Clinton BTU Tax: Cl*m*t* Policy?

- “Our plan includes a tax on energy as the best way to provide us with new revenue to lower the deficit and invest in our people. Moreover, unlike other taxes, this one reduces pollution, increases energy efficiency, and eases our dependence on oil from unstable regions of the world.” Clinton SOTU Feb. 17, 1993

- White House deliberations:

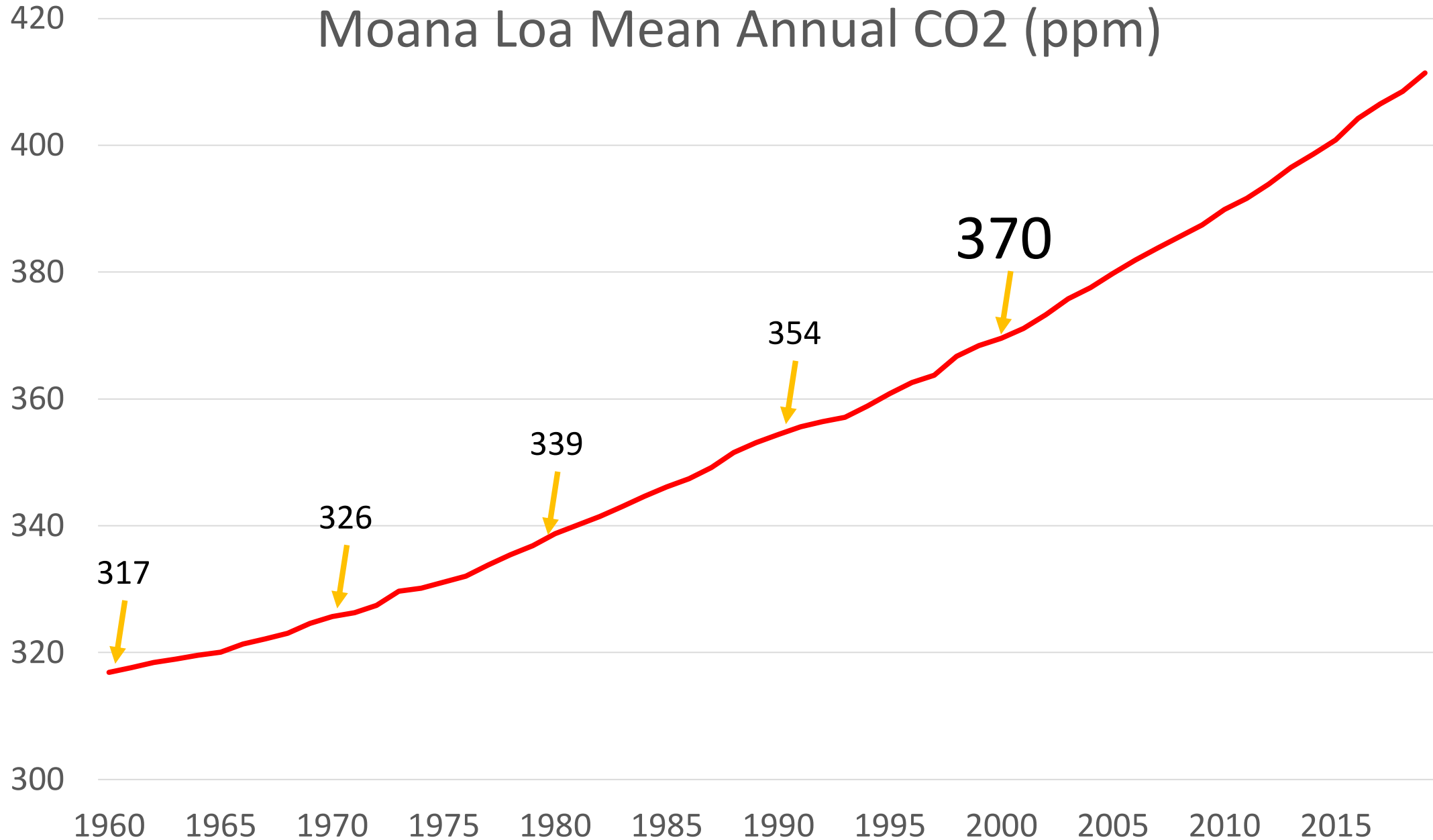
Katie McGinty subject matter files BTU tax

