

---

# Out of Time

---

The Case for Nationalizing  
the Fossil Fuel Industry

Mark Paul  
Carla Santos Skandier  
Rory Renzy

---

People's Policy Project

The Next System Project

Mark Paul

Mark Paul is an assistant professor of economics and environmental studies at New College of Florida. His current research focuses on the economics of climate change and inequality.

Carla Santos Skandier

Carla Santos Skandier is the co-manager of The Democracy Collaborative's Climate & Energy Program.

Rory Renzy

Rory Renzy is an undergraduate student at New College of Florida. His research interests include democratic reforms in the workplace and creating a sustainable and responsive government for all.

# Introduction

For decades, scientists have been predicting catastrophic levels of global heating if society does not change course. The relatively simple models that were in play when Dr. James Hansen first testified to the U.S. Congress in 1988, warning members that global heating posed a serious threat, have proven to be remarkably accurate.<sup>1</sup> More than 30 years later, the stock of carbon dioxide (CO<sub>2</sub>) in the atmosphere continues to skyrocket.<sup>2</sup> American companies show no signs of limiting CO<sub>2</sub> emissions anytime soon; in fact, they are currently planning to extract record levels of reserves buried underground.<sup>3</sup>

What is to be done in the limited time we have left? How does society put itself on a different path that will stabilize temperatures for generations to come? Groups like the Sunrise Movement have moved mountains in the past two years by increasing public awareness about the climate emergency, and helping develop and popularize bold ideas like the Green New Deal.<sup>4</sup> Building the green economy is going to require monumental action, including investments to create unionized living-wage jobs and better people's lives through improved public services, air quality, and a thriving economy.

But in this paper we want to think about the other side of the equation: the dirty side.

The dirty side of the climate equation refers to the fossil fuels industry that is polluting our waterways, our air, our planet, and our bodies. Given the stage of the crisis we are in, one thing is clear: the fossil fuel economy must be rapidly phased out. Scientists have repeatedly pointed this out, noting that decades of inaction have made the challenge that much harder. Due to inaction, we have four times the work to do to decarbonize the planet and dwindling time to do it in.<sup>5</sup> Despite the enormous stakes, viable pathways to quickly wind down the fossil fuel industry are less clear. Moreover, the idea of a managed decline of the industry has received little to no media or policy attention, though this is beginning to change with the collapse of oil prices. As much as some would like to believe that the fossil fuel industry can lead the energy transition, their actions—past and present—prove this

is a dangerous pipedream. Fossil fuel executives have known about global warming and the role their firms play in the impending catastrophe for close to half a century.<sup>6</sup> Rather than diversifying their businesses and investing in the green energy of the future, they have decided to double down, extract more, and intentionally lie to the public in order to sow seeds of doubt in what they themselves knew,

“Due to inaction, we have four times the work to do to decarbonize the planet and dwindling time to do it in.”

- 
1. Zeke Hausfather, Henri F. Drake, Tristan Abbott, Gavin A. Schmidt, “Evaluating the Performance of Past Climate Model Projections.”
  2. Bloomberg Green
  3. Kelly Trout, Lorne Stockman, “Drilling Towards Disaster: Why U.S. Oil and Gas Expansion is Incompatible With Climate Limits,” Oil Change International.
  4. Mark Paul, Anders Fremstad, J.W. Mason, “Decarbonizing the U.S. Economy: Pathways Toward a Green New Deal,” Roosevelt Institute.
  5. Nature, “Emissions: world has four times the work or one-third of the time.”
  6. Kathy Mulvey and Seth Shulman, “The Climate Deception Dossiers, Union of Concerned Scientists; Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977-2014).”

**Figure 1**

**Fossil fuel employment figures in the US, direct & indirect**

Type of Employment	Fossil Gas	Coal	Oil
Mining & Extraction (Direct)	162, 928	55,905	308,681
Utilities (Indirect)	176,167	45,795	–
Wholesale Trade (Indirect)		43,327	170,945
Manufacturing/construction	113,339	–	155,267
<b>Total (including “other” sources)</b>	<b>625,369</b>	<b>197,418</b>	<b>799,531</b>

SOURCE: 2019 USEER

and continue to know, to be the truth; all with the end goal of maximizing power and short-term profits through a continued harmful business as usual model.<sup>7</sup> In part, they are constrained by their own carbon lock in: even if fossil fuel companies wanted to pivot their operations, their heavy investments in fossil fuel reserves, extraction, and transport means that they need to keep extracting and selling to the market for decades to come to recoup the costs of the capital-intensive infrastructure.<sup>8</sup> Even now, with growing climate impacts across the world and a groundswell of climate activism, Shell’s chief economist summarizes their current thinking as follows: “we’re going to get as much out of [oil and gas] for as long as we can.”<sup>9</sup>

This brings us back to our earlier question: what is to be done? Specifically, how can fossil fuel industries be rapidly wound down given the scale of the climate problem, the extremely short timeline we have to decarbonize, and the fossil fuel companies’ carbon lock-in? Importantly, this is not just a debate unfolding amongst climate activists. Financial elites including Mark Carney, Jim Cramer, and Larry Fink are sounding the alarm too.<sup>10</sup>

Any dismantling of industry has to consider how to support its workers. Looking at direct and indirect jobs across the coal, oil, and gas industries indicates how challenging a large-scale decline of fossil fuels will likely be. By the end of 2018, the gas, coal and oil industries account for over 1.6 million U.S. workers (See Figure 1). The fossil fuel industry has shown no signs that it is willing to put in place proactive measures for transition, putting at risk employees and the communities they live in. In fact, the decline of the coal industry has shown that companies are willing to shed their responsibility to workers.

Many economists argue that we just need a carbon price and the wonders of the market will work it all out.<sup>11</sup> We will address this misplaced overconfidence in the market below. Others offer that renewables will rapidly be able to push fossil fuels out of the market as cheaper sources of power. Some activists, on the other hand, have been fighting to #KeepItInTheGround by pushing for supply-side policy interventions that would halt extraction of fossil fuel resources.<sup>12</sup> Presidential candidates for the 2020 Democratic primary have focused on executive orders to limit extraction on

7. Robert J. Brulle, “Institutionalizing delay: foundation founding and the creation of U.S. climate change counter-movement organizations;” Robert J. Brulle, Melissa Aronczyk, Jason Carmichael, “Corporate promotion and climate change: an analysis of key variables affecting advertising spending by major oil corporations, 1986-2015;” Climate Investigations Center, “Trade Associations and the Public Relations Industry;” Yue Stella Yu, “Fossil fuel industry continues to dwarf environmental interests in election-related spending,” Center for Responsive Politics.

8. Oil Change International, “Burning the ‘Gas Bridge’ Fuel Myth.”

9. Malcolm Harris, “Shell is Looking Forward,” New York Magazine.

10. Larry Fink, “A Fundamental Reshaping of Finance,” Blackrock; Mark Carney, “A New Horizon;” Kevin Stankiewicz, “Cramer: Wall Street is finally having the reckoning on climate change it needs.”

