The Politics of American Clean Energy and Climate Policy: Why the Inflation Reduction Act Passed

Olivia B. Quinn and Leah C. Stokes

October 21, 2025

Abstract

When President Biden won the 2020 election and Democrats gained control of Congress, a climate policy window opened. Many voters, activists, and lawmakers wondered: after 10 years of inaction, would the United States finally pass a federal climate law? This article explains the passage of the Inflation Reduction Act (IRA) in 2022, the single largest climate and clean energy investment in American history. Our research draws on participant-observation, interviews, primary and secondary sources. We construct a five-year political history from 2018, identifying key points of departure from Congress's attempt to pass the Waxman-Markey bill during the Obama administration. We argue that the IRA passed because activist outsiders used scientific target-setting and the Democratic Presidential primary to put climate on the political agenda. They built stronger coalitions with tighter coordination. Congress chose to pass the bill through budget reconciliation, allowing Democrats to sidestep the filibuster, and empowering their most conservative member. Finally, time constraints and outside pressure led key negotiators to secretly finalize the deal without opponents weighing in. We briefly describe implementation and the second Trump administration's attempts to repeal the law. Our conclusions about activist strategy, legislative compromise, and policy durability have implications for policymakers, advocates, and social scientists working on climate politics.

1. Introduction

When Democrats won a trifecta in 2021, it was the first opportunity in over a decade to pass a climate bill. With Senator Joe Manchin from West Virginia the pivotal fiftieth vote, however, the effort seemed doomed. A coal magnate committed to an 'all-of-the-above' energy strategy, Manchin repeatedly walked away from negotiations. Yet in August 2022, by the narrowest margin, Congress passed the Inflation Reduction Act (IRA) – the largest climate investment in American history (Aldy 2025).

We worked with advocates to help make this bill a reality. Beginning in 2020, we produced policy roadmaps that shaped Congressional negotiations (Stokes et al. 2021a; Stokes, Ricketts, and Quinn 2021). We also built advocacy networks that pushed for clean energy and electrification policies. This article reflects on that direct engagement, supplemented with original interviews with policymakers and advocates, primary source documents, and secondary accounts from journalists. In this way, our work takes a participant observation approach to process tracing – which some have called "practice tracing" – observing and documenting events unfolding over time from within the policy process (Pouliot 2014).

In this article, we compare the IRA's passage to the failure of the last major effort to pass climate legislation. Political scientists have studied the American Clean Energy and Security (ACES) Act, commonly called the "Waxman-Markey bill" (Mildenberger 2020; Skocpol 2013). After Obama's 2009 inauguration, the Democrat's Senate supermajority created favorable conditions for federal climate legislation. Major environmental groups and business leaders backed a bill centered on cap-and-trade, believing it could obtain the 60 votes majority necessary to pass the Senate and attract some bipartisan support (Mildenberger 2020). The bill passed the House with eight Republican votes but never reached the Senate floor. Ten years of Congressional inaction followed, fueled by an increasingly hostile conservative media environment and a solidly anti-climate Republican party (Brulle 2020; Turner and Isenberg 2018; Layzer 2012).

Climate advocates concluded a new approach was needed. Carbon pricing raised household costs and lacked public support (Mildenberger and Stokes 2020), and even proved ineffective at cutting pollution (Green 2021). Instead, a new strategy was developed centered on federal investments in clean energy, with labor and justice provisions. This paper provides a policy history that begins with the Green New Deal's appearance in 2018 and ends with the IRA's passage in August 2022. In a case study spanning five years, we examine how climate policy was put on the agenda during the 2020 Democratic primary, and how legislators, White House staff, and outside advocates defined the package's policies and eventually got it passed through Congress.

We argue that the law passed because climate activists leveraged clear scientific timetables for emissions reductions. They adopted and promoted these targets, shaping the national climate policy agenda through the Democratic primary and building media coverage. They built stronger coalitions that brought in groups absent from earlier efforts, including organized labor and environmental justice. Reformers-in-government initially rallied around a clean energy standard, but budget reconciliation's institutional constraints led to lengthy intraparty negotiations, stripping the performance standard in favor of tax credits and grants. These choices scaled back the bill's ambition *while* ensuring its passage. As the legislative clock ran out, secret negotiations brought the bill's designers back together at the last minute and delivered a tenable compromise. In an epilogue, we describe and contextualize the partial repeal of the law by the Trump administration and Republicans in Congress.

2. A Brief Overview of the Inflation Reduction Act

The Inflation Reduction Act was a large omnibus law. Its climate and energy provisions included federal tax credits and grants supporting clean energy, clean manufacturing, electrification of buildings and transportation, efficiency, environmental justice, industrial decarbonization, agriculture, and fossil fuel leasing on federal lands and waters (Table 1). The law also extended healthcare coverage, reformed the tax code, and granted medicare new powers to negotiate drug prices. It boosted Internal Revenue Service funding to enforce tax evasion and created a new 15% minimum tax for large corporations. In total, Senate Democrats estimated the bill would raise $725 billion in additional revenue, making it paid for.

Table 1. Key Provisions in the Inflation Reduction Act (IRA)

Key Provisions	Agencies and Mechanisms	Approximate Estimated CBO Cost* (cumulative 2022-2031)
Energy		
Clean Electricity Production and Investment Credits (48E & 45Y); Energy Property Tax Credit + increase for low-income solar (48); Credit for Carbon Sequestration (45Q); Zero-Emission Nuclear Power Production Credit (45U); Clean Electricity Production Credit (45Y); Clean Electricity Investment Credit (48E); Rural Electric Cooperatives; USDA Electric Loans for Renewable Energy; Rural Energy for America Program; DOE Loan Programs Office; Energy Infrastructure Repurposing and Remediation; Transmission Facility Financing	- DOE - Loans, Grants - Treasury - Tax credits - USDA - Loans, Grants	~$183.5 billion
Vehicles and Fuels		
Clean Vehicle Credit (30D); Previously-Owned Clean Vehicles Credit (25E); Qualified Commercial Clean Vehicles Credit (45W) Clean Hydrogen Production Tax Credit (45V); Alternative Fuel Vehicle Refueling Property Credit (30C); Clean Heavy-Duty Vehicles; Postal Service Clean Fleets; Biodiesel, Renewable Diesel, and Alternative Fuels Credit (40A); Second-Generations Biofuels Credit (40(b)(6)(j)(i)); Clean Fuel Production Credit (45Z)	- Treasury - Tax credits - EPA - Grants, Rebates - USPS - Direct spending - DOE - Grants, Contracts - DOT - Grants - USDA - Grants	~$39.9 billion
Clean Buildings		
Residential Clean Energy Credit (25D); Energy Efficient Home Improvement Credit (25C); New Energy Efficient Homes Credit (45L); Energy Efficient Commercial Buildings Deduction (179D); High-Efficiency Electric Home Rebates; Performance-Based, Whole-House Rebates; Building Energy Code Adoption; Green and Resilient Retrofit Program; Low-Carbon Materials; GSA Emerging Technologies	- Treasury - Tax credits - HUD - Grants, Loans - DOE - Grants - GSA - Direct spending	~$51.2 billion
Manufacturing and Industrial Decarbonization		
Advanced Energy Project Credit (48C); Advanced Manufacturing Production Credit (45X); Advanced Technology Vehicle Manufacturing	- Treasury - Tax credits - DOE - Tax credits, Grants, Loans	~$49.7 billion

Loans; Domestic Manufacturing Conversion Grants; Advanced Industrial Facilities Deployment; Low-Carbon Transportation Materials	- EPA - Grants - FHWA - Direct spending	
Agriculture, Land, and Resilience		
Agricultural Conservation Investments; Conservation Technical Assistance; National Forest Restoration and Fuels Reduction; State and Private Forestry Conservation; National Parks and Public Lands; Coastal Communities Climate Resilience; Drought Mitigation in Reclamation States	- USDA - Grants, Direct spending - Commerce - Grants, Direct spending - Interior - Grants, Direct spending	~$31.7 billion
Environmental Justice and Climate		
Greenhouse Gas Reduction Fund (GGRF); Climate Pollution Reduction Grants (CPRG); Environmental and Climate Justice Block Grants; Neighborhood Access and Equity Grant Program; Grants to Reduce Air Pollution at Ports; Air Pollution Monitoring Grants; Superfund Tax; Black Lung Disability Trust Fund	- EPA - Grants, Direct spending - DOT - Grants - CEQ - Direct spending - Treasury - Additional revenues	~$54.1 billion
Fossil Fuel and Permitting		
Offshore Oil and Gas Royalty Rate; Mineral Leasing Act; Extracted Methane Royalties; Lease Sales Under 2017-2022 Outer Continental Shelf Leasing Program; Ensuring Energy Security; Methane Emissions Reduction Grants; Methane Fee; Agency Environmental Reviews; Federal Permitting Improvement Steering Council	- Interior - Additional revenues, Direct spending - EPA - Grants, Collected fees, Direct spending - CEQ - Direct spending - Commerce - Direct spending - DOT - Direct spending - FERC - Direct spending - Permitting Council - Direct spending	~$8.9 billion
Miscellaneous		
Clean Energy Tax Credit Monetization - Direct Pay and Transferability; Bonus Credit Provisions; National Laboratories	- Treasury - DOE - Direct spending	~$2 billion
"~" indicates estimated revenue change through tax credits or revenues. Costs without indicate appropriations.		