<https://clinton.presidentiallibraries.us/items/show/76884>

Clinton—Post-BTU Tax Defeat

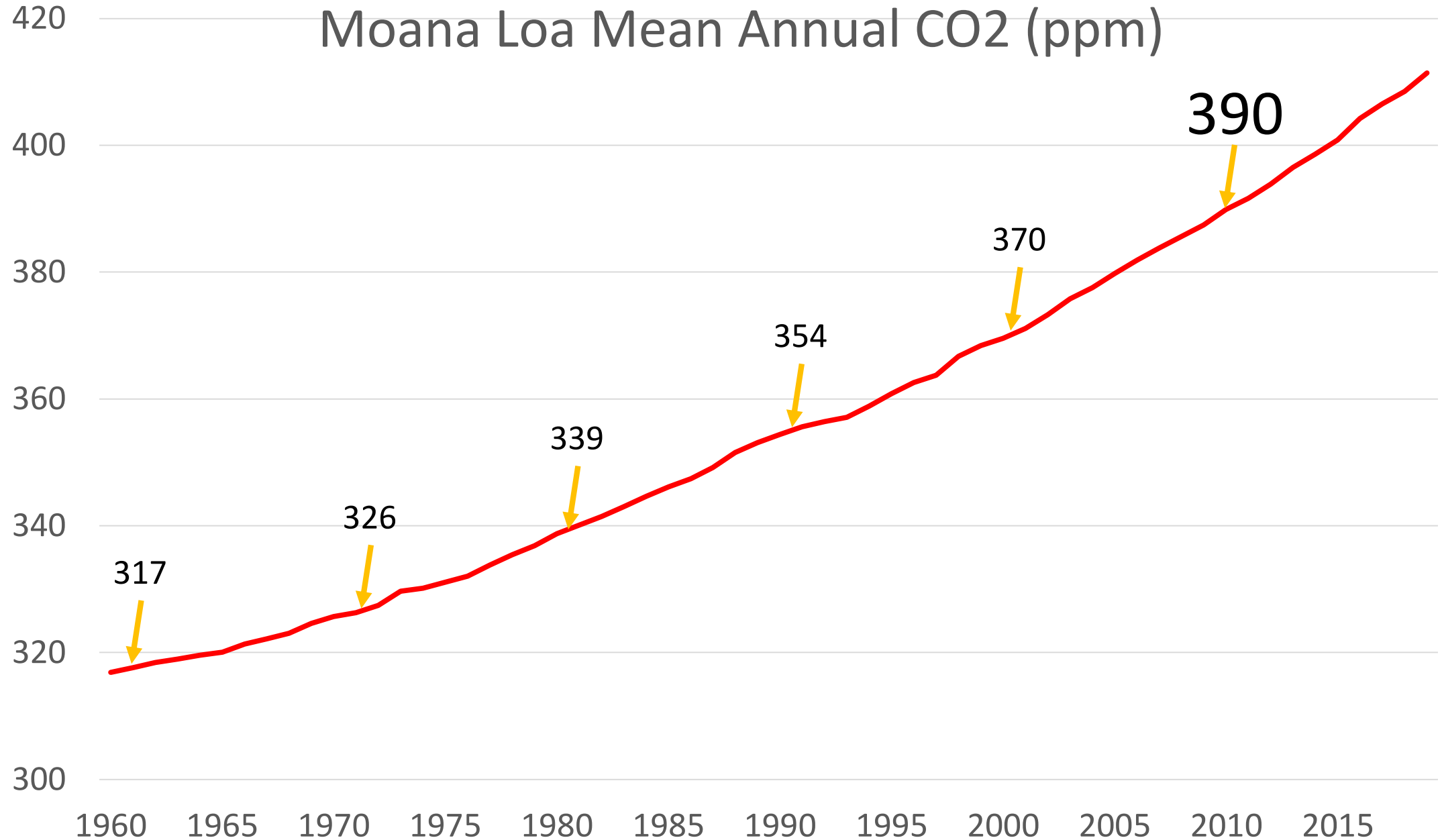
- 1993-2000 -- Clinton Admin— voluntary actions
- 1997 – Byrd-Hagel Resolution
- 1997— Kyoto Protocol
- 1998 — S.2636, Leahy power plant CO2 bill and CO2 tax (no cosponsors). No Administration support.
- 1999 – Petition EPA to regulate CO2 under CAA