11. Climate Leadership Council: The Four Pillars of Our Carbon Dividends Plan

12. Greenpeace: Keep It In The Ground; Naomi Klein, This Changes Everything: Capitalism vs. The Climate

public lands, fracking bans, and reinstating the U.S. Crude export ban - a measure that in itself could reduce global emissions by the equivalent of closing between 19 and 42 coal plants.<sup>13</sup> But eliminating the dirty industries will require much more than that; it demands that the U.S. halt existing and already producing fields and transition the economy beyond fossil fuels in a controlled fashion. There is no single silver bullet to ensure this happens. Instead, we will need a large swath of policy changes to transition the economy. Markets, for their part, are incapable of managing such a sizable transition, particularly since they've been manipulated in the industry's favor through things like subsidies and bailouts. A transition will be fought tooth and nail by existing fossil capital. And importantly, phasing out fossil fuels requires a plan, which the country sorely lacks at this time.

The time has come for the U.S. government to nationalize the fossil fuel industry. With oil prices collapsing, and even going negative, and firms' market values plunging, the government can once again use a policy weapon that has in the past been successful in overcoming social and economic unrest: nationalization. A federal takeover can start to meaningfully address the climate emergency and remove fossil fuel interests from the political equation—for a cheap price, too. While a few years ago taking over just the top 25 oil, gas, and coal companies would have required over \$1.15 trillion, today a takeover could cost just \$550–\$700 billion (or half of that if the Fed were to acquire only majority control—51 percent—of companies). That's a small price to pay to neutralize fossil fuel industry power once and for all.

Nationalization alone will not solve the crisis, but it's a crucial tool to consider as we engage in a program of crash decarbonization, particularly in ways that protect workers and communities dependent on extraction. This is especially true given current macroeconomic conditions (specifically the economic collapse due to the COVID-19 outbreak and the collapse of international oil prices), where fossil capital has been rapidly devalued and government debt is as cheap as it has ever been. With a habitable planet at stake, nationalization is an eminently reasonable policy to undertake.

---

13. Sunrise Movement, Presidential Scorecard; Oil Change International, Greenpeace, "Carbon Impacts of Reinstating the U.S. Crude Export

# The Environment Cannot Wait

**T**en years. That is how much time the Intergovernmental Panel on Climate Change (IPCC) says we have left to transform our energy and economic systems before crossing the dangerous thresholds that would lock in further planetary destruction. Still, most companies—and most politicians, for that matter—fail to act at a scale that meets the gravity of the situation. Oil, gas, and coal industries are charging towards a cliff, investing in new extraction research and development, adding new projects and reserves to their portfolio, and building pipelines they expect to operate well beyond the decade we have left.

U.S. policymakers have implemented some steps to curtail emissions, including tax incentives to usher in faster renewable energy deployment, increased fuel efficiency standards and pollution controls, and regional carbon pricing initiatives. While this set of sticks and carrots has had some beneficial effects, it is nowhere near what is necessary to put the country on track towards decarbonization.<sup>14</sup> With fossil fuel companies fighting tooth and nail to prevent the implementation of even insufficient measures like Washington State’s \$15 carbon tax, it’s easy to imagine what fossil fuel majors would do to prevent the adoption of meaningful mitigation policies.

Oil, gas, and coal companies have for decades fought to weaken environmental regulations, game the system by externalizing environmental costs, and cut corners to meet higher profit margins. One doesn’t need to go much further than the historical BP’s 2009 spill in the Gulf Coast where a decade later, and despite the billions spent in settlements,

the impacts on the marine and wetland ecosystems still persist today with no parallel consequence to BP’s business model.<sup>15</sup> Or the over 1,500 Superfund sites across the United States—sites identified as contaminated by hazardous materials that require mitigation—with the added problem that close to 60 percent of these are located in areas under threat of climate impacts.<sup>16</sup>

As exposed by Macey and Salovaara, the top four coal companies have been able to skirt \$1.9 billion in environmental liabilities, including Com-

“Winning slowly  
is the same  
as losing.”

—CLIMATE ACTIVIST BILL MCKIBBEN

prehensive Environmental Response, Compensation, and Liability Act (CERCLA) duties, states’ cap-and-trade programs, and even climate lawsuits, in courtrooms.<sup>17</sup> At times, companies have even taken a step further and managed to bypass responsibilities altogether by creating spin-off, “designed-to-fail” companies with the sole purpose of holding their environmental liabilities.<sup>18</sup>

14. Columbia Center on Global Energy Policy: What You Need to Know About a Federal Carbon Tax in the United States; Anders Fremstad, Mark Paul, “Disrupting the Dirty Economy.”  
15. Annie Ma, “Nine Years Later, the BP Oil Spill’s Environmental Mess Isn’t Gone,” Mother Jones.  
16. GAO: 20-73: Superfund  
17. Jonathan Randles, “Judge Rules Bankruptcy Sale Cuts Off California ‘Cap-and-Trade’ Liability,” Wall Street Journal; Jonathan Randles, “Judge rules Peabody bankruptcy blocks lawsuit,” MarketWatch; 96th

Congress: P.L. 96-510; Joshua Macey, Jackson Salovaara, “Bankruptcy as Bailout: Coal Company Insolvency and the Erosion of Federal Law,” Stanford Law Review.  
18. Jonathan Randles, “Judge Rules Bankruptcy Sale Cuts Off California ‘Cap-and-Trade’ Liability,” Wall Street Journal; Jonathan Randles, “Judge rules Peabody bankruptcy blocks lawsuit,” MarketWatch; 96th Congress: P.L. 96-510; Joshua Macey, Jackson Salovaara, “Bankruptcy as Bailout: Coal Company Insolvency and the Erosion of Federal Law,” Stanford Law Review

In the event that stricter regulations were to succeed, there is also the problem of the “Green Paradox.” Also known as intertemporal leakage or rebound effect, the Green Paradox refers to when, in anticipation of policies to curtail extraction and/or build renewable capacity, fossil fuel companies ramp up production in an effort to squeeze out every last penny and ensure that little to no fossil fuels are left unburnt. Thus policies meant to curtail emissions can actually exacerbate them, at least for a period of time.<sup>19</sup>

Some researchers believe the Green Paradox may be outdated since renewable energy today is often cheaper than new fossil fuel capacity. But it is not that simple, largely because of already-existing infrastructure. To start producing, reserves require high levels of upfront capital investments in the form of wells, mines, machinery, pipelines, refineries, and so on. Once those investments are made, companies have little to no incentive to stop producing as they seek to recover their investments. Firms will continue to produce as long as the marginal cost of bringing one more unit of fossil fuel to market does not exceed the price. Some producers might even forgo profits, operating at a loss at times, flooding the market with products to lower prices in order to preserve their monopoly status in the market. Saudi Arabia did this in 2014 when it flooded the market with cheap conventional oil to save its market share against increasing, yet more expensive, U.S. shale production. Now a price war involving Russia and Saudi Arabia against the U.S. is in full swing, each betting that they can destroy their competitors and shift markets in their favor in the long-run by allowing oil prices to even go negative. The consequences are dire, further locking in carbon-intensive infrastructure and emissions,

and postponing introduction of renewable substitutes.<sup>20</sup>

Even when fossil fuel companies cease operations, they often default on commitments to restore land they exploited and polluted.<sup>21</sup> Restoration, also known as reclamation, can involve a number of cleanup initiatives to properly decommission fossil fuel sites, including plugging wells, removing surface infrastructure, and rehabilitating land as close as possible back to its prior state. To get a permit to even start their operation, oil, gas, and coal companies must set aside securities that will cover the cleanup costs in the event they fail to properly reclaim the extracted site.<sup>22</sup>

Despite these regulatory requirements, clean-up activities and the impacts of improperly reclaimed sites continue to fall to local governments and communities. At the center of the mismatch between real costs and securities is the practice of self-bonding—bonds issued by the obliged company whose only security is, oddly enough, its financial health. Largely unnoticed, the practice made headlines during the coal industry’s demise in the 2000s when it was revealed that as much as \$2.5 billion in reclamation was guaranteed by bankrupt companies through self-bonds. Peabody Energy alone had over \$1.43 billion in self-bonds at the time of its bankruptcy filing, an amount \$500 million higher than its net worth.<sup>23</sup> The practice has fallen substantially since then, but in 2018 \$1.2 billion in coal mine reclamation was reportedly still covered through self-bonds.