3. The Making of the Inflation Reduction Act

3.1 Putting Climate on the Federal Agenda

In January 2017, Donald Trump became President, and Senator Chuck Schumer became Minority Leader. While Trump began dismantling climate policy, Schumer's staff prepared for a potential Democratic trifecta in 2021. By early 2018, Schumer's staff was building a technical model they called the "ambition tracker" to estimate how much carbon pollution a given climate policy would cut.

Scientists defined the necessary ambition. In October 2018, the UN's Intergovernmental Panel on Climate Change (IPCC) released its Special Report on Global Warming of 1.5℃, (SR15) as requested under the Paris climate agreement (IPCC 2018). The report found that limiting warming to 1.5 ℃ would require GHG emissions to fall 45% from 2010 levels by 2030, reaching net-zero by 2050. When it was published, media coverage of climate jumped 43% compared to the previous month (Boykoff and Pearman 2019). In translating the SR15's technical findings, journalists reported that climate scientists had set a "deadline." Advocates seized on this new framing to argue that we had 12 years to cut pollution in half.

Just after the report's publication and the 2018 midterm elections, 150 youth activists from the Sunrise Movement – a relatively new, youth climate organization with hundreds of grassroots "hubs" – held a sit-in at House Minority Leader Nancy Pelosi's office. Congresswoman-elect Alexandria Ocasio-Cortez from New York joined the action. She had just successfully mounted a primary challenge to a senior representative in House leadership. Her progressive platform included a "Green New Deal": a climate proposal to deliver 100% clean energy alongside progressive social programs. That day in Speaker Pelosi's office, activists demanded that House Democrats pass a law to meaningfully address climate. Three months later, Sunrise-affiliated schoolchildren confronted Senator Diane Feinstein from California at her district office, urging her to support a Green New Deal. The tense interaction went viral – a symbol of the growing cleavage between Democratic leadership and a younger climate activist left.

From the 2018 midterms through the 2020 presidential primaries, grassroots organizations pressed candidates to develop climate platforms and reject fossil fuel donations. Sunrise trained activists to “bird dog:” asking politicians questions wherever they could find them to get them on the record. The goal was to create a race-to-the-top on climate, with Democratic hopefuls competing for the support of a growing constituency of young, climate-motivated voters.

In March 2019, Washington Governor Jay Inslee entered the Democratic Primary with a focus on climate. As governor, Inslee oversaw the passage of a 100% clean electricity standard, among other policies linking regulatory standards with state investments towards a ‘just transition.’ Before dropping out in August 2019, his team released over 200 pages of climate policy, detailing plans to achieve 100% clean power by 2035, grow unionized jobs in the clean energy industry, and invest in environmental justice. Afterwards, a cohort of his staffers continued their work through a new organization called “Evergreen Action,” consulting candidates including Senator Elizabeth Warren from Massachusetts and then-former-Vice President Joe Biden. This campaign-to-campaign coordination strengthened the party’s overall climate agenda.

The Democratic National Committee (DNC) clashed with these grassroots campaigns to elevate climate change on the party’s agenda. A coalition including the Sunrise Movement, US Youth Climate Strike, Greenpeace, and 350.org delivered over 200,000 petition signatures to the DNC, calling for a single-issue primary debate on climate. Senator Bernie Sanders from Vermont, Inslee, Warren, and Biden backed the effort. Yet, the DNC refused to loosen its rule requiring candidates to only appear on stage together for DNC-sponsored events. Despite this CNN and MSNBC hosted extended climate forums in September 2019. One by one, each candidate shared and defended their climate platform. Media outlets compared proposals to one another and to climate targets, relying on analyses from experts. Meanwhile, groups like Sunrise, the League of Conservation Voters, and Data for Progress began producing scorecards that evaluated candidates' climate plans.

After winning the South Carolina primary in February 2020, Biden emerged as the frontrunner. To unify the party after the fraught primary, Biden and Sanders launched unity task forces. Representative Ocasio-Cortez and Sunrise's Executive Director Varshini Prakash both participated. One key idea to come out of this effort, initially developed by the Inslee campaign, was the goal of 100% clean electricity by 2035. This proposal became a plank of Biden's second climate plan, where he proposed $2 trillion of investments as part of his Build Back Better agenda.

As the election drew closer, advocates and congressional staff collaborated on memos and climate policy. Behind the scenes they asked, "If Biden wins, what's our plan?" Fossil fuel interests also mobilized, launching an aggressive "outside lobbying" campaign – whereby organized interests attempt to influence policy via direct appeals to the public (Kollman 1998). The day after Biden announced his $2 trillion climate plan, these groups ran a major Facebook ad campaign promoting the role of oil and gas in the US economy (InfluenceMap 2020).

3.2 Alternative Specification through Budget Reconciliation in Congress

In November 2020, Biden won the Presidential election. On January 5, 2021, Democrats picked up two Senate seats in the Georgia runoffs, securing a working majority in the Senate. With a Democratic trifecta, they held their first governing majority since 2009, when they had last tried to pass a climate bill. But, because 50 votes fell short of the supermajority of 60 needed to overcome the filibuster, Congressional Democrats and the Biden Administration turned to budget reconciliation – their most effective tool to overcome minority party obstruction.

In 1974, Congress passed the Congressional Budget Act, establishing the budget reconciliation process, and creating the Budget committees and Congressional Budget Office (Reynolds 2021). Under this law, annual budget resolutions direct committees to align spending, revenue, and debt with Congressional priorities. Unlike appropriations, reconciliation bills could sidestep the filibuster with a simple majority. Critically, bills must comply with the 'Byrd rule — named for late Senator Robert Byrd — requiring provisions stay budgetary (Heniff 2016). Should a Senator raise a procedural objection to any provision, the Senate Parliamentarian would issue a ruling on whether it could be included (Reynolds 2021).

Although reconciliation avoided the filibuster, it required full agreement between all 50 Democratic caucus senators. It also required House Democrats to agree – a group notably more progressive and ambitious on climate. Thus began the long negotiation process. Moderate Senator Joe Manchin emerged as the pivotal player, in part because he chaired the Senate Committee on Energy and Natural Resources (ENR). Although he was a member of the Democratic party, his preferences were often at odds with his colleagues given his background in the coal industry and his conservative constituency. A television ad for his 2010 Senate election featured him shooting a copy of the Waxman-Markey bill with a rifle.

After Congress passed the American Rescue Plan in March 2021, the Biden Administration proposed the $2 trillion American Jobs Plan, covering infrastructure, clean energy, buildings, care services, R&D, and labor protections — financed by higher corporate taxes and IRS enforcement. Climate provisions amounted to more than half of the price tag, including many ideas developed during the primary and by advocacy networks like a 10-year extension of clean energy tax credits. The clunkily named "Energy Efficiency and Clean Electricity Standard" was also proposed to deliver on Biden's commitment of 100% clean power by 2035. A clean electricity standard requires electric utilities procure a certain percentage of carbon-free power by a deadline. Similar to state-level policies, these standards usually include regular compliance periods, tradeable clean energy credits, and penalties for noncompliance, which can be offset through alternative compliance payments. Concurrently, climate, environmental justice, and labor groups lobbied for an even *larger* investment (Walsh et al. 2021). In Congress, Representative Ocasio-Cortez lamented that $2 trillion spent over a decade fell short of what was needed. But, Senator Manchin expressed public concern over the size and scope of a large, standalone spending bill.