The Aughts: Bush Fils & Obama



- 2001 Bush Rejects Kyoto Protocol
- 2001 Bush Rejects CO2 stds under CAA
- 2003 McCain-Lieberman bill
- 2007 USCAP Principles Report
- 2007 Mass. v. EPA
- 2009 USCAP Blueprint
- 2009 Waxman-Markey passes House;
dies in Senate

The Teens: Obama & Trump



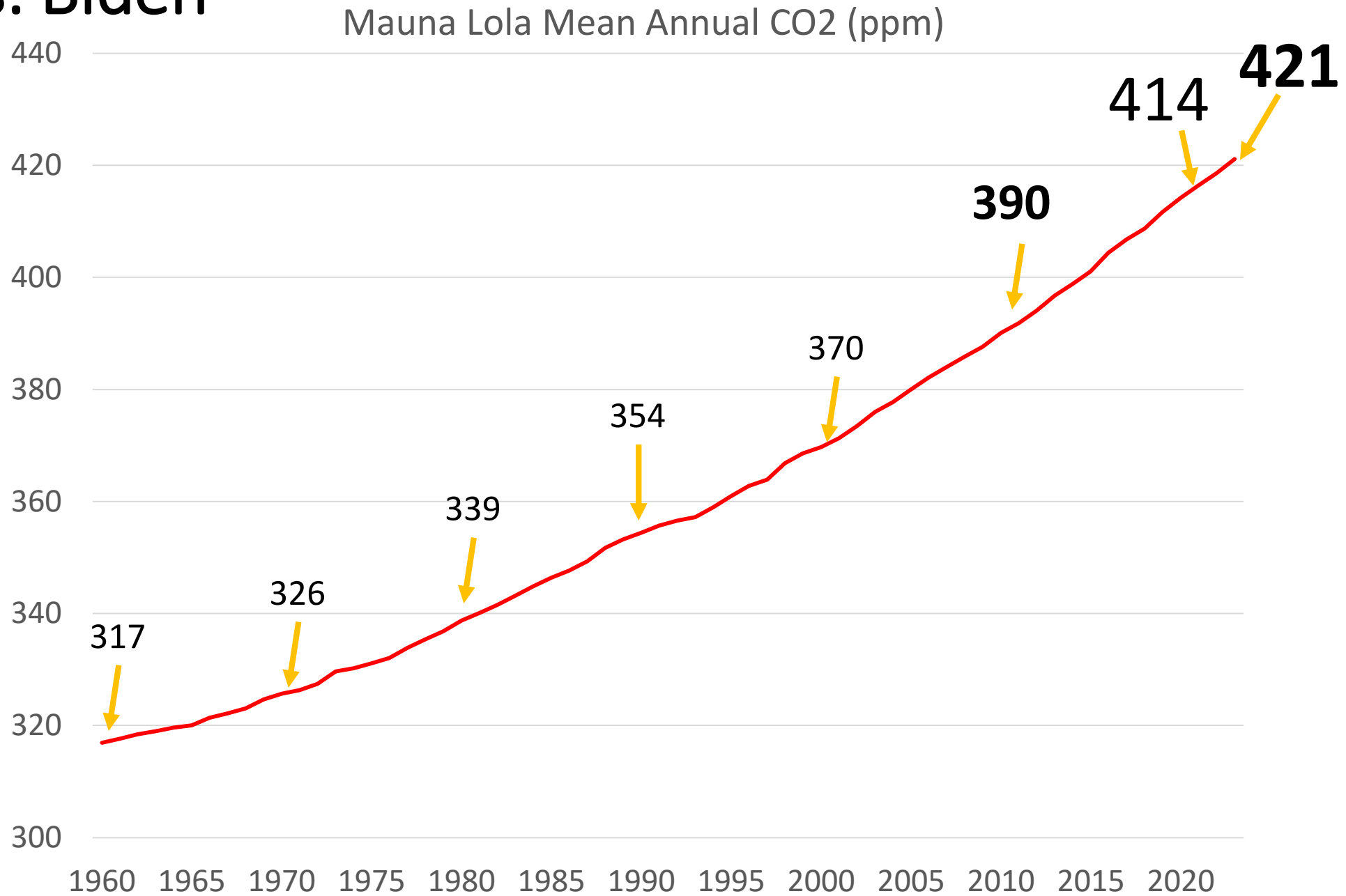
Obama Acts

- 2010-2012 – EPA adopts auto CO2 standards
- 2010 – NGOs shift to force EPA to adopt power plant CO2 rules
- 2015 – EPA adopts Clean Power Plan (CPP)
- 2015 – Paris Accord
- 2016, February -- Sup Ct stays CPP

