Although a 1977 memo alerted Jimmy Carter to the problem of climate change, the first tentative responses to climate change didn't emerge until he left the White House. Since then, there have been seven very different men in the White House. You may find the rankings surprising. Here's how I would rank them, from best to worst:

1. Joe Biden,
2. Barack Obama
3. George H.W. Bush & Bill Clinton (tie)
4. Ronald Reagan
5. George W. Bush
6. Donald Trump

If you wonder about some these rankings — like where the Bushes and Regan rank — keep reading to find out my reasons.

Ronald Reagan & George H.W. Bush's surprising roles.

Readers today are accustomed to think of Republicans as bitter opponents of climate action, but that was not true four decades ago. In 1983, Reagan's EPA warned about the risk of a runaway greenhouse effect.

Later, Reagan signed the Global Climate Protection Act of 1987, which was part of an omnibus bill dealing with the State Department. The Act acknowledged the possible dangers of climate change. It called for international agreement and required the president to "present a coordinate national policy on global climate change" to Congress. Reagan's Vice President,\

George H.W. Bush, followed up by negotiating and signing the U.N. Framework Convention on Climate Change, a treaty that still provides the basis for international climate negotiations today.

Bill Clinton's failed climate legacy

Clinton seems to have taken little personal interest in environmental issues, but his Vice President was Al Gore, who was a committed advocate of climate action. Under Clinton, the U.S. played a crucial role in negotiating the Kyoto Protocol, which required developed countries to cut their carbon emissions 5% below 1990 levels. The Kyoto Protocol may have led to emission reductions in Europe, but there was

never any real prospect that the Senate would ever ratify the agreement.

On the domestic front, the head of EPA managed to maneuver the Administration into endorsing federal authority to regulate greenhouse gas emissions under the Clean Air Act. However, the Clinton Administration never took action to reduce carbon emissions, perhaps in the hope that such action would be forthcoming under an Al Gore Presidency.

George W. Bush's double-dealing

As a presidential candidate, Bush endorsed a cap-and-trade system for carbon emissions. Once he became ensconced in the White House with a boost from the Supreme Court, Bush almost immediately made a 180° degree turn. Maybe the change was a result of the unexpectedly tight election, or maybe he was under the thumb of his Vice President, Dick Cheney, who was an oil man. Or maybe he was just lying during the campaign.

Whatever the reason, Bush quickly withdrew from the Kyoto Protocol, zealously supported fossil fuel production, and rejected EPA jurisdiction over greenhouse gases. When the Supreme Court ruled that EPA had a duty to regulate greenhouse gases if it found they were harmful, his White House quietly sabotaged EPA's effort to comply.

Barack Obama's embrace of climate action.

Obama was the first President to make climate a priority issue. When he took office, there were high hopes that Congress would pass climate legislation. Even Obama's opponent, John McCain, had called for a cap-and-trade system for carbon emissions. Those expectations never bore fruit. Although a climate bill passed the House aftersome serious arm-twisting by Nancy Pelosi, it never reached the Senate floor. Republican victories in the 2010 off-year election ended any chance of legislation.

However, Obama was active on other fronts. He personally intervened to help negotiate the Paris Agreement. On the domestic front, he made aggressive use of administrative action. Although there many other regulatory actions, the standouts were the first limits on greenhouse gas emissions from vehicles and the Clean Power Plan, which was designed to cut emissions from power plants. There was every expectation that his Vice President, Hillary Clinton, would succeed him and

push climate action further. But it was not to be.

Donald Trump's brutal assault on climate action

After Obama's election, the GOP for the first time united in opposition to climate action. Trump was the first open climate denier in the White House. Unlike Bush, he never made a secret of his plan to scrap climate action and go all-in to boost oil, gas, and coal.

Once elected, he proceeded to do just that. Trump rolled back over a hundred environmental regulations, including virtually all of Obama's actions. He also packed the federal judiciary, including the Supreme Court, with conservative opponents of government regulation. He attempted to undermine climate action by state governments. And he withdraw from the Paris Agreement.

Joe Biden's climate presidency

Under Biden, Congress enacted three laws providing hundreds of billions of dollars to fund clean energy — the 2022 infrastructure law, the CHIPS Act, and the Inflate Reduction Act. On the administrative side, the Administration has systematically reversed dozens of Trump regulatory rollbacks. It has pushed new regulations of vehicles and power plants that are much tougher than the Obama Administration's. Despite these achievements, he remains controversial with some climate advocates because of what they view as his failure to clamp down on fossil fuel production. His regulatory legacy will depend on the courts and on whether he is able to pursue further regulation in a second term. But the spending legislation seems likely to permanently bend the curve on U.S. emissions.

Six presidents, six very different legacies. We'll have to wait until November to see what the future holds.