A handful of Republican Senators, Manchin and Democratic Senator Kysten Sinema from Arizona wanted to pursue a bipartisan infrastructure bill before turning to reconciliation, after years of Trump's failed 'Infrastructure Weeks.' The White House decided to work with them, initially negotiating with Republican Senator Shelley Moore Capito, then a bipartisan "gang of 10." By April, Speaker Pelosi and the White House unified around a two-track process, with the bipartisan infrastructure priorities moving parallel to the reconciliation bill. Congressional progressives like Senator Sanders and Congresswoman Pramila Jayapal, who ran the Congressional Progressive Caucus, opposed this strategy, fearing intentional delay. By mid-June, it looked as though the White House and moderate Senators might move forward on infrastructure without climate investments. Biden's Climate Advisor Gina McCarthy publicly suggested that the clean electricity standard might not end up in the bill (Colman 2021).

Alarmed, Massachusetts Senator Ed Markey went on MSNBC and told the country, "no climate, no deal." Seizing on this framing, Evergreen Action and Sunrise Movement launched a campaign asking Congressmembers to withhold their votes unless the climate package was guaranteed. Then, Senate and House climate hawks could become other veto players to counter the moderates. For the next few months, climate groups organized rallies, established phone-banking and letter writing campaigns, and placed earned media to explain the climate bill's importance.

In July 2021, the Senate finalized the bipartisan Infrastructure Investment and Jobs Act (IIJA). While it funded EV charging, clean buses, transit, and water infrastructure, its climate investments covered less than 10% of the reductions needed to reach 2030 targets (Jenkins et al. 2022). Before the Senate vote, Speaker Pelosi relayed House progressives' concerns: this wasn't a climate or social spending bill, and their votes weren't guaranteed without a concrete strategy for passing the rest through reconciliation. Still, the IIJA passed the Senate 69–30 on August 10.

A clean electricity standard (CES) was one of the key policies absent from the infrastructure bill. The proposal would instead go through budget reconciliation as a "Clean Electricity Performance Program" (CEPP). Senator Tina Smith of Minnesota championed the CEPP, which would pay utilities for performance, with grants if they moved fast enough on building clean power, and penalties if they failed. This design made it a budgetary program, to fit with the reconciliation rules. Schumer and Manchin had reached a secret, conditional agreement in July to let the ENR Committee handle CEPP.

On August 11 and August 24, the Senate and then the House passed a $3.5 trillion budget resolution containing the remainder of the President's Build Back Better agenda with reconciliation instructions for specific committees. Though moderates Manchin and Sinema voted in favor, both raised doubts about the final bill's passage. Speaker Pelosi promised a September vote on the Senate-passed bipartisan infrastructure bill, but House progressives argued that was a poor strategy: breaking the infrastructure bill apart from the climate bill would eliminate any political leverage.

Meanwhile, key Senate committees – Finance, ENR and Environment and Public Works (EPW) – alongside their House counterparts, worked to hammer out legislative text for the climate bill. However, in early Fall 2021, Manchin called for a "strategic pause" on reconciliation, citing inflation fears (Manchin 2021). Shortly after, his secret July deal with Schumer was revealed, including their agreement to cap spending at $1.5 trillion, angering Pelosi who had been prodding House committees to finish legislative text totaling $3.5 trillion (Foer 2023). Schumer claimed he had not agreed to this top line number – below his signature, he'd written "I will try to dissuade JOE on many of these."

By late October, Manchin opposed CEPP outright, cutting the policy responsible for over a third of projected emissions reductions (Mahajan and Orvis 2021). Progressives worked with the White House and Schumer's team to find additional investments to make up for the lost reductions. A late October meeting between Biden, Schumer, and Manchin, at the President's Delaware home resulted in a ~$2 trillion compromise Manchin could stomach and Biden felt he could defend in front of progressives. Theoretically there was a deal. As the bipartisan infrastructure bill advanced in the House, Biden and Pelosi once again provided assurances that the demands of both the centrist and progressive wings of the party would be met.

After intra-caucus brokering – including personal phone calls to holdouts – both the infrastructure and reconciliation bills advanced in November. The House passed the Infrastructure Investment and Jobs Act on November 5, with 13 Republicans in favor and six Democrats, including Ocasio-Cortez, opposed. Exactly two weeks later, the House passed the Build Back Better Act: a budget reconciliation bill with $555 billion in clean energy and climate investments. The bulk of its proposed funding was tax credits and grants encouraging clean energy development in the power transportation, and building sectors, alongside labor and justice incentives.

But in the Senate, Manchin would negotiate, stop, then start again. In December 2021, with Senators eager to adjourn for the holidays, Manchin's mercurial position led the White House to release a statement placing the blame for inaction on Manchin's shoulders. In response, Manchin went on Fox News and withdrew his support entirely. When Congress returned in the new year, it was unclear whether negotiations would restart. In the press, Biden signalled a willingness to scale back on climate. Manchin insisted negotiators would "just be starting from scratch" (Romm 2022).

3.3 A Global Energy Crisis Opens a Policy Window

When Russia invaded Ukraine in February 2022, energy prices spiked, opening a policy window for climate legislation (Kingdon 1984). Historically, Congressional energy legislation has passed in response to energy crises, including the 1978 Public Utility Regulatory Policies Act (PURPA) and the Energy Policy Acts of 1992 and 2005 (Laird 2001; Stokes and Breetz 2018). With rising energy prices, Manchin told Schumer he was open to passing a reconciliation bill with clean energy and climate investments to bolster American energy security. That spring, their teams and key committee chairs – Senators Tom Carper on EPW and Ron Wyden on Finance – quietly resumed negotiations.

Schumer knew reconciliation had to pass before summer recess began on August 6. After that, midterm elections would be in full swing. But in July, he came down with COVID, forcing remote talks. In his absence, on July 13, Schumer's staff approached Manchin with a proposal meeting all of his stated requirements. Yet, only hours later the Bureau of Labor Statistics announced a 9.1% jump in inflation – the highest in four decades. This spooked Manchin, who told Schumer he could not vote until after the August inflation report. Knowing that would be too late, Schumer dropped the climate provisions to salvage a bill with drug, healthcare, and tax provisions. The *Washington Post* broke the story late on July 14 (Romm and Stein 2022a). In response, climate advocates branded Manchin a modern-day villain, lambasting him in the press.

The next morning, Manchin appeared on a West Virginia radio talk show to counter the story, saying he opposed any spending that might worsen inflation and just wanted another strategic pause. He described feeling squeezed by the Democrats' midterm election deadline, his constituency in West Virginia, and national economic pressure. He said "This is rhetoric. I've never seen it at this level."

Behind the scenes, Democratic Senators launched a pressure campaign, arranging meetings between Manchin and leading economists and executives (Romm and Stein 2022b). Two workdays later, on Monday July 18th, Manchin's staff privately returned to Schumer's staff. In a scene out of a political thriller, the staff met in the basement of the Capitol with White House negotiator Brian Deese and made a handshake agreement to try again — this time in complete secrecy. Only a tight knit circle of staffers were aware of the negotiations — they could not speak to anyone else about what was happening. As the secret negotiations got underway, Biden was scheduled to travel to Massachusetts to deliver a speech. But the White House changed their plans, and did not declare a climate emergency, as some activists hoped. The Manchin-Schumer talks pushed the White House to pause its executive climate action plan—and refocus on passing the reconciliation bill.

Meanwhile, Minority Leader Mitch McConnell from Kentucky had been threatening to block the bipartisan CHIPS and Science Act if reconciliation advanced. Now that he believed reconciliation was dead, he agreed to pass this other bill. In secret, Manchin and Schumer's teams hammered out a deal over ten days with just under $370 billion in clean energy and climate investments. Manchin suggested they name it the Inflation Reduction Act (IRA) – Schumer loved the idea. The final agreement played out virtually, since Manchin then contracted COVID. On July 27, only hours after the CHIPS and Science Act passed 64-33 in the Senate, Manchin shocked Washington by announcing his support for the new agreement with a press release on his website. Schumer's staff and the modeling teams quickly calculated the emissions impact from the latest bill. While Democrats aimed to deliver a 50% reduction in GHG emissions from 2005 levels by 2030, the law's climate provisions were expected to deliver a 33 to 40% reduction by 2030, and a 43 to 48% reduction by 2035 (Bistline et al. 2023).