The coal sector is far from the only one defaulting on reclamation responsibilities. The government of California had to pay \$70 million in cleanup costs for two insolvent offshore oil facilities, Rincon Island and Platform Holly. The California Coun-

---

19. Svenn Jensen, Kristina Mohlin, Karen Pittel, Thomas Sterner, “An Introduction to the Green Paradox: The Unintended Consequences of Climate Policies.”

20. Frederick van der Ploeg and Cees Withagen, “Global Warming and the Green Paradox: A Review of Adverse Effects of Climate Policies.”

21. 95th Congress: H.R. 2; 66th Congress: S. 2775

22. Clark Williams-Derry, “An Explainer: Coal Mine Cleanup and ‘Self-Bonds,’” Sightline Institute.

23. Joshua Macey, Jackson Salovaara, “Bankruptcy as Bailout: Coal Company Insolvency and the Erosion of Federal Law,” Stanford Law Review.

cil on Science and Technology found that 5,540 state wells are at risk of becoming “orphaned” (unclaimed), with a potential net liability of \$500 million to the state.<sup>24</sup> As California pushes further its goal of carbon neutrality by 2045, another 70,000 wells might be added to the government’s responsibility, potentially costing taxpayers over \$9 billion—an amount 81 times greater than the \$110 million set aside by companies in bonds.<sup>25</sup> Likewise, the U.S. Government Accountability Office estimated that as little as 0.01 percent of all wells under federal jurisdiction have sufficient cleanup funds.<sup>26</sup> Examples like this will be commonplace as fossil fuel companies start going belly-up. Costs will be socialized; workers and communities will be put at the back of the line, and executives will receive golden parachutes.

Companies often use bankruptcy procedures as a way to weasel out of environmental and community protections. During its 2016 bankruptcy process, Arch Coal made a deal with the state of Wyoming to swap \$486 million in reclamation self-bonds for \$75 million in assets. Although the negotiation made the state a senior creditor category if liquidated, it also left Wyomingites with a hole of more than \$400 million in cleanup costs in

the event that Arch doesn’t comply with its reclamation obligations.<sup>27</sup> Many others have done the same; some companies were able to successfully reduce reclamation obligations to 14 percent of the minimum required under law, according to Joshua Macey and Jackson Salovaara.

Nationalization could help control some of these climate and environmental outcomes. By acquiring the companies’ infrastructure and operations, the federal government can define a clear managed decline. Instead of falling prey to the Green Paradox and pressured deregulation in the ten years we have left to end the fossil fuel era, public ownership could allow for measured, justice-oriented decisions to be made about how to wind down production.

In this wind-down process, publicly owned operations could more easily be held accountable for strict environmental standards that private companies have tried to shirk. It also puts the public squarely in charge of the remediation process. While in the current scenario, the government still has to pick up the tab for cleanup, a public control scenario allows for proactive planning. Any revenues generated could be directed towards the costs of cleanup.

---

24. Wells that have been inactive for more than five years and are owned by operators who haven’t produced in California for over five years.

25. California Council on Science & Technology, “Orphan Wells in California.”

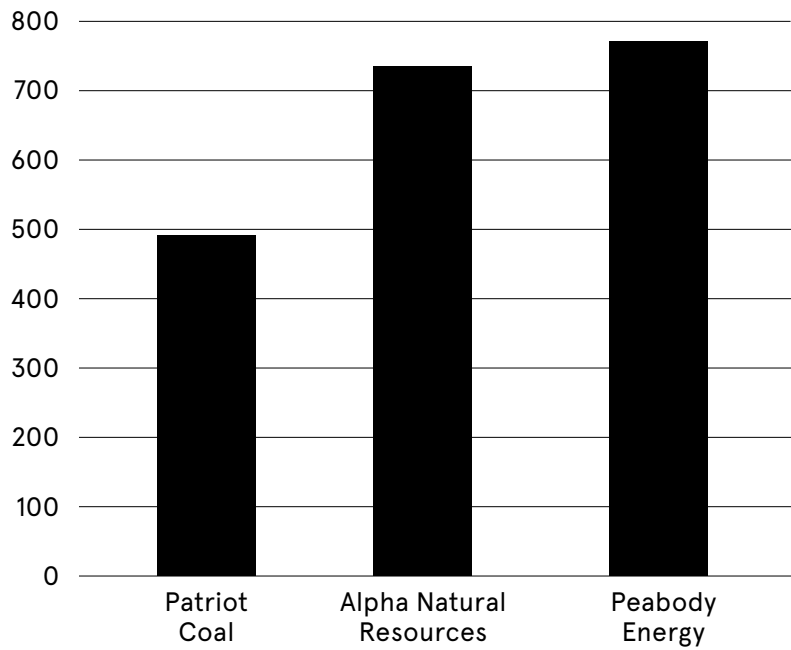
26. GAO: 19-615: Oil and Gas; 19-718T: Federal Energy Development

27. David Roberts, “As coal companies sink into bankruptcy, who will pay to cleanup their old mines?” Vox.



**Figure 2**

**Environmental Liabilities Discharged Due to Bankruptcy Procedures  
(In millions of dollars)**



SOURCE: JOSHUA MACEY AND JACKSON SALOVAARA, "BANKRUPTCY AS BAILOUT: COAL COMPANY INSOLVENCY AND THE EROSION OF FEDERAL LAW." STANFORD LAW REVIEW.

# No Election (Or Congressional Session) Left to Waste

Since Sen. Hanna (R-OH) uttered those words at the turn of the 20th century, money and politics have become even more tangled. While the oil, gas, and coal industries were “building” America, they were also quickly concentrating power in the hands of a few who, in turn, have used their influence to co-opt American democracy. The co-optation of the political system has not only inflated fossil fuel barons’ financial power, but also created a web of feedback effects that have made change to the extractive system nearly impossible. By pouring money into elections, engaging in lobbying and revolving door activities, and creating think tanks with the sole purpose of shaping a business-friendly political environment, the fossil fuel industry has effectively privatized the U.S. political sphere.<sup>28</sup> Since 1990, industry efforts to give unprecedented amounts of cash to legislators to vote against environmental policies and delay climate action has directly secured ExxonMobil and Chevron alone a combined \$1.1 trillion in profits.<sup>29</sup>

One of the most direct ways fossil fuel companies have corrupted the U.S. political system has been by financially supporting candidates to set the stage for a friendly regulatory and administrative environment.<sup>30</sup> Just in the last three election cycles—2014, 2016, and 2018—the oil and gas industry contributed a combined \$254 million to candidates. This has resulted in a high return on investment, in the form of hundreds of millions—if not billions—in subsidies, blunted pollution regulation, and continued inaction on climate change.