Trump Reacts

- Trump ditches Paris Accord
- 2017-2020 – Trump rollbacks of GHG rules
- 2018 – IPCC Special Report on 1.5 degrees
- 2019 – Green New Deal bill introduction
- 2020, Oct. – DC Cir 9 hours argument on Trump CPP repeal and ACE replacement. Rules against Trump Jan. 19, 2021
- 2020, Nov. – Biden/Harris elected
- 2021, Jan.– GA election shifts Senate control.

The '20s: Biden



Tug of War

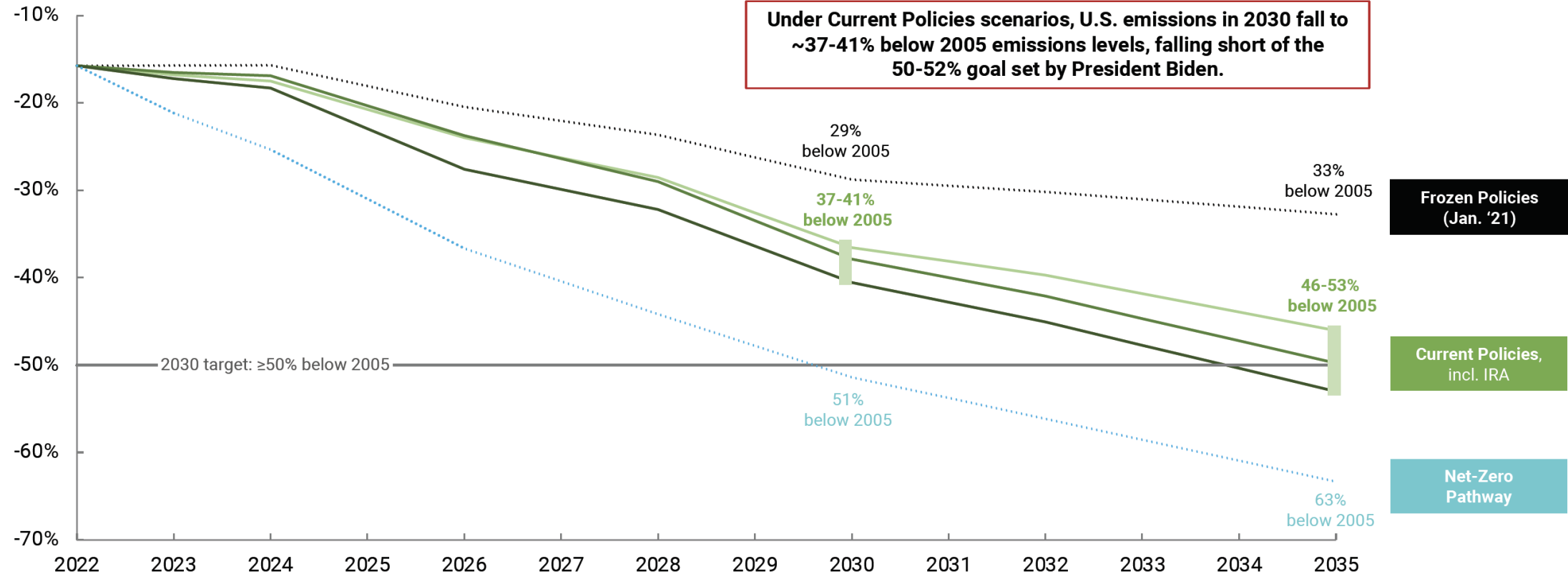
- WV v. EPA, 2022: Sup Ct. strikes down EPA power plant standards.
- Inflation Reduction Act, Aug. 2022. Massive \$ for clean energy & climate programs. No mandatory action
- EPA issues new power plant standards, May 2024
- Petitions for Review and Stay Motions filed immediately by 27 states and most power companies, including EEI. Now before DC Cir, likely headed to Sup. Ct.