From that announcement until the final floor vote, Senate staff from both parties met repeatedly with the Senate Parliamentarian. Dubbed the final stages of the 'Byrd Bath,' any provision could be challenged as non-budgetary. A Byrd Rule violation could strip the bill of its protected status – especially the non-debatable motion to proceed and 20-hour debate limit. Concurrently, Senator Sinema levied last minute demands for billions in drought funding for her state – implicating the entire Colorado River Basin – along with changes to the carried interest and corporate minimum tax provisions. Senate staff worked to deliver a Western water compromise and intricate tax policy revisions in a matter of days, sometimes hours.

On August 6, Schumer motioned to proceed. The bill then faced a "vote-a-rama": a process involving rapid-fire voting on unlimited amendments. Staff reported having flashbacks to John McCain's surprise 'No' vote to save the Affordable Care Act during the 2017 reconciliation vote-a-rama. With each failed roll call, their fears subsided. After 27 hours and 39 roll calls, the Senate passed the Inflation Reduction Act 50-50 on August 7, with Vice President Kamala Harris breaking the tie. The House approved it on August 12 with unanimous Democratic support. With President Biden's signature on August 16, 2022, the Inflation Reduction Act became law. At the signing ceremony, he handed Manchin the signing pen.

4. Discussion: Why Did Congress Finally Pass a Climate Law?

4.1 Ambitious Scientific Targets Set the Stakes

"We knew the moment was ripe. We knew the tactics were right.
We knew the sit-in needed to happen to make climate change matter in our politics."
- Varshini Prakash, co-founder of Sunrise Movement, on the 2018 sit-in at Speaker Pelosi's office

Climate targets shaped the 2020 Democratic primary and guided the Biden administration's policy agenda, remaining central throughout the negotiations. The 2018 IPCC report was the first to provide scientific pathways to achieve politically determined temperature goals (Hulme 2016; Asayama 2024). Activists across the climate movement adopted these targets as they worked to shape the policy agenda. The 2030 deadline to cut pollution in half was simple and effective, captured in activist slogans like "We have twelve years. What's your plan?" This kind of policy framing is persuasive: Americans tend to rank the economy as today's top issue but climate change as the greatest long-term threat (Yeager et al. 2011). Focusing on the present decade shifted climate to a shorter-term problem (Drake and Henderson 2022). This scientific benchmark was also used to design, promote, and compare potential policies. Inslee first embedded explicit emissions reduction targets in his 2020 platform, prompting other candidates to follow. Journalists, activists and academics compared these plans to scientific targets, starting a "race to the top" on climate ambition.

The power of climate targets only grew once Biden was inaugurated. On Earth Day 2021, President Biden set an explicit goal of his administration, pledging a 50-52% emissions cut by 2030. Senate Majority Leader Schumer adopted this goal as his "North Star." Schumer Policy Director Gerry Petrella told us the Senator constantly questioned whether the bill would hit the target: "Where are we on emissions? Did you put it into your tool yet? We can't go below 40%. If we go below 40%, it's not going to pass." Schumer's staff built an "ambition tracker" to estimate what pollution cuts each policy design could achieve. Outside research groups built similar models to feed into the Senate model, including Energy Innovation's *Energy Policy Simulator*, Princeton's *REPEAT Project*, and Rhodium's *National Energy Modeling System*. Because the IRA involved many smaller investments at the end of negotiations, as opposed to one large signature-piece like a carbon price, the ambition tracker proved critical to comparing the bill's effectiveness to the President's 2030 goals. Without this, the bill may not have appeared sufficiently ambitious to what was, by the end of negotiations, a weary coalition.

While Waxman-Markey's designers did use targets to determine its emissions caps, they were not connected to a public narrative. The most recent IPCC report at the time did not present emissions targets numbers in terms of temperature stabilization. Although Waxman-Markey's caps provided quantifiable targets, the coalition felt little urgency to defend or strengthen them (Pooley 2010).

4.2 Activist Outsiders Leverage Public Opinion and Drive Media Attention

"That was very big in the spring of 2020. We needed to not just win the primary, but to absorb the losing campaigns into our campaign. The way to build a winning coalition is not just one day of handshakes and happiness, but really having a coalition platform to run on."
- Ron Klain, Senior Advisor to Biden's Presidential Campaign and Biden's White House Chief of Staff

The 2020 Democratic primary gave activist groups an opportunity to press for ambitious climate policy. Youth climate activists particularly capitalized on favorable public opinion, driving media coverage to elevate their demands. After the Green New Deal took off, polls began showing climate as a top issue for young Americans (Tyson et al. 2021). Schumer brought this up in staff meetings regularly, saying they needed to focus on the issue. A majority of the public reported that climate change was a 'somewhat' or 'very important' issue heading into the 2020 election. (Pew 2020). In addition, climate had the widest partisan divide in issue importance between Republican and Democratic voters. Among all voters, the Democratic party held a 31 percentage point edge over Republicans on dealing with it. Taken together, climate was highly important to the Democratic Party's base and squarely in their court to address. Compared to 2009, more people reported being directly impacted by climate change (Ballew et al 2022).

Additionally, media attention to climate change increased substantially from the Obama to Biden administrations, making the issue more salient (Zaller 1992). Figure 1 plots the percent of monthly cable news coverage mentioning climate change across major US cable news outlets, from 2010, just after the Waxman-Markey failed to pass the Senate, through 2024, in the aftermath of the IRA's passage. Mentions of climate change nearly doubled from the first and second Obama administration to the Trump administration. In 2021 alone, the first year of the Biden administration, coverage doubled again.

Figure 1. Mentions of "Climate Change" on US Cable News (2010-2024)

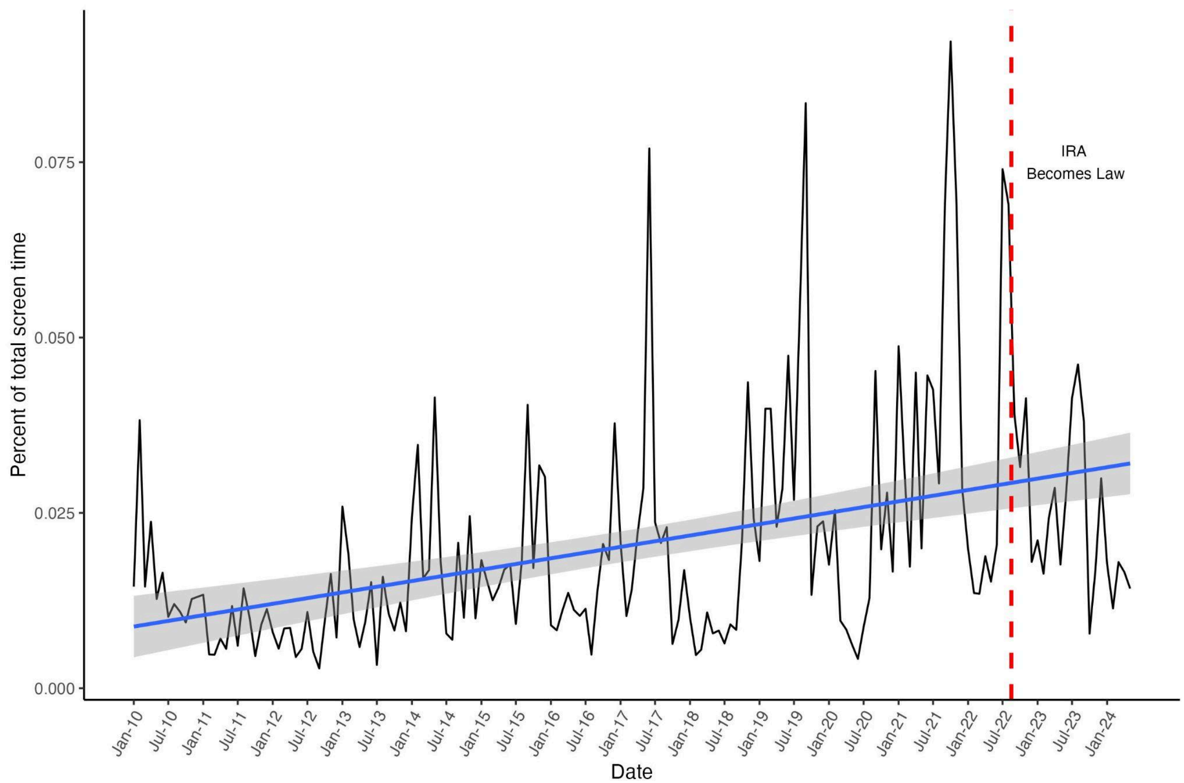


Figure 1. Percent of total screen time mentioning "climate," "climate change," or "global warming" across CNN, MSNBC, and Fox News, with fitted regression line (data from Hong et al. 2021).