“The co-optation of the political system has not only inflated fossil fuel barons’ financial power, but also created a web of feedback effects that have made change to the extractive system nearly impossible.”

---

28. Jacob Hacker and Paul Pierson, *Winner-Take-All Politics*.

29. Matthew Taylor, Jillian Ambrose, “Revealed: big oil’s profits since 1990 total nearly \$2tn,” *The Guardian*.

30. For an excellent review of political capture at the state level, see Leah Stokes’ *Short Circuiting Policy: Interest Groups and the Battle Over Clean Energy and Climate Policy in the American States*. Oxford University Press

Overwhelmingly this money has been directed to Republican candidates. For instance, in 2018 over 80 percent of the energy sector’s campaign contributions went to Republicans.<sup>31</sup> The result of this partisan effort is a pro-fossil fuel administration and Congress, with the president and as much as 28 percent of Congress, or 150 members—all Republicans—considered to be climate deniers.<sup>32</sup> These politicians, in turn, continue to protect the fossil fuel industry by blocking hopes of sensible legislation to start reducing greenhouse emissions in the U.S.

While Republicans are largely favored by oil and gas campaign contributions, energy companies have also channeled money to blue contenders over the years. Some, like EOG Resources, have made the majority of their contributions to Democrats.<sup>33</sup> While climate inaction has a strong partisan character, systemic corporate influence and big money have driven the country to the climate breaking point.

This is not only a matter of national politics. When environmentally friendly policy ideas are proposed at the state and local level, fossil fuel companies often make sure they fail. In 2018, fossil fuel companies spent over \$100 million in ads to defeat just four state and municipal ballot initiatives that would create additional hurdles to extractive activities. These included a small carbon tax in Washington State, a requirement to increase the renewable capacity of Arizona’s utilities, a ban on new drilling and fracking in San Luis Obispo county (California), and a 2,500-foot buffer zone around schools and hospitals for oil and gas extraction in

“There are two things that matter in politics. The first is money. I can’t remember the second.”

—SENATOR MARK HANNA

Colorado (here, fossil fuel companies outspent environmental advocates by a whopping 40-to-1).<sup>34</sup>

Outside of elections, fossil fuel companies shape not only the pool of candidates on the ballot, but also the available pool of policy ideas. This includes the well-documented spending of millions every year on lobbying and revolving-door activities to influence policy and halt progress in climate action.<sup>35 36</sup> In 2019, companies with interests in oil and gas spent almost \$125 million in lobbying and had an extraordinary 699 individual lobbyists working in Congress.<sup>37</sup> A recent study shows that from 2000–2016, opponents of climate legislation spent \$2 billion collectively on federal lobbying, often muddling the ability of Congress members and

31. Harry Stevens, “Corporate America leans GOP in 2018 midterms,” Axios.

32. Sally Hardin, Claire Moser, “Climate Deniers in the 116th Congress,” Center for American Progress.

33. Harry Stevens, “Corporate America leans GOP in 2018 midterms,” Axios.

34. David Sirota, “Big Oil v the planet is the fight of our lives. Democrats

must choose a side,” The Guardian.

35. Center for Responsive Politics: Industry Profile: Oil & Gas

36. The New York Times, “Who Controls Trump’s Environmental Policy?”

37. Center for Responsive Politics: Industry Profile: Oil & Gas

staff to understand the policy preferences of their constituents.<sup>38 39</sup>

The revolving door between government and the fossil fuel industry has likely never been so blatantly obvious, with former lobbyists Andrew R. Wheeler and David Bernhardt as heads of the Environmental Protection Agency and Department of Interior, respectively; former Ford Motor executive Dan Brouillette as the Energy Secretary; and the infamous ExxonMobil CEO Rex Tillerson, who served for over one year as U.S. Secretary of State, just to name a few.<sup>40</sup> Fossil fuel companies have followed Big Tobacco's playbook to deceive the public about the negative impacts of their activities by investing in another set of organizations: "denial groups." These groups, like the American Legislative Exchange Council (ALEC) and the Global Climate Coalition, have been supported by every single oil and gas major in the country, sowing seeds of denialism and delay to allow for extraction to continue as long as possible.<sup>41</sup>

The U.S. political system has been captured by a small yet powerful group of fossil fuel interests whose priorities are to extract, extract, extract in an effort to maximize short-term profits. We have been forced to leave the critical decisions over natural resources and the future of existence as we know it to short-sighted profiteers. Below is a simplified view of the ways in which fossil fuel corporations influence American politics: See Fig 3.

These efforts have paid off in the form of delayed action in the climate crisis, the dismantling of an already precarious democratic policy system, and a money-making machine for the industry.<sup>42</sup> <sup>43</sup> In 2015 alone, the U.S. government granted as much as \$649 billion, or the equivalent of \$2,028 per person living in the U.S., in subsidies to fossil fuel companies.<sup>44</sup> In 2018, the tax incentives were

"In 2015 alone, the U.S. government granted as much as \$649 billion, or the equivalent of \$2,028 per person living in the U.S., in subsidies to fossil fuel companies."

so great that Chevron and Occidental Petroleum were able to zero out their income taxes, despite having a total income of \$4.5 billion and \$3.4 billion, respectively.<sup>45</sup>

Climate advocates have been innovative in pushing campaigns that shift the entrenched political dynamic. Particularly successful has been the No Fossil Fuel Money Pledge, which requires that politicians refuse money with origins in coal, oil, and gas extraction.<sup>46</sup> In 2018, 19 of the 54 Democrats elected to the House endorsed the pledge. This pledge<sup>47</sup> was similarly signed by all the leading 2020 Democratic candidates for president.<sup>48</sup>

While projects like the Pledge have helped

38. Robert Brulle, "The climate lobby: a sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016."

39. Alexander Hertel-Fernandez, Matto Mildenerger, Leah Stokes, "Legislative Staff and Representation in Congress."

40. The New York Times, "Who Controls Trump's Environmental Policy?"; Mazin Sidahmed, "Climate change denial in the Trump cabinet: where do his nominees stand?" The Guardian.

41. Kathy Mulvey and Seth Shulman, "The Climate Deception Dossiers, Union of Concerned Scientists

42. Columbia University: Climate Deregulation Tracker

43. Peter Erickson, Adrian Down, Michael Lazarus, Doug Koplow, "Effect of government subsidies for upstream oil infrastructure on U.S. oil

production and global CO2 emissions," Stockholm Environment Institute.

44. David Coady, Ian Perry, Nghia Piotr-Le, Baoping Shang, "Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates," International Monetary Fund.