IRA is a BFD

REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

Modeled Net U.S. Greenhouse Gas Emissions (Including Land Carbon Sinks)

percent below 2005 historical emissions¹

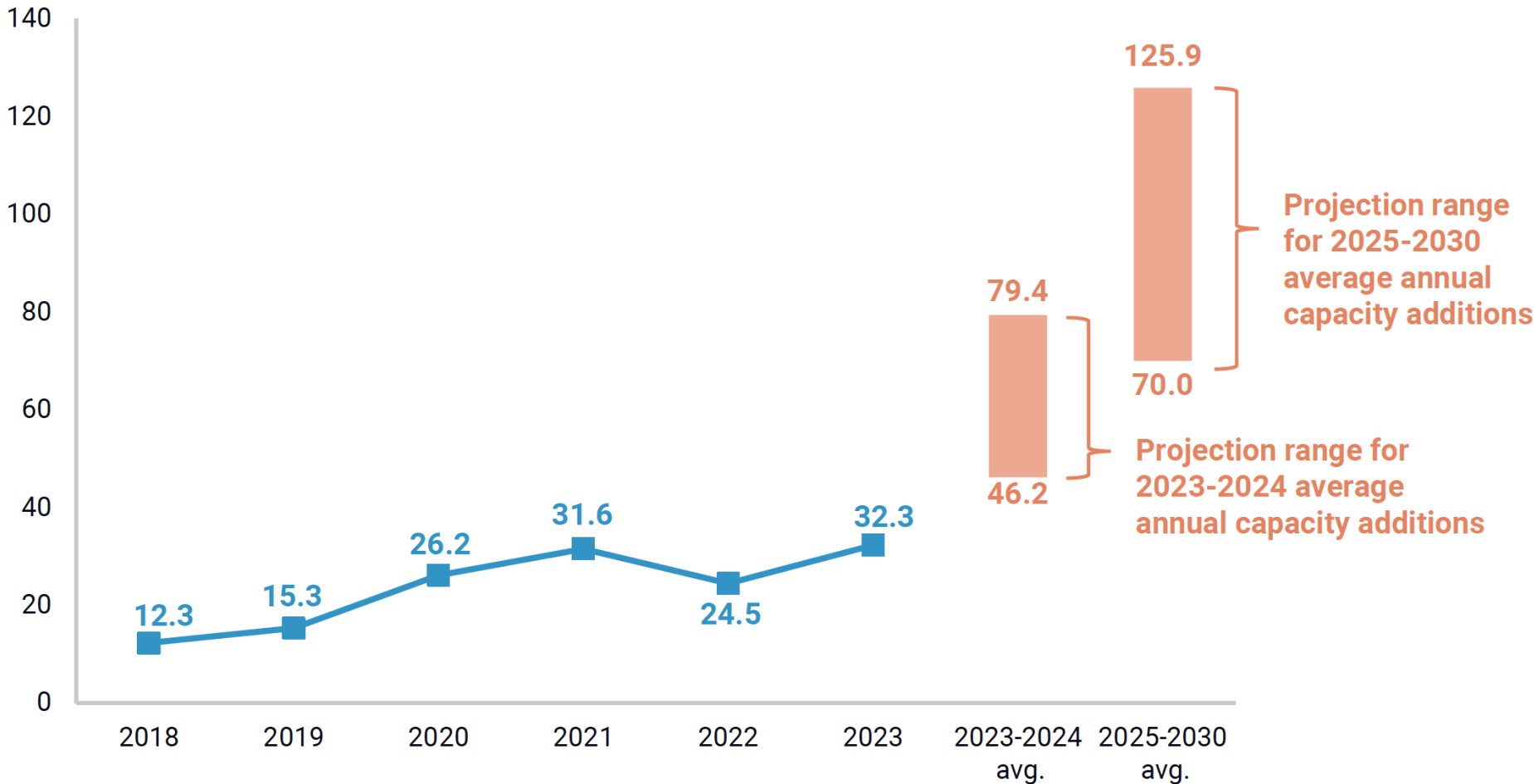


1 - 2005 historical net U.S. greenhouse gas emissions were 6,686 million metric tons of CO₂-equivalent ([EPA Inventory of Greenhouse Gas Emissions and Sinks](#)). CO₂ equivalent emissions calculations use IPCC AR4 100 year global warming potential as per [EPA Inventory of Greenhouse Gas Emissions and Sinks](#).

Miles to go...

Annual clean electricity capacity additions vs projections

GW net summer capacity vs. projection range from Energy Innovation, REPEAT Project, and Rhodium Group



Source: Rhodium Group/MIT-CEEPR Clean Investment Monitor, Energy Innovation, REPEAT Project