Capitalizing on this increased saliency, and oftentimes driving it, the climate movement made the issue central in primaries. They joined a broad progressive coalition seeking to push Democrats on climate, with shared commitments to workers' rights, universal healthcare and education, and racial justice. Political action committees founded in the wake of Bernie Sanders' 2016 presidential campaign, like Justice Democrats and Our Revolution, backed progressive challengers in many 2018 House primaries. Youth climate groups presented a real threat to establishment Democrats with the election of Representative Ocasio-Cortez and other progressives — the media speculated that she could primary Senator Schumer someday. The Sunrise Movement and the Green New Deal did much to disrupt the carbon pricing consensus within the US environmental movement. The 2018 sit-in at Pelosi's office made this disruption concrete. Until that point, proposals largely focused on costs, reduced emissions at the margins, ignored distributional politics and provided fewer material benefits for ordinary Americans (Mildenberger 2020; Green 2021; Mildenberger and Stokes 2020; Skocpol 2013).

In 2019, Democratic politicians began campaigning in earnest in the presidential primaries. The climate movement's direct actions were elevated across social media platforms and picked up by mainstream media. These actions weren't merely issue-based pleas, but electoral threats. Yet, youth climate groups didn't pressure Democrats by threatening to vote Republican – they threatened to stay home unless the Democratic nominee took climate seriously. Candidates responded accordingly, incorporating detailed, ambitious climate plans into their platforms. Of course, neither climate-focused Inslee nor progressive stalwart Sanders were the eventual nominee. Rather, primary voters selected party insider Joe Biden, whose moderate climate plan was later strengthened by activist-campaign coordination. This pre-nomination interaction between party elites, activists, and interest groups resulted in a decidedly moderate candidate with progressive ideas on climate (Cohen et al. 2008).

By contrast, Obama's 2008 presidential campaign committed to build clean energy through cap-and-trade, but there was little focus on climate. Obama would not disparage fossil fuels and eventually reversed support for a moratorium on offshore oil and gas development. The Obama campaign's early concessions on climate were an indication of the deprioritization that would follow (Layzer 2011). After expending valuable political capital passing stimulus and health care packages, climate fell off the agenda.

4.3 Coalition Coordination and Grassroots Mobilization is Sustained

Question: "When do we really need to turn the mobilization on?"
Answer: "From now until it passes."
- Conversation in Clean Electricity network one year before IRA passage

One key factor in the IRA's passage was the broad, diverse coalition behind it. Members worked to advance shared priorities and ultimately hung together to support the bill after long negotiations. The bill's climate provisions reflected interests within this coalition: clean energy business investments, environmental justice grants, and strong labor incentives.

Postmortems of the Waxman-Markey bill argued that the coalition was too small and weak to push the bill over the finish-line (Mildenberger 2020; Skocpol 2013). Its narrow coalition negotiated the details without much public input, divorced from grassroots groups, environmental justice organizations, and labor unions. As a result, when the political conditions necessary to pass the bill in the Senate deteriorated, the insider coalition had a shallow bench of supporters.

To correct this error, climate groups, environmental justice groups, unions, and clean energy corporations began coordinating more earnestly from 2016 onwards. In these discussions, organizations collaborated on policy design, communications strategy, grassroots mobilization, and Hill outreach. The Climate Action Campaign coordinated the 'big greens', including the Sierra Club, Natural Resources Defense Council, Environmental Defense Fund, and League of Conservation Voters. The Equitable & Just National Climate Platform, established in 2018, coordinated environmental justice and big green organizations. Seeing some gaps, we established two new networks to coordinate clean electricity and federal electrification policy in 2021.

Newly formed corporate associations also worked to advance the bill, including the American Clean Power Association and the Zero Emission Transportation Association.

Pro-climate industry associations were more politically organized than they were a decade earlier and many were now willing participants in the decarbonization coalition (Meckling et al. 2015; Stokes 2020). Firms that could more easily decarbonize, like the auto industry, recognized the competitive benefits associated with Biden's proposals and fractured from the fossil fuel lobby (Kupzok and Nahm 2024). To be a "pro-business" climate reformer in the 2000s meant negotiating with incumbent fossil fuel interests (Pooley 2010; Skocpol 2013; Mildenberger 2020). By the 2020s, clean energy economic interests supplanted much of that influence.

The BlueGreen Alliance, which has organized environmental groups and labor for nearly two decades, continued its joint advocacy work. Critically, the International Brotherhood of Electrical Workers (IBEW) had strong ties with the Biden administration and emerged as a supporter of its clean energy agenda. Unions made record financial contributions during the 2020 election cycle and expected the Biden administration to prioritize workers. Despite vocal criticism of the Green New Deal in 2019 as 'not achievable or realistic', labor leaders allied with the new administration over shared energy sector priorities (Itkowitz, Grandoni, and Stein 2019). Pairing climate policy with prevailing wage incentives, jobs training, domestic manufacturing, and financial support for legacy energy communities brought unions into coalition with climate groups. The softening of labor opposition, particularly industrial unions, bolstered chances of passing a climate law. While some labor unions ultimately supported the House Waxman-Markey bill after securing concessions for their industries, labor did not mobilize to push the effort forward in the Senate (Mildenberger 2020).

When the bill unexpectedly reappeared, dark money groups worked to undermine the IRA within Congress and the climate movement. United for Clean Power, an astroturfing campaign with ties to GOP operatives and donors, organized texting and calling campaigns to progressive House members saying the bill was bad for environmental justice. That said, the network of outside advocacy groups, Congressional climate staffers and the executive branch that had been working together for several years and built the trust necessary to withstand these last minute attacks.

At the final hour, when the bill went to the Senate floor, this coalition mostly held together, with grassroots groups mobilizing in support. Despite the diversity of interests within the climate coalition, it proved durable under pressure because groups had worked together for several years to include shared priorities, including over $40 billion in environmental justice spending (Chi 2022). Further, the Biden administration's 'Justice40' initiative, established via executive order in January 2021, directed at least 40% of federal energy, transit, housing and other environmental justice benefits into disadvantaged communities and would guide the IRA's implementation. Still, some environmental justice groups opposed it, as well as the separate permitting reform side-deal. For them, it was an unacceptable tradeoff for a climate bill to include support for fossil fuels. The White House and Congressional leadership, however, had to embrace these tradeoffs to accommodate the pivotal voter, Senator Manchin. This was a marked difference from Waxman-Markey, where groups splintered when a deal was on the table.

4.4 Legislative Strategy Focuses on Intracaucus Agreement

"The circumstances of this moment in history made Manchin the fulcrum of this whole deal. Had it been a 51-49 Senate, he wouldn't have necessarily been the decider, but it was a 50-50 Senate, so he had a lot of leverage."

- Adrian Deveny, Director of Climate and Energy Policy for Senate Majority Leader Schumer

The Waxman-Markey bill was designed to gain some support from Republicans in both chambers, moving through regular order at a time when Democrats held a supermajority of 60 seats in the Senate. By contrast, the IRA was designed to move through budget reconciliation, given the Democratic Senate caucus had 50 members in 2021. Still, this strategy was not a panacea: it also empowered the Democrats' most conservative Senator, Joe Manchin.

Often at odds with his party substantively and procedurally, Senator Manchin was Chair of the ENR committee, and was therefore central. In this role, Manchin favored policies that served his constituency, including tax incentives for West Virginian firms and a permanent extension of the Black Lung Disability Trust Fund. Manchin felt particularly aggrieved that the Biden administration had used executive action to delay and obstruct fossil fuel extraction, eking out emissions reductions where they could. In response, he wanted Congress to expand drilling on public lands and waters, frustrated that Interior had delayed its 5-year offshore leasing plan on June 30, 2022 and continued to threaten a final plan with no new leases.

We stress that Senator Manchin was the pivotal voter in the 117th Congress, representing a constituency far more conservative than those of his co-partisans – *however*, his own interest in crafting an energy, healthcare, and tax bill compelled him to resume negotiations before the legislative window closed for good (Manchin 2025). If his mid-July 2022 defection had stuck, he would have lost the opportunity to advance his own policy interests and granted Biden political leeway to act unilaterally. Sincere and consequential negotiations rarely take place until the final moments of the legislative process (Binder and Lee 2015).