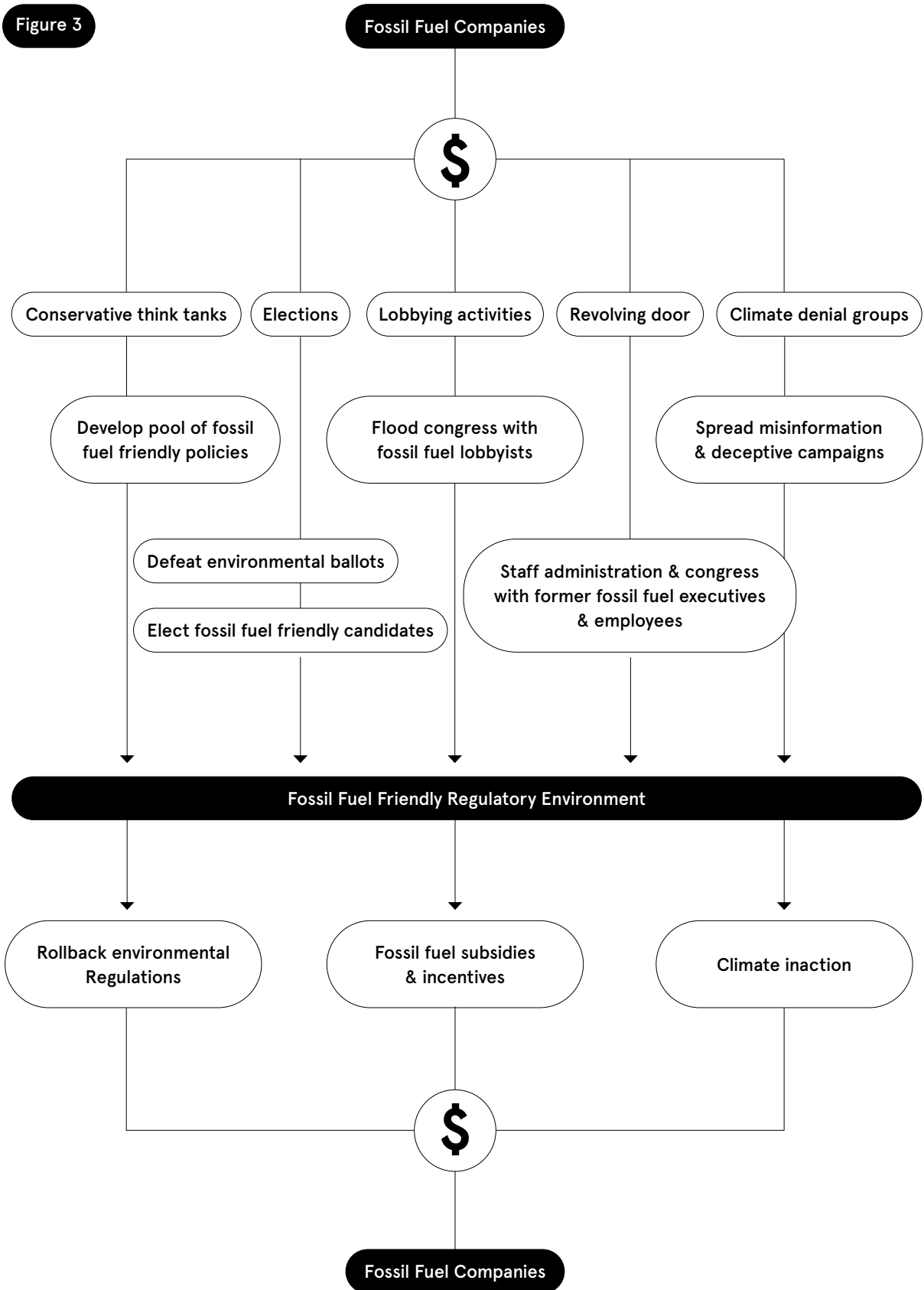
45. Institute on Taxation and Economic Policy, "Corporate Tax Avoidance Remains Rampant Under New Tax Law."

46. No Fossil Fuel Money.

47. Kate Aronoff, "Any Democrat Who Takes Fossil Fuel Money Should Face a Primary Challenge in 2020," In These Times.

48. No Fossil Fuel Money: Presidential Candidate Signers

Figure 3



limit toxic fossil fuel interests, particularly in the Democratic Party, nationalization would eliminate the massive corporate political spending and remove the executives and suites of lobbyists largely responsible for the political meddling. Publicly owned fossil fuel companies would be held in the public interest, and held to higher standards of accountability and transparency.

Nationalization is just as powerful in its symbolism as in its policy specifics. If the government were to take control of U.S. resources, the way the public thinks about power, specifically public power, in times of crisis would be dramatically reoriented. No longer would democracy be subservient to the market, but the government would be able to demonstrate that markets are a tool that democratic governments allow to operate when they serve the public interest. The establishment of a Just Transition Agency, which can manage public ownership of these assets and take charge of the transition for workers, gets us well on our way to eliminating the influence of the fossil fuel industry.<sup>49</sup> While the pathways to nationalize are numerous, one thing is clear: the federal government must take back its political power before time runs out, and nationalization provides the clearest, swiftest, and most robust manner in which to do so.

We have no elections or congressional sessions left to waste. To change the tide in favor of people and the climate, we will need more than voluntary pledges by candidates; we need to rebuild a political system of the people, for the people, and by the people. Doing so will require a knockout blow to the fossil fuel industry that currently holds American democracy hostage. Nationalization provides a strong first step to neutralize this power and democratize control over our natural resources and our collective future.

“To change the tide in favor of people and the climate, we will need more than voluntary pledges by candidates; we need to rebuild a political system of the people, for the people, and by the people.”

---

49. Johanna Bozuwa, “The case for public ownership of the fossil fuel industry,” The Next System Project.

# The Economic Case

The modern economy was built by fossil fuel workers, but if fossil fuel executives are left to their own devices, they may just destroy it. Each year, air pollution from burning fossil fuels causes an astonishing 230,000 deaths and \$600 billion in losses.<sup>50</sup> In the past four decades, the United States experienced 258 weather and climate events with damages that surpassed the billion dollar benchmark, costing a combined \$1.75 trillion; \$530 billion of those happened just within the last 5 years.<sup>51</sup> Labor markets are also expected to take a hit as warmer weather will curtail workers' productivity; in 2018 the U.S. Global Change Research Program estimated that decreased labor productivity due to climate change could cost up to \$221 billion a year by 2090.<sup>52</sup> When taking into consideration these and several other impacts, the estimates are that unmitigated climate warming could cost upwards of 10 percent of the American economy by the end of the century.<sup>53</sup> But even that is an understatement. The environment is not simply another input into the production function. Rather, a stable and healthy environment underpins our very existence.

A reasonable accounting of current macro-economic conditions, including the ongoing global economic collapse and access to historically low interest rates on government debt, should lead to the conclusion that action on the climate front has never been cheaper (especially when considering the costs of inaction) and should be undertaken rapidly.<sup>54</sup> But that is not happening. In part, it is because the impending costs remain largely ignored due to their long-term projections and the blind faith put into the markets to turn things around in time. But markets are never perfect, nor are consumers or businesses fully rational. Major market power exists, especially in the energy sector where firms enjoy a natural monopoly; further, the government already structures many existing markets,

“Climate change is a result of the greatest market failure the world has seen.”

—SIR NICHOLAS STERN

putting up the guard rails that allow markets to function, playing a key role in investing in long-term R&D projects, and providing a number of incentives and regulations to guide private action—from tax subsidies to grants to credit policy—that favors certain industries and influences energy markets. While markets can work reasonably well at allocating resources when outcomes are well-known and occur in the short-run—such as pricing everyday items in the grocery store—they tend to break down in crisis situations, when significant reorganization of systems is needed, and when outcomes are far off and relatively unknown, as with climate change.

Just as fossil fuel companies are unfit to lead the energy transition, the market is woefully incapable of mitigating the climate crisis. Leaving vital decisions up to the “free market,” including decisions regarding energy resources and public goods, simply means allowing fossil capital to reign. Instead, the economic system needs major restructuring that puts democracy, the people, and

50. Greenpeace, “Toxic Air: The Price of Fossil Fuels.”

51. Adam B. Smith, “2010-2019: A landmark decade of U.S. billion-dollar weather and climate disasters,” NOAA.

52. U.S. Global Change Research Program, “Fourth National Climate Assessment.”

53. U.S. Global Change Research Program, “Fourth National Climate Assessment”

54. For more, see this open letter to Congress calling for green stimulus: [https://medium.com/@green\\_stimulus\\_now/a-green-stimulus-to-rebuild-our-economy-1e7030a1d9ee](https://medium.com/@green_stimulus_now/a-green-stimulus-to-rebuild-our-economy-1e7030a1d9ee)

maintaining a habitable planet front and center. For this, we need planning.

### **Good Oil' Supply & Demand**

For decades mainstream debate on climate policies has centered on the adoption of a carbon price to deliver us from catastrophe. Pricing can be done in a number of ways, from trading mechanisms that allow green credits or allowances to offset dirty emissions—such as the one established in the Kyoto Protocol and Renewable Standard Portfolios across the U.S.—to a direct price in the form of a carbon tax. But while carbon pricing that shields the most economically vulnerable is an important part of the climate policy landscape, it is woefully insufficient as a stand-alone policy.

Under a basic carbon tax, the government would levy a tax on fossil fuel companies, which inevitably these companies would pass onto consumers in order to protect their profits.<sup>55</sup> This means higher prices for goods with embedded carbon. The theory suggests that while basically everything has some carbon in it these days, the price of carbon-intensive goods like plane tickets and gasoline would increase more relative to the price of, say, education and groceries. The overall idea is that higher prices for fossil fuel products will be matched by a reduction in demand for carbon-intensive goods by incentivizing consumers, businesses, and governments to reduce their emissions. This, in turn, will result in less fossil fuels extracted and imported. That is a good thing. The government gets the tax revenue and can decide how to allocate it. The problem is, most carbon prices discussed in Congress are in the range of \$10-50 per ton of CO<sub>2</sub>e. According to integrative assessment models, we would need a rapidly escalating carbon price starting at \$230 per ton CO<sub>2</sub>e right away to have a reasonable chance at limiting warming to 2.5°C. That's just not going to cut it. Further, many markets simply don't respond well to price signals. When future demand is uncertain and large investments are necessary, private firms will resist major capital investments.<sup>56</sup> Carbon pricing is no panacea. But it is an important complementary policy.

On the other hand, the economics of restrictive supply-side policies, ranging from halting the extraction of fossil fuels on public lands to shutting down pipelines, has been less discussed by policymakers and climate activists. Restricting extraction is akin to a shift in the supply curve for fossil fuels. This means less fossil fuel pulled from the ground, which is a good thing. But it also means higher prices. Under the carbon price example, those higher prices (economic rents) would be captured by the government. They can then be used for carbon dividends, green investments, etc. But if supply-side policies were implemented to curtail extraction without a clear plan by the government to increase control over the future of the process, we would see the economic rents captured by the fossil fuel firms rather than the government. ( See Figure 4)

Of course, supply-side restrictions are needed.<sup>57</sup> But economics tells us the story is a complex one. In response to such policies, fossil fuel producers will receive higher prices, and profits, for each barrel of oil or lump of coal they sell. This does not mean we should abandon ship, but that we have to think carefully about crafting smart policies that will curtail emissions in a way that avoids socializing the costs while privatizing the economic rents.

### **Protecting Workers Is Vital**

The vast majority of people put food on the table, a roof over their head, and a health insurance card in their pocket by working. Most people want to work, though often fewer hours than affording a reasonable livelihood currently demands. If you are lucky enough to have one of the few "good" or unionized jobs in the United States, work can bring more than a paycheck and economic security; it can bring meaning, dignity, and a sense of identity.<sup>58</sup> That's why some fossil fuel workers and unions are hesitant, or downright resistant, to support a rapid transition of the industry. Their jobs, livelihoods, and identities are at stake.

Fossil fuel jobs tend to be good jobs, especially when compared to other employment opportunities in the regions in which they are located or to jobs in the clean energy economy.<sup>59</sup> In other words, the fallback position of these workers is often

55. For an in-depth discussion of carbon pricing, see Anders Fremstad and Mark Paul, "Disrupting the Dirty Economy."

56. For an in-depth discussion of the need for public investment when future demand is uncertain, see Bossie and Mason, 2020.

57. For more on supply-side climate policies, see Fergus Green, Richard Denniss, "Cutting with both arms of the scissors."

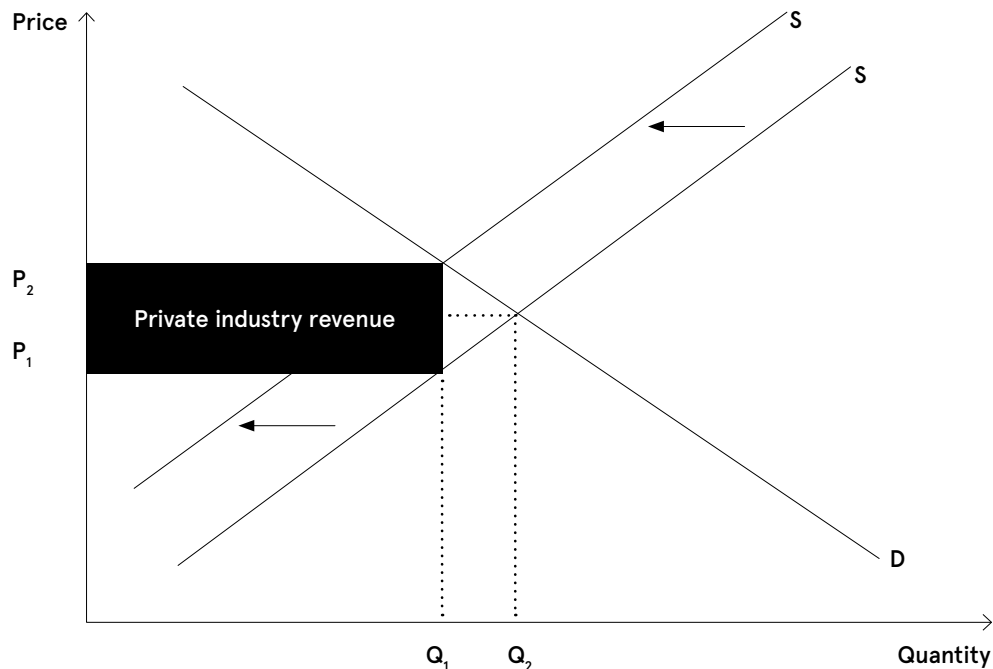
58. Gallup, "Not Just a Job: New Evidence on the Quality of Work in the United States."