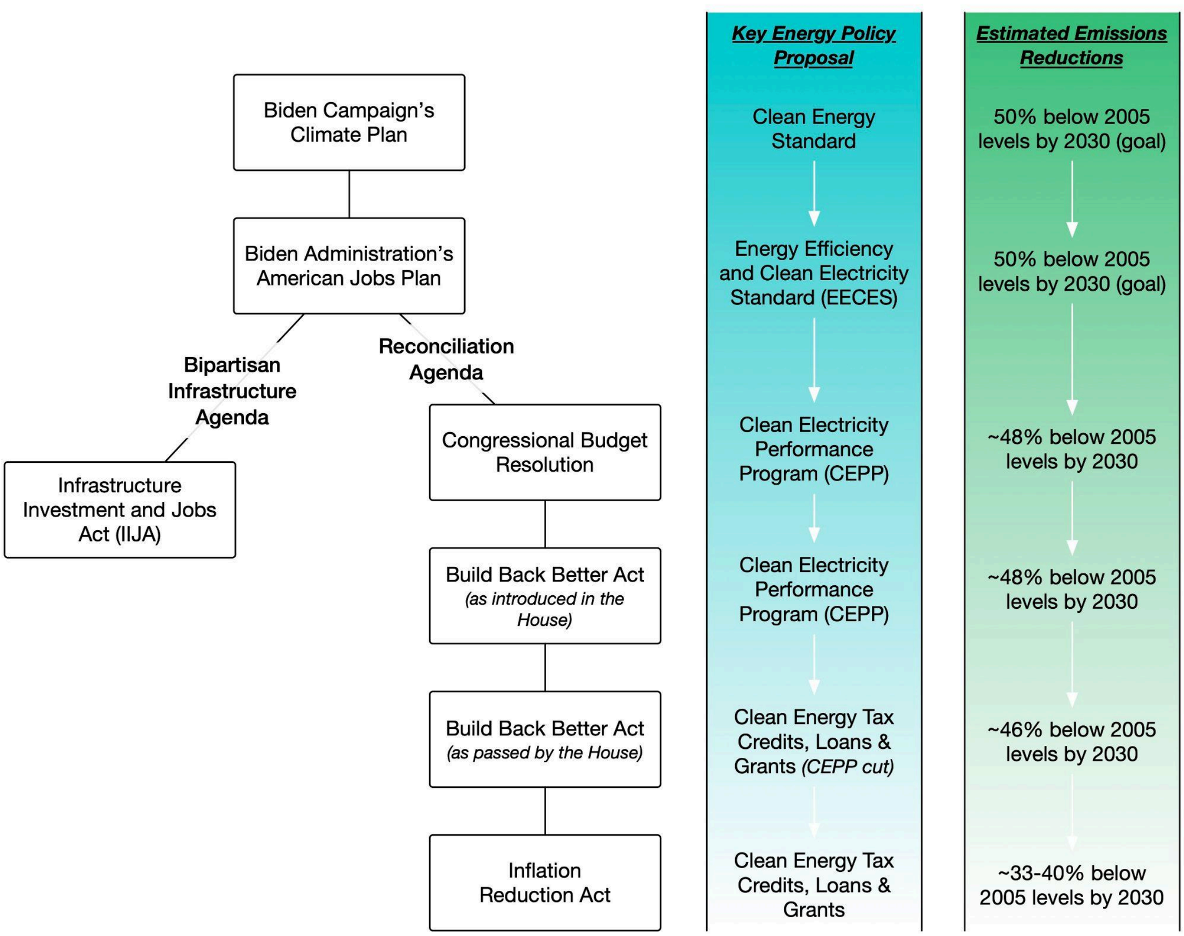
After Senator Manchin's final July defection, and subsequent blowback on the Hill and in the press, his staff continued to facilitate direct talks with fellow Senators and with trusted economists, energy utilities, environmental groups, companies, and union representatives. Most made appeals tailored to constituency interests and job growth. Simultaneously, President Biden reacted to the stalled negotiations by announcing the White House's intention to act on climate via executive action.

Insiders reported that Manchin had two requirements for a final deal. First, he wanted permitting reform efforts to resume after reconciliation, including permits for the Mountain Valley Pipeline. This 300 mile natural gas pipeline would run through his state, but had stalled due to lawsuits and regulatory red tape. Schumer agreed to schedule votes before the end of the fiscal year for a 'permitting side deal' after the reconciliation package passed, which would weaken the National Environmental Policy Act. Manchin felt secure that with Schumer's support, this second package would pass and result in legislation streamlining the construction of energy infrastructure.[3]

Second, Manchin wanted the climate and energy investments under $370 billion – the final number ended up being, uncoincidentally, $369.75 billion. At least on paper.[2] Throughout the negotiations, Leader Schumer's team reduced overall investment levels and jettisoned provision Manchin opposed. Directives to conduct offshore oil and gas lease sales before granting additional offshore wind leases were added, alongside harsher fossil fuel provisions that raised royalty rates and discouraged speculators. At a critical moment to keep costs low, Schumer's team made cuts to the biofuel tax credit provisions, betting that future Republicans would extend these credits later on in support of their agricultural constituencies. Privately, University of Pennsylvania budget modeling additionally convinced Senator Manchin that the federal investments in the bill wouldn't add to inflation (Romm and Stein 2022b).

As much as Manchin held the pen on the energy provisions he championed, including the 48C manufacturing tax credits and the oil and gas supports, he ended up agreeing to provisions he did not particularly favor, such as consumer electrification rebates and expanded clean electricity tax credits. Senator Wyden's technology-neutral approach simplified and extended the tax credits to any source of clean electricity, not just wind and solar. These provisions deliver the bulk of the emissions reductions in the IRA. Together with grants, loan programs, environmental justice carve-outs, fossil fuel sweeteners, and side deals, the legislative pivot was moved and the caucus was unified. Figure 2 summarizes the key energy policy and estimated emission reductions as the package was negotiated.

Figure 2. Energy Policy Development preceding the IRA



Notes: Existing policies (i.e. state and federal policies and regulations as of January 2021) were modeled to deliver emissions reductions of ~28% below 2005 levels by 2030. Emissions modeling sourced from contemporaneous REPEAT Project reports (https://repeatproject.org/reports) and Bistline et al. (2023).

4.5 Secret Negotiations Buffer from Opponents

*"Manchin thought about it over the weekend, and all the bad press. And he was like, 'We want to try again, but we can't tell anybody.' I was like, 'F***ing right we're not going to tell anybody because I don't want to get their hopes up again. I just broke the world's heart 10 times over.'"*

- Gerry Petrella, Policy Director, Senate Majority Leader Chuck Schumer

Transparency in the legislative process is generally lauded as central to good governance. Yet, transparency between lawmakers and outside audiences – the public, media, interest groups, and even other lawmakers – can severely impede dealmaking (Binder and Lee 2015). Lawmakers are more likely to embrace secrecy to overcome impasse, empowering party leaders to act as trustees (Oleszek 2011; Curry and Lee 2020). When the climate bill faced that impasse in mid-July 2022, a single text message between staffers broke the deadlock: "Hey, can you meet this morning? It's important." Around a dozen people were party to the final period of negotiations: Senator Manchin, Leader Schumer, a small group of their essential staff, and a handful of White House staffers. In keeping negotiations secret, Schumer and Manchin insulated the policy design to the outcomes of their choosing – budgetary and emissions impacts – protecting their control over the bill's development (Curry 2015). Piecing climate, energy, drug pricing, and tax reforms together into a single package was no easy task, as the year and a half of open negotiations had proven. In private, however, Manchin and Schumer could compromise.

The practical effect of this secrecy was that neither the bill's supporters nor opponents knew it was happening. This meant that fossil fuel companies who met with Manchin during this period did not lobby him to kill a bill presumed dead. Days before the deal was announced, business leaders praised Manchin on a conference call for "saving the country" from the Democrats' tax and spending plan (Romm and Stein 2022b). They did not know he had reopened negotiations and was nearing a deal — and he did not enlighten them. Looking back at this period, one insider reflected on how keeping fossil fuel and other corporate interests *out* meant keeping the general public similarly in the dark: "I hate to say that because I believe strongly in public process and public input, but that is the downside of public process and public input. And to be clear, we had a lot of input for a tortuously long time."

The IRA's announcement was made with a press release on Manchin's website, where he endorsed the package — immediately after, Schumer and the White House confirmed their support. Although much of the 275-page bill was identical to the House's Build Back Better Act from November 2021, most people – fossil fuel interests and environmentalists alike – did not know its particulars at this point, likely helping it pass the Senate through the fog of enactment (Stokes 2020).

Ironically, Senator Manchin ended up defending the package in front of conservative audiences, appearing on Fox News and framing the IRA as a package of energy security provisions, health care support, and tax and drug pricing reform to help everyday Americans. This benefited the bill greatly. As one insider reflected "All [the conservatives] could initially react to was the framing. And because the initial framing was Manchin going on Fox News and framing it in his way, it was really hard for them to attack."

By contrast, when Waxman-Markey was introduced in the Senate, Democratic Senators from carbon-intensive states signalled their opposition (Mildenberger 2020). Once Senator Ted Kennedy died in office in late 2009, the Democrats lost their supermajority. Even with concessions to business, no more Republican supporters could be gained to make up for these lost votes. Later, a bipartisan group of three Senators briefly met to restart talks, but these collapsed because of distrust, and media leaks, rendering any secrecy ineffective. Facing opposition from all sides, the legislative clock ran out (Pooley 2010).

5. Conclusion & Current Status of the Law

Based on firsthand experience and interviews with activists and policymakers, we argue that the IRA passed while the Waxman-Markey bill failed for five key reasons (Table 2). First, scientists defined clear targets, which activists and later legislators took up. Next, activists created and capitalized on record media attention and high public support, particularly among young people. They used the 2020 Democratic primary to drive media attention and create a race to the top, with candidates competing for the strongest climate plan. The coalition for climate action broadened: environmental groups built stronger networks, including with environmental justice organizations, and President Biden brought labor in. This coalition also drove moderate levels of grassroots mobilization, which had been much lower during Waxman-Markey (Skocpol 2013). The party's choice to pass climate legislation through budget reconciliation refocused efforts toward overcoming intraparty disagreements rather than pursuing bipartisanship. As the legislative window closed, a secret effort between party leadership and the bill's pivotal voter shielded the group from outside opponents and delivered a final compromise. Working on this bill was profoundly challenging and exciting. We walked away – as political scientists turned policy advocates – believing that social scientists should not balk at involvement in policymaking (Hacker 2010).

Table 2. Factors influencing ACES failure and IRA's passage

	ACES (Waxman-Markey bill)	**IRA (Schumer-Manchin bill)**
Scientific target-setting	No clear IPCC near-term target; low activist uptake of targets; moderate legislator endorsement of targets	Clear IPCC near-term target; high activist uptake of targets; high legislator endorsement of targets
Public opinion and media coverage	Moderate attention to climate change in media; high public prioritization in opinion polls; activists leverage both less effectively	High attention to climate change in media; high public prioritization in opinion polls (particularly among young people); activists leverage both highly effectively
Coalition coordination and grassroots mobilization	Moderate coalition coordination; mixed labor support; low grassroots mobilization	High coalition coordination; high labor support; moderate grassroots mobilization
Legislative Strategy	Bipartisan attempt at regular order package fails to reach 60 votes	Democratic-only budget reconciliation package empowers 50th voter
Negotiations' Secrecy	Low secrecy at the conclusion of Senate negotiations, empowering opponents	High secrecy at the conclusion of Senate negotiations, disempowering opponents

Implementation has proven a difficult stumbling block to progress. The law promised jobs and economic growth, consumer demand for low-carbon technology, emissions reductions, and stable energy prices. If investments were concentrated in conservative areas of the U.S., this was believed to reduce backlash from Congressional Republicans (Huang and Kahn 2024). But after Trump won in 2024, it became clear that implementation had been too slow. Despite more than two years since passage, many billions remained unspent.

When Trump took office in 2025, his administration quickly began rescinding Congressionally-appropriated funding from key IRA provisions. As of this writing, and pending a court challenge, the EPA has revoked funding for the Greenhouse Gas Reduction Fund and

Solar for All, canceling over $27 billion in clean energy grants and loans. Companies began pulling back investments as a result of this policy uncertainty, cancelling over $22 billion in manufacturing projects in the first half of 2025, over 10% of all additions since 2022 (CET 2025).

Simultaneously, Congressional Republicans began a budget reconciliation process to pass the "One Big Beautiful Bill Act," which was signed into law on July 4th 2024. Beyond extensive changes to immigration, tax, and healthcare policy, it repealed or amended much of the climate and energy provisions of the IRA. Specifically, it phased out clean electricity tax credits for solar, wind, and hydrogen over about two years, retaining credits for geothermal, nuclear, hydropower, and most importantly battery storage. It also added sourcing requirements to both the sunsetting and retained credits, restricting the use of materials from adversarial nations and creating significant red tape for clean energy developers. It expanded support for renewable fuels and carbon capture, but repealed the electric vehicle and home energy tax credits. Overall, the IRA proved to be somewhat durable to repeal, especially considering that not a single Republican voted for it. Still, the factors that led to its passage – target-setting by international scientific bodies, activist electoral pressure, and pro-reform coalition coordination – were insular to the Democratic party and had little influence on preventing a simple majority of Congressional Republicans from acting.

Instead, it was up to corporate actors building clean energy and manufacturing capacity in Republican districts to defend the law. In total, 21 House Republicans advocated for protecting the clean energy tax credits (Garborino et al 2025). Senator Lisa Murkowski led a similar effort in the Senate, leading a somewhat successful last-minute push to protect solar, wind, and battery projects during final votes for the bill (Murkowski et al 2025). These facts represent the first significant depolarization of clean energy and climate policy legislation in Congress.

Although the bill's designers specifically intended for its benefits-first approach to create a defense constituency, policy feedback takes time to develop. Some commenters have argued that implementation was slowed by bureaucratic inefficiencies and onerous environmental reviews. The benefits delivered in the two years the IRA was law – nearly $170 billion of private capital and about 165,000 new jobs, mostly in Republican districts – felt abstract because these factories were not yet built. This made the bill largely untraceable to the Biden Administration, with voters in both parties misattributing credit to state leaders (Gazmararian, Jensen, and Tingley 2025). Swift and traceable delivery of short-term benefits with increasing returns is critical to the entrenchment of climate policy. In the meantime, state-level reformers, partially insulated from polarized national debates, are driving decarbonization where they can (Basseches et al 2022).

Ultimately, the making (and re-making) of US climate policy in the last decade teaches us that future reform efforts must emphasize timely implementation and credit-claiming to deliver benefits and cement gains. In the near-term, clean energy's continued cost declines may help sustain progress independent of political turnover. Solar plus battery storage represented over 80% of U.S. capacity additions in 2025 (EIA 2025), and Congressional Republicans left the tax credits driving this growth largely intact. Although other provisions were rolled back, many core incentives survived and will continue to shape the US energy transition, albeit more slowly and less equitably, in the years ahead.

Notes

1. Most IRA tax credits were uncapped, and contemporaneous modeling projected fiscal costs exceeding CBO and JCT 2022 estimates (Bistline et al. 2023).
2. Manchin's permitting bill failed to amass bipartisan support and was cut from the September 2022 funding package. A 2023 debt limit deal included modest NEPA reforms and permits for the Mountain Valley Pipeline (Minott et al. 2023).

References

Aldy J (2025) How Big is the "Biggest Climate Spending Bill Ever"? Key Factors Influencing the Inflation Reduction Act's Clean Energy Impacts. Nat'l Tax J. 2025 78:1, 201-221

Asayama S (2024) The history and future of IPCC special reports: A dual role of politicisation and normalisation. Clim. Change 177 (137). https://doi.org/10.1007/s10584-024-03788-1

Ballew M, Marlon J, Goldberg M et al (2002) Changing minds about global warming: vicarious experience predicts self-reported opinion change in the USA. Clim. Change, 173:3.

Basseches J, Bromley-Trujillo R, Boykoff, M et al (2022) Climate policy conflict in the U.S. states: a critical review and way forward. Clim. Change 170:32. https://doi.org/10.1007/s10584-022-03319-w

Binder S, Lee F (2015) Making deals in congress. In: Persily N (ed) Solutions to Political Polarization in America. Cambridge University Press, Cambridge, UK, pp 240-261.

Bistline J, Mehrotra N, Wolfram C (2023) Economic Implications of the Climate Provisions of the Inflation Reduction Act. Brookings Papers on Econ. Activity Spring: 77-157

Bistline J, Blanford G, Brown M et al (2023) Emissions and energy impacts of the Inflation Reduction Act. Science 380(6652):1324-1327. https://doi.org/10.1126/science.adg3781

Boykoff M, Pearman O (2019) Now or Never: How Media Coverage of the IPCC Special Report on 1.5°C Shaped Climate-Action Deadlines. One Earth 1(3):285-288 https://doi.org/10.1016/j.oneear.2019.10.026.