59. Robert Pollin, Brian Callaci, "The Economics of Just Transition;" For excellent in-depth reporting on coal country, have a listen to NPR's Embedded podcast.



Figure 4

Supply-Side Restrictions on Fossil Fuels



weak, at best. When private fossil fuel firms start going belly-up, as we have seen in the coal industry, and may start seeing rapidly due to the collapse in the economy and in oil prices, workers' interests are often put dead last, and those indirectly employed by the industry often don't even factor into the equation.

Some researchers working on a just transition for fossil fuel workers and communities have developed frameworks to ensure that workers are not left behind. This includes work by Robert Pollin and Brian Callaci, who developed a pathway through which fossil fuel firms could shed their workforces over time to minimize the human cost of transition if coupled with government aid in the form of in-

come, retraining, and relocation support along with guaranteed pensions.<sup>60</sup> But analyses like this often assume that "85 percent of the necessary job retrenchments can be managed through attritions by retirement when current fossil fuel workers reach age sixty-five." In other words, the firms will be able to keep most of their workers until they are ready to retire.

However, this is unlikely if the fossil fuel executives remain in charge. History shows that firms restructure all the time (venture capital's favorite game), but these firms are not working for the benefit and convenience of workers. For example, when the coal company Blackjewel filed for bankruptcy in mid-2019, 1,700 workers, from West Vir-

60. Robert Pollin, Brian Callaci, "The Economics of Just Transition

ginia to Wyoming, were put at risk, fighting bouncing paychecks and unclear explanations.<sup>61</sup> The same trend was followed by Peabody Energy and Murray Energy, both of which started to close mines due to a decrease in productivity per coal miner, suddenly displacing hundreds of workers at a time.<sup>62</sup> Amidst industry decline, we cannot leave people's lives in the hands of fuel executives. Far too often, we have learned that the burden of capitalist transitions falls on the most economically vulnerable. We need public planning to protect workers.

In transitioning away from fossil fuels, we are talking about more than a lot of workers. As Table 1 shows, there are over 1.6 million workers employed directly and indirectly in fossil fuels. The numbers may be significantly greater if we take into account auto workers who will be displaced as we transition to all electric vehicles, which require far fewer parts and labor to produce.<sup>63</sup> We do not mean to imply that transition necessitates net job loss—in fact, we anticipate the amount of work needed for the transition will generate significant net job creation.<sup>64</sup> Yet not every job lost will be matched by a job created at the same location, and needless to say workers will have to acquire new skills and expertise. Stakes are high, and protecting workers has to be at the forefront of any successful transition plan.<sup>65</sup>

---

61. Michael Sainato, "Our paychecks bounced: U.S. workers in limbo as coalmines suddenly close," *The Guardian*.

62. Will Wade, "Trump Vowed to Save Coal, Now Miners Are Getting Laid Off," *Bloomberg*.

63. <https://uaw.org/wp-content/uploads/2019/07/EV-White-Paper-Spring-2019.pdf>

64. Mark Paul, Anders Fremstad, J.W. Mason, "Decarbonizing the US Economy: Pathways Toward a Green New Deal,"

65. For a brief historical overview of workers transitions, see Brian Callaci, Mark Paul, "A Brief History of Displacement," *Data For Progress*.

# Time to Nationalize the Fossil Fuel Industry

**B**usiness as usual has thus far failed. There are dozens of reasonable policy options on the table to curtail emissions if Congress chooses to act in accordance with the crisis, but they have not. At this point, policymakers need every option available to support an equitable program of crash decarbonization, with a priority on increasing democratic oversight and planning. Nationalization is one of the more straightforward ways to overcome many of the systemic hurdles that prevent meaningful action, allowing us to move towards decarbonization in a way that is planned, provides for workers, and supports communities.

On the environmental front, we are simply out of time. Fossil fuel companies are continuing with business as usual, planning new extraction despite the fact that no more reserves can be developed if we are to meet the climate goals set forth by the Paris Agreement. Strong regulation to cap production and other policies are critical, but we need more to close the loopholes that allow the industry to privatize profits while socializing risks. Rather than trying to enact only one incremental policy at a time, nationalization can be the complementary policy weapon that leapfrogs at once limitations—such as the Green Paradox, infrastructure lock-in, and externalization of environmental responsibilities—while also clearing the path for a just transition. Once nationalization is executed, the U.S. government can move immediately into planning mode. The government can put a brake on fossil fuel extraction by establishing a national rate of production decline of at least 6 percent a year, and set forward needed authorities to get workers and communities leading the resolving management of each company. Such actions will need to be accompanied by other complementary policies, including import limits or bans on fossil fuels. Once

in public hands, firms would no longer be guided by shareholders' primacy; instead the focus will be on a safe dismantling of assets and the protection of workers during the transition.

On the political front, nationalization represents a formidable blow to the political power of the industry. For far too long, the fossil fuel lobby has set the rules of the debate by buying influence not only in Washington, but in most state legislatures. With the elimination of fossil capital, monied interests will no longer need to push denial and delay campaigns. We must create political structures that minimize, if not completely eliminate, the fossil fuel industry's ability to slow the necessary decarbonization efforts. This can be accomplished most effectively through the institutional mechanisms such as a Just Transition Agency and Task Force.

On the economic front, now is the time to act. Environmental measures like carbon pricing and regulatory production caps are useful tools, but they do not ensure the government retains control over the path to a clean economy. Leaving the transition process to fossil fuel executives raises the chance of failure, and vulnerable workers will be hurt when markets continue to falter and jobs dry up. The timing couldn't be much better. With the onset of the recent shale crash, fossil fuel firms are trading at bargain prices. Economic conditions mean the government could finance a buy-out of the industry using historically cheap debt. The bailout of workers who have put their lives on the line to ensure people can all enjoy the comforts of modern life should not be extended to executives.

Contrary to rhetoric in the media and mainstream policy circles, "nationalization is as American as apple pie."<sup>66</sup> In pressing times, the U.S. government hasn't shied away from taking ownership

---

66. Thomas Hanna, "A History of Nationalization in the United States: 1917-2009;" Thomas Hanna, "Nationalization Is as American as Apple Pie."

and control of hundreds, and in one case thousands, of private enterprises, with the ultimate goal of economic and societal benefit. When national security was on the line during World War I and II, the federal government unleashed its power to nationalize industries in the public's interest. During World War I, essential aspects of the economy, including all railroads and communication lines, were brought under national control.<sup>67</sup> During World War II, a combination of coordination, finance, and risk necessitated the public takeover of all kinds of facilities, from coal mines to meatpacking plants to shipyards. Before nationalizing large swaths of the manufacturing sector, the government went through reasonable efforts to incentivize private capital to invest in equipment for the war effort, but to no avail. As Andrew Bossie and J.W. Mason discuss, large parts of the economy functioned as a planned economy during World War II, "not because that's what policymakers wanted, but because there was no other way to reorient it [production] toward military production fast enough."<sup>68</sup> With the stakes so high, the Roosevelt administration ensured the production lines continued unabated. When Sewell Avery, the CEO of Montgomery Ward, refused to resolve labor disputes, President Roosevelt ordered the Army to seize control of the company's main production facilities and maintain business as usual under government labor protection.<sup>69</sup>

Rapidly, and with meticulous planning, the federal government shifted the economy from consumer production to war production by creating 158 new agencies, employing far more workers than were previously counted in the labor force, increasing public funding, discouraging wasteful resource consumption, establishing progressive taxation, creating a rationing program for scarce resources (such as gasoline), and encouraging investment in war bonds.<sup>70</sup> The nationalization and planning efforts that took place lead to major booms in output for the war effort, all while not significantly crowding out civilian production.<sup>71</sup>

"The strongest case for nationalization is a one-time buy-out of the political power of fossil fuel interests. If we neutralize fossil fuel corporations, shareholders, and lobbyists, we can finally walk through the Overton door."