Brulle R (2020) Denialism: organized opposition to climate change action in the United States. In: Konisky D (ed), Handbook of US Environ. Policy. Edward Elgar Publishing, pp 328-341 https://doi.org/10.4337/9781788972840.00033

Chi S (2022) Our Analysis of the Inflation Reduction Act. Just Solutions Collective. https://justsolutionscollective.org/solution/ira-our-analysis-of-the-inflation-reduction-act/

Clean Economy Tracker (CET) (2025) https://cleaneconomytracker.org/

Cohen M, Karol D, Noel H, et al (2008) The Party Decides: Presidential Nominations Before and After Reform. University of Chicago Press, Chicago

Curry J (2015) Legislating in the Dark: Information and Power in the House of Representatives. University of Chicago Press, Chicago

Curry J, Lee F (2020) What Is Regular Order Worth? Partisan Lawmaking and Congressional Processes. J. Politics 82(2):627-641. https://doi.org/10.1086/706893.

Drake H, Henderson G (2022) A defense of usable climate mitigation science: how science can contribute to social movements. Clim. Change 172(10). https://doi.org/10.1007/s10584-022-03347-6

Foer F (2023) The Last Politician: Inside Joe Biden's White House and the Struggle for America's Future. Penguin Press, New York

Garborino A, Kiggans J, Ciscomani J et al (2025) Letter from Members of the House Republican Conference to House Ways & Means Chairman Jason Smith.

Gazmarian A, Jensen N, Tingley D (Forthcoming 2025) Why Clean Energy Investments had Limited Political Returns.

Green J (2021) Does Carbon Pricing Reduce Emissions? A Review of Ex-Post Analyses. Environ. Res. Lett. *16.*

Hacker J (2010) The Road to Somewhere: Why Health Reform Happened: Or Why Political Scientists Who Write about Public Policy Shouldn't Assume They Know How to Shape It. Perspect. Politics 8(3):861-876.

Heniff B (2016) The Budget Reconciliation Process: The Senate's Byrd Rule. Congressional Research Service.

Hong J, Crichton W, Zhang H et al (2021) Stanford Cable TV News Analyzer. Association for Computing Machinery. https://tvnews.stanford.edu/.

Huang R, Kahn M (2024) Do Red States Have a Comparative Advantage in Generating Green Power? Environ and Energy Policy and Econ., Vol. 5:200-238

Hulme M (2016) 1.5 °C and Climate Research after the Paris Agreement. Nat. Clim. Change 6:222-224. https://doi.org/10.1038/nclimate2939

InfluenceMap (2020) Climate Change and Digital Advertising: Climate Science Disinformation in Facebook Advertising.

IPCC (2018) Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C Approved by Governments.

Itkowitz C, Grandoni D, Stein J (2019) AFL-CIO Criticizes Green New Deal, Calling it 'Not Achievable or Realistic.' The Washington Post.

Jenkins J, Mayfield E, Jones R et al (2022) Summary Report: The Climate Impact of Congressional Infrastructure and Budget Bills. REPEAT Project. doi:10.5281/zenodo.6311986

Kingdon D (1984) Agendas, Alternatives, and Public Policies. Little, Brown, Boston.

Kollman K (1998) Outside Lobbying: Public Opinion and Interest Group Strategies. Princeton University Press, Princeton

Kupzok N, Nahm J (2024) The Decarbonization Bargain: How the Decarbonizable Sector Shapes Climate Politics. Perspect. Politics:1-21

Laird F (2001) Solar Energy, Technology Policy, and Institutional Values. Cambridge University Press

Layzer J (2011) Cold Front: How the Recession Stalled Obama's Clean-Energy Agenda. In: Skocpol T, Jacobs L (eds) Reaching for a New Deal: Ambitious Governance, Economic Meltdown, and Polarized Politics in Obama's First Two Years. Russell Sage Foundation, New York, NY

Layzer J (2012) Open for Business: Conservatives' Opposition to Environmental Regulation. MIT Press, Cambridge, MA

Mahajan M, Orvis R (2021) Modeling the Infrastructure Bills Using the Energy Policy Simulator. Energy Innovation.

Manchin J (2021) Why I Won't Support Spending Another $3.5 Trillion. The Wall Street Journal.

Manchin J (2025) Dead Center: In Defense of Common Sense. St. Martin's Press, New York.

Meckling J, Kelse N, Biber E, et al (2015) Winning Coalitions for Climate Policy. Science, 349(6253):1170-1171.

Mildenberger M (2020) Carbon Captured: How Business and Labor Control Climate Politics. MIT Press, Cambridge, MA

Mildenberger M, Stokes L (2020) The Trouble with Carbon Pricing. Boston Review. https://www.bostonreview.net/articles/trouble-carbon-pricing

Minott O, Fishman X, Jacobs J (2023) How Does the Fiscal Responsibility Act Reform Permitting and Environmental Review? Bipartisan Policy Center.

Murkowski L, Curtis J, Tillis T et al (2025) Letter from Members of the Senate Republican Conference to Senate Majority Leader John Thune.

Oleszek W (2011) Congressional Lawmaking: A Perspective On Secrecy and Transparency. CRS Report No. R42108. https://sgp.fas.org/crs/secrecy/R42108.pdf

Pew Research Center (2020) Election 2020: Voters Are Highly Engaged, but Nearly Half Expect To Have Difficulties Voting.

Pooley E (2010) The Climate War: True Believers, Power Brokers, and the Fight to Save Earth. Hyperion, New York

Pouliot V (2014) Practice tracing. In: Bennett A, Checkel J (eds) Process tracing: From Metaphor to Analytic Tool. Strategies for Social Inquiry. Cambridge University Press, Cambridge, UK, pp 237-59.

Reynolds M (2021) 'A Free-Range Chicken that Can Run Wherever the Majority Wants It To': Budget Reconciliation and the Contemporary U.S. Senate. The Forum, 19(4):629-647. https://doi.org/10.1515/for-2021-2035

Romm T (2022) Democrats Scramble to Resurrect 'Chunks' of $2 Trillion Spending Plan Backed by Biden. The Washington Post.

Romm T, Stein J (2022a) Manchin Says He Won't Support New Climate Spending or Tax Hikes on Wealthy. The Washington Post.

Romm T, Stein J (2022b) The two-week scramble that saved Democrats' climate agenda. The Washington Post.

Skocpol T (2013) Naming the Problem: What It Will Take to Counter Extremism and Engage Americans in the Fight against Global Warming. Columbia School of Journalism and the Scholars Strategy Network.

Stokes L (2020) Short Circuiting Policy: Organized Interests in the American States and the Erosion of Clean Energy Laws. Oxford University Press, Oxford, UK

Stokes L, Breetz H (2018) Politics in the U.S. Energy Transition: Case Studies of Solar, Wind, Biofuels and Electric Vehicles Policy. Energy Policy 113:76-86. https://doi.org/10.1016/j.enpol.2017.10.057.

Stokes L, Ricketts S, Quinn O, et al (2021) A Roadmap to 100% Clean Electricity by 2035. Evergreen Action & Data for Progress.

Stokes L, Ricketts S, Quinn O (2021) A Roadmap to 100% Clean Electricity by 2035: August 2021 Update. Evergreen Action.

Turner J, Isenberg A (2018) The Republican Reversal: Conservatives and the Environment from Nixon to Trump. Harvard University Press, Cambridge, MA

Tyson A, Kennedy B, Funk C (2021) Gen Z, Millennials Stand Out for Climate Change Activism, Social Media Engagement With Issue. Pew Research Center.

U.S. Energy Information Administration (EIA) (2025) Solar, Battery Storage to Lead New U.S. Generating Capacity in 2025.

Walsh J, Podesta J, Dillen A et al (2021) Letter to President Joe Biden, Speaker of the House Nancy Pelosi, and Minority Leader Chuck Schumer concerning Build Back Better.

Yeager D, Larson S, Krosnick J, et al (2011) Measuring Americans' Issue Priorities: A New Version of the Most Important Problem Question Reveals More Concern About Global Warming and the Environment. Public Opin. Q. 75(1):125–138. https://doi.org/10.1093/poq/nfq075

Zaller J (1992) The Nature and Origins of Mass Opinion. Cambridge University Press, Cambridge, UK