But wartime is not the only instance in which the U.S. government nationalized private enterprises in the public interest. As Figure 5 illustrates, over the past century American society experienced federal takeovers repeatedly, with substantial occurrences during World War II and the Savings and Loan (S&L) crisis of the late 1980s and early 1990s.<sup>72</sup> In the midst of the S&L crisis, the government decommissioned over 1,000 S&L institutions, taking their assets in the process. Without nationalization in times of crisis, both the sovereignty of the coun-

67. National Constitution Center, "On this day, Woodrow Wilson seizes the nation's railroads;" Thomas Hanna, "A History of Nationalization in the United States: 1917-2009."

68. Andrew Bossie and J.W. Mason "The Public Role in Economic Transformation: Lessons from World War II." Mason forthcoming.

69. Thomas Hanna, "A History of Nationalization in the United States: 1917-2009;" Lisa Phillips, "When CEOs Were Removable: The Montgomery Ward Strike, Public Outcry, and the Corporate Problem in U.S. History."

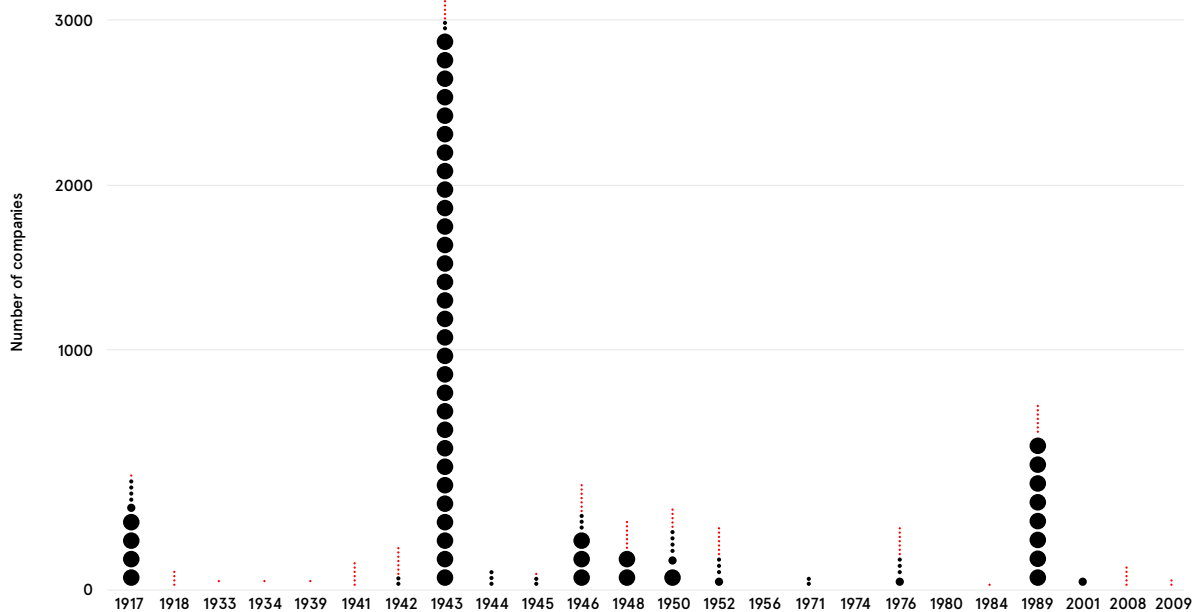
70. The Climate Mobilization, "The Case for Climate Mobilization."

71. J.W. Mason, "Guns and Ice Cream."

72. J.W. Mason, "Lessons for the Green New Deal from the Economic Mobilization for World War Two."

Figure 5

Nationalization in the U.S. 1917–2009



try and the stability of the economy faced extreme uncertainty. In the midst of the global climate crisis, we must return to bold action that can reorient industries to serve the social good, not shareholders.

Although history has much to teach us, the way in which nationalization of the fossil fuel industry should occur is still an open, and debated topic. The Democracy Collaborative and Oil Change International outline a number of pathways to public ownership, which they define as “acquiring long-term authority via majority or full control of companies and assets in the U.S. oil, gas, and coal sectors.”<sup>73</sup>

While many methods would require Congressional action, these are less likely to be viable in our broken political system, in large part due to the fossil fuel industry’s influence. Until we can reclaim

our democracy, and fill what political scientist Todd Tucker calls our “democracy deficit,” nationalization may need to bypass Congress.

One of the more straightforward, or politically feasible, paths to public ownership is for the Federal Reserve to purchase majority ownership outright of publicly traded fossil fuel companies. As a recent analysis shows, the “S&P 1500 energy sector is now worth about \$700 billion.”<sup>74</sup> The Fed could simply buy a majority stake in all of these companies. This could be done under existing authority, since the Fed already has the power to buy financial assets in the open market. Central banks around the world are increasingly aware they are more likely than not to become “climate rescuers of last resort.”<sup>75</sup> Considering the precariousness of the fossil fuel sector, the Fed may need to buy these assets in order to simply fulfill their mandate

73. Johanna Bozuwa, “The case for public ownership of the fossil fuel industry,” The Next System Project.

74. Carmen Reinicke, “The battered \$700 billion U.S. energy industry is now worth roughly half of Microsoft amid oil’s record plunge.”

75. Bank of International Settlement, “The Green Swan: Central banking and financial stability in the age of climate change.”

to secure financial stability—a mandate explicitly included in the Fed’s legal system since the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act.<sup>76 77</sup> The strongest case for nationalization is a one-time buy-out of the political power of fossil fuel interests. If we neutralize fossil fuel corporations, shareholders, and lobbyists, we can finally walk through the Overton door.

Leaving decisions about the life and death of current and future generations up to private enterprises beholden to shareholders has never been a viable option. When the U.S. decided to revitalize its railroad system when fighting the Central Powers, build new industries to defeat the Axis countries, or be the first to send a person to the moon, the federal government didn’t leave it to private companies to lead the way. Instead, the government developed a comprehensive plan that set a common goal with clear pathways to get there, including timelines, necessary resources, and coordination among key sectors. With no time or resources left to waste, nationalization of fossil fuel companies would allow the government to reclaim its planning powers for the public good. While the Green New Deal will build the green economy of tomorrow, the nationalization effort will lead the way in dismantling the polluting aspects of the economy we have today. Together, these can give the planet the best chance possible at limiting global heating while protecting people’s livelihoods.

---

76. Graham Steele, “A Regulatory Green Light: How Dodd-Frank Can Address Wall Street’s Role in the Climate Crisis.”; Carla Skandier, “Quantitative Easing for the Planet,” The Next System Project.

77. Todd Tucker, “New Report: Fixing the Senate”



